Master Degree Project


UNIVERSITY
OF SKÖVDE

# CO-AUTHORIAL NARRATIVE

Attempting to draw a border in the no man's land that is Emergent Narrative

Master Degree Project in Media, Aesthetics and Narration A1E
One year Level XX ECTS
Spring semester 2021

Tim Grödem

Supervisor: Lars Kristensen
Examiner: Rebecca Rouse

# Abstract

This study aims to define the area that fall in-between predetermined and emergent narratives and pitches the term of “co-authorial narrative” to describe it. Co-authorial narratives are defined by their design of splitting the responsibility of authorship between the developer and the player. The purpose of the study is to prove this concept, with the overall goal of broadening the understanding of emergent narrative.

**Keywords:** Co-authorial narrative, emergent narrative, predetermined narrative, interactive digital storytelling, authorship in games.

# Acknowledgements

I owe a big thanks to my dear friend Oscar Andersson who I started this journey with back in 2019 when we did our Bachelor's thesis together. Would that we could have done this thesis work together as well, but although he could not join me in an official capacity this time around he nevertheless played a huge role in the creation of this article. I doubt I've had a single thought that I didn't first float by him, and the value of his support cannot be overstated.

I'd also like to thank my tutor Lars Kristensen who was the examiner of mine and Oscar's Bachelor thesis. He always showed genuine interest in our work and he's always encouraged us to continue. Without his encouragement this article may never have been written.

# Table of Contents

# 1 Introduction

In a broader sense, *Emergent Narrative* refers to the phenomenon that occurs when a participant engages with a creative work they simultaneously partake in an authorial process. The narrative is not predetermined but is created through interaction. Emergent narrative, in respect to interactive digital storytelling, is the idea that semiotic simulations can give rise to meaningful stories. The idea of the "Holodeck" may seem like the pinnacle of interactive digital storytelling; a game space inhabited by an A.I. that's so sophisticated that it can appropriately react to anything the user does and where the user may be wholly immersed in the experience. The Holodeck is a fictional device seen in the TV-series *Star Trek: The Next Generation* (1987) and has become somewhat of a symbolic staple in the discussion of interactive storytelling thanks to Janet Murray and her book *Hamlet on the Holodeck* (1997). The goal of the Holodeck might be to convince the user that they are somewhere else by utilizing lifelike A.I. and realistic simulated environments with which the user can interact with freely. Users may experience their favorite stories in new and interesting ways each time they visit the Holodeck as the A.I. will be sophisticated enough to respond to any of the user's inputs in a satisfying manner.

Although Virtual Reality (VR) has taken impressive technological strides over the last decade, the Holodeck remains a dream of science fiction. When it comes to emergent narrative, what is interesting is the stark contrast between the lofty ideals set by the Holodeck and the current state of the video game industry. While there are games that do attempt to create immersive virtual environments, many games seem to utilize abstract game worlds and extra-diegetic agency in order to cultivate emergent narratives. Extra-diegetic agency refers to when the player affects the narrative of the game, not through a character inhabiting the game world (diegetic agency) but rather as an entity that is outside of it (Mason 2013). *Crusader Kings II* (2012) is a positive example of a game that is capable of generating complex emergent narratives (Lucat & Haahr 2015). In a study conducted by Hannesson, Reimann-Andersen, Burelli and Bruni (2015) where they developed a method for gathering quantifiable data of how emergent narratives are experienced, *Crusader Kings II* received the highest score by the data gathered from their questionnaire.

The benefit of abstract storytelling in conjunction with emergent narrative is that complex stories can be told without the requirement of advanced graphics or lifelike virtual agents. One can compare the self-reported horror stories of an abstract game like *RimWorld* (2018) with those of the cinematic game *The Last of Us Part II* (2020). A textual reading of the self-reported account of an emergent narrative generated by *RimWorld* compared to a textual reading of the linear story of *The Last of Us Part II* may be equally gruesome -- however, *The Last of Us Part II* can only tell its one story whereas *RimWorld* can generate an unlimited number of stories. This is perhaps one of the strongest benefits that emergent narratives have over predetermined narratives – it increases a game's replay value (Riedl & Young 2006). The simplified graphics of *RimWorld* require more from the player's imagination than the meticulously handcrafted cinematography of *The Last of Us Part II*. Of course, emergent narratives can occur in virtual environments that try to simulate reality in some manner and where the player does have diegetic agency, as evidenced in Hannesson et al. and their study. The massively-multiplayer online roleplaying game (MMORPG) *Eve Online* (2003) got a score comparable to *Crusader Kings II*. Such virtual environments are typically made with the emergent behavior of the players in mind and it could be argued that

narratives can emerge from the players as they're interacting with one another. How true this is depends on how "emergent narrative" is interpreted. To this day the concept remains loosely defined. Espen Aarseth points out the problematic nature of having a too loose definition of emergent narrative when he says: "If an(y) interesting experience in a game is an "emergent narrative," where does it end?" (Aarseth 2012).

In opposition to emergent narrative there is predetermined narrative, usually referred to linear narratives or linear games. These are narratives that are in large part unchangeable and will always play out the same regardless of the input of the user, or games where the player is set on a linear path that they have to follow, leaving little room for alternative narrative to arise.

The purpose of this research is to help further the establishment of a definition for what an emergent narrative is. It's a continuation of a previous thesis work where the goal was to create a simplified drama manager that was capable of generating emergent narratives (Andersson & Grödem 2019). Although that study failed to reach its goal it still generated some interesting data (read more in chapter 3.1). The goal of this study is to create a prototype that has a *co-authorial narrative*. It builds on the theories of top-down and bottom-up narrative structures as theorized by Ruth Aylett (1999) and Marie-Laure Ryan (2009). If predetermined narratives are at one extreme and emergent narrative is on the other extreme then *co-authorial narrative* intends to be an umbrella term for those stories that fall in between these two extremes. By defining this middle ground it may help further the understanding of what an emergent narrative is by determining what an emergent narrative is not.

# 2 Background

In order to define *co-authorial narrative* we must first define the concepts of traditionally predetermined narratives and emergent narratives and how they manifest in video games. We will also examine these two forms of storytelling in media other than video games so that we may highlight some inherent strengths and weaknesses of video games as an interactive medium. Finally, for the purposes of this article two definitions of emergent narrative will be provided; one hard and one soft. The soft definition is based on the current existing definitions of the concept and should be familiar to those who have studied interactive digital storytelling, whereas the hard definition demands an additional stipulation; in order for a narrative product that is generated by a system to be considered an "emergent narrative" it must adhere to some thematic promise by the system itself.

## 2.1 An Overview of Linear and Non-Linear Storytelling Methods in Various Media

Non-linear storytelling is a broad category. It ranges from simpler forms of ergodic literature to more advanced forms of branching storytelling and emergent narratives. Ergodic literature refers to texts where the user is not just a passive observer and where the text requires some input from the user which may change what sequence of events are played out (Aarseth 1997). Examples of simpler forms of ergodic literature are hypertext stories and *choose-your-own-adventure* (CYOA) books. More advanced forms of branching storytelling refers to the number of different models a creator may utilize to construct a narrative path for the user to traverse, such as *branch and bottleneck* where the player, in spite of the many choices offered, will be steered towards a central plot (Ashwell 2015) which is a popular model for modern digital roleplaying games (RPGs). Emergent narrative may be the most extreme form of non-linear storytelling as the narrative does not exist but is generated at run-time by the interactions between two or more agents. Emergent narratives are typically found in simulation games or so-called "sandbox"-games, such as *MineCraft* (2011), *Crusaders Kings II* and *The Sims* (2000).

Linear narratives have been perhaps the most dominant form of storytelling and have been the traditional storytelling method used for films and novels. Although interactive forms of books do exist (such as the aforementioned CYOA books), and although there have been experiments with interactive cinema these are not considered mainstream (Hales 2015). In most films and novels the audience members and readers are passive observers to a story that has been constructed by someone else and as observers they have no agency over how the plot develops. This is not the case with interactive storytelling, where the audience is invited to participate in the creation of the narrative.

Interactive storytelling is not unique to video games as a medium, nor is it a new concept. One form of interactive storytelling was the Italian theatre movement *Commedia dell'Arte* which was a form of improvisational theatre that was popular throughout Europe during the renaissance era up until the industrial age (Rudlin 1994). Another example of non-digital interactive storytelling is tabletop roleplaying games (tRPGs) where the narrative is co-created by a group of players under the guidance of a game master (GM) (Louchart & Aylett 2004). A GM will guide the participating players to a goal which is typically specified by a campaign that is predetermined, either by the GM or by a third party (it is not uncommon for roleplay groups to purchase campaigns or download campaigns offered freely by others).

The players do not know what the GM knows and so the GM must be ready to improvise to answer to the players' actions. A final example of non-digital interactive storytelling is immersive theatre. In an immersive theatre the audience is invited to experience the narrative by interacting with an environment, and the environment is itself created by a theatre group (Bouko 2014). An example of such a group would be "Punchdrunk" (punchdrunk.org.uk) from the United Kingdom who have been adapting classical stories for immersive theatre since the year 2000. One can draw parallels to the concept of *embedded narratives* in video games (Jenkins 2004). Embedded narratives can be described as narratives that are planted in the fictional space that, when discovered, offers narrative context to the user. A game like *Dear Eshter* (2012) is reminiscent of immersive theatre in its design, as all the player can do in that game is to walk around and explore story spaces constructed by the developers.

### 2.1.1 Bottom-up and Top-down Narrative Structures

When discussing authorship in games it makes more sense to use the terms "predetermined" and "emergent", rather than "linear" and "non-linear" as the latter has more to do with how stories are structured rather than how they're authored. A non-linear narrative may be wholly predetermined, and the re-telling of an emergent narrative may be linear. In her original article on emergent narrative, Ruth Aylett makes the argument that in a narrative that has a top-down structure the authorship lies with the writer or director who exists at the top of the hierarchy, and at the bottom of this hierarchy are the actors who carry out the orders as decided by the author. The actors themselves have little to no say in how the narrative should play out. Emergent narrative, Aylett argues, happens in narratives that utilize bottom-up structures where the authorship lies with the actors at the bottom of the hierarchy and where each new level of the hierarchy is created by the interaction that came before it. (Aylett 1999)

Marie-Laure Ryan extends this perspective when she writes of *narrative games* and *playable stories*, and views these two hierarchical structures as the two extremes of a spectrum. She complements the spectrum by utilizing Roger Callois concepts of *padilla* and *ludus* (Callois 1961) which can be summarized as whether a game is rule-based (ludus) or freeform (padilla). Ludic games include titles such as *Half-Life* (1998), *Max Payne* (2001) and *Grand Theft Auto* (1997); the narrative context these games offer presents the player with a goal to pursue and a fantasy to immerse themselves in, but they don't allow the player any meaningful agency over how the plot develops. The narrative exists to give context to the gameplay and to make it more interesting, which is why Ryan calls these games "narrative games". "Playable stories" are games that allow the player either full control of the narrative, such as in the life simulation game *The Sims* or partial control, such as in the tRPG *Dungeons & Dragons* (1974). These are games that are more freeform. Indeed, *The Sims* is a game that doesn't really provide the player with a specific goal. The goal is whatever the player themselves may dream up – which is congruent with Will Wright's (the lead designer of *The Sims*) vision of creating a digital dollhouse. The main argument that Ryan makes that is of particular interest to this study, however, is that these two storytelling structures are not mutually exclusive; games that utilize top-down narrative structures include elements that are found in bottom-up structures and vice versa. (Ryan 2009)

**Figure 1** A visualization of the top-down/bottom-up spectrum pertaining to authorial control over the narrative. A game like *Max Payne* would be to the far left on the spectrum, and *The Sims* would be to the far right.

One might ask: who is the author of an interactive narrative? Is it the user/audience or is it the developer/organizer? Mirjam Palosaari Eladhari in her article on re-tellings as a fourth narrative layer distinguishes between story*telling* and story *construction*. The four layers she talks about are: the code layer, the story layer, the discourse layer and the narrative layer. She further breaks these down into two categories, grouping code layer and story layer underneath "designed narrative potential" and discourse layer and narrative layer underneath "played narrative potential". The code layer lays the foundation for the game and consists of all the rules and design choices that make the experience interactive. The story layer consists of the narrative that is constructed by the designers and game writers on the project. These two layers pertain to the development of the game, whereas the latter two pertain to the experience playing the game. The discourse layer refers to when the game is being played, and the narrative layer consists of the tellings and re-tellings of the experience. If one were to apply the concepts of storytelling and story construction on the spectrum above one could say that the left side (the top-down structure) is about storytelling and the right side (the bottom-up structure) is about story construction. (Eladhari 2018)

Immersive theatre shares many similarities with video games – especially video games that utilize embedded narratives and allow the player to explore a space freely. Here the player (in games) and the audience (in immersive theatre) is invited to a space constructed by someone else (the developer or the theatre group) to experience a narrative that is partly constructed as they explore the diegetic space (referring to the game space in video games and the physical space in immersive theatre). In improvisational theatre it is the actors who have authorial control and, based on what type of theatre it is, the audience may have some agency to alter the plot by giving the actors cues. The actors themselves must cooperate in order to keep the plot going or else the drama might come to an abrupt and unsatisfying conclusion (Swartjes & Vroomen 2007). One might draw a parallel to the video game *Façade* (2005) where there are two digital actors who, through a drama manager, will pick the most appropriate response according to the logic of a dramaturgical database created by the developers (Mateas & Stern 2003). If the player doesn't cooperate with the intended drama they'll be promptly kicked out of the apartment (which serves as the whole game space in *Façade*) which leaves the narrative unresolved (and thus, it could be argued, the narrative did not reach a satisfying conclusion). In tRPGs the authorship is split between the players, the GM and possibly by a third party (if a campaign guide is being used). The modern digital RPGs trace their design elements back to their analogue origins although they have changed drastically over the years. In comparison to tRPGs, modern RPGs are quite rigid when it comes to allowing the player authorship. A common narrative structure found in modern RPGs is the branch and bottleneck design in which the player will occasionally be presented with a lot of choices, but regardless of what they choose the plot will quickly snap back to a central plot. Often the player will be able to create their own character and have the option to customize their appearance and statistics, such as in games like *Dragon Age: Origins* (2009) and *The Elder Scrolls: Skyrim* (2007), however there are also roleplaying games where the player plays an already established character but are allowed to make choices for the character, such as with Commander Shepard in *Mass Effect* (2007) and Geralt of Rivia in *The Witcher* (2007).

The level of authorial control of a creative work could be deemed to be rigid (top-down) or loose (bottom-up). Rigid authorial control does not allow the user much (or any) agency over the development of the plot, and in contrast loose authorial control does allow the user some (or full) agency over the development of the plot. Both structures have pros and cons as detailed by Ryan; top-down narrative structures will be more likely to create meaningful narratives, but bottom-ups narrative structures will afford greater agency to the user (Ryan 2009). Applying these terms to some of the examples already mentioned, one might say that *Mass Effect* has more rigid authorial control than *Dragon Age: Origins*. Both games have similar narrative structures but in *Mass Effect* the player controls a voiced protagonist and they have fewer choices in character creation. In *Dragon Age: Origins* the overall experience, as well as the narrative resolution, is somewhat altered depending on what type of race you play. You also have greater agency when it comes to which companions you choose to bring along on your adventure in *Dragon Age: Origins*. However, in comparison with a game like *Dungeons and Dragons* the authorial control is much more rigid in *Dragon Age: Origins*. *Mass Effect* and *Dragon Age: Origins* are bound by hard rules whereas *Dungeons and Dragons* have soft rules; a GM has the power to occasionally alter the rules of the game in order to create a better experience for everyone involved, and what the players can do in the world is only really limited by their imagination. In contrast, the protagonist in *Mass Effect* and *Dragon Age: Origins* is limited in everything they do, be it conversations, combat or exploration. The immediate benefit of the limitations provided by these games is that the environments the player gets to explore are all relevant to the plot.

## 2.2 Traditional Narrative Structures in Video Games

In narrative games the plot typically progresses in sequences where the player's agency is either limited or completely removed (Ryan 2009; Goins 2018). There are games that utilize traditional methods of storytelling that do not take the player's actions into account at all, and other games allow the player some agency over the plot in the form of branching narratives, but even in such games (such as the previous examples of *Mass Effect* and *Dragon Age: Origins*) the player's agency is typically replaced by a simpler gameplay mode that is separate from the main gameplay (Brusk 2014). As explained previously, the benefit of narrative games and of rigid authorial control is that the narrative can more easily adhere to dramatical structures which generates a more meaningful narrative for the player to experience – but this is at the expense of the player's agency (Ryan 2009). The interactive nature of video games as a medium is problematic for the traditional linear narrative structures, especially when it comes to the concept of narrative time. In traditional narratives, narrative time consists of *story time* and *discourse time* (Chatman 1978). Story time refers to the time that passes within the actual story and discourse time refers to the time that the story is told. For example, a montage might last a couple of seconds for the viewer but can progress the story several days, weeks, months or even years. These are narratological concepts that games struggle with due to the interactivity afforded to the user. A common trend in game narratives is for the story to be suspended in a *temporal bubble* (Zagal & Mateas 2007); the story will wait for the player to meet some condition that triggers the continuation of the story. This often causes a form of chronological dissonance between the actual play time and the time as experienced through the narrative as the story will typically pick up on where it left off regardless of how much time the player spent on doing other things in between (Gjøl, Jørgensen & Bruni 2019).

This is a problem that is recognized by academics within the field of game studies and new theories have been proposed to address the unique phenomenon that occurs in video games. Jesper Juul introduced the temporal concepts of *play time* and *event time* where the former refers to the actual time spent playing the game and the latter refers to the time as it has progressed in the diegetic space of the game (Juul 2004). Gjøl, Jørgensen and Bruni would later provide some additional temporal categories to Juul's model, namely *experienced time* and *gameworld time* (Gjøl, Jørgensen & Bruni 2019). The concept of gameworld time is perhaps borrowed from Zagal and Mateas (2007) (stating *perhaps* as it is not confirmed by the authors in the article – however their definition is similar to the one provided by Zagal and Mateas and they have referenced the duo earlier in their article) and refers to the passing of time in the game world, such as day and night cycles. Experienced time refers to the time as experienced through the narrative. A temporal bubble occurs when the playtime and the gameworld time is out of sync with the experienced time. Juul made the argument that in spite of the "inspirations from cinema, time in games is almost always chronological" (Juul 2004). One might think that a game like *Beyond: Two Souls* (2013) could challenge that notion as it is a game that boasts having a fractured narrative. However, *Beyond: Two Souls* could be said to have rigid authorial control and the narrative is primarily driven by cutscenes. Would it be possible to tell such a fragmented narrative if more authorial control (and thus greater agency) had been ceded to the player?

There exists a sense that games "can do more" than just linear storytelling; rather than using cutscenes that draw upon the strengths of the film medium games should instead look to the narrative qualities unique to the medium (Goins 2018).

## 2.3 Chasing the Elusive Definition of Emergent Narrative

A problem when discussing emergent narrative is that it is wrong, in a sense, to say that a product contains an "emergent narrative" as emergent narratives is something that occurs when a user interprets the emerging events, either at run-time or in retrospect (Spierling, Grasbon, Braun & Iurgel 2002; Walsh 2011; Larsen, Bruni & Schoenau-Fog 2019). The emergent narrative in improvisational theatre is experienced at the same time as the actors play off one another and does not exist before that. The actors may stick to a theme and they may decide that certain objects must be included in the story, but they do not follow a script – else the theatre would not be improvisational. Similarly, a digital simulation consisting of intelligent agents that are capable of creating complex behaviors by interacting with one another or with the user does itself not create an emergent narrative without the presence of an interpreter who may choose to narrativize the emergent behaviors of the simulation (Walsh 2011). For the simplicity of communication, however, when this article makes the statement that a product contains an emergent narrative then that means that the product is capable of emergent behaviors that could be interpreted as narrative – which is congruent with how the phrase is being used within the gaming industry. While it may be technically incorrect to say that *Crusader Kings II* has an emergent narrative, the general understanding is that *Crusader Kings II* is a simulation game with mechanics that are capable of playing off one another, and these mechanics are represented semiotically by an interface that can be interpreted and narrativized by a player or observer.

The next problem with emergent narrative is that it is still somewhat unclear what constitutes an emergent narrative or not (Larsen, Bruni & Schoenau-Fog 2019). Definitions vary and at its most extreme everyday anecdotes may be considered emergent narrative – a

notion that this article seeks to oppose. If emergent narrative is to be useful as a concept it cannot be synonymous with "anecdote". A lot of research has been dedicated towards the creation of *drama managers*; systems that seek to control the emerging events within the simulated virtual environments so that the events adhere to some dramatical structure or other (McEvoy & King 2019). These systems seek to solve the *narrative paradox* which is a concept that refers to the conflict between pre-authored narrative structures and the user's freedom within the virtual environment (Louchart & Aylett 2003). The idea is that the more freedom afforded to the user the weaker the narrative will become. The emergent systems of *The Sims*, for example, may not consistently generate interesting narratives (Wood 2017); one may view the emergent behaviors as chaotic and any strong narrative could be deemed accidental. There exists an obvious parallel between drama management systems and the role of a GM in a tRPG; the players have the freedom to do whatever they may imagine and it's the GM's task to guide the players along a predetermined plot. Drama managers operate on a similar idea where the player may exercise their freedom in the virtual environment in whatever manner they choose and it is the task of the drama manager to respond to the player's actions utilizing the logic of a dramaturgical database created by the developer. The end goal is to allow the players meaningful agency whilst at the same time providing an interesting narrative experience with a dramatic structure that is somewhat intact.

This article is going to examine and compare three existing definitions of emergent narrative. The first definition as provided by Tinsley Galyean in his PhD in 1995; the second definition as provided by Ruth Aylett in 1999, which to this day is the prevailing definition used within the field of interactive digital storytelling (Larsen, Bruni & Schoenau-Fog 2019); and finally the definition offered by Hannesson et al. in their study where they created a method for gathering quantifiable data on how emergent narratives are experienced.

### 2.3.1 Galyean's Definition

Tinsley Galyean was a Ph.D. at the Massachusetts Institute of Technology (MIT) and his background lies primarily within computer science. In his article on *Narrative Guidance* he offers this definition on emergent narrative:

> We all construct narratives out of our daily activities to help us remember, understand, categorize and share experiences. It is this skill that many interactive systems exploit. They give us environments to explore. We, by combining the elements of these spaces with our goals (the users goals), allow a narrative to emerge. If any narrative structure (or story) emerges it is a product of our interactions and goals as we navigate the experience. I call this "Emergent Narrative." This approach has provided a number of successful interactive experience such as flight simulators, games (i.e. DOOM), and narrative puzzles like MIST [*sic*]. (Galyean 1995)

While Galyean may have been the first to define emergent narrative it is Ruth Aylett who is often credited as the one who coined the term (Larsen, Bruni & Schoenau-Fog 2019). Galyean has since his article on Narrative Guidance not contributed any more research to the concept of emergent narrative. His definition is of interest because it shares some similarities with later definitions and there seems to be some consensus on the general idea of what an emergent narrative is – however, it is doubtful that established researchers within the field of interactive digital storytelling today would agree that *DOOM* (1993) and *Myst*

(1993) are products that are capable of generating emergent narratives. Galyan's definition may be too broad to be useful, however the notion of *user goals* is interesting. When someone sits down to play a game that is capable of generating an emergent narrative the user often has a goal in mind. Taking *The Sims* as an example; the game itself does not have a set goal for the player to pursue and there is no win condition. The player may create their own goals, such as building a large house for their characters to live in or reaching the top position of a specific career. However it is also possible that the player plays the game without a set goal in mind and just seeks entertainment by interacting with the game's systems. In this case, entertainment could be considered to be the goal. Any narrative that emerges is, as such, a product of the user's goals and congruent with the player's expectations of what *The Sims* might offer.

### 2.3.2 Aylett's Definition

Ruth Aylett also has a background in computer science and her research has largely revolved around the development of artificial intelligence, ranging from intelligent virtual agents to robotics. Unlike Galyean, she's continued to provide much research to the field of interactive digital storytelling and she has written many articles on the topic of emergent narrative, often with a focus on interactions between the user and intelligent digital agents. Examples include the softwares *FearNot!* (Aylett, Louchart, Dias, Paiva & Vala 2005) and *FAtiMA* (Aylett, Louchart, Tychsen, Hitchens, Figueiredo & Delgado-Mata 2008) – these are systems that focus on creating believable agents that can readily respond to the user's input.

Aylett has a technical interpretation of the concept of emergent narrative, leaning heavily on the principles of "emergence" which she describes as "the creation of complexity bottom up via interaction between essentially simple components" (Aylett 1999). In her original article on the subject of emergent narrative she explores areas where the phenomenon occurs, citing team sports and improvisational theatres as examples (ibid.). In a later article co-written with Michael Kriegel they offer this summarized definition of the concept:

> An emergent narrative is a narrative that is dynamically created through the interactions of autonomous intelligent virtual agents and the user. (Kriegel & Aylett 2008)

> Emergent narrative is a term that … refers to a form of interactive storytelling, where the narrative is built bottom-up from interactions of characters. Like in any other emergent system relatively simple local decisions lead to complex behaviour[4], in our example a narrative. (Kriegel & Aylett 2008)

Aylett's definition is character centric, where the emergent narrative hinges on the interaction between the user and digital agents, or the interaction between the digital agents themselves, within a simulated environment (Walsh 2011). What constitutes an "agent" can vary. In her original article Aylett views the individual players in a football match as the agents, the actors in an improvisational drama and intelligent digital non-playable characters (NPCs) in a game. It is when these agents interact with one another and the outcome isn't necessarily predictable that a narrative emerges (using the football match as an example; if a professional team goes up against a team of rookies one might expect that

the professional team would win – but it would not be outside the realm of realism for the rookie team to win).

### 2.3.3 Hannesson, Reimann-Andersen, Burelli and Bruni's Colloquialized Definition

Hannesson et al. provide an interesting definition of the concept of emergent narrative as they attempted to create a definition aimed towards people who may not have had any previous knowledge of the concept. As such, their definition focuses on how an emergent narrative may be experienced, rather than the underlying mechanics that give rise to it.

> An emergent narrative experience is something that happens to you as player, as you progress and interact with the game world. Under some circumstances the player might start experiencing events or "stories" that don't tie directly into the storyline of the game, but rather are events that you feel are unique stories happening to you just because you chose to act in a certain way (and might not happen again). (Hannesson, Reimann-Andersen, Burelli & Bruni 2015)

This simplified definition is congruent with Aylett's definition. Emergent narratives are stories that are unique to the individual playing and may not be something that is easily replicated – especially not in simulations where randomness plays a larger role. Even in a game like *Façade* it can be difficult to have the exact same experience twice due to the complexity of the characters' behaviors within it (although whether *Façade* can be said to contain an emergent narrative is debatable). In a larger simulation, such as *Crusader Kings II*, it is likely impossible for events to play out the exact same way twice due to the massive number of variables and characters involved.

## 2.4 Proposition of a Hard and a Soft Definition of Emergent Narrative

Previous attempts to solve the narrative paradox have revolved around utilizing traditional narrative theories on emergent narratives. This has been beneficial to the field of interactive digital storytelling as it has enriched the terminology we use when discussing game narratives. However classical narrative theories such as the ones created by Aristoteles, Propp and Barthes were not made with games in mind (Arjoranta 2015; Eladhari 2018). This article will propose a different perspective that intends to look at games' ludic values and the meaning of the relationship between the player and the game.

Conflict is often said to be at the core of the drama (Szilas, Estupiñán & Richle 2018). Many narrative games utilize external conflicts (a struggle against an environment or other characters) rather than internal conflicts (individual desires) – perhaps because of the difficulty in creating sensible rules for more complex human behaviors (Juul 2005). When it comes to games there exists two different modes of conflict: the diegetic conflict that refers to the narrative context (such as Gordon Freeman having to stop the alien invasion in *Half-Life*) and the conflict between the player and the game (the player controlling Gordon Freeman in order to overcome the obstacles). The player may have different motivations than the character existing within the fictional world. For instance, a player may opt to expose their in game character to extreme dangers in order to reach a bonus item. Failure is rarely a problem as most games allow the player to simply save and reload whenever they

wish. Had the player instead found themselves physically transported into the fictional world perhaps they would consider whether the item was worth the potential consequences of failure. This presents yet another consideration when it comes to the relationship between the player and the game; if the player is unable to save the game they may opt not to pursue the bonus item at all. When the consequences in a game are more severe it adds narrative weight to the emerging narrative (Keogh 2013). Perhaps this is why *Crusader Kings II* received a notably higher score than *The Sims* in the study performed by Hannesson et al. (2015) in spite of both games having similarly loose authorial control in their narrative structures. *Crusader Kings II* is a more difficult game than *The Sims*. The computer will try its best to eliminate the player in *Crusader Kings II* and this conflict becomes interesting as it requires guile and skill from the player if they are to persevere. *The Sims*, in comparison, does not present any real challenge to the player. The player may create their own goals but the main source of conflict would be time. The player's characters are rarely in any real danger unless the player purposely puts them there. A textual reading of an emergent narrative produced by a game like *Crusader Kings II* may not be considered to be a strong narrative according to any established narrative theories – especially not if compared to an predetermined linear story – but if you (as the reader) apply the logic of the game the events may appear more interesting because then they are not just a textual report of the simulation but also a report of the conflict between the player and the simulation.

The soft definition used for this article is largely based on the current understanding of emergent narrative: emergent narrative is created at the bottom-most plane in a bottom-up hierarchical structure where each new level is created by that which came before it. For the purposes of this study it does not matter whether the narrative product, when analyzed by a narrative theory, yields a strong narrative or not. A broader perspective is adopted that loosely builds on the notion suggested by Galyean that we humans have an innate ability to create narratives out of events in order to help us categorize and understand (Galyean 1995). This argument is echoed by the Hollywood screenwriter Christopher Vogler who, in the opening chapter of his book *The Writer's Journey* (Vogler 1992), comments on our human ability to understand and create stories. As such, the soft definition assumes that it is enough for the narrative to be meaningful to the person experiencing it – either because the player themselves utilize their fantasy to narrativize the events within the simulation (such as in a game like *The Sims*) or because the conflict of the game presents a player-to-game challenge that interesting in and of itself (in a game that is complex enough to generate unpredictable outcomes).

The hard definition is the same as the soft definition but adds an important stipulation: in order for a product to have an emergent narrative there must be a thematic promise. If you encounter an old friend who wants to tell you about something that happened the other day when they went to buy groceries you do not really have any expectations of what their story might be. They could have seen someone get hit by a car, they might have seen a talented street performed or they might have forgotten their wallet at home and did not realize it until they got to the store – these three stories are completely different in terms of tone and severity and their common denominator (going to the store) could easily have been replaced by anything that requires the person to travel from one point to another. As such it is not an emergent narrative but simply an anecdote from daily life. When engaging with a product that generates an emergent narrative (such as *Crusader Kings II*), the emerging narrative will relate to the themes of the product. When listening to a re-telling of an event in *Crusader Kings II* you (if you are familiar with the product) will be primed with certain

expectations that relates to the game. If the other person says “guess what happened when I declared war on the Byzantine Empire!” and the follow-up is: “a bird flew into my window!” then that is not an emergent narrative because the recited event has nothing to do with the thematic promise of the game – the game was merely a part of an everyday anecdote. If the follow-up was instead something along the lines of: “The King of France died and I inherited their Kingdom and they joined me in the battle!” then that is something that is congruent with your expectations even if you could not foresee the exact details. Similarly, the thematic promise of an emergent narrative will appeal to the user’s goals. When you sit down to play *Crusader Kings II* there are many things you can do and many things you cannot do. You do not sit down to play *Crusader Kings II* with the same goal in mind as you do when you sit down to play *RimWorld* – the games have different themes and can offer different experiences.

An additional stipulation to the hard definition is that there should be no predetermined plot for the player to pursue. It is important to distinguish between “plot” and “goal”, as many emergent narrative games may provide the player with a narratively contextualized end goal to pursue. *RimWorld*, for instance, has the end goal for the player’s colony to escape the planet by repairing a derelict starship located far away from their position on the map. The player may choose to progress towards that goal, or they may choose not to – the game will not punish the player for not pursuing the goal and the goal mainly serves as a win condition for the game. There is no structured dramatic path to the end goal either. How, or even if the player reaches the goal is entirely up to them.

# 3 Problem

While the vocabulary for the various phenomenon within interactive digital storytelling has grown substantially since the beginning of the 21st century, the area that is of relevance to this study – the middle ground between predetermined and emergent narratives – remains ambiguous (Larsen, Bruni & Schoenau-Fog 2019). "Interactive digital storytelling" is an umbrella term for all forms of narrative within interactive digital products. The narrative of *Max Payne* is an interactive digital story even though the narrative itself is wholly predetermined and the player may not be able to exercise any meaningful agency over the plot. A textual reading of *Max Payne* would not be the same as experiencing the narrative through the game; the narrative context exists to enhance the gameplay experience and through the gameplay the narrative can be experienced (Ryan 2009). The events that take place within the different levels of *Max Payne* would not make for an interesting read, but the levels are fun to play. On the other end of the spectrum we have emergent narratives that are produced in games such as *RimWorld, Crusader Kings II* and *The Sims*, and the narrative products of these games are also interactive digital stories. With the current terminology one can make the irrefutable argument that *The Sims* does not have a predetermined narrative and that *Max Payne* does not generate an emergent narrative, but when it comes to games like *Façade* the definitions become problematic. While each individual beat is predetermined, they are not arranged in a linear structure. The beats may play out in very different orders each time the game is being played. Does that mean that the narrative in *Façade* is emergent? Opinions on this matter might vary within the field.

This study proposes a new definition suited for the games that fall in between predetermined and emergent narratives. The suggested term for these types of narrative is *Co-authorial Narrative*. The word "co-authorial" was chosen due to the shared authorship between the developer and the user. These are games that do have an authored plot but also provide the player with the opportunity to create their own narratives within the game. *Façade* has a co-authorial narrative because there is a finite amount of resolutions to the story, but the structure of the gameplay allows for the player to also experience a narrative that is unique to them. A game like *Max Payne* does not have a co-authorial narrative because the player has no meaningful agency over the narrative development. *Crusader Kings II* does not have a co-authorial narrative because the developer has not created a plot for the player to follow, but rather let the player create their own meaning through the game's system.

The goal of this study is to develop a prototype that proves the qualities of the co-authorial narrative. A qualitative study will be performed on a small group of testers who will then get to narrativize their play session and the expectation is that there will be a lot of variance between the testers' re-tellings, but there should also be an overarching theme that is experienced similarly. The study's research question is: Measuring test players' sense of authorship in a prototype utilizing the concept of co-authorial narrative; how much variation exists between different test players self-reported narratives? And are the similarities in the self-reported narratives congruent with the "author's" intent?

## 3.1 Previous Research

This study is a continuation of an earlier study (written at a Bachelor's degree) where an attempt was made to create a simplified drama manager that would be able to generate emergent narratives (Andersson & Grödem 2019). The goal of the prototype was to allow the

player some freedom whilst maintaining a three-act structure with beats reflecting the various stages of the Hero's Journey (Vogler 1992). The drama manager was never finalized and the artefact could not be said to generate an emergent narrative, however the study still generated some interesting results. The study was directed towards students studying Game Writing or Game Design at the University of Skövde. This group was chosen due to their familiarity with games and narrative terminology. An explanation of what an emergent narrative is was provided though there was an expectation that the participating testers would have some knowledge of the term. When interviewed the consensus was that the prototype did not generate an emergent narrative, but that certain elements of the prototype did "feel emergent". Three particular design elements were identified as being effective for creating a sense of emergent storytelling, namely: freedom of movement, autonomous agents and randomness. The artefact allowed players to move freely inside a small village, but the game space was surrounded by a big wall that the player could not traverse across (some test players would explore the entire length of the wall). The artefact also contained agents that were not truly autonomous but had relatively complex scripted behaviors (test players reported not being able to discern what made an NPC act in a certain way). As the agents weren't able to interact with one another in a dynamic way (every interaction was scripted) they were not able to produce emergent behaviors on their own. Finally, the artefact did contain many elements of randomness. Some elements the player could influence by picking specific dialogue options or by moving to certain areas in the game space. A quest objective could appear in a number of different locations and depending on where the objective was the player had to utilize different tactics to complete the quests, and certain quests would unlock optional solutions to other quests in the game. However, the randomness factor was too small and players were able to notice patterns between different playthroughs which made the game appear more branching than emergent. The player could not experience all the content within a single playthrough as there was a variable tracking the player's actions and when it reached a certain number the continuation of the plot was forced on the player.

At the conclusion of the research the study agreed with the prevalent opinion of the test players; the artefact was not capable of generating an emergent narrative. The developed prototype could be said to have had a co-authorial narrative as there was an obvious plot that the players had to follow, even if the plot was somewhat malleable by the player's input. The study concluded with a discussion about emergent narrative, top-down and bottom-up structures and the current state of emergent narrative in the gaming industry and potential drawbacks of drama managers. The question "does *XCOM: Enemy Unknown* (2012) have an emergent narrative?" was posed with the reasoning that, because the game did not have a drama manager, the drama in *XCOM: Enemy Unknown* was unlikely to adhere to any dramatical structure. The AI. of *XCOM: Enemy Unknown* was likened to the GM in a tRPG and the argument was that unlike a GM who can bend the rules in order to improve the experience for the players involved, the AI. in *XCOM: Enemy Unknown* would show no mercy and did not care about how invested the player was in the emerging narrative. Would a game like *XCOM: Enemy Unknown* benefit from having a drama manager, or would the manipulations of such a system be detrimental to the overall experience? Jake Solomon, the lead designer of *XCOM: Enemy Unknown*, argues that without the lows you won't get the highs of the experience (Graham 2016), essentially meaning that if the game isn't allowed to be relentless in its pursuit to defeat the player it may have a negative impact on the player's experience when victorious.

According to the definitions provided in this article it can be stated that *XCOM: Enemy Unknown* has an emergent narrative according to both the hard and soft definitions. *XCOM: Enemy Unknown* does have a predetermined narrative, but similar to *RimWorld* this narrative serves as a final win condition to end the game. There are sequences with embedded narratives that the player will encounter throughout their journey to the end of the game, but the game lacks a dramatic structure. And as explained in chapter 2.4: traditional dramatic structures are not required for emergent narratives – at least not in interactive digital narratives.

## 3.2 Method

The goal of the study is to create an artefact with a co-authorial narrative structure and the purpose of the testing is to see whether the study is successful in this goal. The size of the game should be large enough for the players to not only experience the authored narrative but also develop their own narratives. A complete playthrough should take approximately 30 minutes. The study will use a qualitative method for gathering the data. The primary target group for this study will be Game Writing students from the University of Skövde and, if possible, game developers. Data will be gathered through qualitative interviews. A sample of 10 should suffice; if there's extensive overlap in the answers of the testers it could be argued that the prototype did not manage illustrate the qualities of a co-authorial narrative.

The point of this is to analyze the re-tellings of the testers' experience. Ideally there should be a familiar overarching narrative structure in each individual re-telling, but there should also be differences. A sample of 10 testers should suffice; if there's extensive overlap in the answers from this number of testers it could be argued that the prototype does not manage to illustrate the qualities of a co-authorial narrative. Two different methods have been chosen for the pilot study: the first method is to schedule a meeting with the testers and have them play the prototype while under observation and then have a qualitative interview with semi-structured questions (Williamson 2002); and the second method is to have the test players play the prototype at their own leisure from their own homes and have them answer a questionnaire with open questions. The benefit of having an interview is that the interviewer can ask follow-up questions and the interviewer can also read the body language of the interviewed when they answer. However, a benefit of allowing the tester to play from the comfort of their own home is that they may be more immersed in the story and without the presence of an interviewer they may be able to reflect more on their experience.

### 3.2.1 Sample group

The study aims to gather qualitative data from the re-tellings of the testers' experience. Characteristics such as age, gender and ethnicity bears little importance, however it's preferable if the participants are familiar with games and game narratives. So while the study won't screen for specific characteristics it's likely that the majority of the testers will be adult (between the ages 20-40) males from Sweden due to the subject matter and the location of the research, though the study will not screen for these particular characteristics. Similar to the previous study this study will seek testers from students studying the Game Writing program at the University of Skövde as they should be well-versed with narratological concepts and terminology and familiar with storytelling in games. The study will also seek participants from developers from game companies in Sweden, as it might be beneficial to get the perspective from individuals who are actively working with game design.

# 4 Project

The goal of the project is to create a prototype that contains a narrative structure that will split the responsibility of the authorial process between the author (in general sense this could refer to the developer or narrative designer in a larger project but in this case it refers to the creator of the prototype) and the user (the person playing the game). This is perhaps the most rudimentary description of co-authorial narrative. This is not a new concept; there exists a great wealth of variety when it comes to narrative models utilized in video games, but there has been no clear definition for the types of narrative that splits the responsibility of the authorship between the author and the user – and the lack of such a definition may have led to the confusion surrounding the concept of emergent narrative. One example that has been mentioned already is *Façade*, an experimental game that sought to strike the middle-ground between structured narratives and simulation (Mateas & Stern 2003). The game has a predetermined narrative with a number of outcomes and on the *Façade* Wikipedia fans of the game have broken down the various narrative paths and have labelled certain endings as "good" and others "bad". The player is free to pursue whichever ending they desire, but they cannot pursue an ending that the developers hadn't accounted for.

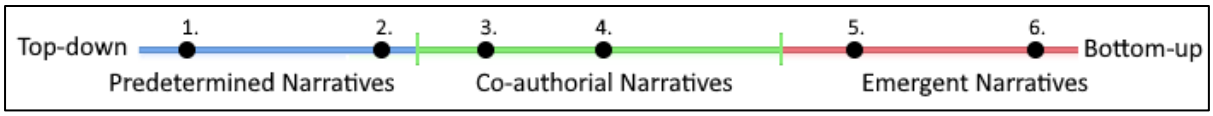



**Figure 1** The spectrum shown in Figure 1 divided into the three categories; predetermined, co-authorial and emergent. Examples of games placed on this spectrum are: 1. *Max Payne*; 2. *Dragon Age: Origins*; 3. *The Elder Scrolls: Skyrim*; 4. *Façade*; 5. *XCOM: Enemy Unknown*; 6. *Crusader Kings II*.

Another example that has seen great commercial success and remains popular in mainstream culture is the fantasy RPG *The Elder Scrolls: Skyrim* and its predecessors. These are games with predetermined plots that are embedded into areas scattered across large virtual environments. Most of these narratives are optional; the player is free to engage with them but can also choose not to – it's a conscious decision the player makes for themselves. The player may choose to pursue only the main questline if they so desire, but by doing so they'd be missing out on many much content. In comparison, a game like *Dragon Age: Origins* allows its players relatively little freedom. In that game there isn't much content outside of the game's main story, and the optional quests that do exist have little to no relevance to the overall plot. As such, this article will make the initial argument that a game like *Dragon Age: Origins* has a narrative structure that is too predetermined and doesn't offer its playerbase enough agency over the authorial process to be deemed to be a co-authorial narrative, whereas *Skyrim* does. As such, *Skyrim* appears farther to the right on the spectrum in Figure 1 than *Dragon Age: Origins*.

## 4.1 Examples of Co-authorial Narrative Structures

A useful concept when discussing narrative structures in video games is the concept of "narrative possibility space" (McEvoy & King 2019). The narrative possibility space is defined by the designer; a game with top-down authorial control will have a limited narrative possibility space, whereas a playable story with bottom-up authorial control might have an unlimited number of narrative possibilities. Then there are games that have a large but finite

number of narrative possibilities, such as *Façade*. *Façade* utilizes a drama manager that will present story beats depending on what the player does. Certain actions will give weight to certain beats, making them more likely to be selected and "played out" in the game (Mateas & Stern 2005). The game has around 200 beats to choose from, where the content of each beat has been created by the designer and given logical triggers. The larger the number of beats the more agency afforded to the user (ibid.).

This study proposes a simpler structure that aims to achieve a similar result to that of *Façade*. Listed below are a number of potential co-authorial narrative structures. These structures won't be able to offer the same depth and freedom of choice as found in *Façade* but they should still be able to give the player a sense of ownership of the story even though they're bound by predetermined narrative arch.

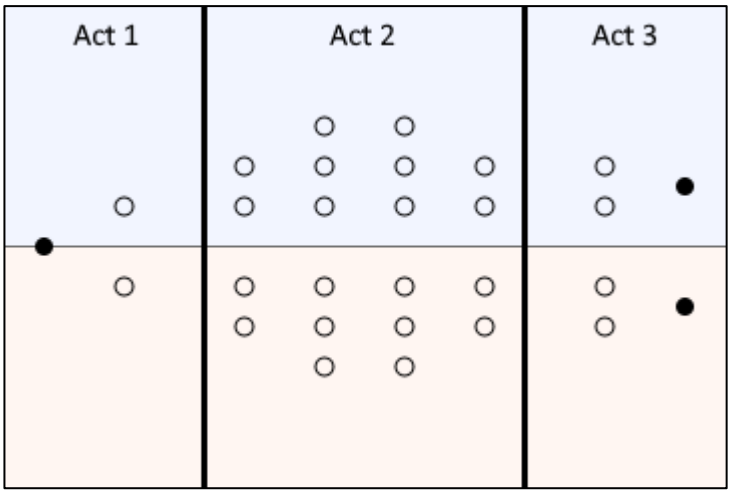



**Figure 2** A visualization of the narrative structure of a co-authorial narrative consisting of three acts and two possible endings and a narrative possibility space containing 26 story nodes that may or may not happen in a single playthrough.

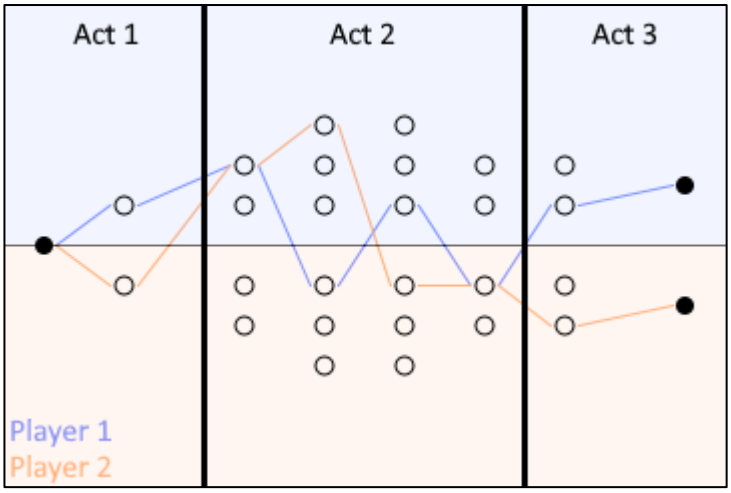



**Figure 3** A visualization of how two playthroughs might look different. The logic in this structure is that the player accumulates points towards one of the two ending depending on which field they've spent most time in. What these two fields represent is up to the author, although an example is given in Figure 5.

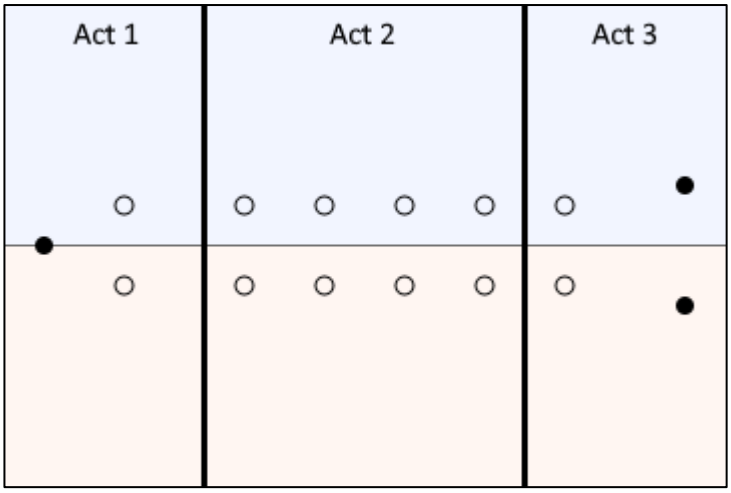



**Figure 4** A rough visualization of the narrative structure in *Dishonored* (2011). While this game falls on the predetermined field of the spectrum as seen in Figure 2, it's a good example of how one might visualize the fields mentioned in Figure 4. In *Dishonored* each level may end in one of two ways; high chaos or low chaos. This "chaos" variable will dictate which of the two possible endings the player will get.

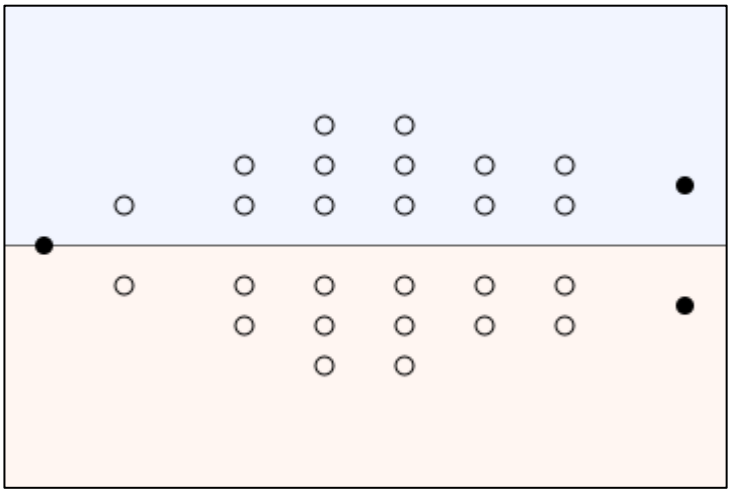


**Figure 5** A visualization of a structure that forgoes the three act structure and allows the player to visit nodes in whatever order they choose. They may be limited to how many nodes they can visit. This is sort of how *Façade* works, but there would be 200 nodes and more than two endings. The player can't experience all available nodes in one playthrough.

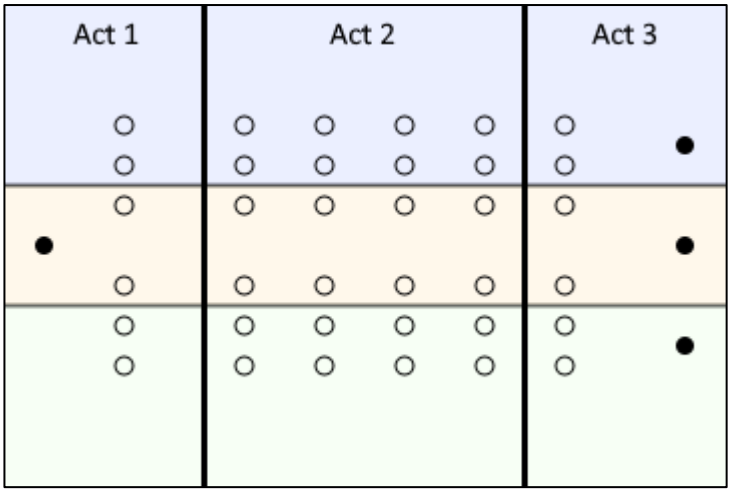



**Figure 6** An example of how the structure might look with three possible endings.

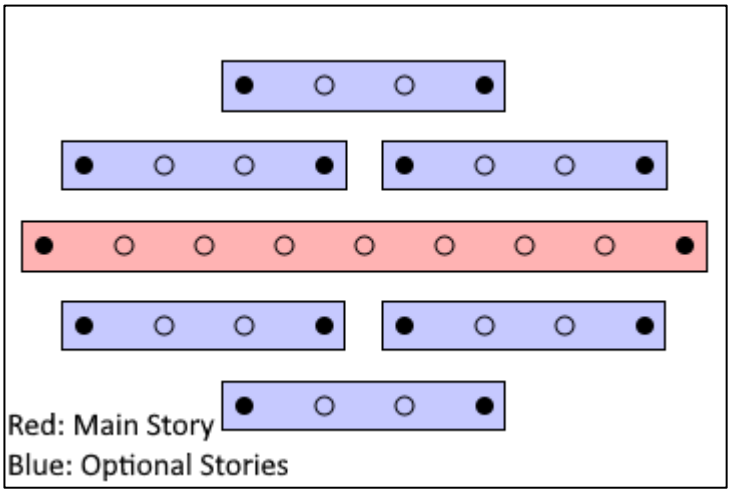



**Figure 7** A simplified visualization of how the narrative structure looks like in a game like *Skyrim* where there is one main quest (the red field) and a large number of optional quests (the blue fields) that the player may do on their own accord but aren't necessary to beat the game.

Co-authorial narrative is perhaps most useful as a term when combined with the hard definition of emergent narrative, as with the current definitions of emergent narrative it could be reasonably argued that *Skyrim* is capable of generating emergent narratives (Murnane 2018). However, *Skyrim* did get a relatively low score in the research conducted by Hannesson et al. (2015) which suggests it should fall more in the middle of the top-down/bottom-up authorial control spectrum.

### 4.1.1 Examples of Games with Co-authorial Narratives

As already stated, co-authorial narrative is not a new concept and aims to define a certain type of narration that already exists within the gaming industry. *Skyrim* is one example, as it contains many predetermined narratives scattered across a large virtual space where most of the content is optional. By pursuing specific tasks within the game it could be argued that the player creates their own story. However, the difference between *Skyrim* and games with emergent narratives is that if someone were to try and replicate the journey of someone

else's re-telling they would most likely experience the same major story beats, and deviations between both re-tellings would be minute in comparison. Contrast this to a game like *Europa Universalis IV* (2013) where a player may utilize a guide to accomplish an achievement. Even when following a guide the emergent behavior of the simulation would make their journey unique. *Skyrim* does allow for the player to co-author the story, however. As explained by the game critic under the alias NeverKnowsBest: "Having so much freedom over the experience also provides a sense of ownership to it. It's up to you where you go, what you choose to ignore and how you justify your own actions – and this means that the experience created can feel unique to the player" (NeverKnowsBest 2021). In more romantic terms, one might say that the magic of the experience is found in the amount of content that was not witnessed.

Another example of a game with a co-authorial narrative is *Black and White* (2000). This is a simulation/strategy game where you assume the role of a god. You also get to pick a "creature" at the beginning of the game that will accompany you throughout the game. This creature had a complex AI. and its behavior could be shaped by the player. The creature would also grow over the course of the game and its appearance would change depending on whether it performed good or evil actions. The player's temple and the physical nature surrounding it would also change depending on whether the player performed good or evil actions. The world itself and its inhabitants are also simulated, with the villagers having needs that the player must see to. However, similar to *Skyrim*, *Black and White* has a rigid predetermined overarching narrative where the narrative conclusion of each level is the same regardless of which strategy the player uses to complete the goals. As such, *Black and White* is a co-authorial narrative. The strategy portion and the depth of the simulation allow for the player to create their own narratives but the overarching narrative is predetermined.

A final example would be *Outer Wilds* (2019). This is a puzzle/exploration game where the player explores a miniature solar system to find clues of what happened to an ancient race that once visited. The narrative is predetermined, but fragmented. The player will find different pieces of the narratives in different areas of the solar system. The narrative itself is a puzzle that the player must figure out. At the start of the game the player is simply sent out into space, free to explore after their own whims. The narrative conflict of the story is presented about half an hour into the game. The structure of the game allows the player to form their own stories. The various planets and their orbits are simulated and the player will likely have many unique experiences even though the narrative is predetermined.

These three examples are games of different genres; an RPG, a strategy/simulation game and a puzzle/exploration game, yet on the top-down/bottom-up authorial control spectrum they would all fall somewhere in the middle.

## 4.2 Abstractions in Storytelling

The narrative in a game like *Crusader Kings II* is not told in a manner that's directly translatable. It requires a human to interpret and translate the events on the screen into a narrative that makes sense to them. The large number of characters in the game all have different personalities represented by various modifiers that affect their overall statistics. The statistics represents the character's capabilities. A king with a high stewardship score could be interpreted as a king who rules fairly, and the modifier provided by the king's stewardship score is illustrated in the effects of the game mechanics. The stewardship score

directly affects the realm's income, and certain events in the game will trigger on whether this score is high or low. In a traditionally predetermined narrative the story might refer to the king as being "righteous and just, whose subjects thrived under his reign" whereas in *Crusader Kings II* this is told by the character's scores.


**Figure 8** How characters are represented in *Crusader Kings II*. A person well-versed in the game will be able to understand make sense of the various icons and numbers and can conjure up a personality for the character based on this information.

Each narrative medium has its own advantages and disadvantages, and as discussed in chapter 2.1 and 2.2, films and novels can manipulate time in a way that's difficult to translate into game mechanics. When it comes to the exploration of the psychological perspective of a particular character the novel might be the best medium as there are certain things that can be communicated via text that can be hard to communicate with moving images. In films we may sympathize with a character expressing an emotion physically whereas in a book we might empathize with them as we get direct access to their thoughts. Films (and games) can of course utilize a voice over that can explain the character's inner thoughts, and certain films do this well – for instance the comedic drama *Adaptation* (2002) where a large portion of the story comes from the exploration of the protagonist's thoughts. There are examples of games where the player gets to hear the protagonist's thoughts as well, although even in a game with a predetermined narrative the "gameness" of the medium might give rise to ludonarrative dissonance. A protagonist may react in a manner that is not congruent with how the player plays the game. This can happen when character barks are tied to trigger points in the game world. For example, the player might have discovered and reacted to a

potential threat but they've not yet passed the trigger that makes the protagonist bark. When they pass the trigger the player will be in a mindset of preparedness whereas the protagonist itself might bark a line out of surprise which is a reaction that is contrary to that of the player's. In a game that utilizes a silent protagonist (such as *Half-Life*) one can assume that the protagonist's reaction mirrors those of the person playing. In *Half-Life* NPCs will often talk to the player, and even if the player's character never makes a verbal response the player themselves might imagine a response. Having a blank slate as a protagonist may work well for a game, and allows for the protagonist to be as varied as the game's playerbase. Such a thing would be trickier (perhaps impossible) to accomplish in films and novels.

The freedom of games also allows for spatial storytelling (Goins 2019; Jenkins 2004). Books and films can also communicate a narrative in their environments. A text may paint a landscape for the reader to immerse themselves in and describe important items that will be of relevance to the story, and a film may hide clues in its mise-en-scéne, but in a game the player often has some freedom to explore the environments as much as they like. Some game environments are so abstract that they require more from the player's imagination. *RimWorld* utilizes simplistic graphics, dominated by static sprites (2D images) and very few animations.

Abstractions are used in games all the time. It's a matter of translating real actions into gameplay mechanics. For instance, *Half-Life* has the player's weapon shown at the bottom of the screen, slightly off-center to the right, which is meant to represent the player holding a weapon and aiming it. The use of representing the player's weapon in this manner helps immerse the player into the game world, however if the physical actions of Gordon Freeman were to be translated into a film it would seem odd that he is always holding the weapon ready to fire. In *Half-Life 2* (2004) there's an animation where Gordon Freeman lowers his weapon when aiming at a friendly character. In the first game Gordon Freeman could kill friendly targets (which could lead to a game over) but in the second game this option was removed. The simple animation of lowering the weapon when aiming at a friendly target communicates everything the player needs to know. The level of realistic detail within a game is known as "granularity" (Arjoranta 2015). Visual granularity refers to the realism portrayed within the graphics and granularity of simulation refers to the realism as expressed through the game's mechanics. While certain abstractions have become common staples within game design (such as the use of on-screen visual representations for weapons and a crosshair in first person shooters) there are many ways with which designers can illustrate ideas through game mechanics. In the survival genre it is common for games to include some sort of "hunger meter". In the indie title *Don't Starve* (2013) the player will lose health until they die once their hunger meter reaches zero, which is a common mechanic found within this genre, although other games have made a few alterations to the mechanic. *The Long Dark* (2017) has a relatively generous grace period where, if the hunger meter reaches zero, the player will still have some time before the playable character succumbs. In *This War of Mine* (2014) the controllable characters will begin to act differently if the hunger meter reaches zero before finally succumbing. In *Valheim* (2021) the player cannot die from starvation, but by consuming food their health bar and stamina bar will increase, making it easier to survive in other aspects of the game. In all cases the idea that the mechanics wants to communicate is pretty clear: we need food to survive.

## 4.3 The Design of the Prototype

The prototype will be a 2D story driven game with light strategy elements. These strategy elements will influence the on-going narrative and the outcome of the story. The player will play the role of a young chieftain who is at the head of an uneasy pact with a rival clan. The goal of the game is to maintain the unity of the pact whilst at the same time seeing to the needs of the tribesmen, and to prepare for an attack against a rival tribe assisted by a foreign colonial power. There will be two different win scenarios to the story and the mechanics of the game will nudge the player one direction or the other. There will also be three different lose scenarios, none of which should be appealing for the player to pursue. The player may lose at any point of the game but the win scenarios will only present themselves at the end of the game. The game will utilize a classical three act structure where one major story event will occur in act 1, two major story events in act 2 and one final major story event in act 3. Other than this classical dramaturgical model, the game will not adhere to (or be inspired by) any other narratological or dramaturgical framework. The story and its themes are primarily inspired by emergent narrative games such as *RimWorld* and *Crusader Kings II*, but in comparison to these games the prototype will have a predetermined narrative where a large portion of the story will be shaped by the player's actions.

### 4.3.1 The Narrative

The genre of the story is fantasy and it takes some inspiration from various historical events. The societal structure of the tribes within the story are reminiscent of feudal Europe, yet the situation they find themselves in draws inspiration from the native north American tribes and their encounter with the European colonizers. The character names do not take inspiration from any existing culture but are meant to be generic but distinct and should be pronounceable in English. The only exception to this comes from the two rivalling clans, the "Gyllens" and the "Shymns", which are anglicized versions of the Swedish words "gyllene" (*golden* or *beaming*) and "skymning" (*dusk*) which corresponds with the nature of each tribe. The Gyllen-tribe is supposed to be noble and virtuous whereas the Shymn clan is to be seen as shadier and less moral. The narrative takes some inspiration from the Paradox titles *Crusader Kings II* and *Europa Universalis IV*, although the strategy portion in the prototype is extremely simplified in comparison where the main gameplay revolves around balancing three variables, and where the campaigns in *Crusader Kings II* and *Europa Universalis IV* span for hundreds of in-game years, the prototype focuses on the struggle of a single ruler and on one particular conflict in her life.

The player will assume the role of Thebeka Gyllen, the story's protagonist, who will become the chieftain of the Gyllen clan after the game's tutorial. In the tutorial the player is taught the game's mechanics by the protagonist's grandfather who passes away once the tutorial is complete, leaving the fate of the clan in the player's hands. There are two main conflicts in the game; there's the internal one where the player must maintain an uneasy pact with a rival clan. This clan's interests might not always align with those of the player and so the player may be forced to compromise (wherein part of the strategy element lies). The other conflict is with that of a foreign Empire (simply referred to as the "Iron Empire") and their native ally, the Bargas clan. The game will build up to a final confrontation where the player (if successful) will decide the fate of the Bargas clan and whether the Gyllen-Shymn pact should find a way to cooperate with the foreign empire or take a hostile approach and attempt to expel them from their lands.

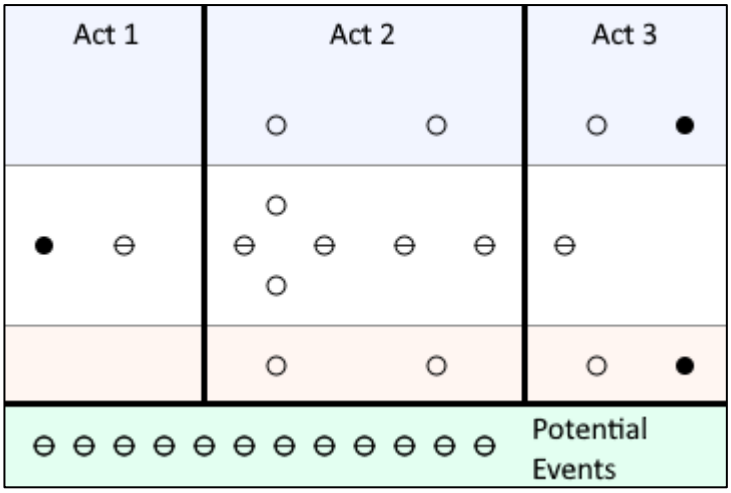



**Figure 9** A visualization of the intended narrative structure of the prototype.

There will be four major plot points throughout three acts. The first one is experienced at the very start of the game where the player is told the background of the conflict and sets the stage for the rest of the game. The background is told in a CYOA-type of gameplay where the player is prompted to make decisions that slightly alters the main character and grants certain bonuses and penalties to the various story variables. In the second plot point the pact has managed to capture enemy scouts and the player will get to decide their fate (with four different outcomes as visualized in Figure 10). In the third plot point the pact manages to rescue a group of Gyllen-Shymn tribesmen from the enemy, and among them is a powerful Shymn shaman. This shaman is capable of using magic, but the magic is shunned by the Gyllen clan and so the player must decide whether to allow or forbid the magical practices. In the final plot point the pact retaliates and defeats the Bargas clan and from there the player gets to make a couple of final decisions. The outcome of the story is summarized and the game is over.

Regardless of the player's actions these major story events will always play out. The manner they are told may change somewhat depending on what events the player encounters throughout the gameplay loop. For instance, if the player chooses to show mercy to the captives in the second major story event, then the third story event will play out a little bit differently and take the form of a trade of prisoners. If the scouts are instead interrogated, then the player's own forces will use the information to rescue their tribesmen. In both scenarios, the player is approached by the Shymn shaman. This design is branching and more predetermined than co-authorial. An example of something that is more co-authorial happens at the end of the third major event. If the player does not forbid the magical practices and then puts themselves on the task of ritualism, they will unlock new paths in the end sequence of the game. The players will always encounter the shaman, but not all players might connect the dots and unlock the alternative narrative path.

There are a number of optional events that can happen and the player won't be able to experience all events in a single playthrough. Each event will contain certain parameters, and if these parameters are not met the event won't be able to fire. Within each event the player will get to make a choice (not too dissimilar to how events function in *Crusader Kings II*). Most choices will only alter the story variables but certain events may unlock additional options for other events. The point of this structure is to give the player a sense of

meaningful agency over the narrative; to make them feel as though their choices matter. The strategy element of managing the interests of the player's own clan with those of the rival clan should be reflected in the narrative depending on the player's choices.

### 4.3.2 The Game Design

The gameplay loop consists of rounds that are split into three phases. In the first phase the player gets to explore the results and potential consequences of their decisions in the previous round. They also get to talk to the relevant characters. In the second phase the player gets to assign the characters to various tasks. The game's interface will not tell the player what character is good at; it's up to the player to figure that out for themselves by talking to the characters and examining the results of their decisions in previous rounds. In the third and final phase the game will look at the player's choices and an event will be fired. Events with very specific parameters will have a higher priority to fire than events with more general parameters (for instance, an event requiring a specific character on a specific task will fire over an event that merely checks whether a story variable has a positive or negative value).

There are three story variables: "stability", "unity" and "military". Stability is an abstract value of how well the player has managed to see to the needs of the tribesmen. "Unity" refers to how well the two rival clans cooperate. Military is an abstract value of how ready the pact is for the final conflict. Throughout the gameplay the player must increase the military variable as much as possible whilst maintaining positive stability and unity. If either variable gets too low it may lead to a game over. Due to the short length of the game the player will not be able to save their progress. Not being able to save might also increases the dramatic tension of the player's decisions and might add more narrative weight to the story, as the players have no easy means to go back on their decisions (Keogh 2013).

There were many ways to handle the playable character. One alternative would be to have a blank slate of a character that the player could create themselves. This approach would likely make the experience feel more bottom-up, as the player gets to decide who they want to be in the story they are going to experience. Another alternative would be to have the player pick one character from a roster of characters. If the previous example is a bottom-up approach to handling the protagonist then this would perhaps be the co-authorial approach; allowing the player some choice over who they want to experience the story with, but the characters themselves are still predetermined. The final approach, and the approach that was chosen for this study, is then the predetermined approach; the player gets to play the character as decided by the developer. Originally the idea was for the player to pick between two characters but due to time constraints this was cut. The player still has control over how the character responds in dialogues. Rather than picking an option where the response is verbatim what the character says (found in games such as Dragon Age: Origins) or having dialogue options that summarizes longer responses into small sentence packages (such as in Mass Effect), the game opts to simply describe the main character's attitude.

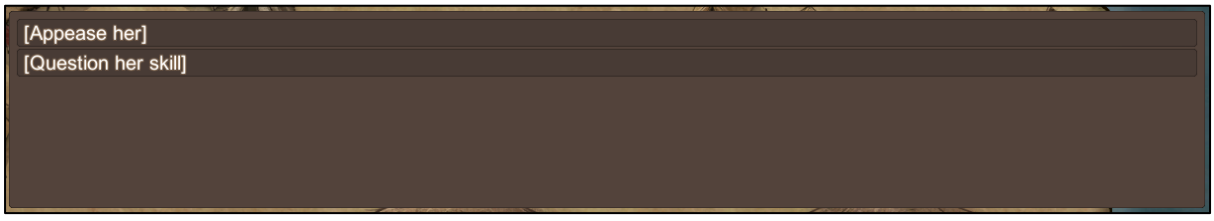


**Figure 10** An example of how the dialogue choices could look. In the example above the player picks the manner in which the main character responds; either she will try to appease the person she's talking to, or she'll question her. This affects the conversing character's stance towards the main character.

The reason this method was chosen was because it allowed the main character to be somewhat complex (on par with the other characters) whilst at the same time allowing the player to direct the story. The key focus of the dialogues was to influence other events in the game. If the player made a promise to a character and did not fulfill it they would hear about it later and this would influence the relationship between the characters.

### 4.3.3 Practical Implementation

The prototype was developed with the Unity engine (unity.com) and utilized the asset Dialogue System developed by Pixel Crushers (pixelcrushers.com). In the planning stages it was decided early on that the game would consist of three phases, although these three phases would undergo some design changes as development began. Originally the plan was for the player to have a game space to explore in phase 1; a village that would change over time depending on the player's decisions, and where they could seek out and talk to different characters. This proved to be far too ambitious for the allotted time-span for development and was simplified in the final product. In phase one the player does not control their character directly (e.g. they do not control a moveable object within any game world) but are instead shown a map of the village created with character portraits representing the various characters. The player can click on these portraits to talk to the characters, and each character had generic dialogues for when they didn't have something specific to talk about. The player could always ask the characters their opinion on things and how they would respond would be determined by their opinion of the player or the values of the story variables.


**Figure 11** Phase 1 of the game.

In phase 2 the player got to assign characters to various tasks. Originally there were 8 tasks the player could send their characters on: research, construction, scouting, hunting, ritualism, training, administration and clan cooperation. Research and construction was scrapped before the development began as they were too ambitious. Research was meant to unlock certain bonuses for the final event of the game, but it created far too many narrative branches. Construction was meant to play into the original idea of having a game space that the player could explore, where new buildings would show up in the world. It was also meant to play into the decay system.

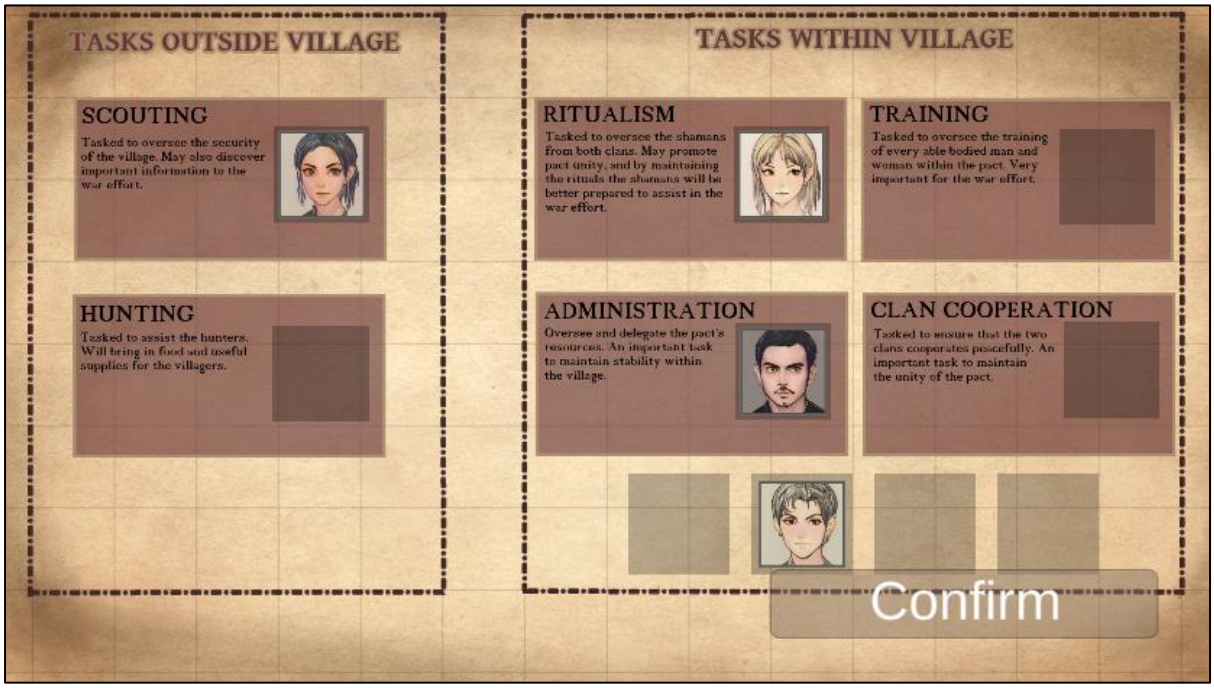



**Figure 12** Phase 2. The player would drag and drop the characters onto various tasks.

The decay system reduces stability and unity every round, and this value was meant to be something the players could affect by building up the village. This was scrapped, and the decay system instead became something simpler. If the player was doing really well the decay would have a larger impact, and if the player was doing poorly the decay would be smaller. The point of the decay system was to illustrate the fine balance the player had to tread between seeing to the needs of the people, maintaining the unity of the pact and preparing for the upcoming assault. The effects of the tasks and what tasks the characters were good at was something that was meant to be somewhat cryptic. Each task had a short description which would give the player a hint of what it was good for. The actual values of the story statistics were also something that was hidden from the player, so the only information they had to go on was what other characters would tell them. If the story statistics were too low certain events would also fire.

In phase 3 the player would get to read the results of their decisions. Certain characters had different success chances with different tasks. A character that was good at a task could not get the worst result, and conversely, a character that was bad at a task could not get the best result, meaning that the player could use the information to guide their future decisions.


**Figure 13** Phase 3. The player is given an event and gets to read the results of their decisions in phase 2.

An event was randomly selected depending on which parameters were met. These events were given a weight, and this weight may vary depending on the values of certain variables. For instance, if both stability and unity was below zero then there was an event that could fire where the player had to make a promise to promote either stability or unity, and if they were successful then they would receive a reward to both. The likelihood of this event firing was increased if stability and unity were below -3. The code looked like this:

```
if (stability < 0 && unity < 0)
        {
            if (stability < -3 || unity < -3)
            {
                eventWeight[3] = 3;
            }
            else eventWeight[3] = 1;

            eventContender = true;
         }
```

The value within the array "`eventWeight`" is the corresponding event ID. If stability and unity is lower than 0 but more than -3 then the weight of the event is 1. If stability and unity is less than -3 then the event weight goes up to 3. The variable "`eventContender`" is a boolean that, if true, will store all events whose parameters are met into a list. If two events are stored where one has a higher weight than the other, the list will remove the item with the lower weight. If two events have the same weight then the game will pick one at random. If no parameters were met then the function would return a 0 and the game would fire a generic event. There were three such events, and these three could be repeated any number of times.

This logic made it easy to create the parameters for the various events. Some examples:

```
if (thebTask == 2)
        {
            if(eventID[2] == false)
            {
                eventWeight[2] = 2;
                eventContender = true;
            }
        }
```

In this example the game is only looking for one thing: is "`thebTask`" equal to two? thebTask is a variable that stores what task Thebeka was sent on based on the ID of the task. 2 is the ID given to the task hunting. So if Thebeka is sent on hunting this event will fire. Once it has fired it will set "`eventID[2]`" to true, meaning it cannot fire again. The aforementioned example (event 3) did not have such a parameter because that event is supposed to be able to fire more than once.

```
        if (maekTask == 4)
        {
            if (eventID[6] == false)
            {
                if (e6Counter == 1)
                {
                    eventWeight[6] = 2;
                    eventContender = true;
                }
                else e6Counter++;
            }
         }
```

In this third example the logic is as follows: has Maek been sent on task 4? If true, check whether the event has already been fired. If false, check whether the variable "`e6Counter`" is equal to one. If false, add one to e6Counter. If e6Counter is equal to one make the event eligible for firing. What this means in practice is that Maek must be sent on task 4 (training) twice before this event can fire. Maek is described as a warrior in the game and he is good at the particular task, so the player may feel encouraged to send him on that task multiple time. The event that plays out risks shaking the stability, as Maek becomes well-liked by the soldiers and you, as the player, may want to break or encourage this development.

The purpose of the system was for the game to always fire an event, but prioritize events that require more specific or events that are more relevant to fire first.

### 4.3.4 Reflection

The final version of the prototype did not meet all the design goals. Originally the game was meant to have twelve potential events that could fire, but the final product only had ten. There were four planned outcomes for the second major event but in the end there were only three. There was also little time to test the strategy portion of the game – the act of maintaining the balance of the three story variables. As such, the game was made to be very easy to beat – only one lose condition made it into the final version before testing began. So even if the player picked the worst possible choices they were likely to complete the game anyway. This would not impact the narrative structure, as the story variables, as well as the player's choices, would still mold the narrative. However, it might make the choices feel inconsequential as the narrative threat isn't really being reinforced within the actual gameplay.

The lack of challenge may have a negative impact on the re-telling of the narrative experience. As discussed previously in chapter 2.4, challenge can be used increase the narrative weight of an interactive experience. If the players manage to detect that the consequences to their actions are mild or non-existent it might negatively impact the overall experience. However, since the prototype is relatively short (taking between 20-30 minutes for one playthrough) and because the testers are only going to be playing it once, the prototype may still sell the illusion that the choices are more important than they actually are. This is still something that is regrettable, even if it is a tactic often used when it comes to branching narratives. It is a tactic commonly practiced by the former game company TellTale Games, where the game would tell the player that their actions had consequence when, in reality, the story would play out in a very samey manner no matter what the player chose to do (Brown, 2015).

### 4.3.5 Pilot study

The purpose of the pilot study was twofold: first, it was meant to test two different methods for gathering data. One method had the tester play the game whilst observed by the researcher, and once they were done there would be an interview immediately. The other method had the player play the game at their own leisure and upon finishing the prototype they would fill in a questionnaire. The second purpose of the pilot study was to play test the prototype. Throughout the pilot tests the prototype received many changes based on the feedback; the user interface was modified extensively, music was added, and many dialogues were tweaked. Events were added over time as well. In the first pilot study there were only three potential events, where one was a generic repeatable one that didn't add much to the story. In the final pilot test there were six events.

In total there were three pilot tests; two utilizing the first method where the tester would play whilst being observed and one where the player got to play on their own. Some minor bugs were discovered but nothing that was game breaking and all bugs were fixed before the real tests began.

The results gathered from the pilot studies initially suggested that the prototype did contain a co-authorial narrative. The testers got to rank the prototype on the authorial control spectrum, where a 1 meant the game was significantly predetermined and 9 was significantly emergent.

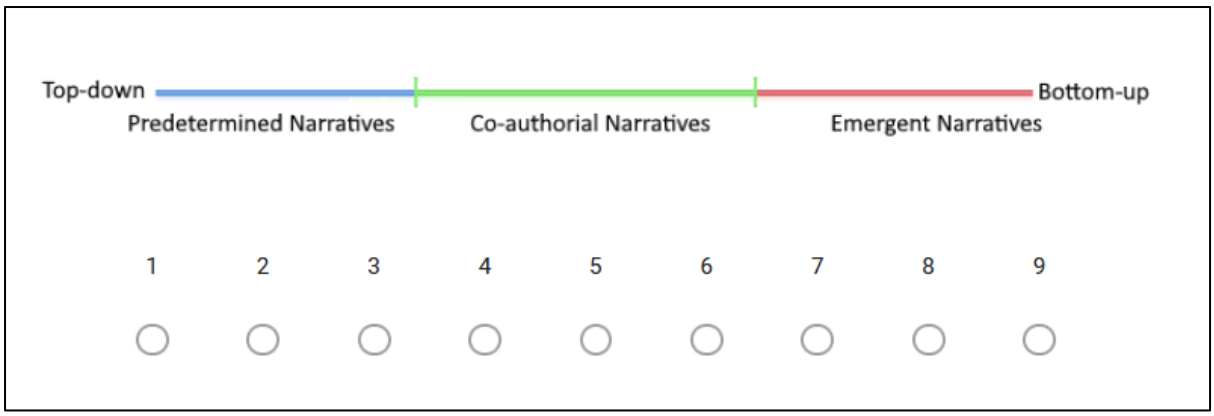



**Figure 14** The authorial control spectrum as shown in the questionnaire.

On this question the prototype was scored 3, 4 and 5 by the pilot testers. The reasoning as to why it was deemed co-authorial revolved around the potential of the narrative structure, even if there was an opinion that content was missing. The person who filled in the questionnaire themselves (the one tester who wasn't interviewed) argued that with more content, and if the content had more of an impact on the gameplay, then the game would go even farther right on the spectrum. The person that gave the score 3 argued that it felt as though they did have some control, but that they didn't get the feeling that there was anything more to it than a branching story.

Overall, the pilot study was a success. The feedback received helped with the final touches to finalize the prototype for the real testing, and the responses helped shape the questionnaire (see chapter 5.1) that would be used. The feedback also proved that the design of the prototype was sufficient to be able to give an answer the research question. For the real tests the second method was chosen where the testers could play the prototype at their own leisure and then fill in a questionnaire on their own as it felt more appropriate for the study. They would give their names in the questionnaire so that the researcher could contact them should there be need for it.

# 5 Evaluation

11 people reported interest in participating in the study. They were sent an e-mail containing all the necessary steps on how to perform the test. In the mail was an invitation link to a map on Google Drive that contained a document with information about the study (see Appendix A) that they were told to read before the played the prototype. The prototype was also uploaded to Google Drive.

At the end only 7 people participated in the study. The majority had a background studying Game Writing at the University of Skövde, but there was also one student from the Game Design program and one student from the University of Karlstad who studied computer engineering.

## 5.1 The questionnaire

The questionnaire was created on Google drive and consisted of 17 questions in total (see Appendix B). The first four questions were to determine a bit of the tester's background (age, gender, education). The questions pertaining to the actual study began on question five. These questions and their purpose will be explained throughout the remainder of this chapter:

**Question 5:** The fifth question showed the image seen on Figure 15 with the text:

> Above is a spectrum with a linear scale beneath. What I would like you to do is to use that scale as a reference and rank some games that you come to think of when you think of the concepts of predetermined, co-authorial and emergent narrative. List a few (as many as you want) examples in the textbox below and give them a rating where 1 is very much predetermined and 9 is very much emergent. (e.g. "Warcraft 3 ranks 4"; "Dishonored ranks 2"; "SimCity ranks 8" etc.).

The purpose of this question was twofold: to gauge the testers' understanding of the concepts and to see which examples they would use for each of the categories.

**Question 6:**

> Give a brief summary of the prototype's story, as though you were to explain it in the form of a synopsis.

The purpose of this question was to see which elements within the story the testers identified as being the most important to the overall narrative structure. The expectation is that the different testers will answer similarly on this question.

**Question 7:**

> Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?

In this question the expectation is that there would be variety within the different responses. It is perhaps through analyzing question 6 and 7 that one might most accurately distinguish whether the prototype's narrative is co-authorial or not. Too much variance would mean that the prototype might be too emergent within its design, and too little variance would mean it's

too predetermined. If there is a lot of variance in how people respond to this question then that may suggest that their experiences were unique (Eladhari 2018).

**Question 8:**

> Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.

The purpose of this question is to see how the various events affected the tester's perception of the narrative structure in the game. Prior to playing they were not told how the events played out. Major events would always fire whereas other events would have a chance to fire, and these events would affect one another to some extent. Basically, this question checks whether the prototype managed to sell an illusion of depth that may not actually have been there.

The next eight questions came in pairs that asked the players to give a rating on a linear scale whether they agreed or disagreed with the statement, followed up by a question that asked them to elaborate on why they gave the rating they did. 1 meant that they disagreed with the statement and 6 meant they agreed with it.

**Question 9 & 10:**

> I felt as though I had meaningful agency over the narrative development of the story.
>
> Please elaborate on why you gave the rating you did.

"Meaningful agency" was explained to the players in the study information document as: "Agency in this regard refers to the ability to make meaningful choices that are reflected in the game's story (Murray 1997)." (See Appendix B). One of the strengths of emergent narrative in comparison to predetermined narrative is that the player has more agency over how the narrative forms. If this is true and the prototype does generate a co-authorial narrative then the results are expected to fall somewhere in the middle of the linear scale. Of course, the tester is encouraged to explain why they gave the rank they did which could give an alternate explanation should the score be higher or lower than expected.

**Questions 11 & 12:**

> I felt that my decisions were reflected in the game's narrative.
>
> Please elaborate on why you gave the rating you did.

This question refers to the light strategy portion of the prototype. The player will send various characters on different tasks and depending on who they send on what task certain events may or may not fire. In a predetermined narrative, story and gameplay can often be separated and there can be little interplay between the two, whereas in a game with an emergent narrative the story may not exist until the player starts playing with the systems. A co-authorial narrative should fall somewhere in-between these two extremes as well, as the game should respond to what the player is doing whilst still funneling them along a specific dramatic path.

**Questions 13 & 14:**

I felt that I had significant control over the main character.

Please elaborate on why you gave the rating you did.

This question is relevant to the subject because of the design decisions taken when it came to how the player was to control the playable character. Should the player be allowed to create a character of their own? Should they be able to pick a character from a character roster? Or should the character be predetermined? The latter, more predetermined approach was selected, partly because of how it would simplify the writing process. The player would have control how the main character responds but couldn't decide what they were saying. The expectation is that the testers will give a relatively low score on this question.

**Questions 15 & 16:** Question 15 once again showed the image in Figure 15.

Where on the spectrum would you place the prototype?

Please explain the reasoning for your choice of placement.

The tester may place the prototype on the spectrum based on their own understanding of the concepts as provided by the study information document (Appendix A). The expectation is that the prototype will score a 4 or a 5 on the spectrum as seen in Figure 15, but results that are either higher or lower will be of interest as well.

**Question 17:**

Do you have any thoughts about the subject or the prototype? (optional)

The final question is self-explanatory. The tester may share any thoughts in regards to the study or the prototype. The tester may have an had an insight about the topic that they were not able to explain in any of the previous questions so that is why this question is put at the end.

## 5.2 Participants

The results from the testers' participation can be seen in Appendix B. The testers have been given fake names. Here is a short description of each person based on their background info and the manner in which they responded to the questions, and the general attitude they seemed to have to the prototype:

**Richard:** man aged 25-29, currently studying Game Writing at the University of Skövde. Showed a good understanding of the concepts of predetermined, co-authorial and emergent narrative and gave concise but detailed answers.

**Anders:** man aged 18-24, studied Game Writing at the University of Skövde. Showed an interest in the study and had a good grasp of the concepts. Provided answers that were long and detailed for each question. Seemed to have extensive familiarity with branching narratives.

**Camilla:** woman aged 18-24, currently studying Game Design at the University of Skövde. Showed an understanding of the concepts and gave concise and detailed answers. Based on the answer on question 12 she may have played an older version of the prototype as she mentions seeing the story variables in the top left corner. These variables were meant to be

hidden and may have had an impact on her experience but not so much as to significantly affect the answers.

**Christian:** man aged 25-29, studying computer engineering at the University of Karlstad. Had a somewhat laidback and humorous attitude when answering the questions, but elaborated well on his thoughts.

**Karl:** man aged 25-29, studied Game Writing at the University of Skövde. Gave long and detailed answers. Of particular note, on question 5, rather than list games and giving them a score he explained in greater detail his musings about the concept, as well the reasoning for why he listed the games the way he did. He also encountered a bug that made it impossible to progress in the game and was forced to restart. This bug was fixed and an updated version of the prototype was uploaded, and the hiccup did not seem to affect his answers.

**Lisa:** woman aged 25-29, studying Game Writing at the University of Skövde. Gave long and detailed answers to the questions. Seemed to be invested in the experience; she noticed and commented on a potential plot hole (Appendix B, question 8) and described a certain event that happened as being "stressful".

**Erik:** man aged 18-24, studying Game Writing at the University of Skövde. Answered thoroughly and showed a tendency to ponder the narrative structure of the game. He ran into a bug at the start of the game that forced him to restart but this did not seem to influence his experience. The bug was fixed and an updated version was uploaded.

## 5.3 Results

In this section we'll go over each question one by one and summarize the general response and lift examples from Appendix B when relevant. Appendix B contains the raw data from the questionnaire and there are a number of typos and spelling errors that will be corrected when quoted in this article. Question 5 and question 16 (where the participants had to place games on the authorial control spectrum) will be covered last as all answers will have to be analyzed for those two.

### 5.3.1 Analyzing the re-tellings

**Question 6:** Give a brief summary of the prototype's story, as though you were to explain it in the form of a synopsis.

Results: while the answers differed in length, each participant seemed to have identified the main plot of the narrative. They all mentioned Thebeka – the main character whose role in the narrative is to become chieftain. They all mention the pact between the two once rival clans. They all mention how the two clans must cooperate to prevail against future conflicts. Some testers, Richard, Camilla and Christian mentioned the political marriage as part of the synopsis, even though this was something that was optional. Karl did not call the pact for a political alliance but rather a "merger", and Anders and Lisa simply called it for an "alliance", which may suggest that they picked different decisions to Richard, Camilla and Christian. Regardless, the narrative arch of the prototype's story is present in each response. This speaks for the prototype's predetermined nature. Some examples:

Karl:

> You are the daughter of the chief of a tribe, and through a sequence of events you are thrust into leading a merger between your tribe and an old enemy tribe against a new threat, forced to manage limited resources and the balance between the survival of your people, the unity of the two groups within the tribe and preparations for a future conflict.

Lisa:

> There are two clans who have been at war with one another for generation. The player is born as the heir to the chieftain role within one of these clans. One day a third, weaker clan got outside help with receiving weaponry. This caused the two war driven clans to come together in an alliance to stand against this new threat. Even with this alliance they got overwhelmed and had to retreat from their capital, thus it started a game of survival, cooperation and battle for revenge.

Erik:

> Two rival tribes have to come together when a foreign force grants a hostile clan the weapons needed to wage an open war. As the tide of war turns against them, the two allied tribes must survive on the outskirts of their old lands where they scavenge and prepare for their retaliation. The leader of the alliance, a young woman, finds herself struggling to maintain the rocky relationship between both tribes' people.

These three answers are of equal length and though they are differently worded they revolve around the same themes. The answers are also similar to the summary provided in chapter 4.3.1, which suggests that the overarching narrative is congruent with the author's intent.

**Question 7:** Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?

Results: There was much more variance in how people answered on this question, although that may have to do that it was more open than question 6. In spite of the variety in how they responded one could detect a familiar theme in all of their stories. A majority of the testers (Anders, Richard, Lisa and Erik) seemed to focus primarily on the major events, which is not surprising as these events were more complex than the potential events. It seemed like they used similar reasoning within these events however. In the first event the player gets to decide the fate of two scouts and it seems no one decided to release the prisoners. This is likely because the player's main rival opposes the idea and gets upset if you do, so it seemed players preferred to play it safe by either executing or imprisoning the captives (only Erik explicitly states that he executed them). The player is also given the choice of whether the player's tribe should handle the interrogation or if the rival clan should do it. The narrative tells the player that the rival clan is likely better at it, but their methods are known to be somewhat gruesome. Anders allowed the rival clan to do the interrogation and the others did not say.

With the second major story event it seemed like everyone picked the same choice as well. The player gets to choose whether they should allow the dark shamanistic arts of the rival clan or not, and it seemed every player deemed it important. However, here we can detect some relevant variations in the outcome of this event. If the player elects to allow the dark arts then that checks the parameter for a unique event to fire if the player assigns the task Ritualism to themselves. Some testers managed to figure this out (Anders and Lisa) and both mentioned it in their re-telling. Both Anders and Lisa would go on to use the dark arts to win the battle at the end of the game. Lisa seemed to appreciate this narrative development, but wondered how they could have lost in the first place if their magic was so potent (which is a fair critique of the plot).

As far as the major events are concerned it is difficult to say that there's enough variety here to say that the narrative was co-authorial. The major events were designed to be predetermined, so what's more interesting to analyze is the potential events the testers encountered and how they talk about them.

First of all, it seems only Anders and Lisa managed to encounter the potential event with the dark ritualism, and this event did have a noticeable impact on the re-telling of their experiences. Another potential event that stood out to Lisa and Christian was the event where the main character's brother, Rhael, wants to be sent on hunting. The narrative tells you early on that Rhael have wounded his dominant hand and that he cannot be an effective hunter anymore, and there is an event where if you don't send him on hunting he will ask if you will consider it. Both Lisa and Christian appealed to Rhael's desire but commented that he wasn't very good and that they struggled managing the supplies (the stability variable). It seemed like most testers struggled to balance the story variables, except for Erik who thought he managed the tasks quite well. He was also the only one who, due to the success of the scouting tasks, decided to use infiltrators at the end. There was no real correlation between the success rate of the scouting task and the success rate of the infiltrators at the end, but it is interesting that he made that connection.

Overall, for the purposes of this study these answers seem to suggest that the narrative structure of the prototype may not have been co-authorial. Or perhaps it would be more fair to say that the prototype simply lacked enough potential events, or that the potential events didn't affect the overall narrative enough. Camilla expressed that there wasn't enough feedback to get a sense of the impact of one's decisions. Karl mirrored this sentiment and said he didn't have enough information to make a proper decision in regards to major event 2 and 3. Almost every decision did have an impact on the story variables or on the characters' opinion towards the main character, but these numbers may not have been very well balanced.

However, it was likely inevitable that this question was going to revolve around the larger events, as those were more noticeable than the potential events. More insights into the unique differences in the testers' experiences may be provided by analyzing the answers to the other questions.

**Question 8:** Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.

Results: there were some similarities between the answers on this question as well. Of note, Christian, Lisa and Erik were worried that had they acted differently it might have led to a revolt. When the story variables were low an event would fire that insinuated that a revolt was a very real threat, and although there was no way for the player to lose before the end of the game in the prototype that they played, it seemed to at least sell the illusion that stakes were high. What is more interesting is when certain players managed to identify alternate paths that actually existed, or when they voiced thoughts on things that were originally meant to be a part of the game. Richard's response is of particular interest:

> There were several moments where it felt like things could go differently where characters development hinted at romances, betrayal, and so on.
>
> I almost expected something to develop between Maek and the MC for a while. But since the game was rather short I see the hindrances in what could have happened.

There was a potential romance that could develop between two characters (Rhael and Lindvis), and it was possible for Maek to betray the player in the final event. Richard did not encounter these events but still managed to identify them. And although there was no possibility of a romance between Maek and the main character, it was actually planned early on that such an event would fire and would play into the decision at the start of the game where the player can choose to marry or not. This never made it into the final product, but it may have influenced the writing which left small cues for the players to pick up on. In a more complete version of the game such a romance would likely be a potential event.

Karl's answer is also of particular interest:

> A version could have been one where you submitted to the enemy tribe and tried to work with them, balancing the grudges towards them. Another would be a path were you simply made peace, although that could have been a potential path, even if I didn't see any indication of its availability beyond one decision that seemed pretty dumb.

Originally the plan was for the player to be able to submit to the Bargas clan if they found themselves at the end of the game with too low a score in the military story variable. This potential outcome was scrapped because of time constraints and because it was difficult to balance. The decision Karl refers to as "pretty dumb" is likely the decision where you can release the captives. As no one picked this decision it was perhaps too extreme, which is regrettable as there was a more peaceful path to pursue. The final event would still be a battle but if the player chose to spare the enemy chieftain then that would have had a guaranteed success chance had the player shown mercy earlier in the game. So Karl and Richard both managed to spot one potential event that could play out and one that couldn't but was part of the original narrative design.

**Questions 9-10:** I felt as though I had meaningful agency over the narrative development of the story.

Results:

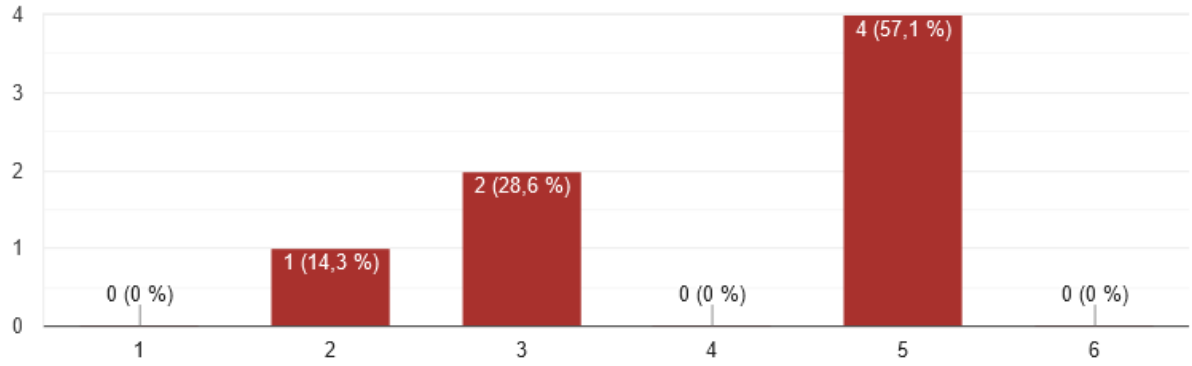



**Figure 15** The results of question 9 stacked.

The response was largely positive when looking at the bar graph above. However the answers reveal some problems with not only the prototype but with the study as well. Richard, Camilla and Karl rated the prototype 3, 2 and 3 respectively, arguing that it felt like there was a lot of illusion of choice. Karl explains the problem best:

> While it certainly seemed like things were being affected by my decisions and there were many events with multiple options that seemed like they might change something, I cannot say for certain if they actually did without a second playthrough.

The testers were asked to play the game only once so they can only really base their response on what they believe. There were many times were the player's choice was an illusion, though there were also times where choices would impact the narrative in unique ways. This could be difficult to discern through only one playthrough. As mentioned earlier, the reason why they were told to play only once was to limit the length of the study. The goal was to analyze similarities and differences in their responses.

On the more positive side of the spectrum we have Anders, Christian, Lisa and Erik, all who gave the prototype a score of 5 on this question. Anders explains how he felt like everything seemed to have mattered at the end of the game. This is largely true; the final event of the game was the most elaborate event in the game, where the goal was to have the unveiling narrative influenced by as many factors as possible – be it the story variables or unique triggers from certain events. The point of the final event was to make it feel as though the player's choices actually had mattered, but as Karl says, without playing the game a second time it can be hard to spot the differences.

A final curious detail: Anders mentions in the answer to this question that he did discover the event where Rhael and Lindvis engage in a romance. It was not something he mentioned in question 7 – perhaps because it wasn't something that stood out enough to him, but judging by all the responses he may have been the only one to actually trigger the event.

**Questions 11-12:** I felt that my decisions were reflected in the game's narrative.

Results:

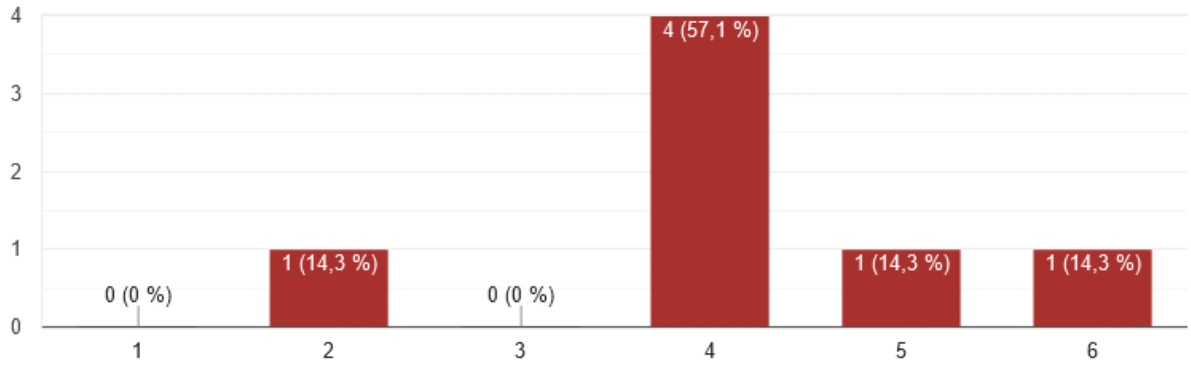



**Figure 16** The results of question 11 stacked.

The results were in line with the predictions, with a majority rating the game 4 on this question. Camilla rated the game 2, once again criticizing the lack of feedback on her decisions. Her full response was:

> As mentioned earlier, there was no feedback reflected in the narrative in form of different kinds of conversations between the characters. There was, however, values in the top left corner that indicated on how I was doing, but overall it was quite frustrating to assign work to people without seeing anything different happen in the way you talked to them.

This is in stark contrast to Ander's response, who rated the game 6:

> I felt that the characters around me responded in a way which reflected my choices. One issue I had though was that no matter how much I wanted to improve Clan Cooperation, there were still complaints that there was irritation between the clans but I guess that's how it is between two old rivals. Other than that, all the decisions I made had some effect on the narrative, every decision didn't necessarily change or alter the narrative but was at least mentioned with some feedback within the narrative which is a nice touch to make the player feel involved and that their decisions are being noticed. But like I mentioned above, it's in the endgame I really felt like I got my money's worth, that every decision I made beforehand had led up to that moment and paid off which was a really powerful feeling and got my heart racing a bit.

Camilla's frustration may be explained by her background, as she was the only participant who did not have a Game Writing background but rather the background of a Game Designer. The difference in their experiences may also have to do with how they decided to play the game. During the pilot testing when two players were being observed playing the game it was obvious that people would approach phase 2 (where they assign characters to tasks) in very different ways. It could be that Camilla played in a way that did not trigger many interesting events, whereas Anders played in a way that did. Perhaps Camilla would have rated the game higher had the game had more potential events that could fire.

In general, the testers who gave the rating 4 and 5 did so explaining how they felt their choices affected the narrative.

**Questions 13-14:** I felt I had significant control over the main character.

Results:

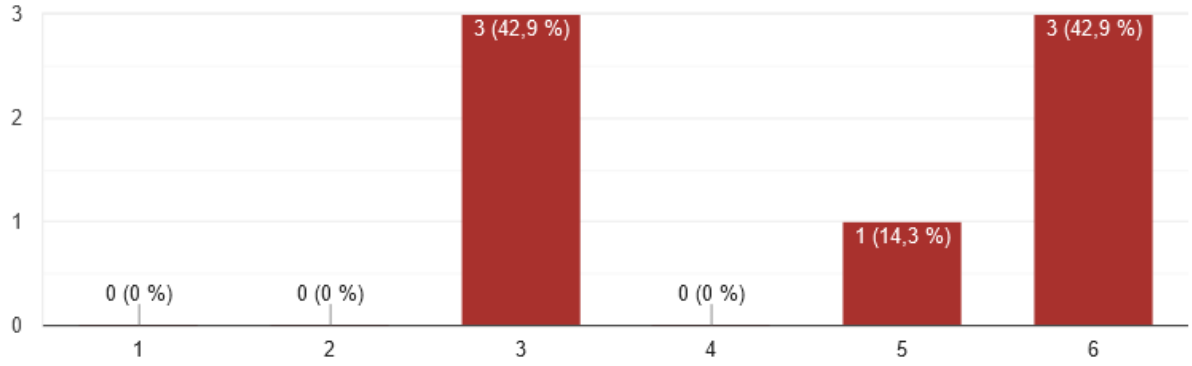



**Figure 17** The results of question 13 stacked.

The prediction for this question was that the testers would give the rating 3 or lower, as the method chosen for the main protagonist was the predetermined one. However, there's a bit of a schism between the responses, where some (Anders, Christian, Lisa and Erik) gave a high rating and the rest (Richard, Camilla and Karl) gave it a lower rating. The latter part answered in a way that was predicted; they comment on how they felt they had some control over how the main character should respond, but could not influence the way the main character said things. Richard explained it succinctly:

> I had control over their decisions. But it felt like the narrative part of the character was already set. Rather than something I could influence to any greater part.

This was in line with expectations. However, the testers who gave it a 6 had interesting arguments for why they did so. Anders made a parallel to other story-driven games where characters may overreact depending on your choice. He felt that the main character in the prototype had a neutral approach and was never too soft or too harsh, and that because she maintained a neutral balance he felt like he was in control of her and her actions. Lisa shared this opinion, and Christian and Erik both said that the choices presented to them were reasonable.

The method chosen for the main character was, as already explained, a predetermined one. However, as the game was narratively driven, it was important that the dialogue would change depending on the player's actions and the current state of the story variables. Some testers may have focused on the immediate control that they had, whereas other testers may have focused more on the long-term outcome of their decisions, which may explain the schism in the results.

### 5.3.2 The participants feedback on the authorial control spectrum

In question 5 the participants were asked to place games along the spectrum of authorial control. The terminology of predetermined, co-authorial and emergent narrative was explained to them in a document containing information about the study (see Appendix A). The various terms were explained leaning on the theories and research of Janet Murray, Ruth Aylett, Marie-Laure Ryan and Michael Mateas and Andrew Stern. As the majority of participants had a background in game writing it was expected that they were already somewhat familiar with at least predetermined and emergent narrative. In this study, assumptions of where games should be placed along the authorial control spectrum has already been made (see Figure 2) and the purpose of question 5 is to see where others, based on their understandings of the concepts, would place games along the spectrum. They were free to give as many examples as they wanted, and the final result looks like this:

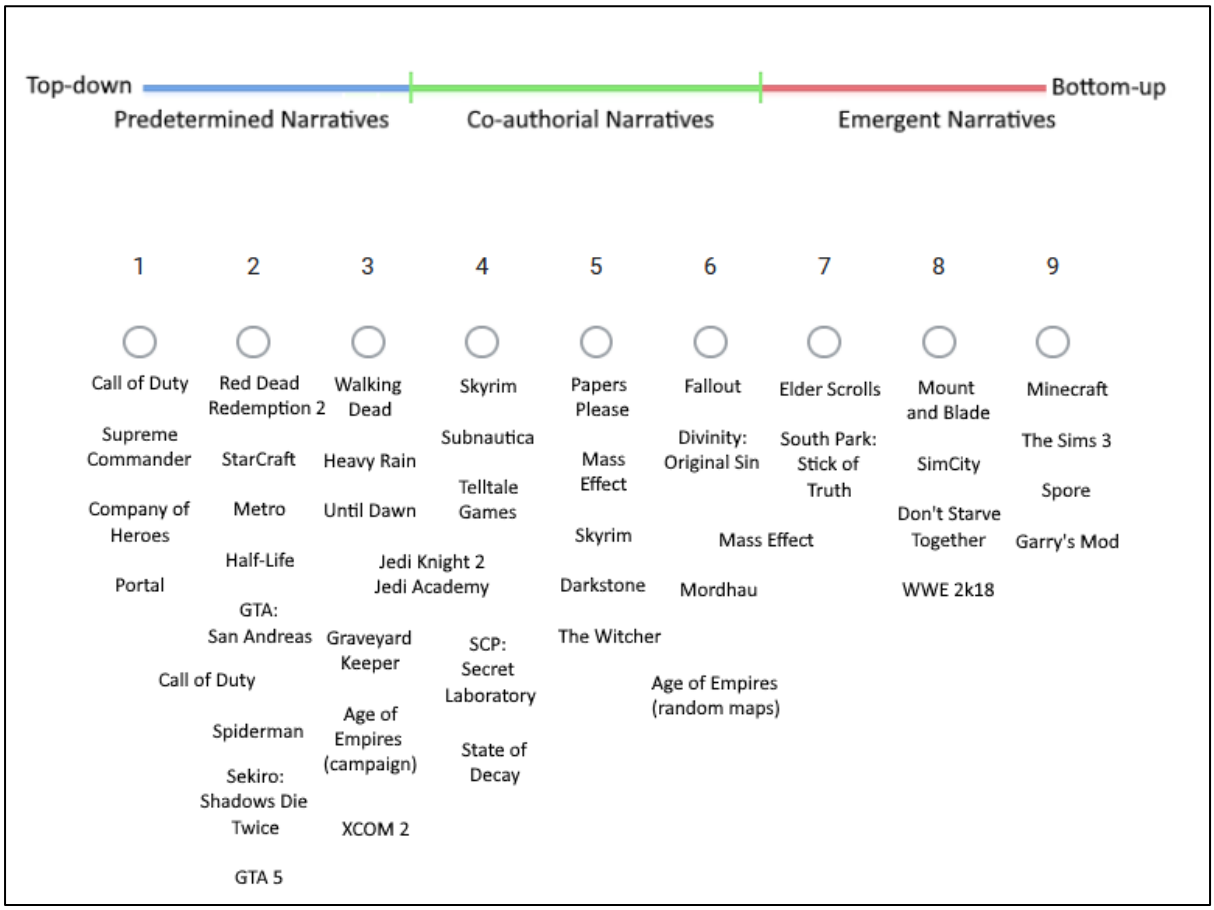



**Figure 18** The results from question 5 summarized.

The data suggests that the extremes are quite easily identifiable. The games that ranked 1 and 2 share certain similarities, such as *Portal* (2007) and Half-Life both being first person games with linear paths that the player can't diverge from. *Red Dead Redemption 2* (2018), *Grand Theft Auto: San Andreas* (2003) and *Grand Theft Auto 5* (2013) are all open world games where the story is frozen in a temporal bubble (Zagal & Mateas 2007) and waits for player to initiate the story mode (as discussed in chapter 2.2). What the player does in the actual gameplay has little to no effect on the narrative. On the opposite end of the spectrum we can see the games that received a rank of 8 or 9 share very little with the games at the opposite side of the spectrum. These are games that may lack an overarching narrative

structure, though they may still contain embedded narratives, such as *Mount and Blade* (2008). What is perhaps of most interest is what falls in-between the extremes.

In chapter 4 the argument was made that *Skyrim* has more of a bottom-up approach to its narrative than a game like *Dragon Age: Origins*, with the argument that the player doesn't have much meaningful agency outside of the main narrative, and the main narrative is itself branching. Whereas *Skyrim* lets you explore the world and let you choose which content you want to do and which content you want to do the player has a stronger say over their own journey. *Dragon Age: Origins* does not allow for this to the same extent. Listed in figure 19 are a number of story-driven games that are similar to *Dragon Age: Origins* in their narrative structure; the player is allowed choice but the narrative is branching and will always snap back to a central point. For the purposes of analysing this data we will refer to these types of games as "branch and bottleneck narratives". Games listed with this narrative design are the following:

- *TellTale's Walking Dead* (2012).
- *Heavy Rain* (2010).
- *Until Dawn* (2015).
- *Mass Effect*.

Christian simply listed the company of TellTale Games as a whole under 4 (as their company specialized in making CYOA-esque video games with minimal focus on gameplay and more focus on narrative). Anders listed *TellTale's Walking Dead, Heavy Rain* and *Until Dawn* under 3 and both Richard and Camilla listed *Mass Effect* under 5 and Lisa listed *Mass Effect* under 6 or 7. There is a bit of discrepancy here but that may be because of the newness of "co-authorial narrative" as a term, and it's only really *Mass Effect* that stands out. *Mass Effect* was developed by BioWare, the same company that developed *Dragon Age: Origins,* and their narrative designs are similar. This article previously stated that *Dragon Age: Origins* is more bottom-up than *Mass Effect* but less so than *Skyrim*. *Mass Effect,* based on the understanding of emergent narrative, cannot be defined as having such. NPCs in *Mass Effect* are either static – standing still in places waiting for the player to interact with them – or they're hostile in which case they will try to attack the player. This hostile behaviour can of course lead to emerging stories relating to the gameplay but it is not something that is reflected in the overall narrative and, quoting Espen Aarseth once more: "If an(y) interesting experience in a game is an "emergent narrative," where does it end?" (Aarseth 2012). As such, *Mass Effect* cannot have a score of 7. However, *Mass Effect* could be argued to be co-authorial as it does allow the player to create their own path even if they are strictly bound to an overarching narrative. *Mass Effect* (similar to many other BioWare titles of the time) allows the player to complete missions in different orders which may alter the narrative somewhat. BioWare's earlier game, *Knights of the Old Republic* (2003) and *Mass Effect* both have narratives in which the player is sent on a quest to discover the truth about something, and each location they visit they discover a new piece to the overall narrative puzzle. In *Dragon Age: Origins* the player may also visit mission areas in whatever order they desire, not in search for a piece of a puzzle but in search for allies to defeat the main antagonistic faction of the game. This freedom is missing from TellTale's games, where the player is set on a very specific path that is played in the same sequence each time (the same is true for *Heavy Rain* and *Until Dawn*). As such, *Mass Effect* should be further right on the spectrum than those other games.

*Skyrim* was mentioned by Anders (who ranked it 4) and Camilla (who ranked it 5). Richard mentioned "the Elder Scrolls" which refers to the series as a whole and ranked it 7. In addition, Christian mentioned *Fallout* (1997) – though it is uncertain whether he meant the franchise (like he did with TellTale games) or if he simply referred to the first game. As a franchise it has seen many changes with the first installment of the game being more akin to games of the cRPG (computer roleplaying game) genre (which will be discussed in chapter 6.1) and later entries are more akin to The Elder Scrolls series. In chapter 4, this article argued that *Skryim* should fall somewhere around 4 on the spectrum, although unlike *Mass Effect* it could be argued that *Skyrim* can be farther right as it can be argued to have an emergent narrative. Indeed, Eric Murnane wrote a doctoral dissertation on that subject, analyzing the concept of emergent narrative in *Skyrim* (Murnane 2018). Perhaps a fairer score for *Skyrim* would be 6 based on this feedback.

Both Richard and Lisa ranked *Subnautica* (2018) at 4 – which is interesting because *Subnautica* is similar to *Skyrim* in certain respects. The game is an open sandbox with a predetermined narrative. Unlike *Skyrim* there are not as many side plots for the player to pursue, but *Subnautica* does allow the player to construct bases in most areas of the game. *Subnautica* also contains a resource management aspect and players will likely use the various tools available to them in different ways. So even if the narrative is predetermined, each player will likely have a very different route to the end of the game. Contrast this to a game like *Half-Life* where the player is on a set path that they cannot diverge from. *Subnautica* sits well at 4. The open-ended nature of the game allows the player to create their own unique journey, but the narrative itself is predetermined and the player has no real agency over how it plays out. This may sound familiar to the earlier description of *RimWorld*; *RimWorld* does present the player with a narrative goal that is pretty much exactly the same as the narrative goal in *Subnautica:* escape the planet. However, in order to escape the planet in *Subnautica* the player *must* follow the predetermined narrative whereas in *RimWorld* the player will have to figure out how to leave the planet on their own with no predetermined narrative to guide them other than the initial prompt at the start of the game. The world in *RimWorld* is also procedurally generated whereas the world in *Subnautica* is handcrafted; each time a player plays *RimWorld* their starting conditions and the ship's location on the map will be different. As such, *Subnautica* fits in somewhere in the middle of the spectrum.

*RimWorld* was mentioned by Karl who answered this question in a different manner to the other participants. Karl mentioned he struggled to come up with examples for the ranks 4-6. He said:

> Unfortunately, little truly comes to mind when it comes to a game I would rank 4-6. I suppose it would be a game where the narrative direction is more heavily influenced by the player's interactions with the game, but that usually only ends up scrambling the order of what happens when, with maybe some difference depending on choices made (if the developers really put in the effort). Could we perhaps say that games like Dwarf Fortress and RimWorld, that randomly gives the player events with randomized pieces and boards, fulfill this condition? In such a case it could be argued that the game and player are building the narrative together. Perhaps.

His reasoning is interesting. Determining the authorial control in games can be difficult,

especially since emergent narrative is still a concept that is still difficult to truly define. It is perhaps easier to discuss the games at the extremes of the spectrum. When it comes to the extremes there is little disparity between the participant's responses. Rank 3-7 is harder to define. If a game contains both predetermined and emergent aspects, such as *Skyrim* and *Subnautica*, where does one place it on the spectrum? Perhaps it is impossible to give it a specific number, as some may approach *Subnautica* with the intent of discovering the narrative, whereas someone else approaches *Subnautica* with the intent of exploring and building a network of bases on the ocean floor. The experience of the former would be more predetermined, and the experience of the latter would be more emergent – but because the game blends these two aspects, is that enough to determine it as a co-authorial narrative? When it comes to co-authorial narrative the subjective experience may color the response. Perhaps that is a reasonable conclusion to draw from this data.

Finally, there is an odd outlier in figure 19 and that is *XCOM 2* (2016) that is ranked at 3. In chapter 3.1 of this article it was argued that *XCOM: Enemy Unknown* does have an emergent narrative, and *XCOM: Enemy Unknown* was also placed far to the right on the authorial control spectrum on figure 2 in chapter 4. The reasoning was that *XCOM: Enemy Unknown,* much like *RimWorld*, has a narrative goal for the player to pursue but no established narrative arch. When compared to *RimWorld*, *XCOM: Enemy Unknown* does have less mechanical depth to create unique stories. The agents in *RimWorld* are autonomous and will perform actions even when the player doesn't directly control them. The player may tweak what tasks an agent should or shouldn't do and assign work hours and the agents will follow their orders to some extent, but the agents can also do things that the player cannot influence – such as befriending or making enemies with other agents. In comparison, the agents in *XCOM: Enemy Unknown* are much more reliant on input from the player. It's a turn-based strategy game and the player has full control over the agents. Agents may panic, which will cause them to take actions on their own, but aside from that the player is in control. The emergent narrative in *XCOM: Enemy Unknown* comes from the fact that the journey to the end is random. Which missions the player embarks on are random, and whenever the player goes on a mission there are a number of things they must consider which may have severe consequences for the overall journey. The narrative of *XCOM: Enemy Unknown* is that the titular military organization XCOM is supported by various countries from across the world and in order to maintain their support the player must help the countries against alien invasions, and the problem is that the player can't help everyone. So when presented with a number of missions the player will have a number of things to consider. A country may be in a situation where, if they do not receive support, they might withdraw their support – which will have penalties to the player's income throughout the rest of the game. So the obvious choice may be to assist that particular country, but there are many other things to consider as well. Perhaps the mission difficulty on that particular mission is too high for the player to handle at the moment because their best soldiers are in the infirmary. Each mission also provides a unique reward. A player may be in need of a certain resource and let that dictate their decision. The mechanics of *XCOM: Enemy Unknown* creates a unique experience for every player and the predetermined narrative is also somewhat affected by the gameplay. At the end of the game one of the soldiers that meet the specific parameters will be given a special role, both in the gameplay and in the narrative. This soldier is not predetermined, so even within the predetermined narrative there's a hole that is meant to be filled by the actual gameplay. Typically it will be the player's best soldier that gets selected for the heroic role at the end. Unlike *Subnautica*, where the predetermined

narrative is the same for everyone (although players may discover certain pieces of the narrative in varying orders – the pieces themselves are always the same), the narrative in *XCOM: Enemy Unknown* is molded by the player's interaction.

However, the game listed is not *XCOM: Enemy Unknown* but *XCOM 2*. *XCOM 2* did place more emphasis on the narrative. *XCOM 2* utilizes a protagonist figure that is the same for each player. At the end of the game the protagonist is a specific controllable character, and this character is the same for everyone. *XCOM 2* also contains more story missions. This was something that was present in *XCOM: Enemy Unknown* as well, although they weren't that different from the randomized missions. The more story oriented missions came with the expansion *XCOM: Enemy Within* (2013). In *XCOM 2* there was more effort put into voice acting and cutscenes. However the base idea of the player having to balance and make sacrifices, as well as having randomness to influence the strategical decisions the player must make is something that remained intact in *XCOM 2*. This franchise is known for its ability to create unique narratives that are meaningful to the players playing and watching, but it is understandable how someone might place *XCOM 2* farther to the left on the spectrum due to its heavy focus on narrative. Again, the subjective experience may color the way someone responds to this question, although in this case the study disagrees with the placement of *XCOM 2* on rank 3.

Finally, the results of question 16 were as follows:

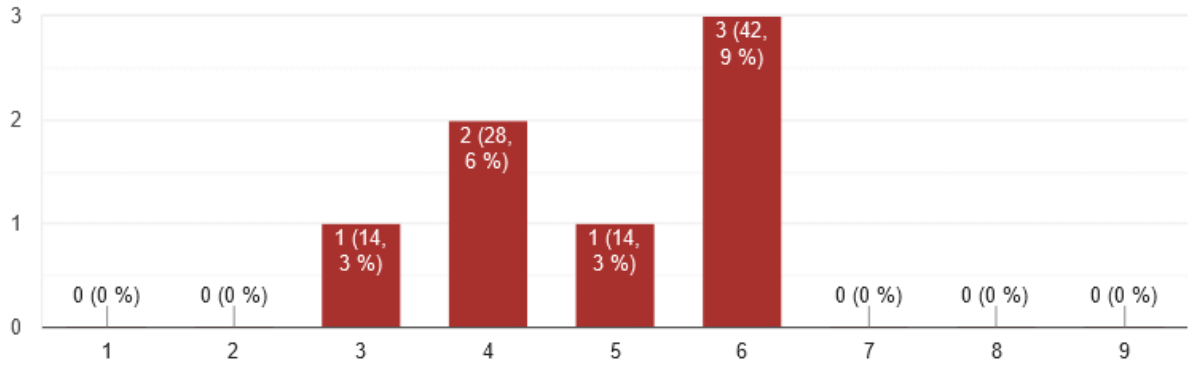



**Figure 19** The results of question 16 on where the participants' would place the study's artefact along the authorial control spectrum.

Initially the results are promising. The vast majority ranked the game within the field of co-authorial narrative. The only exception was Karl, who argued:

> Many possible narrative paths doesn't truly change how predetermined each piece of it is. I honestly felt this was about the right spot for it. The author prepared a bunch of possible paths and I made decisions that determined which one I saw. That said I could also maybe see a 4.

Karl is correct in that the author had prepared a number of possible paths, but many paths were supposed to be determined by the active choices the players made in the gameplay portion of the game. Their strategic decision making was supposed to be reflected in the narrative that was told. The details of what each tasks did and what characters were good at were obscured on purpose which seemed to have had a negative impact on Camilla's

experience, as she expressed frustration with the lack of feedback given on her choices. Camilla gave the prototype the ranking of 4 and when asked to elaborate she said this:

> There aren't enough choices for it to be completely co-authorial, at least I felt that way. A lot of things seemed to have to align no matter what I chose, meaning it felt like my choices didn't always matter in the end. I also had very little information to go on, meaning that the choices I made didn't feel that impactful, since I wasn't allowed that much agency. Meaning, the less agency I felt I had, the less I cared about the outcome of the story, because it didn't feel like I was controlling it either way.

It sounds as though she perhaps meant to give the prototype a score of 3 or lower – which is fair considering her experience with the prototype. Data on their specific decisions was not gathered so it is hard to say exactly how the game played out for her but it seems she didn't encounter enough variance to perhaps see how the strategic portion of the game influenced the narrative. She seems to have had a rather negative experience of the prototype as a whole. Anders, Lisa and Erik were perhaps those that enjoyed the experience the most and had the most positive feedback. Erik gave the prototype a rank of 6 with the explanation:

> The impression I got of the game is that the narrative revolves around reclaiming your land & getting along with the other tribe or failing to do so. A different future for the tribes, new alliances, resettlement or exploration into the eastern wilderness were not options. At the same time, the manner in which you could succeed or fail were in your hands and you had full control over certain aspects that would affect this specific narrative. All in all, I feel as if the game was more open than restrictive. The author has set up a situation and it's up to the player to manage it.

This explanation basically summarizes the idea of the original concept of the prototype's narrative structure. The goal was to create a narrative game with a clear overarching story with a conflict that was easy to understand and turn into simple gameplay mechanics.

## 5.4 Conclusions

At a first glance of the collected data it does seem that the prototype did fulfill its job of creating a co-authorial narrative. However, the purpose of question 6 and 7 was to analyze similarities and differences in the re-tellings of each participant. On question 6 the expectation was that there would be little variance in their answers and this proved to be largely true. The participants clearly identified the main conflict of the story and the dramatic conclusion of the story. On question 7 the expectation was that there would be more variance in their responses. This did not prove to be the case. There were a lot of similarities between the answers. This may have been because of how the question was phrased.

The question was: "Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?"

The major story events were designed to always fire and they had more complexity to them than the potential events. As such, when the participants were told to re-tell which events

that stood out to them the major story events would most likely come to mind first. There were some other issues with the branching nature of the major story events as well. One potential outcome was described by Karl as being "stupid" – the one in which you release the captives. This sentiment may have been reflected by other participants, as no one decided to go for it. Similarly, the cool factor of the dark arts in the third major story event seemed to be compelling to all the participants as well, as they all decided to allow the Shymn shaman to spread her teachings. However, when cross-examining the results and the answers from different questions one can see that the players did have different experiences. Anders mentioned on question 10 that he did discover the romance between Rhael and Lindvis whereas Richard only detected hints of it. The participants also expressed various degrees of success when it came to the strategy portion of the game, with Christian expressing that the village suffered from a chronic food shortage (although this may have been the result of him sending Rhael on hunting – as Rhael was not good at that particular task). Anders seemed to have some problems managing the pact unity, and Erik seems to have been somewhat successful in managing the story variables.

So in spite of the similarities in their answers on question 7, when analyzing the participants' answers on all the questions, it does seem as though they did have somewhat unique experiences. But were their experiences unique enough to unequivocally declare the prototype a success? Perhaps not. The prototype was flawed and perhaps a bit underperforming. Had the prototype had more potential events for the players to discover, more clear feedback on their strategic actions and had the potential events had more of an effect on the major story events then maybe then the prototype would meet the requirements to be recognized as having a co-authorial narrative. So the prototype's design shows promise, and the version of the prototype that was being tested may simply have been lacking content.

As for the concept of co-authorial narrative – there seems to be some credence for it judging by the answers on question 5 (see figure 19). Based on how people placed games on the authorial control spectrum and based on their feedback throughout the questionnaire it does seem like it was a concept that could be easily understood. The manner in which some participants answered made it seem like they already possessed a strong understanding and familiarity of the concept. "Co-authorial" may be an apt term for the types of interactive narratives that falls in-between predetermined and emergent narratives.

# 6 Discussion

This study builds on the idea of top-down and bottom-up narrative structures as first theorized by Ruth Aylett (1999). It builds on the ideas suggested by Marie-Laure Ryan of the authorship in interactive digital narratives being a spectrum where at one extreme you have narrative games and at the other end you have playable stories (Ryan 2009). The purpose of this study is not only to define the middle-ground of this spectrum but also to help further the understanding of emergent narrative, as it is a concept that still lacks a clear definition (Larsen, Bruni & Schoenau-Fog 2019). By identifying the specific qualities that makes a game co-authorial we may be able to work out a more clear distinction between co-authorial narrative and emergent narrative in the future. *Façade* has been used as an example of a game with a co-authorial narrative as it is a game that does have a clear overarching narrative structure but also empowers the player with meaningful agency for how the plot should play out. The qualities that make *Façade* a co-authorial narrative are:

1. The game possesses a clear narrative arc that is handcrafted by the developers.
2. The gameplay is based around an AI. trying to interpret what the player says and does within the game space.

These two are the most rudimentary qualities of a co-authorial narrative. If *Façade* did not have a narrative arc – that is to say no predetermined drama – then the game would not have a co-authorial narrative but rather an emergent narrative. At least, it would have an emergent narrative according to the soft definition of the concept. The agents in *Façade* are not perfect and cannot respond realistically to every action the player does so without the predetermined drama one wonders how the game would even function. One may be reminded of conversational agents such as *ELIZA* (Brusk 2014:58-59). It's not uncommon for people to share interesting and unique re-tellings of an encounter with *ELIZA*. However, *ELIZA* is not a game but rather a natural language processing computer program. If Trip and Grace (the NPCs in *Façade*) were as complex as *ELIZA*, what would the game be about? Would it be a sandbox exploration game? What would its thematic promise be? If the thematic promise was to be an "evening out with friends"-simulator then it would meet the requirements of having an emergent narrative for the hard definition as well.

If instead *Façade* replaced its natural language processing with branching dialogues then the game would likely be similar to the CYOA-format where the player has some agency over how the narrative should develop but their agency would be severely limited. Co-authorial narratives may rely on the interplay between the gameplay and the narrative. A flaw with predetermined narratives is that they typically do not take the player's actions into account. What the player does is not reflected in the narrative. A flaw with emergent narrative is that due to the often chaotic nature of emergent narrative the narrative outcome may not be satisfying. Co-authorial narratives then seeks to balance these two extremes, offering strong narrative experiences through a predetermined narrative arc as designed by the developer whilst also designing the gameplay in a manner that can be reflected in the narrative.

The research question of this study was: Measuring test players' sense of authorship in a prototype utilizing the concept of co-authorial narrative; how much variation exists between different test players self-reported narratives? And are the similarities in the self-reported narratives congruent with the "author's" intent?

To do this a qualitative method was chosen where participants would get to play a prototype that was designed with the intent of creating a co-authorial narrative. A total of 7 people participated, primarily students from the Game Writing program at the University of Skövde. The results suggest that the prototype was successful in its endeavor of creating a co-authorial narrative experience, although the results were not wholly conclusive. By analyzing the data one can see that there is some variance in how the participant's answered, and the majority of the participants believed based on their understanding of the concepts that the prototype did contain a co-authorial narrative. The data suggests that the design of the prototype did manage to illustrate co-authorial narrative qualities but that the prototype itself was lacking content. However there are many flaws to consider:

- The participants were told to read through a document containing information about the study. The information within the document was meant to provide concise definitions of the concepts, although it may have influenced how the participants responded.
- The questionnaire was flawed in places. The most egregious example is perhaps question 7 that asks the participants to mention if any specific events stood out to them. A better question may have been to have asked them if any event stood out to them as being unique to them due to the choices they have made. Such a question may have generated more variance in the participants' responses.
- The study was designed to have the participants play only once. This decision was made because of the length of the study. The prototype was fairly long, taking between 20-30 minutes to play. A possible benefit of asking the participants to play more than once may have made it more obvious to them how their choices actually affected the overall story.
- The prototype included strategy elements that were, perhaps, too easy to be engaging. The purpose of the having a lower difficulty was so that everyone could finish the game, but the difficulty was perhaps *too* low. Another reason as to why the difficulty was so low was because of the allotted time-span for the development of the prototype. There was not enough time to properly playtest the strategy portion.

While it would have benefitted the study for the prototype to have more content at least it was successful in its design. While the strategy portion was easy, it does seem as though it did a good enough job reflecting the player's decision within the narrative. The decision to have potential events was loosely inspired by the beat-based drama manager designed by Mateas and Stern (2003). The logical parameters for these potential events was inspired by the events system often utilized in Paradox's grand strategy games such as *Crusader Kings II* and *Europa Universalis IV*. In comparison to *Façade*, the prototype of this study was simple in its design. So in spite of the shortcomings of both the prototype and the construction of the questionnaire, the conclusion is overall positive.

Another important conclusion of the testing was the realization of the subjective experience; where a person might place a game along the authorial control spectrum may change depending on who answers and how they experienced the game in question. When looking at the subjective experiences of individual players, a game like *Skyrim* could feasibly be ranked 3 (if the player mainly pursued the main plot) or 7 (if the player decides to explore the world rather than the main plot). This does not make their responses invalid, though for future research it may be beneficial to look objectively at the qualities of a game and what makes them predetermined, co-authorial or emergent. If it is possible to categorize these qualities

then for future research it could be used for a quantitative study where people get to select from a checklist which qualities they experienced, and through that data one might determine where on the spectrum a game should be placed.

## 6.1 The Concept of Co-authorial Narrative

Co-authorial narrative is a new term for a concept that already exists. The intention of this term is to help categorize interactive narratives and to further the understanding of emergent narrative. The results from this study suggests that "co-authorial narrative" is an apt term for the concept it describes; it refers to the shared responsibility of authorship in interactive digital narratives. Whether co-authorial narrative could be applied to non-digital games is not something this study aims to answer though it is possible that it could. Are tRPGs co-authorial? For now this question remains unanswered as tRPGs are generally seen as good examples of games with emergent narratives. The purpose of this article is not to intrude or to alter the colloquial understanding of the concept of emergent narrative – although that may be necessary in the future.

The strengths and weaknesses of predetermined narratives and emergent narratives were explained in chapter 2.1.1. Predetermined narratives tend to have stronger narratives at the cost of player agency, and emergent narrative allow for greater player agency but potentially at the cost of the narrative. *Façade* attempted to find the middle ground, utilizing the strengths of both sides of the spectrum (Mateas & Stern 2003). The purpose of co-authorial is largely the same. Co-authorial narratives wants to utilize the strengths of predetermined narrative arcs whilst at the same time incorporating a similar sense of player agency found in games with emergent narratives. Striking this balance would be the main benefit of co-authorial narrative, but what would be the drawback?

The drawback would likely be that co-authorial narratives are quite difficult to create. The developer has to be aware of the extent of the player's agency and design the narrative in such a way that it reflects the player's actions. There is a particular genre of game that already specializes in this type of narrative structure, and that is the cRPG genre. Examples of games from this genre are: *Baldur's Gate* (1998)*, Pillars of Eternity* (2015) and *Divinity: Original Sin* (2014). This is a genre that presents a predetermined narrative to the player that is typically branching in nature, but the gameplay is quite open and allows the player to explore and do quests freely. In the vast majority of cRPGs the player gets to create their own character, and the choices the player makes in the character creation may alter certain things in the narrative, and certain dialogue options may be open to you that would otherwise have been closed. This genre allows the player to create their own unique journey whilst at the same time adhering to the plot of an overarching narrative. CRPGs cannot be said to contain emergent narratives, but they are not predetermined either. It is perhaps the most representative genre for the concept of co-authorial narrative.

## 6.2 Does XCOM Have an Emergent Narrative?

Just as in the discussion of the previous research this question is asked once again: does *XCOM* have an emergent narrative? Last time this question was asked it was because *XCOM* lacked a system to guide the experience along a dramatic path. The conclusion that has been drawn is that emergent narratives should not be required to adhere to any dramaturgical or

narrative theory. Games are interactive and the player may always choose to act in a manner that might break the drama – even in a game with a co-authorial narrative, such as *Façade*.

This time around the question is asked because of the conflict between *XCOM*'s predetermined narrative and the emergent qualities of its gameplay. In chapter 3.1 and in chapter 5.3.2 arguments were made for *XCOM* having an emergent narrative. *XCOM 2* was given ranked 3 along the authorial control spectrum – and while 3 is far too low for *XCOM 2*, *XCOM 2* was nevertheless farther left on the spectrum than its predecessor *XCOM: Enemy Unknown* due to its increased focus on its predetermined narrative and cutscenes. In *XCOM: Enemy Unknown* the predetermined narrative takes the emergent qualities of the game into account by allowing one of the randomly generated soldiers tread into the role as protagonist at the game's finale, and in *XCOM 2* this role is instead fulfilled by a predetermined character. This change towards a more predetermined approach to narrative was further exacerbated in the latest installment of the franchise: *XCOM: Chimera Squad* (2020). In this game the random soldiers of the previous two titles have been replaced by a predetermined cast of characters that will talk amongst each other, and the soldiers cannot die. An article written on gamesradar specifically mentions the game's move away from emergent narrative in order to focus on a more "fixed narrative" (Avard 2020).

*XCOM* makes for an interesting case study when it comes to emergent narrative and co-authorial narrative as this is a franchise that has been praised for its ability to make players care about blank, randomized character who, throughout the player's engagement with the game, gain sentimental value and may become stars in the re-tellings of the player's played experience. The emergent narrative qualities of the *XCOM* games seem to have been valued more than its predetermined narrative.

Perhaps the line between co-authorial narrative and emergent narrative can be found somewhere within this particular franchise.

# 7 Future Research

As co-authorial narrative is a new term there are plenty of recommendations for future research. One could apply the concept to already existing research – especially when it comes to drama management. In the previous research, Andersson and Grödem (2019) raise the question whether drama managers may negatively impact how a game is experienced. If the player is aware that a system is controlling the outcome in order to control the events so that they adhere to some dramatic structure or other, could that make the player feel cheated? As mentioned in chapter 2.4 there exists two types of conflicts in games: the narrative conflict that relates to the game's story and the conflict between the player and the ludic elements of the game. Should a drama manager influence the latter in order to guide the narrative experience along a dramatic structure? What consequences could that have for the potential re-tellings of the game? A prospect for a future study, then, would be to analyze existing methods of drama management with the concept of co-authorial narrative in mind. How much can a system control the drama until the experience ceases to be an emergent narrative?

Another possible prospect is to examine a number of different games with the authorial control spectrum in mind. To develop a method for determining what qualities makes a game narrative predetermined, co-authorial or emergent. An alternative prospect would be to examine the cRPG genre specifically, as it may be the most representative genre for the concept of co-authorial narrative as stated in chapter 6.1. Today there is a clear distinction between RPGs and cRPGs even though they share the same roots (tRPGs). The design of cRPGs fell out of fashion in favor of roleplaying games with more predetermined narratives. An analysis of this with the concepts of predetermined, co-authorial and emergent narratives could be an interesting prospect for a future study.

One area this paper did not touch upon was multiplayer games. Building on the logic of Aylett's first article on emergent narratives written in 1999 where she made the argument that narratives can emerge in team sports (Aylett 1999), it could be argued that narratives emerge in multiplayer games in a similar fashion. Many multiplayer games contain empty game spaces that are meant to be filled by players, and these games often have simple mechanics that allows for complex strategies and plays to emerge that can then be narrated in real time or in a re-telling of the experience. Consider the e-sport scene for games such as *Overwatch* (2016). This article avoided discussing multiplayer games because it may be argued that their narratives are inherently emergent in nature. How would a multiplayer game utilize a co-authorial narrative? Perhaps cooperative player versus environment multiplayer games, such as *Borderlands 3* (2019), are relevant to this question. However, *Borderlands 3* might be deemed to be too predetermined to be considered co-authorial even if it does allow for some unique dynamic interactions between players.

Another area of interest is to apply the concept of co-authorial narrative to fields outside of interactive digital storytelling. Examples of predetermined and emergent narratives outside of digital media were examined in chapter 2.1, and perhaps there's room there for the concept of co-authorial narrative as well. One might apply the concept to the field of sociology by looking at contemporary challenges social media platforms faces in regards to issues such as misinformation (Alcott, Gentzkow & Yu 2019). The nature of many fake narratives may be co-authorial; an idea is being pitched and through social media may take on a life of its own as more and more people feed the narrative with their own beliefs.

Finally, a direct follow-up to this study aimed to collect quantitative data could also be a prospect for a future study. The prototype would have to be adjusted based on the feedback from the qualitative results and a qualitative questionnaire would have to be constructed. The primary target group would be people who play video games. A document containing information about the study would have to be provided, but the language would have to be simplified as to prevent misunderstandings. This study was directed towards people who either study game design or work with game design and it was expected that they'd have some familiarity with the terminology, but this may not be true for an average person who simply enjoys playing video games.

# References


Aarseth, E. (1997). *Cybertext: Perspectives on Ergodic Literature*. Baltimore: The John Hopkins University Press.

Aarseth, E. (2012). A narrative theory of games. In *FDG '12: Prodeecings of the International Conference on the Foundations of Digital Games*. Raleigh, United States May 2012, pp. 129-133. DOI: 10.1145/2282338.2282365

Andersson, O. & Grödem, T. (2019). *Simplified drama managers: To produce emergent narrative with simplified methods*. Bachelor, Institutionen för informationsteknologi. Skövde: University of Skövde. http://urn.kb.se/resolve?urn=urn:nbn:se:his:diva-17271 [retrieved 2021-02-23]

Allcot, H., Gentzkow, M. & Yu, C. (2019). Trends in the diffusion of misinformation on social media. In *Research and Politics* 6(2), pp. 1-8. DOI: 10.1177/2053168019848554.

Arjoranta, J. (2015). Narrative Tools for Games: Focalization, Granularity, and the Mode of Narration in Games. *Games and Culture*, 12(7-8), pp. 698-717. DOI: 10.1177/1555412015596271

Ashwell, S. (2015). Standard Patterns in Choice-Based Games. *These Heterogenous Tasks* [blogg], 26th January. https://heterogenoustasks.wordpress.com/2015/01/26/standard-patterns-in-choice-based-games/ [retrieved 2021-02-23]

Avard, A. (2020). *XCOM: Chimera Squad Review: "A Fun, Ragtag Twist on XCOM's Proven Recipe*. https://www.gamesradar.com/xcom-chimera-squad-review/ [retrieved 2021-05-26]

Aylett, R. (1999). Narrative in Virtual Environments: Towards Emergent Narrative. In *Proceedings of the AAAI fall symposium on narrative intelligence*, pp. 83-86. https://www.researchgate.net/publication/266211095_Narrative_in_Virtual_Environments_-Towards_Emergent_Narrative [retrieved 2021-02-23]

Aylett, R. Louchart, S., Dias, J. Paiva, A. & Vala, M. (2005). FearNot! -- An Experiment in Emergent Narrative. In Panayiotopoulos, T., Gratch, J. Aylett, R., Ballin, D. & Oliver, Patrick (eds) *Intelligent Virtual Agents*. Kos, Greece 12-14 September 2005, pp. 305-316. DOI: 10.1007/11550617_26

Aylett, R., Louchart, S., Drachen, A., Hitchens, M., Figueiredo, R. & Delgado-Mata, C. (2008). Managing Emergent Character-Based Narrative. In Feiner, S., Rehg, J. & Krüger, A. (eds) *International Conference on INtelligent TEchnologies for interactive enterTAINment*. Cancun, Mexico 8-10 January 2008. DOI: 10.4108/ICST.INTETAIN2008.2468

Bouko, C. (2014). Dramaturgy and the immersive theatre experience. In Romanska, M. (ed) *The Routledge Companion to Dramaturgy*. New York: Routledge, pp. 459-465.

Brown, M. (2015). *Telling Stories with Systems | Game Maker's Toolkit* [video]. https://youtu.be/NyMndWpihTM [retrieved 2021-05-26]

Brusk, J. (2014). *Steps Towards Creating Socially Competent Game Characters*. Ph.D., Department of Philosophy, Linguistics and Theory of Science. Gothenburg: University of Gothenburg.

Callois, R. (1961). *Man, Play and Games*. Translated by Barash, M. Chicago: University of Illinois Press.

Chatman, S. (1978). *Story and Discourse: Narrative Structure in Fiction and Film*. Ithaca: Cornwell University.

Eladhari, M. (2018). Re-Tellings: The Fourth Layer of Narrative as an Instrument for Critique. In Rouse, R., Koenitz, H. & Haahr, M. (eds) *International Conference on Interactive Digital Storytelling*. Dublin, Ireland December 5-8 2018, pp. 65-78. DOI: 10.1007/978-3-030-04028-4_5

Galyean, T. (1995). *Narrative Guidance of Interactivity*. Ph.D. Massachusetts: Massachusetts Institute of Technology.

Gjøl, B.A., Jørgensen, N.V. & Bruni, L.E. (2019). Narrative Urgency: Motivating Action in Interactive Digital Media. In Cardona-Rivera, R., Sullivan, A. & Young, M. (eds) *International Conference on Interactive Digital Storytelling*. Little Cottonwood Canyon, United States November 19-22, pp. 178-182. DOI: 10.1007/978-3-030-33894-7_19

Goins, E. (2018). Structuring Digital Game Stories. In Rouse, R., Koenitz, H. & Haahr, M. (eds) *International Conference on Interactive Digital Storytelling*. Dublin, Ireland December 5-8 2018, pp. 265-269. DOI: 10.1007/978-3-030-04028-4_27

Graham, R. (2016). *Jake Solomon explains the careful use of randomness in XCOM 2*. https://www.gamasutra.com/view/news/266891/Jake_Solomon_explains_the_careful_use_of_randomness_in_XCOM_2.php [retrieved 2021-02-23]

Hannesson, H.J., Reimann-Andersen, T., Burelli, P. & Bruni, L.E. (2015). Connecting the Dots: Quantifying the Narrative Experience in Interactive Media. In Schoenau-Fog, H., Bruni, L.E., Louchart, S. & Baceviciute, S. (eds) *International Conference on Digital Interactive Storytelling*. Copenhagen, Denmark, November 30 - December 4 2015, pp. 189-201. DOI: 10.1007/978-3-319-27036-4_18

Hales, C. (2015). Interactive Cinema in the Digital Age. In Koenitz, H., Ferri, G., Haahr, M., Sezen, D. & Sezen, T.I. (eds) *Interactive Digital Narrative*. New York: Routledge, pp. 36-50.

Jenkins, H. (2004). Game Design as Narrative Architecture. In Wardrip-Fruin, N. & Harrigan, P. (eds) *First Person: New Media as Story, Performance and Game*. Cambridge: The MIT Press, pp. 118-130.

Juul, J. (2004). Introduction to Game Time. In Wardrip-Fruin, N. & Harrigan, P. (eds) *First Person: New Media as Story, Performance and Game*. Cambridge: The MIT Press, pp. 131-142.

Juul, J. (2005) *Half-real: Video Games between Real Rules and Fictional Worlds*. Cambridge: MIT Press.

Keogh, B. (2013). When game over means game over: using permanent death to craft living stories in Minecraft. In *IE '13: Proceedings of The 9th Australasian Conference on Interactive Entertainment: Matters of Life and Death*. Melbourne, Australia September 2013, pp. 1-6. DOI: 10.1145/2513002.2513572

Kriegel, M. & Aylett, R. (2008). Emergent Narrative as a Novel Framework for Massively Collaborative Authoring. In Predinger, H., Lester, J. & Ishizuka, M. (eds) *Intelligent Virtual Agents*. Tokyo, Japan 1-3 September 2008, pp. 73-80. DOI: 10.1007/978-3-540-85483-8_7

Larsen, B.A., Bruni, L.E. & Schoenau-Fog, H. (2019). The Story We Cannot See: On How a Retelling Relates to Its Afterstory. In Cardona-Rivera, R., Sullivan, A. & Young, M. (eds) *International Conference on Interactive Digital Storytelling*. Little Cottonwood Canyon, United States November 19-22, pp. 190-203. DOI: 10.1007/978-3-030-33894-7_21

Louchart, S. & Aylett, R. (2003). Solving the Narrative Paradox in VEs -- Lessons from RPGs. In Rist, T., Aylett, R., Ballin, D. & Rickel, J. (eds) *Intelligent Virtual Agents*. Kloster Irsee, Germany 15-17 September 2003, pp. 244-248. DOI: 10.1007/978-3-540-39396-2_41

Louchart, S. & Aylett, R. (2004). Narrative theory and emergent interactive narrative. International Journal of *Continuing Engineering Education and Lifelong Learning*, 14(6), pp. 506-518. http://www.macs.hw.ac.uk/~ruth/Papers/narrative/IJCEELL05.pdf [retrieved 2021-02-23]

Lucat, B. & Haahr, M. (2015). What Makes a Successful Emergent Narrative: The Case of Crusader Kings II. In Schoenau-Fog, H., Bruni, L.E., Louchart, S. & Baceviciute, S. (eds) *International Conference on Digital Interactive Storytelling*. Copenhagen, Denmark, November 30 - December 4 2015, pp. 259-266. DOI: 10.1007/978-3-319-27036-4_25

Mason, S. (2013) On Games and Links: Extending the Vocabulary of Agency and Immersion in Interactive Narratives. In Koeanitz, H., Sezen, T.I., Ferri, G., Haahr, M., Sezen, D. & Çatak, G. (eds) *International Conference on Digital Interactive Storytelling*. Istanbul, Turkey november 6-9 2013, pp. 25-34. DOI: 10.1007/978-3-319-02756-2_3

Mateas, M. & Stern, A. (2003). Integrating Plot, Character and Natural Language Processing in the Interactive Drama Façade. In *Proceedings of the 1st International Conference on Technologies for Interactive Digital Storytelling and Entertainment*. Darmstadt, Germany mars 24-26 2003, pp. 139-151.

Murnane, E. (2018). *Emergent Narrative: Stories of Play, Playing with Stories*. Ph.D. Florida: University of Central Florida.

Murray, J. (1997). *Hamlet on the Holodeck*. New York: The Free Press.

NeverKnowsBest (2021). *An Elder Scrolls Analysis – Episode One: A New Type of RPG* [Video]. https://youtu.be/1_yoIaq3k_Q [retrieved 2021-04-18]

Riedl, M.O. & Young, R.M. (2006). From linear story generation to branching story graphs. *IEEE Computer Graphics and Applications*, 26(3), pp. 23-31. DOI: 10.1109/MCG.2006.56

Rudlin, J. (1994). *Commedia dell'Arte: an Actor's Handbook*. New York: Routledge.

Ryan, M.L. (2009). From Narrative Games to Playable Stories: toward a poetics of interactive narrative. In *StoryWorlds: A Journal of Narrative Studies,* 1, pp. 43-59. http://www.marilaur.info/poetics.pdf [retrieved 2021-02-23]

Spierling, U., Grasbon, D., Braun, N. & Iuergel, I. (2002). Setting the Scene: Playing Digital Director in Interactive Storytelling and Creation. *Computers & Graphics*, 26(1), pp. 31-44. DOI: 10.1016/S0097-8493(01)00176-5

Swartjes, I. & Vromen, J. (2007). Emergent story generation: Lessons from improvisational theater. *In AAAI Fall Symposium - Technical Report*. Washington, United States November 9-1 2007, pp. 146-149.

Szilas, N., Estupiñán, S. & Richle, U. (2018). Automatic Detection of Conflicts in Complex Narrative Structures. In Rouse, R., Koenitz, H. & Haahr, M. (eds) *International Conference on Interactive Digital Storytelling*. Dublin, Ireland 5-8 December 2018, pp. 415-427. DOI: 10.1007/978-3-030-04028-4_49

Vogler, C. (1992). *The Writer's Journey - Mythic Structure For Storytellrs & Screenwriters*. Studio City: California.

Walsh, R. (2011). Emergent Narrative in Interactive Media. *Narrative*, 19(1), pp. 72-85. https://www.jstor.org/stable/41289287 [retrieved 2021-02-23]

Williamson, K. (2002). Research Techniques: Questionnaires and Interviews. In Williamson, K & Bow, A. (eds) *Research Methods for Students, Academics and Professionals: Information Management and Systems.* Wagga Wagga, N.S.W.: Chandos Publishing, pp. 251-264.

Wood, H. (2017). Dynamic Syuzhets: Writing and Design Methods for Playable Stories. In Nunes, N., Oakley, I. & Nisi, V. (eds) *International Conference on Interactive Digital Storytelling*. Funchal, Portugal 14-17 November 2017, pp. 24-37. DOI: 10.1007/978-3-319-71027-3_3

Zagal, J. & Mateas, M. (2007). Temporal Frames: A Unifying Framework for the Analysis of Game Temporality. In *DiGRA '07 - Proceedings of the 2007 DiGRA International Conference: Situated Play*. Tokyo September 2007, pp. 516-523.

## Creative works cited

*Beyond: Two Souls* (2013) [Video game]. Developer: Quantic Dream. Publisher: Sony Computer Entertainment.

*Black and White* (2000) [Video game]. Developer: Lionhead Studios. Publisher: Electronic Arts.

*Borderlands 3* (2019) [Video game]. Developer: Gearbox Software. Publisher: 2K Games.

*Crusader Kings II* (2012) [Video game]. Developer: Paradox Development Studio. Publisher: Paradox Interactive.

*Dear Eshter* (2012) [Video game]. Developer: The Chinese Room. Publisher: The Chinese Room.

*Don't Starve* (2013) [Video game]. Developer: Klei Entertainment. Publisher: Klei Entertainment.

*DOOM* (1993) [Video game]. Developer: id Software. Publisher: id Software.

*Dragon Age: Origins* (2009) [Video game]. Developer: BioWare. Publisher: Electronic Arts.

*Europa Universalis IV* (2013) [Video game]. Developer: Paradox Development Studio. Publisher: Paradox Interactive.

*Eve Online* (2003) [Video game]. Developer: CCP Games. Publisher: Atari.

*Façade* (2005) [Video game]. Developer: Procedural Arts. Publisher: Procedural Arts.

*Fallout* (1997) [Video game]. Developer: Interplay Productions. Publisher: Interplay Productions.

*Grand Theft Auto* (1997) [Video game]. Developer: DMA design & Tarantula Studios. Publisher: BMG Interactive.

*Grand Theft Auto V* (2013) [Video game]. Developer: Rockstar North. Publisher: Rockstar Games.

*Grand Theft Auto: San Andreas* (2004) [Video game]. Developer: Rockstar North. Publisher: Rockstar games.

*Half-Life* (1998) [Video game]. Developer: Valve. Publisher: Valve.

*Half-Life 2* (2004) [Video game]. Developer: Valve. Publisher: Valve.

*Heavy Rain* (2010) [Video game]. Developer: Quantic Dream. Publisher: Quantic Dream.

*Mass Effect* (2007) [Video game]. Developer: BioWare. Publisher: Electronic Arts.

*Max Payne* (2001) [Video game]. Developer: Remedy Entertainment. Publisher: Gathering of Developers.

*Mount and Blade* (2008) [Video game]. Developer: TellWorlds Entertainment. Publisher: Paradox Interactive.

*Myst* (1993) [Video game]. Developer: Cyan. Publisher: Broderbund.

*Outer Wilds* (2019) [Video game]. Developer: Mobius Digital. Publisher: Annapurna Interactive.

*Portal* (2007) [Video game]. Developer: Valve. Publisher: Valve.

*Red Dead Redemption 2* (2018) [Video game]. Developer: Rockstar Studios. Publisher: Rockstar Games.

*RimWorld* (2018) [Video game]. Developer: Ludeon Studios. Publisher: Ludeon Studios.

*Star Trek: The Next Generation* (1987). Paramount Pictures

*Subnautica* (2018) [Video game]. Developer: Unknown Worlds Entertainment. Publisher: Unknown Worlds Entertainment.

*The Elder Scrolls V: Skyrim* (2011) [Video game]. Developer: Bethesda Game Studios. Publisher: Bethesda Softworks.

*The Last of Us Part II* (2020) [Video game]. Developer: Naughty Dog. Publisher: Sony Interactive Entertainment.

*The Long Dark* (2017) [Video game]. Developer: Hinterland Studio. Publisher: Hinterland Studio.

*The Walking Dead* (2012) [Video game]. Developer: Telltale Games. Publisher: Telltale Games.

*The Witcher* (2007) [Video game]. Developer: CD Projekt Red. Publisher: CD Projekt.

*This War of Mine* (2014) [Video game]. Developer: 11 bit studios. Publisher: 11 bit studios.

*Until Dawn* (2015) [Video game]. Developer: Supermassive Games. Publisher: Sony Computer Entertainment.

*Valheim* (2021) [Video game]. Developer: Iron Gate Studio. Publisher: Coffee Stain Publishing.

*XCOM: Chimera Squad* (2020) [Video game]. Developer: Firaxis Games. Publisher: 2K Games.

*XCOM: Enemy Unknown* (2012) [Video game]. Developer: Firaxis Games. Publisher: 2K Games.

*XCOM: Enemy Within* (2013) [Video game]. Developer: Firaxis Games. Publisher: 2K Games.

*XCOM 2* (2016) [Video game]. Developer: Firaxis Games. Publisher: 2K Games.

# Appendixes

## Appendix A – the study information document

## Co-authorial Narrative

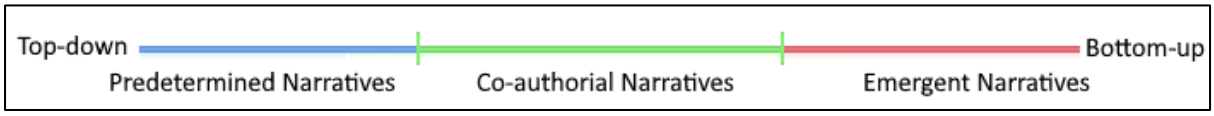
### Information about the study:

This study explores the concept of authorship in interactive digital narratives. A game narrative may be wholly designed by the developer and leave the player little agency over the narrative development of the story, or the game may lack a narrative structure of its own and rely on the player to create the narrative themselves, allowing the player full agency over the narrative. Agency in this regard refers to the ability to make meaningful choices that are reflected in the game's story (Murray 1997).

Ruth Aylett distinguishes between these two approaches to storytelling in her earliest definition of the concept of "emergent narrative," where she makes the argument that traditionally predetermined narratives utilize a top-down hierarchical narrative structure where the power lies with the director/author at the top of the hierarchy, and at the bottom of the hierarchy are the actors who carry out the orders but have little to no say over how the narrative should play out. An emergent narrative utilizes a hierarchical narrative structure that is created bottom-up by the actors at the bottom of the hierarchy, and where each new level of the hierarchy is created by the interactions of the level that came before it. Consider improvisational theatre, where the narrative is created by the actors as they play off one another. (Aylett 1999)

Marie-Laure Ryan makes the argument that top-down and bottom-up approaches to narrative structures in games are not mutually exclusive. Digital games are interactive by nature, so even when a game has a top-down predetermined narrative each player may have a different experience with the game. Digital games are also bound by hard rules, so games that utilize bottom-up emergent narratives will always have a limit to what the player can and cannot do within the game space. As such, Ryan argues that the top-down and bottom-up approaches may be viewed as two extremes on a spectrum. (Ryan 2009)

This study builds on this idea of a spectrum of authorial control within interactive digital narratives, and the goal is to try and define the middle-ground between predetermined and emergent narrative.




Examples of games with predetermined narratives would be: *Half-Life*, *Max Payne* and *Grand Theft Auto 3*. Examples of games with emergent narratives would be: *The Sims*, *Europa Universalis IV* and *Civilization VI*. When it comes to co-authorial narrative the best example may be the experimental game *Façade* (2005), as it was a deliberate attempt at striking a balance between structured narrative and simulation (Mateas & Stern 2003). Co-authorial narratives are identified by the shared responsibility of authorship between the developer (top-down) and the player (bottom-up). These are games that do have predetermined narrative arcs but offer enough agency to the player to create their own unique journeys through the game.

**Sources:**

Aylett, R. (1999). Narrative in Virtual Environments: Towards Emergent Narrative. In *Proceedings of the AAAI fall symposium on narrative intelligence*, pp. 83-86.

Murray, J. (1997). *Hamlet on the Holodeck.* New York: The Free Press.
Ryan, M.L. (2009). From Narrative Games to Playable Stories: toward a poetics of interactive narrative. In *StoryWorlds: A Journal of Narrative Studies*, 1, pp. 43-59.

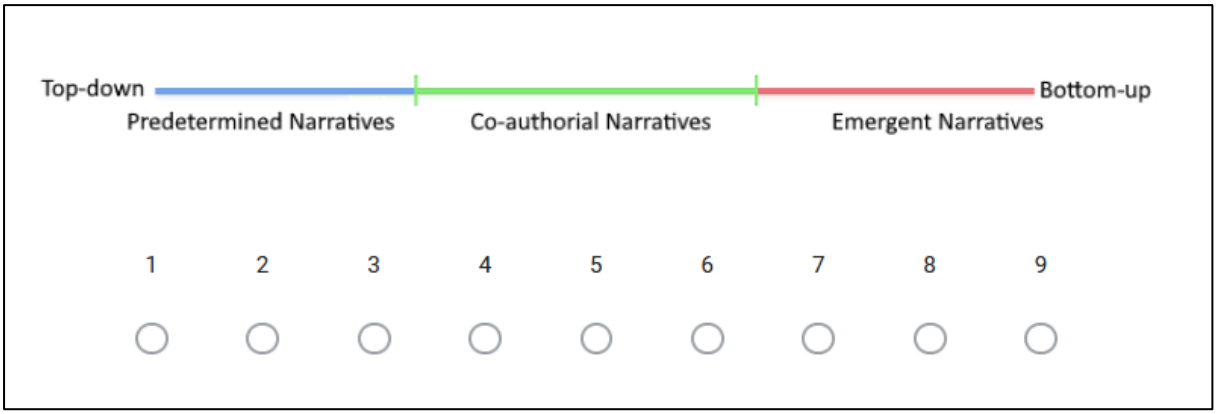
Mateas, M. & Stern, A. (2003). Intergrating Plot, Character and Natural Language Processing in the Interactive Drama Façade. In *Proceedings of the 1st International Conference on Technologies for Interactive Digital Storytelling and Entertainment.* Darmstadt, Germany Mars 24-26 2003, pp.
131-151.

# Appendix B – Questionnaire and Results

## Data gathered from the questionnaire

**The structure of the questionnaire:**

1. Name
2. Gender
3. Age
4. Background




5. Above is a spectrum with a linear scale beneath. What I would like you to do is to use that scale as a reference and rank some games that you come to think of when you think of the concepts of predetermined, co-authorial and emergent narrative. List a few (as many as you want) examples in the textbox below and give them a rating where 1 is very much predetermined and 9 is very much emergent. (e.g. "Warcraft 3 ranks 4"; "Dishonored ranks 2"; "SimCity ranks 8" etc.).

6. Give a brief summary of the prototoype's story, as though you were to explain it in the form of a synopsis.

7. Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?

8. Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.

9. I felt as though I had meaningful agency over the narrative development of the story.
   *Linear numerical scale where 1 = disagree and 6 = agree.*

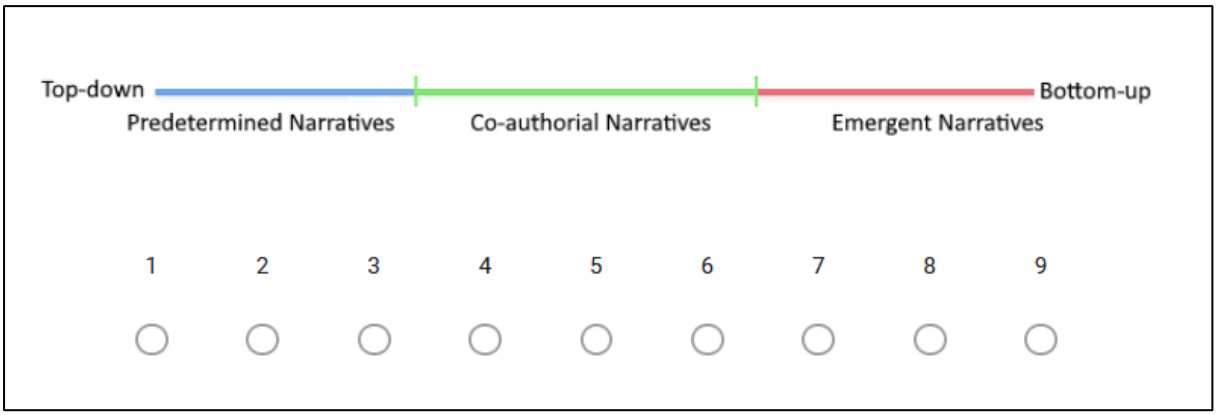
10. Please elaborate on why you gave the rating you did.

11. I felt that my decisions were reflected in the game's narrative.
    *Linear numerical scale where 1 = disagree and 6 = agree.*

12. Please elaborate on why you gave the rating you did.

13. I felt that I had significant control over the main character.
*Linear numerical scale where 1 = disagree and 6 = agree.*

14. Please elaborate on why you gave the rating you did.




15. Where on the spectrum would you place the prototype?
*Linear numerical scale where 1 = disagree and 6 = agree.*

16. Please explain the reasoning for your choice of placement.

17. Do you have any thoughts about the subject or the prototype? (optional)

**Individual responses:**

**Answer 1**
1. Name: Richard
2. Gender: Male
3. Age: 25-29
4. Background: Game Writing student at the University of Skövde

**5. Place some games on the spectrum on authorial control within interactive narratives.**
StarCraft 2, Metro 2, Supreme Commander 1, The Witcher 5, Elder Scrolls 7, Mass effect 5, Half Life 2, Company of heroes 1, Subnautica 4,

**6. Give a brief summary of the prototype's story, as though you were to explain it in the form of a synopsis.**
A young chieftains daughter is raised to become a future leader of the tribe and to protect it against their rivals. But as time passes strangers from afar cross the ocean and upset the balance with their new technology. Forced into a political marriage the young daughter grows to become a leader of an alliance to push back the foreigners and their local allies while struggling with an uneasy alliance of her own.

**7. Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?**

I went trough the dialogue and chose the more liberal choices. Running away from class, accepted the marriage though. But then tried to balance food and cooperation which didn't go so well while i tried who was efficient at different things. Leaving the alliance quite shaky throughout the events. Up until the final battle where the dark magic was used to crush the enemy weapons and then spared the tribe leader. With this i then choose the peace offering and the story ended with a Shaky alliance and unstable peace.

**8. Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.**
There where several moments where it felt like things could go differently where characters development hinted at romances, betrayal, and so on. I almost expected something to develop between Malek and the MC for a while. But since the game was rather short i see the hindrances in what could have happened.

**9. I felt as though I had meaningful agency over the narrative development of the story:**
3

**10: Please elaborate on why you gave the rating you did.**
While options where set up to create the feeling of higher influence trough my choices. Some events made it stand out that this was more of an illusion than anything else. Though since we have had courses talking about this i might just be a bit overly attentive to this.

**11: I felt that my decisions were reflected in the game's narrative.**
4

**12: Please elaborate on why you gave the rating you did.**
It became quite clear that there was hidden variables at play based on certain decisions. such who was sent to do what and based on some of the earlier decisions certain character interaction could change. But at the same time it felt like the main story was pretty much set i was just influencing the details surrounding it.

**13. I felt that I had significant control over the main character.**
3

**14. Please elaborate on why you gave the rating you did.**
I had control over their decisions. But it felt like the narrative part of the character was already set. Rather than something i could influence to any greater part.

**15. Where on the spectrum would you place the prototype?**
4

**16. Please explain the reasoning for your choice of placement.**
I was uncertain whether to be on the 3 or 4. But in the end it felt like i had some influence on the details of the story and could influence how the story overall was experienced in tone alongside the set narrative.

---

**Answer 2**
1. Name: Anders
2. Gender: male
3. Age: 18-24
4. Background: Game Writing student at the University of Skövde.

**5. Place some games on the spectrum on authorial control within interactive narratives.**
Walking Dead (Telltale) ranks 3; Minecraft ranks 9; Heavy Rain ranks 3; Until Dawn ranks 3; Papers Please ranks 5; Grand Theft Auto 5 ranks 3; Red Dead Redemption 2 ranks 3; Call of Duty (in general) ranks 1; State of Decay ranks 4; Skyrim ranks 4;

**6. Give a brief summary of the prototoype's story, as though you were to explain it in the form of a synopsis.**
The Gyllen clan and Shymn clan have been arch rivals for eternity. The Bargas clan who had not been a significant threat to any of these clans before now sought to extend their territory which forces the two rivals to form a pact to fend of the Bargas together. It would all be for nothing though as the Bargas overpowered the newly founded pact and they are all forced to flee. Thebeka, a young girl who has been prepared her entire life to be the leader after her father suddenly has to lead over both clans as her father is suspected to have died in the assault on their home. She now has to make sure that there is peace among both clans as she tries to prepare for revenge against the Bargas. Keeping everyone feed and happy while also preparing for war turns out to be a tough balance to uphold. The day to take back her home from the Bargas arrives at last and she leads a full on assault to take back whats hers. Will the pact succeed?

**7. Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?**
I tried to immerse myself right away and put myself in Thebekas shoes. What kinds of choices and decisions would she have made? Make my dad proud by learning how to be a leader, listen to my brother plea, agree to the marriage etc. were the choices that I think best reflected the type of person she is; do what's best for the family and the clan. What I soon realized a bit into the playthrough was that I couldn't distinguish between Thebekas will and my own which made playing the game a lot easier since I didn't need to "think for two", I could just play as myself.

When it came to assigning tasks, I always put Lindvis on Scouting, Rhael on Hunting and Maek on Training while Thebeka had to rotate around between Clan Cooperation, Administration and Ritualism.

At the Interrogation I let the Shymn shamans do their thing. Here's where I guess my moral compass collided with Thebekas. I would probably have let my own tribe do the interrogation if I had been playing as a character I created myself but since I decided to be "role-playing" I think Thebeka, even though she probably would have hated it, would let the shamans handle the interrogation, cause she know her father would never have taken that risk of letting them go, he would want to send a message. Even though I know nothing of her fathers moral compass, we all know how people could be back in the day ;)

When food started running low (Rhael was a shit hunter) I decided to send out some warriors to help with the hunting. Thebeka seem like the type of girl that likes equality, that everyone does their part and contributes instead of imposing rations and getting people annoyed.

Shaman Harith arrival put my moral compass at conflict with Thebekas yet again. Like she says, her grandfather probably wouldn't approve but I would like to think that her father would like to have won the war at all costs, so I felt willing to take that risk to get a possible upper hand when the battle would come. I also picked Ritualism for Thebeka when it came to assigning task in the next round. The idea was mainly to check to see that Harith wasn't doing any funny business but I ended up learning some tricks along the way.

On Assault day I unleashed Harith and her shamans to destroy the weapons. I let Maek lead the warriors, mainly because he'd been training them the entire game but also because I though I would be at a higher risk of death if I led the assault that way. The Bargas chieftain got executed, no hesitation to make sure that we got the win. My last actions was to send a diplomatic offer of peace.

No event besides the endgame really stood out more than the other. Everything felt well balanced up until that point. It was the endgame where you got multiple big choices that really got the blood pumping. It was awesome.

**8. Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.**
There are several ways I feel the narrative could have played out differently but that it would always loop back to a central plot point. There were many different choices which adds a lot of replay value to the game. My experience with narrative driven games is that they usually loop back to a central plot point (bottlenecks) which is always in the back of my head nowadays. But based on my one playthrough of the prototype, I am very interested to see if the narrative would take a turn around these central plot points which I feel are the "Shymn captive/Lindvis" choice, the marriage one, the "interrogation" one, the "Harith offer" and "how to attack the Bargas". These are the choices I feel, that if I had made another choice than the one I did, then the story could have unfolded in a different way which added a feeling of risk and consequence, but I feel it would not have unfolded in a very different way, just deviate a little and then come back to a central plot point.

**9. I felt as though I had meaningful agency over the narrative development of the story:**
5

**10: Please elaborate on why you gave the rating you did.**
I felt like my choices had an effect on the narrative. Like I mentioned before about the bottlenecks, in narrative driven games like this you only have a limited impact since the story is already outlined. Now, I don't know how your game is branching when a choice is made so I'm not gonna go on about that anymore, I'm just scarred from previous experiences. But the decisions I've made, especially in the endgame was where I really felt that I had directed the narrative to a certain degree. I had been combat training and scouting almost every round and seeing pay off with me defeating the Bargas really made it all feel worthwhile in the end and that I had been active in making sure that we succeed and defeated the Bargas. I mentioned it before but I would like to mention it again, just to show appreciation, if you sent both Rhael and Lindvis outside of the village it created their own little love story/narrative which I felt I was orchestrator of a little since I actively made the decision to send them on missions outside of the village. Very nice!

**11: I felt that my decisions were reflected in the game's narrative.**
6

**12: Please elaborate on why you gave the rating you did.**
I felt that the characters around me responded in a way which reflected my choices. One issue I had though was that no matter how much I wanted to improve Clan Cooperation, there were still complaints that there was irritation between the clans but I guess that's how it is between two old rivals. Other than that, all the decisions I made had some effect on the narrative, every decision didn't necessarily change or alter the narrative but was at least mentioned with some feedback within the narrative which is a nice touch to make the player feel involved and that their decisions are being noticed. But like I mentioned above, it's in the endgame I really felt like I got my money's worth, that every decision I made beforehand had led up to that moment and paid off which was a really powerful feeling and got my heart racing a bit.

**13. I felt that I had significant control over the main character.**
6

**14. Please elaborate on why you gave the rating you did.**
Many games I've played kinda trick you a little with the way they present choices. For example, the option could say "Don't share your apples with the stranger", pretty harmless in my opinion and then

your character responds in the most condescending and disrespectful way possible coming of as a complete jerk. But the main character here didn't do that. She said the things I was hoping her to say after I've made a choice which really added to the immersion. Not to harsh, not to soft, just the perfect neutral balance response I wanted which made feel like I was really in charge of her and her actions. Dialogue and actions of the main characters perfectly reflected what I wanted to be the consequences of my choices.

**15. Where on the spectrum would you place the prototype?**
6

**16. Please explain the reasoning for your choice of placement.**
As I mentioned before: In my opinion, narrative driven games can have a really hard time breaking away from being a predetermined narrative since the creator usually wants the story to be told a certain way, or that a certain event has to occur to drive the story forward. But based on the choices I've experience, and the way the story played out, I feel like the game has come so far right it can possibly go on the spectrum. A game like Minecraft which has no real goal, instructions, direction or story, it is a lot easier for the player to go and create his/her owns narrative, landing in further on the right on the spectrum. I felt like the choices and events in the prototype made me feel like I was in full control of my actions but not that I was necessarily in control of the overall narrative if that makes sense.

---

**Answer 3**
1. Name: Camilla
2. Gender: Female
3. Age: 18-24
4. Background: Game Design student at the University of Skövde

**5. Place some games on the spectrum on authorial control within interactive narratives.**
Mass effect: 5, Skyrim: 5, Sims 3: 9

**6. Give a brief summary of the prototoype's story, as though you were to explain it in the form of a synopsis.**
Two clans formed an alliance through marriage. After being attacked by a stronger clan you end up being chief and have to make sure that the two clans stay together to fight the stronger one.

**7. Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?**
Not really, I'm guessing certain choices I made hade an effect on the over-all end, but a lot of the time everything seemed pre-determined. Sometimes events popped up where I could have somewhat influence, but the feedback I got back wasn't really that strong so I don't really know if my choices meant anything.

**8. Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.**
I think that if I chose to end with a more diplomatic route the ending would not be that my character kept on fighting through her reign.

**9. I felt as though I had meaningful agency over the narrative development of the story:**
2

**10: Please elaborate on why you gave the rating you did.**

There wasn't really that much feedback, and no form of progression in the way you spoke with everyone. Had there been some form of indication that I formed any kind of relationships with these people I would be more inclined to pick an answer leaning more towards agree. I doubt I could have chosen not to marry  and unite the two clans, but I might be wrong.

However, the illusion of choice is still a choice, so by just adding the ability to have me choose the storyline it made it seem like I had sosme agency.

**11: I felt that my decisions were reflected in the game's narrative.**
2

**12: Please elaborate on why you gave the rating you did.**
As mentioned earlier, there was no feedback reflected in the narrative in form of different kinds of conversations between the characters. There was, however, values in the top left corner that indicated on how I was doing, but overall it was quite frustrating to assign work to people without seeing anything different happen in the way you talked to them.

**13. I felt that I had significant control over the main character.**
3

**14. Please elaborate on why you gave the rating you did.**
I could pick in what direction her answer would go, but what I answered was not known until I had made my choice, meaning I had no control over how things where said. I did play as her, meaning that my choices where hers, but I couldn't affect how she, for example, delt with the shamans if I assigned her to bond with the shamans.

**15. Where on the spectrum would you place the prototype?**
4

**16. Please explain the reasoning for your choice of placement.**
There aren't enough choices for it to be completely co-authorial, at least I felt that way. A lot of things seemed to have to allign no matter what I chose, meaning it felt like my choices didn't allways matter in the end. I also had very little information to go on, meaning that the coices I made didn't feel that impactful, since I wasn't allowed that much agency. Meaning, the less agency I felt I had, the less I cared about the outcome of the story, because it didn't feel like I was controlling it either way.

---

1. Name: Christian
2. Gender: Male
3. Age: 25-29
4. Background: Other

**5. Place some games on the spectrum on authorial control within interactive narratives.**
1 portal; 2 gta san andreas; 3 sdfsdf; 4 telltale games; 5 darkstone; 6 fallout; 7 south park stick of truth; 8 mount and blade; 9 spore

**6. Give a brief summary of the prototoype's story, as though you were to explain it in the form of a synopsis.**
you play as thebeka, daugther of the chieftan of the gyllen clan. the gyllen clan is traditional enemy of the shymn clan. one day foreigners from across the sea, the iron empire, ally with a previous insiginificant clan, the bargas. the bargas, with advanced weaponry, attack both the shymn and gyllen clans, who enter into a marriage alliance out of necessity. gyllen-shymn alliance loses the battle for

aukulum, the old gyllen capital, and are forced to flee to a small village. thebeka is tasked by heir grandfather to oversee the village affairs by assigning important characters to tasks. these are maek, leader of the shymn, his sister lindvis who is a scout, and rhael who is brother of thebeka. Thebeka must balance between preparing the alliance for war, managing resources, and maintaining good relations between the clans. eventually the alliance retakes aukulum and either keeps fighting with the iron empire or ally them.

**7. Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?**
1) prior to entering into alliance, thebeka decided to release lindvis, which proved useful in the future as she is a capable scout and sister to maek.
2) despite being handicapped (heheh) rhael was sent hunting because he asked for it, but he sucked.
3) despite sending people out to mostly successfully hunt and managing village supplies every turn, the village suffered from chronic food shortages.
4) despite diverting soldiers to hunt for 3 turns in a row, the alliance somehow managed to win the war anyway

**8. Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.**
1) I trusted the shymn a lot and they could've screwed me over if i wasn't such a nice guy. maek trained the soldiers, could've made a coup. I always sent lindivs scouting, she could lie. I let harith train shamans and i let them torture bargas captives. I also let maek lead charge into city. many opportunities to screw me over.
2) i tortured bargas captives, i was expecting this to screw me over a la telltale, because the bargas would have my father captive or something. as far as i know, there was no negative consequence though.
3) had i not sent people to hunt and manage supplies, i guess the village could've starved, revolted, and pact would have broken up.
4) had i not trained soldiers, alliance could have lost the war

**9. I felt as though I had meaningful agency over the narrative development of the story:**
5

**10: Please elaborate on why you gave the rating you did.**
i've only played it once, but the first playthrough made it seem i had much choice. it seemed that the village was suffering from chronic food shortages even though i sent good people to hunt and manage supplies. And the war went well despite me diverting soldiers to go hunting 3 times. those events made it seem that game didnt react to my actions.

**11: I felt that my decisions were reflected in the game's narrative.**
4

**12: Please elaborate on why you gave the rating you did.**
food shortage and winning war despite everyone going hunting instead of training, as explained previously

**13. I felt that I had significant control over the main character.**
5

**14. Please elaborate on why you gave the rating you did.**
hmm, dont' know how to elaborate on that, it just seemed as if i had control. the choices presented to me seemed reasonable and "wide".

**15. Where on the spectrum would you place the prototype?**
6

**16. Please explain the reasoning for your choice of placement.**
the game is still set in an overarching story and the player is given the role of chieftan. Player can make choices within that setting but cannot make major changes such as "i'm not marrying him, i'm a lesbian" and then run away and live in the woods. or, "how about we just surrender to the bargas and iron empire, and become vassals? maybe they'll make us into a march someday".

---

1. Name: Karl
2. Gender: Male
3. Age: 25-29
4. Background: Game Writing Student at the University of Skövde

**5. Place some games on the spectrum on authorial control within interactive narratives.**
I suppose I can agree that SimCity ranks about 8, there is no built in narrative, so any narrative that does occur is caused entirely by the player. For the opposite end... a lot of games does come to mind in one way or another, but I think something like Call of Duty and similar FPS games are solidly ranked 2 or even 1, while a game that offers at least a choice between two outcomes (usually good or evil) might be a 3 or maybe a 4. The two outcomes are still predetermined but the player chooses which one they get (Jedi Academy comes to mind).

Unfortunately, little truly comes to mind when it comes to a game I would rank 4-6. I suppose it would be a game where the narrative direction is more heavily influenced by the player's interactions with the game, but that usually only ends up scrambling the order of what happens when, with maybe some difference depending on choices made (if the developers really put in the effort). Could we perhaps say that games like Dwarf Fortress and Rimworld, that randomly gives the player events with randomized pieces and boards, fulfill this condition? In such a case it could be argued that the game and player are building the narrative together. Perhaps.

**6. Give a brief summary of the prototoype's story, as though you were to explain it in the form of a synopsis.**
You are the daughter of the chief of a tribe, and through a sequence of events you are thrust into leading a merger between your tribe and an old enemy tribe against a new threat, forced to manage limited resources and the balance between the survival of your people, the unity of the two groups within the tribe and preparations for a future conflict.

**7. Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?**
I can think of two events that stood out. The first was the early event in the prologue where your brother pleads with you to release a prisoner. I felt that I didn't really have the information to make any kind of proper decision at that time. The second would be an event where your scouts return with captives from the enemy. I almost felt like none of the decisions were the right one and that each one had the potential to invite absolute disaster.

**8. Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.**
A version could have been one where you submitted to the enemy tribe and tried to work with them, balancing the grudges towards them. Another would be a path were you simply made peace, although

that could have been a potential path, even if I didn't see any indication of its availability beyond one decision that seemed pretty dumb.

**9. I felt as though I had meaningful agency over the narrative development of the story:**
3

**10: Please elaborate on why you gave the rating you did.**
While it certainly seemed like things were being affected by my decisions and there were many events with multiple options that seemed like they might change something, I cannot say for certain if they actually did without a second playthrough.

**11: I felt that my decisions were reflected in the game's narrative.**
4

**12: Please elaborate on why you gave the rating you did.**
It certainly seemed that way for the most part, although I'm still unsure whether the decision to heed or ignore your brother's plea made any actual difference.

**13. I felt that I had significant control over the main character.**
3

**14. Please elaborate on why you gave the rating you did.**
While I'm sure there were some aspects of the main character that were altered by my decisions, I also felt she suffered from the problem where you could never be quite sure what exactly she would do with each choice.

**15. Where on the spectrum would you place the prototype?**
3

**16. Please explain the reasoning for your choice of placement.**
Many possible narrative paths doesn't truly change how predetermined each piece of it is. I honestly felt this was about the right spot for it. The author prepared a bunch of possible paths and I made decisions that determined which one I saw. That said I could also maybe see a 4.

---

1. Name: Lisa
2. Gender: Female
3. Age: 25-29
4. Background: Game Writing student at the University of Skövde

**5. Place some games on the spectrum on authorial control within interactive narratives.**
Graveyard keeper rank 3, Mass effect rank 7/6, Spiderman rank 2, Don't starve together rank 8, Subnautica rank 4

**6. Give a brief summary of the prototoype's story, as though you were to explain it in the form of a synopsis.**
There are two clans who have been at war with one another for generation. The player is born as the hier to the chieftan role within one of these clans. One day a third, weaker clan got outside help with recieving weaponry. This caused the two war driven clans to come together in an allience to stand against this new threat. Even with this allience they got overwhelmed and had to retreat from their capital, thus it started a game of survival, cooperation and battle for revenge.

**7. Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?**
I often had trouble with balancing food resources and getting the clans to cooperate. I decided to make my brother happy by letting him go out and hunt, it lessened our resources but I had promised him that I'd think about it. I couldn't go back on my promise. I liked that the old lady shaman came to teach me and the other shamans of my clan their shaman magic. It let me use that magic in battle and be a part of the shaman force in the war, it felt really cool to be able to use magic to best them. Only made me wonder how they even lost in the first place if they had that kind of power though, the downfall of the city wasn't really explained. And if they had such powerful magic, why not use that?

**8. Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.**
If i had been more focused on resources and war effort than clan cooperation there could've definately been a revolt. The shaman lady might've been mad that I didn't want to accept her generous offer either which could've also lead to a revolt. It was thanks to my war training force that it stayed calm but I feel like that couldn't last forever. But no matter if i did both shaman and cooperation, it didn't change the relationship between the clans it felt like. Like i only prevented it from getting worse, not better.And even when I did both I could still get a warning message, which was a little stressful.

**9. I felt as though I had meaningful agency over the narrative development of the story:**
5

**10: Please elaborate on why you gave the rating you did.**
The choice to be truthful in the beginning felt like it had an impact on how they would see me as a leader. The same could be said with the resource managment. But at one point, as stated above, I couldn't get my cooperation up even if i activated both cooperation options. Which made the choices go down a bit. Keeping the prisoners alive didn't seem to have an effect either. So while there felt like there was an meaningful agency most of the time, there were some moments where it felt like my choice didn't matter.

**11: I felt that my decisions were reflected in the game's narrative.**
5

**12: Please elaborate on why you gave the rating you did.**
I did. When I decided to be merciful it spoke of me as being merciful. And when I was cruel, when I killed the enemy leader, it elaborated on why I was cruel. Though only my cruel action seemed to reflect in the letter to the iron kingdom, where I asked for peace. It said that we were powerful enough that they wouldn't want to mess with us. As if it didn't care about my merciful actions up until that point? I don't know, it felt like the message could've been a little nicer.

**13. I felt that I had significant control over the main character.**
6

**14. Please elaborate on why you gave the rating you did.**
Yeah, it felt like I had control of her actions. Maybe not how she said it but definately her meaning behind it.

**15. Where on the spectrum would you place the prototype?**
5

**16. Please explain the reasoning for your choice of placement.**
In one way, you determine the choices for the character you play as. But in another it feels like the events that happens every round (I only had time to play it once) are repeating events. Like there's still

a structural order in the order the things happen. And you also dont choose your character, you get a character assigned to you. It's through that i'd place it at the ranking I have.

---

1. Name: Erik
2. Gender: Male
3. Age: 18-24
4. Background: Game Writing student at the University of Skövde

**5. Place some games on the spectrum on authorial control within interactive narratives.**
Age of Empires (entire series) ranks 6 in random map games and 3 in campaigns; Sekiro Shadows Die Twice ranks 2; WWE 2K18 ranks 8; Mordhau ranks 6; SCP Secret Laboratory ranks 4; Divinity Original Sin ranks 6; Garry's Mod ranks 9; XCOM 2 ranks 3

**6. Give a brief summary of the prototoype's story, as though you were to explain it in the form of a synopsis.**
Two rival tribes have to come together when a foreign force grants a hostile clan the weapons needed to wage an open war. As the tide of war turns against them, the two allied tribes must survive on the outskirts of their old lands where they scavenge and prepare for their retaliation. The leader of the alliance, a young woman, finds herself struggling to maintain the rocky relationship between both tribes' people.

**7. Give a more detailed account on what happened in your playthrough of the game. Did any specific events stand out?**
I accepted the marriage and prepared to be a good leader for my tribe. I found myself willing to appease my people by executing Bargas captives, in order to keep their spirits up. I was even willing to accept the shamanic dark arts to improve the war effort and form a bond over our tribes' religious practices. I managed my tasks quite well, but I did spread out the progress of scouting, resource gathering and military management. Needing to pull fighters to hunt and forage made me worried that simply using magical boons to the final assault wasn't gonna be enough to overcome the Iron Empire's wonder weapons. I felt like I needed to take a chance by using infiltrators, since my scouting efforts had been consistently good, which paid off.

**8. Do you feel as though the narrative could have played out in a different way? Give one or more examples of how you think things could have gone differently.**
If I hadn't executed the Bargas scouts, I believe my people would've turned on me. It didn't sit quite right for me to do it, but I felt it was necessary. Same with executing the Bargas chieftain, although relationship with the Iron Empire could've been improved if I'd kept him alive.

If I had sent a threat to the Iron Empire, I have no doubt they'd just roll onto the shores with even better weapons (bringing out the big gunz) and crush us. Who knows, maybe they'd find a way to counter our magic and infiltration tactics.

**9. I felt as though I had meaningful agency over the narrative development of the story:**
5

**10: Please elaborate on why you gave the rating you did.**
The responsibility to manage the survivor's camp felt like it was entirely on me. I believe I managed to keep the situation afloat by performing to the best of my ability. However, I'm pretty sure the introductory part of the narrative (up to the point where Bargas kicked our butts) was predetermined, but that's alright since it had to set up the narrative for the main gameplay. Come to think of it, maybe trying to refuse the marriage would cause more tribesmen to be displeased at the start of the gameplay section...

The counterattack on our capital and the choices I could make only seemed to be partially dependent on my earlier choices and task management, so I'm not sure if my choices affected which strategies were available to me.

**11: I felt that my decisions were reflected in the game's narrative.**
4

**12: Please elaborate on why you gave the rating you did.**
I wasn't sure about what would cause the tribesmen to become discontent with my leadership, and I didn't think the efforts and successes in task management was reflected in detail during dialogue with other characters. In fact, I found myself reading the same dialogues over and over when talking to the other three characters. The bane of success: the only narrative you'll recieve is a general "you're doing well" statement.

**13. I felt that I had significant control over the main character.**
6

**14. Please elaborate on why you gave the rating you did.**
The options for each situation were reasonable, and I felt that each option could affect the opinion of my character by the tribesmen. A technical glitch prevented me from endulging in shaman arts at the very start of the game (a new textbox would appear for just a second and then disappear, leaving me stuck and having to exit the game). In order to succeed, I felt like I needed to appease my people, but that's the price for having a leadership role.

**15. Where on the spectrum would you place the prototype?**
6

**16. Please explain the reasoning for your choice of placement.**
The impression I got of the game is that the narrative revolves around reclaiming your land & getting along with the other tribe or failing to do so. A different future for the tribes, new alliances, resettlement or exploration into the eastern wilderness were not options. At the same time, the manner in which you could succeed or fail were in your hands and you had full control over certain aspects that would affect this specific narrative. All in all, I feel as if the game was more open than restrictive. The author has set up a situation and it's up to the player to manage it.

## 17. Do you have any thoughts about the subject or the prototype? (optional)
I feel like many "you choices matter"-games typically are quite simple under the hood, and that they contain many false choices, as the developer doesn't have the time (or patience) to enter various unique effects for each player choice. Despite my attitude towards such games, my responses in this survey have been written in belief that every choice available during gameplay really do matter, and that there is a wide variety of outcomes based on my actions.

It's been a while since I've read about the subject of predetermined, co-authorial and emergent narratives. It's an interesting topic, and I'd be interested to see if this subject could have some practical usage for game developers rather than just a categorization tool.

---