BREATHING LIFE INTO WEBCOMICS
Pay Attention

Bachelor Degree Project in
Media Arts, Aesthetics and Narration

30 ECTS
Spring term 2018

Pernilla Larsson

Supervisor: Lissa Holloway-Attaway
Examiner: Lars Vipsjö
Abstract

This work explored the potential issues concerning attention when adding animation to a webcomic. The aim of the research has been to quantify reader reactions to a comic with animated elements to investigate potential gain or loss from the new format. The research question is formulated with regards to the specific issues of attention and distraction that movement poses on a reader's ability to focus on the narrative content. A prototype comic tested the guidelines discovered in the background with regards to how animation should work in comics. The results shows that with the guidelines participation reaction becomes more predictable. The prototype was tested on a small group of participants, and the results show that while animations do distract they do not necessarily negatively impact reader experience. The conclusion is that animation within comics has the potential to further the media expression and that is worthy of further study.

Key Words: Animation, Webcomics, Attention
# Table of Contents

1. Introduction ................................................................................................................. 1

2. Background .................................................................................................................. 2
   2.1 Comics on the Web.................................................................................................... 2
       2.1.1 Comics: media or medium? ............................................................................ 2
       2.1.2 What is a webcomic? ..................................................................................... 3
       2.1.3 Enhanced Webcomics and Animation ............................................................. 4
   2.2 Creative Guidelines ................................................................................................. 5
       2.2.1 How to Animate Comics ............................................................................... 5
       2.2.2 Flow and Attention ....................................................................................... 6
       2.2.3 Clarity vs Intensity ....................................................................................... 7

3. Problem ....................................................................................................................... 9
   3.1 Method ..................................................................................................................... 10

4. Implementation ............................................................................................................ 13
   4.1 Narrative Setup ...................................................................................................... 13
   4.2 Sketching ................................................................................................................. 15
   4.3 Transferring to Digital and Polish ......................................................................... 17
   4.4 Animating ............................................................................................................... 20
   4.5 Pilot Study .............................................................................................................. 23

5. Evaluation .................................................................................................................... 24
   5.1 Result ....................................................................................................................... 24
      5.1.1 The study ....................................................................................................... 24
      5.1.2 Answers ......................................................................................................... 25
   5.2 Analysis ................................................................................................................... 31
   5.3 Conclusions and Tendencies .................................................................................. 36

6. Concluding Remarks .................................................................................................. 38
   6.1 Summary ................................................................................................................ 38
   6.2 Discussion .............................................................................................................. 38
      6.2.1 Purpose .......................................................................................................... 39
      6.2.2 Animation ...................................................................................................... 40
   6.3 Future work ............................................................................................................ 41

References ....................................................................................................................... 44
1. Introduction

Webcomics have been seen as the natural next step in the art form of traditional comics. With this move toward the online medium, comics have seen a new revolution in terms of how they can be created and distributed. Shedding the restraints of the printed format comic authors have been exploring the new medium with surprising results. Webcomics using animations face some tangible issues ranging from production costs to reader interest. This study explores the potential effects animations might have on reader participation, and it poses the question of whether animations are detrimental to the comic as a form of distraction, or beneficial to create participation for readers.

My research focuses on the creation of an animated comic and testing to see how readers quantify their experience as they are reading. The aim is to explore the boundaries of where an animation becomes too distracting for readers, creating more effort in production than is worth to engage readers interests.
2. Background

2.1 Comics on the Web

2.1.1 Comics: media or medium?

The move from print to web for comics was seen as inevitable. In the book *Convergence Culture* Henry Jenkins (2008) discusses how old analogue media finds a new life in the digital space. One such media is comics. Comic-books are still largely made in the printed form. However comics have also embraced the open source and easy distribution available online. This shift comes with many benefits to the comic-media. In his Master’s thesis *Enhanced Webcomics: An Analysis of the Merging of Comics and New Media* (2015) Josip Batinić, describes some of the potential changes, adaptations, and evolutions now readily available to the comic-art.

“...webcomics can move beyond print and exploit the features of the new medium; HTML mark-up language, for example, can change how an image is displayed if hovered over with the mouse, and sound effects can be embedded within the code of the webcomic and played in the background.” (Batinic, 2015)

To begin explaining what a webcomic is there is an important difference between *comic-book* and *comic* that needs to be addressed first. There is a common belief that these two are the same. That Comics and Comic-book is interchangeable, and to a reader this might be the case. However to study cultural expressions Jenkins (2008) point out the difference between a media and a medium. A medium is defined as format via which the media is presented, such as in print, or radio and television forums. Jenkins then gives these different medium the collective name *bearing technologies*. Certain forms of media could not have existed without new technology creating new formats. However once created, and as technology advances, media can move from one bearing tech to another should they meet requirements to do so. In other words, *Comics* refer to the media, the form of expression of images and text. *Comic-book* refers to the old bearing technology of print. As such Comics can be seen to have moved onto another bearing technology, the internet.

Similarly in the article *Print Is Flat, Code Is Deep*, Katherine Hayles (2004) raises the importance of why media specific analysis has become so important after the internet revolution. With her own take on the *convergence* of media onto a digital platform, Hayles puts emphasis on the importance of acknowledging the medium with which a media is presented. Hayles specifically talks about *Electronic Hypertext* as a digital extension of the literary format. Presenting a comparative view of the print and the hypertext, Hayles suggest that online media require the consideration of its *platform* when analysed.
2.1.2 What is a webcomic?

In a thesis Josip Batinić (2015) acknowledges the philosophical debate on what a comic is. What it is that defines it as one thing separate from others types of media. While they discuss this debate and variations of definitions, they end up not trying to define comics in any new terms. Batinić rely on an adaptation of Esterno Priego’s definition, and presents his understanding of what comics are as follows:

“...the medium, at the highest hierarchical level (°1), can be represented in various forms (°2), which in their turn can take on different formats (°3). The medium is an all-encompassing term, while the 10 form refers to the structural organisation of its essential qualities, and the format is concerned with the materiality in which it is presented (concretely).” (Batinić 2015)

This definition also makes the distinction between form and format, and it will suffice for this study. As for webcomics a concise definition can be found in What’s up with Webcomics? Visual and Technological Advances in Comics (2009) by Maria Walters. Walters understands the term Webcomic as “originally published online”. Walters makes that a point when mentioning that comics that were print primarily, such as daily news paper strips, and then later uploaded to an online archive, do not count toward webcomics. However also states that a webcomic is primarily made from stationary art and text. Suggesting that those comics featuring interactivity or motion walk the borders of what comics are.

There have been many more voices attempting to create a definition for webcomics, some of which are explored in the thesis Rethinking Webcomics: webcomics as a screen based medium (2013), by Dennis Kogel, who also poses the question of what a webcomic is. He reviews some of the early philosophical definitions of webcomics. Kogel describes some of these definitions as too ideologically angled. There are definitions, such as Fenty et al., drawing similarities between Webcomics and the 1960’s underground Comix movement.

Comics that are made first for the web, made by an independent creator, who may be working with others, but who all have no originally print version and no corporate sponsorship [and are] unfettered by the rule of syndication and sponsorship. (Fenty et al. 2004 see Kogel 2013)

Kogel questions what, in a definition of a media form, sponsorship or publishers have to do with making that definition. Kogel argues that while Fenty et al. and those like them have a point about censorship, it should not colour the definition of what a webcomic is. His meaning is that whether there is or is not sponsorships or publishers behind a comic, a comic made for and posted mainly through the internet is still a webcomic.

On the point of what a webcomic is, Kogel (2013), Walters (2009) and Batinić (2015) agree. A comic is a webcomic when it is made first for the online space.
2.1.3 Enhanced Webcomics and Animation

Batinić (2015) makes it clear that they perceive a difference in Webcomics, and the subcategory of Enhanced Webcomics. Enhanced Webcomics refers to the extended use of the medium, that is a comic created with the bearing technology in mind. These comics can include page formatting that is uniquely different from print; the use of many frames potentially infinitely, as well as the incorporation of sounds and moving images, or even to some degree, forms of interactivity.

As both Batinić (2015) and Walter (2009) expressed, these definition of webcomics comes with a set of borders. Borders that become important when trying to characterize where the medium begins and ends. As with any media open for experimentation Batinić explains there comes a point “where [the comic] becomes another media entirely, dressed up as comics” (Batinić 2015). To explain their point further he cites Scott McCloud’s Reinventing Comics (2000):

“If partial sound and motion can help create an Immersive experience - won't full sound and motion do the job more effectively?” (McCloud, 2000)

This focuses on whether or not an enhancement of a comic may be taken too far. Instead of making a comic with additional expressions, it might become a weaker form of the media it imitates. Batinić mainly applies this theory to animation (motion pictures), and interactivity (video games), as these two forms of enhancement are considered borderline at best.

Looking closer at animation, or moving image, as a form of enhancement Batinić(2015) notes that there is still some room for careful additions of moving pictures within comics.

![Figure 1: Motion Comics](image)

Figure 1: Motion Comics are one of the examples of where a comic is no longer the media but rather the dressing on top of moving picture. DC Comics, Watchmen: Motion Comic (2008).
In McCloud’s first book, *Understanding Comics* (1993), the idea of pictures as information begins to form the divide between comic and moving picture. Pictures require no particular skill for viewing, if they are clearly presented and contextualized. On the other hand, according to McCloud, text requires the skill of language, of reading, and some amounts of attention and focus to understand. Thus McCloud argues that moving pictures are a form of passive information, while comics is a form of information requiring active participation.

McCloud’s critique means that if authors apply motion instead of sequential art, and replace the text with sound, they are no longer making a comic but rather a moving picture or film, with the *dressing of comics* as Batinić (2015) phrased it.

However Batinić did also claim there are acceptable forms of animation. His interpretation of acceptable animations begins by the common practice of .gif animation. The GIF, Batinić claim, is a reasonable restraint as it contains the animation to a few frames. It makes it short, lightweight, and is readable through most online platforms. Batinić poses that these types of animations work well because they follow the rule of perceived/received information. That means these short Gif’s “do not necessarily feed new information to the reader”.

Figure 2: *Pixelated Moose Running*. Example of such a Gif animation. Link to animation loop see Appendix C.

### 2.2 Creative Guidelines

#### 2.2.1 How to Animate Comics

Thus Batinić (2015) makes an argument for acceptable animation when it comes to Enhanced Webcomics. An animation cannot be longer than a few frames, intended to enhance a frame rather than change it. It should contribute to the meaning of the frame without adding information.

One of the examples used is a page from *Thunderpaw* (Lee, 2015) where a character has fallen down a hole. The animation added to the frame of falling is meant to enhance the feeling both the depth of the hole, and that time is progressing as the character falls. The animation is contained inside a regular comic panel. It is no longer then that specific, suspended, moment of falling; with no starting point and no landing.

The *graphical interchange format*, otherwise known as GIF, is an image file format commonly used online to make short animated frames and images. The format uses a lossless compression that does not reduce the quality of an image. However the format has a maximum capacity of 256-colours, meaning that there is a point where the sequence of images becomes too heavy to
process (Christensson, 2016). The Gif-format provides natural restrictions for artists to consider the weight of their animation when uploaded. A long loading time is a non-negotiable disruptor that can break readers out of the comic (McCloud 2006:32).

In the same vein as Batinić, Gossman, et al. in their article Bringing research articles to life with Animated Figures (2016) discuss the use of animated figures to effectivize research papers through use of animation.

“An animated figure is a short autonomous and continuously looping video that enhances what would otherwise be a static figure or set of figures.” (Grossman et al., 2016)

In the article Grossman et al. discuss the potential use of so called Animated Figures to enhance research articles. They claim that in some cases using an animation is much better than a longer text or a sequences of images as these means usually get very long or complex to prevent issues of clarity. The benefits of animated figures as seen by the article include, but are not limited to:

- Demonstrating an action.
- Showing subtle differences by contrasting overlay.
- Depicting a process.

There are also some cautions to be observed when using animated figures according to Grossman et al. such as minimizing distractions (2016). With this the authors refer to looping the animation so that it is as clean and seamless as possible. If a seamless loop is not possible, or the intended animation is perceived as too distracting, there should be a playback option. That is to say, there should be an option in which the user can start or stop the animation, instead of having it always running. Lastly there should always be a still alternative, should the article be printed or made use of in another format that cannot display the animation.

2.2.2 Flow and Attention

Flow, and Attention, is a shared concept. The choice of Flow is what Scott McCloud refers to when discussing how to arrange each frame of the comic. Flow is the manner in which the artist present the story in a flowing manner, so that the readers can, nearly seamlessly, move from frame to frame and absorb the information in the correct sequence.

“Between panels, your choice of flow will rely on the unwritten contract between artists and readers which states that panels are read left-to-right first, then up-to-down. And that that within each panel, the same principles will apply to captions and Word balloons [in western culture].” (McCloud, 2006, p.32)

When applied to webcomics this definition becomes a little more flexible. As McCloud notes it is mostly Western culture that follows this trend of left-to-right. Online however where multiple sources mix it becomes much more at the choice of the artist. This is partly due to culture and partly due to the layout of the comic should it deviate from standard. As long as the material is
consistent within the comic the general rules apply. Whether it is left or right as an origin, the flow should follow the same rules throughout.

In its essence *Flow* is how the artist relates to the audience attention. The intention is to guide the reader's eyes between frames without causing any confusion. To that end flow also becomes a matter of distractions. This is to frame the comic and place it in such a way as to minimize distractions. McCloud (2006:35) points out a few pages after that there is no reliable way to force a reader to look at things, however with experience an artist can start to predict what will catch or deflect attention.

*Attention* can also be found in cognitive science. Wherein attention is described as a passive process the brain does routinely; to a degree far beyond regular perception. Attention is a form of competition, and selection based on that competition (Smith & Kosslyn, 2009). The competition takes place between all of the human senses and takes into consideration the most basic instincts and biases when performing the selection of attention.

What a person chooses to pay attention to can be more or less predictable. As McCloud suggests it is possible for several intense frames that break the flow or muddle the guiding direction, which in turn can have a negative impact on the reader's attention. Similarly the break of continuity can also cause issues with attention. Continuity refers in this case to following the direction of flow. A break of continuity could be as mentioned above, when an artist makes a sudden change in the thematic flow, for example suddenly shifting to right-to-left in the middle of a left-to-right narrative.

With that in mind McCloud (2006:36) has a point when he suggest that webcomics become inherently more distracting. As there are many more inputs suddenly competing for attention. Where the reader has to actively read the comic while steering the computer. Including page layout, how to reach the next page whether through scrolling or buttons. If there then also are enhancements to the comic this might add another layer of difficulty or confusion.

However Smith & Kosslyn (2009:139-143) suggest that distracting elements that are low effort and repetitive become a kind of attentive background; hitting the next button, or scrolling down a consecutive page layout, is much like flipping the page of a comic book. Once the reader is comfortable with navigation it hardly breaks attention at all. It is still recommendable to keep these distracting elements at a low amount, ensuring that the effort required to keep reading should be as low as possible.

### 2.2.3 Clarity vs Intensity

There is an unspoken balance in the art of comics, each comic panel and each page must consider the choices of Clarity vs. Intensity. While these two are in a constant balance, they are not necessarily in opposition. But rather it is a matter of perspectives that often counteract each other in creative expression. Both concepts speak to the visual representation of a comic.
*Clarity* is the idea that images speak the best when action is clear and uncluttered. Clarity is made up out of five kinds of choices (McCloud, 2006:37), choice of moment, frame, image, word and flow. These choices are supposed to help the artist portray their message. McCloud uses the drawing of a man walking along and finding a key (McCloud, 2006:20). Six frames of a figure in the centre of each frame, walking, spotting something on the ground, picking it up and letting the reader see that it is a key. Each frame chosen to most clearly define each action. In the interest of clarity none of these frames have any background more than necessary. There is the suggestion of a surface the character walks on, that they key is found on, through minor shadow under the feet and object. There is an infinite white background as neither light, setting, nor weather play part in telling that story. Clarity at its peak is the message an author wishes to portray without adornments.

*Intensity* on the other hand is not the direct opposite of clarity. Intensity is a vague term of making the frame interesting. It is a form of creative visual representation of the information and is made up of a plethora of choices beyond simple message.

“...use [intensity] to refer to those visual techniques which add Contrast, Dynamism, Graphic Excitement or a sense of Urgency to a panel.” (McCloud, 2006, p.45)

If clarity, or message, is that a man is walking, then Intensity would be how that frame is drawn. What angle do we see it from? How fast is he moving? This could be the consideration of a single frame or all of the pages together.

Clarity and Intensity thus can work together while simultaneously having to come to a balance. McCloud represents these two ideas as sitting on each side of a seesaw. One goes up if the other goes down, and vice versa. And that tipping one scale too far in either direction can cause more harm than help.
3. Problem

Webcomics is a growing medium where, without the previous limitations of print, authors and creators are testing the vast unexplored space of the online format. The digital format has given rise to many experimental pieces where authors might add some extra flare to their comic. By means of endless pages, hyperlinks, or even sound and moving image (Batinić 2015).

Out of all of these new additions that the digital medium offers, the focus for this research is on moving images. The premise of the thesis is to look more closely at aspects of incorporating animation into comics to test whether this will enhance the comic in strategic ways. Or, on the contrary, my study will investigate if there are some noticeable drawbacks to the inclusion of animation. Ultimately this is a study of time management vs. potential gain within production and for readers. Even in their slightest form animations are an additional level of work on top of that already presented by making a comic. To that end it is important to understand what effect animations might have on a comic from the perspective of an audience in order to determine the added value, or potential loss.

The purpose of testing is to demonstrate whether the audience not only appreciate the extra effort, but also maintain an interest in the subject matter and content of the comic. There is a possibility that adding animation could have a negative influence on the reading flow and cause a conflict of attention (Smith & Kosslyn, 2009).

The aim of the research was to devise a test in which these effects of animations could be measured and ask the reader directly how they feel the animations influenced the task of reading. However “animation” is as broad and ill defined term, therefore there are obvious examples of how animations that will absolutely cause distractions. As such the artefact used controlled animations, keywords being short, looping, and colourless. The purpose of this was to remain respectful of the borders of the media of comics.

The research question was posed as follows:

*How might animated figures affect the readability of a webcomic? How might they interfere with the reader’s understanding of the narrative content?*
3.1 Method

To answer the questions the test required a comic with animated figures. Here such figures are understood as a chosen panel within the comic page, animated with few frames depicting an action or movement, playing back on continuous loop. It was later put together into a judgement based survey, as it seemed the likeliest to give desired results in a timely manner. Interviews were considered, however the study required a large quantity of answers and I found that an interview would only give the same answers in a slower format.

The comic

The first part of the process relied heavily on Scott McCloud’s book *Making Comics*(2006), paying special attention to his definitions for Clarity, Intensity and Flow.Animations were made second hand, however as both McCloud and Batinić (2015) made clear, creating the comic with animations in mind was important. Incorporating the animations as stills made for an effective mode of finishing the product on time.

To begin the comic McCloud suggested creating a simple narrative (2006:8,11). For this study I used a previously created narrative, with already defined characters to minimize the time before getting started. Further I chose a segment of that story and adapted it to work on its own. The concept is simple:

*Following a group of people as they break into a dark place where they shouldn’t be. They dig around for loot, get caught, and then make an explosive escape.*

Once the narrative had been decided, McCloud suggested to start with making the comic based in clarity. Communicating the essence of the story first. After that one can start to add intensity to further the emotions portrayed.

If intensity is such a subjective matter, and the point of clarity is to portray the story as clearly as possible through chosen imagery (McCloud 2006:52), then adding animation onto that can be seen as either clarity or intensity. Depending on the placing and type of animation (Grossman et al., 2016). This is helpful when creating sequences for a comic, as Grossman suggested; being able to shorten down descriptive movements into a single frame with animation saves a great deal of space.

The comic was made through digital means, and in this case a school licensed version of the program Photoshop CS. A series of pages were made with standard print layout, and upload to Google Form. The key to choosing forum for the comic was that the layout was easy to use (McCloud 2006:36-37), giving the reader no trouble in moving from one page to the next. No scrolling, no swiping left or right, neither hyperlinks or other extended features was used.
The survey

The test centered around the impact animation has on attention. Because of the expected participation was quite low a comparative study was less viable. Instead the choice of Judgement based (Smith & Kosslyn, 2009:27) quantitative study (Østbye & Larsson, 2008) was feasible.

This means there is one version of the comic, in which all animations are included as if it would have been released online. The survey was spliced into the comic, serving to create minimal pause for the reader. After reading a page the reader was asked to rate their own perception of how easy the page was to read before being allowed to move on to the next page.

The intention was that if the comic had been longer animations could have been made to slowly increase level of distraction as the comic went along, and add small stops for the reader where they could answer a few questions about the animations so far. However since the format became shorter these questions were left toward the end when participants had already read all pages.

Judgement based quantitative surveys offer participants questions with scales of rating. The advantages of these kinds of studies, as Smith and Kosslyn (2009) suggest is that it makes “subjective reactions easy to quantify”. However there are some drawbacks in that participants might have issues understanding the scale, or that they give no continuous access to the data they are evaluating (Smith & Kosslyn, 2009:27). How to counter these issues depends on the length of the comic and questions chosen. In the shorter format one question directly under the page worked. The option to move backward in the survey to review the pages again was given to ensure the participants could look again if they felt the need to.

However since the research question asks for a kind of user experience, there was some use in qualitative answers as well. It became more relevant when considering the validity of the judgement based questions (Østbye & Larsson, 2008). A judgement based question has to be framed so as to quantify subjectivity, such a question does not always encompass for the participant answering the question in an intended way. For example if the survey uses judgement based questions asking the participant to rank how well they liked a page on a scale of one to five, from not at all to very much, the end result leaves us asking too many questions such as why did they prefer one page over another? Because of this I chose to add a few qualitative questions to confirm the judgement based questions and ground them in arguments from the participant.

The method of upload and hosting best suited was Google Forms(2006). The Comic could be uploaded onto a single page at the time. The form structure comes ready with back and forth buttons of their own, and there are ways of limiting a participants access to the whole comic if it had been necessary. The online form and the style of Google Form also allowed participants to be aware that a survey with questions was coming, as well as a measurement of how much there is left.
As for participants I was first and foremost interested in people who use the internet. To mimic the conditions of an actual webcomic, which is easily accessible to anyone with internet, I also wanted a broad pool of participants. In large parts personal information is also not required to answer the research questions; for example there is no need to include a question of gender of the participants as it is assumed to be more of an interesting fact rather than useful data. The study focuses on the potential audience reaction, regardless of who they are. The additional questions might bring up interesting aspects of readership that could lead to further study, though should not be required at this time.

The question of age group and internet habits could have provided interesting data. While there is some relevance to ensuring that participants are at least confident in their internet usage so that they don’t face major issues regarding reading the comic, the whole point of distractions was that anyone should be able to read it. As such I left participant information to a minimum, as Smith & Kosslyn (2009:139-143) suggest that there are ways to ensure the ease of use would be of minimal interference for everyone.

Out of ethical reasons the survey did not track personal information or ask anything that could directly identify a person either. Each participant was kept track of by the order in which they answered. They were each assigned a number as their submissioned were accepted.

Standard ethical practice also includes the possibility of terminating the test at any point. Which comes easy with Google Forms, as it is as simple as quitting the survey, terminating the window before submitting the answer. This too should be easily understood so long as users have basic grasp of internet usage, however mentioning this possibility in the introduction to the survey is advised. Similarly this test and any test based on this study using animations need to include a warning ahead of time that the survey will contain animated elements. This goes for any sensitive material the study might contain, ensuring that the participants are aware of the extents of the survey is key. A participant must be aware of what the study is so as to be able to make an informed decision agreeing to participate.
4. Implementation

The work presented in this chapter has been sectioned up in stages based on the major steps of creation. All digital images and animations were created through Photoshop CS.

4.1 Narrative Setup

Before beginning work on the comic I expanded upon the written narrative as it felt important to know where I was headed and leave as little room for experimental mistakes. Based on the synopsis of the narrative the story was then expanded upon in three stages.

Following a group of people as they break into a dark place where they shouldn’t be. They dig around for loot, get caught, and then make an explosive escape.

The synopsis, and the longer narrative, was adapted from a previously existing script I had, made into a shorter and independent format. At this stage in the project I thought it best to ensure that the story itself take as little time as possible, as the comic is where the artefact becomes relevant. From here on the synopsis was expanded upon incrementantly through creating an Abstract Breakdown, then choosing Key Frames, and lastly writing a Detailed Script. These three steps that I will expand upon below were made so that the iterations would build the story from an abstract overview down to the details of each scene.

The Abstract Breakdown phase was where the story was broken down into scenes based on their purpose. Such as setting the scene, the purpose of which is to get the reader familiar with the place the story will be placed in. The narrative was written in the form of a list, so as to get all the elements that make it a coherent story in place. It followed a basic format of setting the scene, introductions, naming the plot, adding an antagonizing element, and finally characters making their escape.

This process was based on McCloud’s theories of the choice of moment (McCloud 2006:11-18). In the sense that the intention of the abstraction was to give the story an easy overview based on its most integral parts. Much like McCloud’s description of a man walking along and finding a key, I adapted a similar mindset to view the scenes in the story. In the Abstract Breakdown emphasis is put on having a working story that builds from one step to the other, and why they are necessary. A scene had to be described in 2-5 words. As exemplified in figure 3 below, this step is the very basics of a scene with little to no ornamentation. It helped give a clear picture of the story in its entirety.
Key Frames is similar to abstract but with the addition of looking closer at character interactions. The point of key frames was to find one or two moments that perfectly describe the Abstract Breakdown based on the characters instead. A scene described as search carefully in the Abstract, might in the key frames have been written as Jeff and Will nose around the hall. This step specifies character action by name, making it more possible to imagine the scene.

At this step there is still little to no detail concerning where they are or what is going on around the characters. With no description of the setting unless the scenery is vital to the telling of the moment. Such as Figure 4 below, where Rust kicks a table that then proceeds to crash out a window.

Contrary to these first two steps, the Detailed Script is much longer and resembles the script of a novel. This step is to understand the mood, set the stage and capture the thought processes of the characters to such a degree as to where it can be depicted accurately. What the detailed script also does is ease some of the process that McCloud describes in the later choices of clarity, specifically the choice of frame, choice of image, and choice of words (McCloud 2006:10). The detailed script handles parts of the conversations, and depicts the emotions of the characters, so that later when working on the comic the choices have been given a direction to follow.

Figure 3: Example of the Abstract breakdown of scenes.

Figure 4: Example of the Key Frames.

Figure 5: Excerpt from the detailed script.
Throughout his book McCloud mentions that there are plenty of ways to work with a narrative, that there are alternative routes to making a comic, that not all have to be based in a script.

However early on I decided that having a finished script detailing a coherent story would be important, as it would give the best testing ground for the research question. The reasoning being that if there is nothing to be distracted from, how can you tell if a reader has been distracted? The longer format gives the reader something to do, something to focus on and remember from page to page. Giving the reader a goal, to read the comic and understand it from start to finish, which in turn gives me something to attempt to draw their attention away from. A shorter formats aim for one joke per page it does not have that continued attention.

A pre-written story also comes with the benefit of controlling the length of the narrative, and ensures that a writer of any experience will have a more coherent end result. Rather than that of trying your way forward and experimenting with narrative.

### 4.2 Sketching

**Thumbnailsing each frame**

Once there was a firm narrative the project turned toward the sketching phase. Thumbnails were used to quickly get a rough draft of all frames and pages needed to tell the story outlined in the previous step. Thumbnails in this case meaning tiny sketches no larger than a thumbnail. This was done on paper with a pencil, for the simplicity of use. Banning all use of other pens or erasers because the sketches had to be quick and easily accessible. Reducing the amount of control of the medium ensured a focus on quickness rather than detail.

![Figure 6](image)

**Figure 6:** Frame depicting Jeff calling a clear on the area. Message is key, details are not.

During the thumbnail stage frames could be quickly made, evaluated, and changed or discarded as needed. This method was useful in that it was highly experimental without much loss or time being wasted on each frame. While at the same time giving a great overview of the growing story.
At first the thumbnails depicted frames that would later be used as panels. Since there was no plan for the page layout at this stage frames were developed freely based on the narrative rather than structure. The work went smoothly because of the previous narrative step, where I could work with one paragraph of detailed text at the time, look at what the abstract purpose of the paragraph was, and create frames in accordance with what they had to depict.

When all frames were done it formed a graphical overview similar to the detailed script. With this overview it was also possible to regulate the tempo of the comic. As a novice in comic making the original thought was to give a lot of time, in fact several pages, to setting the scene. To show the readers as much of the background and setting as possible, so that the readers would be familiarized. These first pages were also intended to be entirely silent, aside from background noise and sound effects. During the thumbnail stage it was easy to see how long and useless such a setup would have become. There was nothing to read. Adding animation to such empty frames would have served as a bonus rather than a distraction.

The pages were instead reduced to a couple of key panels that still set the scene but were useful. Additionally taking the scrapped material and making it a narration instead gave the pages something more to focus on.

Figure 7: Thumbnails of consecutive frames displaying the selection process. Crossed or scratched frames were not included in the final product.

Figure 8: Frame depicting Roy ducking as the table flies over head. Sound effects were also tested in some frames to work out spacing and angle of frames. While other notation might refer to a movement the character is meant to display.
**Thumbnailsing each Page**

Once I had a full visual script instead, I used the same technique to sketch out whole pages. Focus now lay on having a functional layout in images. The work was mostly figuring out how many frames from the previous step could be fitted onto one page in a way that would not cram the page with information. Thumbnailsing was also important to give a more complete sense of the flow of the page as well as planning where each animated element could be placed. The animations were intended to increase in intensity throughout the pages, so it was important to know where an animation was placed and on what page it would appear. Example of this would be the pulsing lights of page 1. It was decided that there would be a glowing light source placed at the end of the page, to keep the expected distraction to its absolute minimum.

![Page thumbnails of pages 2 and 3](image)

**Figure 9:** Page thumbnails of pages 2 and 3.

When all frames had been assigned to a page the end result was that the comic would have been 21 pages long. As a precaution I made three pages where I could potentially cut the comic off sooner. In the case of development time running out I could use one of these breaking points and still have enough of a story for the readers to get invested in.

**4.3 Transferring to Digital and Polish**

For this stage it was a simple task of transferring the layout into a digital format. First in the form of reconstructing each page layout with rough blocks of solid colour. Here the focus was on how large proportion of each page any frame would cover. Since the thumbnails had focused on speed, there was a bit of a rearranging between analogue and digital. Where some frames were wider or taller than possible.

![Example of thumbnail and digital sketch of page 3](image)

**Figure 10:** Example of thumbnail and digital sketch of page 3.
Once that was done each panel was sketched in full in a separate document. The essence of these sketches were to get the feeling of the panel from the thumbnail into a larger format that could then be fitted into the blocked out page. At some times where the background was less important it would be given little to no definition, while in frames where the background was most important it was plotted out in full.

However after sketching the panels for page 1, which was mostly heavily rendered scenery, the process was taking too long. In these panels the sketch attempted to convey the frame perfectly, not just the perspective and all the clutter in it such as broken tables or wall ornaments, but also the scrap, the dust, the mold, the derelict state of the room. The time it took to complete the sketch for these panels was not acceptable; one frame took nearly four hours to render. After this realization each frame that would contain scenery was heavily reduced to its essential elements, if elements were recurring they would be directly copied from the previous image. Dust and dirt would be suggested rather than fully detailed.

At one point where a frame was intending to view a wall covered in splattered blood, text was hastily scribbled across it instead as a reminder to add a mess in the lining and polish. Effectively this change reduced the workload from 8 hours or more per page, to three pages in the same time.

![Figure 11: Sketch example of page 1 (detailed) vs. page 6 (essentials).](image)

With so much time having gone into the first few pages focus had shifted at this point toward the first emergency exit in the comic. That I sketch, polish and animate the first seven pages to completion before moving on to complete any other. This choice was made because I figured there was better to have something finished and testable before attempting to push for more.

Moving on to polish instead each sketch was fitted to their panels and then lined. This whole stage was simple and moved along smoothly. After the first two pages had been so heavily detailed the others were kept to the bare essentials, once again to limit the time it would take to finish.
Pages were intended to be polished in steps depending on time, working from the sketch to finished picture with colour and animation. Working in steps like this was a good choice as time constraints eliminated the option of colours almost entirely. I did use a basic grey gradient to give a sense of the darkness in some scenes.

On the subject of shadows I used the gradient overlay first to simply be time effective, and it would look more coherent than any attempts at drawing outlines for the light being cast around. Linework would have resulted in a much muddier frame every time it was used, and because I had to implement animations later I wanted to keep the frames as clean as possible. Aiming for clarity in image I stripped away cluttering shadows when they were not necessary.

![Figure 12: Example of page 1 vs. page 6, sketch to lined level of detail.](image1)

![Figure 13: Page 5, panel 2, arrows point toward the interchanging use of gradient or cross hatching depending on the size of area to depict shadows with less clutter.](image2)
Secondarily I considered the choice of cross hatching for shadows entirely instead. Because I had to animate some of these panels minimizing the amount of lines was a concern. However, I also did not want to spend too much time shading with gradients either, it would be harder keeping an even distribution on the shading as I had already noticed from the first two pages.

Figure 14: Using only one layer of gradient shadow and then cross hatching for depth on page 4, panel 7.

I did end up doing cross-hatching because of how easy it is to manipulate, a few lines suggest enough shadow to give depth to the picture, while on the same time being easily contained to small portions of a frame. Because of how this technique uses space it looks entirely plausible for some frames to have shading and other frames to have none at all.

4.4 Animating

With the comic done it was time to animate. To give the research question the best chance I decided to go with incremental increase of animation. It would start small and well placed to try and give the best possible chance of not being disruptive of the readers flow. After which each consecutive animation would become larger or more frequent in some manner. However due to time constraints and the emergency exit being used some changes were made to the placement of the animations. Certain animations were therefore less well planned, however to keep consistency I did not animate more than one panel a page, as that would be excessive.

Since all pages and all panels had gone through the same process of deliberation in the thumbnailing stage there were reserve plans for animation that had previously been scrapped, those could now be used instead. This removed the element of incrementally making animations more distracting and instead created a mix of animations.
Each animation was created in Photoshop CS in a separate file for each page. This due in part to maintain light, easy to access and easy to work with files. But also because of the way Photoshop handles animation. Most of the pages were made using the frame by frame option. It is quick and easy and gives a perfect detail control over what changes between frames. Most of the animations were from the start intended to be two or three key frames long.

There were differences however, as with Page 3, where the use of the timeline animation was much more suitable. As many layers had to move at the same time, the movements were intended to be more subtle, it was simply more manageable to work based on time rather than frames.

Figure 15: Page 6 animated with the frame by frame vs. page 3 animated with the timeline.

During the process I developed a list of attributes that could be given each animation to ensure that the animated elements were varied from page to page. So that later during testing I could track if there were certain attributes that seemed to cause more distraction than other. The list has the potential to be longer, however the ones listed are the ones that became relevant to the project.

Figure 16: Attributes list

Batinić (2015) said in their study that there were two non negotiable attributes to ensure these animations would not take over the media, those attributed were Short and Looping. Based on what Grossman et al. (2016) theorized on minimizing distraction and seamless looping I also added Continuous. Continuous refer to the speed of pause between the loop, continuous is the
one end of the scale where the pause is negligible or perfectly looping with no pause. As the pause between loops is increased the animation becomes Blinking, and increasing it even further the animation is now Pulsing.

Additionally based on Grossman et al. I added whether the animation is Describing Movement or is Atmospheric. These two are, as used in this project at least, on opposite sides. An animation Describing Movement is in accordance with Grossman et al. (2016) “demonstrating an action” where instead of using consecutive frames to describe a character doing an action, it is made into a an animated sequence. While Atmospheric describes animations that are background elements meant to heighten the mood or describe details in the surroundings.

The last addition to the attributes is Directional. Which simply refers to whether an animation offers direction for the reader. Whether the animation is moving within its panel from one side to another, which needs special care as these could either follow or break flow.

![Attributes: Loops, Short, Slow, Semi-directional, Continuous, Atmospheric](image)

**Figure 17:** Example of animation page 3 based on its attributes.

With these attributes in mind I had greater control of the variation and could increase the animations intensity as need be.

![Figure 18: Made to distract, a still frame of each animation, in the order of least to most distracting.](image)
So that in the end product I had created animations with the intention of blending in as control animations, featured on the left in figure 18, and gradually increasing their intended distraction level as they approach the right side. Animation 1, the pulsing light, is according to its attributes the one animation that should cause the least distraction. It is slow, evenly paced, minimal and covers barely any space on the page. While at the other end are the two animations that are deliberately made to be attention seeking. They contain different attributes on purpose to see that opposing animations can be equally terrible. However to compensate for the difference in movement the door is much larger than the waving arms which places it firmly at the end.

4.5 Pilot Study

A pilot study was performed to test the artefact, 5 participants answered. The survey first presented the comic along with one judgement based question per page where participants were asked to rate their perceived readability of the page. At the end there were a few follow up questions.

A good result from this pilot was that some of the participants picked up on issues within the comic itself. Such as the font being irregular in spacing, and period marks that were floating above the line, or where speech bubbles were animated when they should not.

However with the test the addition of the optional question “Other thoughts?” made it clear that this question in particular was necessary. Most of the pilot participants used the optional question to add on to their reply on previous, writing about why they found certain animations to be more distracting than others. In one case a participant even discussed with themselves as to why an animation was distracting but still functional to them within the comic narrative.

After studying the results both in summary and individually it appeared that the data collected did begin to answer the research questions posed. I had the chance to speak to the participants after the survey and found that most of their answers then were broadly the same as in the survey, sometimes with a deeper explanation. I also found that given the data I wanted, elaborate answers such as would be gotten from interviews were not necessary when participants clearly showed they could restrain themselves to the form of the survey and still give the same answer.

A potential addition based on the pilot would have been to add the optional questions to each page where a participant first rates the page and then might comment on why they thought a page was easy or difficult to read. However with careful consideration to survey length and participation stamina, as there are seven pages to read and every question asked in between actively pulls the participants attention away from the comic, I decided not to do so.
5. Evaluation

For the use in the final study the Google Form survey from the pilot was refined. To view the entire survey please refer to Appendix A. Refer to Appendix B to read the complete list of results.

A total of 23 participants answered the survey before the time of concluding the test.

5.1 Result

5.1.1 The study

The first page of the survey introduced the participants to the form of the study. Participants were told what the study was measuring, that it was anonymous, and that each page of the comic would be presented with one question on readability as well as a few follow up questions. It also informed readers that there would be animated content and that they should ensure their device of choice could display .GIF appropriately.

On the front page there was also one question asking participants whether they had seen or read the comic at a previous occasion. This was a small precaution since some of those who participated in the pilot study, or attended the presentation, had expressed interest in reading the comic again at a later chance.

Following this were the comic pages, in order of 1 through 7, each page asked participants to rate their experience on a scale of Very Easy to Read, through Very Difficult to Read.

On the final part of the survey participants were asked three more questions. Firstly the question, “What did you just read?”, to evaluate reader participation in the narrative. The answer was restricted to 250 words, as the point was to have the participants try to recall it briefly, as an overview, rather than explain every page.

Next was the question, “What are your thoughts on the animations in this comic?”, to try and gauge the participants impressions and reflections on the few animated elements. This question had more space for participants to answer freely with, 500+ words allowed. The question allows for a participant to expand on their thoughts if they should feel the need to.
However as with the pilot study every participant will also interpret the question differently. Therefore the follow up question was, “Which animation was…”, sectioned into three attributes Favourite, Least Favourite, and Most distracting/made you linger, and asked that participants pick one page that fit the best. These questions were intended to see which one page participants liked or disliked, and compare that to their previous general thoughts on the animations.

Lastly the participants were given an optional question of, “Other?”, where they were asked to give thoughts if they felt there were more things they wanted to say but had not been given the space previously to do so. It was proven useful in the pilot study, and left optional for those that might feel they had nothing to add.

**Demographic**

The survey was released on a student subforum of Högskolan i Skövde shared among the students of the Computer Game Development program. These students have a leaning toward the online medium, and there should be an abundance of participants with an interest in animation. The program is divided into graphics, programming, design, music & sound technicians and game writers, the wide variety of expertise would be helpful to collect a variety of answers. These participants stand for the bulk of participants.

To ensure that there were some outside responses the survey was also personally handed out to a handful of people with no prior knowledge of or investment in the thesis. The only requirement was internet access, and a willingness to answer questions after reading the comic. These participants stand for ca. 4-5 of the total amount, and the results are expected to contribute a public reader view of the comic.

The expected demographic range is somewhere between 18-25, due to the controlled manner of the surveys release. Answers received were mainly in English, however among the students answers in Swedish were allowed. Refer to appendix B to read all answers.

**5.1.2 Answers**

**Question 1: Have you read or seen this comic previously?**

None of the recorded participants had read or seen the comic prior to the survey.

**Question 2: Rate the readability of the current page (7 parts).**

The answers are presented in a table 1 below, page by page. Each section of the table starts with page number and the consensus of the participants. Included are also short descriptions of the layout, and animation of current page being evaluated.

The overall result is that all pages were varying degrees of Easy to read.
**Tabel 1:** The table depicts the survey answers in the order of page, a description of the page, and the participation distribution. Highlights depict the weighting of the majority.

<table>
<thead>
<tr>
<th>Page 1: Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comment:</strong> The animation on this page was a small, slowly pulsing light in the final panel of the page. The layout was fairly standard with a somewhat larger amount of text.</td>
</tr>
<tr>
<td><strong>Very easy</strong></td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page 2: Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comment:</strong> The animation on this page was a pulsing door, the frame was approximately one third of the page, the animation covered a considerable part of the panel. The layout was very simple with little amount of text.</td>
</tr>
<tr>
<td><strong>Very easy</strong></td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page 3: Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comment:</strong> The animation on this page is a subtle shift of light rays and particles floating in the air. The frame covers approximately one third of the page. The layout is fairly simple with little amount of text.</td>
</tr>
<tr>
<td><strong>Very easy</strong></td>
</tr>
<tr>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page 4: Somewhat Easier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comment:</strong> The animation on this page was glints of metal in the same frame, located on the centre left side of the page. The tip of the crossbow bolt glints, while the other glint moves from the top of the helmet down to the back. The page layout is fairly standard, with a larger amount of text.</td>
</tr>
<tr>
<td><strong>Very easy</strong></td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page 5: Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comment:</strong> The animation of this page was an unevenly flickering light, including subtle sparks coming out of the device. The layout is approximately one half and two quarters page, where the animation is located in the center of the page.</td>
</tr>
<tr>
<td><strong>Very easy</strong></td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>
**Page 6: Easy**

**Comment:** The animation is relatively small, a character is waving their arms and calling for attention located on the right end of the first row. The layout is simple and approximately in thirds with the second and third panel merged into one. The page starts word heavy though in total is only moderately worded.

<table>
<thead>
<tr>
<th>Very easy</th>
<th>Easy</th>
<th>Somewhat Easy</th>
<th>Somewhat Difficult</th>
<th>Difficult</th>
<th>Very Difficult</th>
<th>Don’t know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>9</td>
<td>7</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23</td>
</tr>
</tbody>
</table>

**Page 7: Somewhat Easier**

**Comment:** The animation is a static vibration of two identical images overlain on top of each other moving independently. It has a continuous movement that takes hardly any space, though the entire frame is approximately one third of the page. The layout of the page is simple thirds: a third of the height per row, and a third of the width for one column of reaction frames on the left side. The page contains a larger amount of words spread out across the panels.

<table>
<thead>
<tr>
<th>Very easy</th>
<th>Easy</th>
<th>Somewhat Easy</th>
<th>Somewhat Difficult</th>
<th>Difficult</th>
<th>Very Difficult</th>
<th>Don’t know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23</td>
</tr>
</tbody>
</table>

**Question 3: What did you just read?**

This is a control question. The purpose is to confirm the answers of the previous pages on whether the comic was easy to read and follow along with the narrative. Varying degrees of detail in the recount are expected due to individual experiences, however most participants could answer adequately.

The types of responses can be categorized as: a Summary of events, High Concept of the story, and Technical Detail in which the participant nearly recites the comic page by page. These participants pass the control if they show enough detail or specific enough detail that they must have read and comprehend the situation in the comic.

**Table 2:** Examples of participant answers of each category of detail. Typo’s have been corrected, refer to Appendix B for original answer.

<table>
<thead>
<tr>
<th>Summary</th>
<th>High Concept</th>
<th>Technical Detail</th>
</tr>
</thead>
</table>
| “Mutated animals from a post-apocalyptic world discovers "ancient" human city”  
  Participant #1 | “Critters loot a research lab”  
  Participant #3 | “A squid-like creature ventures alongside three feline companions into a long forgotten subterranean city built by higher beings to search for treasure. They find worrying signs of battle but the cat-creatures decide to conduct further [investigation].”  
  Participant #5 |
There were a few answers that were either too vague, had the required detail but presented in a manner of question, or otherwise specified issues with comprehension. This means that each of the selected participants will need closer study of their individual answers before moving on.

**Table 3:** The 6 answers that are considered too vague, or describe issues in their own comprehension. Typo’s have been corrected, refer to Appendix B for original answer.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2</td>
<td>“Apparently humanity is dead since long ago. These [creatures] are searching for things made from those days when humans still were a thing. “</td>
</tr>
<tr>
<td>#12</td>
<td>“looks like the start of an exploration of a very old ..ancient? human? place something bad must have happened and [they’re] trying to find neat things to [scavenge] i guess maybe technology of sorts..”</td>
</tr>
<tr>
<td>#13</td>
<td>“Animals in a post-human-apocalyptic setting exploring. I'm gonna be honest though I was so focused on analyzing the font placement I didn't retain the story as well as I could have, and that's probably not the fault of the comic.”</td>
</tr>
<tr>
<td>#15</td>
<td>“Treasure hunt with talking animals”</td>
</tr>
<tr>
<td>#17</td>
<td>“A tiny mystery! :D”</td>
</tr>
<tr>
<td>#18</td>
<td>“That humans messed up the world”</td>
</tr>
<tr>
<td>#21</td>
<td>“A group of anthropomorphic animals investigating a new place.”</td>
</tr>
</tbody>
</table>

**Question 4: What are your thoughts on the Animations?**

The purpose of this question was to catch the reaction participants had toward the animations. The expected result was that participants would mention anything they found deviating, such as if they felt that the animations were distracting.

First the comments were divided into whether the participant had a positive or negative view on the addition of animations in the comic. There was a small number of participants that gave no sense of their stance, as well as one mixed result.

**Table 4:** Broad evaluation of reaction toward animation.

<table>
<thead>
<tr>
<th>Positive</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed</td>
<td>1</td>
</tr>
<tr>
<td>Negative</td>
<td>1</td>
</tr>
<tr>
<td>Ambiguous</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
</tr>
</tbody>
</table>

**Table 5:** Comparative frequency of a thought among all participants.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Distracting</td>
<td>10/23</td>
</tr>
<tr>
<td>Quality</td>
<td>7/23</td>
</tr>
<tr>
<td>Emphasis</td>
<td>8/23</td>
</tr>
<tr>
<td>Unnecessary</td>
<td>5/23</td>
</tr>
</tbody>
</table>
Table 5 attempt to quantify the frequency of a thought that participants shared since not all participants used the exact same words to mean the same thing. *Distracting* refers to whether a comment expressed difficulty focusing on the text or that they were attracted to look at the animation instead. *Quality* measures those participant that comment on the quality of the animations, or the overall quality of the comic. *Emphasis* refer to comments that the animation added to the narrative expression in some manner. While *Unnecessary* refers to any comment that suggest the animations did not contribute to the narrative expression.

An example of how the table works would be the entries of participant #17, and #20, who both comment on the perceived element of distraction:

“[...]To maybe have some longer pauses between the movements would make sure that the eyes didn’t constantly flicker to the movements instead of the speechbubbles? [...]” - #17

“[...] P6: Got very distracted and had a hard time to read the text on previous picture. [...]” - #20

For all answer refer to Appendix B.

**Question 5: Which animation... favourite/least favourite/most distracting?**

The participants were given Figure 19 below depicting each panel with animation in it so that they could easily recall what page they were thinking of. The image contains still frames of each animation to ensure easy, and quick viewing.

![Figure 20: The animation page index used in the survey for question 5.](image)

Each question was part of the same table and gave participants the option to choose one out of any of the pages, or none at all. The majority of participants *favourite* was the second page animation, with a shared second of the pages 3 and 5. Only one participant had no favourite.
In the question of least favourite the majority chose an animation, though the range of dislike was wide. Meanwhile many opted out of that choice entirely.

The animation deemed most diverting of attention was page 2, and second option was page 5. Once again a number of participants chose not to answer this question though the majority could choose.

![Figure 21: Table of results on each subcategory of question 5, divided and coloured by page.](image)

**Optional Question: Fill in if you would like to add something.**

The addition of this question was already discussed in the pilot test, and was essentially a second chance for participants to talk freely about the comic, the animations, and any other thoughts they might have had now that they had completed the survey. Similar to the pilot participants discussed certain animation or added an expansion to their thoughts from previous questions.

Out of twenty three participants eight chose to use this space.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>“Subtle animations like nr 3 felt too forced and at first i didn't notice it was animated, so it was very out of place. The animations should have a purpose to convey emotions or things that drastically moves.”</td>
</tr>
<tr>
<td>#2</td>
<td>“The door exploding animation was very good, but it does make your attention go there instead of reading the story. It takes up too much attention. And since it repeats itself, the ongoing animation, it makes it hard to not focus on that.”</td>
</tr>
<tr>
<td>#11</td>
<td>“i hope this comic continues, wanna know how it ends”</td>
</tr>
<tr>
<td>#13</td>
<td>“I’m not sure I noticed all the animations, but the lines through the ‘sniff’ bubbles on page 3 made them very difficult to read even not noticing anything was animated there. Bigger issues for me were the inconsistency of the font sizes, the perfectly oval speech bubbles that left so much unused white space making the word alignment feel sporadic and distracting, and the font used being just a bit less crisply legible than it could have been.”</td>
</tr>
<tr>
<td>#17</td>
<td>“I also really loved page 2!”</td>
</tr>
<tr>
<td>#18</td>
<td>“Text was very small near page 5/6 and hard to read due to it”</td>
</tr>
<tr>
<td>#19</td>
<td>“Just in general the comic was AMAZING. I’d definitely read more”</td>
</tr>
<tr>
<td>#21</td>
<td>“Page 2 was a perfect example of the animation adding a lot to the page. It brought out the feeling and made it stronger. Page 4 was pretty useless. I found the shine animation more distracting than anything else. It made it difficult to focus on the words. Page 6 was simply a somewhat bad animation. The speedlines around the arms were too long and weren’t consistent with the movement which gave the strange illusion that the character had bat wings.”</td>
</tr>
</tbody>
</table>

### 5.2 Analysis

#### On Comprehension

The control question helped highlight readers who might have had issues with the narrative for one or other reason. Most participants could manage enough level of detail that shows they understood the narrative. Some of the key words when reviewing the answers were; research lab, bunker, post-apocalypse, team or squad, treasure/loot/technology, scenes of violence.

Because of this participants who vaguely stated: “critters loot a research lab” show enough comprehension of detail, the specifics of research- or medical-lab was never in text but in the details of the pictures.

Meanwhile participants who vaguely said: “Treasure hunt with talking animals” is much less conclusive. Treasure hunt is mentioned already on the first page, the one that most participants agree is the easiest of all to read, and talking animals is the main feature of the pages regardless of what they are saying. The answer shows little to no detail or understanding of the narrative, no mentions of bunker, research lab, or even the clues toward the end.

To that end none of the answers are explicitly wrong, however something like that of “a tiny mystery! :D”, to quote participant #17, while correct is equally devoid of detail. The only certainty we have from this answer is that participant #17 is positive toward the comic, and that they could sense that the story had not come to a close.

**Animation = Distracting = Harder to read?**

The initial suggestion of the data given is that the animations in this comic do not severely impact the reading comprehension. As the majority of participants continued to agree that most of the pages were easy to read.

While comparing the results of readability to the different attributes of each animation, mentioned in Chapter 4.4 Animating, participants confirm that the majority still read the page
with ease. However they begin to show tendencies toward certain attributes within the animations increasing the difficulty of focusing on the page.

**Table 7**: Attribute distribution based on page. Page number indicates the animations in which the attribute is present. The scores per page is the results from the survey: Very easy, Easier, Somewhat Easier, Somewhat Difficult, Difficult, Very Difficult. At the bottom is the average of each score.

<table>
<thead>
<tr>
<th>Page #</th>
<th>Readability</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.E</td>
<td>E</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Av</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page #</th>
<th>Readability</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.E</td>
<td>E</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Av</td>
<td>4.66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page #</th>
<th>Readability</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.E</td>
<td>E</td>
</tr>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Av</td>
<td>6.33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page #</th>
<th>Readability</th>
</tr>
</thead>
<tbody>
<tr>
<td>V.E</td>
<td>E</td>
</tr>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Av</td>
<td>5.25</td>
</tr>
</tbody>
</table>
Most of the animations have a very small curve where it begins high, often grows a little higher and then quickly dips. However certain attributes show a tendency for a longer taper on the curve. In the case of Directional the curve is fairly steady as it declines, showing the expected tendency that directional animations cause issues with attention.

Meanwhile Blinking - Pulsing have a long taper, these are also among the more difficult to read. While pulsing (page 1-2) has a steady spread of participants who found it more difficult, the blinking (page 4-5) have a slower decline on the curve.

Continuous is a steadily difficult attribute, however in the individual page results it becomes clear that continuous is very dependent on which other attribute it is paired with, and also how “continued movement” is considered. In this survey continuous was meant to oppose blinking and pulsing, that the animation did not have a clear end or start. In the case of page 5 it overlapped with blinking, and shows that this is among the worse attributes to combined.

Particularly interesting is the attribute Atmospheric, although the difference is small and the tendency could be negligible, it is the only attribute which has a value on the Difficult side of the scale higher than one of the values on the Easy side, creating a valley in the curve.

On the subject of Question 4

The overall reaction to this animated comic was heavily leaning toward the positive. It is an interesting statistic to find how many participant expressed positivity at the same time as they called the animations distracting. Especially in the case page 2, the booming door, where multiple people said both that it was the most distracting yet took a very positive stance to it.

As for necessity and the comments that brought it up, most participants agreed that animations were useful so long as they contributed to the narrative. Whether the thought was expressed positively or not the clear idea is that they should serve a function. In cases like page 2, the divide in participants expressing that while it was distracting it was effectful show that readers are willing to overlook it, if it fits the narrative. Comparatively is page 4, the animation passed the participants as “bland”. Page 4 was not distracting or annoying enough to qualify among the
worst, however still managed to repeatedly show up in comments that it specifically was "unnecessary".

It is also worth mentioning page 3, the dancing lights. It was among the most difficult to interpret for the participants. The answers suggest that it was a misinterpretation that made it more distracting. Because participants could not figure out its intended purpose or what it was depicting they saw it as pointless and "flashy".

Lastly there were a number of particularly interesting comments that refer to specific theories mentioned in the background.

**Table 8:** A number of unique answers to question 4. Typo’s have been corrected, and Swedish comment have been translated, refer to Appendix B for original answer.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>#4</td>
<td>“[They were distracting, however after I got used to them they were at least pretty.]” *</td>
</tr>
<tr>
<td>#6</td>
<td>“Very interested way of &quot;modernizing&quot; the comics. However, they might be a little distracting when trying to focus on the current text being read. That being said, they were very cool!”</td>
</tr>
<tr>
<td>#8</td>
<td>“Mostly [unnecessary] and a little bit [jarring] against comic-[convention]. Some [were] just adding a little extra “this looks more fancy” feel, but not much more. Some I would say pretty confidently would have worked better with more traditional comic-tricks than animation, like for example page 4 and 6, where the animation mostly where more distracting rather than something that added anything of real value.”</td>
</tr>
<tr>
<td>#13</td>
<td>“The animations are a great touch, generally pretty subtle or otherwise unintrusive while adding an extra air of life and making use of the webcomic medium in a way that sets it apart from traditional comics, without making it so reliant on the animations that a printed version would be implausible.”</td>
</tr>
</tbody>
</table>
| #20         | “P1: [Subtle], [can’t] really remember the animation.  
P2: Easy to understand but made it hard to focus on the other sections.  
P3: Soothing, though i got distracted since i could not understand what the nose was at first.  
P4: Nothing in particular.  
P5: Felt nice.  
P6: Got very distracted and had a hard time to read the text on previous picture.  
P7: Was ok, though i saw that before reading anything else so lost the context before i saw it.” |

* Answer(s) that have been translated from Swedish.

Participants 6, 8, and 13 all refer back to similar ideas as those of Chapter 2.1 Comics and the Web. Participants 6 and 13 mention modernizing the comic-medium with a positive attitude, the two participants seem to see a potential with the online form. Their claim is that while there are still some flaws it is an interesting new format that the media can investigate. Participant 13 also specifically mentions how the comic was not so reliant on the animations that it could not have worked without them, which they thought was good.
It is therefore interesting to also have participant 8 take the opposing view, in the negative sense saying that animation is not worthwhile for comics and that it was mostly an attempt at making the comic more flashy than actually contributing to the medium.

Participant 4 left a comment that sounds very much like the theories of Smith & Kosslyn (2009:139-143), in that the more a reader becomes used to animations the less noticeable or distracting they will become.

Participant 20 gave a detailed and separate answer for each animation and page. Commenting like this makes it easier to understand their thought process and makes it clear that not all animations were equally distracting. It shows that some animations were considered more acceptable, while others might have been more impactful while still contributing a lot of distraction. This comment also highlights a flaw in the survey, as the participant felt it prudent to create a structure of their own in which to answer this with.

**Intended vs. Perceived**

In chapter 4.4 *Animating*, the animations were listed on a spectrum of “intended least to most distracting” based on the theories presented in the background as well as attributes discovered in the animations.

Comparing this intended spectrum to the answers on the question of “most distracting”, as well as taking into account the answers in other questions, the scale comparison looks more like this.

![Intended vs. Perceived Animation Comparison](image)

**Figure 22:** Animations lined up in order of intended, below is the order of participants most distracting.

The result is taken from question 5 for the base value, and then adding the evaluation of specific mention in comments which shifts the weighting of preference.
This part of the study was intended to test the theories in the background, specifically that of
2.2.1 *How to Animate Comics*. Comparing the intended line with the results it seems to confirm
that the guidelines “to predict level of distraction” works. Though with some small deviation in
expected contra perceived. A noticeable difference is page 6, where the expectation was always
among the worst, however it ends up in the middle range only due to comments that single it
out. The results becomes vague beyond the extremes, which indicate another flaw within the
survey.

5.3 Conclusions and Tendencies

Tendencies shown by the survey is that as readers are willing to give animated comics a try.
While this study is far too short to make any conclusions with regards to longevity of the format,
participants show a mostly positive attitude toward the concept.

The conclusion of the data as found in twenty three participants is that animations did not in a
significant way harm the reader comprehension of the comic. Participants could display an
adequate response to the competition of attention within the comic and focus on the narrative
despite the best attempts of the animations. Participants showed that they could adapt to the
animations given the time to do so, and the frequency of their appearance, enough so that they
could ignore the movement long enough to continue reading.

A certain conclusion is that the theories appear to be able to predict the reception of animations.
Whether it be based on attribute or where it is placed and what it depicts, the results concur with
the theories. There are tendencies among the perception of the animations that certain
attributes will cause more distraction than others, and that certain combination of attributes are
more so than others. Some of those tendencies worked as expected, while leaving some room for
other new and interesting perspective of the attributes.

Another conclusion is that the survey and artefact have flaws that need reviewing. The artefact
needs more care when formatting text, choice of font, and size or shape of speech bubbles as a
number of participants pointed these out specifically. Including an early test phase where the
comic is presented without animations could have helped root out these issues. As the intended
control answers should have been that every page was “Very Easy” or “Easy” to read. The
intention was always that animations were supposed to cause the drop in difficulty, not the text.

The answers also shows flaws within the survey with regards to the question of favourite and
most distracting. The option of *none* paired with some of the answers in other questions shows
that a much better question would have been a grading scale, where participants would have had
to put each animation on two scales instead. Most to least liked, as well as most to least
distracting. These answers would have, in the end result, been more conclusive than the ones
received here.

Though the answers are in no way conclusive, in part because of the sample size, and in part
because of flaws within the artefact that might have caused pollution of answers, the
participants do give an interesting view of the technical aspects of animated webcomics. Which suggest that there are indeed favourable ways of avoiding distraction and still use animated elements. While at the same time participants show that a little distraction can also be exactly what that page needs for narrative emphasis.
6. Concluding Remarks

6.1 Summary
This paper aimed to examine the potential benefits or issues with including animated elements in a webcomic. To explore whether there is some benefit to the narrative expression, contra the potential loss of reader attention as they struggle with the new element of distraction. To answer the research questions a short comic was created where certain panels were animated. Before official testing began there was a smaller pilot test to prove that adequate results could be got from the artefact. The pilot test was made as a survey, and showed that the questions would indeed return desired results without the need for a longer interview.

In the official survey twenty three participants answered, the majority of which were students at the university, and a handful of participants outside of the university with no prior knowledge of the test. The participants were first tasked to read each page and subsequently rate the readability as they moved along, after which they were given a few follow up questions where they were asked to specify their thoughts on the animations.

After a presentation and analysis of the results the conclusion is that in the comic made for this paper participants were not significantly affected by the inclusion of animation. Though at least half did specify that they felt distracted to some degree. There are tendencies within the result that show certain attributes of animation become more of a problem than others. As well as the surprising result that most distracting does not always mean worst.

The result in the end is that there is need for more study on the subject. The paper concludes that the guidelines of what is considered acceptable animation for the comic media works, and that they can be used to somewhat accurately predict what attributes or which animation will become distracting to a reader.

6.2 Discussion
What the results of this paper bring to the discussion is perhaps not world changing for the media of comics. It was never intended to take a stance on whether animation belongs in comics or not. But rather because there is a debate and creators out there go ahead and experiment regardless, the study aims to bring a more informed way of adapting the use of animation.

What the study has managed to show so far is that the subject of animations within comics and what they contribute to the medium is not a given positive or negative. There are aspects on both sides to consider, both in reader appreciation and reader engagement. With the addition of movement an author can not avoid the subject of distraction and attention, however they will have to consider the Intentional vs. the Unintentional aspects of it. This paper also begins to provide linguistic tools to discuss animation within comics, as they are different from how we think about animation with regards to moving picture. And I believe this shows that with the
right consideration, the proper precautions and execution, a comic author could use animation while staying true to the comic medium and create something new.

6.2.1 Purpose

Are animations a worthwhile investment for comic book authors? For those who work with the web as their main source of distribution it is an alternative. But the question of whether it should be, or what kind of long term effects it might have are as of yet undefined. This study cannot stand for any comments on the potential longevity of animation in comics, but it can bring some answers that might help individual authors decide for themselves whether they want to experiment with the format or not.

Starting with the subject of purpose, the survey brought up the question on whether animation actually has any place within comics. A few participants could agree that the animations should have some form of purpose, whether it be emphasis or clarity. While there was some speculation to the opposite that animation have nothing to do with comics at all, similar to that of McCloud (2000), in that the animations did not and could not bring anything to the comic that the comic could not have done better in a more traditional manner.

Considering the format of comics, and the rules that Batinic (2015) outlined with regards to the comic media and how animations could be added while remaining respectful of the line, it is easy to take the side of opposition. It is easy to say that animation contributes nothing, that if the comic could be expressed without the animation then what was the point of adding any? The author of a comic would also have to consider the use of animation in conflict with their mode of distribution. Many still choose to make a printed copy of their webcomic, if animated comics would like to do the same it would have to do so in a way where the animation could be removed, which further questions why they would be added from the start.

“\textit{A medium’s content may shift, its audience may change, and its social status may rise or fall, but once a medium establishes itself as satisfying some core human demand, it continues to function within the larger system of communication options.}”
(Henry Jenkins, 2008)

What I would like to argue is that limiting the option of experimenting by saying that it does not belong in the media does not contribute to the debate. It is exactly what Henry Jenkins (2008) says about the convergence of media, it is unpredictable as of yet because it is still happening. Because of how new the subject is we do not yet fully know whether animation has a place in comics or not, we cannot say what it has the potential to contribute or whether it should be considered distinctly different. And such arguments against animation in comics cannot be based off of a test with the limited sample size such as this paper alone, both in consideration of animations and participant reaction. What this paper does shows is that readers of comics are willing to try it out, excited for the potential of animations, and that there are ways in which it can be done that will defy expectation.
“Old media are not being displaced. Rather, their function and status are shifted by the introduction of new technologies.” (Henry Jenkins, 2008)

6.2.2 Animation

As for the animations the study can conclude that the process requires the author or illustrator to look toward their inclusion down at the very core of the comic. Adding animation is no simple task if they are supposed to have more purpose. An animation has to be planned before creation so that it considers the matter of flow, attention, and clarity of the page. The point is that the author needs to be aware of their intent with the animation, if an author considers these aspects then reader reactions will be easier to predict.

What animations can be used for within comics, and where there are acceptable uses, needs more investigation. Grossman et al., (2016) had some suggestions for animation use in scientific articles that seemed to correlate toward comic standards. Grossman et al. suggested the uses of animation to be for clarity and effectiveness. That an animation could take what would be a longer sequence of images and make it shorter. Which seems to work perfectly with what McCloud (2006) had to say on clarity in comics. The point of clarity is to make the message of the comic as unmistakable as possible. So for clarity and effectiveness a longer sequence of motion could be turned into a single animated gif. We could instead of watching a sequence of images depicting a man walking through night and day, have an animated loop depicting a man walking as the sun and moon rise and fall. The message would be the same as audience watch the day and night cycle pass, though all together it would be more effective on the page. To the author the difference is a matter of space which is always something to be considered.

However the same animation might drastically change the expression of the page for each individual reader. It comes down to a matter of attention. As the expression changes the illustrator would have to consider not just how the animation is affecting their end of the comic, but also how the audience might react to the animation. As pointed out in earlier chapters, attention is a competition of the brain that is constantly being judged (Smith & Kosslyn, 2009). As such the illustrator must now take intended vs. unintended distraction into consideration. How will this animation effect the expression of the comic, based on how long a reader pays attention?

And then attention becomes an argument of flow (McCloud, 2006). In the hypothetical example of a man walking through a day and night cycle, the expression of the frame changes with how long a reader stays to watch it. The man could be walking for a single day or night, if the reader is quick. Or the man could walk for a hundred days, if they stay to watch it for a long time.

It becomes another aspect for the author to try and predict. On this at least McCloud and Smith & Kosslyn agree, there is no one certain way to control a reader to behave as desired. The author of a comic cannot themselves control how much or little time a reader will spend on the animation. However, with practice, it might become easier to predict and steer.
The need for words

If animation were to enter the medium of webcomics then there is need for a new set of terms. This is an observation stemming from trying to work with it, trying to quantify and measure animation in a way which could separate them from each other. In the toolkit of animators there are such works as that of Rudolf Laban (1994) or Disney animators Thomas and Johnston (1995), where animation is discussed down to the essentials. They give animators everywhere terms for how to describe an animation in motion. Where Johnston and Thomas discuss the technical details of how to create good animations that feel real, Laban’s work is on the essential attributes of motion. However neither of these theories work when put in the context of comics.

It is difficult to discuss with peers what the particulars of the animations are in works like comics. Terms like *anticipation* and *weight* become increasingly weak when the animations work under strict confines of time and how repeatable they are. It comes down to the rudimentary differences of two media. Animation language is adapted and centered around moving picture. Comics are centered around sequential art and the more an animator thinks about the differences the more evident the standpoints of McCloud (2000), Batinic (2015), and others who voice in opposition become. Once again the animator might be haunted by the thought that animation has no purpose in comics, because it defies the core of what comics are. To break apart animation so that it might fit within the strict limitations of comics begin to break apart what makes animation unique.

The language of an animator is not yet adapted toward comics. There is a severe need for it if this subject would be taken further. There is a need to be able to discuss variation in animations, there needs to be terms and attributes that can be consistently quantified and discussed. This paper has made an attempt at creating some easily understood terms that will hopefully bring some level of clarity. In this attempt the work of Grossman et al., (2016) contributed their mode of classification, and a system could develop around it. But I will admit that it is lacking and that it has flaws.

6.3 Future work

**Demographic**

I argued previously that data points such as *age* and *gender* were irrelevant to answer the research question, and I still hold that they are for this narrow scale of work. However, for future studies *age*, or *internet usage*, could be more interesting. Comics are not exclusively read by any certain age bracket and the tested age group in my work may not have the same reaction as others.

Internet usage is a useful measurement as with Smith & Kosslyn (2009) theory that the competition of attention is a matter of practice. It would be an interesting aspect to see what difference in tolerance levels there might be among different age brackets and usage frequencies. If the matter of daily exposure even plays a part in how distracting an animation would become,
then would users who frequent the internet be more adept at reading animated comics with ease? Is it obvious to suggest that given the nature of the internet, with pop-up, motion or even sound ads, that people who frequent the internet often would be better at reading a comic with animation? What if they, because of their daily usage, have developed heuristics in which they cannot fully appreciate the .gifs because they breeze past them as something distracting and annoying. Perhaps those who do not frequent the internet would in fact be better at controlling their attention and be more decisive in where to look, so that they can ingest the information one at the time.

Similarly you can argue that perhaps it is a matter of practice, or willingness to experiment. And perhaps in combination to internet usage, the age brackets could play a part in how readers take in the new format.

**What’s the next step: Animation**

There are several ways in which this paper could be expanded upon in terms of animation. These animations are black and white with some level of shading, or specifically working with light as the source of the animation. Suggested continuations of these animations are to add colour, to exaggerate and define the borders of when animations begin to really impact readability of a page, as well as looking at the longevity of animated comics.

First of all would be the complete lack of colour. Initially the study included one animation with colour out of oversight. The colour was included not because of any theory other than that it would be more noticeable. Toward the final testing the colour had been removed. Colour was never something discussed in the sources, colour became an uncontrollable variable. Shading had been considered, light sources had been considered, but not colour. What will colour do for the contest of attention (Smith & Kosslyn, 2009), how will it affect the flow of the page, or indeed the intensity of the page (McCloud, 2006)? In an comic like the one presented in this paper, where colours are very limited, a animation using colour as a way of drawing attention could with some certainty become striking if used correctly. There are colour theories and there are examples of similar content that authors could draw upon for inspiration. A great example of how effective colour could be in a colourless narrative, is the movie *Schindler’s List* (1993), where in the only colour, red, is sparingly used for important narrative moments. The colour is also constrained to one object on the screen, and such a stark difference could create an interesting dynamic if used in a comic with animations. Just as well as an animation shifting in colour could be effective at describing the change of a mood or the change of pace in the comic.

> The competition that takes place between possible inputs occurs in multiple different brain regions. For example, competition in earlier areas of the visual system will tend to be influenced by exogenous factors such as color and motion.
> (Smith & Kosslyn, 2009)

Secondly I suggested a future work could push the animations in the test. I was rather conservative in my approach to the intensity of the animations. I felt it more important to find a way to talk about and quantify properties within the animations that could be considered
distracting, and create a framework of measurement. It is far too easy creating something disruptive on purpose; flashing lights and neon colours with high density of pixelation comes to mind. Without proper tools to talk and measure with it means nothing. So future works could definitely benefit from a further study of where the boundaries are. When will an animation truly start to agitate the reader too much. When will animation become more of a trouble than help? A study which takes this approach should also consider more ethical viewpoints of where boundaries should be met. Epileptic warnings come to mind, the purpose of the animations should always strive to be enhancement of the medium. Not to cause harm.

Lastly I can definitely see the use of further investigation into the so called wow-factor. With that I mean what the potential reader stamina or interest might actually be for animated comics. What is the reader reaction under an extended exposure to an animated comic. Will there be a fatigue toward the concept, is it just because the animation is new and exciting or is there something to the expression that could contribute longterm to the medium as a whole. A future study like this could look into different approaches to reader stamina. Such as frequency of animated elements, how often is an animation acceptable? Is one standard animation per page acceptable, too conservative or too liberal? What if the whole page is animated, contra one animation per three or more pages, there is a whole range of options toward testing the limits of reader interest and stamina.
References


Appendix A
The Survey

Readability of Comics

Hello and thank you for participating. In the this survey you will be reading a short excerpt of a comic. There will be one page at a time followed by one question. Toward the end there will be a couple of further questions.

Please be aware that the following pages contain animated elements. Please ensure your device can show .gif

The artefact was made at Högskolan i Skövde, Sweden

* Required

Have you read or seen this comic at a previous occasion? *
Please answer honestly. If "YES" note that your answer might be disqualified. Feel free to read the comic anyway!

〇 Yes
〇 No

NEXT

Never submit passwords through Google Forms.
So where are we going?
Somewhere Old, and Dark,
From before the world died.
You’ve heard of the ancients?
Yah.

It’s a forgotten place where those who
cassid the end of the world hid.
Hoping to wait for the storm to pass.

I thought the ancients were human?
They were. They built great cities underground, awaiting the day they
could return to the surface.

Why are we going there?

What else, treasure. The ancients
technology is practically magic.
worth as much as a whole city.

Oh!

What if it’s forgotten,
how did we find it?
... *sigh*
Final Questions

What did you just read? *
In 250 characters or less, describe the narrative of the comic.
Your answer

What are your thoughts on the animations in this comic? *
Your answer

Which animation ... *

<table>
<thead>
<tr>
<th>Page 1</th>
<th>Page 2</th>
<th>Page 3</th>
<th>Page 4</th>
<th>Page 5</th>
<th>Page 6</th>
<th>Page 7</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Other?
Write here if you would like to add something that is not covered by other questions.
Your answer
Appendix B
The Answers

Have you read or seen this comic at a previous occasion?

23 responses

Page 1/7

Page 2/7

Page 3/7
What did you just read?

<table>
<thead>
<tr>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mutated animals from a post-apocalyptic world discovers &quot;ancient&quot; human city</td>
</tr>
<tr>
<td>2. Apparently humanity is dead since long ago. These creatures are searching for things made from those days when humans still were a thing.</td>
</tr>
<tr>
<td>3. Critters loot a research lab</td>
</tr>
<tr>
<td>4. Ett gång karakter som skulle undersöka en bunker lämnad bakom av utdöda människor. A squid-like creature ventures alongside three feline companions into a long forgotten subterranean city built by higher beings to search for treasure. They find worrying signs of battle but the cat-creatures decide to conduct further investigation.</td>
</tr>
<tr>
<td>5. A story about scavenging an ancient place for treasures.</td>
</tr>
<tr>
<td>6. A gang of 2 ferrets, a squid and a tiger looking for treasure in the form of technology from an ancient race.</td>
</tr>
<tr>
<td>7. Some kind of future animal hybrids enters a bunker from the old times of human civilization. It ends up being some kind of hospital/experimentation-place. They have some small talk introducing the characters.</td>
</tr>
<tr>
<td>8. Some scavengers make their way into an old vault in what seems like a post-apocalyptic setting. Some of them argue about cautiousness until they find signs of violence.</td>
</tr>
<tr>
<td>9. A group of anthropomorphic animals exploring human ruins in a post-apocalyptic world</td>
</tr>
<tr>
<td>10. A story of a pack of animals going through an old factory looking for &quot;treasure&quot; of old research lab and finding something ominous.</td>
</tr>
<tr>
<td>11. Looks like the start of an exploration of a very old... ancient? human? place something bad must have happened and they're trying to find neat things to scavenge, I guess maybe technology of sorts...</td>
</tr>
<tr>
<td>12. Animals in a post-human-apocalyptic setting exploring. I'm gonna be honest though I was so focused on analyzing the font placement I didn't retain the story as well as I could have, and that's probably not the fault of the comic.</td>
</tr>
<tr>
<td>13. In what seems to be a post-apocalyptic world, a group of animals try to find underground cities from a people called the ancients.</td>
</tr>
<tr>
<td>14. Treasure hunt with talking animals</td>
</tr>
<tr>
<td>15. A comic about a bunch of animals investigating a bunker.</td>
</tr>
<tr>
<td>16. A tiny mystery! :D</td>
</tr>
<tr>
<td>17. That humans messed up the world</td>
</tr>
<tr>
<td>18. A search team made up of anthropomorphic animals search an underground city left behind by humans. We are left with a trail of blood as a cliffhanger.</td>
</tr>
<tr>
<td>19. Animals with human traits venture down into an old fallen human civilization underground to find technology that are worthy treasure.</td>
</tr>
<tr>
<td>20. A group of anthropomorphic animals investigating a new place.</td>
</tr>
<tr>
<td>22. Some sentient animals explore a post apocalyptic ruin.</td>
</tr>
<tr>
<td>23.</td>
</tr>
</tbody>
</table>
What are your thoughts on the animations in this comic?

23 responses

1. Some were distracting, others fit in to the narrative

2. I did not expect animations. When I noticed them I thought it was a cute little touch, and very charming. Some of the animations I missed, but the ones I saw were still satisfying.

3. Didn't think much of it.

4. De var distraherande, men efter att jag vant mig sås var de lallafall fina.

5. The Gif-animations were not at all necessary but a welcome creative addition.

6. Very interested way of "modernizing" the comics. However, they might be a little distracting when trying to focus on the current text being read. That being said, they were very cool!

7. The big ones were really distracting, where as the subtle ones were more enjoyable and added atmosphere.

8. Mostly unnecessary and a little bit jarring against comic-convention. Some where just adding a little extra "this looks more fancy" feel, but not much more. Some I would say pretty confidently would have worked better with more traditional comic-tricks than animation, like for example page 4 and 6, where the animation mostly where more distracting rather than something that added anything of real value.

9. They make it more dynamic and visceral, although sometimes they distract from the reading.

10. Some added to narrative (2) whereas others seemed unnecessary (4) or distracting (6).

11. Never seen comic like it. It was new experience for me and liked it.

12. Super nest would work very well as a webcomic definitely unique.

13. The animations are a great touch, generally pretty subtle or otherwise unintrusive while adding an extra air of life and making use of the webcomic medium in a way that sets it apart from traditional comics, without making it so reliant on the animations that a printed version would be implausible.

14. They were good and well drawn all in all, but I found the pounding on the door on page two a little too distracting. It could have been a bit more subtle.

15. Really nice.

16. Nice and impactful but ultimately not necessary.

17. Really well made! Some times they emphasized what happened, which is awesome, but sometimes they were too quick. To maybe have some longer pauses between the movements would make sure that the eyes didn’t constantly flicker to the movements instead of the speechbubbles? I dunno, but i loved it! :D

18. They were cute/placed nicely.

19. The animations are amazingly well done. I saw no frame errors or loop issues.

P1: Subtle, can’t really remember the animation.

P2: Easy to understand but made it hard to focus on the other sections.

P3: Soothing, though I got distracted since I could not understand what the noise was at first.

P4: Nothing in particular.

P5: Felt nice.

P6: Got very distracted and had a hard time to read the text on previous picture.

P7: Was ok, though I saw that before reading anything else so lost the context before I saw it.

20. I found them pretty cool, I liked them. On some pages they added a lot of feeling.


22. Nice but not necessary.
Which animation ...

![Bar chart showing preferences for animations]

Other?
8 responses

Subtle animations like nr 3 felt too forced and at first I didn't notice it was animated, so it was very out of place. The animations should have a purpose to convey emotions or things that drastically moves.

The door exploding animation was very good, but it does make your attention go there instead of reading the story. It takes up too much attention. And since it repeats itself, the ongoing animation, it makes it hard to not focus on that.

I hope this comic continues, wanna know how it ends

I'm not sure I noticed all the animations, but the lines through the 'sniff' bubbles on page 3 made them very difficult to read even not noticing anything was animated there. Bigger issues for me were the inconsistency of the font sizes, the perfectly oval speech bubbles that left so much unused white space making the word alignment feel sporadic and distracting, and the font used being just a bit less crisply legible than it could have been.

I also really loved page 2!

Text was very small near page 5/6 and hard to read due to it

Just in general the comic was AMAZING. I'd definitely read more

Page 2 was a perfect example of the animation adding a lot to the page. It brought out the feeling and made it stronger. Page 4 was pretty useless. I found the shine animation more distracting than anything else. It made it difficult to focus on the words. Page 6 was simply a somewhat bad animation. The speedlines around the arms were too long and weren't consistent with the movement which gave the strange illusion that the character had bat wings.
Appendix C

The Comic: Also found at [https://goo.gl/forms/AUv046Mxont6WMjR2]

So where are we going? Somewhere Old, and Dark. From before the world died. You’ve heard of the ancients? Yeh.

It’s a forgotten place where those who caused the end of the world hid. Hoping to wait for the storm to pass.

I thought the ancients were human? They were. They built great cities underground, awaiting the day they could return to the surface.

Why are we going there?

What else, Treasure. The ancient technology is practically magic. Worth as much as a whole city.

Oh!

Wait, if it’s forgotten, how did we find it? ...

“sigh”
So what happened to them?

Those who lived here.

Who knows...
Well? Anything?

Clear! Though it smells really old.

Everything’s dry, even the mold. And so dusty.
Sweet!
Even the circuits are dead! That means no alarm either!
Heh, sure does, bro!

The ancients were really bad at cleaning!
Hehe!

Alright!
Listen up boys!

We're looking for anything weird and technological looking.
Spread out and search every room.

And if you find anything bring it back to me!

Quietly
Move with silence

HRMPH!
Frankly Rust, I think you are being too cautious. Jeff confirmed there’s nothing here. The ancients must be long dead.

Are you sure about that? Do you know what happened here?

I’m not taking any chances, I’m not getting ambushed.

We are as cautious as I deem necessary.

Roy.
Ridiculous! This could be quick and easy!

Easier still by NOT wandering about making noise

You are unreasonable!

I'm not taking that from a fish

SQUID!

Hey!

Hey guys!? Will found something! Is this a clue?!

Not now Jeff~
Oh dear. Well that's...
Blood

Yup! Definitely blood! Will checked!
I licked it!

Ok, worrying, I admit. But! Quite old, no problem to us...

Ah look! There is a trail! Can we check it out?
a what?

Oh lawd, my breakfast...

Ahahah~ see yes -hrrrm-
Caution! it is right Rust!

Get Moving.
You get ten minutes, then everyone move out.