USING THE DIGITAL PRESENTATION OF SEQUENTIAL ART
TO EXPLORE THE CURRENT DIGITAL LANDSCAPE

A CREATIVE PROJECT
SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
MASTER OF ARTS

BY

JOSH SCHWEIGERT

DR. JOHN DAILEY, ADVISOR
BALL STATE UNIVERSITY
MUNCIE, INDIANA

May 2012
Introduction

A Brief History of the American Comic Book Industry

Comic books are a medium which seems to be relegated to the fringe of society. Certain comic books characters like Batman or Superman have become widely known, but outside of movies or television, some comic book characters, such as Booster Gold or Black Lightning, remain unknown to any but their avid fans. Comic books themselves appeal to a much smaller percentage of consumers. This obscurity is the result of a long history that still affects the industry today. Since the history of the comic book industry is not widely known, it is necessary to do a quick review of the formation of the medium and the events that lead to the current market conditions before stating the nature of the creative project and the problem it attempts to address.

Comic strips were the precursor to the comic books we have today. First appearing in the late 19th century, comic strips were typically a “series of adjacent drawn images, usually arranged horizontally, that are designed to be read as a narrative or a chronological sequence” (Comic Strips 2011). These first strips were generally published in newspapers and gained a wide following; by the 1950s, over 100 million Americans read newspaper comic strips on a near-daily basis. Much like today’s Chrankshaft by Tom Batiuk and Chuck Ayers or Jim Davis’s Garfield, these earlier strips developed running characters and themes that could continue on for decades, involving humorous punch lines and simple plot arcs.
The split between continuous weekly comic strips and comic books came in the 1930s when comic strips were collected in tabloid-sized magazines. These early comic books, however, simply reproduced previously published newspaper strips in a new format. As comic books became more popular, publishers used the medium to stretch strips into longer, more complex stories and, importantly, to develop original content. The first true comic book in today’s sense, with entirely original content created specifically for the medium, was published in 1937 as *Detective Comics* (Park 2002).

With new content came a new method of delivery and a new audience, furthering the distinction between comic strips and comic books. As noted by comic book historian M. Thomas Inge, comic strips were typically delivered on a daily basis as an addition to the newspaper for a broad audience while comic books arrived “monthly in special serial publications sold at newsstands or comic-book shops” (Inge 2004) to specific customers. This change in availability allowed comic books with original content to broaden their appeal to wider audiences and more varied tastes. Target audiences shifted from young boys, who were interested mainly in superhero stories, to include all types of readers.

During this diversification, books were published with different genre themes including: adventure, crime, horror, romance, and science fiction. With the growing popularity of comic books, the industry seemed destined to develop alongside movies and television as a mass-market medium. The public’s perception of comic books changed drastically, however, in the early 1950s with the publication of popular

As a result, Senator Estes Kefauver chaired a U.S. Senate subcommittee created to investigate the negative aspects of comic books. After reviewing testimony, especially extensive testimony from Frederich Wertham, the subcommittee recommended the creation of the Comic Code Authority as a means to control industry standards (Park 2002). The CCA was a self-censoring, non-government organization whose strict standards crippled the romance, war, and horror genres, essentially declaring sex, violence, and the occult to be off-limits. Without the seal of the Comic Code Authority, a comic would not be widely distributed for sale as most retailers refused to ignore the public’s negative perception of a comic without the CCA seal of approval.

An industry accustomed to selling 80 to 100 million copies of comic books in various genres was suddenly crippled by internal regulation and forced to focus on the specific genre that would not defy CCA’s moral stance: All-American super heroes. In his book *The 10 Cent Plague*, author David Hajdu describes the comic industry’s attempt to claw its way back into prominence and the resulting super hero comic book boom of the 1960s. Hajdu states, “when comic-book publishing recovered, it did so by retrenching, shifting back to the heroic doings of superheroes” (2008). This success, which expanded from the popularity of Marvel Comics characters like *Spiderman*, *The Avengers*, and *The
*Fantastic Four,* did not last. The economic structure of the industry was broken: newsstands were allowed to return unsold merchandise for a complete refund, giving retailers no reason to push sales. Distributors would often delay shipping current issues in favor of better-selling content, which meant readers had no guarantee they would see the next issue of a serialized story. These practices drove readers, and their pocket money, away.

While most comic book publishers were on the brink of bankruptcy, a side industry emerged in an attempt to challenge conventional newsstands—a new chain of distributors bought returned issues from publishers for a fraction of the original price. This new industry established comic book stores and sold books directly to fans who were otherwise unable to obtain a steady flow of comics from the newsstands. Comic books eventually disappeared from the newsstands entirely, and comic stores became the only outlet for comic book publishing.

The move towards specialized stores for selling comics saved the industry but created a long-lasting issue: a lack of presence outside of those stores. Because comics were removed from widespread public circulation, comic stores “had become a micro-world unto itself. If you weren’t the kind of loyal reader who made regular trips to the comics shops, you rarely even saw comic books, let alone talked about them over the water-cooler” (Dean 2006). Unless readers had been exposed previously to comics, they were unlikely to seek out comic stores or blindly purchase issues in the middle of story arcs that had been continuing for months.
Since then the comic industry has limped along, catering to a dwindling fanbase in love with super hero comics. The industry has been left with two major publishers: Marvel Comics and DC Comics, both of which primarily focus on producing superhero stories. Marvel and DC’s products are printed and shipped to comic book stores by a single distributor, Diamond Comics Distributors. Diamond also is the only nation-wide distributor for comics, including independent, small-market labels. This convoluted retail system and the niche nature of the medium has left the comic book market in a bad condition.

Comic retailers are in such dire straits that the loss of even 20% of their regular customers to digital sales would put many of them out of business, taking the entire direct market down with them. Publishers are still dependent on the retail channel, no matter how sick and dysfunctional it has become. They can’t burn that bridge until they are safely across it, but they can’t take more than a few steps without setting it on fire. (Salkowitz 2010)

Although other media industries have embraced digital distribution—music, television, movies, books, magazines, etc—the comic book industry has remained stagnant until recently. In 2011 publishers finally found ways to appease their direct market—Diamond Comics Distributors and storeowners—and began major efforts at the digital presentation of print comic books. The industry’s delay in entering the digital market has caused stagnation in the development of a standard way to display comic books on a computer screen. Displaying comics online is a difficult process for several reasons: comic pages have the opposite layout of a computer screen because a page is
taller than it is wide; an artist’s rendering of a panel may occupy two full pages in a print book, forcing a change in layout for an online viewer; the publisher would need to consider the different orientations, resolutions, and sizes of smart phones, tablets, and other viewing devices (Brothers 2010). These issues are being solved by recently developed technology for displaying comic book pages, but there is a disparity between the technology available to professional and independent publishers.

While independent comics published digitally, known as web comics, have been produced for years before the professional comic industry entered the market, these web comics have relied on the simplest technologies such as a static picture, full frame, on a web page. As professional comic book publishers enter the digital arena, they have tried to set themselves apart from independent web comics by utilizing more interactive, sleeker technologies. It has become commonplace to label professional comics published to the Internet as “digital comics” and independent comics published to the Internet as “web comics.” Professional digital comic books are typically displayed in a viewer that is capable of zooming in on individual panels and guiding users through the book. Such a viewer is designed to function on smaller devices, such as a smart phone, as well as a personal computer, while giving the reader a sense of motion (Johnson 2011). As of now, each major comic book publisher has patented their own viewers, and their technology is not available to independent publishers of web comics.

The Problem
Due to the comic book industry’s complicated history, most books being published professionally are superhero comics, which has limited the medium to a small audience. In 2008 Robert Kirkman, author of the independent comic book series *The Walking Dead* and an executive at Image Comics, issued a call to comic book creators to stop working at Marvel and DC and publish independent comics. He argued that the market was shrinking and if the genre of books being published did not expand the industry would die. (Kirkman 2008) His sentiments have been echoed again more recently by creators Eric Powell and Mark Waid. Kirkman’s call has not resulted in a mass exodus from DC or Marvel because as many creators pointed out: most independent comics do not make money. It cannot be said with certainty that diversifying genres is absolutely necessary for the industry to survive, but every other media industry publishes content in multiple genres; if the medium is to flourish and gain audience, it will have to publish books about something other than superheroes. Fortunately, independent web comics are already being published in a number of genres.

These independent web comic producers, including small presses and artists for whom the Internet is a primary publishing field, need adequate tools to compete with professional interactive viewers which are currently all patented. Independent publishers have already expanded viewership beyond traditional superhero stories: the market is there, but not the technology.

The marginalized nature of the comic book medium in America is a problem worth addressing because it is the primary modern expression of sequential art, a
practice that has expressed throughout human history. Cave paintings found in Lascaux, France depict scenes of hunters killing a deer. Each image represents a moment in time, showing the deer running, being shot with arrows, and then falling to its death. This practice of telling stories with adjacent images representing moments in time continued through many cultures, some primary examples including: Egyptian Hieroglyphics, Greek and Roman sculptures, and French artwork like the Bayeux Tapestry which depicts the Norman conquest of England. (Graphic Novel 2012) The reducing of comic books as a medium primarily for telling superhero stories has caused academics to dismiss the medium as a whole. If the reputation of the comic book medium can recover, comic books can take their place in the long history of sequential art and be treated as a valid artistic endeavor. (Graphic Novels 2012)

The Internet provides independent publishers with the ability to distribute cheaply to a global audience, but the current web comic viewers are becoming unwieldy with advances in technology. Static images do not work well on the smaller screens found on laptops, netbooks, tablets, and smart phones. If the medium of comic books is to be reprieved from mainstream culture’s exile, steps need to be taken to improve the digital viewer technology available to an independent publisher.

**Project Overview**

The problem is that independent publishers do not have access to the technology necessary to present their comic books in an interactive way similar to professional publishers. To solve this problem, an interactive web comic viewer utilizing
a non-patented method that could be replicated by another independent publisher needed to be created. The goals of this project were to mimic the interactive elements of the current digital viewers being used by professional companies (i.e. zooming in and out on panels, guiding the readers through the story, etc.). In addition, the viewer should include non-linear extra features that will give users access to: pieces of prose that add to the background of the main story, behind-the-scenes video interviews, and additional art. This project should serve as an example of best practices for independent publishers hoping to use more advanced technology.

To fully understand the effects the viewer would have on the process of comic book storytelling, the project also calls for a comic book script to be written and given to an artist for completion. This will serve as a demonstration of how a writer has complete control of the way content is portrayed and what special features are included, as well as the ease of uploading art and extra content.
Published Research

Research regarding digital comics is scarce. One of the only academic institutions to recognize the flaws in the technology surrounding digital comics, the CETIC Research Centre in Belgium set out to create and test a new platform viewer. According to project leaders Christophe Ponsar and Vincent Fries, (2009) they aimed to create a program that would incorporate an algorithm with “automating detection of panels” to make uploading and viewing comic book pages easy. For ease of reading, a user could turn the pages with simple previous/next commands and the image would be fairly magnified, making the comic book viewer accessible for computer and mobile users alike.

In 2009, the team produced a prototype, written in a Javascript, for Windows computers. The algorithms were fairly successful at isolating panels for presentation in the viewer, but the system could be thwarted by oddly-shaped panels, panels not separated by a white background, and Manga-style comic books which often use diagonal or horizontal panels instead of squares.

The primary user feedback was a desire to switch between a panel-to-panel view and a view of the whole page “because the user is used to scanning a page before starting a sequential panel reading” (Ponsar Fries 2009). The project seems to have
been abandoned since initial results were published in 2009. The viewer’s major
limitations would appear to be the inability of the algorithm to parse anything but the
most basic page layouts, its lack of a mode allowing the readers to see the whole page,
and its lack of cross-platform compatibility outside the Windows operating system.

Analysis

Both Marvel and DC Comics have started publishing their digital comic books
exclusively through a third-party retailer called Comixology. The only other digital comic
book platform that carries any content from the two major comic book publishers is
Graphicly, who has deals to publish some of Marvel’s older material as well as material
from numerous smaller presses (Cheredar 2012).

Both of these services are similar in the way they function and the features they
provide, but an analysis reveals several key differences is in their philosophy toward
converting print comics to the digital format. Both companies have versions of their app
for use in a traditional desktop browser and native apps to run on mobile devices.

There is currently no published user experience studies for either of this applications, so
an informal analysis was necessary for this project. The following observations concern
themselves only with the desktop browser application.

Comixology uses its patented “Guided View Technology”, which breaks each
comic book down panel-by-panel. The application requires the user to have Adobe
Flash Player installed, which leads me to believe that Comixology created their
application using the Actionscript3 programming language. Adobe Flash Player can be
installed on a variety of platforms and operating systems, making the viewer accessible to a wide audience.

Comixology’s greatest strength is the fluidity of the application. There is no delay when pressing a button – pages load quickly but abruptly. Image zooms, however, are extreme and jarring during page turns. Comixology also provides a thumbnail view that displays all the pages in one gallery, giving the reader an easy visual method for finding the desired page.

The viewer gives the user two options: panel-by-panel or a full-page view. The usefulness of the full-page view is dependent on the size of the screen used to access the program – a full-page view is a pleasant mimic of the traditional way to read a comic book on a large desktop screen (24 inches), but the images are too small and the text is hard to read in full-page mode when using a laptop (13 inches).

The panel-by-panel mode utilizes a fixed viewing box in the center of the browser window. Panels slide into view from outside the box, limiting the reader’s ability to sense where the panel falls on a given page. When the user moves from the last panel of a page to the first panel of the next page, there is a jarring zooming motion, which does not match the fluidity of a human’s reading reflexes. Also, the fixed box does not change with the size of the browser or the screen size. This causes it to look large on a smaller screen and small on a larger screen. A visual size discrepancy can be disappointing to the user with a larger monitor because the viewer does not take advantage of the larger display area.
Important elements missing from Comixology’s viewer are social media integration and any attempt at non-linear storytelling. The lack of foresight is understandable considering the hesitancy with which comic book publishers have entered the digital market. The industry does not yet believe in the medium, so it is unlikely to expend effort creating extra content or monitoring social networking traffic without a clear potential gain. Arguably, Comixology provides the best visual presentation of any current comic book viewer, but its producers are not taking full advantage of the digital medium they are attempting to utilize.

Graphicly is similar to Comixology as it also provides the option to view a page in a panel-by-panel mode or as a full page. The controls are essentially the same: forward and back buttons, thumbnail gallery for picking pages, and a button to switch between the two modes of viewing.

The major difference between the two viewers is the style of Graphicly’s panel-by-panel mode. Instead of displaying panels inside a fixed box, Graphicly slides the whole page around an invisible rectangle, keeping the current panel in the center of the browser screen. The rest of the page is dimmed behind a black frame with a slight opacity. This allows the viewer to focus on the correct panel but still note the panel’s location relative to the entire page. Using the black frame gives a more natural experience that is reminiscent of reading a physical comic book.

Graphicly’s user experience is also similar to Comixology’s, including the jarring transition between pages. Graphicly at least attempts to make the page turning effect smooth, but its transition clutters the experience. When the user clicks “next” on the
last panel of a page, the viewer zooms back to give a full view of that page – an effect that could be artistically useful because there is often a skill to how a page is laid out. Graphicly, however, ruins this nice effect: the zoom out is automatically followed by that current page sliding out and the next page sliding in for a full view. Then, this slide is followed by an automatic zoom to the first panel of the next page. Far too much happens with one click, and the user is not given a chance to appreciate the layout of either full page for more than a few seconds.

To make all this automatic sliding and zooming worse, Graphicly fails to match Comixology’s fluidity. Turning pages often leads to slow load times and the viewer freezing mid-zoom. These problems may stem from the fact that Graphicly is built using HTML 5 and Javascript. This gives Graphicly an advantage when it comes to cross-platform compatibility, but the newness of the technology makes the viewer unreliable for a web application that requires such intense animation.

Graphicly makes more effort at social network integration than Comixology, but the effort still falls short of its potential. At the beginning and end of each book, the user is given the option to share a link to the book on Facebook or Twitter. Much like Comixology, no effort is given to adding non-linear extra content.
Methods

Viewer

The first step in creating the comic book viewer for this project was to decide which coding/software platform to use. Solutions considered included HTML 5 /Javascript, Flash Professional, Zoomify, and Flash Catalyst/Flash Builder. HTML 5 /Javascript or Flash Professional would require advanced coding knowledge not available to the average independent publisher, thus defeating the goal of the project. Zoomify proved capable of adding the basic interactive elements, but offered no flexibility when it came to non-linear content.

Flash Catalyst/Builder, therefore, offered an apt solution. Flash Catalyst is designed to allow non-programmers to create interactive web applications without using any code. Application interface designs can be imported directly from Adobe PhotoShop or Adobe Illustrator. Once the designs are imported into Flash Catalyst, graphic elements can be designated as buttons with associated actions.

To mimic the interactivity of current web comic viewers, this project called for the development of an innovative combination of animation and shape masks. Shape masks are a type of clipping path that take a simple shape such as a square, circle, and triangle and combine them with an image. The parts of the image inside the simple shape are visible, and the parts not inside become hidden. For this project, the simple shape was a rectangle, and the image was a page from the comic book. The animation
features of Flash Catalyst were used to handle zooming in and out of panels, and the rectangular shape mask allowed control over which sections of the image became visible at any time. To use, the user clicks next and previous buttons that cause the old panel to slide out and the new panel to slide in to the center of the viewing screen.

Flash Catalyst also provides video, text, and image viewers that permitted the easy addition of “extra feature” content. Finally, Flash Catalyst also allows for links to be given to outside html websites. This would enable the publisher to designate buttons giving the user the option to share watermarked artwork to Facebook, Twitter, and Google Plus.

Flash Catalyst is sufficient for all basic features, but certain advanced features required the use of Flash Builder. Flash Builder is a companion program to Flash Catalyst that gives access to Flash Catalyst’s programming code. Using Flash Builder, it was possible to make the web comic viewer automatically scalable so that it will fit in any size browser, thus eliminating size constraints. In addition, there is the opportunity for added functionality that allows the viewer’s buttons to be triggered by keyboard keys, and this will enhance the viewer’s accessibility.

**Story**

The comic book story created for this project was designed to comment on the current digital landscape by using allegory to represent major web entities like Google, Facebook, and Twitter. The story is set in a hybrid fantasy-modern world where a site’s popularity is directly related to the power of its representing character. The most visited websites as rated by Alexia.com form a pantheon of god-like characters who
operate similarly to the Greek and Roman pantheons in their constant infighting and manipulation of less powerful beings to achieve selfish goals.

The protagonist is a younger site named Social Dashboard, or Dash for short. He does not represent a real-world entity, but instead represents start-up websites in general. He becomes a pawn manipulated by Google, Facebook and Twitter in the social networking war. Dash will struggle with maintaining his own independent vision and personal morals in a cutthroat world.

The story presented is this project is a ten-page preview of a planned longer story. The goal was to introduce the world and the characters in a way that will entice readers to continue reading. Sean Berne, a local Indiana artist, provided the art. He provided pencils, inks, and grayscale shading.
Results

The pages were successfully converted into the interactive viewer proposed in the Methods section. The application allows users to advance panel-by-panel or pages at a time using an icon-based graphical layout or keyboard controls. Three kinds of non-linear extra features content were created to complement the story.

The first non-linear content is small pieces of prose text that expand on the background of the story. The story itself uses the meta-textual plot device of being told by an allegorical representation of Wikipedia. She is the narrator and the reader is supposed to believe that this comic book is something she recorded in her archives and is now telling us. Using this framing device, the prose pieces take the form of fictional Wikipedia entries expanding on characters, histories, and settings in the book. This type of content is desirable to fans of fantasy literature because it adds to the sense of a textured, multi-faceted fictional universe, giving the fictional world a sense of depth. It is not uncommon, however, for some readers to find this kind of prose piece too distracting from the ongoing story. Therefore, readers have a choice to read these prose pieces as they read the comic, save the prose pieces for later, or skip the pieces entirely depending on their own personal preferences.

The second form of content is a series of videos that feature a “Discussion with the Author.” The videos borrow from the concept of a DVD commentary, discussing the real-world inspiration for the different allegorical concepts and the reasoning behind
decisions related to plot and character. This type of content is almost completely absent from professional comic book viewers because digital formats are not embraced. Movie industry professionals trumpet special features as a way to extend the longevity of the product. Often studios will release two or more editions of the same movie with different levels of special features. The special editions are sometimes released later than the regular addition increasing users who will buy the same movie twice. (Cella 2000) Independent comic producers can utilize similar sales methods with the interactive comic book viewer. For example, they could initially publish the comic book for free, which helps develop an audience. Then release a paid addition that has special features. Fans of the comic will likely want to see the special features and support the creator.

The final form of extra content involves showcasing different elements of the art process. The art is produced in three steps: pencils, inks, and grayscale. The pencils serve as a rough layout of the page, which looks similar to the traditional movie storyboard. The inks are done over the pencil providing a sharper line and more details. Finally, the grayscale is added to give tone and depth. Readers are provided with the option to see different steps of various pages. This is again appealing to the user’s desire to see process involved in the creation of the comic book.

To complete the presentation of this project, a Wordpress website was created to serve as a gateway to the viewer. The website contains a short description of the story, author bios, and information on downloading the necessary version of Adobe Flash Player to run the comic book viewer. In addition to the interactive viewer, a
traditional web comic viewer involving a static image and simple previous/next controls was set up to provide a comparison between the old and new technologies. The goal is to eventually use the site and the web comic as a way of holding a conversation about web comic presentation and non-linear storytelling. The website can be reached at: http://www.js-creates.com/chronicles.
Conclusion

The comic book viewer met all design goals established in the Literature Review section. It provides smooth animation, non-linear extra content, social network sharing capabilities, and automatic sizing based on the size of the user’s browser window. Flash Catalyst and Flash Builder proved to be successful, if occasionally finicky, tools.

The primary difficulty with Flash Catalyst is the program’s lack of automatic features. Every transition between animations involved setting a button interaction, fade settings, animation settings, etc. This repetitive work causes increased time for converting each page and may become a limiting factor for web comic creators hoping to adopt this technology. The Flash Catalyst program is a comparatively new Adobe product. It is likely it will become more user-friendly over time.

The other obvious limitation of the viewer is that by being built in an Adobe Flash product, it cannot be run in the browser of iOS devices such as the iPhone and iPad. It is possible to convert the Flash application into an Adobe Air application which can be downloaded to iOS devices and run inside a special app. The best practices established by this viewer can be applied to developing apps more specifically designed to run on the screen size of a mobile phone. It is hoped that the process developed for this project will be continued and adopted by the web comic community as a whole.

The history of the comic book industry has reduced a great medium to a nice product on the fringe of the societal consciousness. With the professional market
dominated solely by the genre of superheroes it has been up to the independent creators producing work for the web to diversify genres and appeal to a larger audience. The poor technology current available to creators is holding them back as users come to expect greater interactivity and smoother presentation. Simply presenting comic book pages as static images reduces the effectiveness of the art and storytelling of these creators. The process developed by this project is viable option for these creators and can be reproduced by anyone with access to Flash Catalyst and Flash Builder. The example comic book story written to highlight this technology provides a case study for web creators to witness the possible uses of this technology. The story also attempts to stand on its own as a commentary on the current digital landscape and provides an intriguing preview to a larger story.

**The Future of the Project**

This project will move forward on many fronts. The interactive comic book viewer will undergo further development as Adobe releases new versions of Flash Catalyst. The process currently involves a large amount of repetitive actions to set transitions between every single animation. Flash Catalyst is a program that is only a few years, old and Adobe will release new versions to help automate the process. It is also possible that Adobe Edge, a piece of software currently in beta, will be able to convert the comic book viewer from a Flash Application to an application built using HTML5, CSS3, and Javascript. This will allow the comic book viewer to run on iOS devices and reduce the amount of work necessary to create versions of the app optimized for mobile phones.
In the meanwhile, tutorials detailing the creation of the comic book viewer will be created with screen recording software. These tutorials will allow other independent web comic publishers to present their work in an interactive fashion. It has not been decided at this time whether or not to charge for these tutorials, but the process will remain unpatented; this will hopefully allow the process to gain widespread usage.

Adoption of the process will likely depend on creators finding their own methods of monetizing their content in order to make it worth the time it takes to set up the interactive comic book viewer. One possible method is to initially publish the web comic for free in a traditional viewer and then charge for a downloadable version inside the interactive comic book viewer. The free version allows the web comic to gain an audience first, who will then be more likely to pay for a downloadable version that has extra features.

Finally, the goal is to continue producing the *Chronicles of the Internet* web comic, which was created for use in this project. The hope is to find an audience for the story and use this audience’s feedback to further develop the viewer.
References


*Salkowitz, Rob. "Can Comics Make The Leap To Digital In A Single Bound? | Fast Company."*