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Julia Makivic  
jmakivic@wellesley.edu

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# **The Bicyclist and Other Stories:**

Combining Images, Text and Code to Create Visual, Interactive and  
Immersive Narratives

Julia Makivic

Advisor: David Olsen

Submitted in Partial Fulfillment of the Prerequisite for Honors in Media Arts and  
Sciences

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## Introduction

The idea for my thesis project arose out of a desire to combine my love of comics with technology in order to create visual, immersive and interactive narratives. In the process of creating these narratives, I not only wanted to write and illustrate stories, but also to explore different methods and styles of making visual interactive narratives on the web platform. Creating a series of interactive web comics seemed like the best way to combine these interests. Starting out, I was not familiar with many comics, web or otherwise, that followed a non-linear structure. My favorite comic book artists and writers include Hugo Pratt, Andrea Pazienza and Jim Woodring, all of whom publish in print. My favorite novels are *Death in Venice*, *Crime and Punishment* and various works by Haruki Murakami, all of which follow a chronological and linear narrative structure. Although my favorite pieces tend to follow a traditional linear narrative, I was always wondering how I could make my own pieces more immersive and how I could make the reader want to explore the world of each character more. Also, as a Media Arts and Sciences major, I was eager to create stories that would allow me to exercise both my artistic and technical abilities. I knew that hyperlinks, which allow one web page to connect to many other pages, could provide a solid foundation for developing the immersive narrative structure that I desired. I also had previous experience with HTML/CSS and JavaScript, therefore I already had the basic knowledge necessary to create an interactive web application.

As I began to work on my thesis, I wondered how the traditionally print comics medium would have to change in order to take advantage of the narrative tools offered by the

web. This line of questioning would lead me to explore not only how hyperlinks provide new opportunities for designing narratives but also how tools used to build functional web applications, such as databases could be used to create new narrative experiences. As I began the web development aspect of my thesis, I started to pay more attention to the user experience and user interface of my narratives. I had to see how I could minimize user errors and confusion as people interacted with my software and whether readers were given enough information in order to be able to navigate my narratives. At first, I had thought that I would spend more time drawing and thinking of stories than programming, but as I began to progress I realized that the back-end programming was just as necessary for creating the visual and narrative experience for the reader as the drawings were. I will discuss the build-up to this realization in further detail as I explain the process behind creating each of my pieces. However, I would like to use the following anecdote to illustrate how intertwined the artistic and technical aspects of my work are and how my experience has proven that it is counterproductive to try and separate the two:

The foundation for the idea for my thesis can be traced back to a project I started in Advanced New Media second semester of my sophomore year. At the time, I was also enrolled in CS111, my first ever programming class. I had always considered myself to be a more right-brained, artistic person and never as someone who was technical or mathematical. As a result, I embraced my Advanced New Media class and dedicated myself to working on my final project, an interactive, multi-sequential web comic, and rushed my assignments for CS111, viewing them as a hindrance to what I was actually supposed to be working on: my art. I believed that training myself to be more technical would cause me to lose my creativity and

that as a creative person I was incapable of understanding technical subjects. Due to my lack of interest in computer science and programming, I ended up failing my midterm for CS111 and was in danger of failing the class if I did not do extremely well on the final exam. While this was happening, I struggled to define the interactivity and implement the forking narrative path for my Advanced New Media final project because I lacked the programming ability to implement the branching paths that I desired in my story. Because I was unable to define the narrative structure, the navigation system I designed was unclear and the illustrations, while very detailed and aesthetically pleasing, were confusing and hard to follow because I had not managed to define the narrative that they were meant to depict. My first attempt at creating a web-comic was not very successful because I failed to acknowledge how necessary a strong technical understanding was to create the kind of narrative and interactivity that I desired.

This experience left me resolute to refine my technical ability while not neglecting my creativity and perhaps to find a way to combine these skills in order to create art and narratives. Since then, I have managed to balance taking a variety of programming and art courses. In the process of working on my thesis, I believe that I have found a way to combine art, with programming and user interface and user experience design to create immersive, interactive and visual stories.

## Research

The majority of my research involved looking at how other web-comics artists had managed to adapt the traditionally print comics medium to the web. Overall, I noticed two general patterns. Some artists tried to recreate the traditional, single page format on the web, i.e. each web page was formatted like a single page of a graphic novel. There was usually a navigational bar at the top that allowed readers to go to the first page, last page, previous page and next page. Other artists tried to take full advantage of the fact that their work was now digitized and embedded various animations and sounds into their comics.

Cartoonist Hans Rickheit, author of the web-comic “Ectopiary” is an example of the former. As can be seen in Figure 1. , a simple navigation bar rests at the top of the page,

while below it is a page from the graphic novel. Figure 2 depicts what the graphic novel page looks like within the context of the web page.



Figure 1.



Figure 2.

While this method effectively translates the printed page onto a web format, it does not take any advantage of the interactivity afforded it to it by the web or employ any media such as sounds or

animations. The graphic novel “page” is formatted just like it would be for print, and has not been well adapted to be viewed on a wide, screen format. Overall, I felt that this was a downgraded experience from seeing the actual page in print. The arrangement of the panels was awkwardly framed by the wide screen and the details in each image were compromised.



“Hobo Lobo” by Stevan Zivadinovic is an example of a web comic that embeds a variety of audial and visual media allowed by the web platform. With the aid of parallax



Figure 3

*You see, they had all these coked-up rats running around the place, freaking everybody out. They tried all kinds of things to get them*

Figure 4

scrolling, as the reader scrolls through the page horizontally, the images, which are layered on top of one another, move as well, creating the effect of a layered animation. Also, certain sounds and music are triggered depending on where the reader is in the story. Figures 3 and 4 depict how the images appear to move as the reader scrolls horizontally.

“Nothing But a Movie” is another example of a graphic novel that employs audio and animation. Stills from the graphic novel fade in and out and move across the page as the story progresses. They are accompanied by gloomy background music. The reader can pause

the animation at any point, but they are unable to rewind or fast forward. Figures 5 and 6 depict some stills from “Nothing But a Movie”.



Figure 5



Figure 6

As I was looking through these examples, I kept in mind what aspects of the traditional, print comics medium I liked and wanted to keep as I thought of how to create my own web-comics and what tools for creative expression the web medium could offer. Looking through “Hobo Lobo” and “Nothing But a Movie”, I found the added audio element very distracting. I found it irritating that I couldn’t fast forward or backward through the animations in “Nothing But a Movie” and that the images did not stay long enough to examine them in detail. While I liked the scrolling animations in “Hobo Lobo”, I felt that they too closely resembled a pop-up book. Moreover, I felt that adding too much animation takes away from one of the signature aspects of the comics medium: still, sequential images.

While “Hobo Lobo” and “Nothing But a Movie” had taken advantage of media such as sound and animation, I felt that they had not taken advantage of the narrative possibilities allowed by publishing pages on the web. Having failed to find examples of web comics that followed a non-linear narrative structure, I turned to various works of hypertext fiction in order to examine how authors of web-based fiction adapted a non-linear narrative structure.

One work that inspired me was “253” by Geoff Ryman. This story is about a London subway train and the 253 passengers on the train. Ryman provides the reader with a map of the subway and the reader is able to click on a car that interests them on this map. Once the reader clicks on a car, they are provided with a map of the seats and the passengers in that particular car. When the reader clicks on a passenger of interest, they are taken to a page

that displays information about the passenger including their outward appearance, inside information and what they are doing or thinking. Within this information, various hyperlinks are embedded that lead to pages about other passengers on the train. These informational passages are not ordered according to any particular point in time. The information for the “what are they doing or thinking now” section in a passage for one character may appear before or after in time than the one in a passage for another character. However, if one finds the correct passages, they will eventually learn that the train crashes.

Another author of hypertext fiction that greatly inspired me was Lady Porpentine. Her stories have an overall circular flow to them. After looping the reader through a series of forking paths, the narrative returns the reader to their starting place. Then the reader goes through the information in the starting place again and searches for links that may provide them with a path to move forward in the story. The process of the reader visiting all of these smaller paths triggers changes in the main path that allow the story to move forward.

An example of this can be found in “Howling Dogs”. A patient is kept inside of an asylum. Figure 7 captures a description of the patient’s living space.

A room of dark metal. Fluorescent lights embedded in the ceiling.

The **activity room** is in the north wall. The **lavatory** entrance, west, next to the **trash disposal** and the **nutrient dispensers**. The **sanity room** is in the east wall.

Her **photograph** is pinned to the side of your bunk. A red LCD reads 367 a few inches over.

Figure 7

“Lavatory”, “photograph”, “trash disposal”, “nutrient dispensers” and “sanity room” all branch off to smaller paths that eventually return the reader to this page. The “activity room” link leads the reader to more complex paths but eventually these paths also return the reader to this main page. However, the paths that stem from the other five aforementioned links change every single time the reader completes the path from the “activity room”. Therefore, by experiencing the “activity room” each time, the reader is able to make time in the story move forward and progress through the narrative.

“Howling Dogs” does not provide the reader with a clear map of its structure like “253”. Rather the reader is expected to experiment with the story interface and to click and follow these links in order to learn how to make the story progress forward. After examining these web-comics and works of hypertext fiction, I decided that my main interest lay in exploring the ways in which an online platform could affect the narrative structure of the story. While I do not believe that “branching” narratives are inherently more interesting than linear narratives, I felt that the hyperlink structure of the web provided a unique opportunity to explore non-linear narrative structures. My original interest in comics caused me to be aware of how a reader can interpret and piece together a narrative based on a sequence of images, therefore I was excited to explore how images could be used to describe a non-linear branching story. Moreover, I have always been interested in creating truly immersive narrative experiences. I liked the idea of having a reader follow a path of hyperlinks that leads them

through one character's experience and then providing them with a link that would allow them to enter the entirely new world of another character. In my own personal experiences, I would often see a stranger on the street or a person I knew only as an acquaintance and I would find myself curious about their lives and their thoughts. Imagine if I could just click on them and know instantly about who they are, what they were thinking and where they've been. The idea of providing the reader with a narrative that could simulate this kind of immersive experience excited me.

## 26 (The Bus)

“26” takes place in the fictional city of Bylazora which was inspired by Belgrade, Serbia. The story unfolds on the 26 evening bus, based off of the actual 26 bus that goes from the suburbs of Belgrade to the center. The characters on the bus, are all based off of real characters that I, or in some cases people I know have encountered on public transportation. The cast of characters on the bus includes “You”, a tired college student taking a late night study break, “The Sponsor Girl”, a call girl with a strained relationship with her parents, “The New Communists”, two communist activists and casual lovers, “The Bleeding Broken Leg Guy”, a slightly intoxicated, middle-aged man with a broken bleeding leg, “The Dead Friends Guy”, a lonely old man who talks about his dead friends, “The Metalheads”, a group of metal heads returning from a show and “The Creepy Camcorder Dude”, an old man that points his camcorder at strangers and growls at them.

My goal for this story was to create an interactive narrative that would immerse the reader into the world inhabited by these characters and within the internal worlds of the character’s themselves. While I liked the maps used by Geoff Ryman in “253”, I felt that such a rigid structure was unsuitable for “26” because buses (at least the ones in Belgrade) are generally more chaotic than trains. Also, because I had fewer characters, there was more opportunity to allow the reader to become deeply immersed within the world of each character instead of just providing terse snippets of their thoughts and appearances like Ryman does in

“253”. I liked that the navigation was not as obvious in Lady Porpentine’s work and that her pieces encouraged the reader to explore the world she created while also learning how to move the story forward.

Because “26” was greatly inspired by works of hypertext fiction, it was very heavily text-based as a result. The visual aspect overall was very minimal, however I included a picture of each character and a picture of the bus. One of the greatest challenges I encountered while working on this piece was figuring out how to integrate the text with the images and how to create visual cues that would allow readers to interpret the pattern of the branching narrative. For example, in some of her pieces, Lady Porpentine uses bolded words to indicate to the reader that this word leads to a path that branches from the current story and bolded “{\*}” symbols to indicate to readers that these links will return the reader to the main story.

He sat at a cafe in a small, southern town by the sea sipping a fizzy saccharine drink and eating fried octopus. His wife was playing with his son, then only three, in the shallow waves. He looked at the mountainous island across the sea and listened to the small, rolling waves. **Everything** had felt like it was in its proper place.



Figure 8



I decided that I would adopt a similar structure in that I would use subtle visual cues to indicate the reader's position in the story. The structure I chose to adopt consisted of a main narrative arc, the action that unfolded on the bus in present time, and paths that branched from this narrative arc that provided the reader with insight into the thoughts and experiences of each character. Because the main narrative arc unfolded in present time on the bus, it would be divided according to bus stops. Therefore, in order to move forward in the story, the reader would have to go to the "next stop". The branching paths at each "stop" will eventually return the reader to that stop. However, if the reader chooses to go to the "next stop", they will not be able to return to the previous stop. Therefore, if the reader did not visit all of the branching paths while they were at the previous stop, they permanently lose the ability to follow them when they go onto the next stop. The information stored within those branching paths does not provide the reader with information necessary to understand the unfolding action on the bus, however it does provide them with deeper insight into each

It's been a long time since he had felt like that.

Things didn't really turn out quite the way he had imagined, but despite it all, he was still proud of his boy.

{\*}



Figure 9

character. I wanted to make these paths tied to a specific stop because each stop represents a fixed point in time and people are always thinking different things or recalling certain memories at different points in time.

I decided to indicate branching paths on each page by using a bolded word. If the reader was following a path that centered on the story of a certain character, then an image that represented that character would be included on the page. This would allow the reader to be reminded of who they were reading about. I decided to use symbols “{\*” to indicate that the path had ended and that the reader would be returned to the main story page. Figures 8 and 9 provide examples of the kind of navigation I used. In Figure 8, the bolded word “Everything” leads to Figure 9, another page within the narrative of the “Bleeding Broken Leg Guy”. The “{\*” in Figure 9 will lead the reader back to the main narrative arc, the present action happening on the bus.

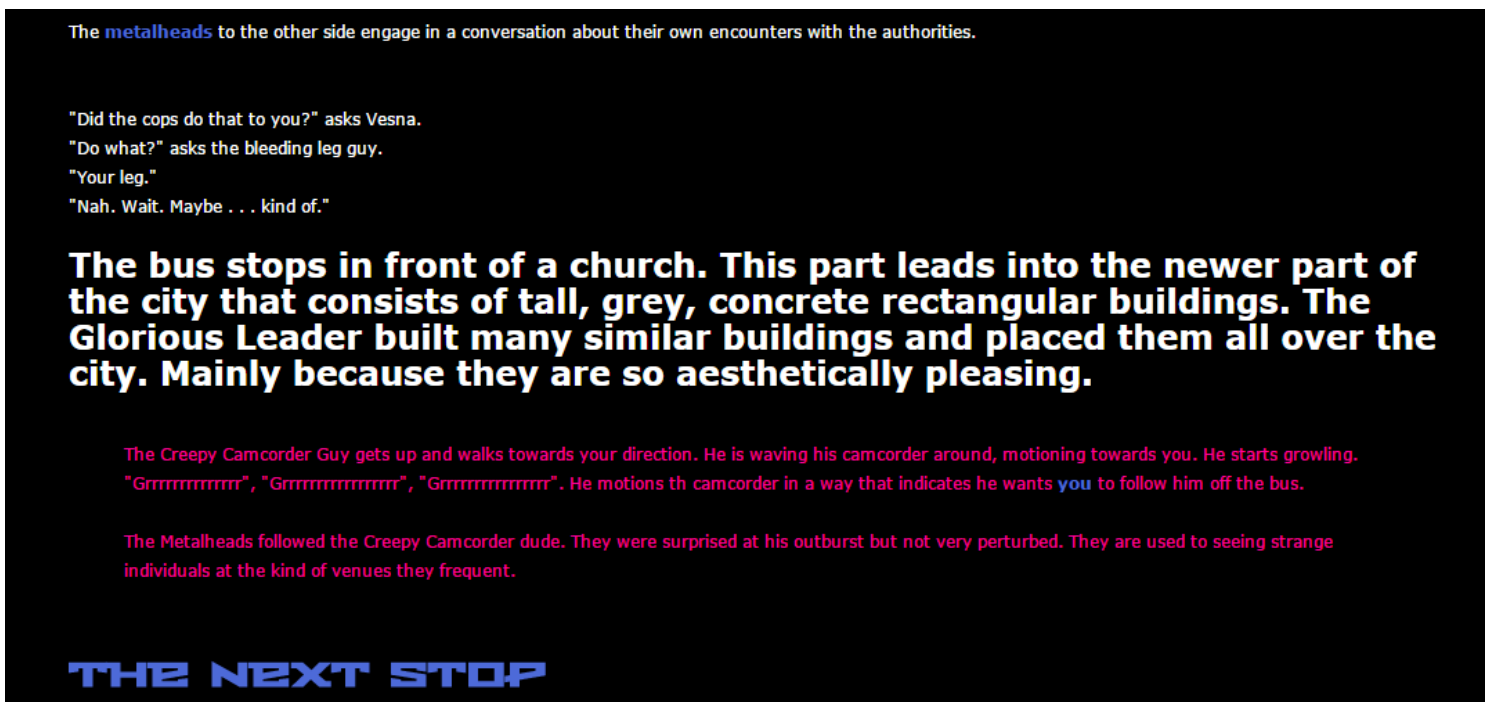


Figure 10

I also decided to use another set of visual cues to describe the current action unfolding on the bus. Because the scenes on the bus are often chaotic with various groups of characters interacting with one another at the same time, I thought it would be helpful to the reader to organize these interactions visually. In Figure 10, white bolded text indicates the scenery outside of the bus at that particular stop. The pink text provides information about the characters that are getting off of the bus at that particular stop and the large blue “The Next Stop” text in the Metro font provides a link to the next stop.

Although I liked this method of visual presentation for this story because it was clear and intuitive to the reader, as a visual person and an illustrator, I still wanted to see how



Figure 11

images could play a greater role in the story. Dave Olsen, my advisor suggested that I create an ideal, visual interface for the story in Photoshop and present that as a possible alternative to the original interface. Figures 11, 12 and 13 are several mock-ups for a more image-based visual design for “26”.

Figure 11 was a possible alternative to the plain “Start Page” in the original version. The use of multiple, overlapping images of the bus mirrored the branching paths of the story and multiple narrative experiences that the reader could have. I also used bright colors to mirror the surreal experience of being on this bus filled with so many outlandish characters. Figures 12 and 13 are more snippets from the visual design. Rather than using images as illustrations to depict specific scenes on the bus, I wanted to use them to describe the overall feeling of being on the bus. In the text I describe the atmosphere of that particular evening as one of the characters is waiting for the bus stop. Therefore, I used images that would give a sense of the overall atmosphere rather than illustrating a particular scene. Figures 12 and 13 show how these images would be integrated with the text.

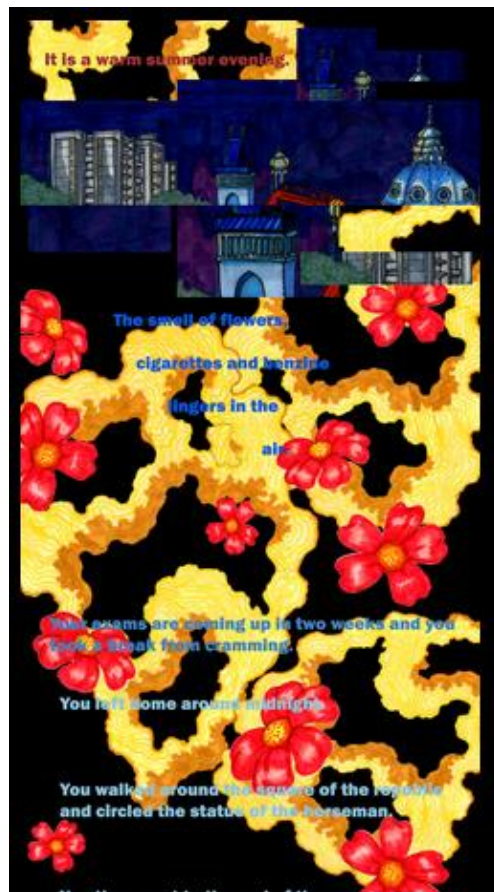


Figure 12



Figure 13

The flowers and the yellow and orange smoke-like image represent the smell of flowers, cigarettes and benzene that linger in the warm, summer air as one of the characters is waiting for the bus.

I was very satisfied with the web version of “26” because the visual cues I used to describe the narrative were clear and intuitive for the reader to navigate. However, as a comics artist I really wanted images to play a greater role in the story. I decided I would try to experiment with a more image based narrative when creating “The Bicyclist”. However, as I would soon learn, using solely image-based cues for navigation would provide a unique set of challenges for communicating the story to the reader. In addition to wanting to pursue a

more image based narrative, another take away I had from “26” was that I wanted to have full control of the visual presentation of my work. I used a platform called Twine to write “26”.

Twine provides users with an interface that allows them to map the paths and branches of their interactive stories and has built in functions that allow the users to implement interactivity in their stories without knowing how to code. While Twine is a very intuitive and easy to use platform, it does not provide users with much flexibility to format their own work. For example, users are unable to format certain images, the style of their hyperlinks or make their pages scalable across multiple devices. Therefore, when writing “The Bicyclist”, I wanted to write my

web pages from scratch so that I could have full control over how the story was presented visually.

The first version of “26” can be found here:

[http://www.pizamarcomics.com/Bus%20Story/bus\\_Story2.html](http://www.pizamarcomics.com/Bus%20Story/bus_Story2.html)

Mock-ups for the visual redesign of “26” can be found here:

<http://www.pizamarcomics.com/pages/busStoryVisDesign.html>

The latest version of “26” can be found here:

<http://www.pizamarcomics.com/pages/bus/busTitle.html>

## The Bicyclist

“The Bicyclist” was originally based off of a screenplay that I had written for a screenwriting class. The story centers on Dita, a shy college student with low self-esteem. One night, while visiting home and taking out the family car to practice her driving, she accidentally kills a bicyclist. She chooses to keep the incident a secret. At first she is paranoid that she will be found out, however, as she begins to realize that she has gotten away with killing someone, she becomes more confident and empowered. After all, she has managed to do what none of her successful friends and many others have been able to do: get away with murder.

While my intention had always been to recreate this story in the form of a branching, interactive web comic, the thought of approaching this complicated narrative structure was daunting. Therefore, I decided to create a simplified, print version of this comic that mapped the branching nature of the story onto four separate pages. I found that confining this structure to the page forced me to limit elements of the story that I chose to include. As a result, the plot of the story became obscured, abstracted and difficult for others to interpret. At this point, Dave Olsen, my advisor told me to scan these images, increase their size in Photoshop, print out the blown up versions and then cut out the enlarged version into smaller pieces. I ended up displaying each of the enlarged pieces in chronological order in the Pendleton West hallway. Figure 14 depicts my installation.



**Figure 14**

The blown up versions of the pages allowed me to view the fibers of the paper and the strokes of the marker that I had used to draw the images in more detail. Seeing the materiality of the paper, pen and markers that I had used to make these images become enhanced as the images were altered and digitized would inform the visual presentation of “The Bicyclist” when I adapted it as an interactive web comic. In addition to printing out entire panels, I also printed out fragments and smaller copies of each panel. I layered those on top of one another to mimic how images can become warped and resized when they are viewed on screens of various sizes. While this exercise did not make the story clearer to the viewer, it provided me with the opportunity to think about constructing and mapping a branching narrative before coding it and publishing it on a website.





Figure 15

Figures 15 and 16 provide an example of the layering and the fragmented panels I used to allude to how an image can become resized or cropped depending on how a reader views it on

screens of varying sizes.

Because this story centers on the internal change of one character, I wanted to use the forking hyperlink structure to allow the reader to get inside of Dita's head. Therefore, after I finished my installation, I organized the story so that overall, it follows a linear path, but this overarching linear path is divided into segments with smaller, branching paths that always



Figure 16

return to the main path. The linear path follows Dita’s experiences after the incident. However, these branching paths include moments before the accident that provide readers with hints about what Dita’s mental state and relationships with friends and family were like before she killed the bicyclist. Now, that I had organized the structure of the narrative, I was ready to start implementing and drawing the web version.

For the visual design of this piece, I wanted to capture the internal ugliness of the protagonist. Whenever I scanned my hand drawn comics, I found that there was always a material trace of the pencil I had used to draw the comics on the scanned images. I liked that the pencil markings added an element of texture and materiality to the scans and thought that it would be interesting to enhance the material aspect of the paper in the web presentation of

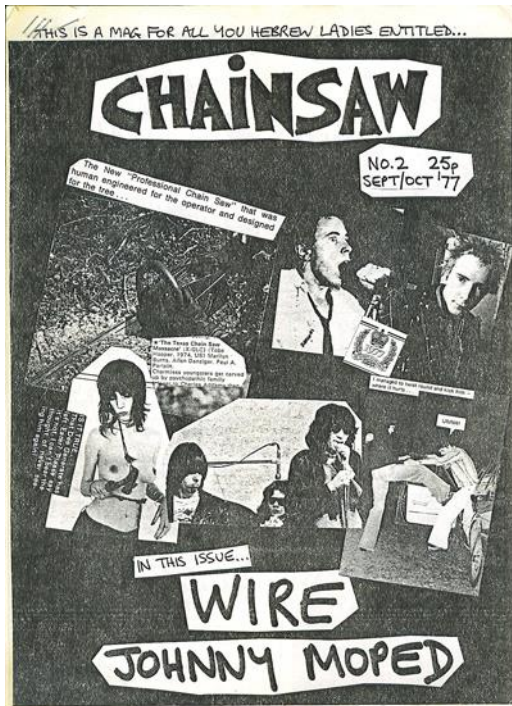


Figure 17

the images. I enjoy listening to punk music and really like the gritty, dirty black and white aesthetic of 1970’s punk zines. The photocopied pages of these zines carried elements of the various papers that had been used to create them, such as lines from the edges and grainy high contrast black and white images. I tried to emulate this aesthetic in order to enhance the materiality of my drawings. Figure 17 is an example of the kind of punk zines that I was inspired by. Figures 18 and 19 are sample images

from “The Bicyclist” that feature the material aspect of the paper and traditional media such as

pen and pencil that were used to create the images. They mimic the appearance of shredded paper and include the pencil lines that were used to define each panel. Also, the reader can still

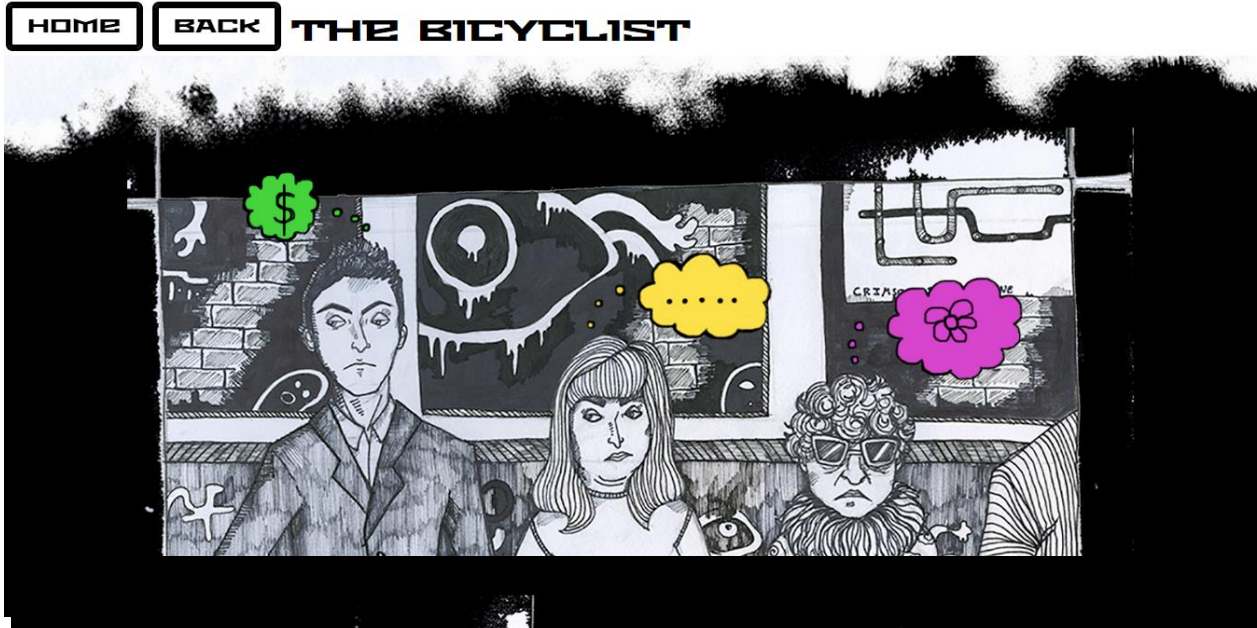


Figure 18



Figure 19

see the outline of a suit that was drawn and then erased on the man in Figure 19. Details like these serve as reminders of each piece's material origins while creating a dark and gritty atmosphere that matches the ambiance of the story and the ugly personality of the protagonist.

One of the major challenges that I faced while creating “The Bicyclist” was designing an intuitive user experience and user interface. As I started working I realized that designing the interface, the visual aspect of the story that the reader interacts with and navigates with would be more difficult than designing the interface for “26”. Because “26” was primarily text-based, readers could rely on the text to explain what was happening. They were able to very quickly and easily interpret the bolded words as links. The images of the characters allowed them to see which character’s experiences they were reading about. “The Bicyclist”, on the other hand is highly image based. Therefore, in addition to the standard challenges encountered when drawing comics such as making sure that the sequence of panels, what is happening in each panel and how the panels are related to one another is clear to the reader, I also had to make sure that the web interface for navigating this branching story was clear to the reader, as well. In addition to having a branching narrative, I also wanted to adopt a circular system like Lady Porpentine, where the reader first has to visit a certain number of paths before they are allowed to progress further in the story. Designing the navigation for this story presented me with the challenge of (1) placing the links that lead to the branching paths within the main path of the story and finding a way to indicate to readers that these links were clickable, (2) making sure that the navigation was clear enough so that readers could comfortably explore the various branching paths without feeling lost.

In addition to implementing the navigational system, I really wanted “The Bicyclist” to be scalable across a variety of screen sizes. Comics have a tradition of being a portable medium and how a web page adapts to a screen greatly affects how the user experiences the page and how the content is displayed. Therefore, when implementing “The

Bicyclist”, I wanted to carry this concept of portability into the digital age by making “The Bicyclist” accessible on mobile and web.

Making “The Bicyclist” scalable turned out to be rather simple. All I had to do was specify the percentage of the screen width that I would like each image to occupy, then the image would scale accordingly based on the device. However, figuring out the navigational system would require several iterations. From the start, I decided that the comic would consist of still images. The only moving images would be images that were clickable. Therefore, each



Figure 20

page has at least one glowing square with a CSS animation with a changing opacity from 0 to 100%. The animation and the glowing quality separate these squares from the rest of the panels, hinting to the reader that they are clickable. The speech balloons are also color coded. Originally, I included some panels where the speech balloon was

removed from its speaker. Many people were confused as to who the balloon belonged to.

Dave suggested that I color code the speech balloon to each character. Since then, I have changed the layout so that there are no isolated balloons, but I kept the color-coding because

the element of color is refreshing in an otherwise black and white comic. There is also a master navigation bar at the top that allows readers to go “Home” (to the title page of the comic) or “Back” (to the previous page). Figure 20 provides an example of a glowing square used to depict a clickable link. Figure 21 provides a detail view of the master navigation bar located at the top of each page.

I encountered the most technical difficulties while working on the scene where Dita is getting off of the train and leaving the train station. This page has three glowing squares that lead to three separate branching paths. The reader needs to visit all three of these paths before a fourth glowing square appears, leading them to the next part of the story. I ended up encountering many difficulties working around the fact that the browser can only remember information stored on a page before it reloads. This caused me to search for solutions in implementing cookies, PHP sessions and various page layouts with hidden divs and a bunch of formatting issues. I ended up implementing about five different versions of this page, one in



Figure 21

PHP, a few in JavaScript/JQuery and the rest in HTML/CSS combining various linking patterns. None of these worked and some of them worked but compromised having the fourth square appear only after the reader has clicked on all three of the other squares. Eventually, I ended up making a version that worked the way I wanted it to. The fourth square appears only after the other three have been clicked and the formatting works well. I used JQuery and I implemented a counter that counts how many times the other squares have been clicked before the fourth one appears. The latest version of “The Bicyclist” can be found at <http://www.pizamarcomics.com/pages/bicyclistSecond/titlePage.html>.

Although it was frustrating trying to get this page to work, it made me realize how interconnected the artistic and technical aspects of my project are. I need to have a strong technical understanding in order to implement my project correctly and thus provide the reader with the intended artistic experience. Understanding HTML/CSS and various browser side and server side languages is just as essential to my comics as is knowing how to draw.

## The World Consciousness Database

“The World Consciousness Database” takes place in the year 2030 where everyone’s consciousness is stored in a highly encrypted database. One day, a college student stumbles upon a device that decrypts this database and discovers that she has access to the consciousness of every person in the world. She is able to know what any person in the world is experiencing in that given moment, their thoughts and their past memories and experiences. While the scope of a story such as this has the potential to be very large, I chose to narrow it down for my thesis and perhaps expand on it later, after graduation. For now, the reader’s main narrative experiences occur as they are interacting with this database. They have the ability to search the database, entering in the name or the ID of a person they are looking for. The readers also have the option of inserting their own characters into the database.

Out of all of my stories, this one is the most technically based. Although the story does have a couple of pages to provide the reader with context regarding the world in which this database is located, the majority of the story is stored within the database. The database contains information about all of the characters in this fictional world and how they are related to the protagonist. In order to discover these relationships the reader needs to interact with the database by searching through it by entering in the name or the ID of a character that they are interested in learning more about into the search bar. The results will display a list of characters that match the search terms. The results will at first show a condensed view of each character, displaying their ID, name, age, location, birthdate and a brief description of the character. The reader can click on this condensed view to reveal a more detailed view. The



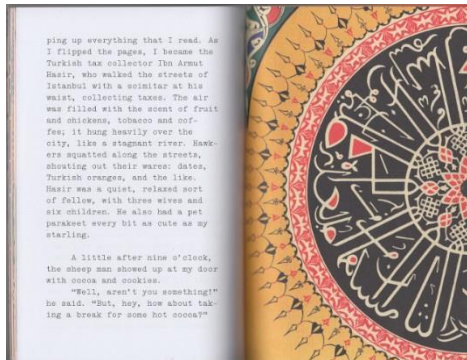
more detailed view displays the aforementioned information in addition to a button with a link to this character's consciousness. The character's "consciousness" is represented by any visual content on an HTML page. For example, if the button links to a cat video on YouTube, then the cat video and any other elements on the YouTube page are a representation of that particular person's consciousness.

The reader is also able to make their own contributions to the database and to the narrative. They do this by filling out a form with their character's name, location, age, birthdate, a brief description and entering a link that leads to their character's consciousness. In addition to their character's basic information, they also enter the ID's of their character's friends, children, parents, enemies, crushes and significant others (if they have any) into the appropriate text-fields. Once they are done, they submit this information and it becomes stored in the database.

I wanted to use a database for this story and to allow readers to upload their own information into this database because I was interested in experimenting with the materiality of the web. While working on "The Bicyclist", I had been focused on how the material aspects of the paper and pen I had used to create my work could be transferred to the web medium. Now, I wanted to see how something like a MySQL database, traditionally used to build a functional web application (such as Amazon, Facebook, etc.) could be used to convey a narrative.

For the visual design of "The World Consciousness Database", I was inspired by "The Strange Library" by Haruki Murakami. This is a short novel interspersed with many bold,

colorful graphic images. Figure 22 provides an example page from Murakami's book. These images have been removed from their original context and blown up, abstracted and arranged to fit the content of this novel. Because the notion of storing a person's consciousness in a database and depicting that consciousness is already open-ended and hard to grasp, I thought it



**Figure 22**

was necessary to have a visual design that complemented that open-endedness. After working on “The Bicyclist”, I was aware of how difficult it was to communicate the story and the navigation to the reader with images. Because a database as a narrative platform is already unusual, I decided to convey most of the narrative

through text while using images as aesthetic elements and as supporting factors to the information displayed in the text. I thought that text would be less ambiguous and allow the reader to have a clearer understanding of what is happening in the narrative. The images would be used to convey the ambiance of the story. I stylized and edited photographs of scenery that I had taken in order to make it seem as if they were taken in a city from the not so distant future. I then inserted these images in between sections of text. While there are no branching paths in this story, I liked the varied, visual aspect of the text from “26”. Therefore, I decided to add slight variations in the size of the text to create a visual balance with the large images. Figure 23 provides an example of an abstracted, futuristic image juxtaposed with text.

The year is 2030.



Figure 23

For the visual design of the database, I wanted to create the feeling that the reader was entering someone's mind. Therefore at first, I included a lot of bright colors and a psychedelic design. Figure 24 shows the opening page to the original, psychedelic design.



Figure 24

However, I found that while the colors and images were very eye catching, the interface was difficult to navigate and scale across screens. Therefore, I decided to design it with a minimalist approach. There is still a colorful background and brightly colored elements within the tables, but rather than employing any specific imagery and a distracting visual design, this version employs a design that hints at the readers (and protagonist's) newfound transcendental ability to access the consciousness of any person in the world.

Working on "The World Consciousness Database" was different from working on my other stories because the narrative was mostly influenced by the backend programming and the information stored in the database. While "26" and "The Bicyclist" both had narratives that were influenced by the underlying code, they also had text and images that could guide the reader's narrative experience. However, the narrative in "The World Consciousness Database" relies on how the information is stored in the database and how this information is displayed on the page via a middleware language such as PHP. Therefore, the user's narrative experience is determined how the backend implementation organizes the data they insert and how that data is retrieved from the database.

The current version of "The World Consciousness Database" can be found here:

<http://www.pizamarcomics.com/pages/designFiction/dbTitlePage.html>

The original design of "The World Consciousness Database" can be found here:

<http://www.pizamarcomics.com/pages/designFiction/database2.html>

## Conclusion

I've realized that the thought process involved in designing a program is very similar to the thought process behind drawing comics and making art. Both involve breaking a large problem into smaller pieces to be tackled one at a time and both involve thinking about the reader's experience of the final product. In designing software one is always thinking about how a reader will make a mistake interacting with the product and whether the product has an intuitive user interface that can minimize the number of user errors. While making comics a great deal of time is spent thinking about whether the reader will be able to follow the visually represented series of events taking place and how they will interpret the information in each panel and the relationship between various panels. Overall, I am proud to say that I have proved my sophomore-self wrong. Learning to think technically and logically has not hindered my creativity, rather it has taught me how to break a story into smaller pieces and think about how readers will interpret it. This has allowed me to create immersive, complex and visually interesting narratives.

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### Inspiration

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### Image URLs

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1970's punk zine detail: <https://www.flickr.com/photos/paulwrightuk/7142769839/>