

PERSONAL CONSTRUCT  
A CREATIVE PROJECT  
SUBMITTED TO THE GRADUATE SCHOOL  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE  
MASTER OF ARTS  
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## Statement of the Problem

*Personal Construct* is a project that explores the nature of identity, both physical and abstract, by reflecting humanity through a digital medium. Mind and environment interact in complex ways to facilitate the formation of unique ideas and perspectives. The world around us causes our neural connections to rearrange as memories are formed, and these configurations determine the decisions we make, in turn affecting our environment. It explores how identities are shaped, using web code as a metaphor for the neural structure of the brain. This structure allows a visitor to the web site to add imagery of their own personal experiences to a site gallery, which represents how memories are contained within the mind. The web space is intended to function as a collective self, an individual composed of images that the people interacting with it have left behind. The project is located at <http://personalconstruct.com>, where it will be hosted from June 2014 until May 2016.

The *Personal Construct* project was influenced by two previous artworks that explored how an individual interacts with and is affected by the world around them. The first, *Mind*, was a two-channel video that attempted to visually describe internal thoughts. A romantic couple was separately asked to describe, as closely as possible, the thoughts passing through their minds at any given moment. This was then overlaid with a literal animation of what was said, representing one way these thoughts are interpreted by others, and the videos were placed together to contrast the differences between individuals. The second, *Black Girl*, was a video that analyzed the personal experiences of a young African American woman to show how strongly race and gender influenced those experiences. Of primary interest was how identity is shaped by the reactions of society to external appearances, not simply the inherent physical nature of gender or race.

For *Personal Construct*, it was important to go beyond analyzing a single person to examine the process of identity formation, since identity has multiple layers and infinite influences. Writing code for a website provides a unique way to address the neural structures

that enable memory formation and inform a person's individuality. The nature of the internet as a media that people world-wide can access also allows for an analysis of society, and how their interaction with *Personal Construct* changes the form of the site gallery. Visitors to the site are asked to describe an interaction with someone they still think about, drawing upon their experiences to create the visuals in this surrogate mind. These snippets of other's identity are shown, while the code that enables these interactions remains hidden. *Personal Construct* enables an exploration of multiple influences on identity formation: the physical structures of the brain that inform how we interact with others, the way society informs how we think, and the constantly evolving individual that results.

### **Review of Influences**

There are many artists who set a precedent for online collaborative projects, often crossing over into interactive media where users can either contribute or generate their own imagery. The internet provides a vast scape for social interaction, which many artists use expertly to gather material and communities to drive projects. The idea to create a collaborative online work was originally inspired by *Learning to Love You More*, a project by Miranda July and Harrell Fletcher, who asked audiences to create work based on assignments they designed. The resulting images are displayed on a website, organized by assignment. While neither artist designed the site, the primary artistic concept is contained within the prompt and the internet community's response to that prompt. This format is simple and fairly static; the artist puts out an idea and the audience gives them back an interpretation of that idea. The results are displayed on a website, but the website does not take advantage of direct manipulation of the technological interface. Ze Frank takes this concept to the next level, exerting more control on behalf of the artist in manipulating and displaying images by directly coding some of his internet-based works. With *Frailty Poem*, Frank uses an internet drawing tool that has been manipulated to generate lines with a web-like structure. Visitors collaboratively create a poem, then are asked to draw the lines of the poem. The *Letter Project* displays images of individuals holding

up the first letter of their last name, and creates a dynamic alphabet with them. *Pain Pack* combines calls from users describing emotional pain, and remixes those calls into musical compositions. The relationship between the imagery and the public is direct, since he gives prompts in the same way that Fletcher and July do in *Learning to Love You More*. However, by asking people to use tools he has created online, as in *Frailty Poem*, or choosing how to reconfigure media people have donated to him like he does in *Letter Project* and *Pain Pack*, he uses the internet as a creative media, a way to playfully express ideas, and not simply as a way to share work.

Code can also be used to create style and set up parameters for the visual appearance of web-based art. This can be seen in the work of Sergio Albiac, a generative artist who uses a combination of traditional media and computer programming in his practice, usually outsourcing control of the final product to others. He writes code that creates imagery, which he then uses to explore how individuality and environment interact. The vast majority of his work draws upon the human face for formal reference, used to depict genetics or the starting point for identity. Users can then manipulate images of themselves to display how action affects identity. In *The Generative Identity of Walter Vanhaerents*, Albiac begins by taking a picture of Mr. Vanhaerents, and manipulates that image with a program that tracks car movement. The final image is a result of how traffic directed Mr. Vanhaerent's vehicle, as well as the decisions that he made while driving. For his project *Stardust*, technology is used to create generative artwork that collages images from the Hubble space telescope into portraits, a statement about atomic composition and the molecular makeup of humanity. Here Albiac poses questions about artistic authorship by sourcing the creation of the images to the internet. In both cases, Albiac uses portraiture as the point of departure, manipulating the face since it is common to all human beings. He also relinquishes control of the final outcome to chance by using other individuals to generate the work, but ultimately the final images are a result of code which he has written. Albiac explores how the physical reality of the world around us relates to grander concepts,

such as the constraints on *The Generative Identity of Walter Vanhaerents* which come in the form of streets, tracing the actions we are capable of taking within the given space.

Another artist who effectively sets stylistic parameters for crowd-sourced projects is Aaron Koblin, who collaborates with other programmers to accomplish his highly technical work. Koblin's projects each have a distinct appearance, and his collaborative pieces often use extremely simple-looking drawing tools to create complex displays of contributors' work. In *The Johnny Cash Project*, simple drawing tools are used to draw a Johnny Cash music video frame-by-frame. Visitors to the project can then vote for their favorite iteration of a specific frame so that when the video plays, it is a blend of multiple user-generated and determined images. *The Sheep Market*, *Single Lane Superhighway*, and *Ten Thousand Cents* are three more projects that also use simple online drawing tools to create a grander whole when all contributions to the project are taken into account. Koblin's work becomes at least partially about the act of contributing, especially in the case of *Ten Thousand Cents*, where the final image can only exist with the contribution of each part. His work is more about the crowd than highlighting the individuals within it, although he relies upon these individuals to create the work. The drawing tool and the user interaction with this tool are emphasized.

*Personal Construct* diverges from the way that other internet-based artworks function in its emphasis on both the conceptual and technical aspects of the site, which are unified in the sense that the format of the site serves to illustrate a facet of identity formation. Miranda July and Harrell Fletcher use their site to display work responding to their ideas, and Frank uses coding to remix ideas and images in playful ways, but the code is always a tool or secondary media. Albiac writes programs where users have control over the final image, but it is how he decided to write the program that ultimately determines the style of the work. Koblin has more unity between concept and the way he approaches the code for his site, but is not emphasizing individuality in the way he chooses to display user-generated images together.

A wide range of influences have informed how the project portrays memory and social interaction. In particular, *Personal Construct* is informed by social and scientific ideas about identity formation. Inspiration and ideas for the *Personal Construct* project have also been gathered from work that explores how technology relates to the individual, especially in terms of how technological interfaces can mimic human minds and bodies. Dr. Michio Kaku discusses the relationship between the human brain and artificial intelligence, comparing the capabilities of the mind with the functions of technology. The brain is not composed of programming like our computers and technology, but rather the formation of neural networks that can be reinforced, changed, and strengthened. (Miller, 2010). Modern artificial intelligence uses this knowledge to build 'learning' machines, which have fairly simple code but reinforce the outcomes of mechanical actions. Our sense of 'self' is illusory, simply our mind trying to make sense of numerous mental events happening at a chemical level (Kaku, 2014). In actuality the self we project into the world around us is a result of all these neural impulses.

This tension between the brain network and a cognition of identity is explored creatively in the animated feature film, *Ghost in the Shell*. The primary plot revolves around the idea that humanity has advanced to the point where they can be supplemented with artificial digital enhancements, leading to problems with people's individuality being hijacked and often destroyed by hackers. Individuals who have been hacked often no longer possess an accurate concept of self, but instead only possess memories that have been coded and implanted to serve the ends of the hacker. One man believes he is going through a divorce and wants to take revenge on his wife for separating him from his daughter, but his strong emotions are betrayed when these memories are later revealed to be artificial creations. The relationship between body—here called a 'shell'—and the mind—termed a 'ghost'—is examined through the personal struggles of characters with various levels of mechanical augmentation, including an artificially created mind that asserts its right to live and thrive alongside humanity (Mizuo, 1995). The movie provides a creative analysis of what it means to have individuality, delving into how

memory affects and informs human emotions and actions, and future humans' ability to alter identity by directly restructuring the mind.

Lynn Hershman Leeson also explores concepts of artificial intelligence, focusing primarily on how people interact with technological entities. In *Agent Ruby* (1998-2002), and *Dina* (2000-2006), she creates web agents that people see manifested as a human face and can interact with in ways that mimic real human conversation. Each is given a name, both can carry conversations and remember information about the people that they interact with. Unlike the artificial intelligence imagined in *Ghost in the Shell*, both *Agent Ruby* and *Dina* only seem to gain an awareness of the people they interact with, and certainly do not have an inherent sense of self. Yet they give the impression of humanity, imbued with the warmth of a face and name, even picking up on social cues. They have not truly formed a conception of themselves, but are capable of responding to the uniqueness of others.

Most research into identity formation lends itself to the theory that varying experiences with the surrounding world result in different individuals. Erik Erikson posits that identity is formed in stages, and that the mind reacts to critical events in life, resulting in the discovery of self (Erikson, 1968). As each chronological stage of development is passed, we accumulate positive and negative experiences, the balance of which determines whether we become healthy individuals. James Marcia expands upon Erikson, theorizing that identity is formed by first grappling with personal goals and ideas, then making a commitment. This involves a dialogue between the current sense of self and an individual's environment (Identity Formation, 2004). Philosopher Gilles Deleuze seems to suggest that a sense of self is communal, composed of interactions with the external world, encompassing not just other people but also ideas (Stivale, 2003). In his collaboration with Felix Guattari for *A Thousand Plateaus*, both authors' voices are combined to produce the final book. They write about a concept called rhizome, of infinite possibilities of events, constantly shifting and changing, connecting to accommodate the reality of new events (Deleuze & Guattari, 1987). As noted previously, the

mind is a physical structure infinitely changing its neural network to form new memories. Perhaps these memories change our individuality even if they do not alter immediately our sense of self.

*Personal Construct* does not seek to contribute new study to philosophy, sociology, or psychology, but it does rely on these fields to inform and support its artistic concept. The gallery of memories functions as a visual representation of an interaction that has already happened, both to the person who created the image and to the site which now stores it. Ultimately *Personal Construct* seeks to represent identity formation through a collaborative artwork, not recreate in detail the physical processes of creating the memories that contribute to that identity.

### **Description of the Artworks**

*Personal Construct* is a website that harnesses community participation from the internet to generate visitor-constructed images that seek to capture snapshots of time from the minds of participants. The entry page of the site is composed of a size-variable video that displays a shifting outline of a human profile. The text that creates this profile is taken from my own personal writings about individuality. This page contains links to the gallery page as well as a creation page which contains a drawing application. The gallery functions as the mind of the site, while the drawing application facilitates a dialogue between website and visitor. Additionally, this page greets users with a message that explains the function of the site as an art project, and invites interaction. At all times the site verbally refers to itself as "I," establishing itself to the viewer as a separate entity with an identity of its own. The creation page functions as your interaction with the person/webpage, the external quality of an individual. The home page functions as your immediate impressions and understanding of the individual. And the gallery page is the mind of the website, where you can view and recall information that has been input, explore what others have created and who the site is becoming. Actions taken here have no lasting impact on the site structure.

When entering the create page, visitors are prompted with the phrase, “Show me an experience with someone you still think about.” By using this wording I let the viewer know that I am specifically looking for artwork about memorable person-to-person interactions. It is not specific to an emotion, yet will potentially generate highly emotionally charged work while leaving open the door to mundane, everyday interactions. This enables experiences with the site to be more accurately representative of interactions between humans. Drawing tools are located at the top of the page, and the text which directs the viewer to create an image about an interaction with others drops to the bottom of the screen. A user can draw lines using a variety of colors and sizes, create text boxes that have a selection of fonts and font sizes, and upload images from their computer to help them depict this memory. They can then save these images directly to the gallery in real time.

There is a voyeuristic quality to the finalized gallery of images. Though you may have made a contribution to the project, you are not the sum of its related parts. In much the same way, our interactions with others may inform their actions and who they become, but we cannot ever really understand exactly who they are and why. One individual can understand, but not inhabit, another. After creating the memory within the mind of my web creation, you must either step back and look at the whole or continue to contribute. For this reason I have chosen not to put a limit on the contribution to the project, since the project is functioning as a sort of surrogate mind. Outsiders can bring new memories, and form new connections in the form of images that will be written to the gallery page. You can also examine each image in detail, enlarging and possibly distorting it as you try to understand each part of the composite whole. These images will never display in the same way that they were created; they have been reshaped to fit into this new mind. Most individuals do not have the capacity to recall events in the exact way they happened, so I have chosen to allow the images to be distorted freely. The images can even be degraded to the point where they are no longer visible, or made massive as a user forces the memory to be shown to them. The background is a shifting layer of words, symbolizing the

neural connections as they reshape themselves. They read: “I am who I am, I am who I was, I am who you make me,” referring to how identities are informed not only by the individual you are currently associating with, but also by the memories and history of that person and the memories that they are in the process of forming because of your influence. Using neurons as a point of reference allows me to use bodily structures in my design, similar to the shifting human profiles of the index page.

*Personal Construct* does not attempt to display an individual that has achieved a full sense of self, but rather one that is still in a stage where memories could conflict and tell different stories. It is a developing individual, and not a static one. My conceptual framework uses theories on self-concept, identity formation, and brain function to drive the way I approach the project technically. Designs are used that reference humanity, but do not attempt to make the site look human. Imagery of the face and neural structure are shown to expose the physical processes of mental individuation, both as an outward dynamic relationship to one’s environment and as a internal chemical reaction to these relations. And unlike a computer or programmed software, internet code also grows and develops based on new implementations and contributions from a community of programmers that work in web languages.

Much of the code that I have used on my site has been learned from free, open source websites coded by people that want to share knowledge and improve the internet both visually and functionally (See Appendix for Coding Resource Links). The site utilizes the new video and audio tags, CSS3 animation, and the HTML 5 canvas, which is powered by the KineticJS JavaScript framework.

### **Conclusion and Exhibition Statement**

I have always been interested in what defines personalities, and how experiences define the individuals we become. As an artist I began exploring my own identity through personal narrative several years ago, creating video work that explored my family history and dysfunctional events that have shaped who I am. Later I began to analyze other’s experiences,

trying to identify how our appearances affect our experiences, and how society contributes to our perceptions of self. With the *Construct Project*, I sought to see individuality as a composite of multiple people, of society. Instead of seeing identity simply from a single person's description of their own life and experience, this project allows a multitude.

My research on the *Construct Project* has furthered my own understanding of identity as a creation of itself, something crafted both by internal processes and interactions with the world around us. Initially I viewed the code for this website simply as media that had to be conquered in order to provide the breadth of vision that I felt the project required. The site needed to be accessible to a broad audience for it to have the collaborative capacity that I envisioned. The work was to be about identity formation, using the supposition that memories inform who we are and who we become. But as the work progressed, and I gained familiarity and some degree of technical proficiency with JavaScript and PHP, I realized how these languages also are updated, become obsolete, and affect the existence not only of my project but the entire community of web programmers worldwide. Memory is not a finite and unchangeable thing, and the languages that determine how code is written for the internet also evolve. Most code is much more concrete and logical than our ever-changing brain structures; and unless it is hacked or otherwise changed, this code stays much the same. But with updates to web browsers, some code may be corrupted or no longer work, and viewing in different browsers might change the way an image is seen. Details may need to be adjusted to allow visitors to see the same image in the same way across different browsers. With the continuing implementation of new CSS3 and HTML5 specifications, the way video, audio, and animation are created for web pages will likely change drastically over the next several years.

Visitors to [personalconstruct.com](http://personalconstruct.com) will probably come from two categories: those who prefer to passively view and those who prefer to contribute. Anyone who wishes to interact with the site should expect to commit a moderate amount of time crafting an image that they would wish to be displayed for others to see. I encourage all visitors to spend a few minutes drawing in

order to drive the project forward. Given the simplicity of the tools, it should not take more than 15 minutes to generate and save an image on the site. As the project grows, more time should be spent viewing the images that the site holds. Perhaps some relationships between that imagery will begin to form as the gallery begins to accumulate additional content.

It is recommended that visitors view *Personal Construct* in the most current version of the Google Chrome browser, or current versions of Firefox and Safari. The project will not display correctly in any version of Internet Explorer 9 or earlier. *Personal Construct* will be hosted online from June 2014 until May 2016, accepting contributions from viewers worldwide for two years. After this point the project will no longer generate new imagery and will be archived. In that two year period, the project code may be updated for compatibility with new releases of Firefox, Safari, and Chrome. This may eventually result in slight changes to the way the site appears, as the individual that has been created by multitudes is forced to evolve to adapt to this shifting code.

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Appendix A  
Coding Resource Links

1. <http://bavotasan.com/2011/style-select-box-using-only-css/>
2. <http://bgrins.github.io/spectrum/>
3. <http://code.google.com/p/upload-at-click/>
4. <http://coding.smashingmagazine.com/2013/10/11/we-wanted-to-build-a-file-uploader/>
5. <http://codular.com/more-html5-canvas>
6. <http://css-tricks.com/>
7. <http://davidwalsh.name/generate-photo-gallery>
8. <http://eligrey.com/demos/FileSaver.js/>
9. <http://jsbin.com/ExeHoHu/1/edit>
10. <http://jsfiddle.net/>
11. <http://kineticjs.com/>
12. <http://kvcodes.com/2013/12/get-all-images-from-a-directory-dynamically-php-jquery-ajax/>
13. <http://multimedia.journalism.berkeley.edu/tutorials/wordpress-photo-galleries/nextgen/>
14. <http://permadi.com/blog/2010/10/html5-saving-canvas-image-data-using-php-and-ajax/>
15. <http://stackoverflow.com/questions/11511511/how-to-save-a-png-image-server-side-from-a-base64-data-string>
16. <http://stackoverflow.com/>
17. <http://stackoverflow.com/questions/12075908/allow-for-click-only-once-no-double-clicking>
18. <http://stackoverflow.com/questions/12407321/navigator-getusermedia>
19. <http://stackoverflow.com/questions/12899590/how-to-save-canvas-image-using-classic-asp>
20. <http://stackoverflow.com/questions/12902190/how-to-save-and-share-canvas-html5-image-by-saving-as-link?rq=1>
21. <http://stackoverflow.com/questions/13198131/how-to-save-a-html5-canvas-as-image-on-a-server>
22. <http://stackoverflow.com/questions/14203871/kineticjs-help-uploading-images-to-stage-from-input-file>
23. <http://stackoverflow.com/questions/14226328/kineticjs-drawing-a-simple-line-kinetic-line-strange-behavior-possibly-a>
24. <http://stackoverflow.com/questions/14910196/how-to-add-multiple-divs-with-appendchild>
25. <http://stackoverflow.com/questions/1532993/i-have-a-base64-encoded-png-how-do-i-write-the-image-to-a-file-in-php>
26. <http://stackoverflow.com/questions/16708016/paint-application-with-kinetic-js>
27. <http://stackoverflow.com/questions/18006248/multiple-image-upload-with-php-saving-only-one-file-path-to-mysql-database>
28. <http://stackoverflow.com/questions/18957802/creating-gallery-from-folder>
29. <http://stackoverflow.com/questions/19793270/kineticjs-multiple-images>
30. <http://stackoverflow.com/questions/20023078/kinetic-js-object-has-no-method-batchdraw>
31. <http://stackoverflow.com/questions/20577429/kinetic-js-rendering-lines-slowly-when-used-in-freehand-drawing>
32. <http://stackoverflow.com/questions/2888812/save-html-5-canvas-to-a-file-in-chrome>
33. <http://stackoverflow.com/questions/476679/preloading-images-with-jquery>
34. <http://stackoverflow.com/questions/4781602/capturing-html5-canvas-output-as-video-or-swf-or-png-sequence>
35. <http://stackoverflow.com/questions/6916359/resource-interpreted-as-document-but-transferred-with-mime-type-text-php-error-w>
36. <http://stackoverflow.com/questions/867916/creating-a-div-element-in-jquery>
37. <http://stackoverflow.com/questions/8724739/jquery-ajax-request-remains-pending>
38. <http://stackoverflow.com/questions/9830651/simple-custom-play-button-for-several-songs-in-html>

39. <http://tutorialzine.com/2009/09/cool-jquery-gallery/>
40. <http://www.fabiobiondi.com/blog/2012/10/export-and-save-a-screenshot-of-an-html5-canvas-using-php-jquery-and-easeljs/>
41. <http://www.fabiobiondi.com/blog/2012/10/upload-images-from-the-user-hard-driveto-an-html5-canvas-easel-js-application/>
42. <http://www.html5canvastutorials.com/kineticjs/html5-canvas-kineticjs-image-tutorial/>
43. <http://www.html5canvastutorials.com/kineticjs/html5-canvas-pixel-detection-with-kineticjs/>
44. <http://www.html5rocks.com/en/tutorials/canvas/integrating/>
45. <http://www.html5rocks.com/en/tutorials/file/filesystem/>
46. <http://www.html5rocks.com/en/tutorials/getusermedia/intro/>
47. <http://www.javascriptkit.com/javatutors/externalphp2.shtml>
48. <http://www.kubilayerdogan.net/html2canvas-take-screenshot-of-web-page-and-save-it-to-server-javascript-and-php/>
49. <http://www.php.net/manual/en/function.file-put-contents.php>
50. <http://www.smartjava.org/content/capture-canvas-and-webgl-output-video-using-websockets>
51. <http://www.uploadify.com/download/>
52. <http://www.w3schools.com/>
53. <https://code.google.com/p/ocupload/wiki/Documentation>
54. <https://code.google.com/p/upload-at-click/>
55. [https://developer.mozilla.org/en-US/docs/Using\\_files\\_from\\_web\\_applications](https://developer.mozilla.org/en-US/docs/Using_files_from_web_applications)
56. <https://github.com/eligrey/canvas-toBlob.js>
57. <https://hacks.mozilla.org/2011/01/how-to-develop-a-html5-image-uploader/>