DESIGN & DEVELOPMENT PORTFOLIO

2014 — 2015

runigoswami.com

ABOUT

I love hearing and telling stories and I strive to design and build products and experiences that resonate with and inspire others. I recently graduated with an MS in Computer Science from Dartmouth, and while I was there I created art installations, data visualizations, illustrations, and web applications with this in mind. My background in 3D animation and neuroscience enable me to see nearly invisible connections and to easily switch between opposing perspectives and contexts. Consequently, product design and development is something that I both love and excel at. Specifically, I enjoy transforming the murky ambiguity of fledgling ideas and brainstorming sessions into concrete prototypes and products.

FRAMESHIFT

Shift Your Attention, Shift the Story
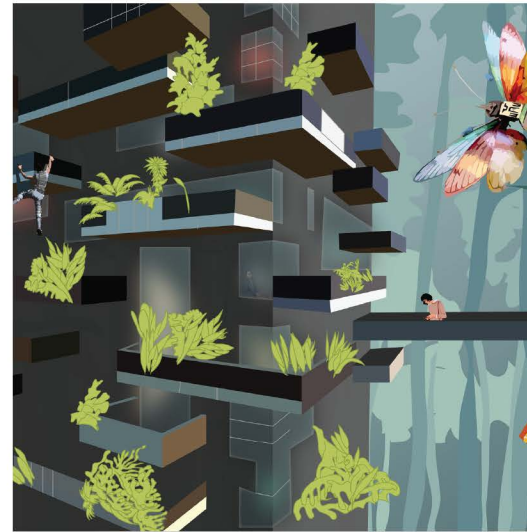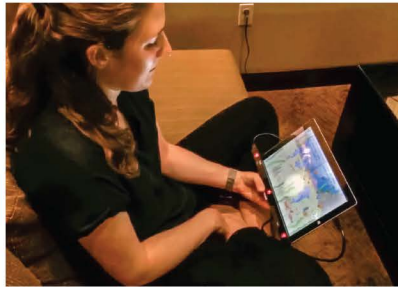
As the culminating part of my Computer Science Master's Thesis at Dartmouth, I created a novel framework for graphic storytelling which uses reader attention, as measured by eye gaze fixation, to introduce subtle narrative and graphic changes and in turn change readers' belief states over time.

In real life, we miss conspicuous objects, people, and events that take place before our very eyes, a phenomenon called inattentional blindness. In our crowded visual worlds, we can't attend to everything and saliency maps in our brains weigh top-down and bottom-up factors to determine what we spend our limited attention on. While reading, on the other hand, there are no consequences for not attending to something. If we miss something, we can always go back and reread the passage.

Attention is a limited resource that intrinsically dictates our perceptions, memories, & behaviors.

FrameShift is an extensible framework for using attention to introduce perceptual changes in narratives.

My collaborator, Tim Tregubov and I built a framework in Unity3D for a new shifting narrative experience, where your attention matters and changes your perception of the characters and course of events, just like it does in real life. I am currently authoring and illustrating a full length graphic novel with this framework (artwork top right). For more:
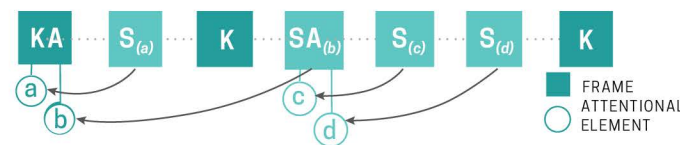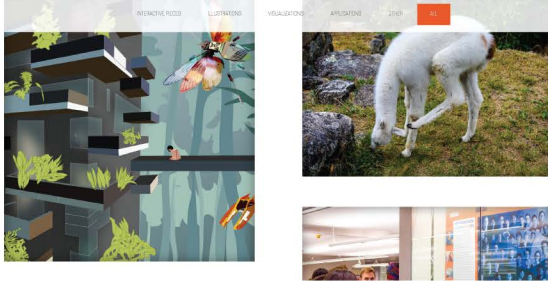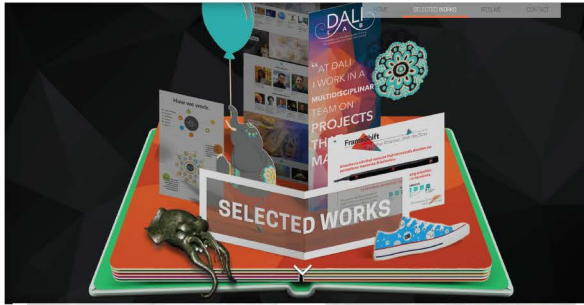
http://runigoswami.com/posts/frames

We use eye tracking to measure reader attention and change text and visual elements later on in the story accordingly. These shifting frames and subplots change readers' belief states over time.

SHIFTING NARRATIVE

KA ⋯ S(a) — K — SA(b) — S(c) — S(d) ⋯ K

a
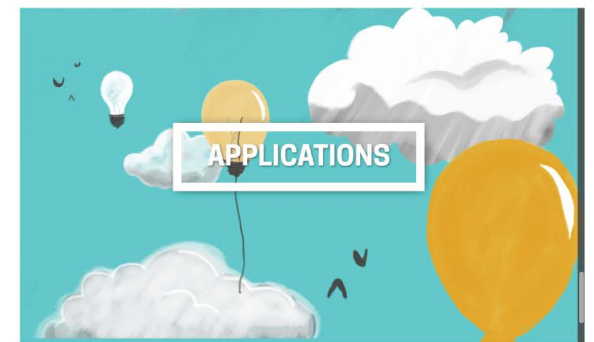b
c
d

■ FRAME
○ ATTENTIONAL ELEMENT

PORTFOLIO WEBSITE

I wanted the scalability and order of a grid system with the variable visual hierarchy seen in print layouts. Isotope.js made it easy to get the best of both worlds as well a filterable nav bar.
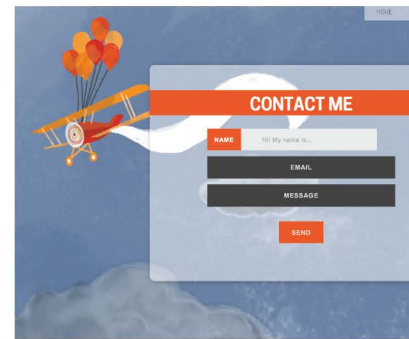
It might be a little meta to talk about one's portfolio website in the portfolio itself, however, I learned a lot about web development and design through its creation. I wanted to create a site that had a lot of visual interest and motion that could not be generated from a website builder template. I was inspired by parallax-scroll-heavy articles I saw on Medium and I wanted to learn how to tell my story through a website in an engaging way. I created multilayered background images that would lend themselves to animated scrolling and pushed myself as an illustrator. When I started I was a web development novice who was easily scared off by jQuery selectors. After, I found myself with opinions about certain javascript libraries over others and I knew how to tweak things like a floating elephant's flight! Along the way, I struggled with performance issues and responsive design woes and I realized that the easiest way to embed a pdf was to convert it to an svg. This project is a perpetual design & dev sandbox! For more: http://runigoswami.com.
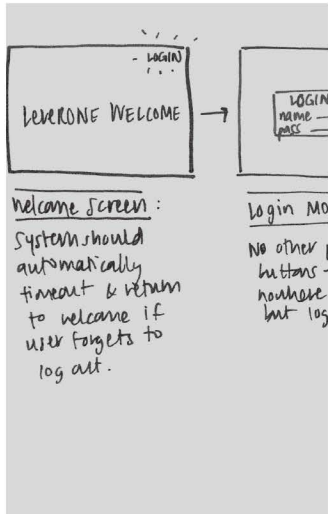
The design challenge was to build "a user touch screen depicting the floorplan layout of the field house and a series of password-protected 'back screens' where designated users (coaches, special events managers, Athletics administrators) can go to to select pre-defined 'scenes' or 'profiles' to get a known lighting effect in the facility."

- Sam Zucker, FO&M client

I revisited the app design 6 months after installation as a quick design challenge. This is the final iteration

LIGHTING INTERFACE

The Leverone Field House made an energy-conscious decision last summer to replace all 150 of their overhead lights with Digital Lumens' Intelligent LED Lighting System — expected to save 10,000 kWh/week. Dartmouth's Facilities Operations & Management (FO&M) and Energy Program asked the DALI Lab to create an intuitive touch screen user interface for the new lighting system. I formally came onto this project during Summer

2014 while the lights were still being installed. I and two other developers created a webapp using the Digital Lumens LightRules API and Parse as our backend. The front end was built using Backbone and jQuery. I designed the interface and did front end styling as well as some of the backend functionality. For more: http://runigoswami.com/posts/leverone.

BERRY LIBRARY EXHIBIT

The main concourse in Dartmouth's Baker-Berry Library features a rotating exhibition of student work, rare texts, and departmental research. The library staff approached the Digital Arts Leadership and Innovation (DALI) Lab in Fall 2014 and asked the lab to put together a showcase of lab projects completed in the lab's first year. The lab has "digital" in the name so as you can imagine, the vast majority of the work produced by the lab is not conducive to be displayed in static, physical, display cases. The concourse in question is the most central corridor of the most central building on campus. It is generally unavoidable by even the most reclusive students, particularly during the winter months when so-called "warm cuts" through the library are crucial. As lead designer, I wanted to introduce the campus to some of the work we do in the lab without simply printing out screenshots of websites and mobile apps. I also wanted to create an engaging exhibit which would brighten up the generally gray space and create discussion around the lab. It was an exciting challenge to create such a large physical exhibit that students still talk about over a year later. For more: http://runigoswami.com/posts/berry

APPENDIX

With concentrations in Neuroscience, Spanish, Digital Arts, and Computer Science, it is safe to say I like wearing a lot of different hats. Here are some clippings from projects I have worked on over the past two years that didn't quite make the cut for this portfolio ranging from illustrations to merchandise to 3D models to diagrams in AI problem sets.