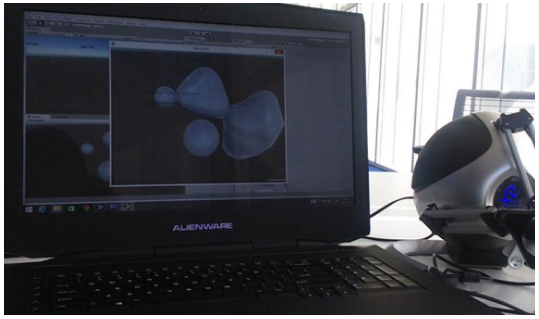
Portfolio

Danning Lu

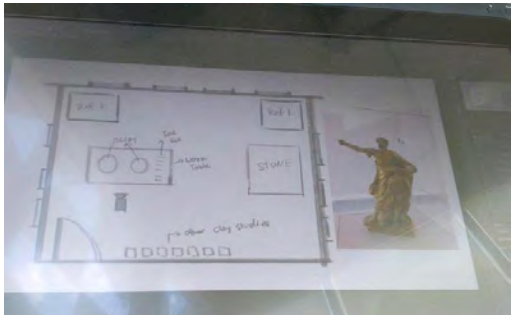
Content

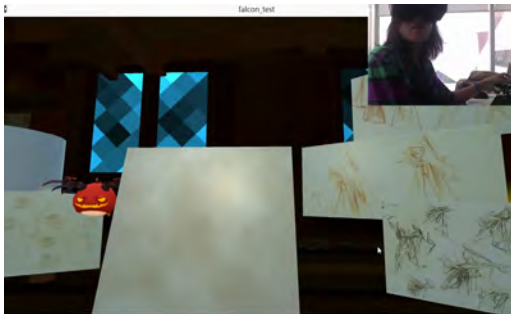


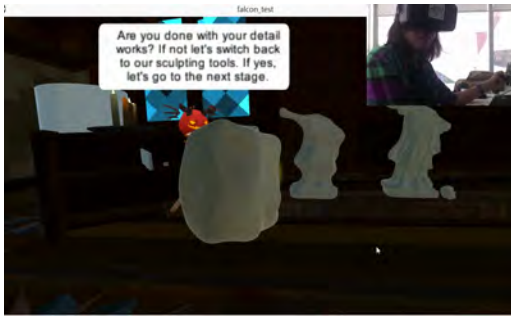
Seeing Through the Master's Eyes

- Experiencing the creation of masterpiece in virtual reality

Museums are challenged for a long time to engage their visitors. Many forms of technologies have been adopted to engage people by providing more information. Haptics, as a subset of virtual reality, is the focus point in this work. This project is proposing a virtual reality experience based on the statue of St. Longinus in St. Peter's Basilica by Bernini combine with the using of Novint Falcon, a 3D touch controller. Extending from previous projects, this project will let users to experience how the piece was made from the artist's perspective using the Falcon.



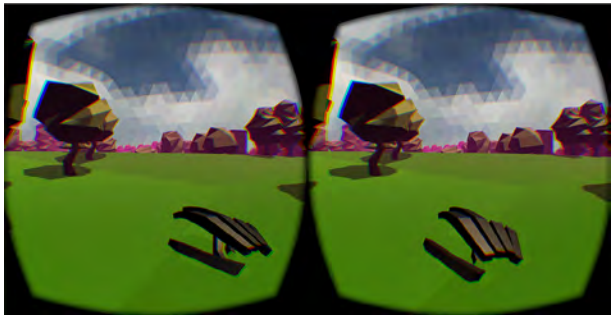


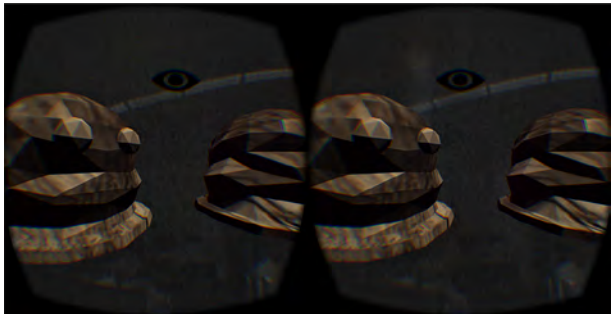


In this project, I address the question and experiment on how haptic immersion can add to the feeling of presence in a virtual context and how it enhance the connection between users and the act of creating an artistic piece.

Blink

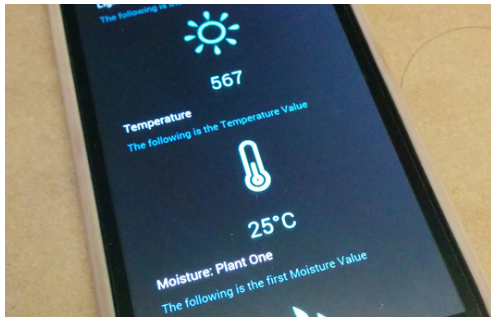
Blink is an immersive experience in mixed reality with LeapMotion and Oculus.





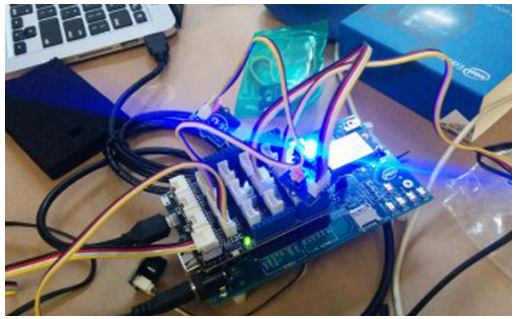
The experience begins with the player choosing to "fall asleep" and entering a virtual world representing a dream. Player can choose to explore the dream world with gestures or keyboard. However this dream soon turns into a nightmare when you discover slimes. To survive from the attack of slimes, the player needs to wake up by using the LeapMotion quick switch gesture. After waking up, the player can conquer the nightmare by defeating the slimes using the tools found in the dream world.

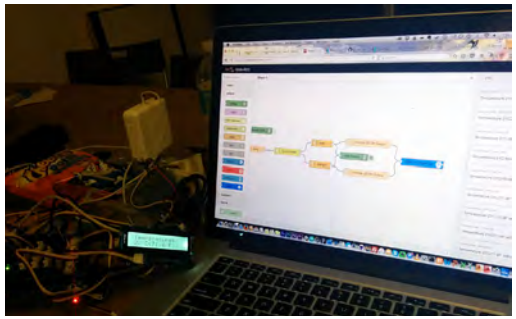
This is a collaborate project and I worked on the overall design of the environment and coding the gestures to move around.



PlantBot

PlantBot is a project made during the hackathon of Intel IoT Roadshow Toronto.
It won the 3rd place at the end of the event.



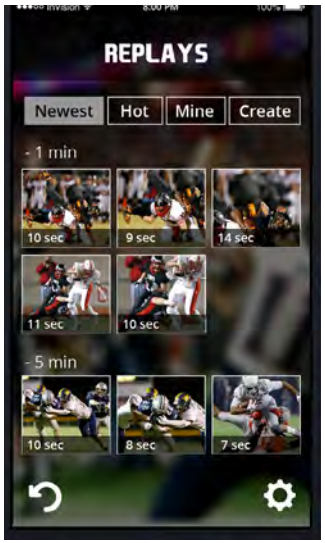


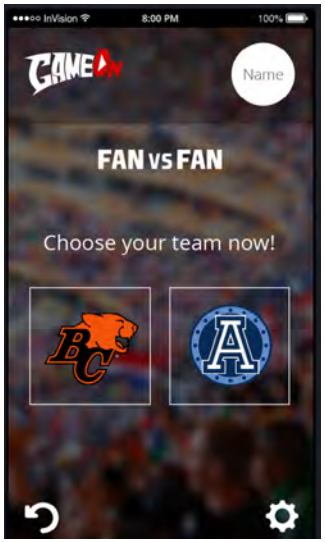
PlantBot has two components as a service. It has the physical part which contains sensors that users can put into/ onto the soil of a plant. The physical part also contains a self-watering system that can water the plant according to user's settings and current readings from the moisture level of the soil.
The other component is the cloud service powered by IBM Bluemix. Users can check the real time data(moisture level, light level, air quality) of their plant using a web app.
I worked on the backend side of the service, including reading data from the edison board and sending data to the cloud server.

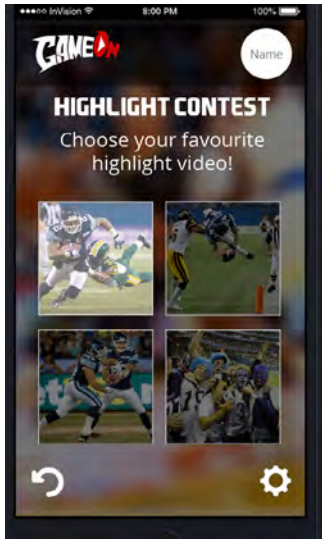
Game On

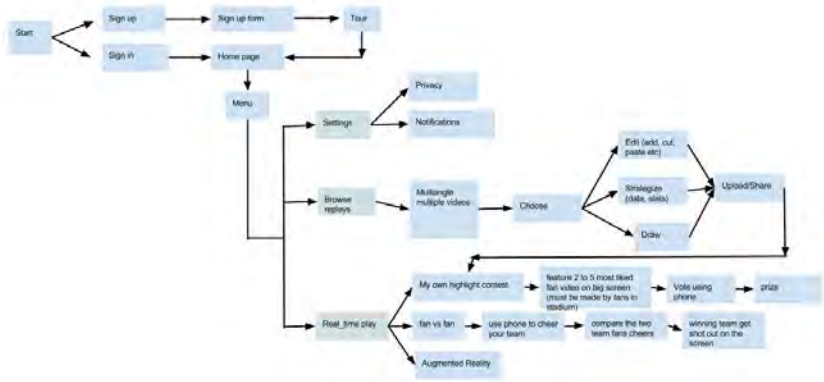
-An immersive companion app for hardcore fans and pleasure goers

GameOn is a project made during the hackathon of Reinvent Sports at Ryerson University.





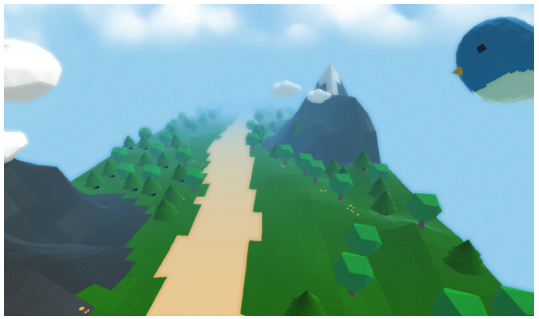




GameOn provides a new way for stadium goers to experience the game, engages those at the stadium and incites the saty home fans to come to the stadium.

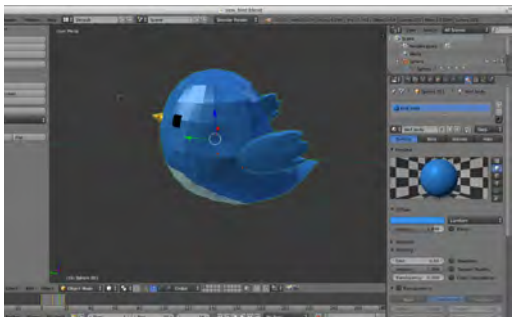
GameOn is a collaborate project.

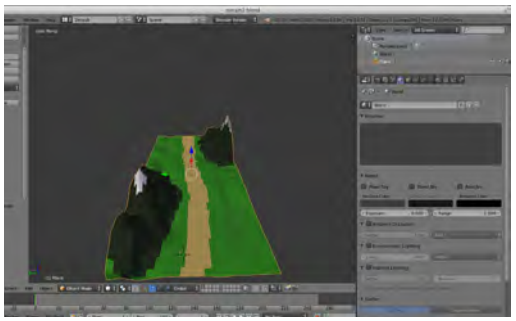
I worked on the user interaction flow and the user interface of the augmented reality section.

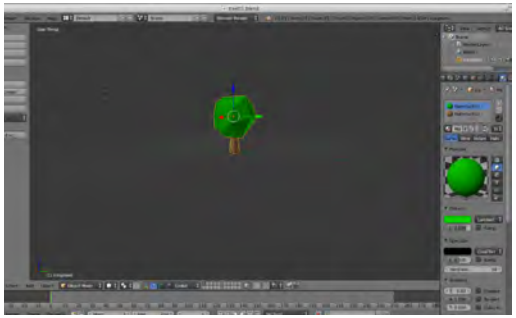


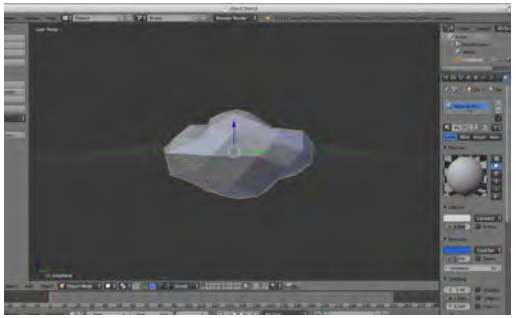
Jump In

Jump In is an interactive physical exercising game for children 5 – 10 years old.

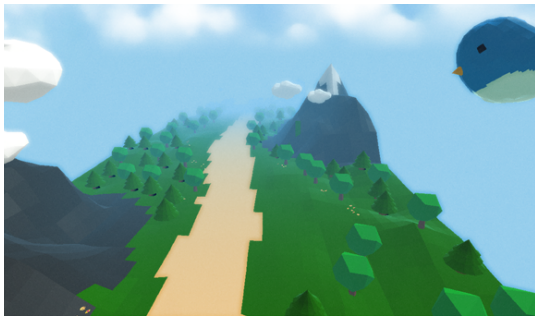








The game is a procedural game that can adjust the pace of the game according to the user's heart rate. Users will use a Kinect camera to interact with the game and a wearable device will be wore by the user to capture real time pulse data.



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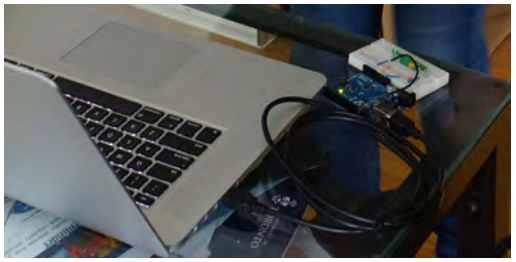


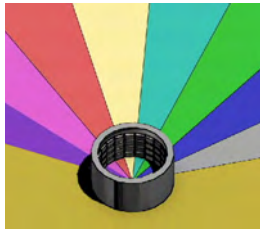
This is a group project. And I was in charge of 3D modeling, communication between Arduino and unity3D (using C# and arduino), and building landing page. I also co-worked on project managing and user interaction design.

CityBeat

CityBeat is a collaborative project made in Hack'n'Talk 2015.

CityBeat is an interactive dress that can change colour according to the data we got from Toronto Open Data. We used an Arduino as our controller and several RGB LEDs connecting to fiber-optic threads to make the effect.

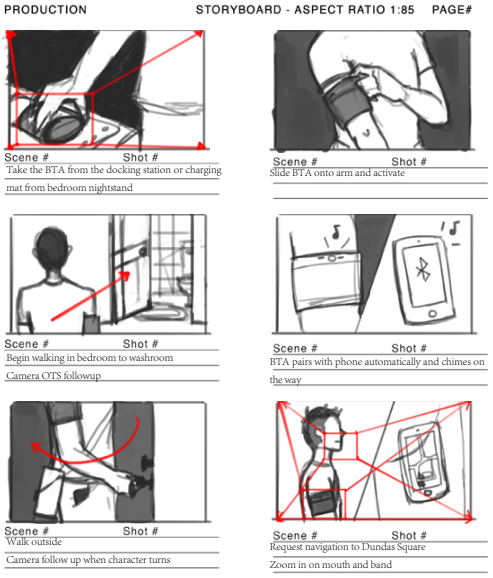
I worked as the coder in the team and was responsible for writing the processing code that read and parse the XML file from Toronto Open Data then send the data to Arduino.

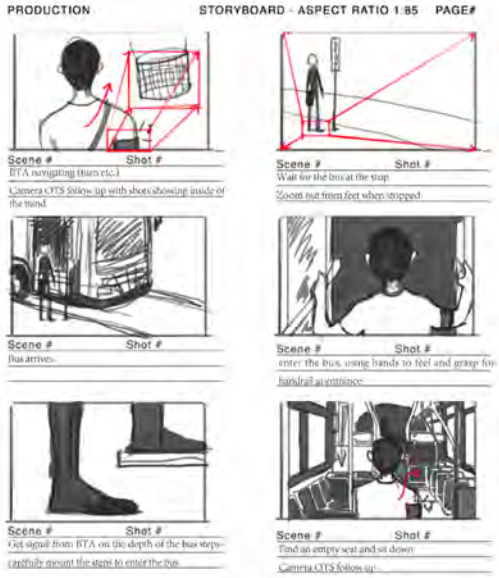


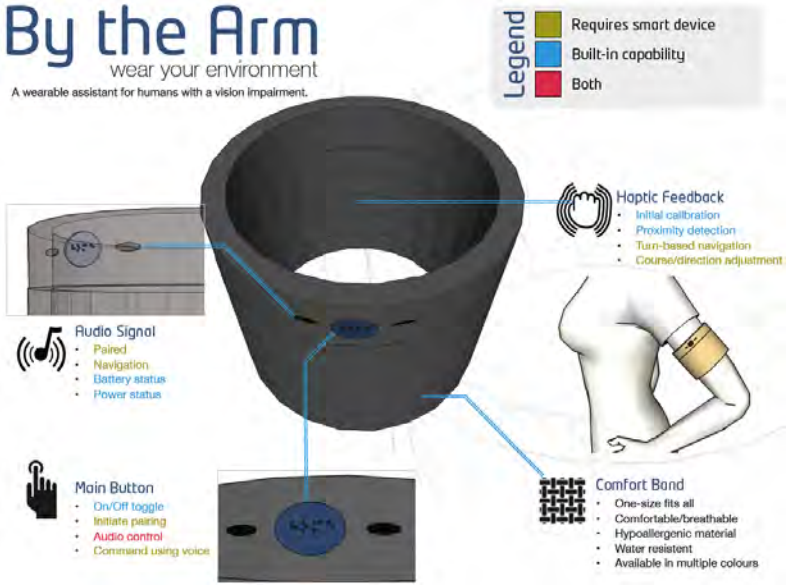
By the Arm

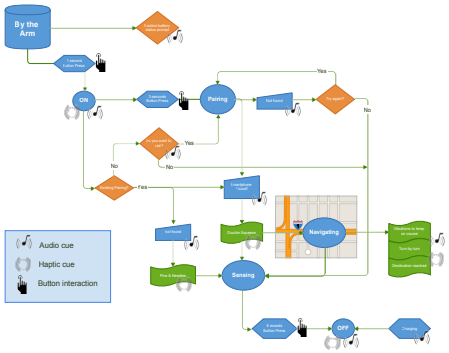
– A wearable assistant for humans with a vision impairment-

An armband that allows users to feel and navigate their environment through haptic feedback and auditory cues. (Concept Design)







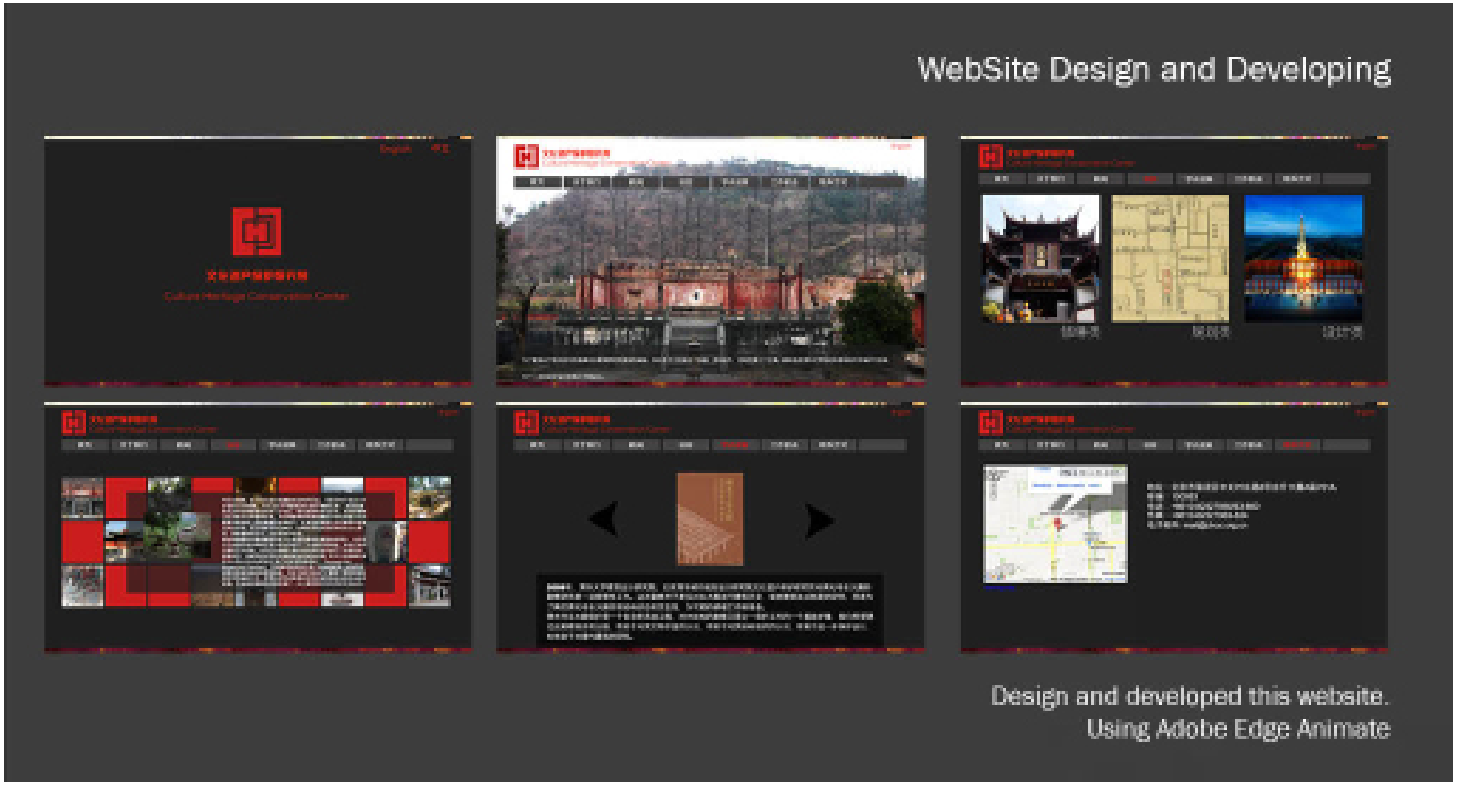


By the Arm (BtA) is an assistive wearable device. It works by scanning an 8-foot radius and converts objects into a pixel grid found on the inside of the armband. The pixel grid is an array of small squares which depress or release depending on how far an object is relative to the current location of the device. By pairing BtA with a smartphone using Bluetooth, turn-by-turn navigation is possible.

This is a group concept design project. Worked on the storyboard of promotion video, 3D modeling and interaction flow design.

CHCC Website

This website is developed for Culture Heritage Conservation Centre in Tsinghua University. It is done in Adobe Edge Animate. I designed and developed the whole website. The current stage of the website is a template, the content would be loaded in by people from CHCC.



Photography & Illustration

Other than programming and UX, I'm also interested in photography and drawing. Here are some of my works.

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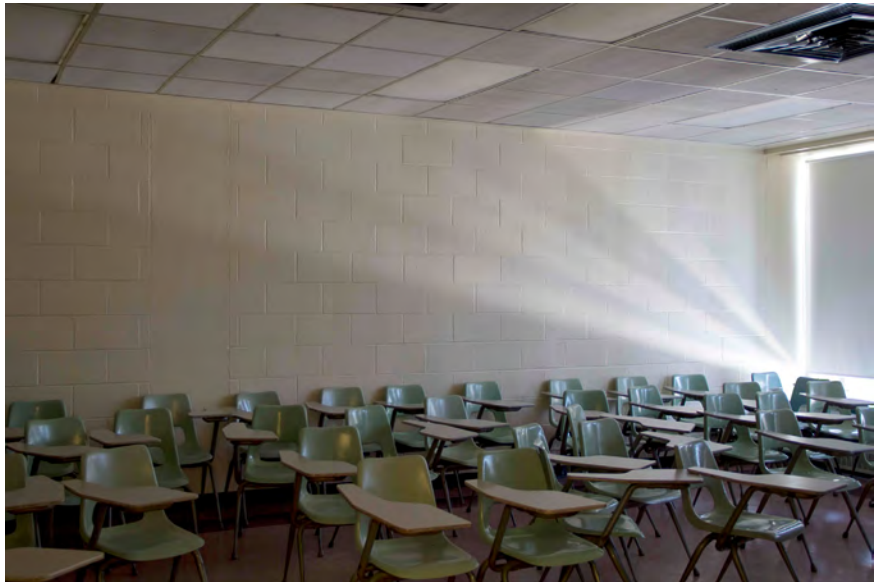

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For videos please check my vimeo channel
https://vimeo.com/user18182550

For code examples please check my github page
https://github.com/shgfl007

For more projects please check my website
http://danninglu.com

Thank you for your time and consideration!

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