MAGIC 2015-2016
End of Year Presentations

June 17th, 2016

Agenda - I

- **Julia Georgi** - Astrophysics, Exoplanet discovery program in Python
- **Marina Lee** - Application in Python to teach math
- **Casandra Avila** - Girls Can Too campaign and information box
- **Joon Luther** - Electronic simulation of wilderness with Arduino, sensors, and plants
- **Lauren Taylor** - Travel website to document her journeys, using HTML, CSS, and JavaScript
- **Wynna Huang** - Hangman game developed in Python, with graphics.py library
- **Morgan Conner** - 3D animation (living room) built with Maya
- **Purva Joshi** - JavaScript game for a digital learning curriculum for dyslexic students

Agenda - II

- **Samantha Serrano** - Tic Tac Toe, Mad Libs, and Battleship games in Java
- **Diana Nguyen** - Personal website using HTML, CSS, and JavaScript, hosted on GitHub
- **Vasundhara Sengupta** - Cross-platform mobile application called MediAlarm, using Cordova (allows for mobile development with HTML, CSS, and JavaScript)
- **Kristina Mkrtchyan** - 2D puzzle platformer game, using Unity and C#
- **Esmeralda Leon** - Building catapults, making rock candy, and extracting caffeine from black tea
- **Iris Cheung** - Website for Jujubees Crafts, using HTML, CSS, PHP, and jQuery animations
- **Kim Ngo** - Ruby Goldberg machine using Legos Mindstorm EV3, Sphero, and a ping pong ball

Julia Georgi

6th Grade

Scotts Valley Middle School, Scotts Valley

About My Mentors

My mentor from October to March was Jessica Werk, Professor of Astrophysics at University of California Santa Cruz (UCSC). Jessica Werk is now an assistant professor at the University of Washington. She studies the extended gaseous components of galaxies and the role they play in galaxy formation and evolution!

Caroline Morley, Doctoral Candidate at UCSC took over as my mentor in March after Jessica took a job with the University of Washington. Caroline studies the atmospheres of exoplanets and brown dwarfs!

My MAGICal Experience

I learned a lot about astrophysics, exoplanets and python!

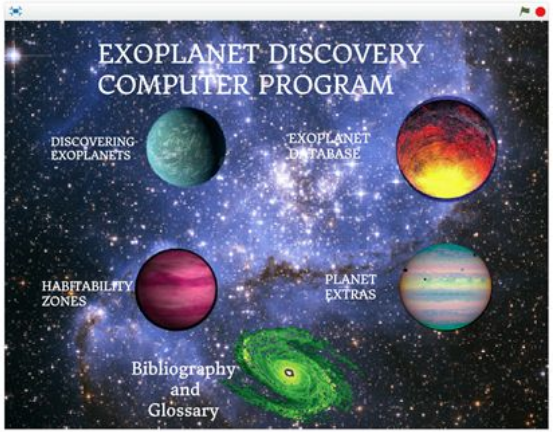
- I learned about computer programming for science, physics and math.
- I wanted to expand my game programing, animation and digital drawing skills and to learn a new programming language.
- I wrote programs to simulate the orbits of Jupiter's moons.
- I wrote my project on exoplanets first in Scratch then compared my code with Python.
- I began programming with Python.

What are Exoplanets?

- Planets that are outside of our solar system
- Over 3000 exoplanets have been discovered!
- The biggest is nearly twice the size of Jupiter!
- The smallest is a third of the size of the earth

My Project

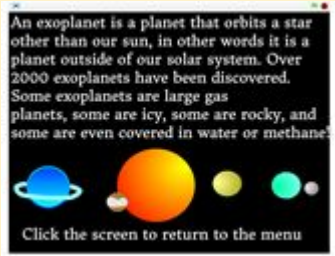
My Exoplanet Discovery Program has five modules:

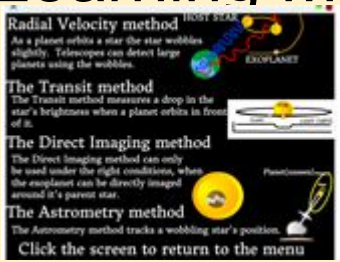


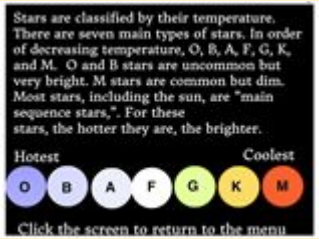
1. Discovering/Learning
2. Exoplanet Database Search
3. Habitability Zone Calculator
4. Planet Extras
5. Bibliography and Glossary

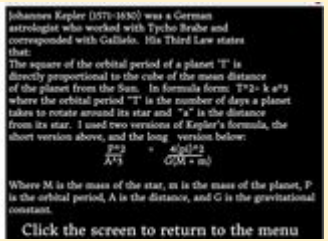
- My program identifies possibly habitable exoplanets
- It uses the latest Kepler Space Telescope Data from NASA
- You can create millions of different search combinations

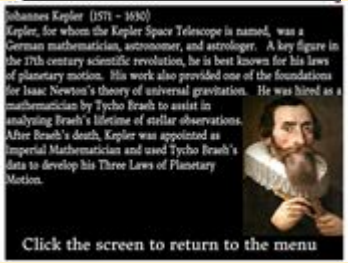
Exoplanet Astrophysics Learning Module

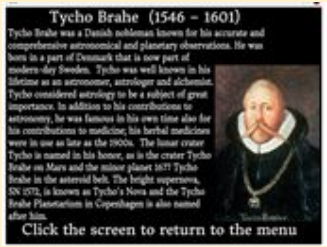












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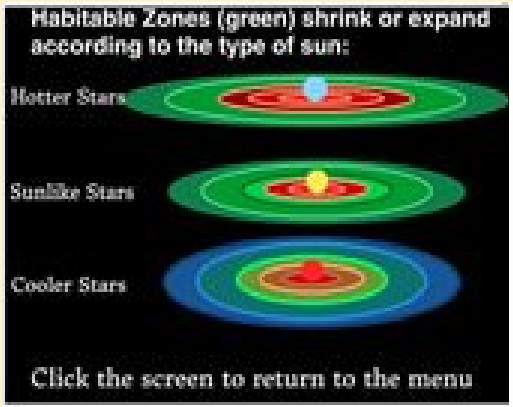
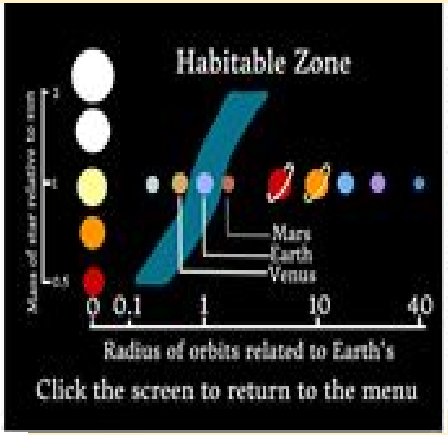




Factors that Affect the Habitability of an Exoplanet

Type of Star, Mass of the Star, Age of the Star, Luminosity of the Star, Temperature of the Star, Mass of the Planet, Gravity of the planet, Type: Gas, Rocky, or Water, Distance from its Star, Temperature of the planet, Orbital Period of the Pla Atmosphere (Co2, Methane, etc), Greenhouse effect, Density of the Atmosphere, Atmospheric pressure, Do Clouds Reflect Star's heat, Do Clouds Retain Planetary Heat, Degrees of Inclination (Tilted on its axis), Elliptical or circular orbit Moons which could affect tidal forces, Age of the Planet (enough time fo life to form), Proximity to Stellar Objects: (Binary Stars, Black Holes, Novas, Gas Clouds)

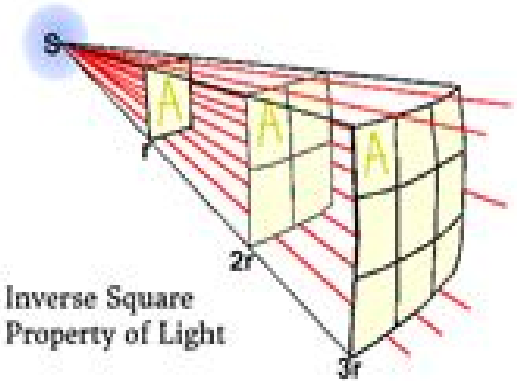
Click the screen to return to the menu

My Habitable Zone Calculations

1. Calculate Exoplanet Distance using Kepler's law
2. Divide Exoplanet Orbit days by 365
3. This equals the percent of an Earth year
4. Square the resulting percent
5. Find the luminosity of the Exp Star from Kepler database
6. Calculate percent greater or smaller of our Sun
7. Find the cube root of the difference
8. Divide by 94 million km (earth orbit) to get AUs
9. Multiply by selected min and max HZ AUs
10. Check if Exp orbit is within the Min and Max HZ
11. Check if the Exoplanet Mass is greater than .3 of Jupiter mass
12. If it is then it is likely a gas planet so Mass= Neg
13. Check if Exoplanet Mass is greater than .3 of Jupiter mass
14. If it is then is is likely too heavy for life so Radius = Neg
15. If HZ, Mass and Radius are OK then add it to the Hab list

Estimates and Sources for HZ Boundaries

Min	Max	Date	Notes
0.725	1.24	Dole 1964	Used atmosphere and cloud reflection to place Venus just inside the zone
----	1.381	Budyko 1968	The point at which Earth would experience global glaciation.
0.95	----	Rasool 1979	The minimum distance at which Earth would form oceans.
0.95	1.01	Hart et al. 1979	From computer modeling of the evolution of the Earth's atmosphere.
----	0.5	Fogg 1992	Used the carbon cycle to delineate the outer edge of the habitable zone.
0.99	1.37	Kasting 1993	Estimated the cooling effect of cloud reflection.
----	0.5	Spiegel 2010	Proposed that seasonal liquid water is possible to this limit.
0.75	----	Abe 2011	Found that desert planets could have water at the poles and be closer to the Sun
0.82	1.1	Vladilo 2013	Estimate using atmospheric pressure.
0.99	1.68	Kopparapu 2013	Estimate using greenhouse and water loss.
0.5	----	Zsom 2013	Estimate using atmospheric composition, pressure and humidity
0.97	----	Ramirez 2013	Applies to planet with Earth-like atmospheric composition and pressure
0.888	1.09	AVERAGE	



Estimates of the Minimum habitable-zone boundaries of the Solar System

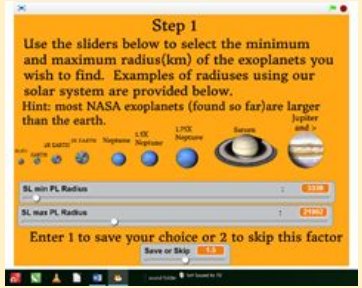
Inner HZ (AU)	Notes
0.5	Using atmospheric compositions, pressure and humidity.
0.725	Using atmosphere and cloud reflection.
0.75	Estimate that desert planets could have water at the poles and be closer to the Sun.
0.82	Using atmospheric pressure.
0.95	The minimum distance at which Earth would form oceans.
0.95	From computer modeling of the evolution of the Earth's atmosphere.
0.99	Using the cooling effect of cloud reflection.
0.97	Applies to planets with Earth-like atmosphere and pressure.
0.99	Using greenhouse and water loss.
0.839	AVERAGE

Estimates of the Maximum habitable-zone boundaries of the Solar System

Outer HZ (AU)	Notes
1.381	From computer modeling of the evolution of the Earth's atmosphere.
1.7	Using atmospheric pressure.
1.24	Using atmosphere and cloud reflection.
1.37	Using the cooling effect of cloud reflection.
1.2911	The point at which Earth would experience global glaciation.
1.688	Using greenhouse and water loss.
2.0	Estimate that seasonal liquid water is possible to this limit.
3.0	Using the carbon cycle.
1.09	AVERAGE

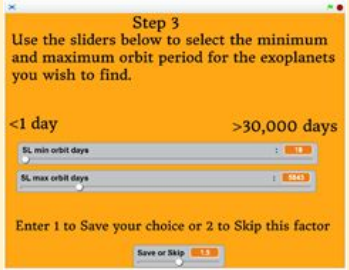
Input Screens

Planet Radius



Planet Mass

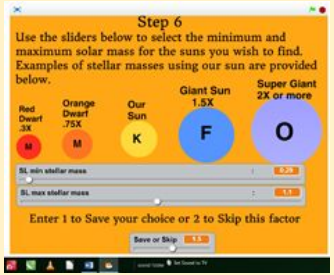
Orbital Period



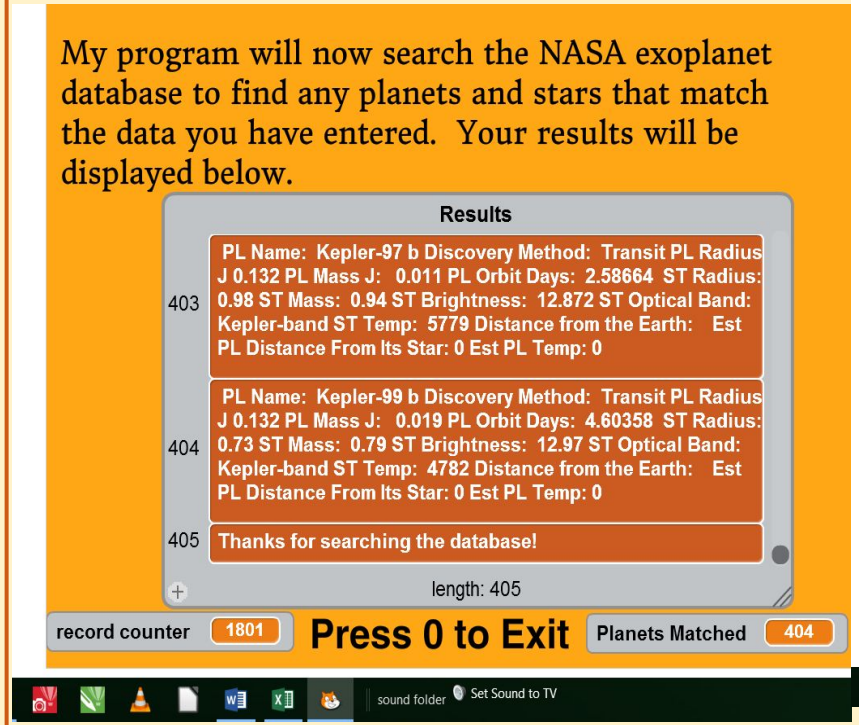
Orbital Distance

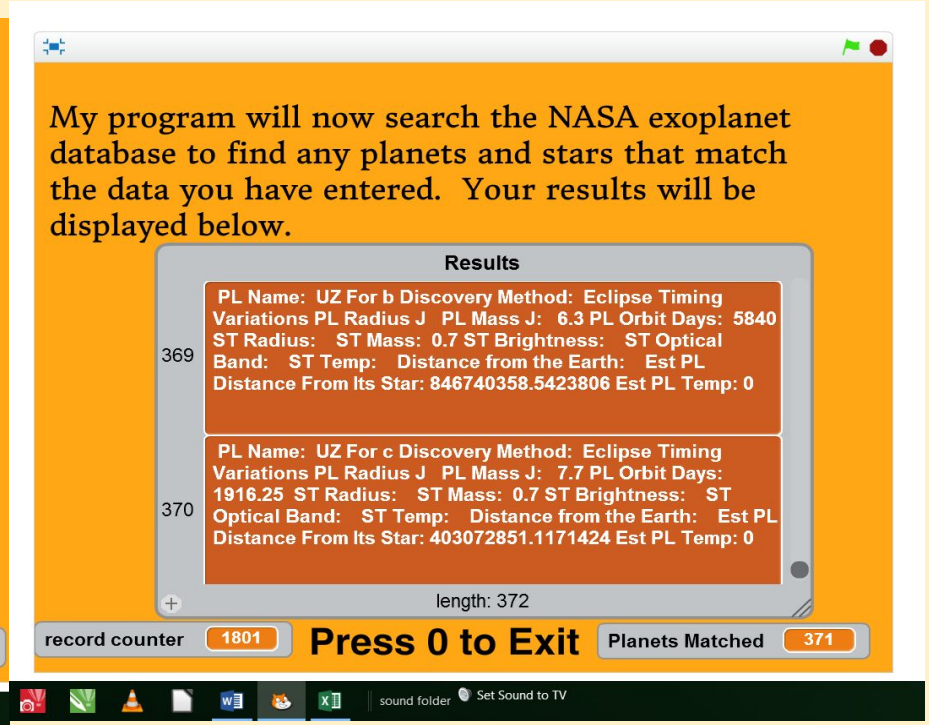
Star Temperature

Star Mass



SAMPLE OUTPUT SCREENS





Thank you!

Marina Lee

6th Grade

Henry E. Huntington Middle School, San Marino

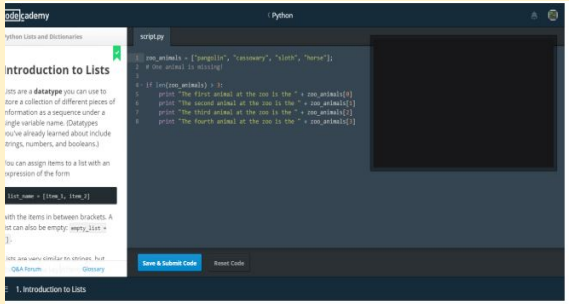
About My Mentor

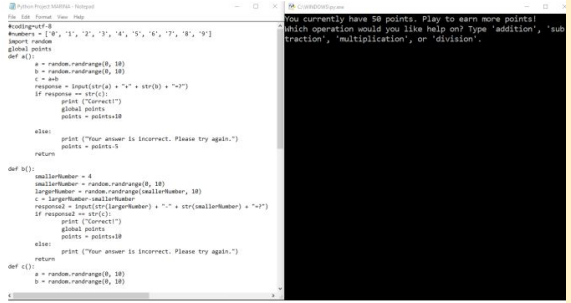
My mentor from November to June is named Jen Tannenbaum. She works at the United States Automobile Association (USAA) and is an iOS developer.

My MAGICal Experience

We have worked on:

- *CodeMonkey*
- *Codecademy (python tutorial)*
- *Worked with python*





My Project

- *Making a program to teach math*
- *Example: “Which operation would you like help on? Type ‘addition’, ‘subtraction’, ‘multiplication’, or ‘division’.*
- *Earn points if you get it correct, and lose points if you get it wrong*

Sample Input Screens

```
You currently have 50 points. Play to earn more points!
Which operation would you like help on? Type 'addition', 'subtraction', 'multiplication', or 'division'
.addition
7+7=?14
Correct!
You currently have 60 points.
```

```
You currently have 50 points. Play to earn more points!
Which operation would you like help on? Type 'addition', 'subtraction', 'multiplication', or 'division'
.subtraction
4-3=?3
You guessed too high! Please try again.
You currently have 45 points.
```

Thank you!

Casandra Avila

7th grade

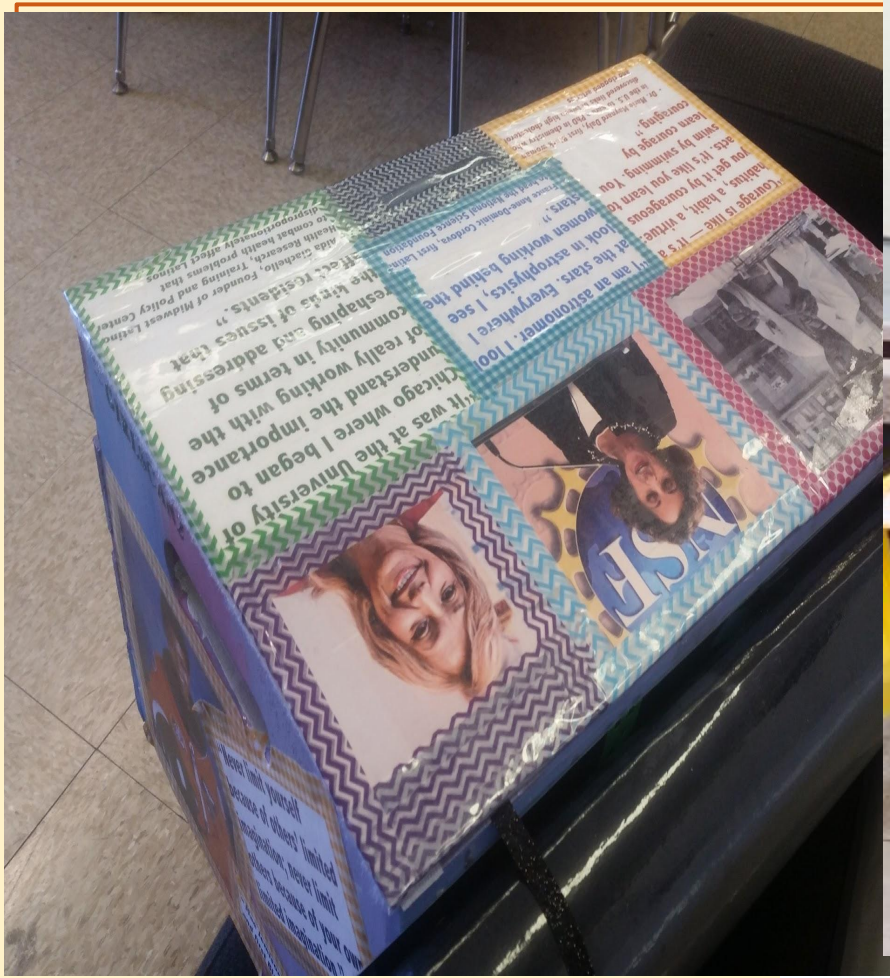
Home-schooled, Whittier

About My Mentor

My MAGICal Experience

Dr. Lucy Jones


WE CAN DO IT!
GIRLS BUILD LA CHALLENGE
First Place
Middle School
WE CAN DO IT!
iChicas
2015-2016

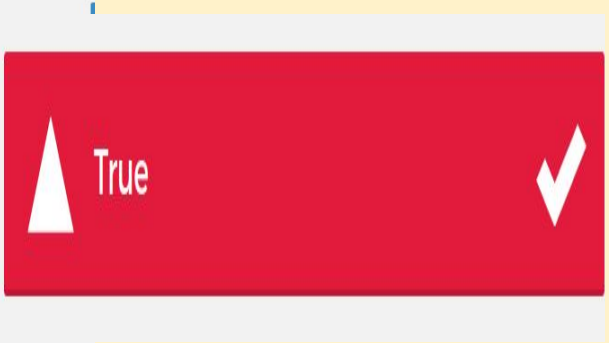

GISELE
Never limit yourself
because of others' limited
imagination; never limit
others because of your own
limited imagination.
Chicago where I began to
understand the importance
of really working with the
community in terms of
addressing
the issues that
the Rosiadents.
Founder of Midwest Latino
Health Research, Training and Policy Center
to combat health problems that
disproportionately affect Latinos
Dr. Elena Rosario Díaz, first Latina
astronaut and the Hispanic Science Foundation
Dr. Díaz-Rosario Díaz, first Latina astronaut
and the Hispanic Science Foundation
Dr. Díaz-Rosario Díaz, first Latina astronaut
and the Hispanic Science Foundation


#GIRLS
CAN 2
SHIRLEY
JACKSON


I st.and for
NEVER GIVE UP ON DREAMS

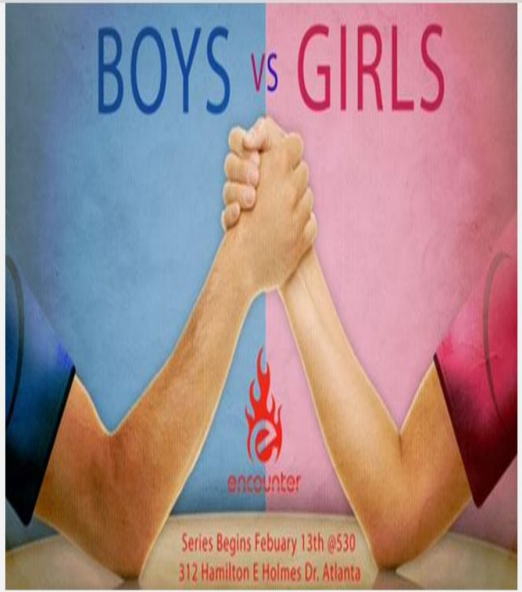
My Demo

- https://play.kahoot.it/#/intro?quizId=a65fef6e-8365-481c-8df0-8c72c71ff476



Do women who want to be in STEM careers face discrimination because of their gender?

27



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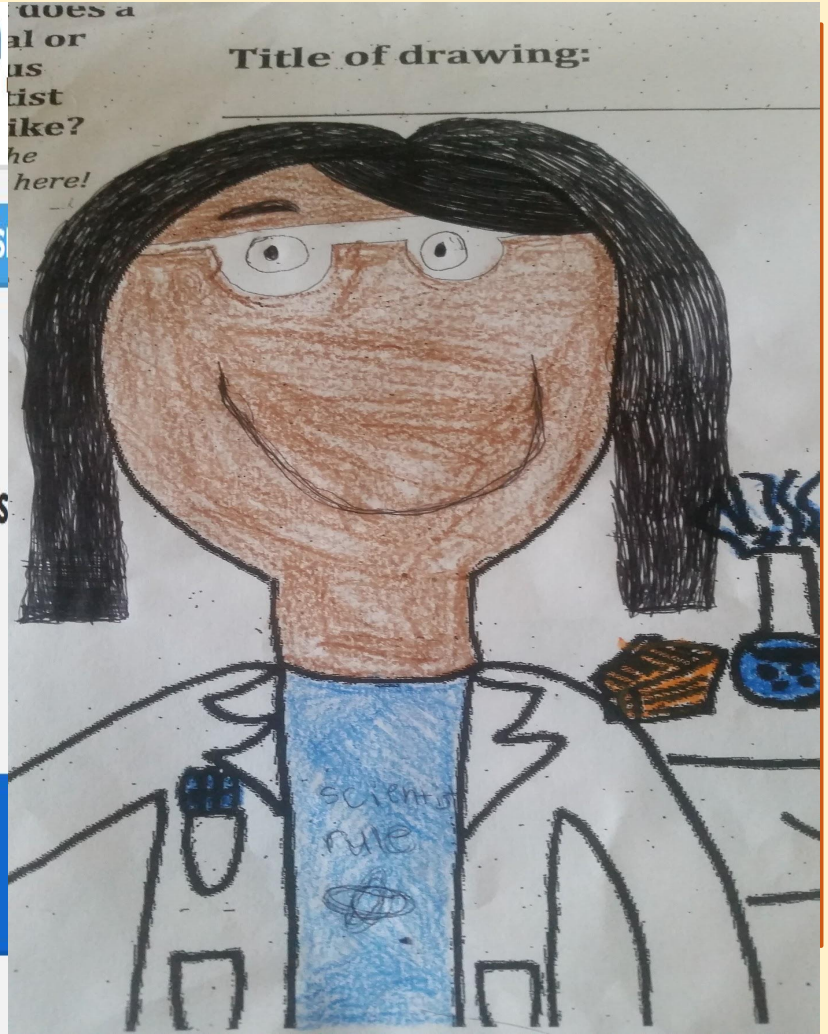
Answers

yes

no



Thank you!

Joon Luther

7th Grade

Peach Blossom School, Santa Clara

About My Mentor

- *Neetu Jain*
- *IBM Software Engineer*
- *10 years in the industry and NPOs*
- *Passionate about “technology for good”*

My MAGICal Experience

- *Freedom*
- *Weekly chats helped in bringing things together*
- *Done, To-do, and Blockers list for mentee and mentor*
- *Remote troubleshoot*

My Project

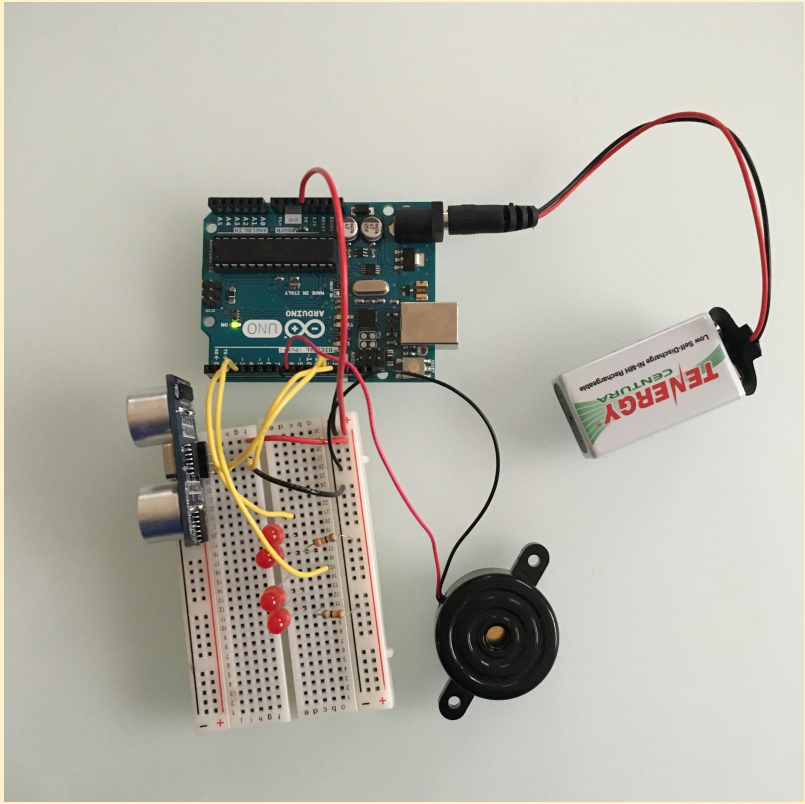
- *Elec-terrarium (Electronic simulation of wilderness)*
- *Inspiration: Alan Rath (Electronics artist)*

  http://alanrath.com

magic

My Project Components

- *Glass Bowl*
- *Ceramic plant forms*
- *Arduino Uno*
- *Ultrasonic Distance Sensor*
- *LED lights*
- *Piezo Element*


ARDUINO
UNO
TENERGY
CENTURA
Low Self-Discharge Ni-MH Rechargeable

My Demo

- *What to expect:*
  - *The animal presence through the lights*
  - *Different tones and durations of the sound*
  - *“Animal’s” reaction to close or distant objects*

Thank you!

Lauren Taylor

7th Grade

Orinda Intermediate School, Orinda

About My Mentor

My mentor's name is Lakshmi she is a computer science engineer with an MBA in Systems and Finance and is currently head of the Business Engineering division at Object Edge.

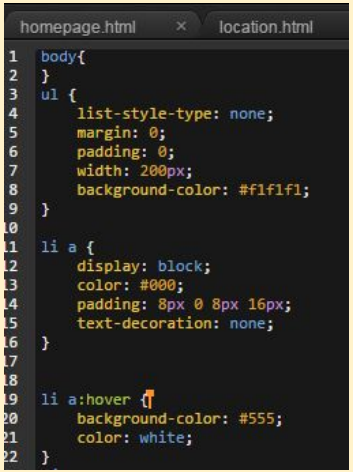
My MAGICal Experience

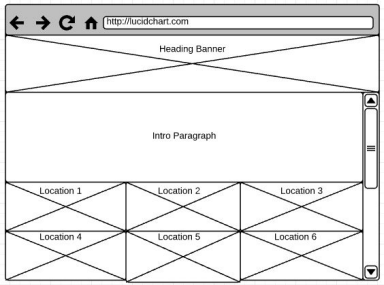
- *A lot of fun!*
- *Coding challenges*
- *Block coding using scratch*
  - *Number guessing game*
  - *Computing factorials*
- *Web development*
  - *HTML,CSS, and Javascript on codecademy*
- *My website*

My Project

Travel guide providing information about different locations to people.

- *Wireframes*
  - *Lucidchart*
- *Building the website*
  - *HTML,CSS, and Javascript*
- *Development & Hosting*
  - *Cloud9*
- *Website content*

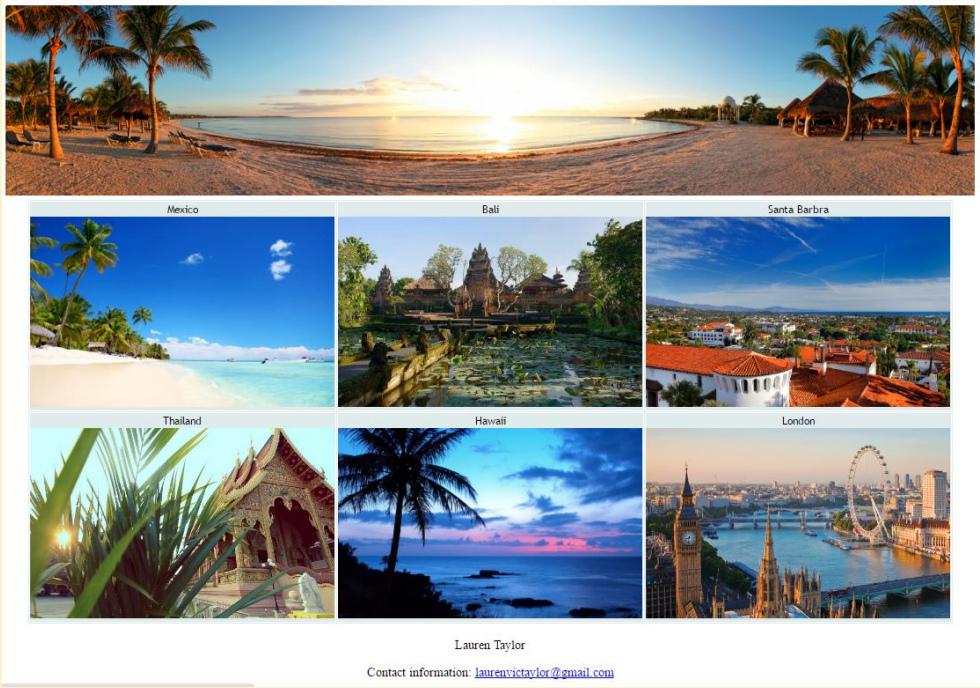




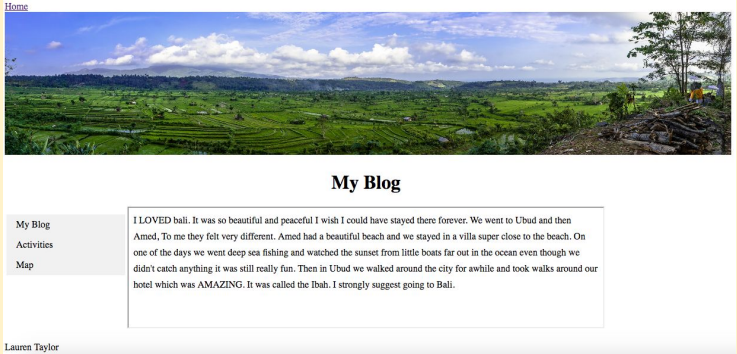
My Demo

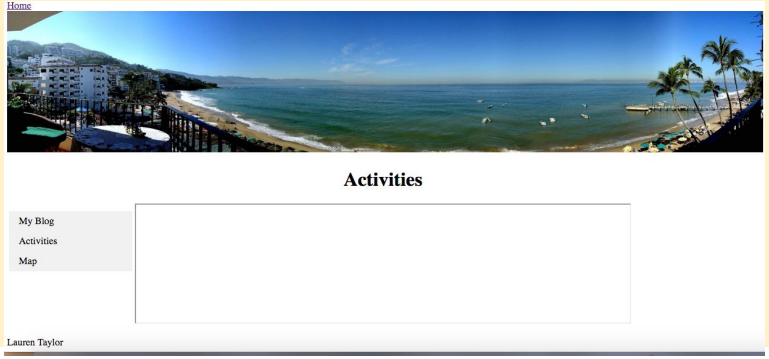
Homepage

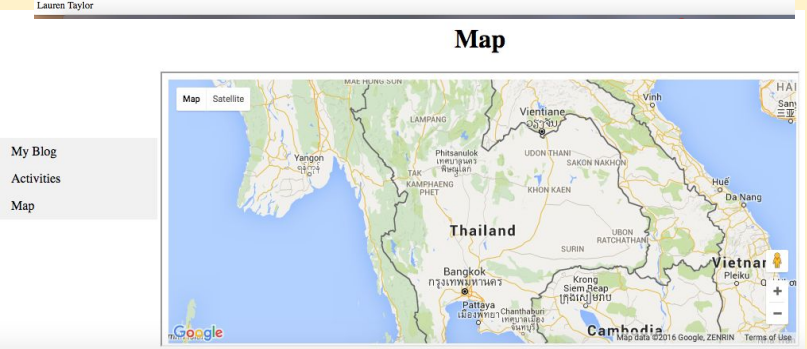
- *Homepage listing all locations*
- *Clicking on a location will show you the details*



Location Pages







- *Single dynamic location page HTML*
- *Content & images for each location*

Next Steps

1. *Better formating*
2. *Responsive*
3. *Photography*
4. *More locations*
5. *Add onto writing*

Thank you!

Travel guide: http://travelguide-laurentaylor.c9users.io/homepage.html

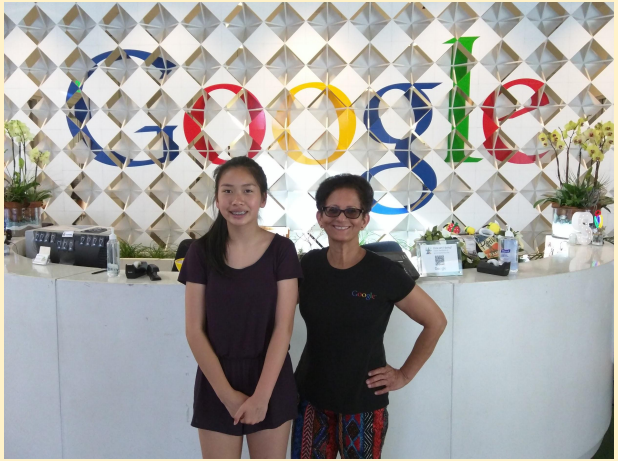
Wynna Huang

8th Grade

St. Simon School, Los Altos

About My Mentor

- Ira Pramanick
- Software Engineer at Google
  - Works on Personal Search
- Has a Ph.D. in Electrical & Computer Engineering
- Loves to read when she can find the time!



My MAGICal Experience

- I started MAGIC in the middle of March 2016
- Summer camp in C++ in 2014 (Rising 7th grader)
- Worked on Python
  - Codeacademy
- Design a game
  - Used `graphics.py`
  - Simple to use graphics library written by Prof. John Zelle

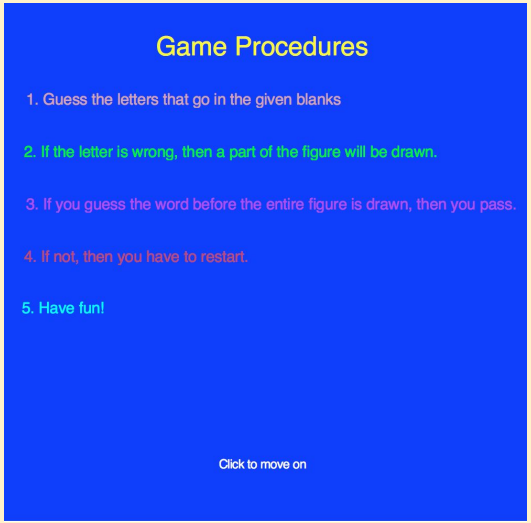
My MAGICal Experience

- Basic programming concepts
  - Conditionals, Loops, Functions
  - Getting user input, Error handling
  - Animation, Non-blocking code
- Github repository
  - Project code on github

My Project

- Designed and implemented the hangman game in Python
- Three levels
  - Word gets longer with each level
- User can make up to 5 mistakes
- Includes fun graphics

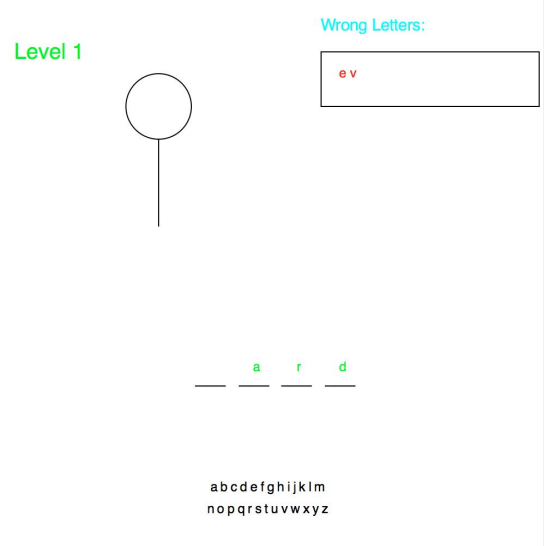
My Demo


Game Procedures
1. Guess the letters that go in the given blanks
2. If the letter is wrong, then a part of the figure will be drawn.
3. If you guess the word before the entire figure is drawn, then you pass.
4. If not, then you have to restart.
5. Have fun!
Click to move on


LEVEL1
Type "e" for easy level
LEVEL 2
Type "m" for medium level
LEVEL 3
Type "h" for hard level

My Demo


Level 1
Wrong Letters:
abcdefghijklm
nopqrstuvwxyz


Level 1
Wrong Letters:
e v
a r d
abcdefghijklm
nopqrstuvwxyz

My Demo

Thank you!

Morgan Conner

9th Grade

Oak Grove High School, San Jose

About My Mentor

- *Magreth Mushi*
- *Full time mom in transition:-)*
- *She is a mother of three, and graduated her PhD in June 2016!*
- *http://www.magrethjmushi.com/*

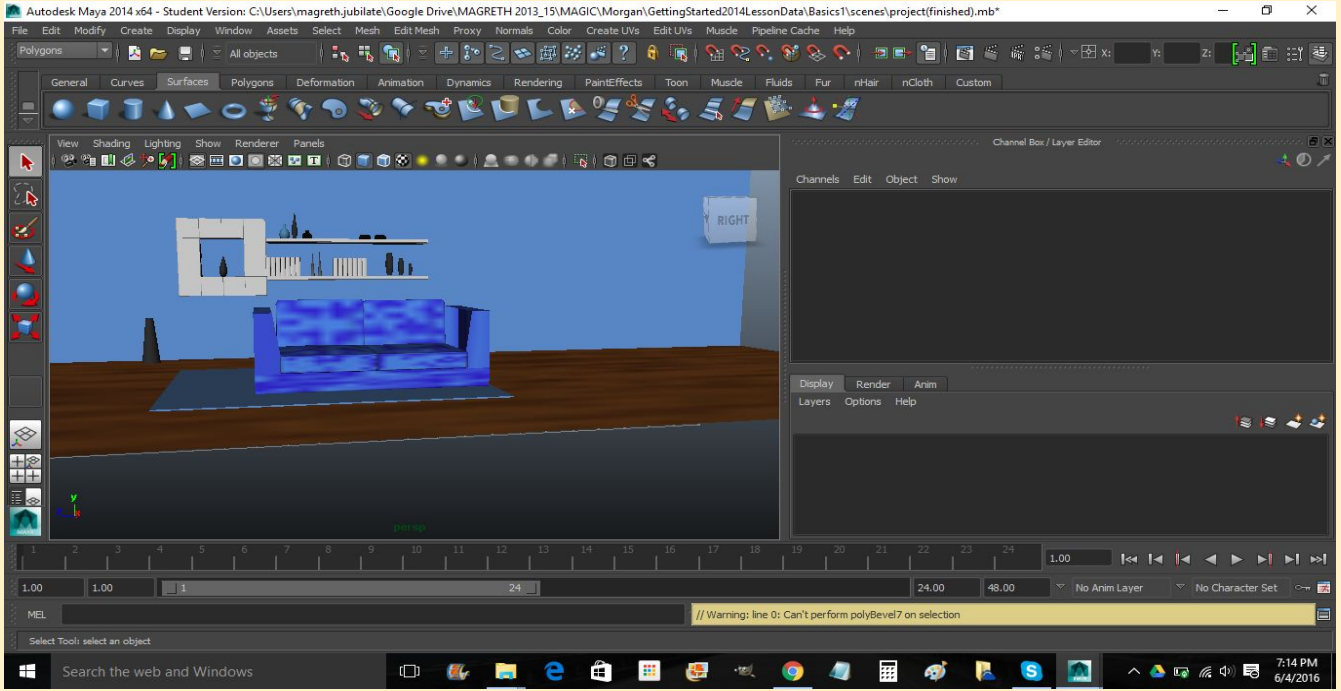
My MAGICal Experience

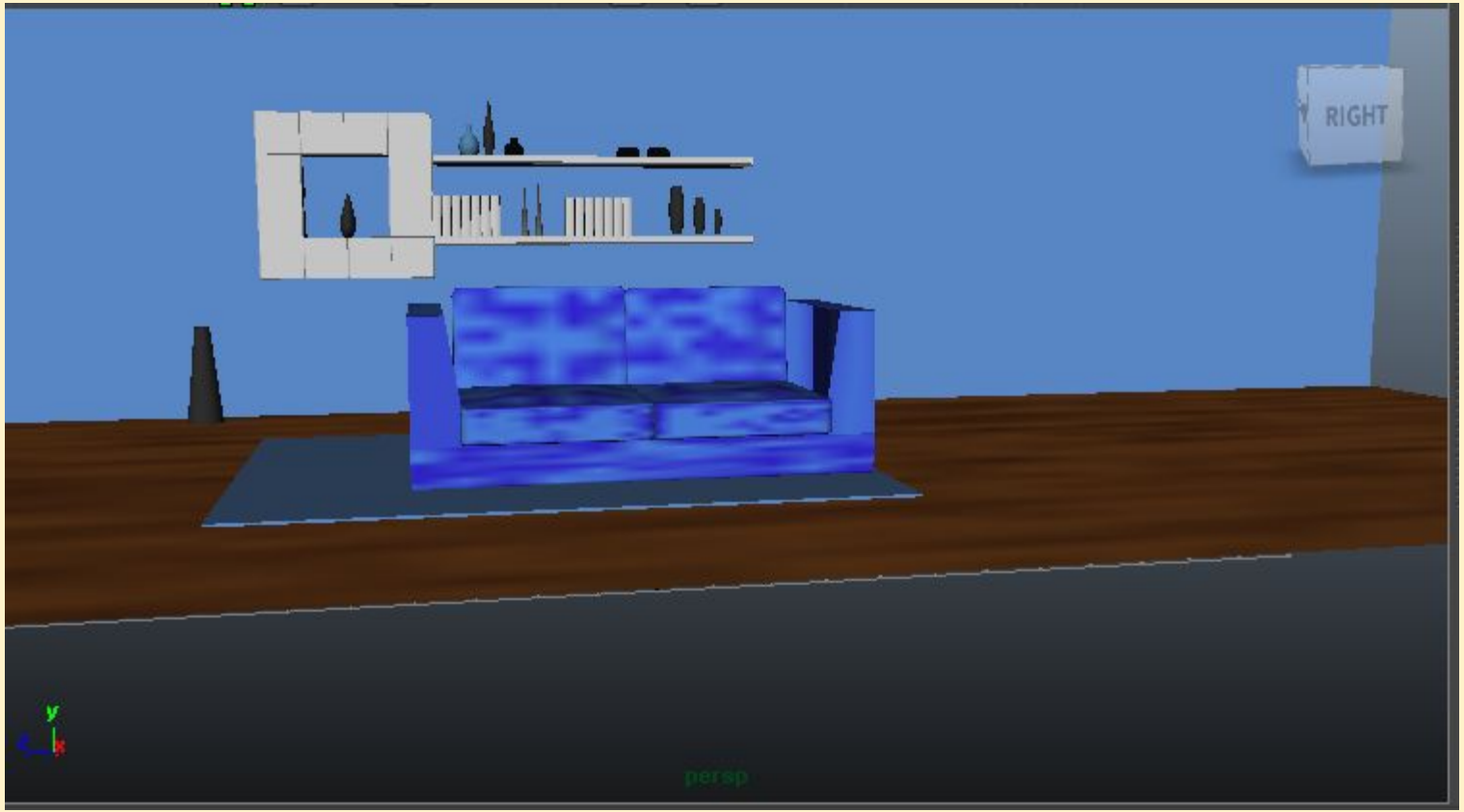
- *My Mentoring experience was amazing. We ended up picking my project by me pitching an idea of digital animation.*
- *We used a program called Maya.*
- *What was hard about the project was figuring out solutions to problems I've never faced before in a new software, but that's what became easy in the end.*
- *What I enjoyed the most was getting to work on it with my mentor so if either of us got stuck then we could help each other out.*
- *I think I could have branched out in the project a little more since it was really a simple idea.*

My Project

- *Our project was going to be in the subject of 3D animation.*
- *We found an animation program called Maya.*
- *We started to learn the basics of the program and then started to look at tutorials to help us on what to build for the project.*
- *We ended up building a living room out of polygons, and we wanted to build a whole house, but each room took a long time so we only got the living room done.*
- *It was task that needed a lot of time since working with a foreign program for both of us was quite hard, but I figured out solutions along the way so we could keep working, and soon finish the project*
- *We ended our project with just a living room, but I plan to finish the house.*

My Demo


Autodesk Maya 2014 x64 - Student Version: C:\Users\magreth.jubilate\Google Drive\MAGRETH 2013_15\MAGIC\Morgan\GettingStarted2014LessonData\Basics1\scenes\project(finished).mb*
File Edit Modify Create Display Window Assets Select Mesh Edit Mesh Proxy Normals Color Create UVs Edit UVs Muscle Pipeline Cache Help
General Curves Surfaces Polygons Deformation Animation Dynamics Rendering PaintEffects Toon Muscle Fluids Fur nHair nCloth Custom
View Shading Lighting Show Renderer Panels
RIGHT
persp
Channel Box / Layer Editor
Channels Edit Object Show
Display Render Anim
Layers Options Help
No Anim Layer
No Character Set
MEL
// Warning: line 0: Can't perform polyBevel7 on selection
Select Tool: select an object
Search the web and Windows
7:14 PM
6/4/2016


RIGHT
y
persp

Thank you!

Purva Joshi

9th Grade

Sacred Heart Cathedral, San Francisco

About My Mentor

- *My mentor is Helen Kang. She is a software engineer at Google.*
- *She works on civic related projects to improve various cities!*
- *She has three cats!!!*

My MAGICal Experience

- *My mentoring experience was exciting and I learned so much!*
- *My mentor and I picked up a project that intertwined studying dyslexia and learning coding (HTML, CSS, and jQuery).*
- *The most difficult part was learning and getting used to the coding since it was my first time using it as extensively as I did. I made a lot of errors but I had a great mentor who was extremely patient and so the project began to come along extremely well!*
- *If I could do anything better it would have to be practicing the coding more often and trying more demos.*

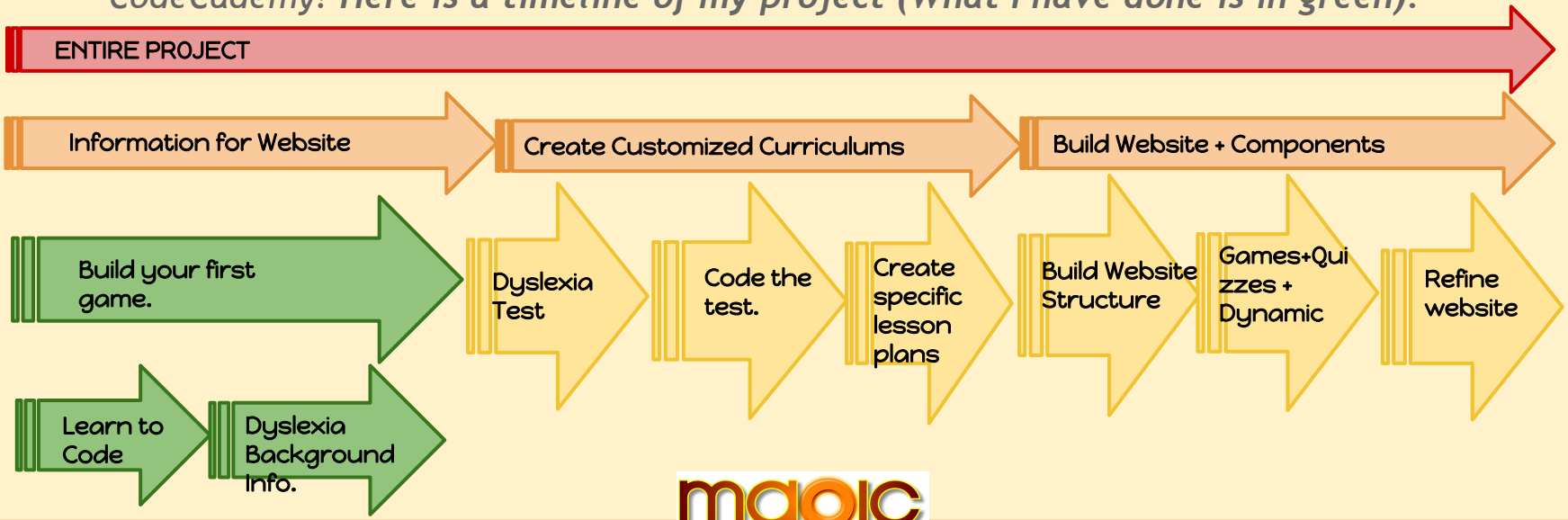
My Project

- ***What is Dyslexia?***
- *Dyslexia is a condition that changes how the brain understands language (oral and written). Dyslexia is categorized as a "cognitive disorder" or one that affects the brain. Some things affected in a person with dyslexia are:*

- Reading
- Writing
- Speaking
- Memory
- Socializing
- Navigation
- Time Management

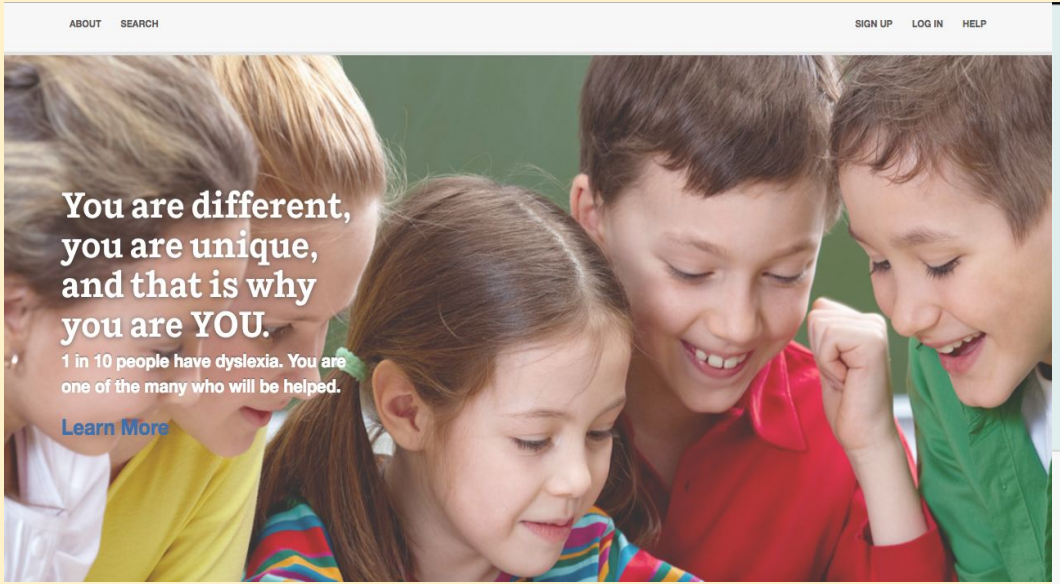
My Project

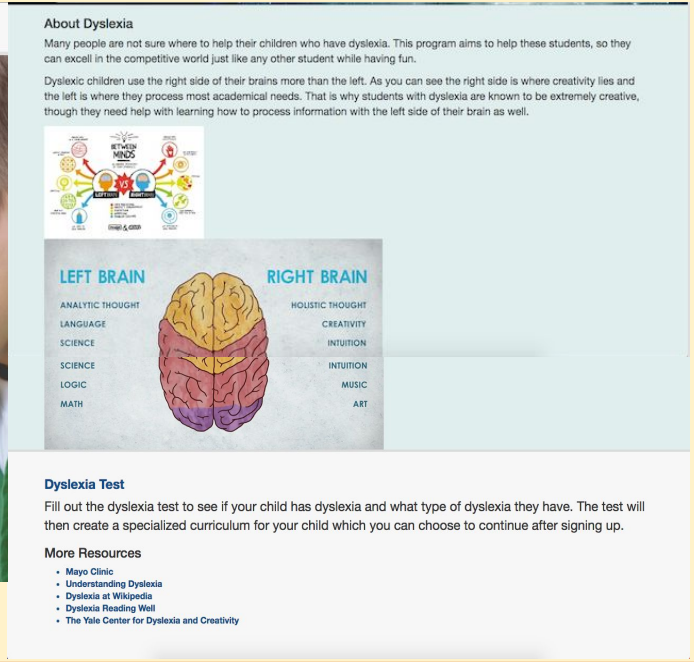
- ***My Goal:***
- *With my entire project I want to create an additional resource for dyslexic students. I want it to be a digital learning curriculum like Khan Academy, Duolingo, Quizlet, and CodeCademy!* ***Here is a timeline of my project (What I have done is in green):***



My Demo

Here's the first website page I coded. It is made of HTML and CSS:
file:///Users/purva/Desktop/Project%20Dyslexia/flashpage.html

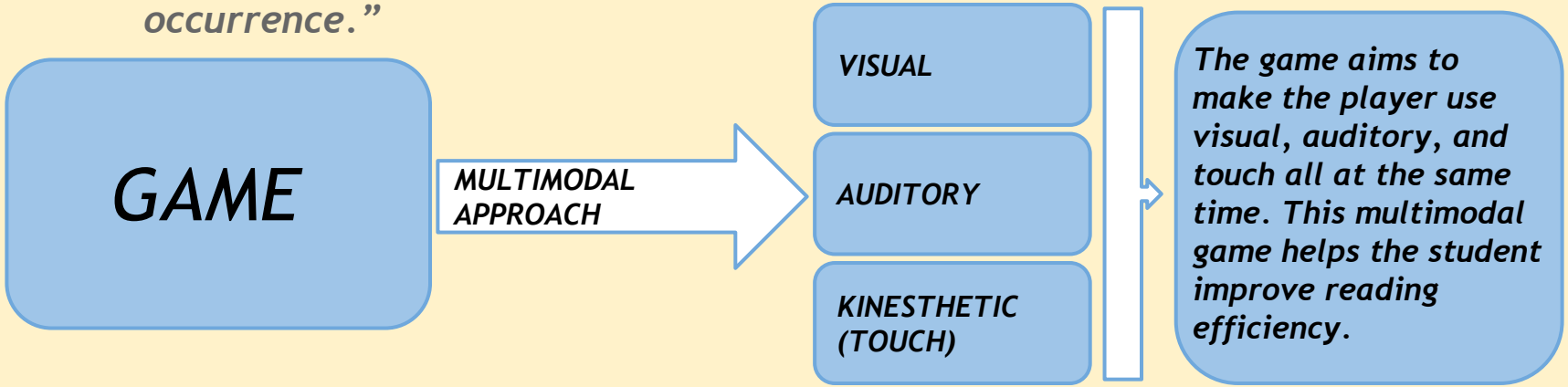




My Demo

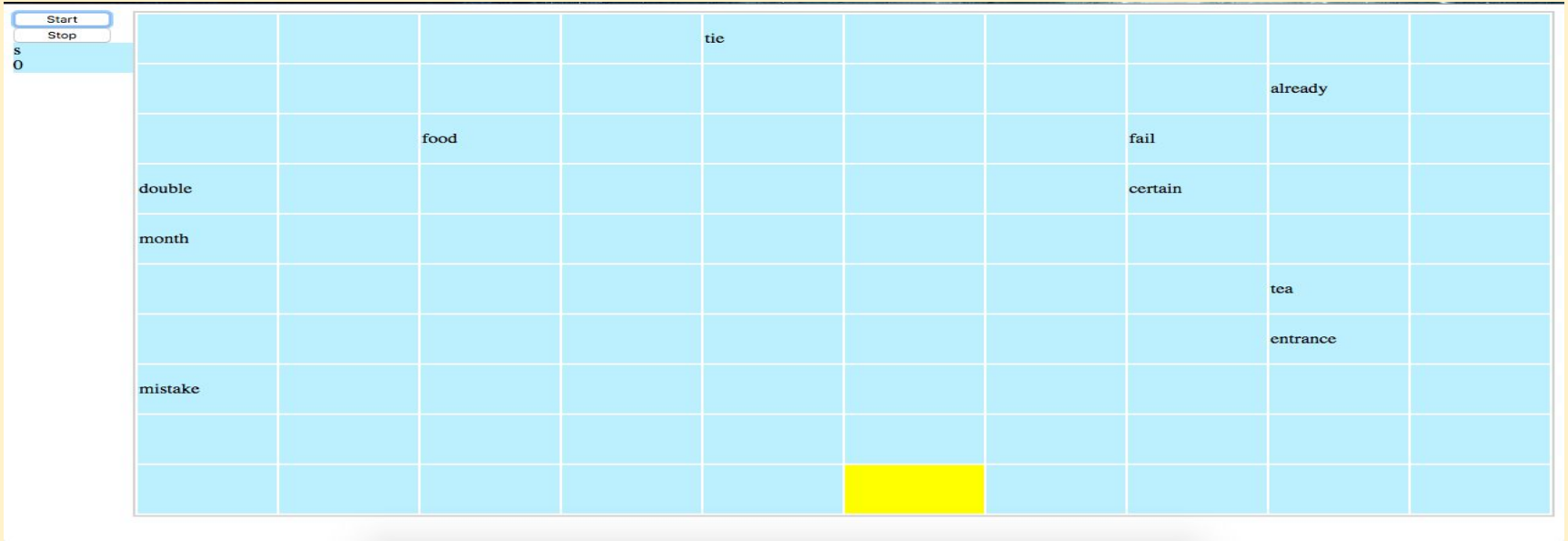
- *As of right now I am creating one of the games from the project. It focuses on putting into action a **multimodal** technique used to teach dyslexic students.*

- ***MULTIMODAL: "characterized by several different modes of activity or occurrence."***



My Demo

Here's a snapshot of the game we made:
file:///Users/purva/Desktop/Project%20Dyslexia/Game%201/game.html



Thank you!

Samantha Serrano

9th grade

Cerritos High School, Cerritos

About My Mentor

- *My mentor's name is Tanya Gupta*
- *She works at google*
- *Tanya lives in the bay area*
- *Tanya is working on a project called Voice Actions*

My MAGICal Experience

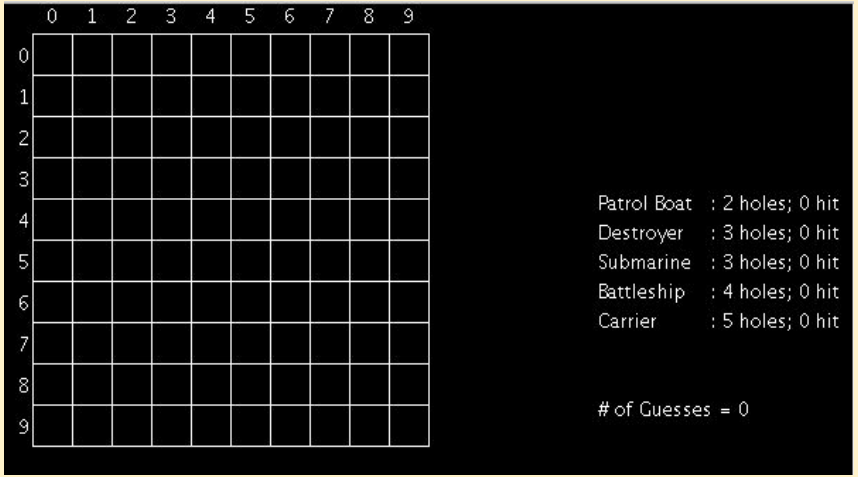
- *This is my first year with MAGIC*
- *I learned about the program through a friend and applied in summer of 2015*
- *Before this experience I didn't know anything about programing.*
- *As part of MAGIC, I learned how to program in Java*
- *Throughout the year I worked on several projects including tic tac toe, mad libs, and battleship*

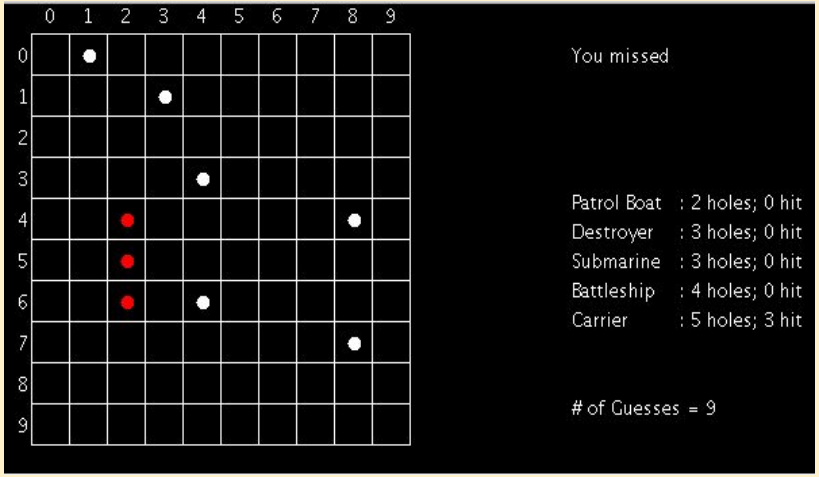
My Project

- *My project was the battleship game*
- *This project took about six sessions to make*
- *I programmed this project using eclipse*
- *I wrote the core logic*
- *For this i used for-loops , if statements , and arrays*

My Demo

- *Come and play battleship and beat the highscore which is 59*





Thank you!

Diana Nguyen

10th Grade

Oak Grove High School, San Jose

About My Mentor

- *Name: Roshni Chandrashekhar*
- *Occupation: Software Engineer at Google (for Identity and Authentication)*
- *What she enjoys: animals, exploration, gardening, hanging out with friends, board games, giving back to the community*
- *Interesting Facts:*
  Went to NIT, Karnataka before UCSD
  Has a Masters in Computer Science at UC San Diego
  Speaks 4 Indian Languages
  from Bangalore

My MAGICal Experience

- *Motivation: to gain knowledge and understanding on what is behind everyday use of the internet.*

- *Goal: To create something on my own, I.E., a website. Also, learning what and how coding works.*

My MAGICal Experience

- **What I enjoyed**: getting to know myself and my mentor along the journey, learning new codes and gaining a perspective of how the web is built, the trial and error while working on the website, and the feeling of accomplishment after successful trials.
- **Difficulties**: learning where to start, learning multiple new coding languages, and how to utilize and apply them as a whole.
- **What Could Have Worked Better**: I don't think I would change anything.

My Project

- *<u>Website Hosted on GitHub</u>*
  What is GitHub? - Repository hosting service that allows code sharing and publishing rights. Projects are created and can be worked on from anywhere using Git as a command tool.
  A Profile Page about myself and my coding journey!

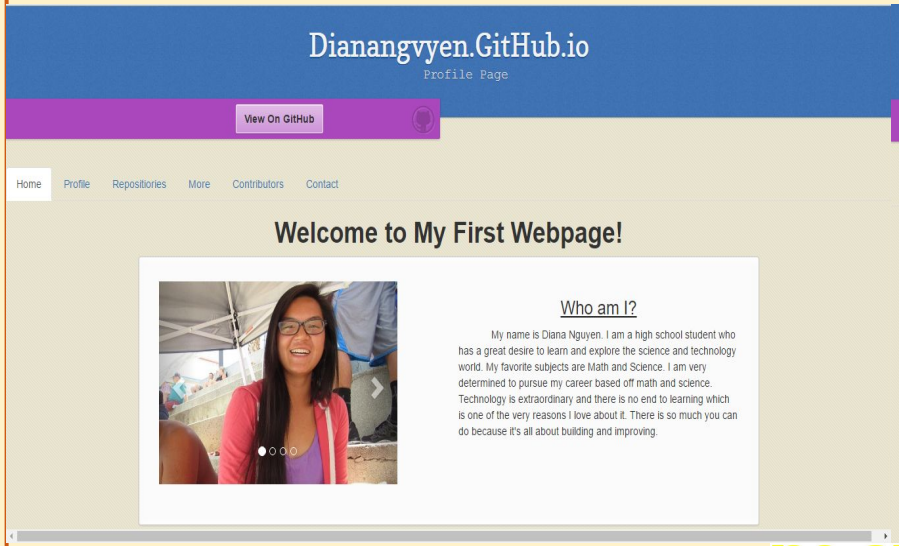
- *<u>Features:</u>*
  6 tabs: Home, Profile, Repositories, More, Contributors, & Contact
  Slide Show
  Banner
  Embedded Form
  Embedded Youtube Videos

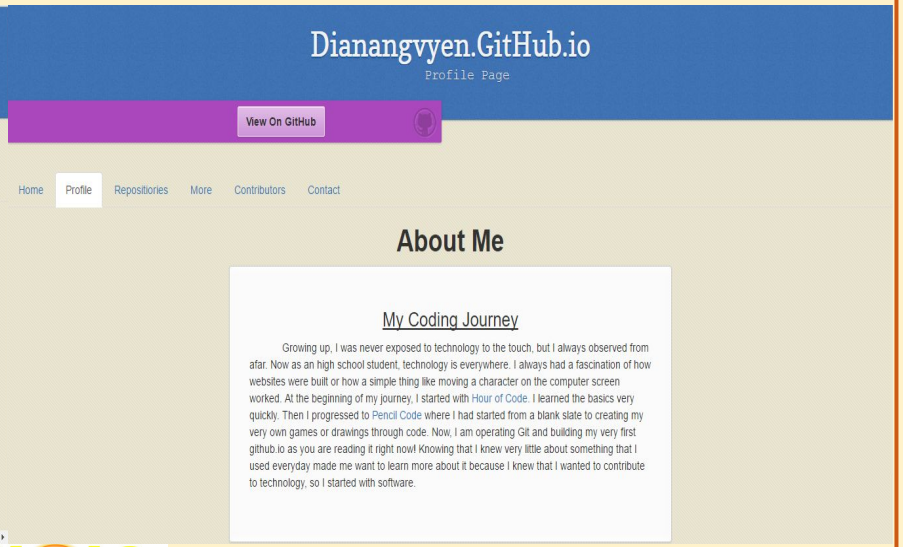
My Project

- Resources:
  - code.org
  - codeacademy.com
  - codeschool.come
  - pencilcode.net
- What I learned:
  - HTML
  - CSS
  - Javascript
  - Website Hosting - Github

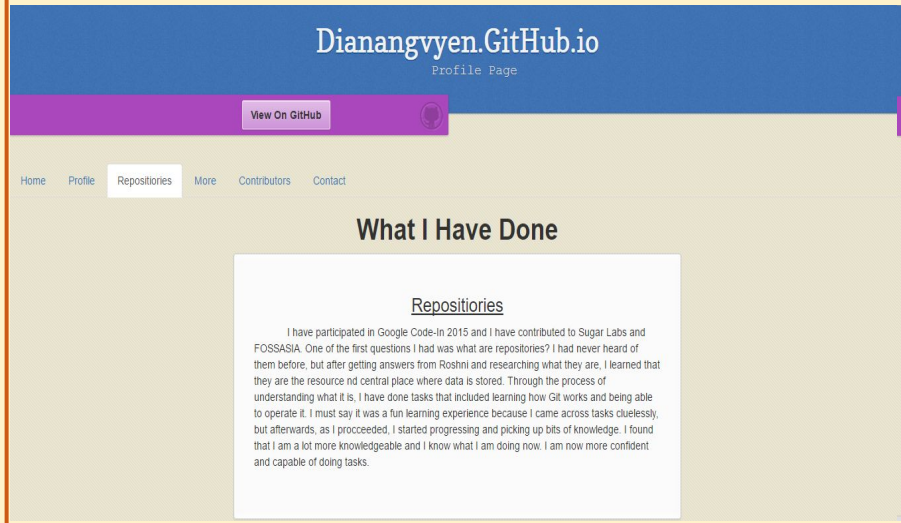
My Demo

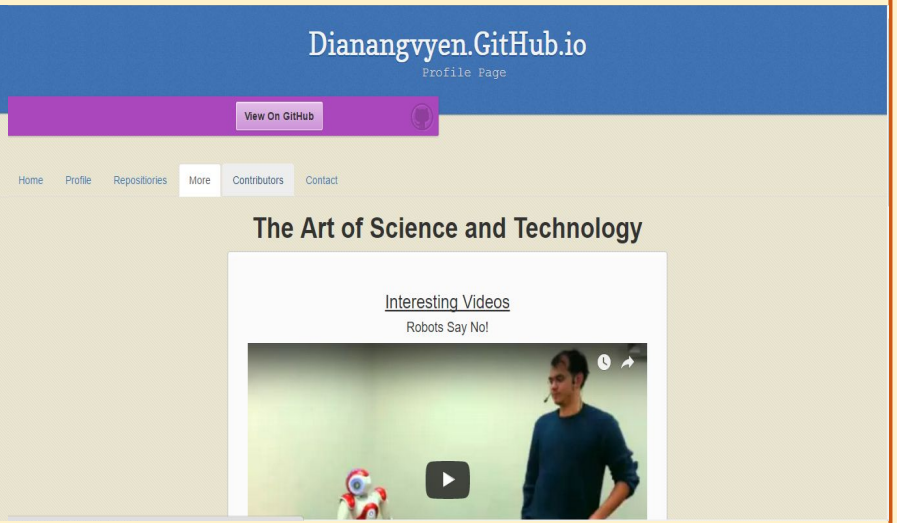
- *My own webpage hosted on GitHub.io :* dianangvyen.github.io
  - *Simple but actually more complex than it seems*





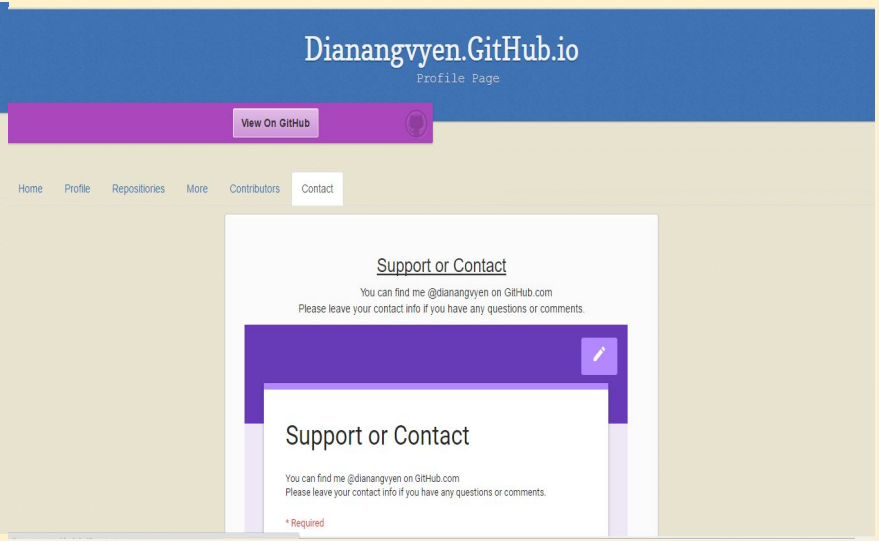
My Demo


Dianangvyen.GitHub.io
Profile Page
View On GitHub
Home
Profile
Repositiories
More
Contributors
Contact
What I Have Done
Repositiories
I have participated in Google Code-In 2015 and I have contributed to Sugar Labs and FOSSASIA. One of the first questions I had was what are repositories? I had never heard of them before, but after getting answers from Roshni and researching what they are, I learned that they are the resource nd central place where data is stored. Through the process of understanding what it is, I have done tasks that included learning how Git works and being able to operate it. I must say it was a fun learning experience because I came across tasks cluelessly, but afterwards, as I procceeded, I started progressing and picking up bits of knowledge. I found that I am a lot more knowledgeable and I know what I am doing now. I am now more confident and capable of doing tasks.


Dianangvyen.GitHub.io
Profile Page
View On GitHub
Home
Profile
Repositiories
More
Contributors
Contact
The Art of Science and Technology
Interesting Videos
Robots Say No!

My Demo


Dianangvyen.GitHub.io
Profile Page
View On GitHub
Home
Profile
Repositiories
More
Contributors
Contact
Authors and Contributors
I am an author and contributor to this profile page. (And a proud one!) It wouldn't have been a whole without the help of my mentor, Roshni.
Hosted on GitHub Pages.


Dianangvyen.GitHub.io
Profile Page
View On GitHub
Home
Profile
Repositiories
More
Contributors
Contact
Support or Contact
You can find me @dianangvyen on GitHub.com
Please leave your contact info if you have any questions or comments.
Support or Contact
You can find me @dianangvyen on GitHub.com
Please leave your contact info if you have any questions or comments.
* Required

Thank you!

Vasundhara (Diya) Sengupta

10th Grade

Westview High School, San Diego

About My Mentors

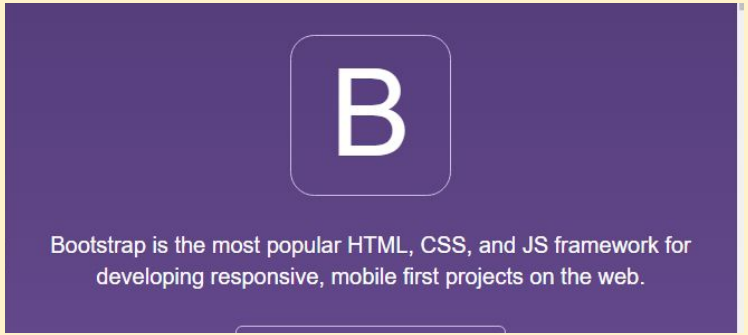
Jaelle Scheuerman currently attends Tulane University to pursue a PhD in Computer Science. In addition to avidly celebrating Mardi Gras, Jaelle participates in many programs involved with promoting STEM.

Soja-Marie Morgens graduated from Stanford University and currently works at Nest Labs as a software engineer. At first she aspired to major in Genetics, but then changed her career choice. She's a big fan of Garfield and chocolate desserts.

My MAGICal Experience

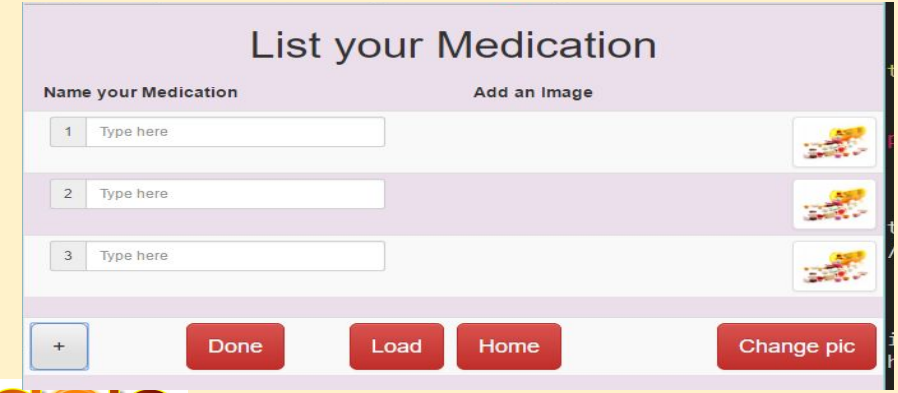
- *Learned how to code in Javascript (jQuery), HTML, and CSS*
- *Originally, my idea was to develop a website geared towards helping seniors in my community. However, I realized it would be much more beneficial to develop an app*
- *When trying to develop code for app, 'tried using a virtual machine to code Swift but, there was too much lag and was difficult to troubleshoot.*
- *Found Cordova PhoneGap as the solution. It's a platform that allows flexibility over all languages.*
- *Worked on many tutorials related to functions that my app would later implement.*
- *My MAGICal experience has inspired me to get the app published!*

My Project



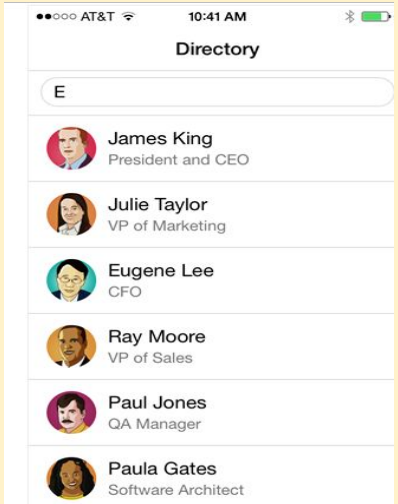
- *Originally designed to be a website*
- *Coded on Cloud9 and tested on Chrome browser*
- *Used Bootstrap to make things mobile-friendly*

```html
<html>
    <head>
     <meta name="viewport" content="width=device-width, initial-scale=1">
    <!-- Latest compiled and minified CSS -->
       <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/css/bootstrap.min.css">
       <!-- Optional theme -->
       <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/css/bootstrap-theme.min.css">
       <link rel="stylesheet" href="style.css">
       <!-- Latest compiled and minified JavaScript -->
       <script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js"></script>
       <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/js/bootstrap.min.js"></script>
       <script src="rows.js"></script>
    </head>

    <body>
        <div class="container">
          <div class="row">
              <div class="col-xs-12"  align="center"><h1>List your Medication</h1>
              </div>
          </div>
          <div class="row">
              <div class="col-xs-6"><h5><strong>Name your Medication</strong></h5>
              </div>

              <div class="col-xs-6"><h5><strong>Add an Image</strong></h5>
              </div>
          </div>
```

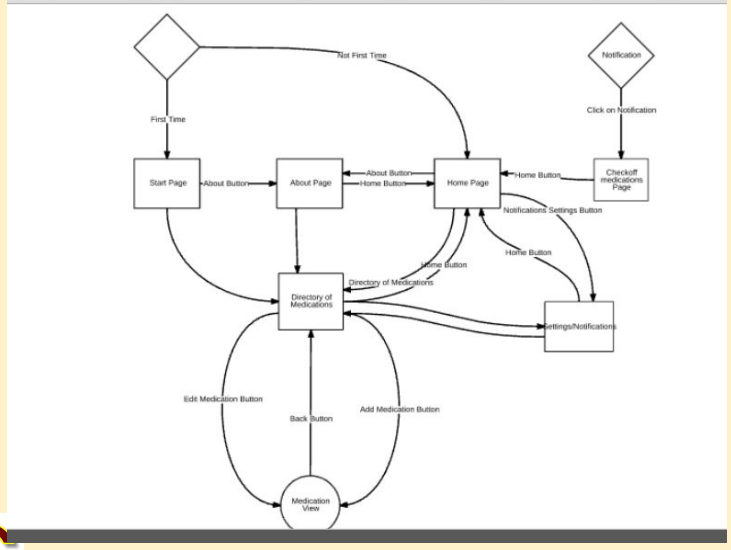


My Project

- *Post finalization of the app idea, planning stage involved UML diagrams*
- *Worked on tutorials to code functions, later used in my app*
- *Cordova PhoneGap allowed dual programming in HTML and JavaScript, but the app works on both iOS and Android!*



Zombie tutorial



My Demo

- *App is called **MediAlarm**!*
- *App has a simple 3-step process to make things easy for users.*
- *App logo designed using Designapp.io*

My Demo

●●○○○ AT&T 12:29 PM 46%

About Page

With over 43 million senior citizens in the USA alone, 92% of them suffer from a chronic condition. In order to treat these conditions, seniors are prescribed various medications of different shape, size, and color, and it often becomes difficult to keep track of when to take each one.

MediAlarm to the rescue!

MediAlarm is a simple, user-friendly app that allows users to enter in their prescribed medication, a picture of the medication, and the days and times they are required to take it. The app saves this data and sets up notifications for the user, equipped with sound and text features

●●○○○ AT&T 12:29 PM 46%

Why should you use this?

MediAlarm provides a simple way for users to keep track of their medications. If you find yourself forgetting when to take your medication, this "alarm clock app" notifies you when to take it so, you don't have to rely on others for help.

Any ideas to make it even easier to use?

Yes! MediAlarm can be taken further so that even doctors or senior care pharmacists can wirelessly input data to phone. This makes the app even easier to use for users as the first two steps are taken care of.

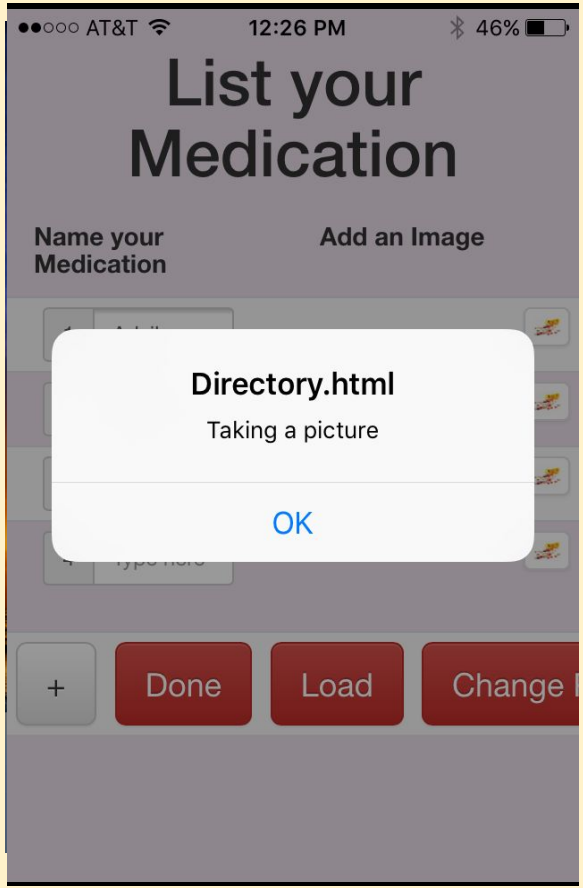
Start Setup | Homepage

●●○○○ AT&T 12:26 PM 46%

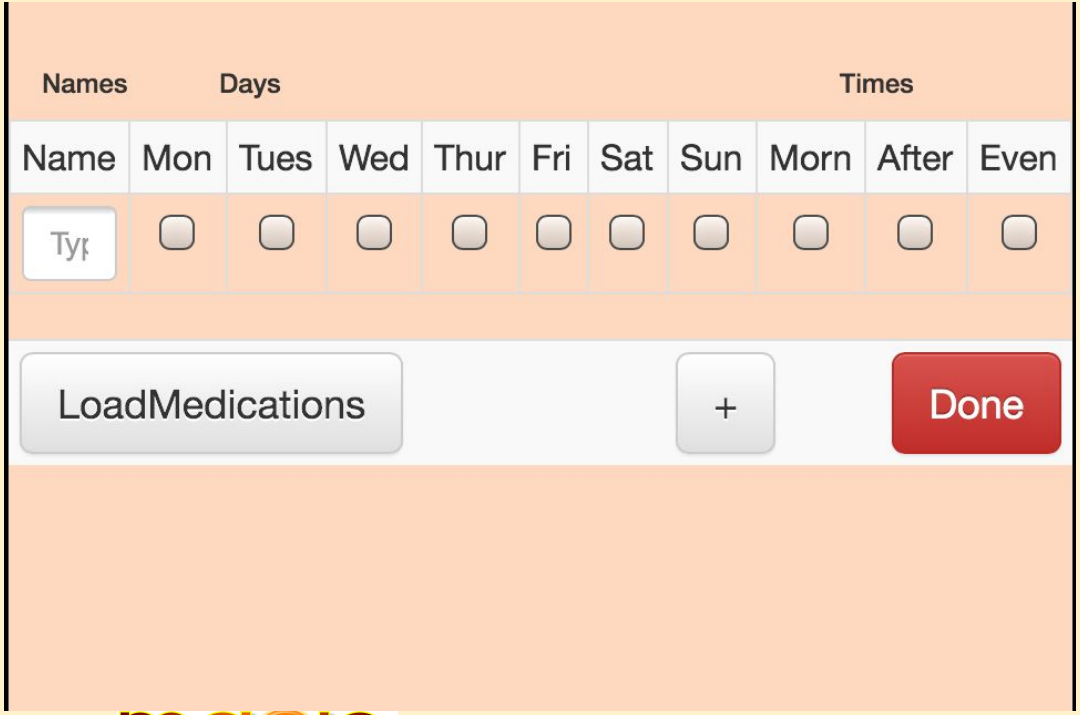
List your Medication

Name your Medication	Add an Image
1 Advil	
2 Tylenol	
3 Type here	
4 Type here	

+ | Done | Load | Change


AT&T
12:26 PM
46%
List your Medication
Name your Medication
Add an Image
Directory.html
Taking a picture
OK
+
Done
Load
Change

My Demo


Names
Days
Times
Name
Mon
Tues
Wed
Thur
Fri
Sat
Sun
Morn
After
Even
Typ
LoadMedications
+
Done

Thank you!

Kristina Mkrtchyan

11th Grade

Burbank High School, Burbank

About My Mentor

Hema Hariharan

- Hardware engineer at Google
  - Builds chips
- Likes:
  - Indian classical dance
  - Travel
  - Reading

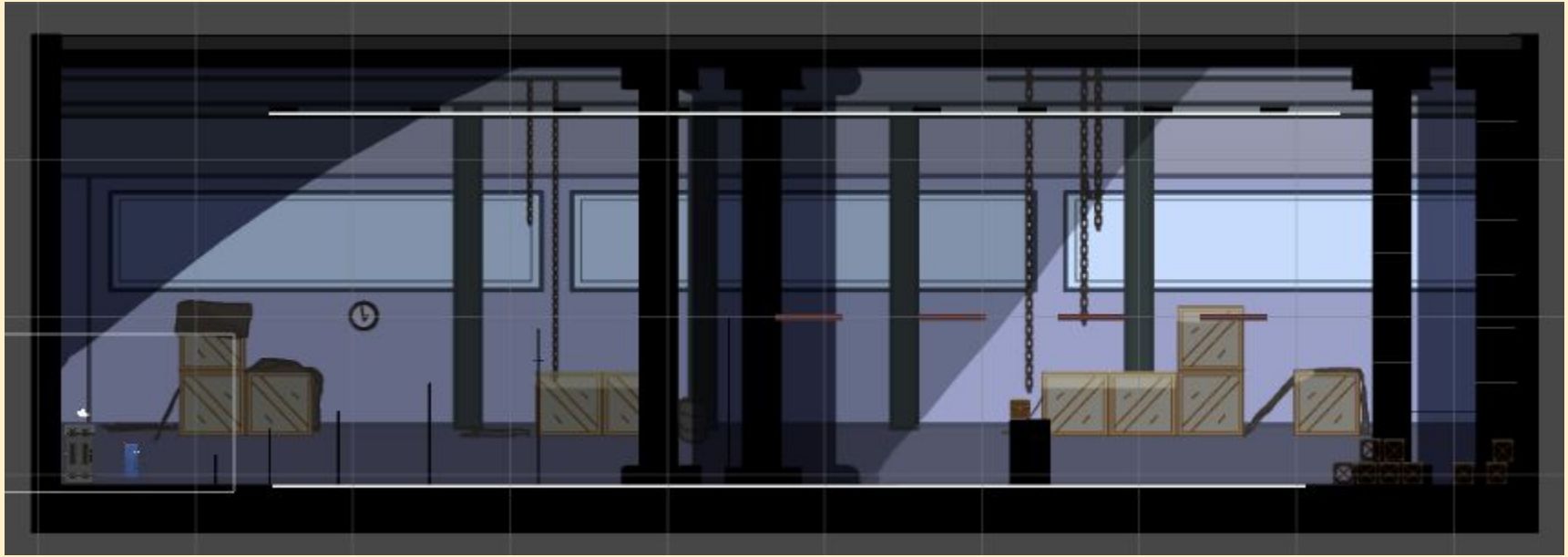
My MAGICal Experience

- Goal: Build a level of a game
- Originally using Python & Pygame - issues
  - Version compatibility
  - Missing documentation
- Explored using Graphics.py module
- Switched to Unity & C#
- Learned how to pull together coding skills to create a complete level of a game
- Experience helped make things more manageable and less daunting
  - Components of the game
  - Planning
  - College

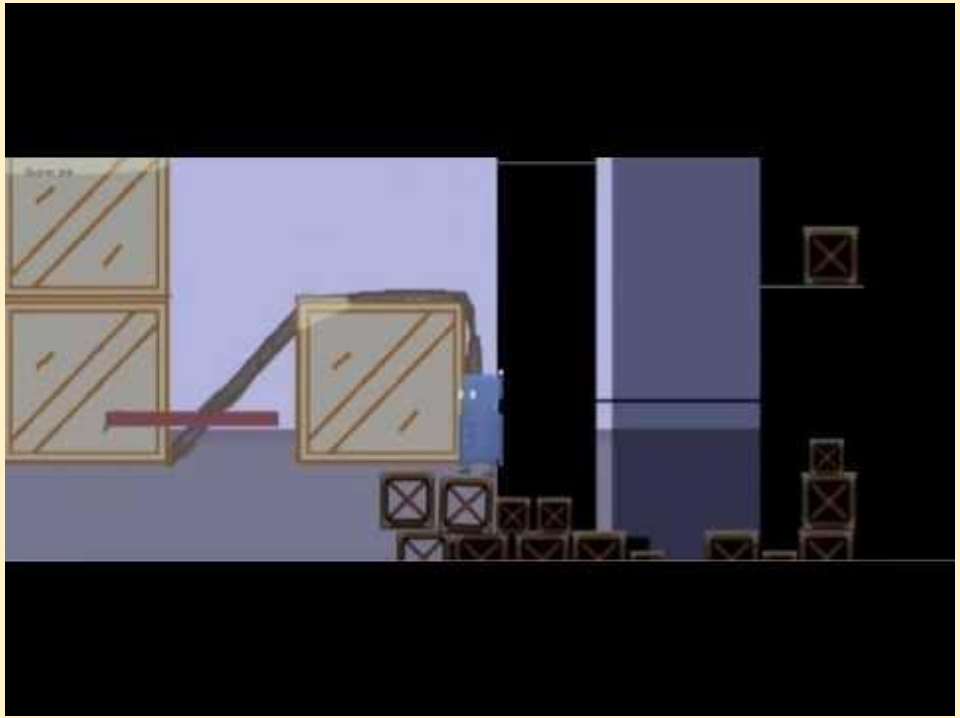
My Project

- 2D puzzle platformer
- Built using Unity
  - Programming - supports C# and Javascript
  - Game development environment
  - Supports multiple platforms
- Worked for 3 weeks to build 1 level
- Plan to expand
  - More levels, storyline, timer, and inventory system

My Project



My Demo



Thank you!

Esmeralda Leon

12th Grade

Oak Grove High School, San Jose

About My Mentor

- *Anurupa Rao*
- *Grew up, and studied in India*
- *Enjoys reading, singing, and making things*
- *Mechanical Engineer, Product Design Manager at Amazon*

My MAGICal Experience

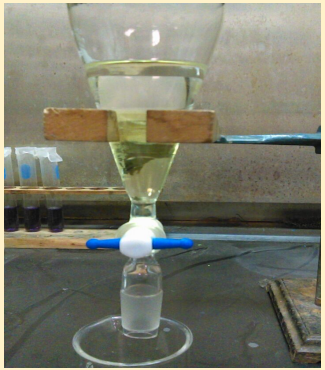
- *At first, I was nervous*
- *Field trip was the kick off*
- *Very comfortable afterwards*
- *Bloomed into a great mentorship!*

My Project

- *Difficult to choose, so I chose 3!*
- *Catapults: Very first experiment, didn't go exactly as planned*
- *Rock Candy: Went pretty well, formed perfect cubic crystals. A typical supersaturated solution*

Caffeine Extraction

- *Used 3 tsp Black tea, boiled for about ten minutes*
- *Filtration filtration filtration!*
- *Separated miTured about three times,*
- *Finally, used sublimation apparatus to crystallize the caffeine*



My Demo

Three different batches:

- *Control, normal recipe: http://allrecipes.com/recipe/10813/best-chocolate-chip-cookies/*
- *Same recipe, but with 1.5 tsp of baking powder instead of .5 tsp*
- *Also same as control, but with one cup flour instead of 1.5 cups*

Experiment 1

Experiment 2

Thank you!

Iris Cheung

12th Grade

American High School, Fremont

About My Mentor

Name: Catherine Wah

Occupation: Software Engineer at Google

Enjoys: food, photography, running, rock climbing

Interesting Facts:

- Has a PhD in Computer Science
- Has a twin sister who also has a PhD in Computer Science
- Grew up in Illinois

My MAGICal Experience

- *Motivation: create something that would be useful for people around me, thought of friend's business*

- *Goal: To create a website for Jujubees Crafts to sell and promote its products, while learning and improving my coding skills.*

My MAGICal Experience

- *What I Enjoyed: the feeling after successfully debugging, learning new languages, side conversations with my mentor*
- *Difficulties: Learning how to approach debugging, application of newly learned languages*
- *What could have worked better: spent more time on aesthetic and design/user interface*

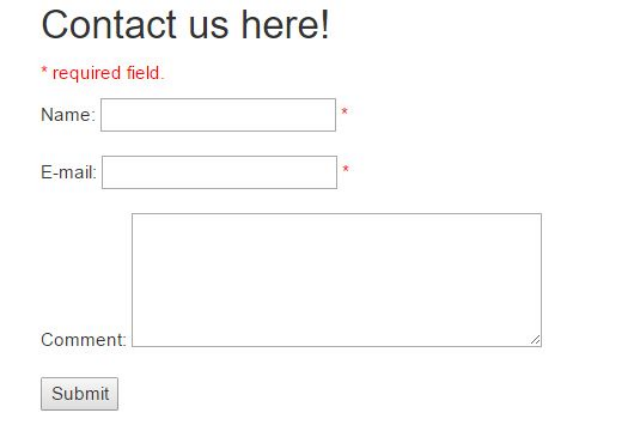
My Project

- Website for Jujubees Crafts
  - Small business established in 2015
  - Only sold to friends at school
  - Keychains, jewelry
- Features:
  - Homepage
  - About (introductions, mission statement)
  - Order (Google order form, product display)
  - Contact (contact form)
  - Footer (links to email, Facebook, Instagram)

My Project

- Codecademy Tutorials
  - Make an Interactive Website
  - PHP

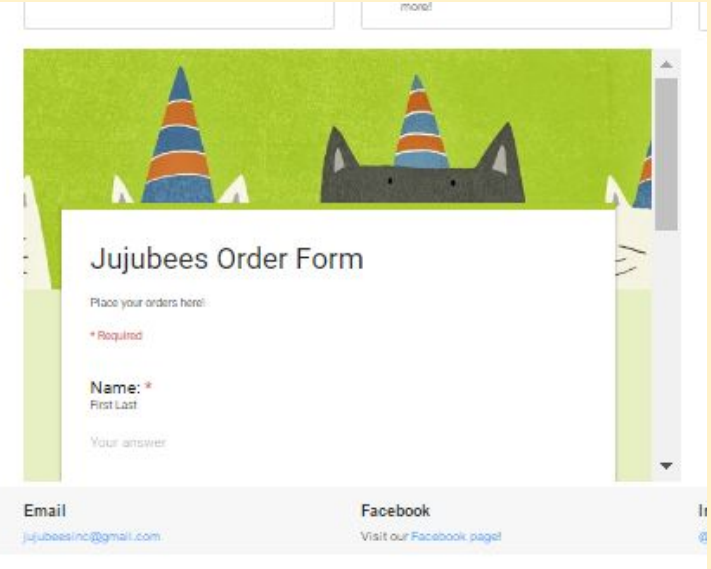
- What I learned:
  - CSS elements
  - HTML links
  - PHP forms
  - jQuery animations
  - Fonts
  - Website hosting



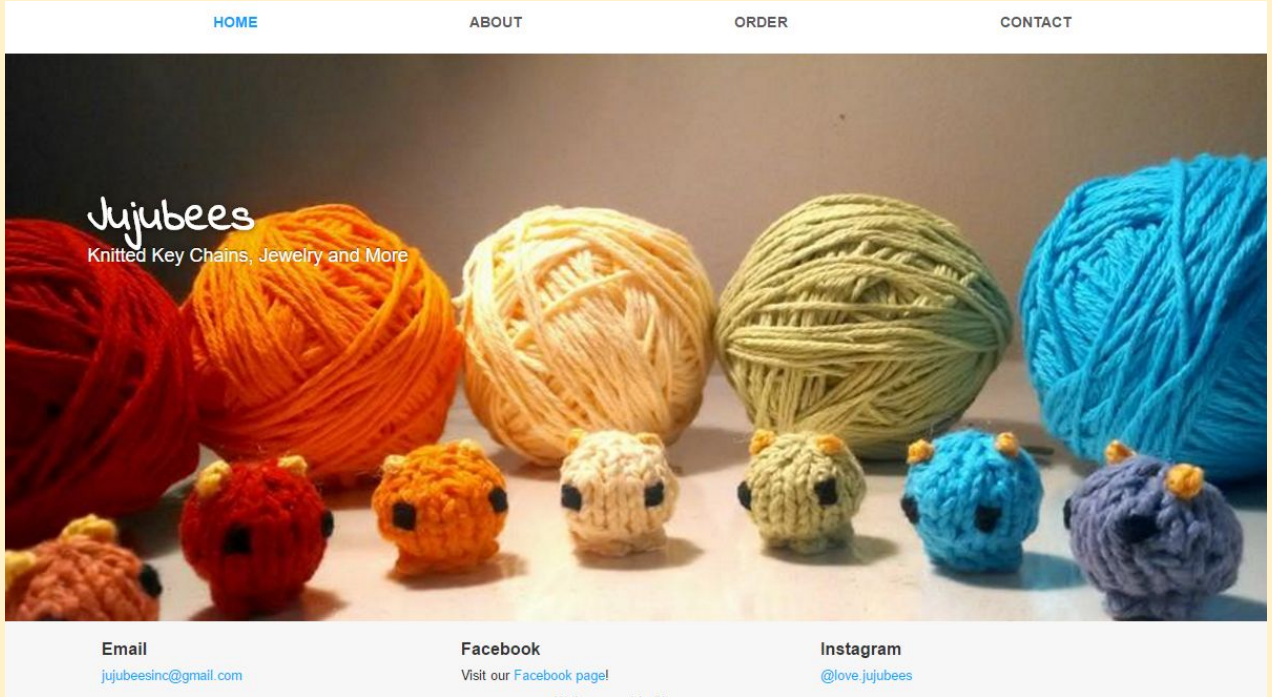
My Demo

- jQuery animations on the navigation bar
- PHP contact form
- Embedded Google fonts and form
- It’s a live website!

-->www.jujubeescrafts.com



My Demo


HOME
ABOUT
ORDER
CONTACT
Jujubees
Knitted Key Chains, Jewelry and More
Email
jujubeesinc@gmail.com
Facebook
Visit our Facebook page!
Instagram
@love.jujubees

Thank you!

Kim Ngo

12th Grade

Oak Grove High School, San Jose

About My Mentor

- *Roshni Chandrashekhar*
- *Google software engineer*
- *UCSD graduate*
- *Dog lover*
- *Coffee and tea drinker*
- *Married last June*
- *Favorite holiday is Tiwali*

My MAGICal Experience

- *Wanted a more hands-on and physics-oriented project*
- *Inspired by this video*

My Project

- *Ruby Goldberg machine using the Legos Mindstorm EV3, Sphero, and a ping pong ball*
- *Many, many failures and retrials as ping pong balls are annoying*
- *Also difficulty in setting up a chrome extension to code EV3 and Sphero*

My Demo

Video of my project (up to date):

Thank you!