Team Number: 109 - 2
Team Name: Pending…
Team Members: Ben Dumois, Tianwei Zhao, Drew McFaul, Alexis Acevedo, Mingyuan Lu

Project Milestone 7

https://sreeshanath.github.io/Spring%202020/Project%20Milestones/Project%20Milestone%207/index.html

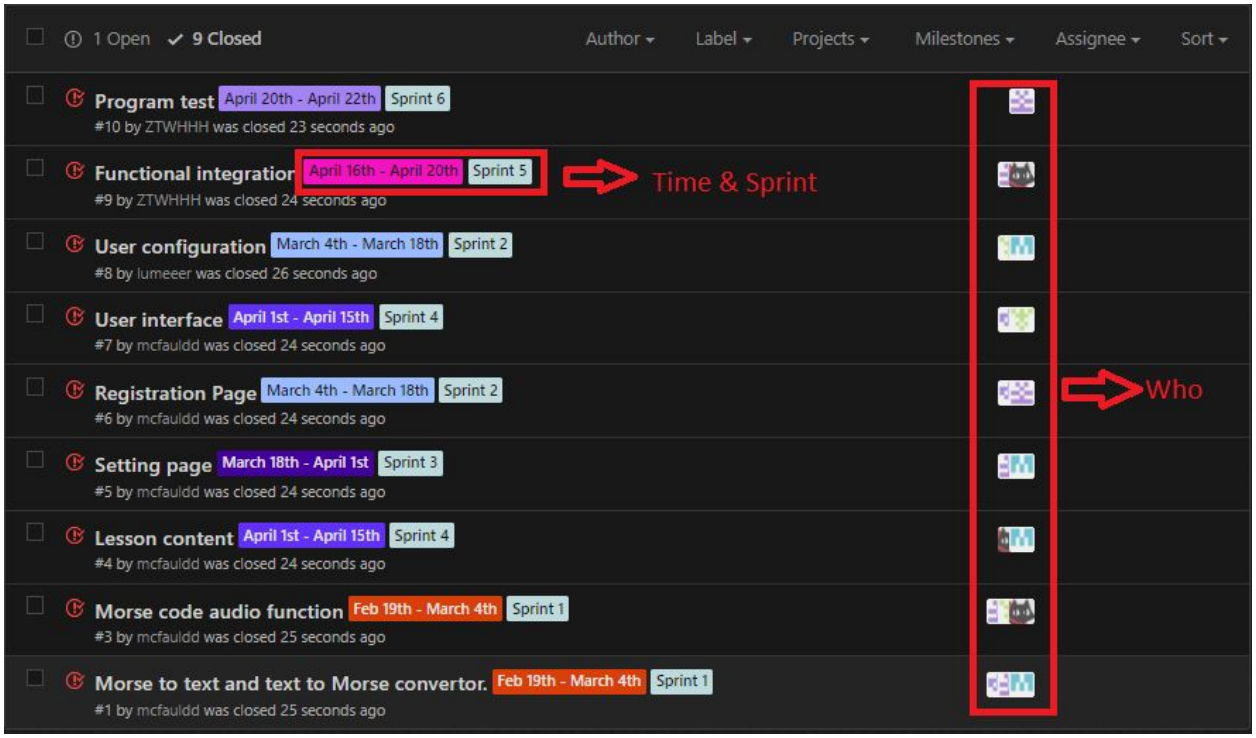
Title: Beepboop

Who: Ben Dumois, Tianwei Zhao, Drew McFaul, Alexis Acevedo, Mingyuan Lu

Project Description: Beepboop is a web-based Morse code training program that teaches users how to understand Morse code. The website includes a registration and login page, a short tutorial to get users started, a page where they can convert text to Morse code, and a page with a lesson system. The lesson system uses the Koch method to learn Morse code, where users are introduced to two letters to begin with, and a new letter or number is added in each additional lesson. The user can jump to any lesson they want, change how long they want each lesson's practice session to be, and receive feedback on their accuracy in the lesson. The website uses JavaScript, HTML, CSS, EJS, and the Web Audio API to accomplish its goals.

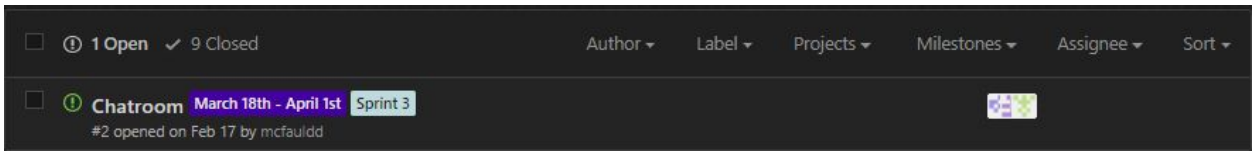
Project Tracker: https://github.com/alac8559/Pending.../issues

Closed (implemented):



Team Number: 109 - 2
Team Name: Pending…
Team Members: Ben Dumois, Tianwei Zhao, Drew McFaul, Alexis Acevedo, Mingyuan Lu

Project Milestone 7
Open (did not implement this):



VCS: https://github.com/alac8559/Pending...

Contributions:

Ben:

I did the basic implementation for the tutorial and training pages. Using Drew's lesson content and Mingyuan's audio code, I wrote the javascript and HTML that displayed the tutorial and lesson audio associated with the lesson, and helped fix minor bugs.

Tianwei:

I am responsible for the design of the web page, which uses many technologies of html and css, including text box input, buttons, hyperlinks. I designed the main page, Tutorial page, Training page and Translate page. On the Tutorial page, you need to enter the translation based on the entered Morse code, and the system will tell you whether your translation is correct. On the Training page, you can use the drop-down box to choose the training difficulty for training. You enter English on the Translate page, you can get the corresponding Morse code translation, click the button, you can get the audio version of the translation. For page design, apart from the technical part, aesthetic design is also very important. I try to make the website modern and simple, think about the color matching of each part, and keep the style of each page the same.

Drew:

I worked on both the coding and content design aspects of the lesson page. Since I was the one most familiar with Morse code, I decided on the Koch method of learning Morse code and on the ordering of the lessons. As far as programming, I worked with JavaScript, HTML, and CSS to create the lesson page of the website along with Ben. For the coding portion, I modified the code Ben made for the tutorial section to fit the needs of the lesson page. I also used the functions that Mingyuan made for audio production. I implemented a barebones version of this training page before passing it over to Ben to handle some issues that I couldn't solve.

Alex:

Team Number: 109 - 2
Team Name: Pending…
Team Members: Ben Dumois, Tianwei Zhao, Drew McFaul, Alexis Acevedo, Mingyuan Lu

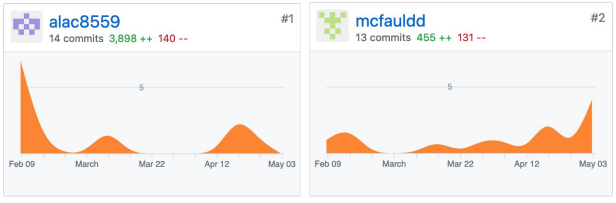
Project Milestone 7

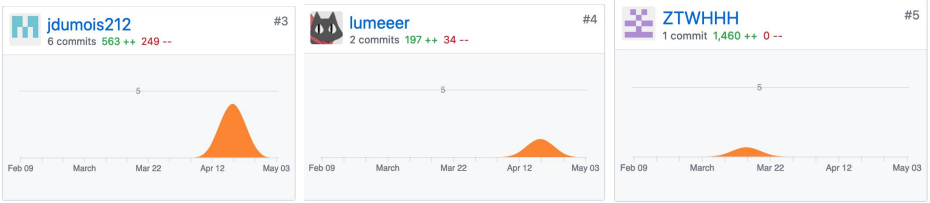
I initially worked on the login page and the registration page by making functional .ejs pages for it. I also implemented a translate button on the registration page that once clicked would change the format from morse code to english, I used js to achieve this. Then I worked on the server side of our project using node.js. I used express as the framework for our project and also used other packages such as bcrypt which helped me hash the passwords for the users registering. I also made a logout button, and once it's clicked it redirects the user to the login page. Most of my time was spent getting the login, registration, and homepage intertwined. For example, a person can not access anything other than the login and registration page if they have yet to sign in and vice versa. Finally, I created the account page which just displays the user's information to show some functionality with our database.

Mingyuan:

My duty in this project is mainly writing the translating functions. These functions include letter to code, code to sound, and user input to code. The translation from letter to code is easy. All I have to do is mapping each letter to an array of corresponding Morse Codes. The code to sound function gave me the most problems. For the purpose of learning, we want to play sound of code with customizable frequency, speed, and pitch. This means the sound has to be generated in real time. The solution to this requirement is the WebAudioApi. I spent a long time trying to understand the API, and I found out it is cool to play with. In the beginning, a node of sound sources is created. It generates a sound with zero amplitude and a specific frequency constantly. Then, the node is connected to a "modifier". It turns the amplitude of the sound up and down based on the need. This is when the beeping sound was generated. And finally, the audio element is connected to the speaker to be here by the user. It is a lot similar to the constant electrical current, the switch, and the speaker in the real telegram devices.

Contributions continued:





Team Number: 109 - 2
Team Name: Pending…
Team Members: Ben Dumois, Tianwei Zhao, Drew McFaul, Alexis Acevedo, Mingyuan Lu

Project Milestone 7

Deployment: https://mynewapp-alex.herokuapp.com/