



MATES Computer Science

## Senior Capstone Project Bi-Weekly Progress Report

Project Title	TerrapinTracker
Team Members	Angelo Amato, Aidan Henbest, Lisa Hunt
Dates Covered by Report	May 1, 2023 - May 19, 2023
Link to Github	<a href="https://github.com/henbestaj/senior-capstone">https://github.com/henbestaj/senior-capstone</a>

### 1. Summary of Project (Provide a one paragraph summary of your project. You can largely copy/paste this from one progress report to the next, unless there are significant changes.)

Our plan is to create a website for Project Terrapin that regularly updates the statistics on the growth of the hatchlings cared for both at MATES and other affiliated schools. We will use the measurement data for the growing terrapins and, using Python and JavaScript, create different graphs to display the data. This website will be public and linked to the main Project Terrapin website. The site will update automatically when new data is added from recent measurements. Our project will help to raise awareness of the dangers that face the Northern Diamondback Terrapin species. They are a keystone species in the Barnegat Bay, meaning they are essential to the ecosystem's survival. Our website will hopefully inspire others to get involved in the protection of terrapins, and potentially let them track the growth of hatchlings they may have found, giving them a more personal connection to the turtle(s) they helped to save.

### 2. Summary of Progress this Period (Provide a high-level, one-paragraph overview of what was accomplished during this progress period collectively by the team.)

One of the primary goals for this period, like the last period, was to style the website. The Sign-Up, Measurement, Settings, and Forgot Username/Password pages have all been styled. CSS grid was primarily used along with flexbox in order to accomplish this. Another primary goal was to create many features that all websites that have login functions need. These include letting the user change their

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password, letting the user change their first name, letting the user change their last name, letting the user delete their account, letting administrators easily access administrator settings, and creating a function for when users forget their username or password.

**3. Detailed Progress this Period, separated by Team Member (Provide detailed information on the progress that you made in the reporting weeks. Include screenshots of code, your game or website, etc. Each team member should have a separate subsection covering their accomplishments. Not including screenshots, this section should be 1-2 pages.)**

- **Angelo (Block 2)**

I started off this period by finishing the measurement page. I had some issues with this as the form elements are contained within a <p> tag (Django feature). Working with the grid was a little difficult because of the unusual html structure. I used css grid to style this page, but unlike the “new turtle” page, I had to use two different columns so all of the inputs would fit nicely. Moving on I began to style the “Sign Up” page which was a bit easier because I had gotten used to styling the Django forms, but again making two different columns for the inputs had a few kinks that needed to be worked out. I then moved on to styling the settings page, which was the most difficult page so far. This is because the page contained 3 different forms to reset passwords, reset usernames, and delete accounts. I put all of the forms in a container element and then into separate divs from there. I made the divs that contained each individual form darker than the ones that contained all three. Ultimately I used Grid to move the forms into place, and flex to style the inputs and headings within the forms.

- **Aidan (Block 3)**

Throughout this progress report period I developed the backend (and incredibly simple frontends that were later fixed by my partners) for many new features on the website. First, I created a settings page which includes many forms for users to interact with. On this settings page, users can change their first and last names with a simple form. Users can also type in their old password as well as a new password twice to update their password to something new. Users can also delete their account on this page through typing a set of capital letters to confirm the deletion. This doesn’t actually fully delete their account, so when a user is referenced as an editor to a turtle or measurement using a foreign key, it doesn’t turn up blank; rather, the user’s account is marked as “inactive.” The last thing I added to the settings page is a button that appears only for administrators that links to Django’s built-in administrator settings site. Moving on from the settings page, I also made a form that allows users to mass create a large number of turtles at once, so at the start of the year Project Terrapin doesn’t have to individually create every single turtle. Lastly, I made a forgotten username and/or password page that allows users to enter in their email address, and if this email address is associated with an account, their username as well as a new password is sent to them. Django does not allow you to retrieve the password of a user for security purposes, therefore a new password must be stored in a variable, set as a new password, and then emailed to them. For all of these forms I created simple errors; however, many of these were greatly adjusted by my teammates.

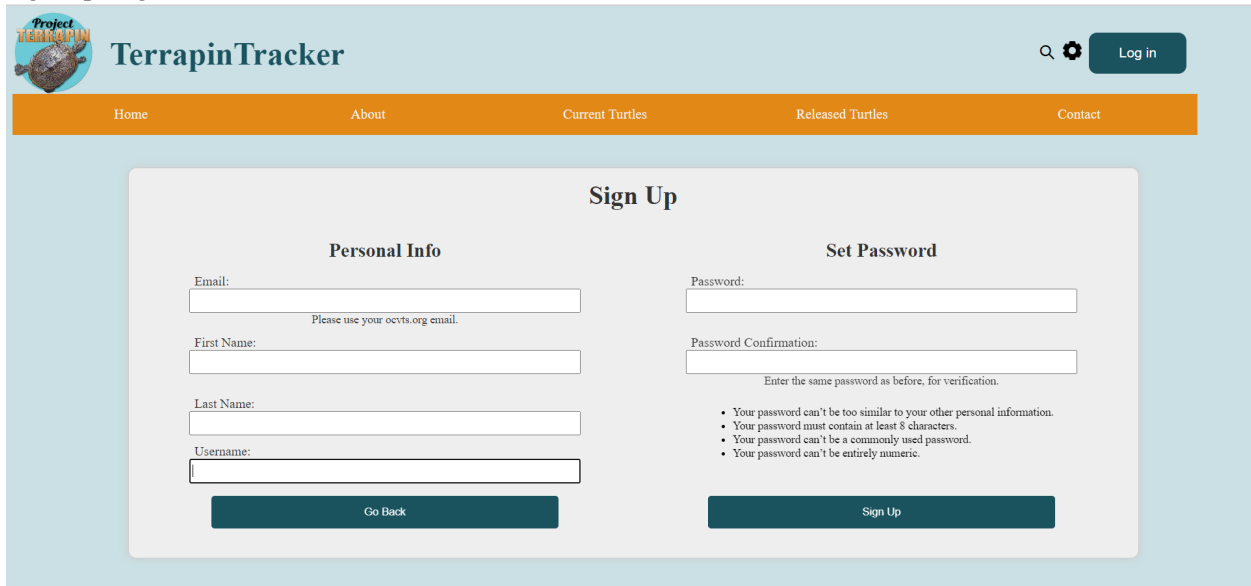
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- **Lisa (Block 3)**

This period I started with formatting the current turtles page to make sure it could account for new R numbers and put them in order by number in the CSS grid. I then made all of the home page graphs. For this I had to create a new set of lists that sorted the data by R group. The graphs I made are similar to the R number graphs, with a few variable swaps to give a more general sense of the data. I then sorted the legend for the graphs that it applied to and made sure it would work for new R groups as well. Next, I created an alert box for the login message. This means that it will pop up on the screen once the user is logged in and then the user can click to remove the message. I also added the settings button and formatted it similar to the search button. I also did a lot of styling to the minor pages like the contact sent message. I formatted the released turtles page so when data exists next year, it will display with a similar format to the current turtles page sorted by year. Next, I spent a lot of time fixing the errors on the sign in page, since I had to account for multiple errors triggering at the same time. Lastly, we have had a horizontal scroll bar on all pages for a long time, so I finally got rid of it.

## Website:

## Sign Up Page:



The screenshot shows the 'Sign Up' page of the 'Project Terrapin' website. The page has a light blue header with the site logo and name, a search icon, and a 'Log in' button. Below the header is an orange navigation bar with links to 'Home', 'About', 'Current Turtles', 'Released Turtles', and 'Contact'. The main content area is a light gray box titled 'Sign Up'. It is divided into two columns: 'Personal Info' and 'Set Password'. The 'Personal Info' column contains input fields for 'Email:', 'First Name:', 'Last Name:', and 'Username:', with a 'Go Back' button at the bottom. The 'Set Password' column contains input fields for 'Password:' and 'Password Confirmation:', with a 'Sign Up' button at the bottom. A list of password requirements is displayed between the two columns.

**Project Terrapin** TerrapinTracker

Home About Current Turtles Released Turtles Contact

### Sign Up

#### Personal Info

Email:

Please use your ocvts.org email.

First Name:

Last Name:

Username:

Go Back

#### Set Password

Password:

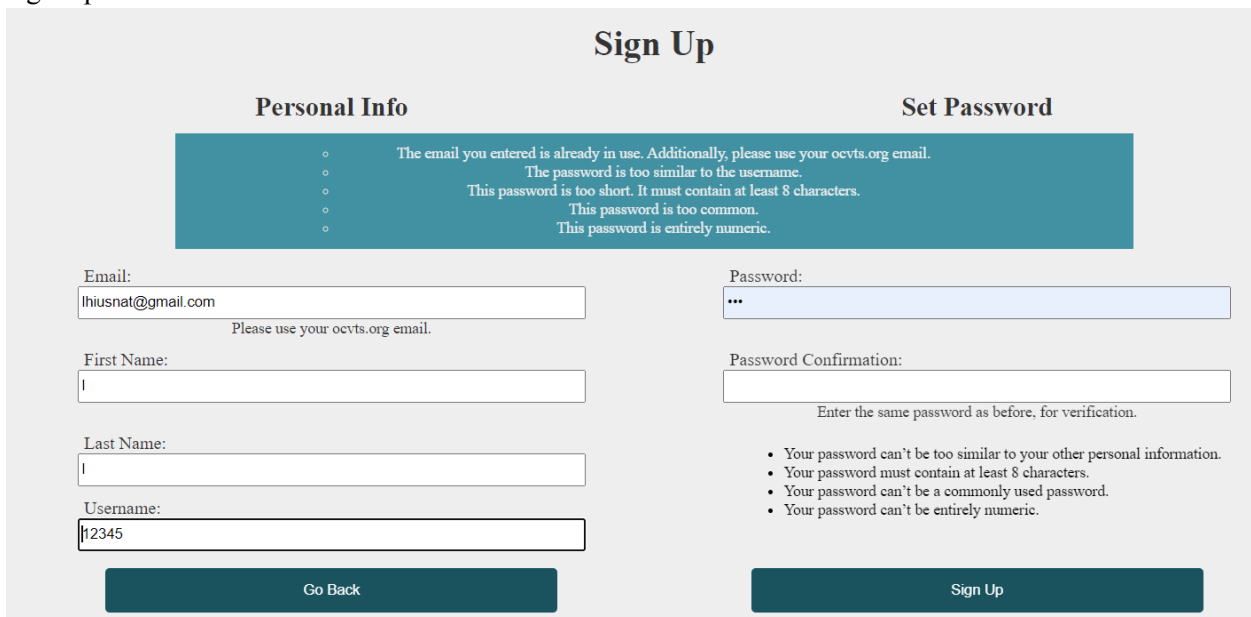
Password Confirmation:

Enter the same password as before, for verification.

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Sign Up

## Sign Up Errors:



This screenshot shows the 'Sign Up' page with error messages. A large teal box at the top contains four error messages. The 'Email' field has a red border and a message below it. The 'Password' field has a red border and a message below it. The 'First Name', 'Last Name', and 'Username' fields have red borders. The 'Go Back' and 'Sign Up' buttons are at the bottom.

### Sign Up

#### Personal Info

Email:

Please use your ocvts.org email.

First Name:

Last Name:

Username:

Go Back

#### Set Password

Password:

Password Confirmation:

Enter the same password as before, for verification.

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Sign Up

The email you entered is already in use. Additionally, please use your ocvts.org email.

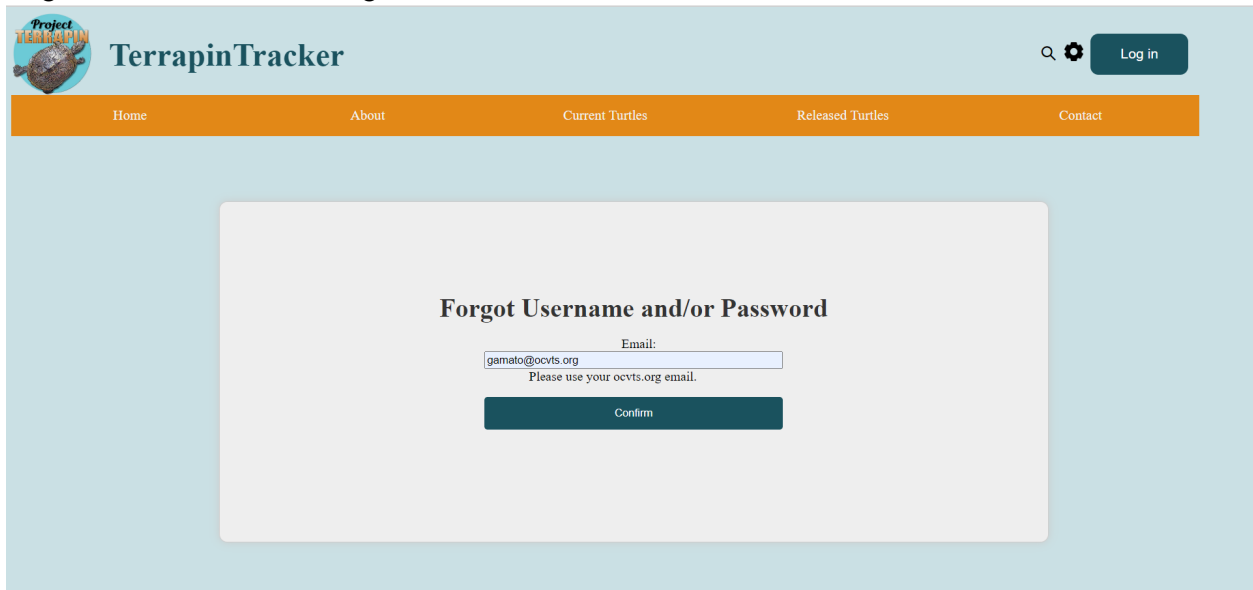
The password is too similar to the username.

This password is too short. It must contain at least 8 characters.

This password is too common.

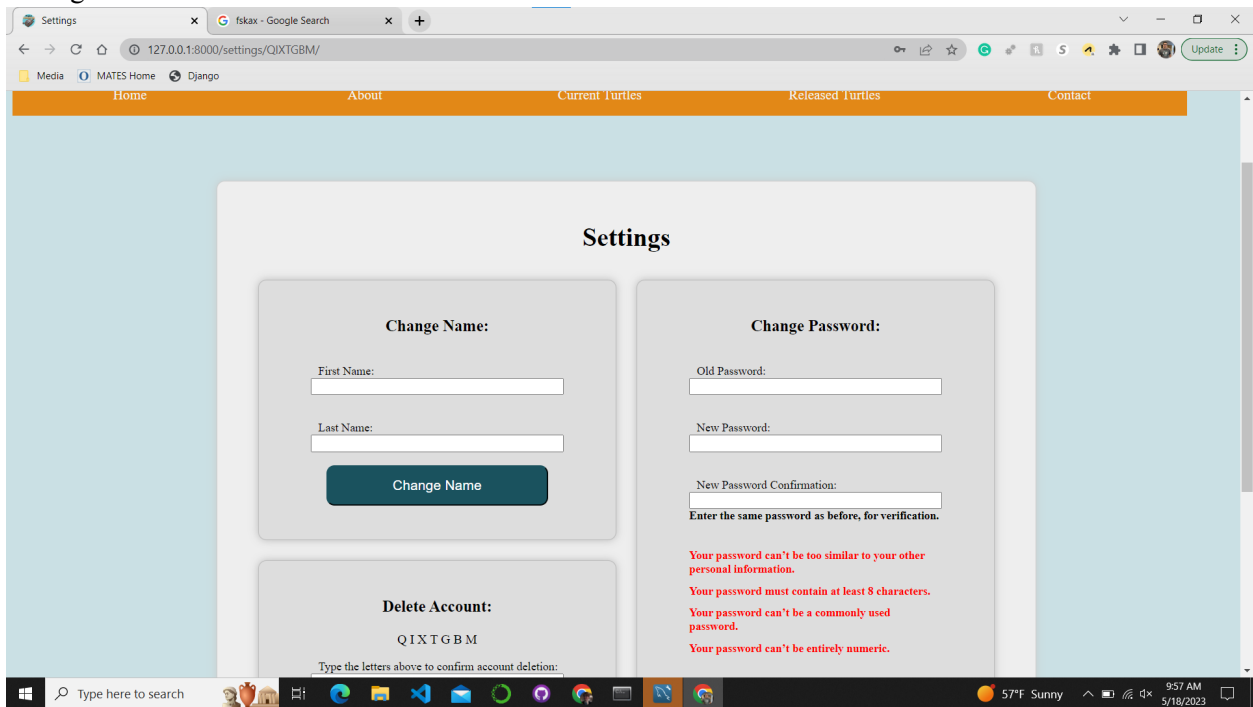
This password is entirely numeric.

## Forgot Username/Password Page:



The screenshot shows the 'Forgot Username and/or Password' page of the TerrapinTracker website. The page has a light blue background with a white central form. At the top left is the 'Project TerrapinTracker' logo. At the top right are search and settings icons, and a 'Log in' button. Below the logo is a navigation bar with links: Home, About, Current Turtles, Released Turtles, and Contact. The main heading of the form is 'Forgot Username and/or Password'. Below this is an 'Email:' label and a text input field containing 'gamato@ocvts.org'. A message below the field says 'Please use your ocvts.org email.' At the bottom of the form is a dark blue 'Confirm' button.

## Settings:



The screenshot shows the 'Settings' page of the TerrapinTracker website, viewed in a web browser. The browser's address bar shows the URL '127.0.0.1:8000/settings/QIXTGMB/'. The page has a light blue background with a white central form. At the top left is the 'Settings' tab. At the top right are search and settings icons, and a 'Log in' button. Below the logo is a navigation bar with links: Home, About, Current Turtles, Released Turtles, and Contact. The main heading of the form is 'Settings'. Below this are three sections: 'Change Name:', 'Change Password:', and 'Delete Account:'. The 'Change Name:' section has input fields for 'First Name:' and 'Last Name:', and a 'Change Name' button. The 'Change Password:' section has input fields for 'Old Password:', 'New Password:', and 'New Password Confirmation:', and a 'Change Password' button. The 'Delete Account:' section has a 'Delete Account' button. Below the 'Delete Account:' section is a CAPTCHA image showing the letters 'QIXTGMB' and a prompt to 'Type the letters above to confirm account deletion:'. The browser's taskbar at the bottom shows the Windows logo, a search bar, and various application icons. The system tray at the bottom right shows the date and time: '9:57 AM 5/18/2023'.

**Delete Account:**

Q I X T G B M

Type the letters above to confirm account deletion:

## Delete Account:

Q I X T G B M

Type the letters above to confirm account deletion:

Delete Account

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Delete Account

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Q I X T G B M

Type the letters above to confirm account deletion:

Delete Account

**Your password can't be too similar to your other personal information.**

**Your password must contain at least 8 characters.**

**Your password can't be a commonly used password.**

**Your password can't be entirely numeric.**

**Change Password**

**Your password can't be too similar to your other personal information.**

**Your password must contain at least 8 characters.**

**Your password can't be a commonly used password.**

**Your password can't be entirely numeric.**

**Change Password**

**Your password can't be too similar to your other personal information.**

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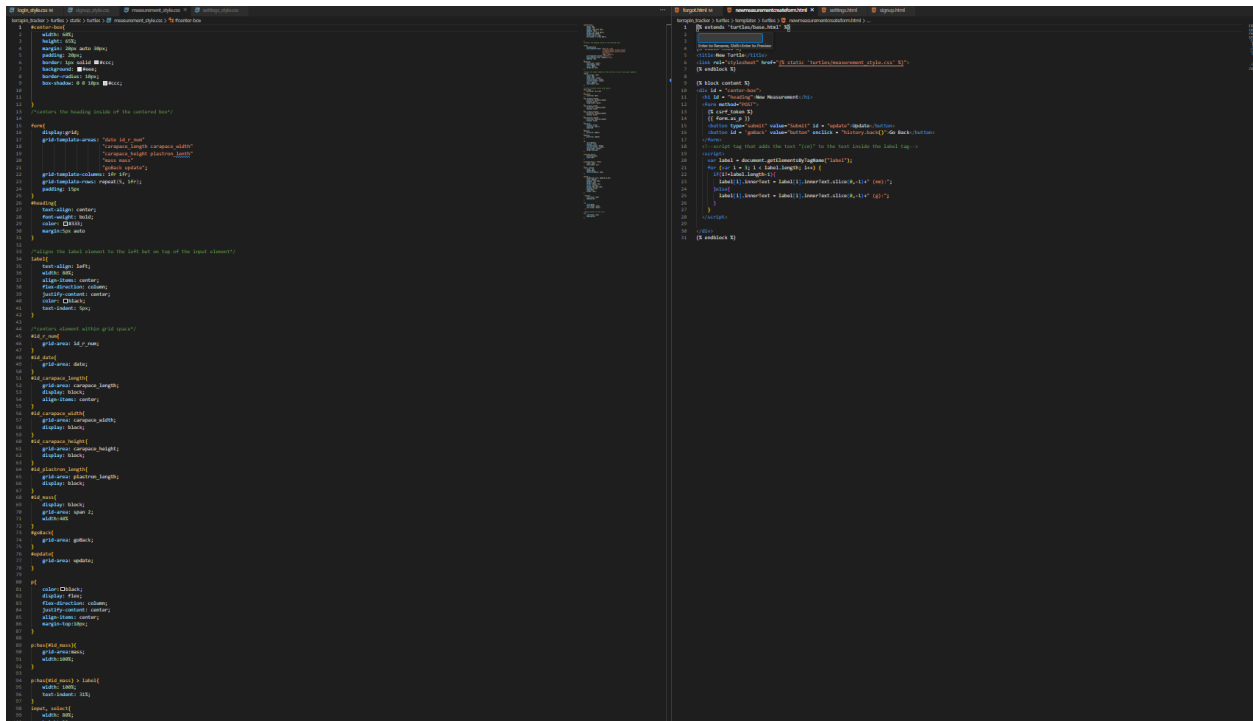
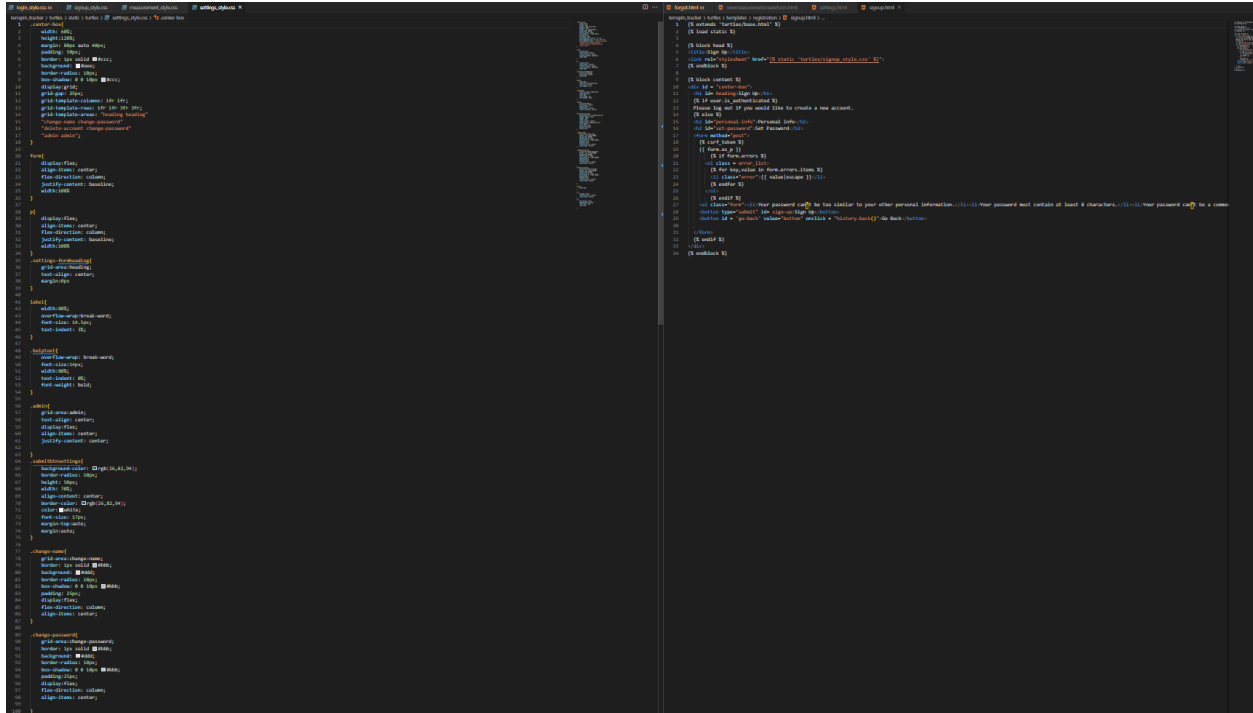
**Your password can't be entirely numeric.**

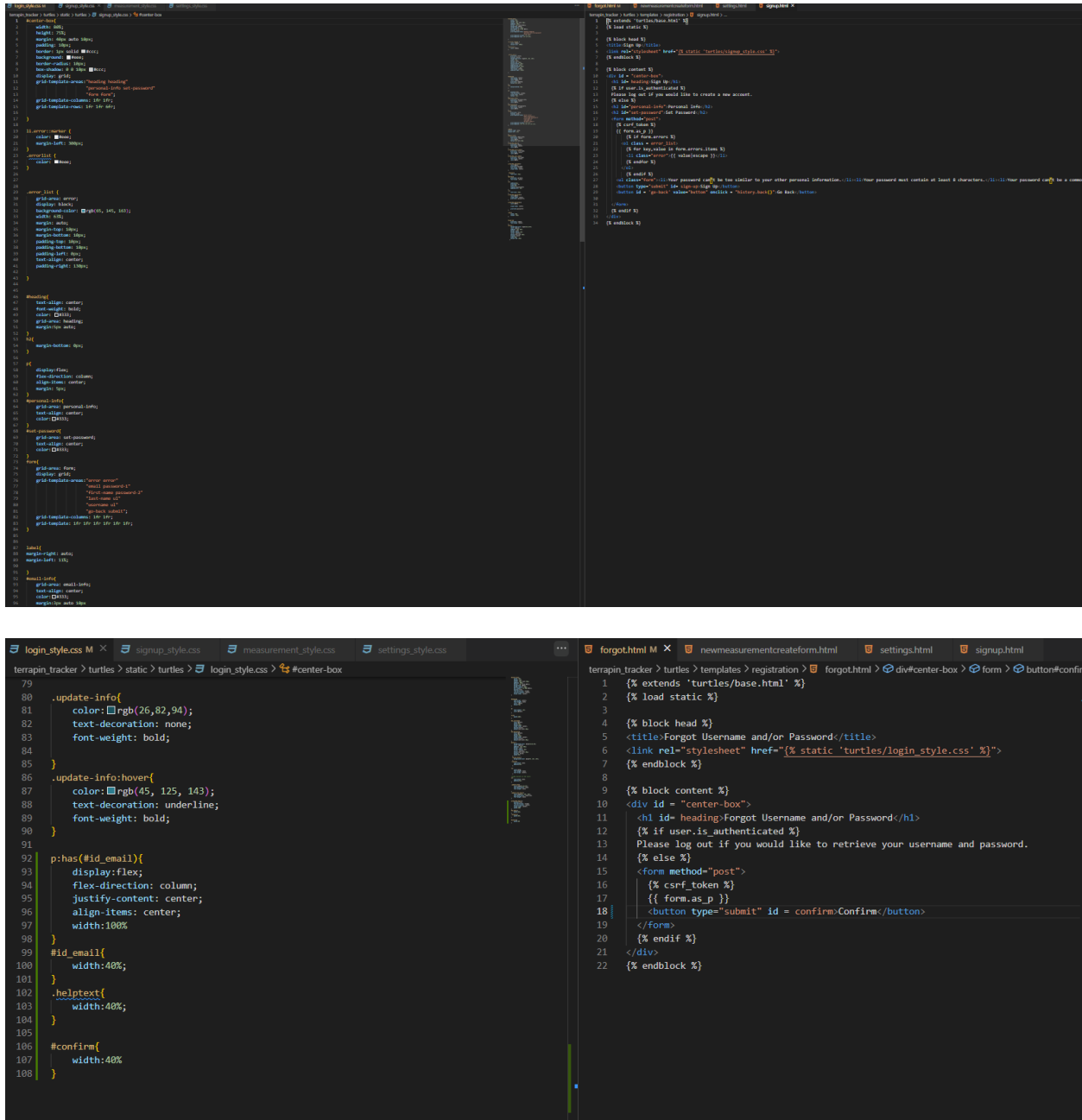
**Change Password**

## Administrator Settings

## Senior Capstone Project Bi-Weekly Progress Report

**Code:**





4. **Difficulties Encountered this Progress Period (Provide detailed information on the difficulties and issues that you encountered in the reporting weeks. Discuss mitigation strategies for how you got around or plan to get around these issues.)**

One of the major difficulties was managing how to use the CSS grid for Django forms. This proved to be a bit difficult because the inputs were organized into separate columns or separate forms. The settings page was the most difficult to style as it contained 3 separate forms, each with 3-4 different elements/inputs. These issues were resolved by playing around with the grid and flexbox.



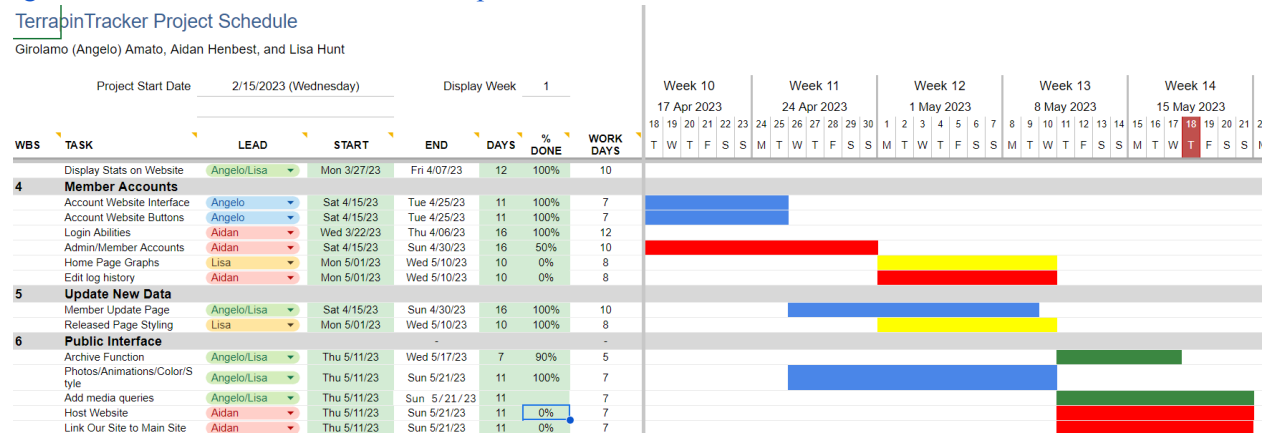
Another major difficulty was fixing the errors on the sign in page. It started off as an issue where the errors kept displaying on top of each other. We first tried to fix this by making different error messages for all the different combinations of errors, but after finding out there are 8 different errors that could be triggered at the same time, we decided to find another way. The problem was that errors are displayed on the website through Django forms, not html, so there is no way to directly style them. However, we found that through inspecting the page, the class name linked to the errors was displayed. We were able to use Django to loop through the list of errors and display it as an html list. Then there was another issue where because the class name is built into Django, it was permanently linked to the new styled errors and the old overlapping errors within the form. So the page displayed the error list twice, once in the correct page and once in the overlapping place. Since they have the same class, any styling done to one would be done to the other. We were able to get around this by changing the font color, so the overlapping errors would be invisible.

We also had an issue when trying to make the legend for the graphs. In the data, the R number is a string of a number, so we had to convert the R list into a set and then back into a list. Then we had to convert it into a sorted int list, and finally back to a string list to graph.

## 5. Updated Gantt Chart and Discussion (Provide screenshot of and link to updated Gantt Chart. Discuss any changes made to chart since last progress report and why.)

Link:

<https://docs.google.com/spreadsheets/d/1oi-GrYyScA3wGwhdOIGVoMxVTLk26KTI/edit?usp=sharing&ouid=117504571525022214060&rtpof=true&cd=true>



## 6. Tasks to Be Worked on in Next Progress Period (Discuss the tasks to be worked on in the following two weeks. Discuss who is working on each.)

Angelo	Aidan	Lisa
<ul style="list-style-type: none"> <li>Finalize styling for pages</li> <li>Work with Project Terrapin on integrating website</li> </ul>	<ul style="list-style-type: none"> <li>Create the ability for users to see the edit history of all measurements and turtles</li> </ul>	<ul style="list-style-type: none"> <li>Format description box and graphs on home page               <ul style="list-style-type: none"> <li>Label and explain</li> </ul> </li> </ul>

	<p>(including current, released, and deleted ones)</p> <ul style="list-style-type: none"><li>○ Create the Django views</li><li>○ Create the Django forms</li><li>○ Ensure no old edits overlap with the edits that are currently valid</li><li>● Create the ability for users to edit turtles and measurements<ul style="list-style-type: none"><li>○ Create a button that allows them to archive many turtles at once</li><li>○ Give a warning when archiving a turtle that is the same as a turtle already archived</li></ul></li></ul>	<p>graphs</p> <ul style="list-style-type: none"><li>● Style any remaining buttons or pages<ul style="list-style-type: none"><li>○ Edit and archive buttons</li></ul></li><li>● format website to work with different screen/window sizes</li></ul>
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**7. Additional Information** (Provide any additional information that you want to provide in this section; for example, one of your teammates is going away next week, your Github account is gone, etc. It could be good news as well.)

The hatchling release this year is June 1st:

1. Angelo will not be here that day.
2. It will probably be too late to integrate this software by the 2022-23 school year so we will try to get it set up for next year.

Prom is June 2nd so we will all be leaving early that day. Also, we will all be out for senior skip day on June 5th.

Aidan will not be here on June 12th due to the WPI First-Year Welcome Experience.

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