TerrapinTracker

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Senior Capstone-CS

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Project Plan:

Our plan is to create a website for Project Terrapin that regularly updates with 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, 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.

The data will be collected from the Project Terrapin Hatchling division. Every time new measurements are taken, all of the graphs will update to reflect the change in data. We will create an interface for the division members to input the measurements from the hatchlings. Every turtle can be registered with a name, photo, birthday, and release day for past turtles. Users can click on a turtle and view all of their history and measurement log. Admin accounts will have the most freedom: they will be able to edit any of the past data and monitor the edits of the regular member accounts. Regular member accounts will be able to input new data and add new turtles. At the end of the year, we will archive the final statistics in a separate location on the site so they may be viewed in the future.

The graphs mentioned above on this site will actively change as new graphs are imputed. They will be interactive using the JavaScript D3 library. We will graph the data of the terrapin size and age. We will create different graphs by different locations, egg batches, and sizes.

This website can be used by Project Terrapin in the future to avoid tracking through spreadsheets; the data taken can be input directly into the website by members. The website will have a side for members to input data using accounts and a side for the public to view without needing an account. We will use Javascript, HTML, and/or CSS for the front end and Python for the backend. The website will be hosted on Amazon Web Services.

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 survival of the ecosystem. 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.

Languages/Software Needed:

Languages:

- ☐ Python
- ☐ HTML
- ☐ CSS
- ☐ JavaScript

Software:

- ☐ VS Code
- ☐ Anaconda
- ☐ Django
- ☐ MySQL
- ☐ Apache HTTP Server
- ☐ Amazon Web Services