

Recitation Number : 3038-101

Team Name : Team Bonsai

Team Number : 1

Application Name : Bonsai Buddy

Members:

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Project Feature List:

- User Login
 - The user login page will allow returning users to monitor and control the health of their specific bonsai / houseplant.
- User Registration
 - The user registration page will allow a first-time user to create an account, allowing them to use the login page when they return to the website.
- Example Home Page
 - Before a user decides to login or register they will be directed to an example home page. This page will serve as a demonstration of the features of the app, without actually using a secure database connection.
- Water Pump Control
 - The water pump will allow users to select either automatic or manual water scheduling. The auto watering will be schedule based, while also using sensor readings. The manual watering will be a button which sends a command to the hardware.
- Photo-resistivity Sensor Readings
 - The hardware will have a photo-resistor sensor equipped. This will provide live feed data to the database to monitor the health and environment of the bonsai / houseplant.
- Soil Moisture Capacitor Readings
 - The hardware will have a soil moisture capacitor sensor equipped. This will provide live feed data to the database to monitor the health and environment of the bonsai / houseplant.

- Temperature and Humidity Sensor Readings
 - The hardware will have both a temperature and a humidity sensor equipped. This will provide live feed data to the database to monitor the health and environment of the bonsai / houseplant.
 - Graph History Display
 - The website will allow the user to select which sensor data to display in a vs time graph on their home page.
 - Table History Display
 - The user will also be able to view recent sensor history data in a table on their home page
 - Camera
 - Time Lapse
 - The camera will take photos once every 10 minutes and send them to the database. These photos will then be fed into website and displayed as a time lapse
 - Live Feed
 - The most recent picture taken will be displayed as a live feed from the bonsai / houseplant
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Requirements:

- User Login
 - Functional:
 - Login Form
 - Username
 - Password
 - Remember me checkbox
 - This should pop an error toast on failure
 - This should pop a success toast on successful login
 - This page will route to the user page on success
 - Non-Functional:
 - This form should be a dropdown module from the header on the home page.

- User Registration
 - Functional:
 - Registration Form
 - Username
 - Password
 - Confirm Password
 - Email
 - Age (optional)
 - Gender (optional)
 - This form should route to the default home page.
 - This form should pop a “please login now” toast upon completion.
 - Non-Functional:
 - This form should be a dropdown module from the header on the home page.
 - In post-production, the information taken about the age and gender of our users will help us modify the website to better fit the user base that we accumulate.
 - This is, of course, out of scope for this project, but still an important data collection method to include.
- Example Home Page
 - Functional:
 - This page will include the default header.
 - This page will include the default footer.
 - This page will act as the main landing page, attempting to sell our product.
 - The page will display example data which a user might see on their own homepage, without actually providing real plant data.
 - Non-Functional:
 - This will act as a user’s first interaction with our software, it needs to pop. The styling will be simplistic, lots of rounded edges and soft lines.
- Water Pump Control
 - Functional:
 - There will be a button on the user home page which allows the user to remotely water their plant manually.
 - There will be a slider which will allow a user to automatically schedule watering times for their bonsai / houseplant.

- Non-Functional:
 - This option is the main use for this product. The button needs to be emphasized in styling, taking center stage.
- Camera
 - Functional:
 - Live Feed
 - The most recent picture stored in the database will be displayed as a “live feed” of the plant, allowing users to visually confirm the health of their plant.
 - Non-Functional:
 - Live Feed
 - There should be a blinking red dot in the bottom right of the image, to give the user the impression that they are seeing a live feed, when in reality it is just a still image.
- Table History Display
 - Functional:
 - The table will display all recent sensor data stored for the user’s specific bonsai / houseplant.
 - Non-Functional:
 - The table should be visible through selection, not by default. The rigid layout does not fit the overall aesthetic of our application, and should be hidden from the average user.

Project Plan:

Trello Board -

<https://trello.com/invite/b/dSRvyfR/37dcdd3eef4cb950ae7269e3aa6a702b/water>