Eelgrass Tracker

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Standard Workflow for Collecting Eelgrass Measurements



Users & Environment

Users

- Citizen Scientists
- Scientist Data Analyzers

Environment

- Mobile device data collection
- Collection in outdoor ocean areas
- Analysis and data aggregation in scientist offices

Use scenario description

Bob Smith collects data on eelgrass while out on his boat. Bob works through the pages, entering all of the right information and even taking a picture of the eelgrass for the scientists. Bob enters the information in the correct fields, and clicks the options he wished to when entering data for epiphyte coverage and wasting disease. Bob adds a few notes and submits the data. Mary Sue is a marine biologist who works with the data volunteers collect. She opens the app and chooses to download the data. She downloads a file that contains the data in a CSV format and she imports it into an Excel spreadsheet.



Paper Prototypes



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Trip Data
Date of Trip 8 / 26 / 19
Crew Members
Brady Hehe Jace Haha Collin Lol Bob Smith
Boat Name
Speedy Science Boat
Back Ø Next

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Location Data
Station Number
AlphaNumero1
Latitude
Longitude
-70.69758
GPS Device
Garmin
Back Ø Next

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Weather Data	9
Wind Direction	
North 👻	
Wind Speed 0 - 5 Knots	
Sea State	
Glass-Calm 🗸	
Tide	
High	
Back @ Next	

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Secchi Samples Environment
Water Depth 5 Feet
1.52 Meters
Time
13:50
Secchi Depth
1.3 Meters
Back Ø Next

Drop-Frame Sample 1	© 20 11 1150 Drop-Frame Sample 1 Notes
Picture Taken	Notes
Picture Timestamp	
Sediment	
□ mud □ gravel □ clay □ cobble □ sand	
Percent Cover	
1 - 10	
Back Ø Next	Back Ø (Next)

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Indicator Station Sample 1	Indicator Station Sample 1
Shoot 1 Length (cm) 25 cm	Wasting Disease
Width (mm) 50 mm	Epiphyte Cover
Length (cm) 25 cm	Notes
Width (mm) 50 mm Shoot 3	
Length (cm) 25 cm Width (mm) 50 mm	
Back @ Next	Back @ Next

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Data Submitted
New Trip
Home



Error Handling & Validation



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Use scenario description

This is Joe Canoe's first time out collecting data. He is super nervous about the whole ordeal, and he isn't very sure what each field is suppose to do or be. All these measurements, all in a certain order... Joe has heard of wasting disease but has no idea how to identify it. Luckily, he sees the help icon and clicks it. It brings up all the information he needs to know to complete that portion of his sampling.

In his haste Joe also mistyped his latitude to be 402°, but luckily the app is aware this isn't a valid measurement and prompted him to double check it.

Location Data	Location Data
Station Number AlphaNumero1	Station Number AlphaNumero1
Latitude 402.3586 Longitude -70.69758 GPS Device Garmin	Invalid Input Double check your data for your Latitude measurement <u>Got it!</u> -70.69758 GPS Device Garmin
Back Ø Next	Back Ø (Next)



Usability Goals & Concerns



Usability Goals

Usability Goals:

- Clarity
 - \circ At each stage, the user should have a clear idea of what they need to do and why.
- Conciseness
 - The User Interface should be simple and to the point.
- Flow
 - The transitions between screens should be logical and seamless.



Usability Concerns

- Connectivity
 - Not all stations have a reliable (or any) internet connection. Addressing connection issues is going to be a much more difficult problem to solve, given that it depends so heavily on the technical foundation of the app, which we haven't designed yet. Hopefully we can find a way to design our app such that these problems never present themselves to the user.
- Precision
 - Small UI elements may be hard to interact with on a moving boat.
- Progress:
 - Displaying the users' progress at any given state should be a fairly simple task. We can just add a progress bar somewhere on the screen to give the user an idea of how much they have completed and how much is yet to come.
- Help and Documentation
 - The last critical concern is the inclusion of help and documentation. This is something that we need to discuss further, both as a group, and with our correspondent scientist, Jill Carr.

Questions?