

Algae Estimator for iOS

Requirements

Peter Langlois, Michael Horning, Waleed Saad, Dominique Tipton, Asif Reza, Qiao Li, Andrew Barret

A. Functional Requirements

1. The user shall be able to enter certain variables that will be used to estimate algae blooms.
The user will be presented with a form containing check boxes that must be populated in order to estimate algae blooms. Certain values, such as Phosphorous and chlorophyll, will have a button that brings the user to another view that will aid the user in estimating their values.
2. Logs that a user creates shall be saved and will be viewable and editable.
Once a user submits data to the application, it will be saved to the systems internal database. Each record will be displayed to the user and organized by the date and time the record was created. Once a record is selected, the estimated data can be reviewed by the user, or the inputted data can be edited and saved to the database.
3. The system shall warn a user when the values that they have entered will not produce any algae blooms.
Not all conditions are capable of producing algae blooms, when the values that the user has entered meet these conditions, then an alert will appear telling the user that algae blooms cannot be produced with the provided inputs. The user will not be able to save these logs.
4. The user shall be able to view “Tips” which will describe each variable and how to obtain its value.
Each input field will be accompanied by a “Tip” button, indicated with a question mark, which will provide contextual information for that variable. This contextual information will include a brief explanation of what that variable is and how it’s value can be obtained.
5. The system shall use the Core Data library in order to handle its persistent storage.
This will allow the user to use the application without an Internet connection. All records can be stored and retrieved at any time.

B. Non-Functional Requirements

1. The system shall be available to all iOS 9+ compatible products in order to be usable with the largest percentage of iOS devices.
2. The system shall be able to store and retrieve data off-line so that it is usable in any scenario.