Project Number 30

FiFieldDay- wildlife data collection and query tool

Company and Contact Information

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Project Description

Overview:

The project involves a mobile app as a PWA that syncs to an AWS database. The app can display and query data from the field without a wifi signal (stored locally) and then syncs data with the database. Background: Effective approaches to estimate wildlife populations rely on accurate data collection techniques. Our proposal is for the design and enhancement of a mobile application (app) for field-collected data from a mark-recapture study on reptiles and amphibians. Our app is developed for mobile devices on any platform. The user enters data on a touch-screen using pre-programmed fields, checkboxes, dropdown menus, and keypad entry. Our app includes features to insure collection of all measurements in the field
through pop-up messages and can proof entries for valid formats. The beta version of our app allows the user to query a database in the field to view histories of previously captured animals. Having access to capture histories allows the user to catch potential errors when the animal is being processed in the field, instead of realizing a mistake back at the lab at a later time. The app stores field-entered data on the device or memory card and then will
sync to an online database. Currently the app and DB is only used by Dr. Bateman and wildlife students. However, the ultimate goal would be to create an online web app that can be customized based upon user needs. Potential users could be state and federal natural resource users and non-profits. We have mostly focused on development of the current app and DB to make it something that could be adapted to various projects in the future. Thank you for considering this project.

Motivation:

Dr. Bateman has been working with capstone teams on the mobile app and web development. Publication on how the mobile app is used in wildlife studies: https://doi.org/10.1002/wsb.322

Deliverables:

fully working mobile app that syncs with live database, a test/demo mobile app and DB for development, build app and DB with customization in mind that would transfer across projects and can

be build by a non-technical user, provide a user guide for the non-technical user to understand the mobile app and DB, provide documentation for future capstone teams

Learning Experience:
Dr. Bateman can provide a client experience to capstone students as the user of the tool. The project can provide an interdisciplinary experience by working with a non-technical user using the tool to collect ecological data on wildlife (reptiles and amphibians). If students are local and have an interest, we can visit field sites near Polytech to test the mobile app in the field (optional experience).

Required Skills:

Expenses:
The team will need to create a test database that is different from the live database (in use currently) which is stored on AWS.

NDA / IPR Requirements:
No

Supporting Information

Dr. Bateman's webpage has info on wildlife research and short description of the mobile app.
http://hbateman.faculty.asu.edu/research/mobile-app-for-wildlife-research/

Video:

Files:
https://www.dropbox.com/sh/oaalsc680zzs6qd/AADrqKNiczUAzdYM0oaIDzM5a?dl=0