User Interface Report

MAPme Android Application

Authors: D.G. Smith, P.S. Sebeikin

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Contents

1 Target Audience

The target audience remains the elderly bracket of people; predominantly retirees. The target audience is assumed to have a basic knowledge of mobile apps and how they function. The target audience is also assumed to have a basic knowledge of how to operate a smart phone photo camera.

2 Project Context

The assumption is that users of the application are pre-registered on the Animal Demography Unit (ADU) website, however they can be redirected to the website via a link in the MAPme app. The app will be used predominantly in the field, possibly in areas where wireless connectivity is limited or non-existent. Therefore, it is imperative that the MAPme app is able to locally store records and images until such a time as wireless connectivity becomes available.

3 Functional Requirements

3.1 Mandatory

- A registration screen that must require the user's email, password and ADU number.

- User profile can be viewed and default settings used for the templating feature can be changed. The user's name, email and ADU cannot be changed from within the app. This can only be achieved by navigating to the Virtual Museam website.

- Photos must be taken from the camera (independent of the app) or the camera must be accessed from within the app.

- Users should be able to browse existing photos from the device's gallery.

- Users should be able to review the photos before submission, possibly removing unwanted selections.

- Use of global positioning system (GPS) coordinates:

    - Interfaces with phone GPS location service.
    - Entered manually by user.
    - Google Maps widget

- Photos should be uploaded immediately or later. This alludes to the probability of a mobile phone based temporary data storage structure that holds recorded data until such a time as its upload to the ADU server is initiated.

- Users should have the ability to save a template of the most recent new record submission. Users should be prompted about using the previously saved template or starting a new submission with a blank template.

- In the case of animal captures, sound files should be recorded and uploaded (app should interface with the device's voice recorder).

- User should be able to enter a locality description.

- Date and time is automatically recorded from the device or metadata of the image. The user should be able to update this as necessary.

- The application should enforce mandatory entries and allow optional entries.

- The user must be able to submit to a particular project (e.g. OrchidMAP, FrogMAP, MammalMAP etc.).

- Include a history of user record submissions, to be stored locally on the device that is being used for the submissions.

3.2 Secondary

- The user should be able to:

    - specify the species.
    - choose an environmental description.
    - indicate whether a flower and/or fruit is present.
    - choose the number of specimens observed.
    - choose if the specimen is natural or cultivated.
    - choose the growth form of the specimen.
    - choose language preferences (defaults to english).

4 Client Feedback

On 13 May 2016, Dylan Smith and Paul Sebeikin, hence forth known as the developers, conducted a meeting with Dr. Craig Peter, hence forth known as the client. The following feedback was received:

- Regardless of whether the date of the image is saved along with the image, the date must appear on the "New Record" screen to give the user piece of mind that the date has been captured correctly.

- The date should be automatically collected from the image metadata and presented to the user and the user should have the ability to change this, though the client has stipulated that in all but 5% of cases, a change of date is unlikely.

- The client indicated that in addition to the mandatory "New Record" fields that the developers, the "country", "province" and "nearest town" fields were also mandatory.

- The client suggested incorporating the date field into the initial "New Record" screen and moving the "locality description" field to the second screen along with the newly mandatory "country", "province" and "nearest town" fields.

- A discussion was had about geo-tags in images:

  - The developers communicated to the client that geo-tagging of photos is turned off by default on most smart phones. It was deduced that it would be difficult to enforce geo-tagging on images if this feature is turned off and the user wishes to quickly take a photograph without interfacing with the MAPme app directly.

  - A suggestion was put forward for the app to incorporate a minimal Google Maps widget which can be used to pinpoint a geographic location in the event that an image is taken without a geo-tag, outside of the MAPme app.

  - The client approved of this suggestion.

- The client noted the importance of a template system for new record insertion. Users would prefer to enter as little data as possible in the shortest amount of time therefore, if various default values are inserted into various fields of the "New Record" screen or if previously submitted record data is preserved for consequent use, the process would be far quicker to execute.

- The client demonstrated the use of an app called AndroSense which appeared to calculate alititude based on GPS coordinates of the device.

5 Changes

Based on feedback acquired from the client, the developers will execute the following changes to the user interface mockup from the initial prototype demonstration:

- A profile screen will be created for the MAPme app in which default settings can be tracked and changed by the user. These settings will be used to supply default

values to new record submissions in an effort to reduce the record submission times and improve general application efficiency.

- The homescreen was adpated to incorporate a link to the "Profile" screen at the expense of the "About" link. "About" is now solely accesible from the menu of the MAPme action bar.

- Upon the submission of a new record, the user will have the option to save the data they have submitted to a single template. When an attempt is made to insert a further record, the user will have the option to make use of the previously saved template or create a new record submission with default values.

- Three new mandatory fields were added namely Country, Province and Nearest Town to the "New Record" screen.

- The Date field is now displayed with the option to update. As a result, the Description field was moved to the next screen.

- Updated alignment of textboxes and labels to comply with human computer interaction (HCI) standards.

6 Use Case Diagram and Workflows

Use Case Diagram for MAPme
Authors: P.S. Sebeikin, D. G. Smith

A01: Item Mapper

UC01: Login
UC02: Register
<<extend>>

UC05: Take Picture
<<extend>>

UC04: Select Image
<<include>>

UC06: Select Gallery Image
<<extend>>

UC03: Submit New Record

UC7: Capture Mandatroy Data
<<include>>

UC08: Capture Optional Data
<<extend>>

UC09: Check History

UC10: Expand History Detail
<<extend>>

UC11: Search History
<<extend>>

UC12: View Profile

UC14: Update Profile
<<extend>>

UC15: Check Help

UC17: Logout

UC16: Check About

Activity Diagram (User Work Flow) for MAPme.
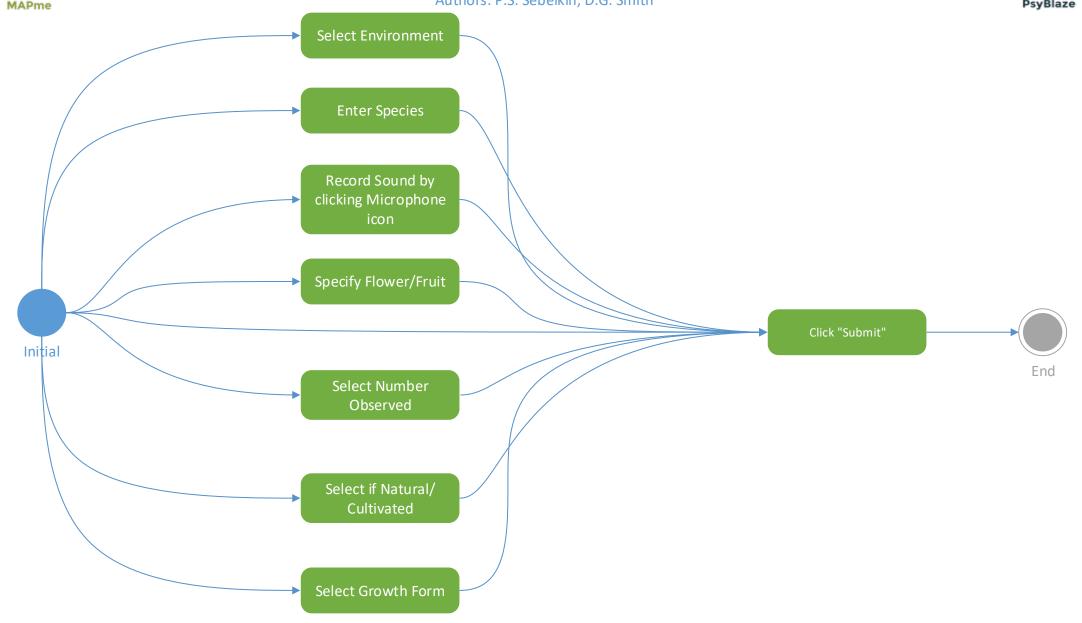## Submitting a New Record (required data only)
Authors: P.S. Sebeikin, D.G. Smith

Initial

Clicks on Add Image icon

Select from gallery or open camera

- Camera
- Gallery

Click on Camera icon → Take Image

Click Gallery icon → Select Image

Add another?
- Yes
- No → Click Done

GPS Coordinates manually or automatically?
- Manual → Enter Cooridinates
- Auto

Select Project

Date correct?
- No → Update Date
- Yes

Click "Next" → Select Country → Select Province → Enter Nearest Town

Record Description in text or voice?
- Text → Select text field and enter description
- Voice → Select Microphone icon and speak into device

Add extra information?
- No → Click "Submit" → End
- Yes → Click "Next" → Next Screen

Activity Diagram (User Work Flow) for MAPme.
Submitting a New Record (Extra information 1)
Authors: P.S. Sebeikin, D.G. Smith

MAPme

PsyBlaze

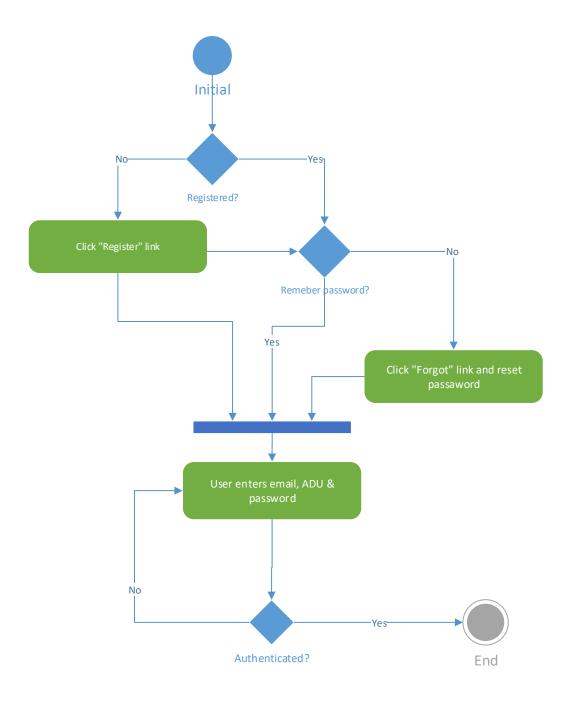Select Environment

Enter Species

Record Sound by clicking Microphone icon

Specify Flower/Fruit

Select Number Observed

Select if Natural/ Cultivated

Select Growth Form

Initial

Click "Submit"

End

Activity Diagram (User Work Flow) for MAPme. Login and Authentication Feature
Authors: P.S. Sebeikin, D.G. Smith

MAPme

PsyBlaze

Initial

Registered?

No — Click "Register" link

Yes — Remeber password?

No — Click "Forgot" link and reset passaword

Yes

User enters email, ADU & password

Authenticated?

No

Yes — End

Activity Diagram (User Work Flow) for MAPme.
Login and Authentication Feature
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