

## Testing the field collection app

Feel free to examine the source code at:

<https://github.com/CapPow/Plant-Digitization-Project/tree/master/mobile>

The “.aia” file can be loaded directly into MIT’s App inventor2 at:

<http://ai2.appinventor.mit.edu/>

### Disclaimer

- This project is in testing, and provided free as open source in hopes it can help better field data be collected more efficiently.
- There are no warranties provided, or implied.
- Unless you export your data, it is only stored on your device. Try not to drop your device in a lake, and if you plan to export your data first!
- GPS uses power, plan ahead. Charge your device, and leave enough power to get home if you require GPS navigation.

### Installation

- The app is not yet published on the play store, it is therefore from an “unknown source” and your device will warn you about this when you install it.
  - You will receive a warning dialog with two options “Cancel” and “Settings.”
  - If you wish to install it, you’ll need to select settings, and select the “Unknown sources” option.
  - For your security, I’d recommend allowing “this installation only.”
- The app wants permissions for location services and to modify SD card contents
  - GPS services are to record GPS location. GPS services are started when you open the program and shut down when you exit the program.
  - SD card access is for saving your records and photos, if you choose to take photos in the app.

### Usage Simplified

- Fill out trip data when you start your collection trip.
- Fill our site data when you stop at a “site” to make collections.
- Fill out specimen level data for individual specimens.
- Always get GPS data.
- Physically write the “field number” on your collection.
- Export records using the menu button (this will use data if not in WiFi).
- Export often.
- Identification is added in the lab, using the companion desktop program.

## Usage Detailed

- All fields are optional, but without GPS your records will be incomplete!
  - The text color on the “set GPS” button indicates GPS accuracy. Red text is acceptable, yellow is better, and green is highly accurate.
- To make observations faster, the app uses a parent > child data structure.
  - Parent data entry fields are automatically copied to all children.
  - There are three levels: Trip(blue) > Site(yellow) > Specimen(green).
  - A “trip,” is generally a day of collecting.
  - A “site” can be as large or small as you find appropriate.
    - All specimens from the same site share locality information.
    - Generally speaking: a hillside, field, ditch could all be appropriate “sites.”
  - “Specimen” level data is specific to a single specimen.
    - It is possible to save a specimen with all blank specimen fields.
- A field number is automatically generated.
  - Field numbers are formatted as : “site# - specimen#,” so 3-20 would be site 3, specimen 20.
  - When making a collection, write this field number somewhere inside of or on your bag.
- After saving a level (such as a trip) that level is locked for editing until you create a new one.
- Specimen identifications are added in the lab, using the companion desktop program.

## Accessing your records

- Your records are saved as “FieldRecords.csv”
- The menu button (upper left) has an “Export Records” option which opens an E-mail with your records as an attachment.
  - Sending an e-mail will use data if your not in WiFi.
  - Currently, exporting data does not remove it from your file, so export data often!
- Alternatively, all data from this app is stored on your device in “Internal storage” under the folder “KralNotes”.
- While designed to be used with the companion program, because it is a “.csv” file any spreadsheet program can open and edit “FieldRecords.csv.” Excel, for example may change your date format.
- If you chose to take photos representing a collection trip, a site, or a specimen they will be named appropriately in folders inside the same KralNotes folder.
  - To avoid requiring media file permissions, there is currently no export photos option in the app. A File explorer application, or connecting your device directly to a computer are the best methods to access your photos.