Preliminary Usability Testing Results
CS4760 & HU4628 G4: TreeWalkers

Conducted by CS5760 – Haihua Li
Introduction:

• UX Expert
  – CS5760: Haihua Li

• Group4: TreeWalkers – Plotter App
  – CS4760(App development): Keng Vang, Matthew Dugan, Dominick Sirotti, John Bork, Wesley Jacobson, Brandon Kesler
  – HU4628(Help and user documentation): Kerrie Brown, Faye Dompier

• Scientists Group Representative
  – USFS-NS/Dr. Erik Lilleskov(Forrest Ecologist)
Purpose of the app

• Tree Walkers: Plotter App
  – Users: Citizen scientists’ contributions in forest data at the northern US continent
  – Hardware: An Android-based mobile system
  – Functions:
    • collect and submit the plot-based tree data to the central data warehouse
    • receive the real-time, or stored local help & troubleshooting advice in the field
Test Goals

• Streamlined process, coherent navigation, and authentic data
• Enjoyable experience
• Flexibility levels of modifying plots and trees
• User privacy, data quality and integrity, etc.
• Best practice for the citizen-scientist data management
Test Process and Data Collected

• Test Process
  – Formative usability testing and assessment model
  – Six pre-alpha releasing test sessions in CS-HCCI Laboratory
  – Seven internal participants and two additional invited participants

• Data collected
  – Pre-test questions (written)
  – Observations of participant (time, verbal and other)
  – Bugs
  – Post Scenario questions (written)
  – Post-test questions (written)
3 Main Improvements after V. 3/31/14

• **Multi-interaction models**
  – GPS latitude/longitude function is auto-fill ready.

• **Match between system and the real world**
  – Shared group device model is ready by implementing the multi-users signup process on the first screen. (Cluster-contribution vs. individual-contribution)
  – On the plot list & table view, the icon for the TreeView is changed from Clipboard to Leaf. Also the icon for the GPS/Location is removed from duplicating the function in the pop-up. It saves space and reduces screen clutter.

• **Help users recognize, diagnose, and recover from errors**
  – Help overlay is added for each view.
3 Main Usability Test Results

• **Visibility of system status**
  – Easy to take the picture but could not view the picture of plots and trees which reduce the confidence levels of submitting the data.
  – Navigation drawer is viewable but why there is only one item underneath, conventionally there need more than one item for the dropdown menu.

• **Error prevention**
  – The same tree type should not appear under the same size classification. Please add logic to enhance the data quality.

• **Ease of input, screen readability**
  – Some data field entries are covered by the keyboard which prevents inputting the data.
  – The transparency level of Help screens does not have a good visibility and readability.
3 Recommended Changes

• Implement picture displaying or other means for the plot and tree, the most current picture will be displayed.

• Self-tutorial or on-screen help for general citizen scientists, implement the time trigger to active the on-screen help if the users past the certain time threshold. (Time control length function can be added later in user settings.)

• Add a list for touch-screen specific interaction, maybe under the navigation drawer?
  – Long press for activating delete function, etc. ...
  – Short press for ...
  – Etc.
1. First Screen and Signup (4/14 - 4/18)

Tree Plotter App

Please enter your logging information if you have not used this app before by clicking Login, otherwise continue to the Plot Table.

User ID: _______________________

Email: _______________________

Experience Level:
- Beginner
- Intermediate
- Advanced

New User

Plot Table

To make a new user, click New User. If you already have a Username, choose it then select Plot Table.

Save and Return

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2. Plot and Plot Lists (4/14 - 4/18)

Press the + New Plot button to create a new plot.

Then enter a plot name and generate the GPS coordinates or enter them manually.

Once the new plot is generated, you can take a picture of the plot using the camera button, edit the tree information by clicking on the leaf icon, and upload it by pressing the paper airplane button.
2. Plot and Plot Lists (4/14 - 4/18)
2. Plot and Plot Lists (4/14 - 4/18)
3. Tree(s) Recording (4/14 - 4/18)

Small Trees:

+ Small Tree

Large Trees:

+ Large Tree

Press + Small Tree button to create a listing of a tree species, a pop up screen will appear to:

Enter the name of the tree species (consult the resources for help identifying tree species) then enter the abundance of that tree species

The camera button can take pictures if you are unsure of the tree (this is not required)

The same can be done for + Large Tree

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3. Tree(s) Recording (4/14 - 4/18)
4. Help and Resources (4/14 -4/18)

To make a new user, click the "New User" button. If you already have a Username, choose it then select the "Plot Table" option.

Once the new plot is generated, the user can take a picture of the plot using the camera button, edit the tree information by clicking on the icon, and upload it by pressing the paper airplane button.

The camera button can take pictures if you are unsure of the tree (this is not required).

Pressing the "New Plot" button will create a new plot and a pop up screen will appear with the following:

- User ID:
- Email:
- Experience:

Enter the name of the tree species (consult the resources for help identifying tree species) then enter the abundance of that tree species.

The Preliminary Usability Testing Results for G4 TreeWalkers: Plotter App
Other Aspects

• Full usability testing report will be available on 4/25/2014 for this class project.

• HU4628 partners will provide the preliminary results for the app help documentation.