Usability test report of maple app designed by GoggleFox

For

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Contents

Description of UI, test goals and test

Group GoogleFox successfully completed a usability testing of the maple syrup app designed to among other things aid "independent maple syrup producers in their tasks while gathering information for the USDA to use on independent maple syrup production."[1] The group has been tasked to design an app that can help calculate the economic value generated by maple syrup enthusiasts. GoggleFox is required to design a "mobile app where people could self-report their production levels, days with good sap-flow, total number of trees tapped, etc. would facilitate this data collection[2]."

The app consists of tools that can help users to check temperature data, number of taps, records of taps, the tree that is tapped, and yield calculator will help gather data on key production numbers and using those numbers to calculate production statistics. The app provides a simple how to guide and helps users to tap maple trees with ease.

Having completed designing the app and its documentation, we set to conduct a usability test. We had two main purposes: to evaluate the content, organization, style and design of the documentation and to assess the extent to which app can help first time users tap maple syrup easily and quickly. With these goals in mind, we set apart three days for the test: Monday, April 14; Tuesday, April 15; and Thursday, April 17. We conducted two tests on Monday, three on Tuesday and one on Thursday. Each testing time lasted an hour or less. We fell short of one participant because she could not make it to the testing place due to extreme weather conditions. The original plan to test seven participants was not met. Therefore results of analysis will be based on responses from six participants. Gender representation was not balanced as we had five males and one female.

The test followed a simple procedure. Testers present welcomed the participants to the testing center. One of the humanities students' briefed the participants on expectations. This was meant to keep the participant at ease. In most of the cases, the person doing the briefing assured the participants that test was not conducted on them but on the app and its documentation. The facilitator issued consent form and pre-test questions for participants to fill out. After forms and other necessary documents were filled out, participants were presented with various testing materials.

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[1] http://www.csl.mtu.edu/classes/cs4760/www/projects/group5/www/

[2] http://cs4760.csl.mtu.edu/2014/scientists-and-applications/#Scientist5

We conducted two different tests on each participant. First, we issued out the scenario for documentation or help manual[3]. This scenario asked that participant to use the tapping guide to tap a tree for the first time. Participants were asked to read the tapping manual in order to produce a step by step explanation of how to tap a tree. After completion of tasks, participants were asked to answer some questions. Here we combined questions from Brandon's scenario and mine scenario since both scenario's aimed at testing the usability of the documentation. After the completion of task 1, we proceeded to the second task. Here, we tested the app proper. Participants were asked to enter specific data into app and check if data was saved. Participants were asked to fill out post test questionnaires and interview questions. Bugs were taken note of[4].

Overview of presentation schedule

Monday:

    2:00-3:00 pm—first participant tested

    3:30-4:30pm—second participant tested

Tuesday:

    11:00 am-12:00—first participant tested

    1:00pm-2:00pm—second participant tested

    3:00pm-4:00pm—third participant tested

Thursday:

    11:00 am-12:00 noon—participant could not show up

    1:00pm-2:00pm—second participant tested

Our testing was not without problems. On the first day, we were forced to perform the firs usability testing in the computer lab at Rekhi because a group was testing their app in the room that we scheduled to use. The second test for the day was performed in the atrium at Rekhi. I believe strongly that it did not affect our results.

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[3] For the purpose of a smooth run of test, we used Brandon Perelman's scenario 2.

[4] Check appendix A for bug reports.

Test plans

Even though I present my original test plan below, I must say that we did not strictly adhere to our test plans. We wanted to make room for our scenarios to be tested within the stipulated time so we merged sections. I for instance merged the post test questionnaire of my second test scenario with that of my Brandon's. We also used his scenario and questionnaires to test the app.

Scenario 1—documention guide test

Test Goals:

- To evaluate the content, organization, style and design of the documentation

- To assess how usable the document is

- To test the clarity, brevity and syntactic quality of user documentation

- To determine the ease of use of the documentation

- To assess the simplicity or difficulty of the documentation

- To assess how document can help you learn how to tap trees, record information and produce sugar and syrup

Quantitative measurement list:

- How long did it take you to identify the information you need?

- How much task were you able to accomplish with the help of the documentation?

- How many times did you call for help?

- What number of commands or instructions didn't you use?

- How many steps did you have to go through in order to complete a task?

Scenario description:

You are a maple syrup enthusiast and you have sought for ways you can tap trees in an easy and enjoyable manner. You also wished you could keep track of your tapings: when is it appropriate to tap, what supplies are necessary to carry along? Fortunately, you bought a smart phone that has an app that can help solve most of the problems you are pondering over. But, how can you use the app on the smart phone? You found yourself in the midst of a lot of trees in a cold spring day in Northern part of United States. You are definitely sure maple sugarbushes are close to where you are. You turned to your smart phone and you realized that the mobile app can help you identify the trees and help you tap. You don't do this often but you turned to the documentation section to view the user manual that contained instructions that can help you navigate your way through the app.

Task list:

Use the documentation manual to:

- Find where you can enter information about your tap

- Find how you can enter information about the tap

- Find out how you can save information for later use

- Find out the steps you will go through in order to tap maple tree

- Tap maple tree with ease

- Identify the appropriate moment to tap

- Access the calculator and use it to calculate aspects of syrup yield

Qualitative measurement:

- How easy were you able to use the document?

  1   2   3   4   5   6   7   8   9   10

- Did you find it easy to navigate through the document?

  1   2   3   4   5   6   7   8   9   10

- To what extent was the document useful and usable?

  1   2   3   4   5   6   7   8   9   10

- What positive features about the documentation can you recall?

- How easy were you able to learn the document?

  1   2   3   4   5   6   7   8   9   10

- How useful was the document?

  1   2   3   4   5   6   7   8   9   10

- How motivated are you to use the app?

  1   2   3   4   5   6   7   8   9   10

- How motivated are you to recommend the app to others?

  1   2   3   4   5   6   7   8   9   10

Post scenario interview or questionnaire

Evaluate the content

Identify any irrelevant information:

Do you see any gaps in the information? Indicate.

What information is inaccurate?

Does the documentation include a title, a brief overview or introduction?

Does the document contain cautions, warnings and dangers of using the app?

What other problems does the content present?

Evaluate the style

Identify anything that you did not understand on first reading

What couldn't you understand at all?

Could you identify expressions that seem wordy, inexact, or too complex?

List other problems with the style

Evaluate the organization

Is there anything that is out of order or hard to locate or follow? State those things.

What problems does the organization pose?

Evaluate the design

Indicate any headings that are missing, confusing, or excessive

Give examples of material that might be clarified by a visual

Give examples of misleading or overly complex visuals

List other problems with design of documentation

Identify anything that seems misleading or that could create legal problems or cross-cultural misunderstanding

Kindly suggest alternative ways of making this document easier to use

Bug report form

Name of experimenter: Isidore Kafui Dorpenyo

Name of participant:

Bug number	Bug name	Location	Description

Test set up details

The testing will take place in the usability testing center at Rekhi hall. It is a quiet room that is set up for usability testing. Present in the room is a camera that records the process. At each point of the test, there will be about four students in the room: three undergraduate students and one graduate student. One undergraduate student (a SC major preferably) will be available to explain the functionality of the app. Other undergraduate students present will observe and take notes, keep time or offer help to participants. The graduate student will mostly serve as the test administrator.

Participants will be served with mobile phones that have apps. There will be one participant at each testing time and testing time will not exceed sixty minutes. The participant will test the app by using it to accomplish tasks. Participant will be required to answer some questions about the app and its documentation.

Scenario 2: user-centeredness of maple app

Test Goals:

- To test the extent to which app can help first time users tap maple syrup easily and quickly

- To assess how user can download and install app easily and quickly

- To assess how user can identify and use the key tools quickly and easily

- To assess how efficient and learnable the app is

- To improve user's perception of the quality of the app's interface

- To assess how easy users can remember the system

- To reduce the number of errors users make when they use the app

Quantitative measurement

- State the number of commands or features you did not use

- State the number of commands or features you utilized

- State the number of times you expressed frustration

- Record the time you took to complete your task

- Record the number of errors you committed

- How long did it take you to recover from errors?

- How frequent did you use the manual. State the number of times you referred to it.

- How frequent did the manual help you to solve your problem?

- Strike a ratio between the number of times you were successful using the app and the number of errors you committed

- How many times did the system divert your attention from the main task?

Scenario description:

I am a maple syrup enthusiast. I love to tap maple trees for fun and sometimes I make some few dollars from the sale of the syrup. I am so excited that I got a smart phone that has an app that can help me tap trees; calculate the number of taps and record information on taps. You found yourself in the midst of a lot of trees in a cold spring day in Northern part of United States. You are definitely sure maple sugarbushes are close to where you are. You are definitely sure maple trees are close to where you are. You turned to your smart phone and you realized that the mobile app can help you identify the trees and help you tap. Now, you have to find out how to navigate the system.

Task list:

Main task is to use the app to produce maple syrup

- Sign up and use app

- Use the app to select a site

- Use the app to look for maple tree and tap

- Log data into application

- Save data and continue

Qualitative measurement

To what degree do you agree or disagree with the following statements about the system:

- It was very easy to learn how to use the system

  1   2   3   4   5   6   7   8   9   10

- Using this system was a frustrating experience

  1   2   3   4   5   6   7   8   9   10

- I feel that this system allows me to achieve very high productivity

  1   2   3   4   5   6   7   8   9   10

- I worry that many of the things I did with this system may have been wrong

  1   2   3   4   5   6   7   8   9   10

- This system can help me achieve all the tasks I want to accomplish

  1   2   3   4   5   6   7   8   9   10

- The system is very pleasant to work with

  1   2   3   4   5   6   7   8   9   10

- Icons are easy to identify and understand

  1   2   3   4   5   6   7   8   9   10

Post scenario interview or questionnaire

1. Please indicate your level of agreement to the follow statement:

   Overall, this android application was easy to perform the task.

   1. Strongly agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly disagree

2. Please indicate your level of agreement to the follow statement:

   I enjoy using this android application.

   1. Very much
   2. A little bit
   3. Neutral
   4. Not very much
   5. Not at all

3. Please indicate your level of agreement to the follow statement:

   I would use this android application again.

   1. Strongly agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly disagree

Bug report form

Name of experimenter: Isidore Kafui Dorpenyo

Name of participant:

Time: **Date:**

Bug number	Bug name	Location	Description

Test set up details

The testing will take place in the usability testing center at Rekhi hall. It is a quiet room that is set up for usability testing. Present in the room is a camera that records the process. The room is large enough so participants can position and reposition themselves. At each point of the test, there will be about four students in the room: three undergraduate students and one graduate student. One undergraduate student (a SC major preferably) will be available to explain the functionality of the app. Other undergraduate students present will observe and take notes, keep time or offer help to participants. The graduate student will mostly serve as the test administrator.

Participants will be served with mobile phones that have apps. There will be one participant at each testing time and testing time will not exceed sixty minutes. The participant will test the app by using it to accomplish tasks. Participant will be required to answer some questions about the app and its documentation.

Pre-test questions

1. How many years have you used a smart phone?

2. Please indicate your level of agreement to the follow statement:

   I am very interest in the testing of this android application.
   1. Strongly agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly disagree

Computer User Interface Usability Testing

You are being invited to participate in a research study to determine the usefulness and usability of computer user interfaces. This study is being conducted by Dr. Robert Pastel of Michigan Technological University Computer Science Department and students in Dr. Pastel's Human-Computer Interaction (HCI) courses. The students are performing the usability tests as part of their project and to fulfill the HCI course requirements.

There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. The information you provide and tasks that you will perform will determine the usefulness and usability of user interfaces. The questionnaires and the tasks should take less than an hour to complete. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits.

The questionnaires and test are anonymous. Do not write your name on the survey. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study except for the instructor of the class that is giving you credit for participating. Should the data be published, no individual information will be disclosed.

Your participation in this study is voluntary. By completing the questionnaires and performing the tasks, you are voluntarily agreeing to participate. You are free to decline to answer any particular question you do not wish to answer or not to perform a task for any reason.

If you have any questions about the study, please contact Dr. Robert Pastel, Assistant Professor, Computer Science Department, Michigan Technological University, Houghton, MI 49931.

The MTU Institutional Review Board has reviewed my request to conduct this project. If you have any concerns about your rights in this study, please contact Joanne Polzien of the MTU-IRB at 906-487-2902 or email jpolzien@mtu.edu.

Participant signature and date:

Results

This section details the results and process of analysis for both the documentation and the app. First, I collated all the responses in a word document. This was organized in a table.

Results for documentation

	P1	P2	P3	P4	P5	P6
Any irrelevant information		The measurement instructions. They take up as much space as the rest of the guide. Most people would know how to measure a tree	No. information was concise and good	Measuring using meter stick is a little unnecessary if the user is using a measuring tape	Weather is relevant but could be located in a better place	The help button I believe should be smaller due to the simplicity of the application
Any gaps in information	Clear, thought flow, well organized	The instructions say to have a thermometer, but it is not listed	It was a bit staggered. Could have flowed or transitioned better	No	Info could be more effective if visuals were used	Display full amount of information
Inaccurate information	None	Not as far as I know	They was to use records feature	"Sunniest side of tree" could be misleading during an overcast day. Should read "sunniest side of tree (typically south)	None	N/A
Title, brief overview	Includes a title, introduction, other definitions and tools	Title yes, yes! Overview, or intro, no!	Not when you use the feature for the first time. you have to navigate to	yes	Not unless you go to app help	Yes

			the help sector first			
Cautions, warnings	No warnings	Not really	No. it should state when and where you are able to tap a tree	No	No	None that should be needed
Any other problems about content	none	none	Not pre mapping of the buttons should be more practical	none	None that I noticed	Other than for some people with the unknowing of tree tappings the 'help' info is spot on
Anything P did not understand on first reading	Tree tapping number 3. Wording is awkward	It was all understandable	I was not sure about where to go to start the tutorial. I expected the app to know I was a new user and tutorial guide me to help or readable page	The rope for determining the number of taps was confusing at first until it was explained further farther down	Never explains why the diameter of the tree is important, it just says it is	Little confused between difference of tap/app help. catchy names though
Anything P couldn't understand at all	N/A	Nothing	Records section	Nothing	Nothing	N/A
Expressions that seemed wordy	N/A	The measuring instructions. The tools list should only have explanations for things people don't recognize, like tap, spile etc.	No. it was expressed in a good amount of words	No	The help is a bit wordy	N/A

Other problems with style	It is a very straight forward aesthetic style which is easy to navigate and find information	Some instructions are wordy, some aren't, it could be more even and easy to read	Need more color. Needs a theme	Everything looks great	visuals	N/A
Anything that is out of order	Everything seems well organized	The tools list should come after an intro of some kind. At first I thought the instructions came from figuring out how the tools all fit together	You should add more sections. Each one focusing specifics on records, enter data, to, help, weather, add more appealing graphic design	The tap number rope could be explained in a different order	No	N/A
Problems organization pose		I might not have known the real instructions were there if I hadn't looked	Creativities, design, should add more colors	Just confusing at first	The organizatio n is pretty easy to follow	N/A
Any headings missing, confusing	All headings are straight forward	The "tree tapping" should really be "things to consider before tapping." I thought it would lead to the "real" instructions, but those are much further down	When using the records feature, it does not show whether the information that I have entered into data section. I assumed I could edit and change content as well as do other	None	None	Just the tap/app help buttons

			features to record and analyze my daily total			
Materials that might be clarified by visual	Types of hooks used to hang bucket. Knots in rope for measuring number of taps per tree	The measuring instructions or the tap instructions	Home page could use more graphics	Measuring tree	Could be visuals because there is none	Tap/app buttons
Examples of misleading or complex visuals	N/A	There are no visuals	Records tab is misleading and provides no info. Best if the name the tree in…data entry	none	I don't understand why the forecast is necessary on the home page, there could be a separate visual for that	N/A
Other problems with design of documentatio n	None	N/A	A help tab should be present in each section to provide asses tab in each function of the application	none	Lots of text. Could be more organized	N/A
Anything that could create legal or cross-cultural problems	Also add temperatur e in Celsius	The measurements are all English, the rest of the world uses metric	I don't see any legal problem as long as the app does not tell personal info on what you have logged	None	Nothing seems misleading	N/A

			in the records			
Alternative ways of making document easier	Was very easy to use	Shorten the early instructions, and add an intro	Better home page log out. Better graphic design with more colors. More options for wealth how to's and setting. Auto fill information used by gaps and wealth applications. Provides help in each sub application to help users understand how to fill or use each feature or present a tool for first the users	Ability for the user to change text size	Design would help, like I said before, maybe some more visuals based on directions. Also have categories	Maybe make a small video when you open the app of a cheesy cartoon figure tapping a tree. Pretty cool app though

For app

Feedback on structure of design	Yes, basic layout intuitive	Sorta, the labels make sense and lead to the right areas	yes	Looks good. Makes sense to me	Did not like it, no	The basic structure is good, just need to separate trees per saved data with

						amount of taps/gallons
Feedback on buttons and font	Button fine page seems almost too plain	Everything is readable and fine	Yes. should be more organized	Bigger data entry fields, font size good	It was readable and large, but then the weather data to the right was small	Help button is too large
Feedback on data logging process	No, I had assumed that each plot would be able to handle multiple tree inputs	Yes, but certain fields were missing, like diameter	The record and data entry section is a bit confusing	Not really clear if it wants plot data or individual tree data	No, some of the spots weren't clear on what was supposed to be entered where	Same as comment 1
Feedback on data display	Page didn't work	Not right now	yes	Yes, easily viewed and makes sense	No, I could not find where to view data	Need button to view/edit data logged in
Efficiency of design	I would edit "enter data" page. Think more excel sheet	I had to reenter the plot name each time. if I had multiple trees on the same plot, I'd have to do it multiple times	The help section should be set in main page	When the screen was landscape oriented, I couldn't find the submit button	When I was reading the help it would have been nice for visuals	Overall great design if the view flaws get worked on

Next, I drew two tables, one representing positive responses and the next representing negative responses.

Positive findings

For documentation

	P1	P2	P3	P4	P5	P6
Any irrelevant information			Information was concise and good			
Any gaps in information	Clear, thought flow, well organized			No		
Inaccurate information	None	Not as far as I know			None	N/A
Title, brief overview	Includes a title, introduction, other definitions and tools	Title yes, yes! **Overview, or intro, no!**		yes		yes
Cautions, warnings						
Any other problems about content	None	none		none	None that I noticed	Other than for some people with the unknowing of tree tappings the 'help' info is spot on
Anything P did not understand on first reading		It was all understandable				
Anything P couldn't understand at all	N/A	Nothing	Records section	Nothing	Nothing	N/A

Expressions that seemed wordy	N/A		It was expressed in a good amount of words	No		N/A
Other problems with style	It is a very straight forward aesthetic style which is easy to navigate and find information			Everything looks great		N/A
Anything that is out of order	Everything seems well organized				No	N/A
Problems organization pose					The organization is pretty easy to follow	N/A
Any headings missing, confusing	All headings are straight forward			None	None	
Materials that might be clarified by visual						
Examples of misleading or complex visuals						
Other problems with design of documentation	None	N/A		None		N/A

				None	Nothing seems misleading	N/A
Anything that could create legal or cross-cultural problems				None	Nothing seems misleading	N/A
Alternative ways of making document easier	Was very easy to use					

For app

	P1	P2	P3	P4	P5	P6
Feedback on structure of design	Yes. Basic layout intuitive	The labels make sense and lead to the right areas	yes	Looks good. Makes sense to me		The basic structure is good, **just need to separate trees per saved data with amount of taps/gallons**
Feedback on buttons and font		Everything is readable and fine			It was readable and large, **but then the weather data to the right was small**	
Feedback on data logging process						
Feedback on data display			yes	Yes, easily viewed and		

					makes sense		
Efficiency of design							Overall great design if the view flaws get worked on

Negative findings

For documentation

	P1	P2	P3	P4	P5	P6
Any irrelevant information	The measurement instructions. They take up as much space as the rest of the guide. Most people would know how to measure a tree		Measuring using meter stick is a little unnecessary if the user is using a measuring tape	Weather is relevant but could be located in a better place	The help button I believe should be smaller due to the simplicity of the application	
Any gaps in information		The instructions say to have a thermometer, but it is not listed	It was a bit staggered. Could have flowed or transitioned better		Info could be more effective if visuals were used	Display full amount of information
Inaccurate information				"Sunniest side of tree" could be misleading during an overcast day. Should read		

				"sunniest side of tree (typically south		
Title, brief overview		Overview, or intro, no!	Not when you use the feature for the first time. you have to navigate to the help sector first		Not unless you go to app help	
Cautions, warnings	No warnings	Not really	No. it should state when and where you are able to tap a tree	No	No	None that should be needed
Any other problems about content			Not pre mapping of the buttons should be more practical			Other than for some people with the unknowing of tree tappings the 'help' info is spot on
Anything P did not understand on first reading	Tree tapping number 3. Wording is awkward		I was not sure about where to go to start the tutorial. I expected the app to know I was a new user and tutorial guide me to help or readable page	The rope for determining the number of taps was confusing at first until it was explained further farther down	Never explains why the diameter of the tree is important, it just says it is	Little confused between difference of tap/app help. catchy names though

Anything P couldn't understand at all			Records section			
Expressions that seemed wordy	N/A	The measuring instructions. The tools list should only have explanations for things people don't recognize, like tap, spile etc.			The help is a bit wordy	
Other problems with style		Some instructions are wordy, some aren't, it could be more even and easy to read	Need more color. Needs a theme			
Anything that is out of order		The tools list should come after an intro of some kind. At first I thought the instructions came from figuring out how the tools all fit together	You should add more sections. Each one focusing specifics on records, enter data, to, help, weather, add more appealing graphic design	The tap number rope could be explained in a different order		
Problems organization pose		I might not have known the real instructions were there if I hadn't looked	Creativities, design, should add more colors	Just confusing at first		
Any headings missing, confusing		The "tree tapping" should really be "things to	When using the records feature, it does not			

		consider before tapping." I thought it would lead to the "real" instructions, but those are much further down	show whether the information that I have entered into data section. I assumed I could edit and change content as well as do other features to record and analyse my daily total			
Materials that might be clarified by visual	Types of hooks used to hang bucket. Knots in rope for measuring number of taps per tree	The measuring instructions or the tap instructions	Home page could use more graphics	Measuring tree	Could be visuals because there is none	Tap/app buttons
Examples of misleading or complex visuals		There are no visuals	Records tab is misleading and provides no info. Best if the name the tree in…data entry		I don't understand why the forecast is necessary on the home page, there could be a separate visual for that	
Other problems with design of documentation			A help tab should be present in each section to provide asses tab in		Lots of text. Could be more organized	

			each function of the application			
Anything that could create legal or cross-cultural problems	Also add temperature in Celsius	The measurements are all English, the rest of the world uses metric				
Alternative ways of making document easier		Shorten the early instructions, and add an intro	Better home page log out. Better graphic design with more colors. More options for wealth how to's and setting. Auto fill information used by gaps and wealth applications. Provides help in each sub application to help users understand how to fill or use each feature or present a tool for first the users	Ability for the user to change text size	Design would help, like I said before, maybe some more visuals based on directions. Also have categories	Maybe make a small video when you open the app of a cheesy cartoon figure tapping a tree. Pretty cool app though

For app

Feedback on structure of design						The basic structure is good, **just need to separate trees per saved data with amount of taps/gallons**
Feedback on buttons and font	Button fine page seems almost too plain		Yes. should be more organized	Bigger data entry fields, font size good	It was readable and large, **but then the weather data to the right was small**	Help button is too large
Feedback on data logging process	No, I had assumed that each plot would be able to handle multiple tree inputs	Yes, but certain fields were missing, like diameter	The record and data entry section is a bit confusing	Not really clear if it wants plot data or individual tree data	No, some of the spots weren't clear on what was supposed to be entered where	Same as comment 1
Feedback on data display	Page didn't work				No, I could not find where to view data	Need button to view/edit data logged in
Efficiency of design	I would edit "enter data" page. Think more excel sheet	I had to reenter the plot name each time. if I had multiple trees on the same plot, I'd have to do it multiple times	The help section should be set in main page	When the screen was landscape oriented, I couldn't find the submit button	When I was reading the help it would have been nice for visuals	Overall great design if the view flaws get worked on

After I had finished organizing under various tables, I reread the collated results in order to identify reoccurring ideas and issues. I grouped issues and recurring ideas into categories and labels. I came out with seven different categories that captured the content of the responses for documentation and five for app. Categories for documentation are:

Unclear/ confusing

Easy/clear/understandable

Wrong location

Unnecessary information

Solutions

Omissions

Wordiness

And categories for app are:

Looks good/makes sense

Readable

Missing/omissions

Not clear/confusing/frustrating

Miscellaneous

In an excel sheet[5], I grouped responses under the various categories.

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[5] Check appendix B

Conclusion and suggestions

Based on responses provided, I would say that documentation and app met the needs of the participants. Almost all 6 participants found app and documentation very intuitive and easy to use. However, participants expressed some concerns that need to be addressed.

First is the app. Designers should consider working on clarifying data logging process since all six participants expressed negative comments. According to participants, the data logging process is not clear. Most of the participants were confused with regard to what plot wanted. Some also did not find where to view data or edit data logged in; and others want designers to increase font size and data entry field.

Documentation needs to be improved as well. The most recurring issues about documentation center around confused/ or unclear instructions, wordiness, omission of important information and unnecessary information. For instance, some of the participants said that the documentation is "confusing at first look" or "not sure about where to go to start the tutorial. I expected the app to know I was a new user and tutorial guide me to help or readable page;" others also stated that "weather is relevant but could be located in a different place" or "The tools list should come after an intro of some kind. At first I thought the instructions came from figuring out how the tools all fit together;" some also stated that the measurement instruction take up as much space as the rest of the guide or documentation developers should shorten the early instructions, and add an intro."

For the app, we recommend that;

- All data fields must contain units of measurement where appropriate

- Font size and data entry size must be increased where appropriate

- Users should be allowed to aggregate multiple trees entered individually into single plots

And for documentation, we recommend

- Conciseness in wording and sentence construction

- That if it is necessary, visuals should be used to explain steps or procedures

- Clarity in sentence construction

These suggestions and comments should be attended to by both app developers and documentation experts. Improvements should be tested again.

Appendix A—Bug reports

Sibl playtest

Bug Report Form

Experimenter Name: Brandon

Date: 4/14/14

Bug Number: (1)

Bug Name: No Record

Bug Location: Records

Bug Description: Clicking on a record doesn't
actually bring up that record.

Procedure for Replicating the Problem: Records → click a record.

Bug Report Form

Experimenter Name: Brandon

Date: 4/14/14

Bug Number: 2

Bug Name: Diameter

Bug Location: Enter Data

Bug Description: No field for tree diameter

_____

_____

_____

_____

_____

Procedure for Replicating the Problem: Enter Data screen - missing

content _____

_____

_____

_____

_____

Bug Report Form

Experimenter Name: ~~Robert~~ Brandon

Date: 04/15/2014

Bug Number: 3

Bug Name: Crash to Desktop

Bug Location: Enter Data

Bug Description: When pressing Submit, it crp's

Procedure for Replicating the Problem: Enter # trees, # taps, date, gallons?

Appendix B—Excel sheet

DOCUMENATATION

UNCLEAR/CONFUSING
Tree tapping number 3. Wording is awkward
I was not sure about where to go to start the tutorial. I expected the app to know I was a new user and tutorial guide i
The rope for determining the number of taps was confusing at first until it was explained further farther down
Little confused between difference of tap/app help. catchy names though
The tap number rope could be explained in a different order
I might not have known the real instructions were there if I hadn't looked
Just confusing at first
Records tab is misleading and provides no info. Best if the name the tree in…data entry

EASY/CLEAR/UNDERSTANDABLE
information was concise and good
Clear, thought flow, well organized
Includes a title, introduction, other definitions and tools
It was all understandable
Other than for some people with the unknowing of tree tappings the 'help' info is spot on
it was expressed in a good amount of words
It is a very straight forward aesthetic style which is easy to navigate and find information

WRONG LOCATION
Weather is relevant but could be located in a better place
Not unless you go to app help
The tools list should come after an intro of some kind. At first I thought the instructions came from figuring out how

UNNECESSARY INFORMATION
Measuring using meter stick is a little unnecessary if the user is using a measuring tape
The measuring instructions. The tools list should only have explanations for things people don't recognize, like tap,
I don't
understan

SOLUTIONS
"Sunniest side of tree" could be misleading during an overcast day. Should read "sunniest side of tree (typically sout
You should add more sections. Each one focusing specifics on records, enter data, to, help, weather, add more appea

41

The "tree tapping" should really be "things to consider before tapping." I thought it would lead to the "real" instructi

OMISSIONS

The instructions say to have a thermometer, but it is not listed
Overview, or intro, no
Not when you use the feature for the first time. you have to navigate to the help sector first
No warnings
it should state when and where you are able to tap a tree
Never explains why the diameter of the tree is important, it just says it is
Types of hooks used to hang bucket. Knots in rope for measuring number of taps per tree
A help tab should be present in each section to provide asses tab in each function of the application
Also add temperature in Celsius

WORDINESS

The measurement instructions. They take up as much space as the rest of the guide. Most people would know how to
The help is a bit wordy
Some instructions are wordy, some aren't, it could be more even and easy to read
Need more color. Needs a theme
Shorten the early instructions, and add an intro
Lots of text. Could be more organized

MOBILE APP

LOOKS GOOD/ MAKES SENSE

The basic structure is good
Yes. Basic layout intuitive
The labels make sense and lead to the right areas

READABLE

Everything is readable and fine

It was readable and large

NOT CLEAR/CONFUSING/FRUSTRATING

I had assumed that each plot would be able to handle multiple tree inputs

The record and data entry section is a bit confusing

No, some of the spots weren't clear on what was supposed to be entered where

I had to reenter the plot name each time. if I had multiple trees on the same plot, I'd have to do it multiple times

When the screen was landscape oriented, I couldn't find the submit button

EDITING TOOLS

Need button to view/edit data logged

Ability for the user to

MISSING/OMISSIONS

Yes, but certain fields were missing, like diameter

Home page could use more graphics

Appendix C—Attendance sheet

Session	Day	Time	Location	Undergraduate student present
1	04/14/2014	2:00-3:00		1. Estafania Borns 2. David Nyakundi 3.Travis Foster 4. Theresa Tran 5. Quincy Howe
2	04/14/2014	3:30-4:30		1. Estafania Borns 2. Theresa Tran 3. David Nyakundi 4. Travis Foster 5. Quincy Howe
3	04/15/2014	11:00-12:00	HCI lab?	1. Ann Dahlquist
4	04/15/2014	1:00-2:00	HCI lab?	1. Estafania Borns 2. Thomas Black 3. Ann Dahlquist
5	04/15/2014	3:00-4:00	HCI lab?	2. Ann Dahlquist

6	04/17/2014	11:00-12:00	HCI lab?	1. Ann Dahlquist
7	04/17/2014	1:00-2:00	HCI lab?	1. Estafania Borns 2. Thomas Black