Assignment 07

COS30017 - Software Development for Mobile Devices

Daniel Parker 971328X

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1. Introduction

This report outlines the process and findings from completing a usability study on a smartphone application. The application is named 'Suntime' and allows users to get the sunrise and sunset times for a specified location and date. The purpose of the usability test is to find any glaring issues with the design of the user interface and also to get feedback from possible users about how easy the app is to use. The results showed that overall the app was not too difficult too use, however some aspects of the UI could be clearer.

2. Usability Test Method

The usability test was conducted as per the assignment handout. The handouts, survey and results sheet used have been attached in the appendix.

1. Tester is provided with the information sheet covering the app and usability test information to read. The tester is instructed to read all the information
2. The tester is asked to complete each scenario using the prototype app and reminded to verbalise what they are doing and to give any feedback as they are completing the scenario.
3. During the completion of the scenarios the supervisor records all the comments made by the user and also what difficulties they have. The supervisor cannot give assistance, however they can act as the phone's GPS sensor when appropriate.
4. If the tester is unable to complete the scenario, record it and any further information as to why they were stuck.

5. After all the scenarios have been completed / attempted, the tester is provided with a short questionnaire to complete.

   The participants are referred to as P1 - P3 to retain anonymity.

3. Findings

From the questionnaire results, it's observed that tester P1 feels that the UI does not communicate clearly to them how to complete a given scenario. Tester P2 feels that the layout and functionality of the application is not very effective. All testers felt that the prototype was visually clear and that readability was good.

Questions 4 and 5 brought low reviews from users P1 and P2, indicating that it was difficult to complete some of the scenarios on the prototype, and also that the prototype didn't communicate the app's intent very well. User P2 commented that the app has too much 'drill-down', which means that there are too many screens that need to be navigated through to get to the desired information. This is backed up by a comment from P3 that perhaps the preset locations should be shown on the landing / home screen instead of buttons to access the three different location types.

4. Discussion

This usability test has yielded some interesting and unexpected results. The testers have given huge insight into the true usability of the prototype, and valuable feedback on what should be changed. In particular the first tester P1 had quite a bit of trouble in scenario 1. It took them over 2 minutes to find the + icon on the custom locations screen.

All the testers had trouble finding the correct share icon to use when trying to share suntime information for a range of dates. All testers navigated to a specific day and shared from that screen instead of the date range screen. This suggests that it's not clear what the share icon does in this context, and also that perhaps having it available on two adjacent screens creates some confusion about what is being shared.

Across all three participants, it was observed that they had to enter various parts of the app, before realising that it wasn't what they were trying to achieve, and then use the back-button convention to return and try another option. This further supports the comments of two of the participants that there is too much drill-down in the application's navigation.

Following the usability test, the following aspects of the design will be changed;

- The preset locations will be moved to be the home screen, and new action-bar navigation will be added to support the current location and custom location features. (Jackson 2011)
- The share buttons will remain where they are, however the share button on the individual day screen will show a dialog box that asks whether the user would like to share just that day or every day in the range given.

I have learnt from doing this usability test that a prototype which I have designed myself, and appears to be easy to use and clear, is not necessarily clear to use for someone else. Most of the difficulties that testers had with that app were navigation related and have given me insight into the concept of having less complex drill-down to avoid confusing the user. (Kreitzberg & Little 2009)

5. Summary

This usability test has shown some usability issues in the 'Suntime' prototype. The participants found it difficult to navigate to the part of the app they needed to complete a given task, and also consistently misused the share icon in the app. These issues will be taken into account when simplifying the design. A lot has been learnt regarding the reasons for conducting usability tests on an app design. The importance of usability testing in creating effective and usable apps is high and has contributed to improving the UI of the 'Suntime' app.

References

Jackson, R. (2011), '10 tips for android ui design'. viewed on 23 October 2014.
URL: *http://phandroid.com/2011/05/11/10-tips-for-android-ui-design/*

Kreitzberg, D. C. & Little, A. (2009), 'Strategies for designing application navigation'. viewed on 23 October 2014.
URL: *http://msdn.microsoft.com/en-us/magazine/dd458810.aspxid0080009*

6. Appendix

About Suntime

Idea

An app. that will show the Sun Rise, Set time and weather forecast at a given location for any valid date (past/present/future).

Motivation

This app. will provide useful information for photographers, bush walkers, and people that undertake prayers/spiritual practices based on the sun rise/set times.

Key Features

- Show sun rise/set times for a date/location.
- Can add new custom locations (or) select from pre-built set of locations.
- Generate a table of sun rise/set times for a date range.
- Share information via SMS and email.
- Can detect current location.
- Integrated into Google maps.
- Can detect current location.
- View sun rise/set times for various locations on a map.
- View weather forecast (current, and near future)

Scenarios

1. Brad is planning a short 3 day holiday in Wellington, NZ (travelling next month). He wants to take a few photographs of the sun set over the harbour and wants to make sure his flight times give him sufficient opportunities to take these pictures.
2. Sachin has to undertake a religious fast for 40 days from sun rise to sun set starting in mid-May. Unfortunately, he is travelling during this time to 3 different countries across the world (China, US and India). Sachin works for a large mining company and the locations that he is travelling to are very remote placed in these countries. He generates a table of sun rise/set times for each of his locations, emails them and print the email message ahead of this journey time.

3. Li wants to walk on the beach tomorrow morning to reflect on the purpose of life (she was just promoted in her job). She checks the sun rise time in Sydney before going to bed.

4. Justin and Mary are off camping. They reach the camp site and realise that they are a little bit behind schedule. They need to start off at day break to get to the top of the mountain as planned. They use the built-in GPS facility to find the sun rise/set times for their location. As they have a faint mobile signal, they send the sun-rise time to their friends that are also climbing the mountain from another direction. They add a short note to the message saying they are looking forward to beating them to the top of the mountain.

Usability Test Information

You will need to perform the above scenarios as best you can on the prototype application. Note that the prototype is limited in functionality. Read out loud the scenario before you attempt it, and inform the supervisor when you are going to begin to attempt the task.

The test supervisor will not be able to assist you in using the app as this would skew any results of the test, however you should let the supervisor know if you are stuck. The supervisor is able to act as the phone's GPS sensor as the prototype is lacking in that functionality.

Whilst attempting the scenarios, please verbalise your thoughts in regards to what you are doing as this will assist the tester in their study.

At the end of the usability test, you will be required to answer a short survey which the supervisor will provide to you.

The supervisor will be recording your comments on paper for reference. Your personal details will remain confidential, and any information retained will be kept separate from your name, and will not be attributed to you in any reports.

P1

Questionnaire

Please answer the following questions using the 5-point scale as well as providing a brief comment.

1. Clarity of the UI in communicating how to complete the scenario (i.e. tester is able to use the correct set of features to complete the task without any assistance).

	1	2	3	4	5	
Poor			✓			Excellent

Comment:
only because I knew android buttons for sharing.

2. The visual clarity of the sketch/prototype (specifically, readability).

	1	2	3	4	5	
Poor				✓		Excellent

Comment:
Very clear and simple but that maybe due to how little information is present

P1

3. The effectiveness of the overall layout of components and functionality.

	1	2	3	4	5	
Poor					✓	Excellent

Comment:
very effective & simple.

4. General difficulty in using the application.

	1	2	3	4	5	
Poor				✓		Excellent

Comment:
a little bit of a learning curve but after using it it becomes very clear.

5. Effectiveness of the prototype with respect to communicating the intent of the application.

	1	2	3	4	5	
Poor		✓				Excellent

Comment:
Not very much information of what it does or how he does it.

P1

Results

Scenario	Comments
1	Entered custom location screen and didn't see +. Selected home. Can't find way to add item. Found in custom list. Got date range, ~~Thought~~ found times & weather.
2	Custom location found. Added china. Found share button. Knows Android conventioned Shared single day instead of list of days.

P1

Scenario	Comments
3	Knows sydney is preset. finds sydney. Checks for tomorrow
4	Gets current location. Easily navigates to correct screen.

P2

Questionnaire

Please answer the following questions using the 5-point scale as well as providing a brief comment.

1. Clarity of the UI in communicating how to complete the scenario (i.e. tester is able to use the correct set of features to complete the task without any assistance).

	1	2	3	4	5	
Poor				X		Excellent

Comment:

~~The titles~~ Each of the tasks ~~were~~ could have been described more clearly ~~in~~ in the button titles. Too much drill down.

2. The visual clarity of the sketch/prototype (specifically, readability).

	1	2	3	4	5	
Poor					X	Excellent

Comment:

Is good

PR

3. The effectiveness of the overall layout of components and functionality.

	1	2	3	4	5	
Poor				X	X	Excellent

Comment:
* Too much drill down.
* Visual elements was set out in a clear way.

4. General difficulty in using the application.

	1	2	3	4	5	
Poor		X				Excellent

Comment:
Again it wasn't exactly clear as to how I was supposed to create a table, when looking at the buttons on the home screen.

5. Effectiveness of the prototype with respect to communicating the intent of the application.

	1	2	3	4	5	
Poor				X	X	Excellent

Comment:
More descriptive text / Visuals ~~Goal~~ could have been included to explain the apps purpose.

P2

Results

Scenario	Comments
1	Checked presets, Checked current location Selected custom, found map added location. Thought flight time was a constraint Not weather & time screen.
2	Wants to add custom location. Adds location Checks custom location & date range. Missed share button to export table of dates.

PR

Scenario	Comments
3	Finds preset. Finds weather forecast.
4	Gets current location. Gets range of data. Shares in weather screen, not table.

P3

Questionnaire

Please answer the following questions using the 5-point scale as well as providing a brief comment.

1. Clarity of the UI in communicating how to complete the scenario (i.e. tester is able to use the correct set of features to complete the task without any assistance).

	1	2	3	4	5	
Poor					X	Excellent

Comment:
Have presets/favourites on homescreen

2. The visual clarity of the sketch/prototype (specifically, readability).

	1	2	3	4	5	
Poor					X	Excellent

Comment:

P3

3. The effectiveness of the overall layout of components and functionality.

	1	2	3	4	5	
Poor				X		Excellent

Comment:

4. General difficulty in using the application.

	1	2	3	4	5	
Poor					X	Excellent

Comment:

5. Effectiveness of the prototype with respect to communicating the intent of the application.

	1	2	3	4	5	
Poor					X	Excellent

Comment:

P3

Results

Scenario	Comments
1	Accessed custom. Found map. Found date range. World book flight range
2	Accessed presets, returned to custom. added locations Shared the list!!

P3

Scenario	Comments
3	Presets → Sydney → find specific date. weather etc.
4	Current → Found times → share in