Goldsmiths, University of London

Software project final report

iLost

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1 Introduction

2 Development Record

3 Formative Evaluation

3.1 iOS App Evaluation

3.1.1 Objectives and Questions

We wrote quantitative tasks to test the usability of our mobile application[2]. The purpose of the tests was to test if the participants can actually finish the task with the application, and we could learn from the process to observe how users used our application and improve it if any issue or confusion was raised.

Task ID	User Goal	Task	Scenario	Developing Status	Can be tested		
					v0.10	v0.11	v0.12
1	Log item in the app	Add my bag as a new item and pair a tracker in the mobile app	You are planning to find a solution to prevent losing your bag in public again, so you buy a iLost tracker online now and download the free mobile app in your phone. Go to the app to add your bag in the tracking list.	Done	Y	Y	Y
2	Check items status	See if all my bag item is safe.	You are have successfully log your item and pair the tracker with the mobile app. Go to the app to check if your bag is safe.	Done	Y	Y	Y
3	Check item position	See my bag's current position	You just come back from a chill night in a bar, you realise that you forget your bag at somewhere unitl arriving home. Check where is your bag now.	Done	Y	Y	Y
4	Check item position records	See my bag's 10 minutes before's position	You have checked your bag's current position and feel weird why is it in a place you have never been before, so you deciede to see how it end up there. Check your beg's location ten minutes ago.	Done	Y	Y	Y
5	Trigger native maps app navigation with current position	Navigate me to the my bag's current position in a public tranportation way.	You are really worry about where is your bag , because it seems like someone has taken it to somewhere, and inside your bag are all your important belongings. Go find your bag with the app's navigation feature.	Done	Y	Y	Y
6	Trigger native maps app navigation with history position record	Navigate me to the my bag's 10 minustes before's position on foot.	There is something misiing from your bag, it might be left outsied of the bag, Go and find your bag's previous location 35 minutes ago .	Done	Y	Y	Y
7	Edit item name or photo.	Attach the tracker to other item.	You just bought a new bag and you would like to attach the original tracker to it. Go to one of the tracker view to edit the item's name and photo.	Done	Y	Y	Y
8	Receive notification	Receive notification once my bag is lost.	You receive an notification since the app detecting your item is too far away from you. Check the notification and find where is you lost item.	Done	N	N	Y
9	Setup password	Setup password for the app	Now you know how iLost can help you find your lost precious, but the app need to be kept in private otherwise other people can the app to track you! So you decide to prevent someone else to use the app by setup a password in the app.	Done	N	N	Y

Figure 1: Usability test task list

Column	Description
Task ID	Identify number of the task
User Goal	What is the objective we need users to perform.
Task	The process in terms of completing the goal
Scenario	A setup scenario for engaging testers to use the application in a real-life case.
Developing Status	Current latest developing status of the functionality of this task, it should be **To do**, **In Progress** and **Done**.
Can be tested	Whether the functionality of the application is ready to be tested in each version.

Table 1: Usability test task list columns

Figure 1 demonstrates our tasks and goals. The table 1 shows what the columns stand for.

3.1.2 Participants, Location and Setup

According to Jakob Nielsen, testing 5 users in a usability study could find almost as many usability problems as testing more participants[1]. So application was tested with 5 participants for each version. The study was taken place in the library of the Goldsmiths, University of London, and the participants were the students who used to bring a bag to the campus daily. Totally we have conducted three versions of the application.

3.1.3 Methodology and Measures

Firstly, we explained what was our project about and asked participants to sign up the consent form which can be found in appendices B.1. During the test, the participants were provided an iPhone with the application built-in to test. An observer would guide them through the tasks and the scenarios, then took notes of how the participants reacted to the application. For each task, the observer would record it was successfully completed or failed. The records would help us to build the success rates diagram which helped us to understand which usability needed to be improved[3].

3.1.4 Evaluations

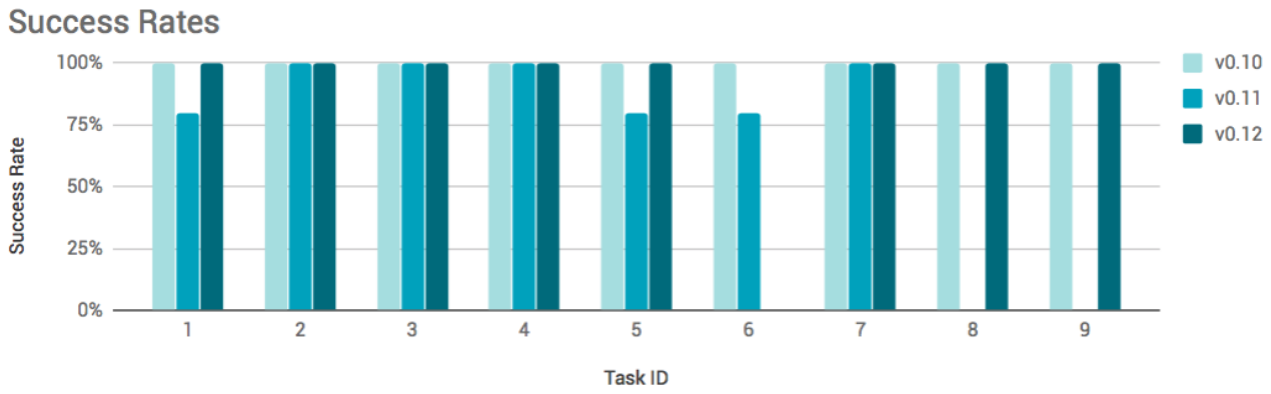

Figure 2: iOS App Success Rates Diagram

v0.10 The tested subject was the application prototype built in **Adobe XD**, which was one of the best design tools to test the prototype. Thanks to the well-designed user interfaces, the goals were easy to achieved and all the tasks were all succeeded. The result could only prove that the user interfaces guided the users to the right view, but it could not actually reflect on the usability of the real application. After all, Adobe XD could only let users walk through each view by clicking, while an actual iOS application should support swipe or other gestures. It was more like a paper prototype usability test.

v0.11 We benefited most from this test since this test was the native mobile application we where the participants can actually use it like other application. This version was built in React Native and tested in Expo which a tool and service which we used to build the mobile native application with React Native. During this test, we received several comments towards the **add item view**. For example, the camera icon in that view was originally used as a button. But some of the users could not really regard it as a button but a decoration since it was colourful. Also, the placeholder of the item name field was **Item Name** instead of a prompt message which confused some of the participants as well. So after this test, we resolved the issues and the difference shows in figure 3. The task 8 and 9 were not developed completely at the moment so there was not any record.

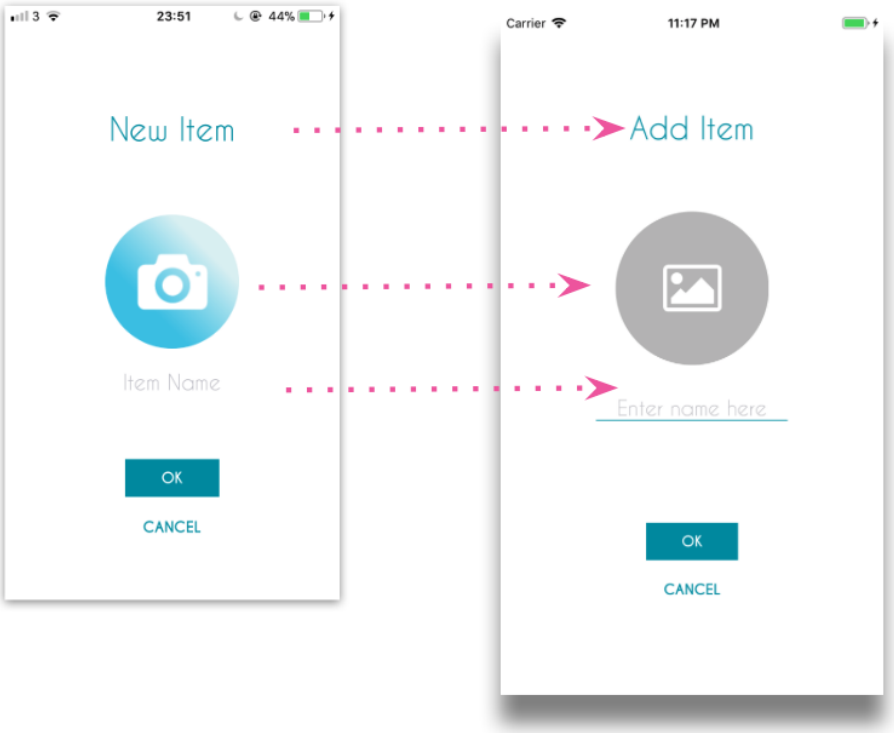

Figure 3: Improvement of the add item view

v0.12 After the previous test, we not only improved some of the user interfaces but also removed some of the features. It is worth notice that there is no record of task 6, which is **navigating to previous locations of the item's location history**. The reason we removed this task was that this goal was not really helpful. The participants commented that it was not beneficial to navigate to the previous locations, they cared about the current location of the item more. So thanks to the feedback, we removed the task 6 and eliminated the functionality of navigating through history locations which made the application more simple.

3.2 Tracker Evaluation

total 700 words

3.2.1 Objectives and Questions

100 words

3.2.2 Location, Setup and Participants

100 words

3.2.3 Methodology and Measures

100 words

3.2.4 Tracker v0.10 Evaluation

150 max words

3.2.5 Tracker v0.11 Evaluation

150 max words

3.3 Conclusion

Even though the tasks could be completed, but in terms of the user experience, we still had space to improved.

4 Design and Implementation

5 Quality Assurance

6 Summative Evaluation

References

[1] "How Many Test Users in a Usability Study?", Nielsen Norman Group, 2012. [Online]. Available: https://www.nngroup.com/articles/how-many-test-users/. [Accessed: 01- Mar- 2018].

[2] "Writing Tasks for Quantitative and Qualitative Usability Studies", Nielsen Norman Group, 2018. [Online]. Available: https://www.nngroup.com/articles/test-tasks-quant-qualitative/. [Accessed: 14- Mar- 2018].

[3] "Success Rate: The Simplest Usability Metric", Nielsen Norman Group, 2001. [Online]. Available: https://www.nngroup.com/articles/success-rate-the-simplest-usability-metric/. [Accessed: 14- Mar- 2018].

Appendices

A Development Records

A.1 Tasks Divided

A.2 Progress Tracking Form

B Formative Evaluation

B.1 consent Form

Usability Test Consent Form

Please read and sign this form.

In this usability test:

- You will be asked to perform certain tasks on a provided mobile phone.
- We will also conduct an interview with you regarding the tasks you performed.

Participation in this usability study is voluntary. All information will remain strictly confidential. The descriptions and findings may be used to help improve the iLost Project.

However, at no time will your name or any other identification be used. You can withdraw your consent to the experiment and stop participation at any time.

If you have any questions after today, please contact Jheng-Hao Lin at jlin015@gold.ac.uk

I have read and understood the information on this form and had all of my questions answered

_____ _____

Subject's Signature Date

Thank you!

We appreciate your participation.

C Design and Implementation

D Quality Assurance