User interface design : *MyNotes*

Development of a mobile application with Android

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Contents

1 Storyboard

(a) A person has an idea at a location where no immediate possibilities are present to register it.

(b) The person takes his/her phone out, opens the app and writes down the idea.

(c) Later the person can check his/her phone for the registered notes.

Figure 1: Storyboard for the *MyNotes* application.

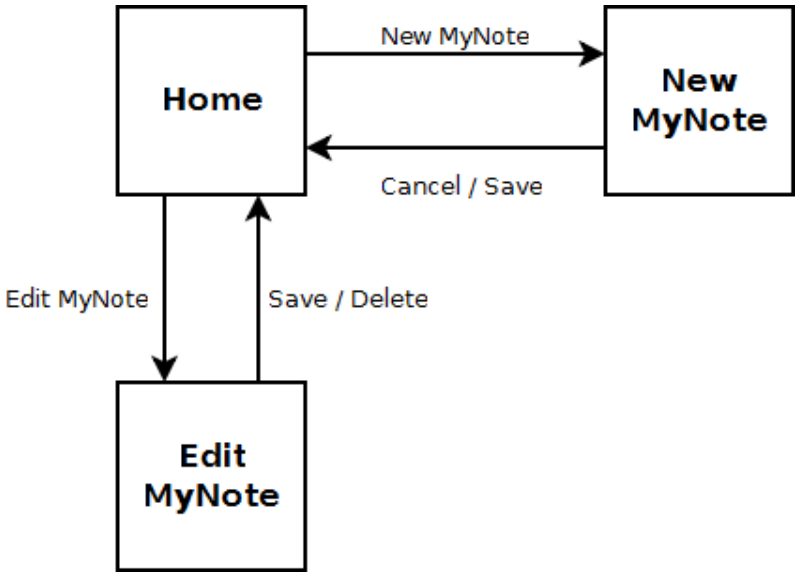

Figure 2: Screen transition diagram for the *MyNotes* application.

2 Screen transition diagram

3 Paper prototype

Figure 3: Some of the screens of the paper prototype for the *MyNotes* application.

4 Iterative design

4.1 Iteration 1 : paper prototype 1

4.1.1 Setup

Test users We want our design to be have high usability as perceived by our target audience. In order to obtain representative evaluation results, we have to select enough test users from our target audience. We will base the number of test user on Nielsen's rule of thumb of 5 test subjects (with corresponding consequences[1]).

Test objective Properties of usability we will focus on are learnability, efficiency and satisfaction.

Test method To perform the tests we will apply the think aloud protocol[2].The think aloud protocol is a variation on the usability engineering. During a think aloud test, the user describes his/her reasoning for each action he/she undertakes. This way the evaluator hopes to identify difficulties with the design. When applying the think aloud protocol, the following should be taking into consideration:

- It creates an unnatural situation, as users usually don't say out loud everything they are about to do or think;
- The user may tend to filter his/her statements to avoid saying things that he/she may find silly or uninteresting;
- The facilitator may introduce bias in user behavior if he/she provides too much information when answering or instructing users.

Next we design a series of tasks that the test subjects have to execute. You could employ a free form test as well, but in this case we try to verify if all the use cases can be executed successfully.

In addition, we can use a more formal evaluation method with a summative system usability scale (SUS) questionnaire[3]. The questions are the following:

1. I think that I would like to use this system frequently.
2. I found the system unnecessarily complex.
3. I thought the system was easy to use.
4. I think that I would need the support of a technical person to be able to use this system.
5. I found the various functions in this system were well integrated.
6. I thought there was too much inconsistency in this system.
7. I would imagine that most people would learn to use this system very quickly.
8. I found the system very cumbersome to use.
9. I felt very confident using the system.
10. I needed to learn a lot of things before I could get going with this system.

For each question the test user is asked to enter a score on a scale from 1 to 5 with 1 lowest level of agreement and 5 the highest.

[1] http://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/
[2] http://www.nngroup.com/articles/thinking-aloud-the-1-usability-tool/
[3] http://www.measuringusability.com/sus.php

4.1.2 Results

All the test users where able to successfully create a new note. Next users where asked to edit the note and finally delete it. Some test users remarked that a "select all" button and single buttons for edit and delete actions for each list item could be added. Another suggestion could be to add swipe actions for removing items.

The system usability scores (from the questionnaire) where positive in the target properties (learnability, efficiency and satisfaction).

4.1.3 Conclusion

Overall the test results where positive suggesting that we can move on to a digital version.

4.2 Iteration 2 : digital prototype 1

4.2.1 Setup

The setup for this iteration it the same as for the previous one. The main objective now is to verify whether or not the conversion from paper to digital prototype was successful.

4.2.2 Results

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4.2.3 Conclusion

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