CSC 591 - USER EXPERIENCE

DETAILED SURVEY RESULTS

TEAM NICOTRAX

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In this document, the various results and feedback that has been received from the lecture critiques and the survey that was conducted for evaluating the application prototype is discussed.

Feedback from the Critiques

Two very important feedbacks were obtained from the critiques in the classes :

Firstly, a feedback to change the color of the text was obtained, so that it is clearly visible. This feedback was implemented in the second phase of the prototype development. A sample screen (Profile Display Page) in the 1st phase (Left) and the same screen in the 2nd phase (Right) is shown below.
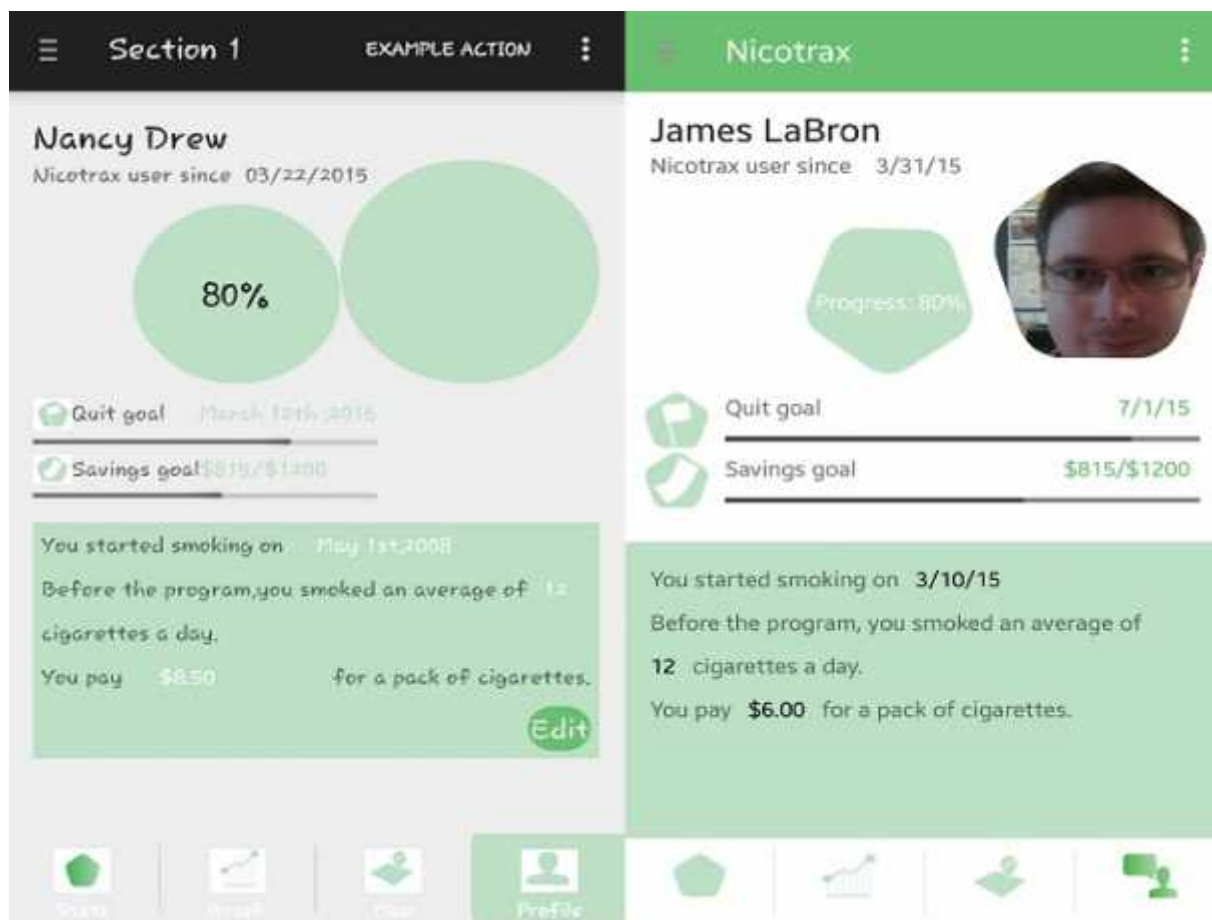
Secondly, a feedback to encourage positive emotions by viewing the dashboard was obtained, by providing certain statistics which show the positives of avoiding smoking, like number of hours added to life, number of dollars saved by not smoking. This feedback was implemented in the second phase of development. The dashboard screen in the 1st phase (Left) and the same screen in the 2nd phase (Right) is shown below.
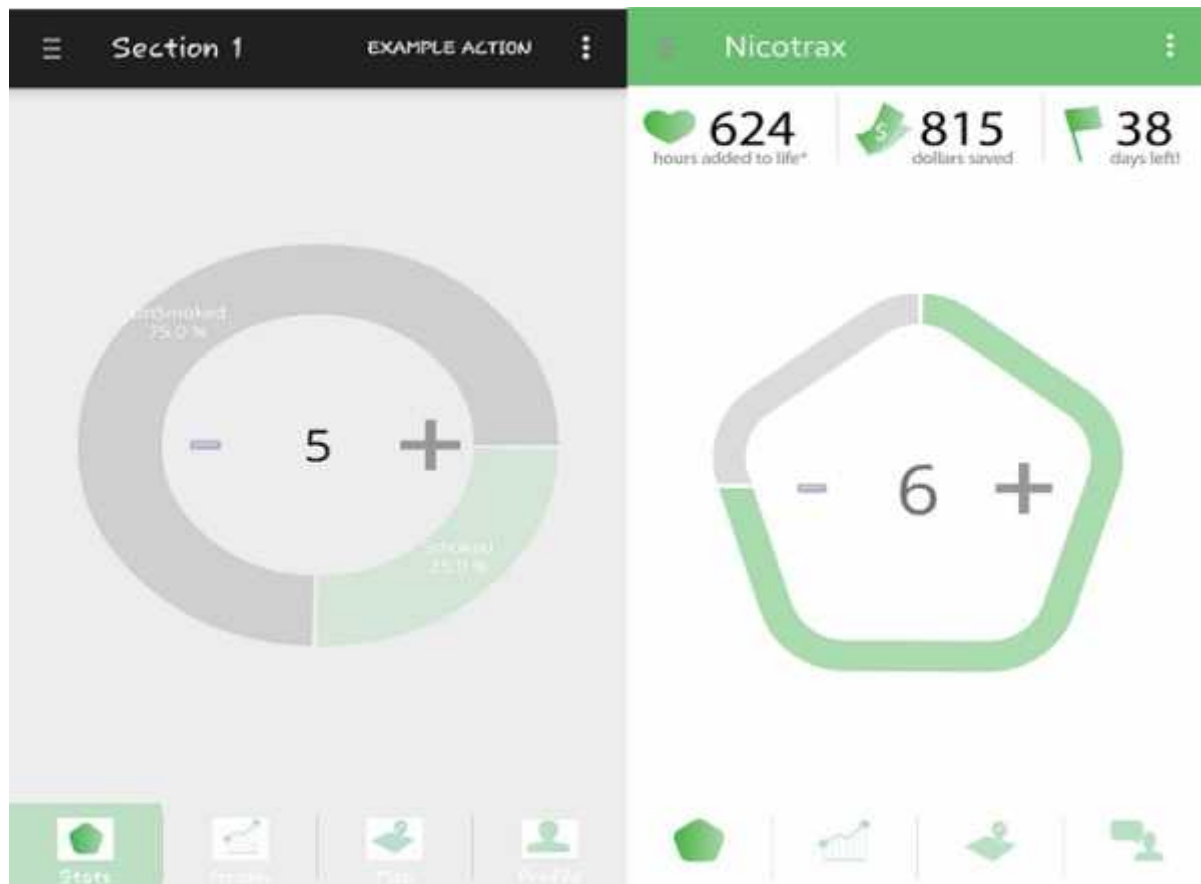
Survey Evaluation Results

In this section, the results of the survey that was conducted is described in detail. The link to the survey is - http://goo.gl/forms/kydSPGxJ9w.

Participant Characteristics :

There were 12 participants who participated in the final survey. All of them were from different backgrounds. None of them had previously seen the application, so it was their first interaction with the application. This allowed for getting unbiased opinions on the application and gave a good idea about how first time users would find the application.

Section : Aesthetics -

In the first section of the survey, the participants were asked questions about the aesthetics of the user interface. Aesthetics were measured based on parameters such as proper use of color, images, textual content, alignment, white space and ease of navigation. Each question in this section could be answered on a 7-point scale where 1 stood for "Strongly Disagree" and 7 stood for "Strongly Agree". The average score the participants gave for each of the questions is given below :

1) The color used for the text makes it properly visible and readable - **6.250/7**
2) The color scheme used in the application is rich and appealing - **6.166/7**
3) The images used on the screens are attractive - **6.500/7**
4) The images used on the screens are appropriate to the context - **5.833/7**
5) The navigation to different parts of the application is easy - **6.083/7**
6) The content on the screen is well organized - **6.416/7**
7) The placement of the various elements is good - **6.333/7**
8) The given screen looks too cluttered - **1.833/7**
9) The information provided by the screens is easy to understand - **6.333/7**

Based on the mean scores obtained, it can be concluded that the application is aesthetically appealing. This is because the values for the questions that test for positive aesthetics are high and the value for the question that test for negative aesthetics is low.

Section : Emotions -

In the second section of the survey, the participants were given a scenario, in which they were asked to think that they were smokers, who were trying to quit, but were unsuccessful and after using this application, on a particular day-end, they see the dashboard screen which reveals that they have smoked very few cigarettes than their daily average, and certain number of hours got added to their life, and they saved a few dollars. After thinking about this scenario for a few minutes, they were asked to rate how they were feeling currently by rating certain emotions on the scale of 1 which stands for "Not At All" and 5 which stands for "Extremely". **We used the**

standard PANAS (Positive and Negative Affect Schedule) for measuring emotion. The mean ratings for each of the emotions that the participants provided is given below. We have presented the results in a table. The first column of the table describes the positive emotions and the second column of the table describes the negative emotions.

Positive Emotions	Negative Emotions
Interested - **4.166/5**	Distressed - **1.916/5**
Excited - **3.833/5**	Upset - **1.667/5**
Strong - **4/5**	Guilty - **2.25/5**
Enthusiastic - **3.916/5**	Scared - **2/5**
Proud - **4/5**	Hostile - **1.75/5**
Alert - **3.916/5**	Irritable - **1.5/5**
Inspired - **4.5/5**	Ashamed - **1.75/5**
Determined - **4.333/5**	Nervous - **2.166/5**
Attentive - **4/5**	Jittery - **2.166/5**
Active - **4.083/5**	Afraid - **2/5**

Some calculations were made which were as per the scoring instructions mentioned in PANAS :

Step 1 : The mean scores in the positive emotions section were added. The total of the positive emotions score we obtained was - **40.747/50.** This score was above the mean score that PANAS requires to determine that positive emotions are evoked by the application (29.7 with a standard deviation of 7.9).

Step 2 : The mean scores in the negative emotions section were added later on. The total of the negative emotions score was- **19.165/50.** This score was within one standard deviation of the mean score that PANAS requires to determine that negative emotions are not evoked by the application. (14.8 with a standard deviation of 5.4). The reason for this is that some people still feel guilty after smoking, even if they smoke less than their daily average. Also, if a person's health is damaged then it is natural to feel afraid, jittery, nervous about one's well being.

The results suggest that when a positive background story was used, the application was successful in evoking a positive emotion.

Section : Usability and Understandability:

In the third section of the survey, the usability and understandability of the application was measured. The following task was given to the survey participants:

Task 1: Open the Android Application. Sign up as a new user and Log in.
Task 2: Answer all the onboarding questions.
Task 3: Look at the main dashboard about the smoking details for the current day.
Task 4: Interact with the main dashboard to add/subtract number of cigarettes smoked.
Task 5: Look up the graphs of daily view, weekly view and the monthly view.
Task 6: Look up the User's profile page.

After their interaction with the application, the participants were presented with the **System Usability Scale (SUS) which is a standard survey for measuring the usability of the application.** The participants rated 10 questions on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree). The average scores for each of the ten questions is given below :

1. I think that I would like to use this system frequently. - **4.583/5**

2. I found the system unnecessarily complex. - **1.75/5**

3. I thought the system was easy to use. - **4.25/5**

4. I think that I would need the support of a technical person to be able to use this system. - **1.916/5**

5. I found the various functions in this system were well integrated. - **4/5**

6. I thought there was too much inconsistency in this system. - **1.667/5**

7. I would imagine that most people would learn to use this system very quickly. - **4.333/5**

8. I found the system very cumbersome to use. - **2.083/5**

9. I felt very confident using the system. - **4.25/5**

10. I needed to learn a lot of things before I could get going with this system. - **1.667/5**

The score guidelines set to evaluate the SUS were then followed:

1. For odd items, one point was subtracted from the user response.

2. For even-numbered items, the user responses were subtracted from 5.

The above two operations scaled the all the values from zero (least positive) to four (most positive)

3. The converted responses were then added up for each user. The total came out to be - **32.333/40**

4. This total was then multiplied by 2.5. This converted the range of possible values from 0 to 100 instead of from 0 to 40. The final score came out to be **- 80.832/100.**

Since, this score was above the average score for standard usability surveys which is 68. Therefore, it can be concluded, based on these results, that the application was both usable and understandable.

Section : Completeness

In the final section of the survey, the users were asked whether they found the application to be complete in terms of functionality or not. For this, they were asked to indicate whether they felt the application provided all the necessary resources to help a smoker quit smoking because that is the ultimate goal of the application. The participants were then asked the following question. They rated this question on a scale of 1 (Strongly Disagree) to 7 (Strongly Agree).

After looking at the application, I feel that the application has provided all the required resources to help a person quit smoking. - **5.916/7**

Since, the average of the responses of all the participants was quite favourable, it can be concluded that the application provided all necessary functionalities to help a person quit smoking, thus the application is complete.

In summary, it can be said that, since an above average result was obtained after measuring aesthetics, emotions, usability and understandability, and completeness, the prototype was successful in achieving the experiential goals and hence, it was a successful prototype.

References

1) 7 Elements of an Aesthetically Pleasing website - http://www.appliedi.net/blog/7-elements-of-an-aesthetically-pleasing-website/
2) Measuring Usability with the System Usability Scale - http://www.measuringu.com/sus.php
3) PANAS Questionnaire - http://booksite.elsevier.com/9780123745170/Chapter%203/Chapter_3_Worksheet_3.1.pdf
4) Nicotrax Website - http://www.nicotrax.com/