

UNIVERSITY OF WATERLOO

SYDE 542 – Interface Design

Assignment 2

Wireframe Test, Mockup and Final Test

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WIREFRAME TEST

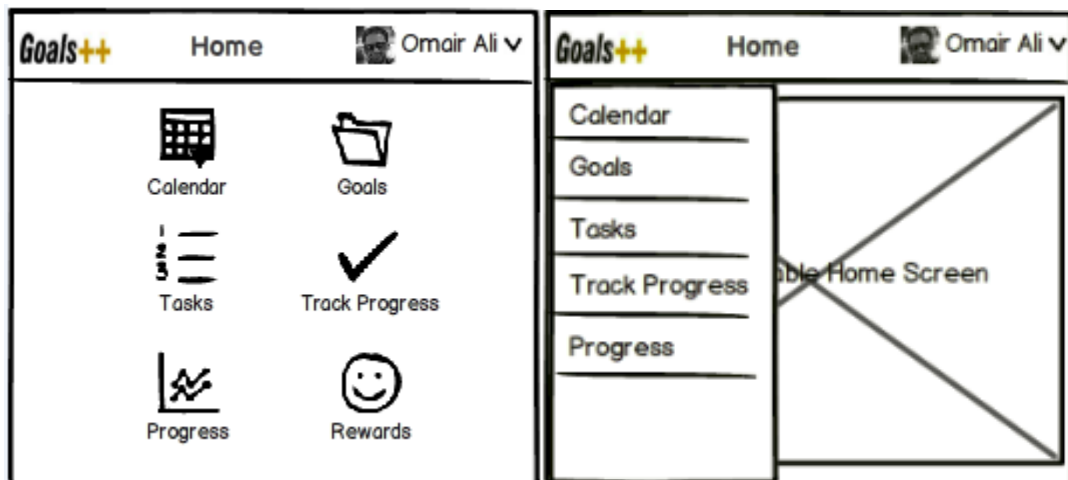
Objectives

Three main objectives were set out to be evaluated through the wireframe testing. These three objectives are ease of learning, satisfaction while using the application, and a preference between two home screens.

Testing ease of learning is of major concern as one of the primary goals of the application is for users to be able to launch the application and immediately understand the purpose of the application as they first start to use it. This is crucial aspect of the application to motivate users to continue with using the software after they first discover it. For a mobile application, it is important that the flow of the application is intuitive for users to learn when they first explore the software as users rarely have the patience to go through the learning tutorials for any mobile application. Since this software is meant to be on the mobile platform, Goal++ would need this quality, namely discoverability, in order to be a successful application that would catch on with users.

The satisfaction and emotion response after using the application is also of high priority. To ensure that users continue to use the application after the first few tries, the wireframe testing should reflect whether or not users would consider using Goal++ over their existing method of scheduling academic related tasks. The testing should also determine if the users have a positive emotional response after using Goal++. An emotional response is essential in motivating users to continue using the application in the long term.

During the development of the wireframes, two different home screens concepts were developed. The first using the concept of buttons and the second using the concept of customizable screens and left side menu are displayed below.



The first home screen uses the concept of buttons representing the major modules of the application, and the user uses these buttons as the main access point of the modules. The second home screen uses a menu on the left side that is dropped down from clicking the logo at the top. The home screen can be set by the user to one of the modules of the application and whenever the application is closed and reopened, the selected module is the first thing that is brought up by default. Through testing, one of the objectives is to determine if users prefer one home screen concept over the other.

Method

To test for ease of learning, satisfaction from use and preference of home screen, four tasks were developed for the tester to go through, and then at the end of the testing, the users are required to fill in a survey. The first three tasks require the user to set a new goal, update a task and update a completed task, respectively, and the final task require the user to select between the two home screen concepts after clicking through them. The first three tests will be used to assess ease of learning during the initial trial, validated through the number of erroneous clicks and their understanding of the application at a high level. The preference of home screens will be assessed through the results of the fourth task, based on the user selection. Satisfaction will be assessed through the questions on the survey at the end of testing, where the response to questions regarding their emotional state, whether the user will consider using the application, and whether the user would recommend Goal++ to a friend will be evaluated.

Tasks

In Task 1, the user is required to go through the set goal module. The user will be put in the mindset that they will be setting their first goal for the term, to achieve a certain mark in one of their courses. The user will be required to figure out how to enter the course name and mark goal, add their deliverables for the course, and the tasks to complete the deliverables. They are then required to input the potential risks and their prevention plan for the risks in order to achieve the goal and finally, select the type of reward upon completion of the deliverable.

Task 2 requires the tester to make changes to a deliverable previously inputted. The user must identify the correct component to update, and then select the correct fields that need to be updated.

Task 3 requires the tester to update a task upon completion of that particular task. The user must identify the correct component and then click the completion button. The user will then be displayed with a feedback message upon completion of this task.

In Task 4, the user will be presented with the two home screens, and asked to explore the two through clicking the various links. After some experience with both home screens, the user will be asked to identify which home screen layout they prefer.

Set Up

When the test begins, the user will first be introduced to the application and the testing that will be conducted. The tester will use the following script and verbally introduce the testing to each of the users:

“Hello, thank you for participating in the user testing for Goal++. Goal++ is an application we are currently developing for a mobile device that would be used to set academic goals. You will be given four tasks to complete, and then asked to fill in a short survey at the end of the testing. Your input on the application is highly appreciated and you are asked to be completely honest with your opinions on the software. Please let us know if you have any questions throughout the test period.”

The user will then be guided through the four tasks. The task will be completed in the order in which they are presented in this report, i.e. creating a new goal, updating an existing deliverable, updating a completed task and finally, selecting the home screen. The reason for this order is because the order of first three tasks most accurately represents the workflow of the user when using the application in a real life environment. The selection of home screens is performed last so that the user can get a feel for the application before selecting their preference of home screen. Before each task, the user will be presented with a script before prompt for their input.

The script used for the Task 1 is:

“You are a new user and want to set up a goal to achieve an 85% in your PHYS 115 course. You have the course syllabus and there will be two midterms, one term paper and the final exam. You are concerned that you may be spending much of your time engaged in your latest hobby: rock climbing. You have signed up with some of your friends and are planning to spend 3 nights per week at the indoor rock-climbing club.”

The test that the user performed can be found at the following link:

<http://www.solidifyapp.com/p/p45847788addcd62d>

The script used for the Task 2 is:

“Due to a family emergency, you have asked your PHYS 115 professor to allow you to write your midterm 2 days earlier than the scheduled date. Your professor recognizes that this is a difficult situation for you and you may not be as prepared as you would want to be for your midterm so she has agreed to decrease the weight of the midterm and pass the remaining weight to your final exam. You need to make the necessary updates.”

The test that the user performed can be found at the following link:

<http://www.solidifyapp.com/p/pffa731584eb75801>

The script used for the Task 3 is:

“You just spent the 3 hours you had planned to spend on your first study session for your upcoming midterm. You are excited to update this task to a complete status.”

The test that the user performed can be found at the following link:

<http://www.solidifyapp.com/p/p12bedda2352eb079>

The script used for the Task 4 is:

“Two different styles of home screens were developed for this application. After experimenting with both styles, choose the one you like the best”

The test that the user performed can be found at the following link:

Buttons Home Screen: <http://www.solidifyapp.com/p/p845693c005b0ea71>

Customizable Home Screen: <http://www.solidifyapp.com/p/pac124fe065fe7b9f>

At the end of testing, the users are prompt to fill in a survey. An example of this survey is attached in Appendix A. The survey asks the user to best describe to their knowledge the hierarchy of the system. Then, on a scale from 1 to 5, the survey asks the user how easy it was to use the application, how easy it was to update their tasks, how useful feedback messages would be, their preference between the two home screens, whether or not they would use this application over their current method of setting goals, and their emotional response. Finally, the survey asks if they would recommend this application to a friend, and any final comments they may have.

Props

Along with the tasks that are set out for the testers to perform, Task 2 and Task 3 were both populated with two props. The construction of an existing “PHYS 115 Midterm” deliverable and “PHYS 115 Study Session” task was created as props so that the users can update the deliverable and complete the task for tasks two and three, respectively.

User Group

The user group that will be targeted for testing are university students between the ages of 19 - 24 of either gender, who regularly use a mobile smart phone on a daily basis.

Benchmarks

The benchmarks that were set out to assess the results for testing are listed as followed:

Benchmark 1: 80% of users must understand and describe the hierarchy of the system after initial use

Benchmark 2: 80% of users must understand the navigation of the task update module on first use without making a mistake

Benchmark 3: 60% of users must consider using this app over their current academic goal setting procedure or would recommend the application to a friend

Benchmark 4: 80% must result in a non-negative emotional response after using the system

Benchmark 5: 70% of users must believe feedback messages will be helpful with the use of the app

Benchmark 6: More than 60% of users should prefer one home screen over the other

The success of the Benchmark 1 and 2 reflects the success of the ease of learning objective. Understanding and describing the hierarchy of the system, and navigating the task update modules (i.e. Task 2 and Task 3) contribute to the ease of learning upon initial use. The success of Benchmark 3 to 5 reflects the success of the satisfaction objective. Benchmark 3 demonstrates that after performing the tests, the user likes the application enough to consider using the application over their current method of academic goal setting, or can think of a friend that would benefit from using this application. Benchmark 5 assesses the tester's belief of the usefulness of feedback messages, and Benchmark 4 gages the overall emotional response after using the system. Finally, Benchmark 6 reflects the results of home screen preference, summarizing which home screen concept is preferred by the group of testers.

Results

The results from the testing are summarized first from the tasks and then from the answered on the surveys. Five testers were recruited for the wireframe testing, and each tester will be denoted A, B, C, D and E. All the testers recruited are University of Waterloo engineering students, who have experience using a smartphone. Three of the testers are familiar with interface design concepts.

Results from the Tasks

Task 1 - New Goal Screen

Goals++ New Goal Omar Ali

Course D E

PHYS 115 A

Grade is at least B 85% C

F Next

- User C: clicked on A, B and C before clicking on the next button at F
- User D: clicked on C, D and E before clicking on the next button at F

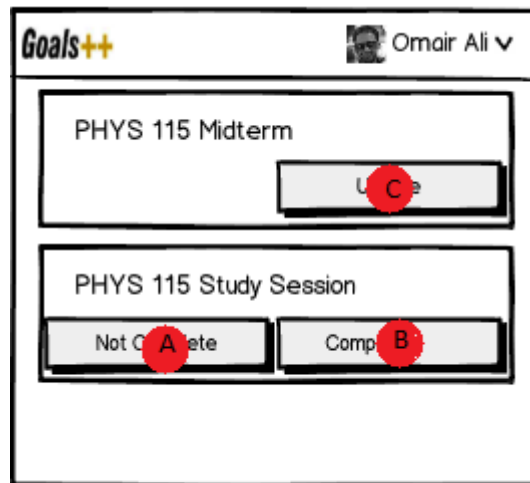
Task 1 - Test and Assignments Screen

- User A: clicked on A, B, C and D before clicking on the next button at I
- User B: clicked on G before clicking on the next button at I
- User C: clicked on E and F before clicking on the next button at I
- User D: clicked on A, B, C, E and G before clicking on the next button at I
- User E: clicked on C, E, F and H before clicking on the next button at I

Task 1 - Potential Risks and Prevention Plan

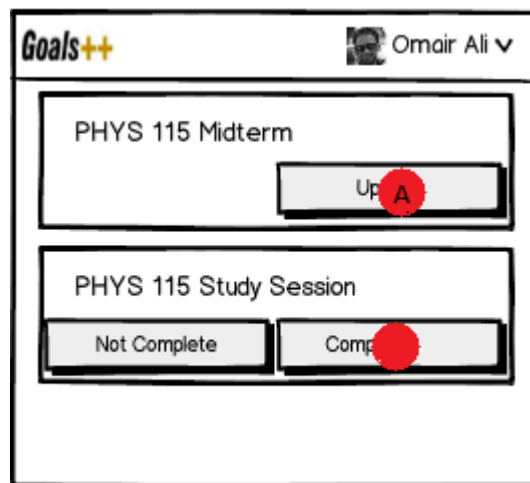
- User A: clicked on A before clicking on the + New Risk button at E
- User C: clicked on A and B before clicking on the + New Risk button at E
- User D: clicked on A, C and D before clicking on the + New Risk button at E
- User E: clicked on A before clicking on the + New Risk button at E

Task 2 - Test and Assignments Update Screen



- User E: clicked on A and B before clicking on the Update button at C

Task 3 - Task Completion Screen



- User E: clicked on A before clicking on the Complete button at C

Results from the Survey

The results from the surveys are summarized below, with the response from each tester denoted under the corresponding score.

Please describe, to the best of your abilities, how the hierarchy of the system works.
All users gave a verbal response to the test conductor.

How easy was it to use the application?

Very Hard				Very Easy
1	2	3	4	5
			A,C,D,E	B

Summary: 4 users answered 4, 1 user answered 5.

How easy was it to update your tasks?

Very Hard				Very Easy
1	2	3	4	5
			A,B,C	D,E

Summary: 3 users answered 4, 2 users answered 5.

How useful are feedback messages after completing a task?

Not useful at all				Very useful
1	2	3	4	5
E		A,C	B,D	

Summary: 1 users answered 1, 2 users answered 3, 2 users answered 4.

Do you prefer home screen A or home screen B?

Home Screen A (Customizable)				Home Screen B (Buttons)
1	2	3	4	5
C,D,E	A			B

Summary: 3 users answered 1, 2 users answered 2, 1 user answered 5.

Would you use this application over your current method of setting academic goals?

No	Would consider			Yes
1	2	3	4	5
	D	A,B,C,E		

Summary: 1 users answered 2, 4 users answered 3.

Did you experience any emotional response during the use of this app?

Negative Response	Neutral			Positive Response
1	2	3	4	5
	C	A,D,E		B

Summary: 1 users answered 2, 3 users answered 3, 1 users answered 5.

No Arousal (Calm)				High Arousal (Excited)
1	2	3	4	5
E		A,C,D		B

Summary: 1 users answered 1, 3 users answered 3, 1 users answered 5.

Would you recommend this app to a friend? (Please Circle) Yes / No
All five users selected "Yes"

Final Comments

A: "Some of the task descriptions were a bit complex to remember while performing the task"

B: "like the keyboard popup; it's "cute" (emotional, affective design) like the simplicity of the UI effective use of spacing in between the different UI fields consider Gestalt's principles nice use of propositional logic; grades were shown in a nice quantitative manner suited for grading schemes "tests and assignments" screen - would prefer to use weight in % instead of 0.3 - would be nice to show visual iconic indicators; "study 3 hours" can be represented as an iconic clock - similarly, the calendar can be shown as a visual calendar date, instead of "feb 25" - big eyesore in the interface; adding a new task clutters the screen"

C: "Did not provide enough initial instructions" and "One level test/assignment and tasks would be less confusing, the button for the risk and prevention plan is in a bad place and not intuitive" and "it may be better to display the 'complete' and 'not complete' as checkboxes"

D: "risk + prevention plan is the only screen where it is not automatically prompting for instruction/need to click on button, would use it more as a scheduler than a goal setting app"

E: "Test scenario was not descriptive enough... User test should start at "home" page => from there I should click on new goal. Course/term button was unclear. No confirmation or feedback to the user. "

Discussion

Based on both the results from the four tasks as well as the feedback from the surveys and comments, it seemed that the application marginally passed the ease of learn requirement, fully passed the satisfaction requirement, and it was determined that the customizable home screens were preferred.

From the verbal and written comments upon completing the tasks, all users seemed to possess a pretty complete understanding of the use for this application and hierarchy of the system, satisfying Benchmark 1. From the results from Task 2 and 3, only one person from each test click on the wrong button before finding the correct buttons for the corresponding tasks, satisfying Benchmark 2. Benchmark 2 was further validated on the survey with the question "How easy was it to update your tasks?" and 3 people answered with 4 and 2 people answered with 5, where 5 represents "Very Easy" and 1 represents "Very Hard".

From analysing the results of Task 1, it seems that each of the users had some trouble navigating past the New Goal Screen, the Test and Assignments Screen, Potential Risks and Prevention Plan Screen, or a combination of the three. Two of the users had trouble finding the "Next" button on the New Goal Screen at the bottom and clicked on the already completed fields before clicking on the "Next" button. It can be concluded that users either weren't aware that all the necessary fields have already been filed in before continuing or that the next button is not in an intuitive location. Since less than 50% of the testers had this problem and all the testers eventually found the next button, this is not seen as a critical problem.

All the users had trouble with the Test and Assignments Screen. Many different buttons and labels were clicked on by each of the testers before the "Next" button was eventually found. From analyzing these various clicks and also receiving verbal comments after testing from the testers, it was discovered that the erroneous clicks were more due to how the task was set up than a problem in navigation. In the script for Task 1, it says that "...You have the course syllabus and there will be two midterms, one term paper and the final exam...", with the intentions to give some background information to put the testers in the correct mind frame. Each of the testers took the instructions in a literal sense and was trying to input all the tests and assignments described in the script, but the task only expect users to enter one midterm. This was not accounted for by the developers until after the tests were conducted and had to be explained to the testers during the test process. During the testing of this task, Tester C made a suggestion to collapse the Test and Assignment and Tasks inputs into one level for less confusion and this suggestion was carried through to the development of the full detail mock-ups.

Four out of the five testers also had slight trouble with the Potential Risks and Prevention Plan Screen, making a couple incorrect clicks before clicking the + New Risk button. It was determined from the comments of the testers that the inconsistency with the empty screen of the Potential Risks and Prevention Plan when it first appears was confusing in the workflow of the application. This could be prevented if the textbox inputs appears by default and were not prompted by an extra button click, which will be implemented in the full detail mockups. From the results of survey answers, it can be demonstrated that Benchmark 3 and 4 were achieved but not Benchmark 5.

From the question “Would you use this application over your current method of setting academic goals?”, one user answered 2 and four users answered 3, where 1 represents “No”, 5 represents “Yes”, and 3 represents “Would Consider”. All users answered “Yes” to the question “Would you recommend this app to a friend?”, demonstrating that although they might not use the application, they know of people who would benefit from using the application. These two questions met Benchmark 3.

The questions “Did you experience any emotional response during the use of this app?” validated Benchmark 4. 1 users answered 2, 3 users answered 3, 1 users answered 5 where 1 represented “Negative Response”, 3 represented “Neutral” and 5 represents “Positive Response”. 1 users answered 1, 3 users answered 3, 1 users answered 5 where 1 represented “No Arousal”, 3 represented “Neutral” and 5 represents “High Arousal”. It is key to note that tester C, who answered 2 reflecting a slightly negative response, also answered 3 reflecting a neutral arousal, meaning that that person's slightly negative emotional response was not overly frustrating.

Benchmark 5 was not quite achieved with the question “How useful are feedback messages after completing a task?” where 1 user answered 1, 2 users answered 3, 2 users answered 4 on a scale where 1 represents “Not useful at all” and 5 represents “Very useful”. It is believed that since a very generic “Good Job!” was used for testing purposes and was also on the screen for a very short during at the end of Task 3, this contributed to the slightly negative results that are seen with testing. Given more time, personalized feedback messages should be further evaluated to see if they are more effective or if feedback message are seen as useless to the user regardless of the message content.

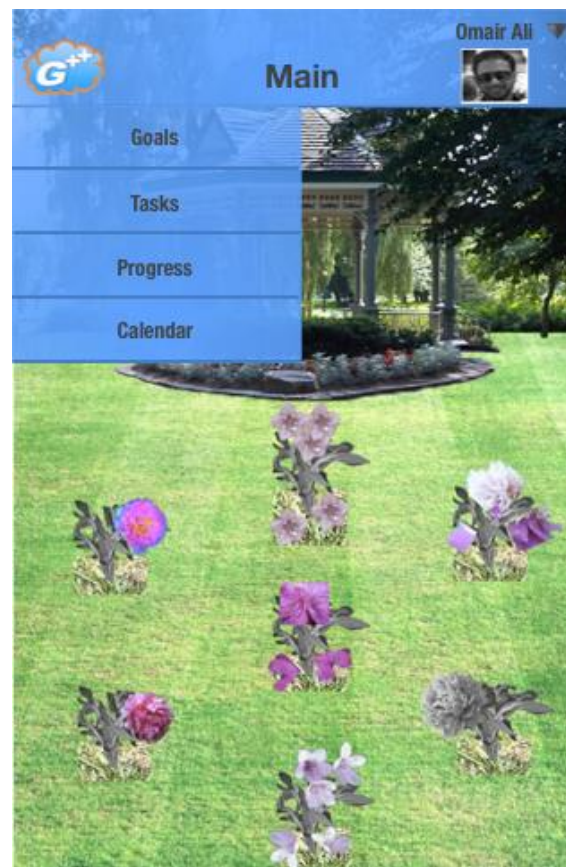
From the verbal feedback and the answer to the question “Do you prefer home screen A or home screen B?” where home screen A is the customizable home screen and home screen B is the buttons home screen, 3 users answered 1, 2 users answered 2, 1 user answered 5, leading the developers to believe that the customizable home screens is the preferred home screen among users.

FULL DETAIL MOCKUP

Screens

Main

As part of the wireframe user testing, two options for the main screen were compared in order to see which one users preferred. It was found most users preferred the customizable screen with the slide-in menu. This represented the opportunity for the team to introduce the idea of the “garden” concept. This serves as an overview display for the user to have instant visual feedback based on his or her current progress within the system. In this display a flower is used to represent each goal the user has created within the application. The state of each flower is dependent on the state of the goal it represents. Based on the number of upcoming, late, and on-time completions of tasks a flower may be in the budding, blossoming, or maturing stages to show a good standing whereas a wilting flower at any of these stages would represent a poor current standing for the goal.



Set Goals

Setting a new goal is an important part of this application. Based on the results from the wireframe user testing the following elements were changed:

Dates: Previously the date text was in the form “dd/mm/yy”, this has been changed to “Mmm dd”

The wireframe shows a mobile application interface for setting a new goal. At the top, there is a blue header bar with the 'G++' logo on the left, the title 'New Goal' in the center, and a user profile 'Omar Ali' with a dropdown arrow on the right. Below the header, the form is divided into sections. The first section, 'Course Goal', has a label 'Grade is' followed by a 'between' dropdown menu, two input fields containing '75 %' and '95%', and an 'and' connector. The second section, 'Tests and Assignments', features a list of items. The first item is 'Midterm' with a date of 'June 8' and a weight of '35%'. Below it, under the 'Tasks' label, are 'Chapter 4' and 'Chapter 5,6'. A second, identical but empty form is shown below, with placeholder text 'enter test or assignment name...', 'enter date...', 'enter weight...', and an 'add new' button. A 'Next' button is located at the bottom right of the form.

Omar Ali ▼

New Goal

Course Goal

Grade is **between** ▼ 75 % and 95%

Tests and Assignments

Midterm

Date June 8 Weight 35%

Tasks **Chapter 4**
Chapter 5,6

enter test or assignment name...

Date enter date... Weight enter weight...

Tasks **add new**

Next

Tasks

The task object previously had its own screen taking the user out of the Set Goals module and into a separate Tasks module where he or she had the ability to add tasks and then go back to the goal being set. This was found to be both confusing and inconsistent and therefore the element was re-designed as an on-screen modal which allows the user to populate the tasks and then shows up in the Tasks section of the Test or Assignment object.

The wireframe shows a mobile application interface for creating a new goal. At the top, there is a blue header bar with a logo on the left, the title "New Goal" in the center, and a user profile "Omair Ali" with a dropdown arrow on the right. Below the header, there is a "Course" section with a label and a text input field containing the placeholder "enter course name...". Underneath is a "Course Goal" section. It includes a "Grade is" label followed by a dropdown menu currently showing "at least", and a text input field for "enter grade %...". A modal dialog is overlaid on the screen, featuring a blue border and a white background. It contains a "Description" section with a text input field for "enter description...". Above this, there are two input fields: "enter task name..." and "Date" followed by "enter date...". At the bottom of the modal is a button labeled "Tasks". In the bottom right corner of the main screen, there is a "Next" button.

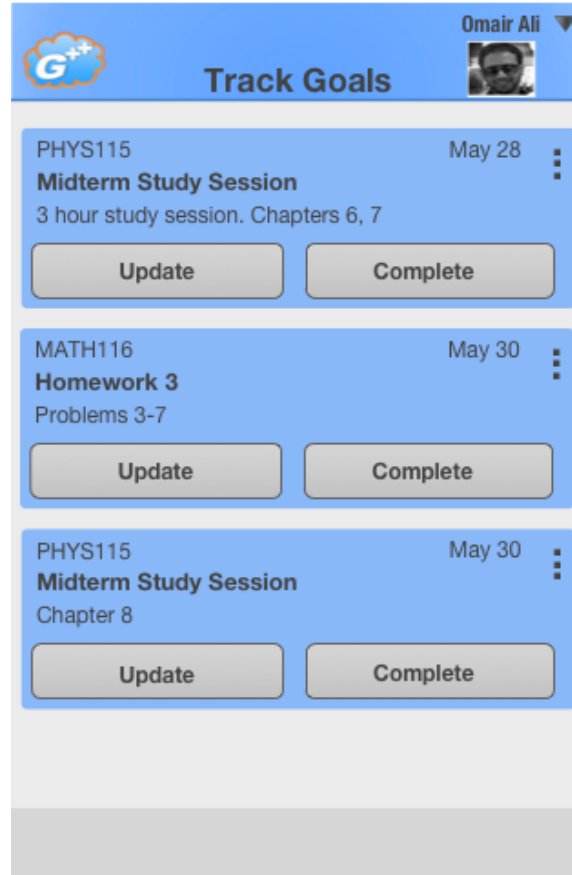
Risks and Rewards

Based on user feedback and for consistency these elements were re-designed to match the style of Tests and Assignments.

The wireframe shows a mobile app interface for a course titled "PHYS 115". At the top, there is a blue header bar containing a logo with a "G++" symbol, the course name "PHYS 115", and a user profile for "Omair Ali" with a dropdown arrow. Below the header, the interface is divided into two main sections: "Potential Risks to Goal" and "Rewards". The "Potential Risks to Goal" section has a light blue background and contains a text input field with the placeholder "enter potential risk...", followed by the label "Prevention Plan" and another text input field with the placeholder "enter prevention plan...". The "Rewards" section also has a light blue background and contains a text input field with the placeholder "enter reward..", followed by the label "Earned upon successful completion of" and a dropdown menu with the text "select task" and a downward arrow. At the bottom right of the screen, there is a grey button labeled "Done".

Track Goals

The track goals module received positive feedback from users for its simplicity and efficiency. Based on this feedback the design was altered to remove a step in the sequence and thereby create an even more efficient process. Whereas previously a user would need to select "Not Complete" prior to seeing the "Update" option, the new design now has a user directly select the "Update" option.



Fonts

For this application a clean and legible font was desired. Helvetica Neue fit this criterion quite well and was chosen as the main font for the entire application.

Text Size

User Name: 12 pt Condensed Bold
Header: 18pt Bold
Sub-Headers and Buttons: 12pt Bold
Labels: 12pt

Text Colour

The colour chosen was meant to be easy to read yet not so harsh as a full black colour. For this reason, Tungsten was chosen as the main colour for all text within the application. For input

box hints Aluminum, a lighter shade, was chosen. For active buttons white was chosen to contrast with the blue fill.

Theme Colours

The colour blue was chosen for this application since it has been said to be motivational. Darker tones of blue as well as silver are being used for the outlines of the elements in the screen. A very light shade of gray was chosen as the background to go along with the blue and silver theme.

Colours used for Salience

Orange - since this is blue's complementary colour it was chosen to be used with elements that demand attention. The logo has been outlined in orange and feedback messages from the system are held in an orange container.

Colours used for Button States

Gray fill for inactive buttons, Blue fill for active Buttons.

Omair Ali ▼

Coach Selection

8. Not being careful enough has gotten me into troubles at times.

☐ never or seldom ☐ sometimes ☒ very often

9. When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to.

☐ never or seldom ☐ sometimes ☒ very often

10. I feel like I have made progress toward being successful in my life.

☐ never or seldom ☐ sometimes ☒ very often

11. I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.

☐ never or seldom ☐ sometimes ☒ very often

Submit

FINAL MOCKUP EVALUATION

Assessment of affective and emotional impacts

Since the Goals++ application is meant to be used as a motivation tool which can help users overcome obstacles and achieve their goals, it is important to evaluate whether the system feedback mechanisms will have the desired effect on a person's mood and motivation levels. Two forms of testing were undertaken: a survey measuring motivation impacts of feedback messages given scenarios as well as a smaller-scale test which asked testers for their mood after being shown a screen for a few seconds. As the survey did not follow the methods taught

in this course it will not be discussed in this assignment but is available upon request for anyone interested.

The Mood Test

Objectives

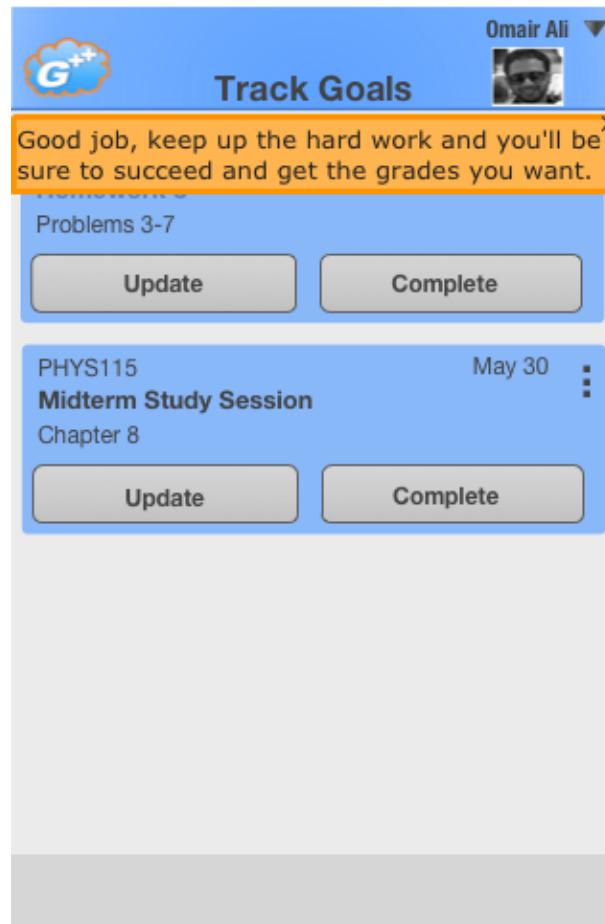
For the mood test the aim was to have at least 70% of the participants react either positively or negatively based on the context of the given test.

Method

For this test, each user was given three scenarios to explain the context of the screen they were about to be shown.

1: Promotion Coach Feedback

In this test, the user was given the following scenario: You just completed one of your tasks. The following screen shows feedback from your coach. The user was then presented with the screen shown below for 5 seconds.



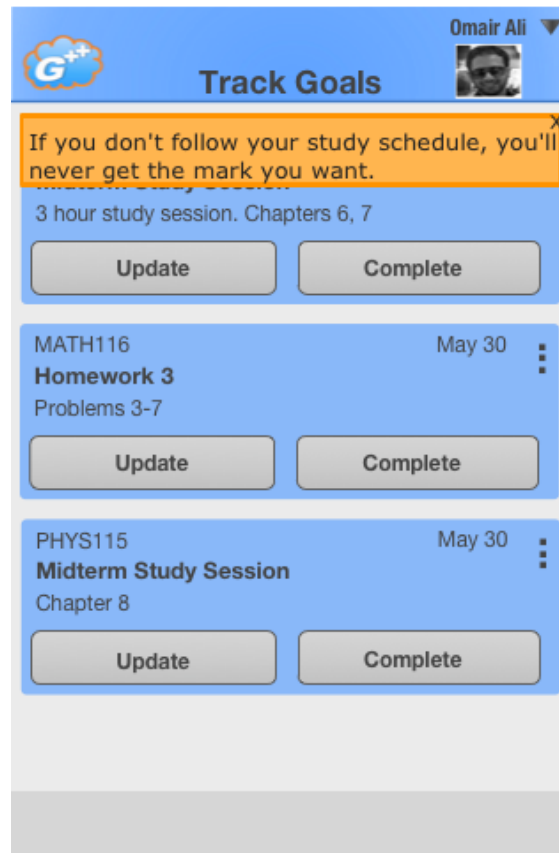
After seeing the screen the user was asked to select how he or she felt from the following options: Happy, Sad, Indifferent.

The user was then asked to provide a reason for his or her selection. This test can be viewed using the following link:

<http://verifyapp.com/o/e563f242702e3cb77ad493a3451ff8854013ce99?preview=true>

2: Prevention Coach Feedback

In this test, the user was given the following scenario: You did not complete today's task. The following screen shows you feedback from your coach. The user was then presented with the screen shown below for 5 seconds.



After seeing the screen the user was asked to select how he or she felt from the following options: Happy, Sad, or Indifferent.

The user was then asked to provide a reason for his or her selection. This test can be viewed using the following link:

<http://verifyapp.com/o/5dbd1125ece4f5e1e2a4bafc3901e2982768fda8?preview=true>

3: Garden Concept

In this test, the user was given the following scenario: You just completed one of your tasks. The following screen shows feedback from your coach. The user was then presented with the screen shown below for 5 seconds.



After seeing the screen the user was asked to select how he or she felt from the following options: Happy, Sad, or Indifferent.

The user was then asked to provide a reason for his or her selection. This test can be viewed using the following link:

<http://verifyapp.com/o/5197e5d6d06be37898f743559355b15e812ca4aa?preview=true>

Results

There were a total of 11 participants for this test. The general results can be summarized as follows:

Test	Intended Emotion	Happy	Sad	Indifferent
Promotion	Happy	7	0	1
Prevention	Sad	0	5	3
Garden	-	2	4	5

Discussion

The results for the promotion coach feedback seemed indicate that the message is being well-received and having a positive impact as designed. The one user who felt indifferent stated the message was “not motivational enough”.

The results for the prevention coach feedback were somewhat mixed between users feeling sad and indifferent. The intention was for users to feel somewhat saddened by the critical feedback. Users who felt indifferent stated that the message wasn’t really motivating and that grades weren’t a priority.

The results for the garden overview screen bring out a point that should be further investigated: not all users are interested in gardens or flowers. The general feedback from users who said they were indifferent was that they either don’t care much about flowers or felt that the wilting/blooming concept could be improved and made more clear. Other users felt either happy or sad depending on whether they focused on the blooming or wilting flowers, this is as expected.

Evaluation Goal++ as a Persuasive Technology

The ultimate goal of Goal++ is to motivate users to set goals, set rewards, work towards achieving their goal by setting and achieving intermediate steps and ultimately continue using the application in the long term. The design of the application was directly along the lines of persuasive technology, and utilizes many of the persuasive technology concepts. The use of rewards, feedback messages, tasks reminders and the “garden concept” are persuasive design features of dialogue support that contribute to the fact that goal++ is design as a persuasive technology.

The software utilizes Incentive Theory, forcing the users to get into the mindset of setting rewards for achieving specific goals, and using this as a motivating point to work towards their goal. Users are allowed to check their rewards that are set at any time, reminding them of what they are working towards.

Feedback messages are also given to users upon completion and updating of tasks, to further motivate the user to continue with achieving their end goal during the intermediate steps. When the user completes a task, the user is praised through positive feedback messages to boost their emotional self-esteem. When the user tries to update a task that may contribute to a failure of meeting their goal, a reminder message is displayed through feedback messages to remind them of their goal and to reinforce that they may not achieve it with their current update.

The garden concept acts as a visual reminder of their current progress. When the users see a wilting flower, or the equivalence in their garden, they are expected to feel a negative emotional response to their goal achieving status through visual effect, and be motivated to try harder to achieve the goal that they had originally set.

APPENDIX A

Feedback Survey

Please describe, to the best of your abilities, how the hierarchy of the system works.

How easy was it to use the application?

Very Hard				Very Easy
1	2	3	4	5

How easy was it to update your tasks?

Very Hard				Very Easy
1	2	3	4	5

How useful are feedback messages after completing a task?

Not useful at all				Very useful
1	2	3	4	5

Do you prefer home screen A or home screen B?

Home Screen A				Home Screen B
1	2	3	4	5

Would you use this application over your current method of setting academic goals?

No		Would consider		Yes
1	2	3	4	5

Did you experience any emotional response during the use of this app?

Negative Response		Neutral		Positive Response
1	2	3	4	5

No Arousal (Calm)				High Arousal (Excited)
1	2	3	4	5

Would you recommend this app to a friend? (Please Circle) Yes / No

Final Comments: