

Usability INFO30004 Assignment 2 – Design and Evaluation

Transport Trevor

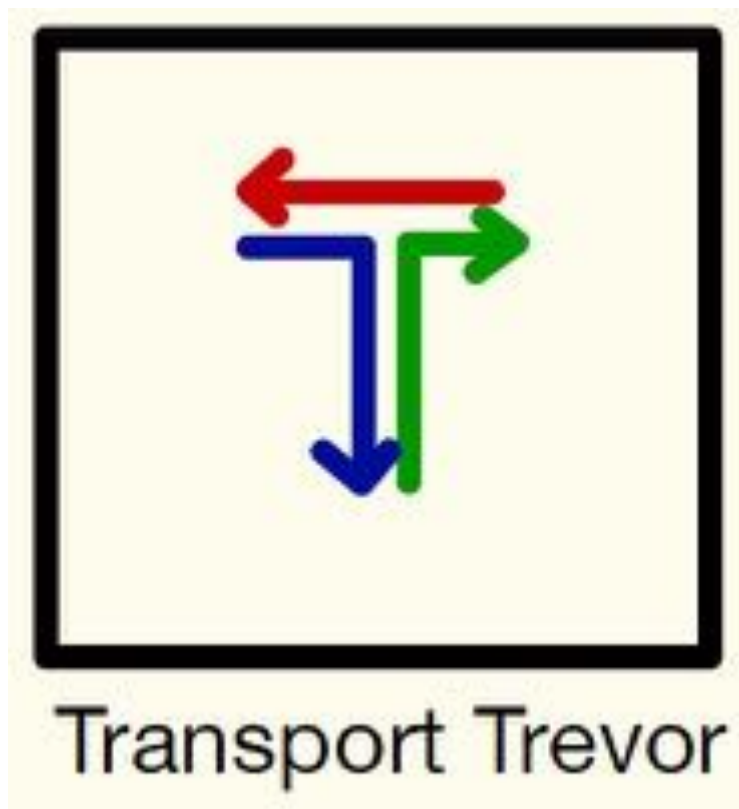
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1. Executive Summary

The Second part of the assignment involved the reassessment of the smartphone app 'Transport Trevor', taking into account the recommendations from the previous report and implementing them in order to make the app more intuitive and simple, then have other students act as participants to carry out tasks set to test the application. Furthermore additional tasks were created and a task from the previous assignment was removed. The 'Journey Planner' task was removed as it was decided that with the restrictions of the programs provided the problems in other apps would not be able to be adhered to. The tasks added are, the use of the information button to aid in the use of the journey planner, and to check for disruptions on particular routes. The recommendations made were, that the steps taken in order to complete a task needed to be clearer, that there needed to be more visual feedback to the user when a task was completed, and that the "favouriting" system was needed to be more intuitive.

These problems were adhered to and attempted to be resolved. An information button outlining the actions of each button on the particular page was introduced in order to make the tasks more clear, as users are able to use the button at point when they are unsure of what to do. The "favouriting" system was re-designed to be more intuitive and measures were taken to increase the visual feedback to the user when a task was completed. The disruption task was designed to be simple and easy to use, with the incorporation of the users favourites, the disruptions relevant to the user are displayed first, in order to reduce time that the user would take to find disruptions they want to find.

Using the program Axure, a digital prototype was constructed for participants to use out application (as seen the section 5: Digital Prototype). The usability test was set up such that, each participant was instructed to carry out a set of tasks and their actions were recorded, then after each task were completed the participant was asked a set of questions relevant to that task. Each participant had a video recording of them carrying out each task and a video recording of the screen as they did the task. 'Eye tracking' technology was used to track the areas of each page to see what the user was attracted to look at whilst carrying out the task.

After the usability test was carried out the eye tracking data was collaborated into heat maps, the questionnaires were compiled along with general observations made by the facilitators, and the results of the testing was created. It was found that the button to take the user to the Myki top up page was unclear that it was in fact the pathway to get to the top up page. Furthermore the participants found that there was little visual feedback when tasks were completed, more so, that the feedback that was put in place was too indistinguishable. The information button was found to be unhelpful to our users as they were quite literate in the use of smart phone applications, though a comment was made that for users that are not so literate this information button could be useful. However each participant found each task easy to complete, completed it in a reasonable amount of time and were able to work out problems that occurred after one attempt.

Recommendations that would be made in order to fix or alleviate the problems would include, making the button for the Myki top up system include a label specifically saying that it is the pathway to the top up system, creating easier to see messages for the favourites and disruptions pages, and creating an automatic information pop ups.

2. Re-Statement of Problem

Following a history of criticism, public transport apps that continue to frustrate Victorians in their daily commute need vast improvement. Being labelled as the 'worst app ever' and another user commented 'Whomever updated this app to such poor standards should reconsider their career path' (Levy, 2012). Such outrage has sparked the need for a new application that is appealing to a vast majority of the commuting population, so that it can address many of the bugs that have impacted the applications in the past. Currently widely used applications such as PTV, Tram Tracker and Train Trapper offer similar software solutions to navigating through Melbourne's public transport network. Whilst combinations of the apps serve as an effective way to plan commuting through the network, a proven issue is still finding an efficient method instead of using a mixture of all applications. All systems thus far have their advantages and disadvantages and ramifications of this include constant frustration from the users. The main issues identified include a simple journey planning function, which governs the route and mode of transport. This is primarily due the clarity of some of the functions.

Some applications have proven better than others in the past but in particular the PTV app has struggled to provide a user friendly solution. In addition there are other hardware issues that limit the performance of a journey planner such as network capabilities within the city loop. Other issues identified include using an application to track the Myki system. Currently no applications have recognized the upgrade in technology and a key issue that travellers identify is that they have no method of tracking their Myki balance and therefore topping up at stations can be a lengthy or hassling process. Finally isolating disruptions and providing communication to users is another focus for the revamped application as current software options have provided a substandard approach that seems confusing and impractical. The proposed Transport Trevor public transport application proposes to include new features including the Myki function in addition to improving the journey planner and disruptions feature. This is important to the users who need a user friendly option. In the past commuters of all ages and levels of technology literacy have struggled to comprehend with the challenging journey planners and as technology advances it should become easier for everyone as a whole to communicate with the network. In particular the new application will focus on targeting younger and elderly commuters, in addition with tourists who are not familiar with the current network. By trying to 'dumb down' some of the features it will allow a wide spectrum of use from all age groups and so the experience as a whole can be enhanced.

Findings in the earlier stages of development were, the Myki account management system was quite useful and could alleviate major problems that occur with commuters, which is a major step ahead of any other transport app. However problems have occurred in the development of the app and in the early stages of testing. This includes unclear methods of achieving completion of tasks in almost all areas, systems such as the "favouriting" system needed to be more intuitive, and more noticeable visual feedback in order to let the user know when an action was completed. The next stage of development would require developers to adhere to these problems to make the app clear on how to carry out tasks, making the buttons and actions more intuitive to the user.

3. Users

The total audience for this application includes people who already own a smartphone and use public transport in the city of Melbourne. This covers people of all ages who either live in Melbourne permanently or use public transport nearly every day or tourists who are very new to the layout of the city. Although the audience for Transport Trevor is very broad, a smaller section of users was chosen for the evaluation due to our limited resources.

Target Users for Usability Test: Melbourne Students

In the User based Evaluation, the younger generation who have used smart phone applications and frequently use public transport, for example, students, and people between the ages of eighteen and thirty were the target user. This included both students who had lived here for the majority of their lives and those who were on exchange. These different perspectives will give great results to how functional Transport Trevor is to a wider audience. The students are also very preferable because they are very comfortable using smartphone type programs and presumably have used other travel applications before this test. The app has been designed to be usable by people outside of this target audience for example, tourists and middle age people who occasionally use public transport.

In the usability experience test we had a range of participants who were quite close to our target users, the participants were young students who ranged in frequency of the use of smart phone transport apps and in the use of public transport. It was found that it was important to identify 'people who are familiar with their devices and have been using them for at least 3 month' (Budi, 2014). It would also be valuable to expand on the different types of users for the usability test to discover how Transport Trevor is received by the other potential groups. This would offer information on how the application could be changed to accommodate other users and design a more comfortable experience for these people.

4. New Task Description

The four tasks from assignment 1 were:

1. The Myki top up system
2. Dealing with disruptions
3. Journey planner

The journey planning tasks was excluded from the new set of tasks for this assignment, due to the belief that there was nothing new being implemented in the journey planner. The journey planner from assignment 1 was very much a standard journey planner, and it was decided that assignment 2 wanted to focus more on new and original ideas. Another reason for excluding the journey planner was the limitations of the program used to design the high fidelity prototype, Axure. A journey planner would require a lot of depth in design in order to be able to test in effectively. This amount of depth and complexity was simply unable to be done using Axure.

The two new tasks added for assignment 2 are:

1. Information button
2. Favourites system

The information button was added due to the findings brought forward from the previous assignment, which revealed that a lot of the applications features were very unclear, and required some clarification prior to successful use. Without this clarification, the task could often not be completed (Specifically the journey planning task). The addition of this information button provided this clarification needed to users.

The favourites system was something that featured in the assignment 1; however it was very much glossed over in terms of its depth of function. The favourites system was then decided to be brought into focus as a task in itself, because of its integration with other tasks, which was thought to be an interesting concept. The favourite system was able to be displayed in full effect, by first selecting a certain stop as a favourite, and then select it again in the disruptions menu in the testing (Found in section 6).

Task 1	
Name: Topping up your Myki account	
Frequency: Whenever it's low	
Significance: Critical significance, must have valid ticket in order to travel	
Issues: Current system is upsetting, waiting to top up at the station leaves to much chance of missing your train due to a cue. Also the current Myki machines are incredibly slow, and often confusing to first time users, as well as more elderly and less technology savvy users.	
Technology: Current technology involves slow and confusing myki top up machine, smartphone app will circumvent this.	
<i>User Actions</i>	<i>Interface Feedback</i>
Step 1: Proceed to Myki account page	Menu will provide options to either Top up, check your touch history, change settings or change myki account.
Step 2: Select Top up	A pin will be required to continue, as a debit/credit card will be required to make payment.
Step 3: Select amount	Choose from either a pre-set amount, or enter a custom amount you wish to top up. Interface will acknowledge payment with a message.

Task 2	
Name: Favourites	
Frequency: For most used stations/routes	
Significance: Provide easy and rapid pathway to your most used transport	
Issues: Finding travel information for a specific route can be tedious and long, this provides a much easier way to find information, for routes you plan to use more than once.	
Technology:	
<i>User Actions</i>	<i>Interface Feedback</i>
Step 1: Proceed to favourites option from menu	Will be taken to screen that allows you to search for the station/route you wish to add to favourites
Step 2: Enter station/route details	The page will pop up with a message, letting you know that your favourite selection, was successful

Task 3	
Name: Disruptions - Find out about specific disruptions. First check any that are from your saved favourite stations, then search disruptions on tram line route 1 and also add it as a favourite afterwards.	
Frequency: Every trip	
Significance: Disruptions are a common occurrence that commuters experience during the use of public transport, having the ability to find out about disruptions prior to using the particular type of transport that the disruption effects allows the user to make changes to their journey in order to reduce the time getting to their destination.	
Issues: Ensuring disruptions that appear are relevant to your current location/planned journey (I.e. No point being bombarded with disruption notifications if you aren't even planning on using that train or tram line)	
Technology: Disruption page, notification system, integrated with favourites system (Task 2)	
<i>User Actions</i>	<i>Interface Feedback</i>
Step 1: User selects disruptions from menu	Disruption page will open, allowing you to either select your previously favourite stops, or search a new station/route for disruptions.
Step 2: User reads from list of disruptions (If any are found) and can then plan their journey accordingly	List of disruptions occurring on the day and any planned disruptions to service occurring in the near future will be displayed

Task 4	
Name: Using information button, clarify any confusing elements to Transport Trevor	
Frequency: Located on each page	
Significance: Can possibly avoid catastrophic error, in regard to completing a task, thus it is a very important feature to users who are not familiar with smartphone/transport applications (e.g. elderly, first time users)	
Issues: Making it clear to users what the information button itself is used for, without distracting too much from the current page	
Technology: A small button located in the bottom of most pages, which will lead to an explanation of all features on the current page	
<i>User Actions</i>	<i>Interface Feedback</i>
Step 1: User will get stuck on a certain task, then select the information button	A message, or series of messages, will pop up and explain all the features on the current page, and hopefully clear up any confusion for the user
Step 2: User will then close the message or series of messages	Interface will return to normal, and user can get on with the task he/she wanted to complete

5. Digital Prototype

The digital prototype that will be implemented will provide a high-fidelity model which will have complete functionality, will be fully interactive and is driven by the test participant. The prototype will show an efficient navigational scheme, and should have a look and feel that may represent the final product. A decent 'User Interface Design focuses on anticipating what users might need to do and ensuring that the interface has elements that are easy to access, understand, and use to facilitate those actions' (U.S. Department of Health & Human Services 2014). The digital prototype will contain specific and significant improvements to the paper prototype in the first assignment and will have the capability to complete the tasks specified above. Other improvements to additional features contained in the application prototype can be produced if further implementation is pursued.

Home Screen



Significant thought process was put into the design of the homepage. From previous experience with public transport applications users have found that the homepages have been unclear. Addressing the menu functionality wasn't a specific objective that we were trying to achieve but we have realised that in general, public transport applications should be simple so that maximum efficiency can be prioritised when completing the tasks. The four icons in the middle of the screen represent the tasks that we would like to be carried out for the testing process and will hope to be implemented if the design carried through. The other task is the Myki top-up function, which is un-labelled, however is reliant in the intuitiveness of the user when realising its function. Also if new users are unclear on the operation of the Myki task they can consult the information button for additional clarity. The second image illustrates the information icon, which when clicked on has the functionality to provide assistance when navigating the homepage. Hopefully this should mitigate issues associated with clarity for new users of the application.

Task 1: Top up your myki using a pre-set dollar value

Task 1 provides a re-implementation of the Myki top-up system from the paper prototype in assignment 1. The task involves using a pre-set value to top up your Myki so that it can be used for future travel. The benefits of this task include that the top up process can be completed within a minute at the train station and is proven to be more efficient than queuing for the top-up machines on occasions.



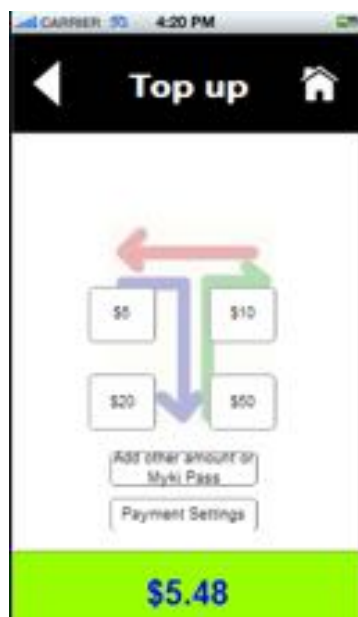
1 – Press the green icon to access the Myki account management for top-up.



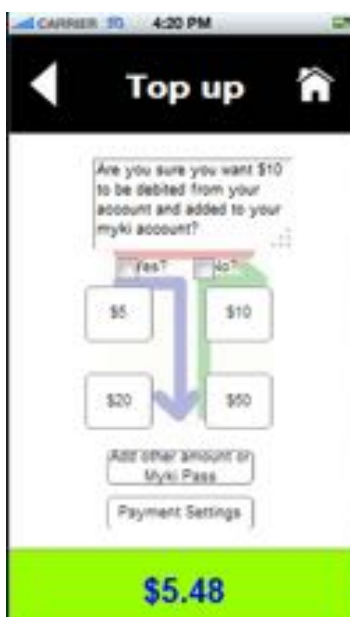
2 – Select the top up option so that the Myki card can be loaded with additional ...



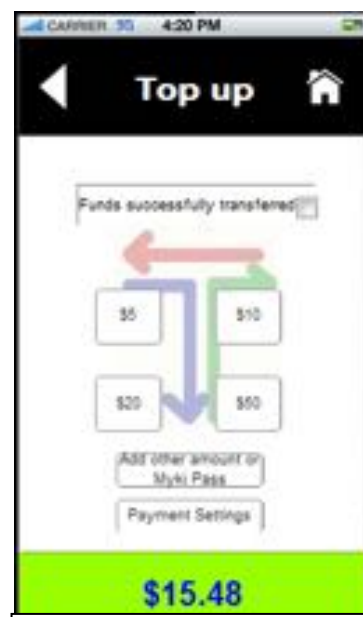
3 – Type in your pin which links your Myki card to your desired bank account.



4 – Choose one of the dollar amounts to top up your Myki with.



5 – A pop up box will ask whether you want to go ahead with the operation.



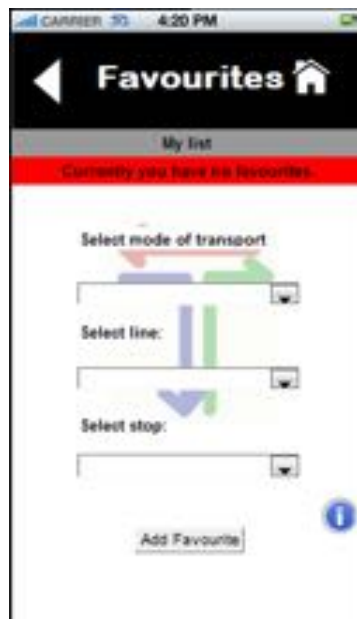
6 – When the transaction is complete the Myki money will be updated.

Task 2 – Set a Favourite stop/station

The task asks the user to set Heidelberg station, which is on the Hurstbridge train line, as a favourite stop.



1 – Press the favourites link on the home screen to access the favourites page.



2 – The favourites page will show by default that you have no favourites until you fill out the form



3 – When the form is complete, the desired stop/station will appear at the top of the page.

The Favourites Page was designed to add simplicity into our application so that the users are able to efficiently navigate through the dialogue each time before they catch public transport. Findings from assignment 1 indicated that our favourite's option from within the journey planner function seemed too arbitrary and unintuitive. Resultantly a new task was created which can allow the user to pin point their favourite stops and easily navigate to them when required. We decided to include bright colour schemes, i.e. the red pop up identifying that 'you have no favourites', as well as the blue pop up, indicating that you have made 'Heidelberg station' a favourite, as indicated above in the provided graphics. In addition a notification appears on slide 3 which lets the user know that there is an additional favourite stop added.

Task 3 – identify disruptions

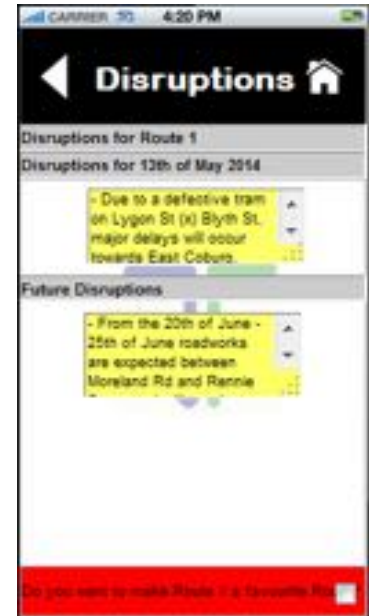
The task asks the user to find out about specific disruptions. First they should check that they have any disruptions from their saved favourite stations, then they have to search disruptions on tram line route 1 and also add it as a favourite afterwards.



1 – Once in the disruptions page, press the checkbox to identify disruptions for the Hurstbridge line.



2 – If there are any disruptions, they will pop up, and then proceed to fill out the form and press search.



3 – The disruptions will appear, with an option to add route 1 as a favourite disruption route.

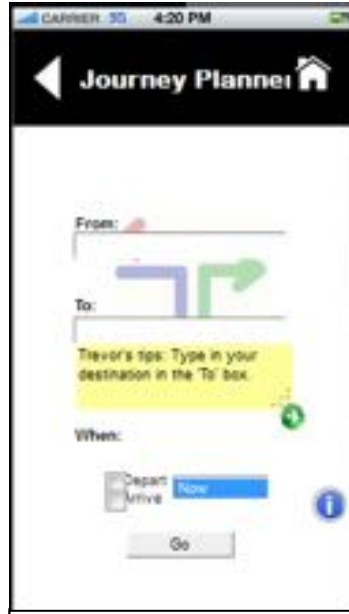
The disruptions function was expanded from assignment 1 to provide a more user friendly application. The proposed paper prototype from Assignment 1 enabled the user to search for a prescribed station/stop by using a search button. From there, hoping the user had the intuitiveness to recognise a 'heart' button, they could add a favourite disruption for further use. As seen above, the interface is quite simple and during the user-testing phase, participants can have the potential to identify the popups to add new favourites and view disruptions from the highlighted sections. Further implementation of the overall application can have the scope to enable users to set a pop up notification process which appears on the homepage of the smart phone, identifying the user of any issues or disruptions on their favourite modes of transport.

Task 4 – Use the information button to facilitate the journey planner function.

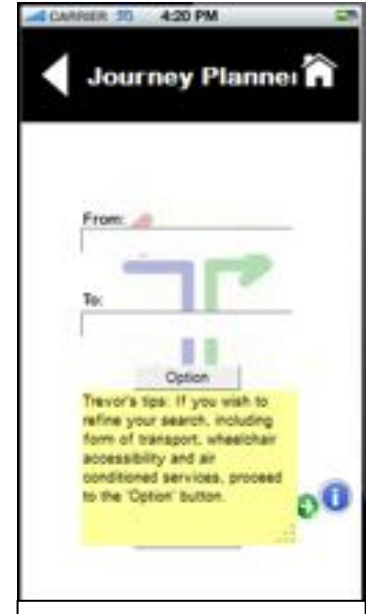
Following the recommendations from the first assignment, the journey planner was to be discontinued because of the lack of clarity, and the function seemed too complex for the Axure software. As a result a simple information system was developed to enable the user to navigate through a sample journey planner, so that they could fully identify all of its capabilities.



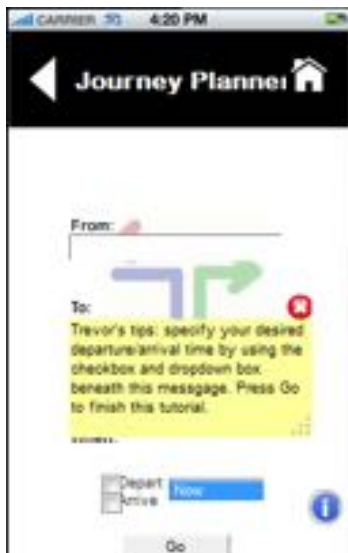
1 – Once in the journey planner window, press the information button to aid you typing details into the 'from' box.



2 – After pressing the green next button, users are prompted to enter their destination in the 'to' box.



3 – After pressing the green next button, users are prompted to refine their search using the 'option' button.



4- The last prompt is to select the appropriate departure/arrival time, and then the tute is complete by pressing 'Go'

By having a thorough description for using the journey planner function, users should be able to fulfil their needs and successfully navigate through the app. During the design phase, it was noted to highlight the importance of not having red 'x' arrows on the dialogue boxes except for the last one, so users had to follow through with the tutorial if they were required to use it. This information function has mainly been implemented for users with a less technological skills, and so they are still able to use the complete functions of the application.

6. Method

Objectives:

- To discover whether or not Transport Trevor is clear and easy to understand and perform the 4 outlined tasks, those being:
 - Topping up your Myki
 - Selecting a favourite station
 - Checking disruptions
 - Using the information button, to help you plan a journey
- To ensure there are no errors/flaws in the design that would lead to failure of a task
- To specifically check that the Myki account button, located on the menu page, is clear enough to be accessed without prompting.

User Based Evaluation Procedure

In order to find relevant data to answer the above objectives, the eye-tracking software was chosen for assessment, as it seemed to be more relevant. The objectives above all relate to clarity and the intuitiveness of the design, thus being able to analyse where on the page the users was looking when trying to complete the tasks, will have an immense impact in understanding which parts of the task are confusing the user, and how the design can be improved. Thumb-tracking analysis would have been less useful, as if a user is encountering difficulty, there thumb-tracks would be of less help in understanding why.

Pre-test Interviews

All participants were first required to sit a pre-test interview. This interview simply sought to find the background of the user, such as where they lived, and how often they used public transport/public transport applications. This background then provided context to the test results.

The Pre-test interview consisted of the following questions

1. How far away from the city centre do you live? What zone?
2. How often do you use public transport?
3. Do you plan your trip? How do you plan your trip?
4. If you use apps, which do you use?
5. What are some things you dislike about the current forms of planning and public transport in general?
6. Some things you like?
7. Are you satisfied with the top up process? (if they haven't already mentioned it)

8. Do you know exactly how much each trip costs?

The participants were then asked to use our application and complete four tasks, with eye-tracking analysis operating. After each task the participants were then asked a series of questions relating to the task just completed, notes were also taken of the participants suggestions.

Task 1: Myki top up

The first task the participants were asked to complete, was to use the Myki account management system, to top up there Myki a pre-set amount of their choosing.

The following questions were asked after task 1

1. Was the task uncomplicated?
2. Did you find anything confusing or difficult?
3. Would you prefer to use other methods to top up?
4. Did you notice the change in your balance as you topped up?
5. Was it clear that the balance on the home screen was the pathway to top up?
6. Did you know you had completed the task and the information saved?

Task 2: Favourites

The second task the participants were asked to complete, was to use the Favourite section and to select Heidelberg station, on the Hurstbridge line, as a favourite train station.

The following questions were asked after task 2

1. Was the task uncomplicated?
2. Did you find anything confusing or difficult?
3. Did you know when it had been successfully added?
4. Would you use a favourites feature on apps?
5. Was it clear what the favourite system does?

Task 3: Disruptions

The third task the participants were asked to complete, was to use the disruptions section to check their new favourite station, Heidelberg, for disruptions. The participants were also asked to check the route 1 tram line for disruptions, and then also save it as a favourite afterwards.

The following questions were asked after task 3

1. Was the task uncomplicated?
2. Did you find anything confusing or difficult?
3. Was it clear that the tram route had been saved as a favourite?
4. Do you think this feature would be helpful to your travels?

Task 4: Information Button

The fourth task the participants were asked to complete, was to use the information button on the journey planner page, to help them plan a journey.

The following questions were asked after task 4

1. Was the task uncomplicated?
2. Did you find anything confusing or difficult?
3. How does the journey planner compare to ones in current apps?
4. Did you find the information button helpful?
5. Why? /Why not?

Post-test Interview

The participants were finally asked to sit a post-test interview, where a general run down of the application was done, and the participants were asked for any final thoughts on the design of the application, and what rating out of 5 they would give Transport Trevor.

The post-test interview consisted of the following questions

1. Do you think that an app such as this could benefit your travels around Melbourne?
2. Was there anything you thought could be improved or changed about the app?
3. Anything you disliked? Anything unnecessary?
4. Anything specifically you thought was good?
5. Comments on the look/feel of app:
6. Give Transport Trevor a rating

The interview questions were very helpful in learning the user's feelings towards the design of the application; their answers provided great insight into the issues still remaining with Transport Trevor. A detailed look at the results of the user based evaluation can be found in the next section, titled 'Results'.

7. Results

The following section will comprehensively outline the findings and results from the user-based evaluation and gauge how the participants responded to the public transport application.

Pre-test questionnaire findings:

The participants were all university students who frequently commuted via public transport. They all used public transport applications to plan their journeys and had mixed responses in regards to their functionality. It was important to note that they didn't have any concerns about the Myki top up process however commented that the top up facilities at stations are inefficient. The complete questionnaires can be found in **Appendix**.

Task 1: Myki top up function:

The Myki top up function was the most time consuming task as it relied on a number of pages to facilitate the process. The following heat maps provide an overview of the user based evaluations.



Figure 1 - Homepage Myki top up

Figure 2 - Top up page Myki top up

Figure 3 - Pin page Myki top up

Figure 1 illustrates that the user had issues when trying to identify the green Myki link at the bottom of the page. This could be factored due to a clarity issue. Post task questions identified that the Myki link from the homepage was un-intuitive and that users couldn't necessarily identify that their balance had been updated following the top up process. However all users complicated of the benefits of facilitating a task that can be completed on the go and can save time compared to queuing for a top up machine.

Task 2: Favourite function

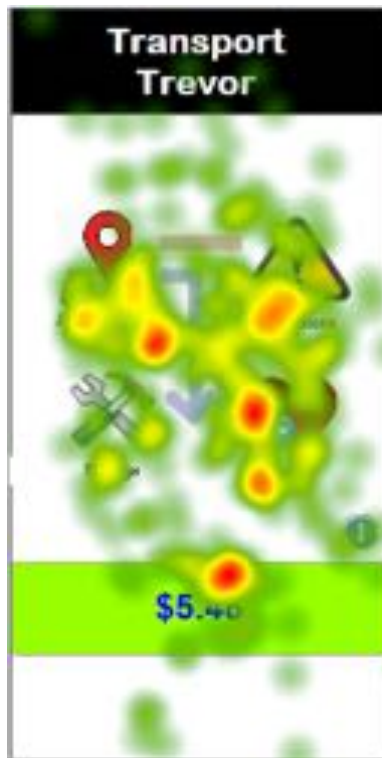


Figure 4 - Homepage Favourite function



Figure 5 - Favourites form Favourite function

The post-testing questionnaire identified that the participants didn't give an insightful response to feedback on the task because it performs a similar function to current transport applications features. One participant (refer to **Figure**) noted that the notification at the bottom of the screen was unclear so it was difficult to identify that the favourite had been added. **Figure 5** also illustrates that the notification that appeared was not captured by the eye tracking software.

Task 3: Disruptions Function



Figure 6 - Homepage disruptions function



Figure 7 - Select favourite disruption - disruptions function



Figure 8 - input disruptions form - disruptions function

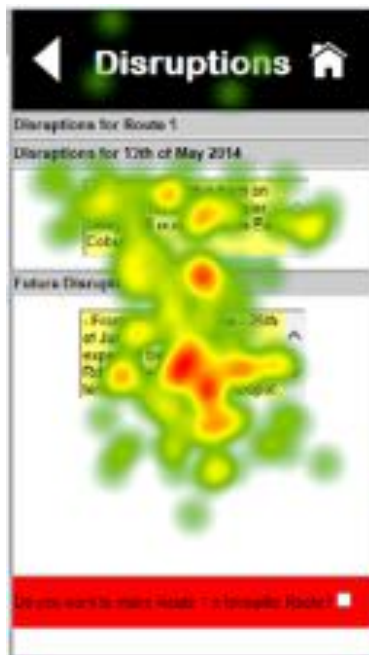


Figure 9 - search disruptions for route 1 - disruptions function



Figure 10 - select route 1 as a favourite disruption - disruptions function

The disruptions function didn't facilitate much feedback from the participants, and they found that the disruptions function would be a vital component for further implementation. The only recommendation was that the favourite disruptions could be clearer on the page, as seen as figure 9 down the bottom, and figure 7 at the top due to the feedback from the eye tracking software.

Task 4: Information button



Figure 11- The journey planner – information function

The journey planner posed the most amount of issues for the user based testing. Many of the participants found that the information button seemed unnecessary as their intuitive nature would enable them to complete the tasks on their own. Some participants found that the green 'next' button was un-intuitive, and seemed pointless.

Sources of error

There are some sources of error that need to be considered when analysing the heat map findings. When conducting the eye tracking analysis the participants had to calibrate their eyes to the eye tracker using the Tobii software. Here some of the results may be skewed, so in some instances the calibration process had to be facilitated a second time. In addition, there are some unknown impacts due to the use of glasses and/or contact lenses on the eye tracking software. This may have had an impact on the heat maps, in particular the screen grabs below:

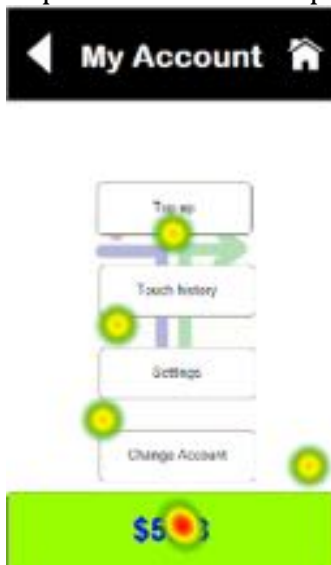


Figure 12- Error Source- skewed data



Figure 13- Error Source - skewed data

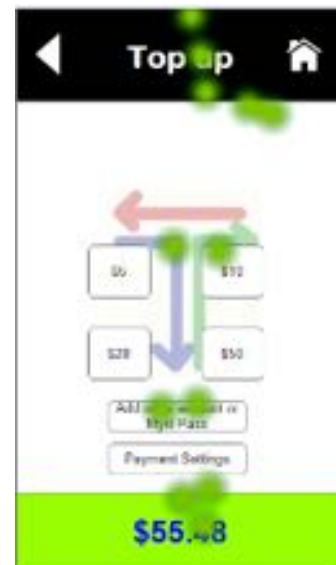


Figure 14 - Error Source - skewed data

7. Conclusions and Recommendations

The following conclusions and recommendations were made based on a handful of participants, all of similar age and background. In order to make more educated design recommendations, further testing would need to occur, on a wider range of participants.

Please Note: Some errors were encountered during the exporting of the data gained from the user based evaluations. As a result, the following recommendations were made using only the data that survived being exported. Please refer to the results section above for more information on the 'sources of error'.

The first task, the Myki top up process was a lengthy task but most of the participants satisfactorily completed the objectives. The key issue though was the link to the Myki top up page (Refer to **Results, task 1**) from the home screen. After identifying the recommendations from assignment 1, the group decided against implementing the button without a title. Instead a compromise was made to have the information button contain dialogue about the specific links on the homepage. Following the user-based evaluation process, many of the users took a substantial amount of time to identify the Myki link, and the user questionnaires provided a similar evaluation. For future implementation endeavours, the Myki money link will should be better labelled, to provide a more efficient process, so it enables the user to achieve the task within their desired timeframe. Another issue that arose was in relation to the pin code page. As topping up your Myki card requires a debit/credit card, users are required to enter there pin in order to complete the task. However, due to a limitation in the Axure program, the pin code was required to be entered too early in the process, otherwise the total balance on the Myki card could not be updated successfully, post top up.

For the favourite and disruption tasks, the users in general were able to complete the tasks required, however their intuitive nature consequently missed some components of the function. For example, the idea to highlight questions about adding a favourite disruption/station was overlooked in some cases. This is evident due to the heat map in figures 7 and 9 in the results section. Here the participant didn't Identify that an added part of the task to select 'route 1' as a favourite for future disruption alerts. Here poses an issue for the design of the highlighted text boxes. Perhaps if the pop up was centred in the middle of the interface the user would more easily identify the option to add the disruption/stop to the list of favourites.

The information button for aiding the users during the usability testing had mixed responses from the participants. The questionnaire provided feedback that many of the participants wouldn't require the information button to complete a journey planning task. This has identified an issue with the usability testing as the only participants were like-minded university students who were technology-savvy. As a result further usability testing would be required so that a range of age groups and levels of education could be evaluated specifically for

this task. Additional bugs were identified by one particular user that by re-clicking the information button, another dialogue box appeared which deemed problematic and time consuming. Other suggestions included if the user could put content in the required fields, and the ‘Trevor’s Tips’ pop-up would automatically appear. This seems more preferable to the green arrow that was implemented during the design stage. Overall the information button worked to its capacity but the target market that tested the function didn’t require the help function because of their intuitiveness with smartphone applications.

Overall, the usability testing provided an accurate gauge of how user-friendly our application is and highlighted its limitation. Our findings recommended that additional testing is required to identify how other age groups would respond to the apps features, and whether it would deem appropriate, every time before someone caught public transport. All of the tasks seemed relevant to the typology of application, in addition to the Myki function being used as a solution to the lack of technology in the current system. For further implementation to be pursued, additional software and/or coding software should be considered as some limitations in the Axure limited the capacity of the applications implementation according to the specific design. In saying that, the prototype created gave a good account of the application that will continue to be pursued.

In Summary

Task	Issue(s)	Resolution
Myki Account Management	<ul style="list-style-type: none"> Link from menu very unclear, causing inability to complete task Pin code page located too early on in the top up sequence, as a result of Axure limitations. 	<ul style="list-style-type: none"> To label the link on the menu, or to implement an icon itself Simply relocate the pin code page
Favourites	<ul style="list-style-type: none"> Unclear pop-up messages, leaving participants unsure how to progress with task 	<ul style="list-style-type: none"> Implement contrasting colour scheme to important pop-up messages, in order to draw the users attention
Disruptions	<ul style="list-style-type: none"> Unclear pop-up messages, leaving participants unsure how to progress with task 	<ul style="list-style-type: none"> Implement contrasting colour scheme to important pop-up messages, in order to draw the users attention
Information Button	<ul style="list-style-type: none"> Users opted to close the information boxes with the red ‘X’ button, instead of the green arrow button, leaving the task unfinished. 	<ul style="list-style-type: none"> Instead of requiring a green arrow button to progress in the information run down, instead have a system that automatically closes and opens the next window, after the current window is completed. (I.e. If current window asks you to type in your destination address, have that window close and the following open when the user finishes typing in their destination address).

8. References

- Budiu, R 2014, Usability Testing For Mobile Is Easy, Neilson Norman Group, New York viewed 25/5/14, < <http://www.nngroup.com/articles/mobile-usability-testing/>>.
- U.S. Department of Health & Human Services 2014, User Experience Basics, Washington D.C. viewed 25/5/14, < <http://www.usability.gov/what-and-why/user-experience.html>>.
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