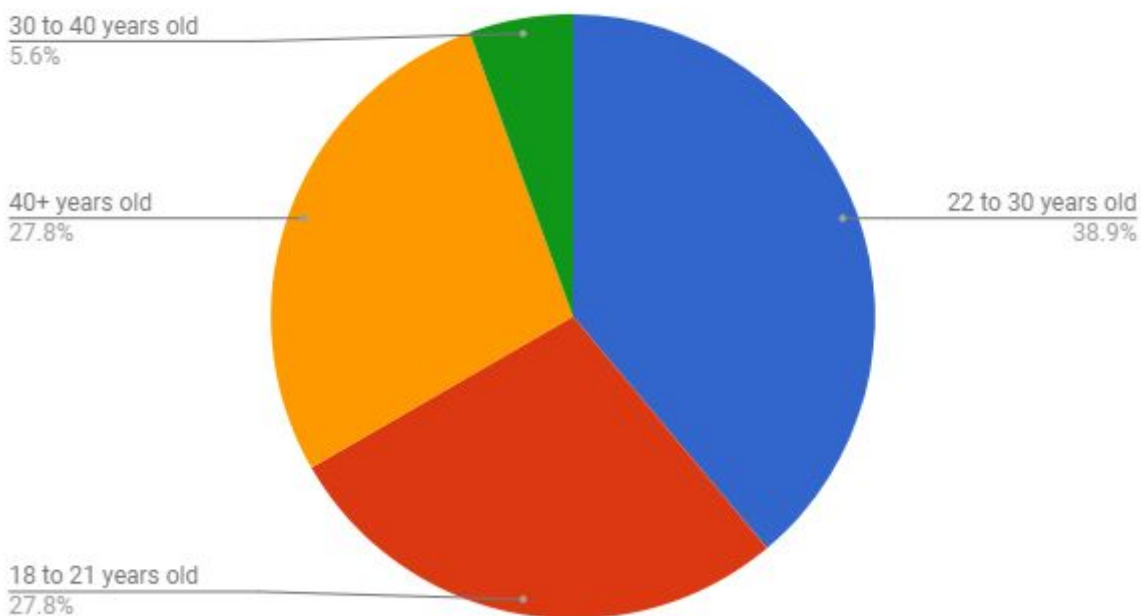


Analysis of Results from Second User Evaluation

Summary

My second user evaluation took place from the 27th to the 30th of April 2018. I had 18 participants with varying ages and technical knowledge. The following was the percentage of participants by age group.

Participants by Age Group



I sourced these participants through contacts in Dublin City University and other general contacts of mine. I did not aim to gather participants under the age of 18 since they were the focus of my first user evaluation. I received very useful feedback through this evaluation with an overall positive trend. Some issues were outlined which I had not considered originally and at least one bug was discovered relating to uploading project files as a zip file using Windows 10. I also learned a lot from the experience of hosting my project in a small-scale production environment in order for people to access it to take part in the evaluation which led me to make some small tweaks to the code to make it more easily deployable in future when being integrated into the existing Zen stack.

The following report breaks down the results that I got in terms of each section of the evaluation and looks at the general trends in each case. It also looks at what I might do going forward to act based on this feedback in order to make my project more user-friendly.

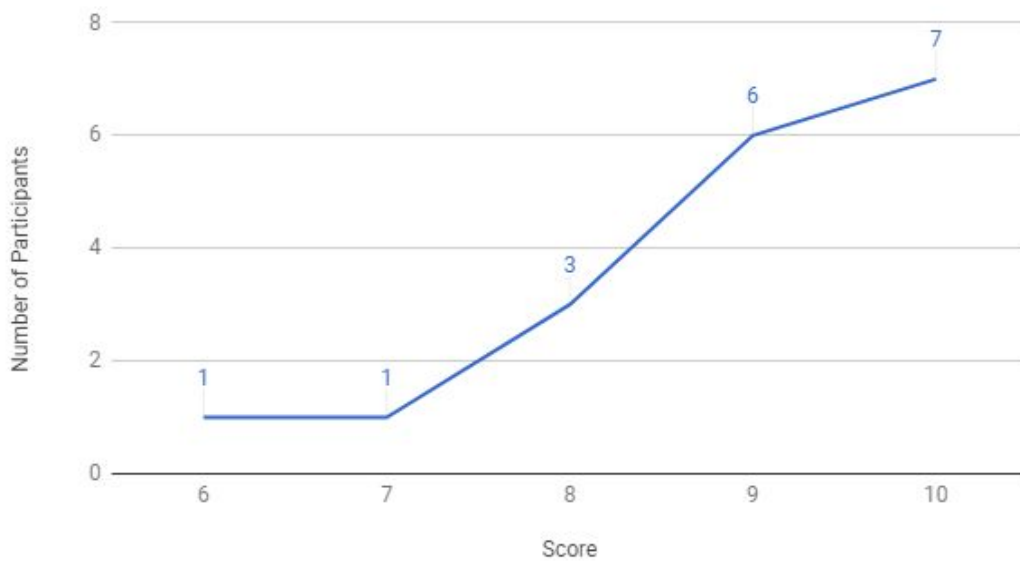
Find & run a project

In this section of the evaluation I asked the participants to find the project named “Scrabble” which was owned by the test user “User Four” and run it. I then asked them the following questions:

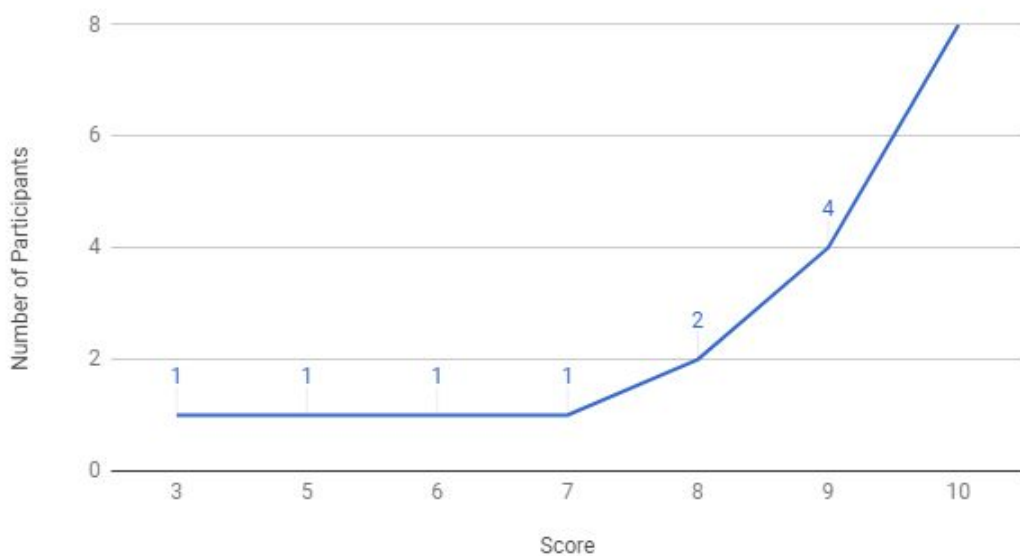
1. How easy was this task to complete? (Scale of 1-10)
2. How intuitive did you find the user interface to be? (Scale of 1-10)
3. Any other feedback? (Open-ended question)

I obtained the following results for question 1 and 2:

Scores for Question 1



Scores for Question 2



In general, the scores for question 1 are all relatively high with some lower scores in question 2. There is a trend towards a larger number of participants giving higher scores which is good. The few lower scores in question 2 suggest there was some dissatisfaction with the user interface here. The results of question 3 should address this since question 3 allows for freely-formed feedback. Below is the feedback I got from question 3 and the corresponding score from question 2 for that participant.

Q2 Score	Q3 Feedback
3	You should label the X & Y axis, pain finding the position. Also, I don't think View Scoreboard worked. The scroll bar also cut off the last row of the board. Overall I think it is quite dull looking and not very user friendly
5	Was unsure if the coordinates were 0 or 1 based. Other than that it was good!
6	
7	
8	really cool to use
8	"newly created" box overlaps when screen of website is divided in half
9	
9	Very easy to navigate.
9	
10	
10	
10	its very clear and user friendly.
10	Very well laid out. easy to navigate and search for the project I was looking for
10	
10	
10	
10	

I can see from this that the dissatisfaction resulting in the lower scores of 3 and 5 for question 2 seem to come from evaluating the user interface of the command-line Scrabble project they were asked to run rather than the user interface of my project. In this case it seems that the question was misinterpreted by the participants and I should have made it more clear exactly what I was asking.

However, it is important to address "The scroll bar also cut off the last row of the board". This is caused by the size of the project runtime terminal which may be too small in its current state. Going forward I would like to improve the sizing of the terminal to better fit the majority of projects. Also, "newly created box overlaps when screen of website is divided in half" is due to the fact that styles for mobile devices are out of scope for the purposes of my project

and will be addressed during integration with Zen. Other than these points I think the feedback from question 3 was mostly positive.

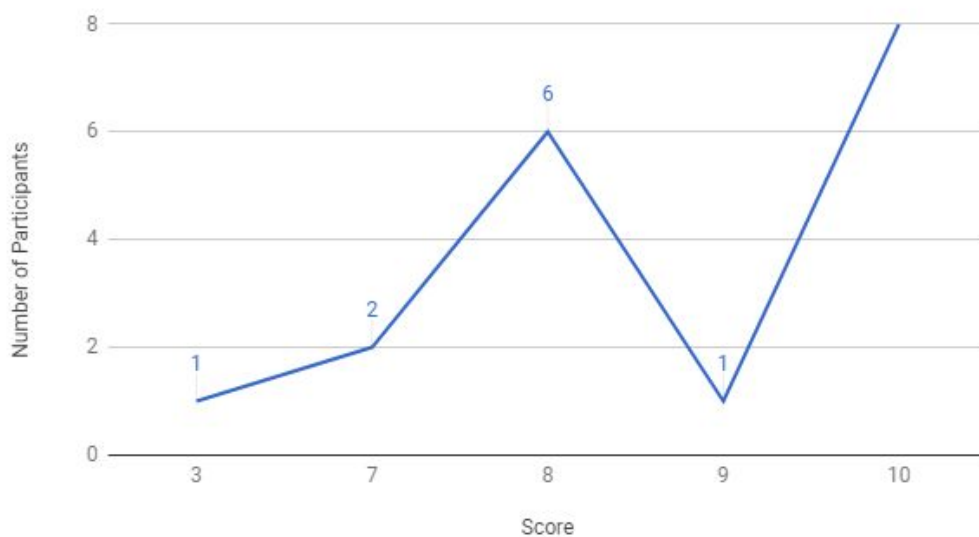
Update a project

In this section of the evaluation I asked the participants to login using the test login details I gave them and update the description of a project owned by the test user they logged in to. I then asked them the following questions:

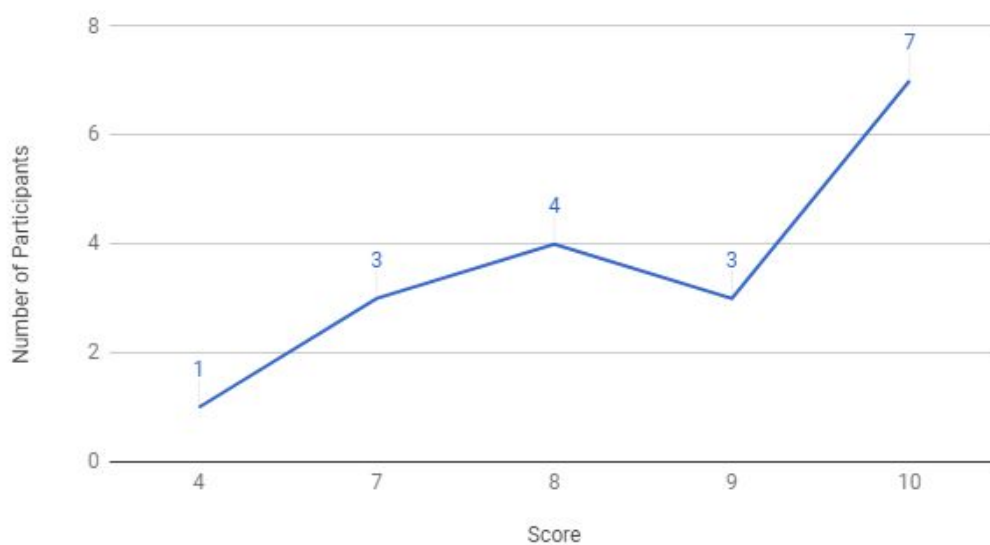
1. How easy was this task to complete? (Scale of 1-10)
2. How intuitive did you find the user interface to be? (Scale of 1-10)
3. Any other feedback? (Open-ended question)

I obtained the following results for question 1 and 2:

Scores for Question 1



Scores for Question 2



Here there isn't a clear trend in terms of number of participants per score, particularly for question one where many participants gave a score of 8 but only one gave a score of 9. This indicates to me that the participants did not find updating a project as easy as finding and running one. Question 3 should provide some insight as to why that might be the case. Below is the feedback I got from question 3 and the corresponding score from question 1 and 2 for that participant since there were low scores in both question 1 and 2 this time.

Q1 Score	Q2 Score	Q3 Feedback
3	7	Didn't know which bubble to press for description update
7	4	Need meta data or something to label the edit button as it was not very clear that it was an edit button, or put multiple edit buttons beside each area so it is clearer
7	7	
8	9	
8	7	
8	8	Very well laid out
8	9	You can't hit return to enter login you can only click on login
8	8	
8	9	
9	10	love the way you can click the header to get back to the homepage. nice touch
10	10	
10	8	Maybe make the edit button a bit more visual or label it. I feel people could get lost looking for it
10	10	
10	10	
10	10	
10	10	
10	8	easy peasy
10	10	I feel like people are going to put swear words in this

I can see from this that there were a few issues with the user interface and with ease of use. There was one ease of use complaint stating "Didn't know which bubble to press for description update". It seems that the participant was unclear on which project bubble to click on after logging in since I did not specify which project exactly that I wanted updated. If this is the case then this again comes down to the questions on the form not being clear enough.

It could also be the case that they were referring to the edit project button as a "bubble" and that they could not easily determine which button it was, which is a user interface issue. This issue was raised by two other participants as well who both suggested that I "label" the button more effectively so this is certainly something I need to address going forward.

Another ease of use issue that was raised was in relation to logging in. The participant stated “You can't hit return to enter login you can only click on login”. This is definitely an ease of use problem since a majority of users will expect return to log them in after they have filled in their login information. Although creating a login system is not a part of my project since Zen already has an existing login system, the simple login system I created exists to stand in place of Zen's one. Since it is a part of my standalone (pre-integration) project, I will look into this issue to improve the ease of use when logging in for the purposes of CA400.

In relation to the “I feel like people are going to put swear words in this” feedback, this is why I have created a panel for champions and CDF administrators to manage projects and delete/edit any obscene or potentially malicious content that users might create. It will be their responsibility to manage it effectively using the tools I have provided them with. If the CDF eventually want to implement an automated solution for this I would imagine they would create a profanity filter which would automatically detect and prevent the use of obscene language and the like but implementing something like that is out of scope for my project.

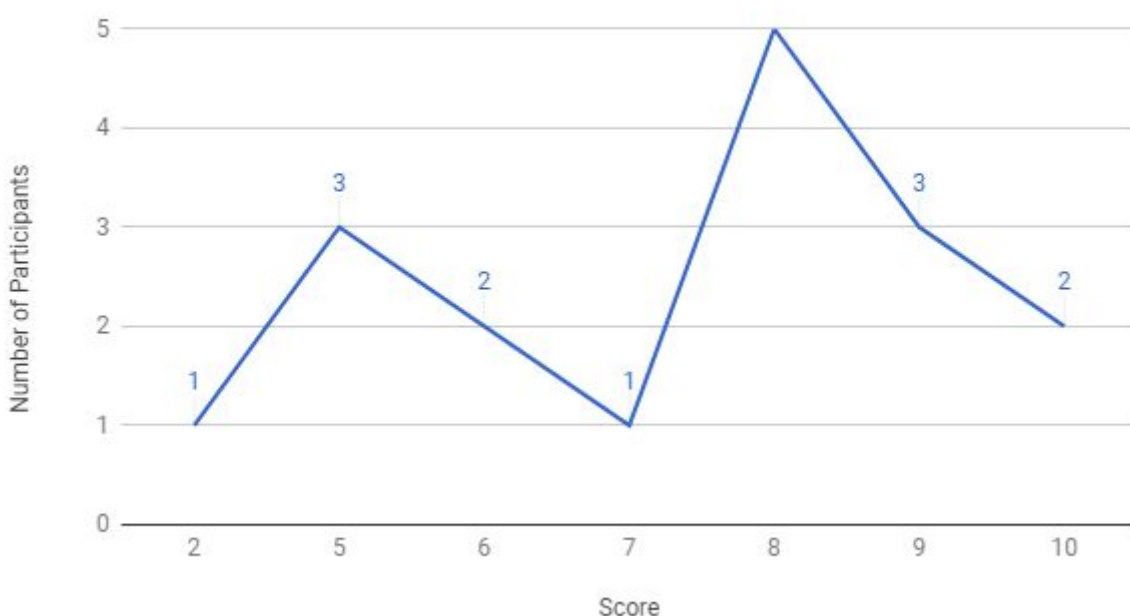
Create & delete a project

In this section of the evaluation I asked the participants to login using the test login details I gave them and create and then delete a project. I provided them with sample code to use when creating the project too. I then asked them the following questions:

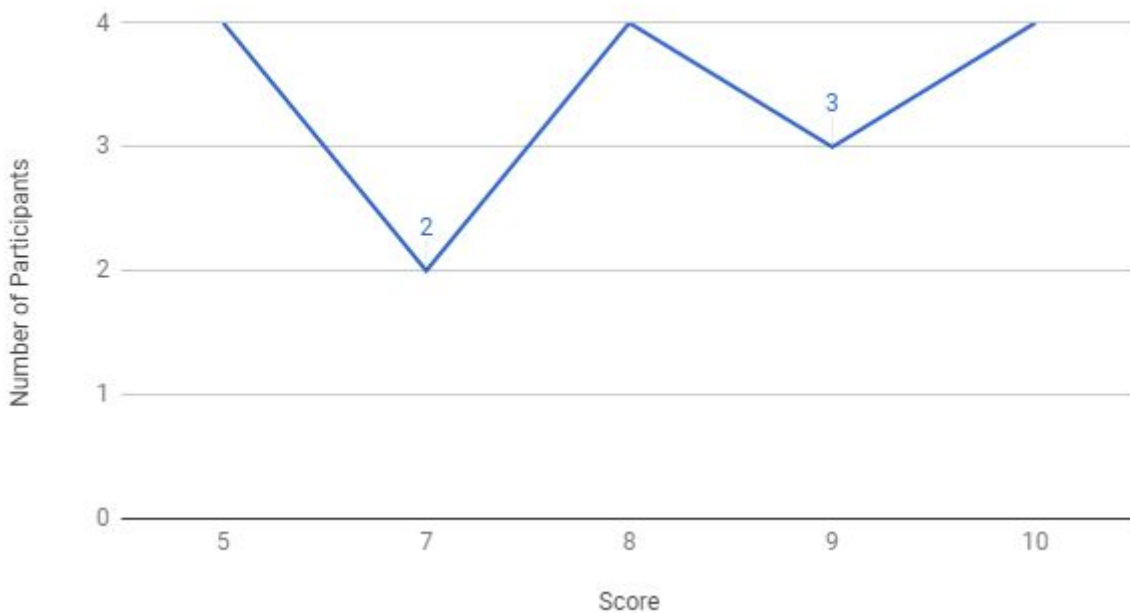
1. How easy was this task to complete? (Scale of 1-10)
2. How intuitive did you find the user interface to be? (Scale of 1-10)
3. Any other feedback? (Open-ended question)

I obtained the following results for question 1 and 2:

Scores for Question 1



Scores for Question 2



There are more lower scores for questions 1 and 2 in this section than the previous ones which indicates to me that this was the section which participants struggled with the most. I expected this to be the case when designing the evaluation due to the technical nature of creating a coding project. There is really no general trend with regard to the number of participants and the higher scores here, it fluctuates instead which is not ideal. Below is the feedback I got from question 3 and the corresponding score from question 1 and 2 for that participant which should help to explain these values.

Q1 Score	Q2 Score	Q3 Feedback
2	10	Figuring out where to save the quote and how to convert to a zip isn't intuitive. Also the issue with saying it isn't a zip, as mentioned.
5	5	The deleting was very fast. Some kind of "Are you sure you want to delete" would be helpful
5	5	I think making the required fields when uploading the project should be clearer and also navigating back to the main projects page should be clearer or allowing users to create projects from their profile since they are brought there by default after signing in
5	8	
6	5	I'm trying to upload Hello.zip which includes one file called Hello.java & it is still telling me "Project files must be uploaded as a zip archive!" - I think asking for a zip is quite specific as well. Also, maybe make it possible to create a project from the users profile page
6	5	The error message associated with the project main file is not intuitive.
7	7	Was not sure if the dojo was already preselected until I had gotten the error. Also maybe would be good for the create project option to be in the same place where a user can view their own projects/profile

8	8	
8	10	Would like the ability to create a project from my own profile page or through a button along the top of the page. Didn't realize I needed to be at the home page to create a project
8	7	interesting idea had to locate the create project button. A bit of time needed to realise that you must go back to original page. c'est voila!!!!
8	8	
8	8	
9	9	very robust
9	9	Very easy to use
9	9	
10	10	
10	10	its very clear , maybe the create project button on main page could exist insdie were you create your user account too?

By far the most common feedback here is that the create project button was difficult for the participants to locate and many of them suggested that there should be a button to create a project from the users profile page since that's where they were sent after they logged in. This is definitely something I want to implement before the end of the project because it massively affects the user experience and was something I overlooked originally.

The other major issue here seems to be the uploading of project files as a zip archive. Two of my participants ran into an issue which I now believe to be a bug where they would upload a zip file but my system would not allow them to proceed and would display "Project files must be uploaded as a zip archive!". The fact that this only happened for two of my participants and I have never encountered it before suggests that it may be operating system or browser related and is something I need to look into. I have been developing and testing my project using Fedora and Chrome. I'm glad my participants were able to identify this bug!

Some other feedback I got here was that deleting a project should have a confirmation step which I think is a very good idea. I have a confirmation step for removing GitHub integration from a Dojo but not for deleting projects so I will definitely be adding this for projects to enhance the user experience. There was also some general confusion in relation to required fields and error messages on the project creation form so I will need to look into the form in general and try to make it clearer and easier to use going forward.

Conclusions

In this last section of the evaluation I asked participants to answer the following questions to finish off:

1. Overall, how was your experience with my system? (Open-ended question)
2. What was the biggest difficulty you found when using my system? (Open-ended question)

The following is the feedback I got for these final questions.

Q1 Feedback	Q2 Feedback
Great!	No difficulties.
Overall a 8/10! Great job	Navigation was really the only thing . So finding where to create a project, navigating back to the my projects page after viewing a project etc
Was good, make things more obvious to see maybe & better labeling but colours etc look good and is aesthetic	Uploading a zip folder didn't work
Overall positive, nothing took a huge amount of effort	Uploading and deleting a project was slightly more complicated than it needed to be. (did helloWorld.py really need to be in a zip file?). Deleting also seemed really sudden and it might easy to do accidentally.
It was overall pretty good	Navigation didn't feel very intuitive, had to actively look to find what i wanted to do
excellent	none
great, very clear and easy to understand, well designed and laid out.	maybe, when not on the main page there is no back button to go back to the main page? this could be a useful feature?
Very well laid out system, I would absolutely use this over something else in a school environment	No major difficulties. Overall very easy to navigate
very pleasant	castle escape text goes outside the black box so its difficult to see what you have selected.
It was good, slow to create the project though.	The delete option wasn't obvious. In order to delete, you have to be in edit mode. I would have expected the delete to be beside the edit mode.
Good, ran well and was easy to use.	Finding the edit button on the second task, could've been a bit clearer.
Found it interesting. Appreciative of hard work behind creating it.	As previously mentioned, it was finding the create project button. But hey wow to this project!!!!!!
good	Navigation back - a global menu should be made available
The site is very intuitive, just some issues with the creation of projects part	Creating a new project; hard for someone not computer-literate.
A +	None it's very easy to use
Very well laid out	Maybe Uploading the file (more because of me though :)

Very good	Probably understand the games, took me a few minutes, but after that the fun is great!
I felt the site was extremely fluid	No major difficulties

Based on this feedback, it seems that the biggest difficulty the participants found was in navigation with regard to:

- Finding the create project button
- Returning to the project list from other pages
- Finding how to edit/delete a project

I believe the problems with finding the create project button can be resolved by adding another button to create projects on the users profile page. Returning to the project list can be done by clicking the logo in the top left of every page but this was not clear to some of the participants. This issue will be resolved when my system is integrated into Zen since the project list will have its own place on the Zen navigation bar rather than being the homepage like it is in my standalone (pre-integration) system. Finding how to edit/delete a project can be addressed by better labelling the edit project button. It was also suggested by one participant that the delete project button should be next to the edit project button but I am not sure this would be representative of what the rest of the users would want. Personally, I think it should be within the edit project page since deleting a project is not something users will generally do often and so it should not be presented to them every time they view their project.

Another major difficulty participants had was in relation to adding project files as a zip file when creating a project as I discussed above in the “Create & delete a project” section. As well as fixing the bug with zip files that participants discovered, I would like to add the ability to upload multiple files rather than having to zip them first since a lot of participants seem to dislike the requirement that the files be zipped. This is something I would add to the project going forward. Another known bug which one participant noticed is that the text in some of the projects will go outside of the terminal when running them. This happens until the user gives input to the terminal at which point it corrects itself. This is an ongoing issue which I am working to resolve.

Other than that, I think most of the feedback was positive and many of the participants seem to have enjoyed using my system!