



SLEEP O V E R S FOR LIFE

Final Document

University of British Columbia Okanagan

COSC 499: Capstone - Summer 2019

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1.0 Requirements

No.	Requirement	Delivered		
		Yes	No	Partial
1	The website will allow bands/artists to create a personal page to display their information to the public	✓		
2	The artist page will allow bands/artists to upload their songs/albums for customer to listen to (requiring local storage) and will use the backend database to allow artists to upload their music	✓		
3	Artists can edit their personal public page with their information, schedule, profile image, band image, genre, band size, and streamable songs. The artist page will provide a place for bands/artists to upload their schedule and availability	✓		
4	The website will provide bands/artists with a way of ordering vinyl runs of their music	✓		
5	The website will contain a public web store that allows customers to buy personalized Sleepovers vinyls and merchandise	✓		
6	The order page for custom vinyls/mixtapes will provide a way for customers to upload their song list in a format that permits with Sleepovers requirements for vinyls.	✓		
7	The order page for customer vinyls/mixtapes will provide a way for customers to upload a custom image for an album cover if the order permits	✓		
8	The website will contain a page where the Sleepovers blog, with pictures/videos/text, can be accessed and followed by users	✓		
9	The website will include a home page that users can navigate to any other public page on the website including an about page where Sleepovers can post information about their business and contact information	✓		
10	The website will provide Sleepovers staff with an admin page to view and manage order and payments as well as manage and delete user accounts	✓		

11	The admin page will allow Sleepovers staff to view, add, edit and delete products on the webstore	✓		
12	The admin page will allow Sleepovers staff to view, add, edit search for blog posts	✓		
13	Artists and Venues will be able to contact each other through automated email notifications	✓		
14	The website will provide a way for users to sign up, log in, edit their accounts, recover forgotten passwords and delete their account data	✓		
15	The user account page will allow any user to sign up for or remove themselves from the Sleepovers newsletter. Users, Artists, and Venues can sign up and log into the website with a personal account and manage their account details on an account page. Users, Artists, and Venues will have their email accounts verified before the account is created. Any user will be prompted to opt-in to the Sleepovers newsletter on account creation.			✓
15.1	The user account page will allow any user to sign up for or remove themselves from the Sleepovers newsletter. Users, Artists, and Venues can sign up and log into the website with a personal account and manage their account details on an account page. Any user will be prompted to opt-in to the Sleepovers newsletter on account creation.	✓		
15.2	Users, Artists, and Venues will have their email accounts verified before the account is created.		✗	
16	Users, Artists, and Venues will be able to recover their forgotten password for their account	✓		
17	Users, Artists, and Venues can delete their accounts from their account page (with proper warning)	✓		
18	Users will be able to securely pay for products (or hook in place for order processing)	✓		
19	An external API will be used to handle automated email messages.	✓		
20	Each Sleepovers blog post can contain a picture, text, date, and timestamp.	✓		

21	Venues can edit their personal page with their information, schedule, profile picture location upcoming events.	✓		
22	Artists and Venues will be able to select days on other Artists venues calendars and send an email notification to them to communicate that they are interested in booking/being booked for that date. Artists and Venues will be listed in alphabetical order on two separate pages where users will have the option to filter by category or availability		✗	
23	Customers can browse and add items to their cart and check out when they are done shopping Customers can search for specific Items or artists with a search bar.	✓		
24	Customers will be recommended similar products and artists while viewing a product/artist			✓
24.1	Customers will be recommended similar products while viewing a product	✓		
24.2	Customers will be recommended similar artists while view an artist		✗	
25	Admin accounts will be able to delete accounts. Admin accounts will be able to add, edit and delete products from the webstore. Admin accounts will be able to manage and accept/decline orders. Admin accounts will be able to view, add, edit, and delete blog posts.	✓		
26	An account password will be required to have at least 8 characters, 2 of which must be special characters or numbers.	✓		
27	The website will be coded with HTML, Javascript (ECMAScript 3), and PHP (7.3)	✓		
28	The website will be run on a free cloud server for the purpose of testing and development, but will be ready for deployment on a commercial server once delivered.	✓		
29	The backend database will be run on a separate, dedicated, 3rd party server with SQL*			✓
30	All orders, user accounts, admin accounts, products, and related media will be stored on the backend database.	✓		

31	The webstore will provide the means for a payment gateway to be easily implemented after the project is delivered	✓		
32	The Sleepovers blog will be stored on the backend database.	✓		
33	MailChimp will be used to sign up users for the Sleepovers newsletter			✓
33.1	The database is set up to contain information on which users are signed up for the newsletter.	✓		
33.2	MailChimp is not implemented into the server		✗	
34	Artists must agree to the legal terms specified by Sleepovers for Life before uploading their music to the database		✗	

* The database can be run on the same server as the website and was tested in this way as well

2.0 Additional Requirements

No.	Requirement	Delivered		
		Yes	No	Partial
1	Users will have the option of having an item on their order shipped to them or pick the item up from Sleepovers	✓		

3.0 Testing

3.1 Testing Report

3.2 User Testing

3.2.1 Summary

The results listed below are from the “Test-O-Rama” with the students in the COSC 499 class during the summer of 2019. Our group had plans to do separate user testing with users provided by our client but these tests were never able to be performed due to time constraints from our group and client.

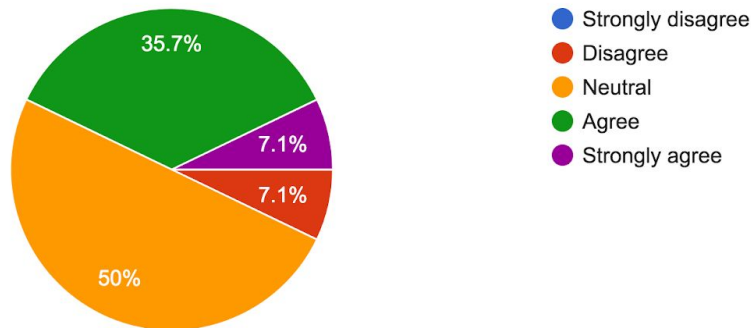
3.2.2 Grading

The grading system used was a Likert scale.

3.2.3 Responses

I was able to complete all of the tasks on the script with little difficulty.

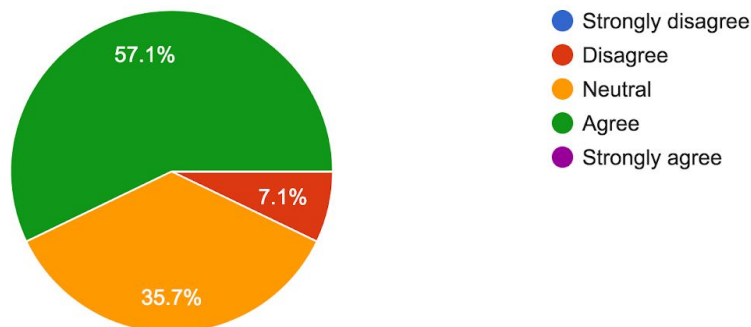
14 responses



The above graph indicates that most of the testers were not entirely able to complete every task with ease. This showed to our group that we needed to improve the usability of the website in order to make the completion of tasks easier.

I was able to find what I needed on the website with little difficulty.

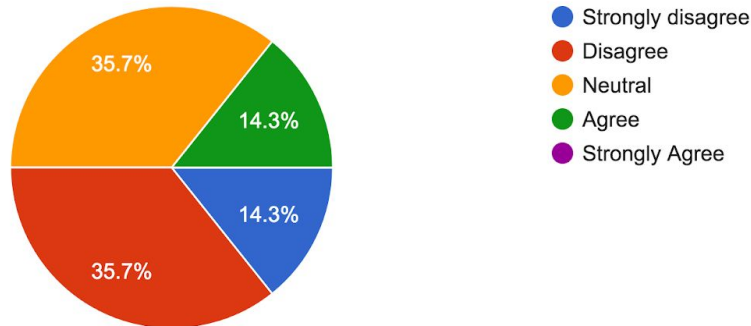
14 responses



The graph above shows that the majority of users could navigate the site easily but it was not always easy to know what to do next. This indicates that more usability fixes were needed to improve the user's ability to perform tasks on the website.

I found this website unnecessarily complex.

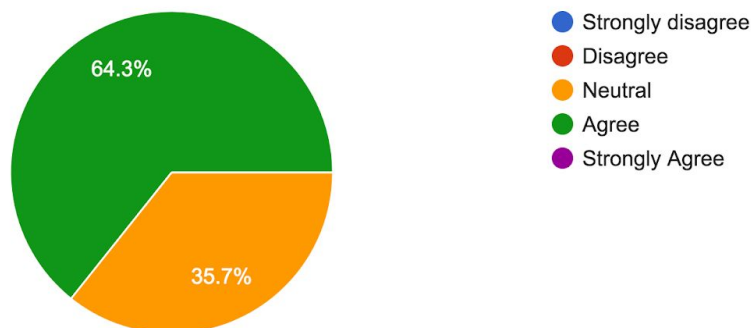
14 responses



The graph above is an indicator on how complex the website was to the users and shows that a majority of the users thought that the website was not overly complex but shows that it was also not easy either. This required fixes to be made using features such as Ajax in order to eliminate forms from certain pages.

I thought that the website was easy to use.

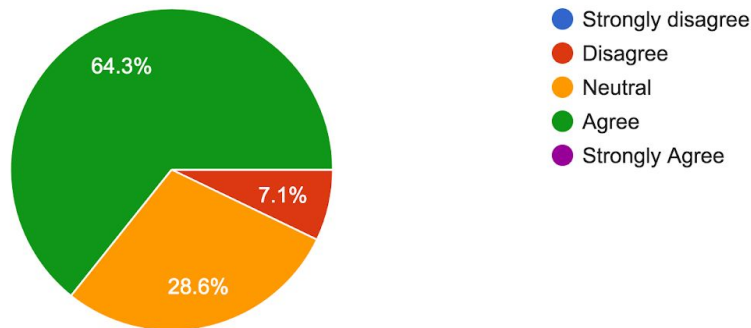
14 responses



This graph shows that most of the users found this website easy to use but improvements were needed to make things easier.

I would imagine that most people would learn to use this website very quickly.

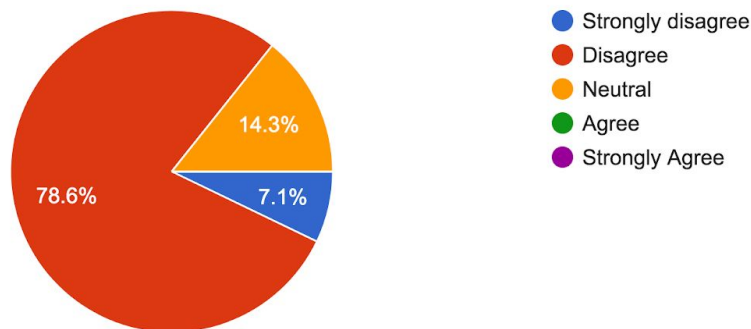
14 responses



The graph above shows that most of the users were able to learn to use this website quickly while some users potentially felt that the website could become difficult to use. These were most likely the result of certain usability features being left out of the tests as they were not finalized and ready for merging with master.

I needed to learn a lot of things before I could get going with the website.

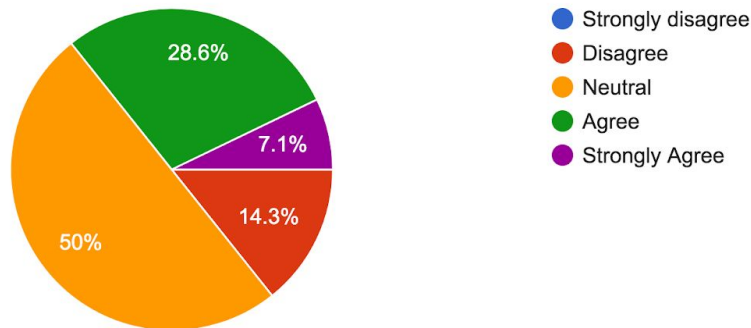
14 responses



The graph above shows that a majority of the users did not need to acquire any new skills to interact with the website.

I found the website visually appealing.

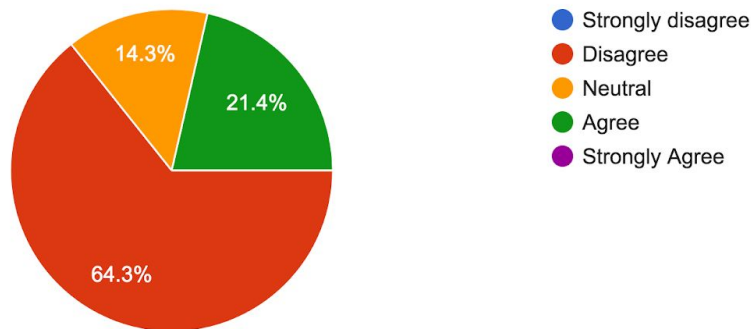
14 responses



The graph above shows that the majority of users were not entirely sure on the styling choices that we made for the website. While our group was given a simple color palette to choose from the color choices occasionally were conflicting leading to pages that were either too bright or too dark.

I found the website difficult to read.

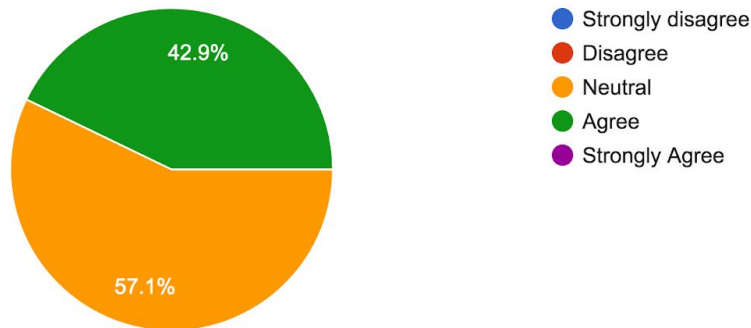
14 responses



The graph above showed that a majority of users did not find the website overly difficult to read but this still showed that the pages were not an entirely enjoyable experience and needed some improvement in terms of usability and placement of items on each page.

Overall I found my experience on this website to be enjoyable.

14 responses



The graph above shows that most users were split on their feelings about the website. This showed to our group that most of the functionality was working to the bare minimum but we could improve this number by increasing the readability of the website and paying more attention to how users were likely to interact with the website.

What is the task that you found most difficult to complete? Why?

Deleting account. Didn't seem to do anything

Items were easily found but features weren't implemented. Some profile buttons are just words that you can click on.

Managing blog posts.

Adding and editing info through client and artist profiles is a bit tricky at the moment.

Finding where to create a new blogpost, I thought it would be on the blog tab.

I couldn't upload a venue, the button did not show up. The search bar on the users was not functional.

when updating user info. it keep going back to the page that show user info after updating a small part of info. I would be easier to stay at the edit page for user to use.

Probably the admin tasks, just because there is a lot of layers/pages to go through. having to approve orders along with approve each product individually was a little tedious but not too bad. after adding a product, finding it in the list of products (could not find)

didnt go through all, but overall was fine

Uploading a song because I couldn't figure out the difference between the plain text or the upload button

A lot of the functionalities were not working, or they were unclear so admin page was difficult to go through

What, if anything, caused you frustration while using the site? Why?

Not always intuitive what to do next or where to do it. Was unable to delete account. Adding files is not very intuitive and was confused what each button did. Couldn't add images to artist post?

N/A

Creating an account. Creating an account should automatically log you in.

Some buttons and zones are not where you expect them to be.

Looking for the logout button inside the page, it was hidden inside the account information

Some things were not ready to use.

Bat Man search, can't use the search bar

logout HERE, it would be nicer if the hyperlink was just on the word logout

nothing major but font can be larger and a space/separation between buttons/links would make the site easier to navigate

Font selection could be better as it wasn't very pleasant/friendly

The buttons, they were buggy

Suggestions for improvement

Needs to be a bit more clear on errors and what to do next. Not sure where to go after admin managing order. Maybe make product name a placeholder in create a new product page? Search for Bat Man didn't seem to show any users.

Change the words to buttons and music player needs improvement. Logout HERE. I pressed logout instead and didn't see HERE right away. Hover color text would be better here if you leave it how it is.

Redirect users to the management pages for items after they're added.

Make sure updates on blog posts / venues are working. Also - publishing a blog post before saving as an admin doesn't publish it at all.

Add header buttons on the right, like logout and account information. maybe use the name and last name instead of email for displaying the account information to protect from the email getting out by shoulder surfers.

The website might need some styling for prettiness.

the layout can use a bit more care

Potentially give the option to save my shipping/billing info from the checkout page,

redirect to a page once the song upload is complete

wordwrap on the artist post text area

when adding the custom vinyl package to my cart, it would be cool to see what songs I added previously in case I forget

On the add product page, make the placeholder text not actual text above

the email showing should be username so its more user friendly
When a song is uploaded give option of editing song title, artist info
Where things are located

3.2.4 Overall Results

Overall our group was very satisfied with how the testing went and we were very pleased with the feedback we received. The majority of the issues that users encountered during testing were the result of features that had been created on existing branches that had not yet been merged with master. The remainder of the tests revealed that our main focus for improvement of the website needed to be usability as many users indicated that it was not always clear how they needed to progress to the next step and that pages were confusing meaning it was difficult to know where to go to perform each task.

4.0 Software Bugs

1. "Contact Us" link does not redirect. (page doesn't exist)
2. "Legal" link does not redirect. (page doesn't exist)
3. Footer bar misplaced on individual artist and venue pages
4. Some sort by results incorrect (Artist and Venue names)
5. Blog post search function working, cannot reset order without refreshing page
6. No confirmation/error feedback when updating profile

5.0 Key Lessons Learned

5.1 Everton Smith

This project was a great introduction to the real world life of a programmer condensed into a fast paced 12 weeks. It has shown me many aspects of the careers in computer science that I enjoyed, and some I didn't. Personally, I feel as though I have taken more away from the project than expected and I am excited to see how these lessons translate to the real world environment.

The biggest thing I learned is that change happens and that can mean having to adapt quickly. It is better to get situated and comfortable with changes sooner rather than later. The development phases can be planned out extensively but there will always be something added or changed. Being comfortable with time crunches is one thing but when multiple delays start to stack up you have to be ready to change your own vision and attitude accordingly.

Although change happens it pays to be prepared. Laying out exact plans and doing research can go a long way before starting a project. Being prepared and focused helps but those really only help if the entire team is on the same page. One of the lessons I learned is that there is no such thing as too much communication. Be clear and concise with your team, get

clarification when needed, and never be afraid to bring up ideas or thoughts that can help the team work together.

Lastly, many people look at problems in many different ways. This can make or break a team based on personalities and previous experiences. Different ideas and methods can be of equal value and should be considered, especially in the planning phases of a project. Even if you're sure you have the best methods it is always worth listening to others and getting a better feel for what your team is thinking as a collective and as individuals.

Although this project was accelerated and high paced I felt I had time to reflect every week on what I've learned and found great value in this course. I am looking forward to exploring different jobs in my fields and see how they compare to this sample of project management and development. I learned a lot about myself, about project work and about programming from the course, my teammates, and my other classmates.

5.2 Joshua Henderson

For me, this project presented a greater insight into the actual process of building software and what the actual process may look like for starting a piece of software from scratch. This project was an insightful and enlightening view into what goes into making software in more ways than how to actually code.

Some of the biggest takeaways for me include how easy it can be to fall behind and overestimate your available time to complete a task versus how much time is needed to actually complete that task. At times during development I had thought that a task would take only a few hours but turned out to be a half a day project and that would put our group behind schedule further. This does not mean that all tasks took longer than expected but a majority of the tasks needed more time than we had initially planned for.

Another major lesson that I learned was the art of egoless programming. Having never coded before university and having ~3 years of experience coding meant that my skill set was very limited and while I can learn things very quickly I know that when I am under pressure I am not always as fast a learner as I would like. That being said there were many things that I wanted to do or wanted to help with (eg. setting up phpunit with Travis) but my skill set was just not there to be able to accomplish the task. There were also moments where I would bring a piece of code to my group and it was not up to standard, had terrible UI/HCI choices or was coded in an unpleasant manner. While it was difficult to hear these it helped me understand that while working on a project your ego, if left unchecked, can cause greater failure for the group. I learned that I needed to take a step back at times as consult with my group to get their opinion if I was unsure and when things were wrong and needed to be changed, I did not take their criticisms personally.

Something that I wish I had paid more attention to sooner rather than later was the importance of addressing issues and being a project leader/manager. While there was never any declaration of which member was the project manager in our group I never declared myself as PM and I did not want to either. I learned that addressing what needs to be done in a group environment was more important than trying to delegate or control what each member was doing, for the longest time our group was scattered and working on things at random when we

should've been acting more as a collective than individuals. To sum up, I would say that the lesson here is that communication is key and talking with the entire group to make sure that everyone is on the same page.

If I were to do this project again there are certain technical changes that I would prefer to change such as building classes/objects for essential functions at the very beginning rather than halfway through development. Other than that, if I were to do the project again I would spend more time at the beginning getting the group on the same page in terms of what needs to be done each week as well as the standard of work expected from each group member so that there was no confusion on what needs to be done during development. Primarily I think that a lot of our problems could have been fixed if we had spent more time planning and understanding the deeper levels with each task rather than the high level requirements from each task which made the project seem less difficult than it actually was.

5.3 Trevor Richard

The capstone project has been an experience unlike any other class that I have taken in university and the failures that we have encountered during its progress will clearly stick with me throughout my career. The biggest fallback that I had during this project was my desire to make the functionality perfect. For a project that exists in such a short amount of time, it was unreasonable for me to put so much effort into small things such as search bar functionality or page styling, when there were still other tasks to be done. My failures in this aspect have helped teach me the importance of letting the small things go and not micromanaging tasks. If it's done and it works, move on.

Our group had some problems with clear communication at times and there were multiple instances where valuable information was lost for an entire week because of misunderstanding. We did improve our communication as the project progressed and found that meeting in person is a good way to stay on the same page. These problems could have also been solved by putting more effort into keeping our Trello page up-to-date, and using it for more than just a requirements list. Luckily, our in-person meetings and constant reference to our original WBS helped fill in this gap.

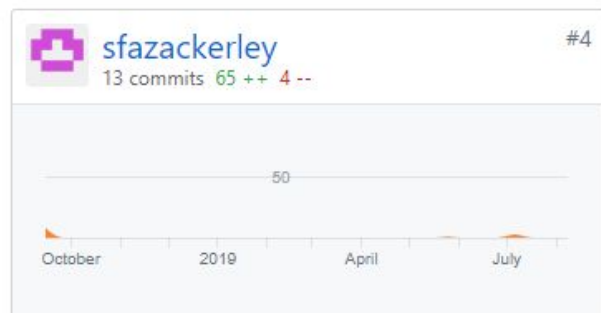
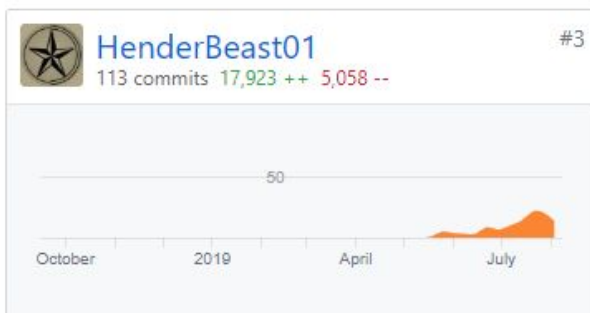
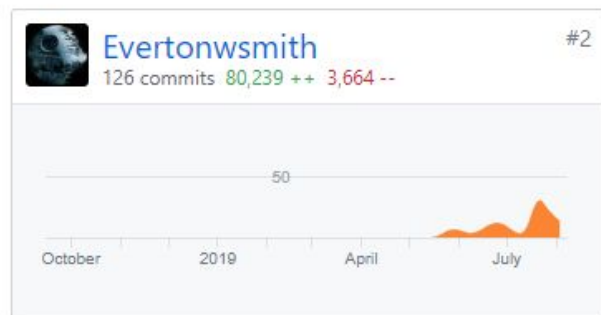
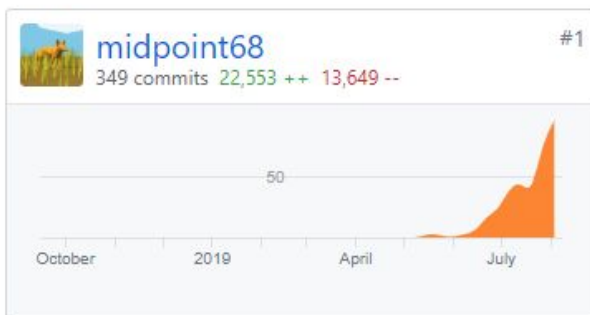
We originally set out to focus on a pair-programming work flow, where every task was shared between two members. Tasks seemed easy in the beginning, and this method shortly fell out of favor. However, near the end of the project when we started implementing more complex API's such as Pluploader, pair programming did help ensure that our functionality was kept up-to-date. I do believe that pair programming from the beginning on the "simple" tasks would have helped us create a more stable framework for our later implementation.

If I were to do this project again, or one similar to it in the future, I would put more effort into research and planning out individual functionality and how it all fits within the system (DFD). Since we were all beginners at coding with PHP, we had to learn how to swim in the deep end from the start, which caused the majority of our functionality to require multiple re-designs in order to fit within a proper PHP framework.

6.0 Total Group Hours

Group Member:	Estimated hours	Actual Hours	Tasks Completed	% Work Done
Everton Smith	221	223	32	24.9%
Joshua Henderson	227	310.5	49	36.3%
Trevor Richard	224	309.5	56	38.8%

7.0 GitHub Contributions



Our contributions to the GitHub repository reflect our total burndown chart and increased greatly by the end of the project. The last month of the project was when we implemented most of the websites functionality.