CSCI 3130 Group Project 1

Iteration 1

Group Members

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GitLab Link: https://git.cs.dal.ca/minwoo/courses-2021-summer-csci-3130-group-8

Product

Our team has worked on a Google Chrome plugin which allows a user to save the media file currently being displayed on the page and can download a video from twitter or similar websites. We planned to add a history feature in our plugin where users can see the download history. However we could not figure out how to implement that within the time frame. The current plug-in provides three functions that are including the url of available videos present on a page to download and allows users to view download history and shows instructions on how to use the plug-in.

At the moment, the plug-in shows the same videos multiple times and this fault will be fixed in the next iteration. Our team is working on how to implement the history function either using an excel sheet or a browser storage. This was a feature which we may have been overly ambitious on because it is difficult to store the information that would need to be contained in the button on the front end. In our planning stage we failed to think out how we would implement this and so we were unsuccessful in this iteration. However, in our future iteration, we will make sure to think out how exactly we should do it before we go to implement it. In addition, the current interface (figure 1.1 and figure 1.2) of the plugin does not look like what we have designed initially (figure 1.3). We are planning to deliver the product as similar as the design given by the front-end team. The one thing about which we feel special about this product is that we have adopted an unique css library to provide a user-friendly interface.

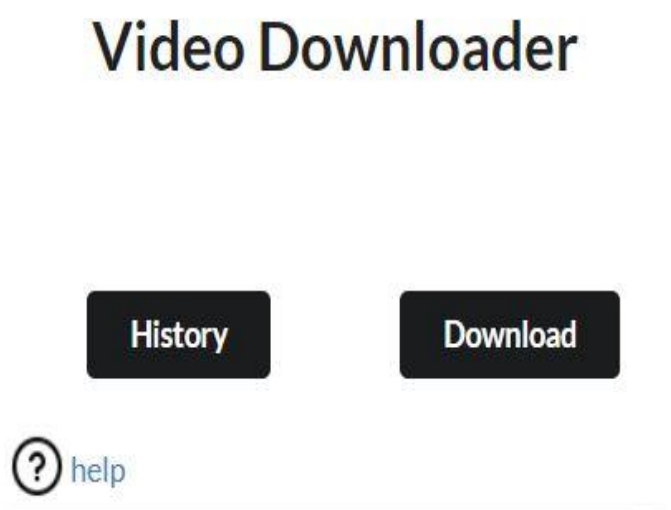

Figure 1.1 Interface of the plug-in

Figure 1.2 Help Instruction

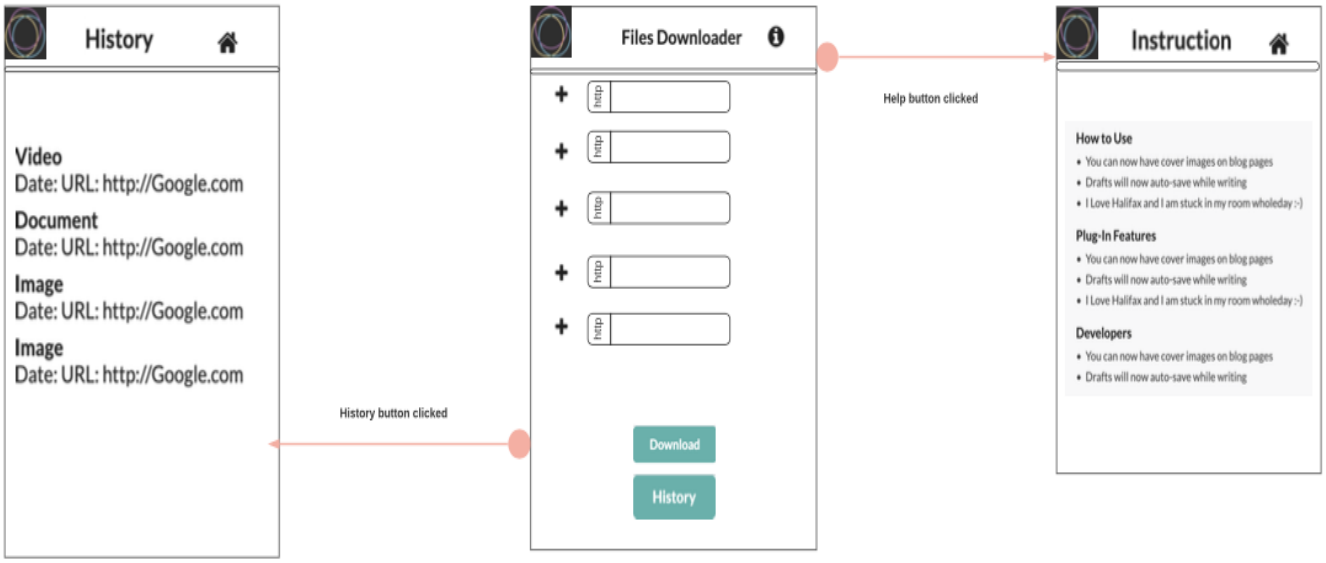

Figure 1.3 Initial design of the product

Risks

1. History button: We are currently unsure if the history button will be a feasible option, as we are not certain we will be able to store information on the user's local machine.

2. Time management: We achieved many of our tasks in the last week of development which didn't allow us to finish all the features we had initially planned. We will have to make better time estimates for iteration 2.

3. Legal issues: When developing an application that downloads media, you have to consider legal hurdles. Most companies have their own terms of service and limitations in regard to their media, so this should be investigated further to not violate any laws of terms of service.

4. Personal issues: We are a group of six people working online and one of us is also in a very different time zone. It is possible that one or more of us may have things come up in our lives that prevent us from working on a part project at some point. If this happens the other group members may have to adjust who does the work that person was assigned.

5. Security issues: Users are downloading videos from certain webpages and the security of the website must be guaranteed. While downloading the video from unsafe websites could inject malwares to the user's local machine. Thus, the plug-in should have an ability to detect whether the webpage is safe.

Lessons

1. Teamwork: One of the most important lessons we learnt through this project is teamwork. Everyone had faced the difficulty in dealing with the new technology but by working as a team we were able to quickly resolve the issues of each member which allowed us to move on to the next step faster. This taught us how important teamwork is to achieve something.

2. Agile Framework: Our team actively adopted agile techniques and applied them to the GitLab. We have assigned tasks periodically, and follow up with each task to complete the project on time. This project helped us to understand how to work promptly in the fast-paced development environment when frequent changes are required.

3. Source Control: We heavily utilized GitLab in our project to help us work together collaboratively as a team. We kept all of our code and resources in a gitlab repository and utilized the list, boards and milestones features under issues in GitLab to track our tasks. Working in gitlab, especially

with issues, was very new to many of us and so we were able to learn a lot about source control while using it to complete our project.

4. Confidence: We gained confidence through this project not only limited to a programming perspective, but also how to deal with the business and risk concerns. When we just started this project, we were lost. However, we have put consistent effort and trust on this project, and thus, we became more confident to go through any obstacles, which we will face in the future.

5. Test Driven Development: One of the lessons we learned was that Test Driven Development can be a very powerful development method in small projects where we have small timeframes and teams as it ensures we get the proper functionality and we complete it in the given time we have.

Issues

Initially, we envisioned three features for the plugin: the main media downloader, a history button that displays previously downloaded files, and a help button that will display how to use the plugin for a new user.

For the media downloader, we thought it best to focus on initially making sure videos can be downloaded and therefore did not attempt to implement a way to download images or other media. Due to time constraints and fundamental differences in how the file types operate, we were not able to implement image downloading.

We also had issues with time constraints while developing the ui. The original ui design was too complex to implement in a short period of time. In order to combat this, we adopted a simpler ui design to more efficiently implement this in our plugin.

The history button also gave us difficulties as it proved more challenging to store the history than we originally thought. Storing information on a front end application is very challenging and so without proper planning at the beginning of the iteration for this feature, we did not have a plan for implementation. We will come together as a team to plan this out better for our second iteration.

Satisfaction

We are mostly happy about how we got to experience the real deal of software development. We are happy with a lot of the things we learned. We got to meet new people, learn about how to work in new teams and work on fast paced projects. One of the most important things we are happy about is getting first hand experience in software development.

We are satisfied with our initial prototype as there was worry it may not be achievable in the timeframe we had set for ourselves. While the prototype is not perfect, it definitely leaves us with clear and achievable goals for iteration 2.

Personal Statements

Benjamin Murray: The most important aspect of this project for me was the delegation and combination of the individual tasks that we needed to do. It took us longer than expected to figure out how best to delegate work since we weren't initially aware of the work that will be required to implement a functional prototype. Once everyone had a task, the work was rapidly completed and assembled. This project definitely demonstrated that the logistics of someware development while on a team is more daunting than initially expected. To sum up what I learned in regard to software development: five people working together is better than five individuals, but it is certainly more complicated to achieve.

Megan Deering: I was pleasantly surprised at how well we were able to work as a team. Although there were many struggles organizing as a group online, once we got things organized we were able to work very well together and everything came together nicely. That's why I feel that teamwork was one of the most important aspects of this project. All of the group members did a great job at contributing to the success of the project which is rare in group projects, especially online. Another thing that I felt was really important in this project was the process of learning how to make a plugin. No one in this group had created a plugin before, and so what we learned in this project was also very important. Not only will it help us to develop similar applications in the future, but it also will strengthen our learning skills which is very important in this industry where things are constantly changing and not everything can be taught in school.

Minwoo Yang: In my perspective, this project reminded me how important it is to collaborate with group members as a team. I have used all the materials that I have learned from this course such as Test Driven Development and Agile methodology. The project was a great opportunity to apply our multifaceted-skills to build the plug-in. The required skills are not only limited to programming, but also include time management, communication, teamwork, and problem solving skills. I became more familiar with Git and learned how the source control would benefit software development. However, when leading the project, I also faced difficulties that could lessen the quality of the software. There is an uncertainty that needs to be considered when it comes to building a product: terms of service. As a future IT professional, terms of services could influence the development process. In conclusion, I have learned how to think outside of the box and apply my technical skills to solve a real world problem through this project.

Sahl Zahoor: From where I view the most important part of this project was not getting the final product out, it was learning how to work as a team and divide the work among ourself and make

sure everyone is moving together so we can get the project ready. This project taught us that not everything can be done in a specific time frame and that is why there were lessons to be learned.

Rachit Hans: This project made me realize that the most important key to doing a project is teamwork. In the earlier stages of the project, none of us were aware of how to make a chrome plugin. To overcome this we divided the task and shared all the information we got on making the plugin. Each team member came with new information that joined the next piece of the project. This showed me that each team member brings different knowledge that helps to move the project at a constant pace. In lectures, we study how we can use different technologies to do a project in a team. But when it comes to practical things, things are different than we thought of. We face various difficulties using those technologies. However, even the big obstacles look small while working in a team and having good communications with all team members.

Yinhao Cui: I think teamwork in the project will be very important. Everyone has good projects, relatively good projects and shortcomings. We need to assign tasks to everyone reasonably according to their abilities. In addition, with regard to the production of the project, everyone will have their own ideas, we first need to collect everyone's views for the project. Some opinions and ideas are not feasible. We need to focus on difficult tasks first, and then implement the remaining ideas step by step. When everyone communicates, collaborates, and shares feedback,the impact of the individual performance increases. All of us can learn from each other. In this way, the product which we make will be more efficient.

Team Management

Our team created a to-do list and split it into three teams; front-end, QA, and back-end. Based on the list, we have issued dozens of tasks on GitLab (figure 7). This approach helped us to check whether the whole team was on the same page and met the deadline of the project. We also have been communicating actively on Teams to share new updates and progress. Reflecting on tests, we have moved back and forward to keep the quality of the product. Everyone is responsible for our tasks and we managed to complete the main interface and the downloading function for the plug-in. We have an opportunity to find our weaknesses. In terms of agile methodology, we tended to skip documentation and risk management. For instance, we were aware of terms of service legal issues and discussed the problem together. However, we have not found an explicit solution during the project. To sum up, we rapidly adopted flexible project development skills and worked together as a team, but we also need to improve skills that deal with business difficulties and concerns.

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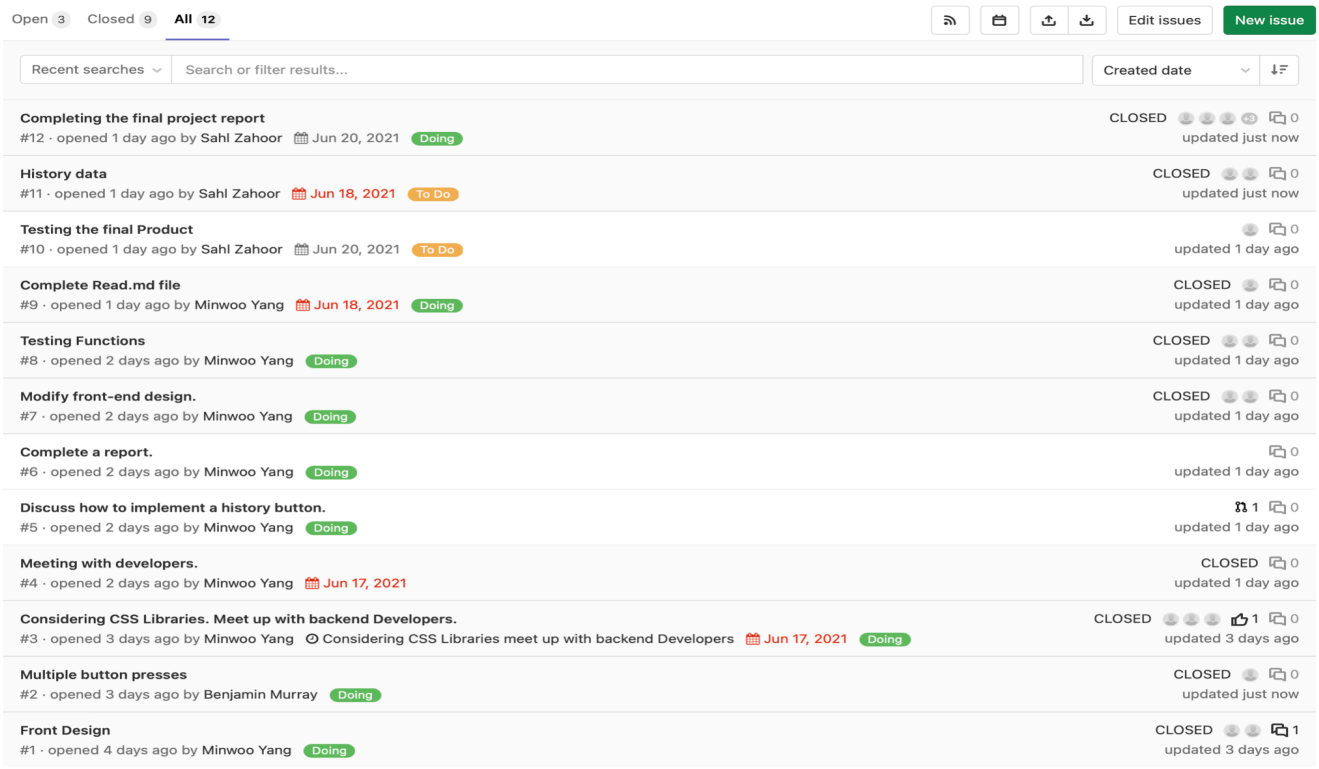

Figure.7 List of the tasks on GitLab

Conclusion

In conclusion, the development of this iteration was both a thought-provoking and challenging task to complete and has provided us with some valuable insights into methods of software production. As software developers, this project has exemplified both the challenges and benefits of working as a team on a single piece of software. The challenges involved with delegation and time-management were our primary concern and we believe we have gained valuable experience that will better prepare us for our future in this industry.