

# Individual Project Post-Mortem

## Section 1

CIS 4250 – Software Design V

Instructor: Prof. S. Scott

### Individual Accountability Report (IAR) Template

Note. Refer to the Project Manual for detailed instructions for IAR submissions.

#### Individual Accountability Report (IAR) Template

The following questions MUST be included and answered completely for each submitted IAR.

**IAR must be submitted one of the following file formats: text or PDF.**

Q1. Student Name: Matthew Biggins

Q2. Student ID: 1136122

Q3. Associated Team Deliverable: Milestone 4

Q4. Team #: Section 1 Group 4

Q5. What were the main technical or methodological knowledge, skills and/or abilities (KSAs) that were required to complete this team deliverable? What prior courses or experiences (e.g. co-op, group project, etc.) from your Software Engineering degree did you draw on for these KSAs? (bulleted list is preferred):

- Web Design (CIS1050, CIS2750, CIS3760)
- Git (CIS2750, CIS3760, most cis courses taken after CIS2750)
- Agile Development (CIS3760, Software Design I – IV, Co-op)

Q6. What was your existing level of experience with these topics/skills before your team began working on this deliverable? (1-2 sentences):

I had a reasonable level of knowledge of these KSAs primarily from my past university classes, especially CIS3760 and CIS1050, both of which included a significant amount of web design. I also had experience with agile development from university as well as Co-ops.

Q7. Comment on your individual KSAs learning during this deliverable, and what additional learning may be needed to understand or be more competent with these topics / tasks in the future?

Prior to working on this deliverable, I had a decent amount of prior knowledge of web design, git and agile development. I was not familiar with lot of the tools we used throughout this sprint and project, such as react, however I have greatly increased my react skills throughout this project, and I will continue to improve on them in the future.

Q8. What specific contributions did you make to this team deliverable? This should include technical or project management contributions.

For this team deliverable, I worked on several next.js bug fixes, as well as general UI improvements, making sure that all of the pages followed the same colour scheme. I also interviewed people outside of computer science to get their opinion on our UI. I also spent a significant amount of time on agile lead responsibilities, keeping up to date with team member progress, reviewing merge requests and ensuring tasks are closed when completed. I also did the final sprint demo.

Q9. With whom did you collaborate for any of the above contributions (be specific – saying “all team members” is not sufficient. State which parts you worked on with whom)?

- I worked with Lyn to design the layout for the multiple-choice mode buttons
- I worked with Corey to test the selenium
- I worked with Nelith to create and present the sprint demo.
- I worked with Melissa, Lyn, Nelith and Corey to write the GitLab wiki.

Q10. Comment on how well you managed your time over the time period allocated in the Course timetable to this team deliverable (i.e. the time between the prior team deliverable to this team deliverable).

Overall, I was able to manage my time very well over the course of the sprint. We were able to conduct most of our team meetings during the lab times. We had planned at the beginning of the sprint to have all the code completed by the Saturday before the demo. Although we didn't have everything complete, we had the majority of the code and all of the main tasks completed by then, and so there was less of a rush at the end of the sprint to complete everything.

## **Section 2**

### **Overall Contributions to the CIS4250 Team Project**

One of my largest contributions to the team throughout the project was my role as agile lead. I spent a significant amount of time throughout the semester conducting team meetings, planning sprints, and regularly communicating with each team member through our group chat to ensure that each team member is on track to complete their assigned tasks, as well as following up whenever a team member seems to be falling behind on their tasks. This also involved regularly reviewing and suggesting changes to merge requests, as well as making sure that each team member closes their individual tasks for each sprint.

My largest technical contribution to the project was the database. Majority of the tasks that I had completed for the first two sprints were related to setting up and integrating the database with our application. I set up the database and set up the user accounts in it, as well as the firebase calls to create and retrieve user accounts. I also set up the user progress tracking in the database and fully integrated it with the application to automatically track user progress when they flip flashcards.

The main contribution that I think I could have improved was the way we handled user accounts in our database. The database we used for this project was firebase, which provides an authentication system for user accounts, however, although I was familiar with databases, this was my first time using firebase, and so I didn't know how to implement the firebase authentication. Instead, I created our own user authentication. Looking back, it would have probably been better to have used the firebase authentication as it would have been a more secure user account system.

### **Technical Skills**

When we started the semester, the project that we chose was a web app that was built in react and tailwind, neither of which I was familiar with. However, we had decided that one of the main features we wanted to include in the project was a database which would allow users to create accounts and store their progress through it, and database development is something that I have a lot of experience with. Throughout the semester, I spent a lot of time learning react and tailwind and working on tasks that involved both, which led to me greatly improving my skills in both frameworks. Now, having completed the project, I can say that although I still have a lot of learning to do, I am fairly confident in my knowledge of the react framework having learned and implemented a variety of react features such as components, states, and contexts. I am also confident in my knowledge of the tailwind CSS framework, having used it to fully implement a light mode for our application to be used with the already existing dark mode by utilizing tailwind classes and variables.

## **Resource and Project Management**

Throughout the project, for the initial system design, my primary responsibility and contribution was in analysing the initial system and writing the analysis of the initial systems software design, as well as writing a significant amount of the user and tech stories. During each sprint milestone, I contributed to the written deliverables by writing the sections of the Gitlab wiki that were specific to the tasks that I completed, such as the task progress and testing procedure, as well as the meeting notes. I also collaboratively worked on the sprint retrospective at the end of each sprint with the rest of my team. In addition to this, I also presented the sprint demonstration each week, and helped write the sections of the slideshow for the tasks I completed.

During the four sprints, for my contribution to team leadership, I was our groups agile lead, and so the project planning and project coordination was largely my responsibility. With that being said, the project planning was more a group collaborative effort than something that I did on my own. Each week, we would hold a sprint planning meeting, and each group member, including me, would suggest stories to work on. We would then each pick the stories we each wanted to work on, and then we would each break our own story into appropriate tasks and weights. For project coordination, I spent a significant amount of time throughout the sprints coordinating group efforts and following up on team members to ensure that they were making progress on their tasks, as well as coordinating meeting times with the rest of the group.