

Learning Outcomes

Enabling Knowledge

Our group chose the job matchmaking project as we believed it was the best project our group could complete. This decision was reached by asking everyone in the group what skills they had and what functions they could possibly complete. We then reflected back on how we learnt those skills and in which courses.

The following courses listed below, contributed to the development, management and design of the project.

- ISYS1108 - Software Engineering Project Management
- COSC2413 - Web Programming
- ISYS1118 - Software Engineering Fundamentals
- ISYS1057 - Database Concepts
- COSC2536 - Security in Computing and IT
- COSC1301 - Web Servers and Web Technology
- COSC1519 - Introduction to Programming
- COSC2395 - Programming 1
- COSC2396 - Programming 2
- COSC2299 - Software Engineering: Process and Tools
- COSC2625 - Building IT Systems
- ISYS2390 - Database Concepts
- COSC2506 - Unix Essentials for System Administration

The skills that we have developed during the development of this project were the following. Utilisation of the SCRUM project management technique that we learnt in Software Project Management. Using various programming languages such as PHP, HTML, CSS, JavaScript, and SQL. Using system prototypes as well considering the security of the website and how to both implement it and improve it.

Critical Analysis

What is your assessment of the project management methodology you used?

During the development of the project, we chose to use the Agile SCRUM project technique and also used Trello to manage the project and list the tasks that need to be completed as well as our sprints and backlog.

In the first two weeks, there was some confusion as to how we could use Trello effectively and how to assign tasks to the right person to increase workflow. This issue was resolved by giving everyone in the group the option to choose a preferred task. Once everyone had an idea of what they were capable of, the sprint backlogs progressed quickly without issue. Roles, responsibilities and tasks were being assigned to the right person which helped to ensure that we would get the project done in the scheduled timeframe.

The Agile SCRUM technique proved to be effective once initial issues were taken care of. It provided us an easy to read list of what was expected by the end of the sprint and where we were in terms of progress. This contributed greatly to help get the project completed in time.

What were the design options and how did you choose the one to implement?

We decided to use Balsamiq to create the mock-ups for the project. Balsamiq is a quick and easy way to design prototypes and also offers a free trial. This is mostly why the group chose to use it. The entire group discussed what we thought the website should look like and this led to us developing the prototype. Once the prototype was complete, the group had discussions on how we could further improve the design and add additional features. Everyone's input was considered as well guidance from our project supervisor.

How well does the developed system meet the requirements?

Our completed project, JobsAustralia.tech, meets all of the requirements that were specified at the beginning of the project. We even managed to add an additional feature that looks at the employee's github account and offers them an option to automatically select skills based on what they have in that account. We believe that adding this feature makes our project unique, and also makes it stand out from other similar job matching sites.

How do conclusions follow from the experiments?

Our group distributed the workload throughout the development of the project to the team member that was most suitable to that specific task. This was determined based on their skillset and/or knowledge that they may have learnt either from previous courses or just in their own time. The Agile SCRUM project management technique was used in the development of this project, this allowed us to split up tasks and organise them by sprints. Sprints lasted a week and had a list of tasks that needed to be completed by the end of that week and a person assigned to complete them. Utilising this technique, our resources were able to be spread out efficiently and this led to our group being able to complete the project in time, meeting all the required specifications that were listed.

Problem Solving

Identify the major problems that had to be solved in the project and describe and evaluate your solutions.

During the development of the project, there were a few issues that arose that could potentially affect the progression of the project. These issues included not everyone having the same programming knowledge, algorithm knowledge and the delegation of tasks on Trello.

For the programming knowledge, our group decided it would be best to delegate the more programming oriented tasks to the team members that had more programming knowledge. This doesn't mean that other team members did no programming, just that those with less

programming knowledge were delegated tasks with programming that they understood. This ensured that everyone gained more experience which could prove useful in the future.

The algorithm knowledge was vital to the completion of this project so our group decided the best course of action would be to delegate the algorithm task to the more experienced team members. This decision proved to be greatly beneficial to the project as other team members also learned how to make algorithms in the future.

Delegation of tasks was a slight issue in the beginning two weeks as most team members have never used Trello before. This issue was resolved by showing the entire group how to use Trello and how to assign tasks. In doing so, this ensured the remainder of the project could progress smoothly and efficiently.

Communication

Describe the communication methods you adopted for the project including within group communication and communication between the group and the client/supervisor.

The group chose to use Facebook as the main communication channel. The group communicated questions, issues and announcements on this channel. Our weekly group meetings were done in person and meeting minutes were taken and recorded into our pdf file. Weekly group meetings with the supervisor were also done in person. Trello was also used to list tasks that needed to be completed by the group and also contained information about the specific task that needed to be completed.

How effective were they?

The communication methods that the group was chose was very effective. Facebook ensured that everyone in the group knew what was going on at every stage in the project as all issues, questions and announcements were posted here. Trello was also very effective as it allowed the group to see the tasks needed to completed and by when. Without Trello, it would've been incredibly difficult to organise all the required tasks for the entire group to see. All communication on these channels was quick and easy and ensured any concerns were addressed promptly in order not to halt the progress of the project.

How could they be improved?

In the first two weeks there was a slight issue in regards to delegation of tasks on Trello. This issue arose as many team members in the group have never used Trello before. If Trello had a quick tutorial or guide for newcomers to read and get up to speed quickly then the issue might have been avoided.

Teamwork

What were the roles?

Every team member, and the product leader, also take on the roles of researcher, developer and tester.

Dennis Mihalache: Project Leader/Scrum Master.

Ozlem Kirmizi: Team Member.

Aaron Horler: Team Member.

Kim Luu: Team Member.

Melissa Nguyen: Team Member.

How did you deal with different cultural backgrounds and life circumstances and differing levels of technical expertise?

Our group dealt with the issue of differing level of technical expertise by delegating tasks to a team member that was most suitable for that task. This was accomplished by letting all team members in the group list down their skillset and then the decision was made on who should be delegated to what task. What this accomplished, was that the project progressed efficiently without any other major issues. It also allowed other team members in the group to gain more experience in a different skill.

All team members in the group were never introduced to each other until the formation of this group. This resulted in everyone not knowing each other's timetable and availabilities throughout the week. This could've been a potential issue as when meetings were scheduled then possibly, not everyone could attend. To avoid this the group listed their availabilities and then weekly meetings were scheduled to best fit everyone's timetable. The communication channels that the group chose was also utilised in order to let the group know the status of their current timetable.

Responsibility

What were the relevant professional standards, ethical considerations and legal and privacy issues for the project?

During the development of the project, we considered the security as well as the privacy aspects of the project. As we were asking for people's details we decided it was vital to implement the best security measures that we could into the website. This started a group discussion regarding the ethics of our website and how other similar sites handle their data collection. It was then decided by the group that the best practice would be to ensure that all data is handled securely and that our website will hold up against common security threats.

How were they resolved?

We ensured our website is up to standard security measures by testing it against SQL injection and other threats. This was accomplished by using Laravel's validator function and testing our website on sites such as Mozilla Observatory, CryptCheck, Qualys SSL labs, and securityheaders.io.

By incorporating this security into our website, we can ensure that our website is up to the same standard that other similar sites are and also that we meet all professional standards in regards to ethics, legal and privacy.