# Assignment 3: Our IT Project

# Team Name: SLEJD

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## Personal Information

**Darian:** My background is Vietnamese. My hobbies include watching the soccer and tv shows, I also like to play sports. My favourite sports to play include badminton and soccer. I like learning about technology and my interests in it stem from thinking about how it can improve and how it will change in the future. I do not have much experience in IT apart from currently studying it.

**Eliza:** My background is Italian and have lived in Australia my whole life. I am into travelling and watching tv shows/movie and going out with friends. I am a big ALF fan and go for St Kilda - but hope to see them win an AFL premiership in my life.  I have an interest in IT but don't have much background experience. My main interest in IT is security and hope to work in the defence in the future.

**Joshua:** I am of Italian descent with all of my family originating from Sicily, Italy and was born in Melbourne. I have a background in aerial cinematography and work within the film industry as a UAV operator. My interest within information technology is mainly security and the correlation between electronics and mechanics (mechatronics). My previous IT experience is studying VCE information technology and software development which allowed me to acquire skills in python, visual basic and java.

**Liam:** Born in Darwin and moved to Melbourne as kid and have lived here the majority of my life. I've always had an interest in I.T, whether it be playing around with things computers can do or fixing issues. Through high-school I became interested in programming, and the capabilities that programming holds. After I finish studying at RMIT I hope to find a job as a programmer. The main experience I've gained is through VCE software development where I was able to create a program for holiday bookings.

**Suhaib:** I'm Somali. I was born and raised in the USA, came to Australia two years ago. I love to write, read, huge TV person, I game, and I watch anime. I'm interested in mobile technology, I really hope I can work in a mobile phone company later in life. I'm experienced with building computers, and fixing hardware components on mobile devices.

## Group Processes

Everyone in our group felt that we all worked great together in assignment 2. We decided not to introduce many changes throughout this assignment. The only minor changes we made was the frequency of communication between everyone, and we all made time to meet up to work on this project together. We also increased the use of GitHub for assigning tasks in order to make the delegation and organisation of tasks easier.

## Career Plans

Our group can be split into two sorts of jobs that we would like. On are within the IT industry is software developers, while the other deals with cybersecurity and identifying threats within programs. Three of us are looking for jobs as a developer. Darian would like to become a web software engineer, Liam would like to be a Java software developer, while Suhaib would like to be a Senior software developer. Although these jobs may differ in the specifics, such as programming language, they are still similar in terms of the roles that's required. Software developers are in demand for many companies. However, Eliza's ideal job is a Cybersecurity surveillance officer, and Josh would like to be a principal penetration tester. Eliza's job differs as she would like to work within an industry that's all about identifying and preventing cyber threats. Josh's job is similar as it deals with finding flaws in a company's software. Overall there are some similarities between ideal jobs, with a few key differences.

## Tools

Group Website: https://s3-ap-southeast-2.amazonaws.com/a3slejd/index.html
GitHub: https://github.com/liamhec/Intro-To-IT-Assignment-3
Google Doc: https://docs.google.com/document/d/1NJr4yR0gWcS-vMV5lUNLZoDzMlnh64BXj40bxN5_tng/edit?usp=sharing

During this assignment we used GitHub in order to delegate tasks, while placing our individual work onto the google doc to compile everything for the final submission. Issues were created on GitHub, and we each selected tasks to complete, and once finished they were placed into the google doc and the issue was closed on the GitHub.

# Project Description

## Overview
The project that we have decided to work on for assignment 3 is the same as our idea from assignment 2. We aim to create an app that allows for users to manage their finances. As we have learned from our previous assignment, financing and money management are important to our society. If everyone is able to have an affordable and accessible way to finance their money, then our overall economy will prosper. Our idea revolves around creating an app for users to input their spending habits and as a result allow them to have a forum where they can monitor their spending. Features such as allowing the user to connect their bank accounts to the app will make this process easier as all their spending will be displayed on a central format.

Once the project has been completed we hope the impact that it creates will be huge. As the developers of this application, we would like to see it become one of the most universally used money management tools. Our app aims to influence a wide audience of users, projecting our ideas towards everyone would allow us to see the scope of our application in work and would in turn allow us to make changes and updates accordingly. If our app is used the way we expect it to, then we believe that many individuals will be able to save their money more efficiently and as a result will be able to benefit the communities that they live in. By having people manage and save their money more efficiently, ultimately leads to more money to be spent on things such as housing and other small businesses to appear which helps to improve the quality of life for many Australians.

The motivations for our project began when we all felt that there was not an optimal way to manage your finances, additionally there were not many applications that do what we envision. Our money management can always be improved upon and that is why we believe that our app can ultimately influence a

great amount of people positively. If a future employer were to look at our idea, they would be able to see that we were able to not only take into account our personal needs but that we were also able to see the potential for the community to benefit as well. Because we are able to think about the project as a whole and how it will affect everyone, a future employer may see that we are very focused and driven to deliver results that are to the highest potential that we can achieve.

Currently on the market there are few applications that do what we envision our project to do. Whilst many banking applications offer a way to track spending, it is often not as detailed as we would like. There are many times where we have looked at our transaction log and wondered what the purchase was because the description that the bank has offered is confusing or the name of the transaction does not display the store's name. This often leads to confusion and as a result our app aims to challenge this by allowing users to input their own details about the purchase when they finish buying. The user is then able to see all their purchases in a screen at the end of the week where they can assess their spending habits and cut down on certain areas which may be a way in which they are able to begin saving money.

## Aims

The main aim of our app is to provide more detailed information about spending habits. This will be a breakdown of how users spend their money and where they spend majority of their money. This will allow users to identify where money is being spent, so that they can identify areas that they may decide to cut back spending. For example, users can see how much money they are spending eating out through the app and make the decision to cut back the amount they spend in this category.

A goal that we have is to partner with banks to allow users transactions automatically appear in the app. This will help users with transactions details, but also ensure they don't forget to enter transactions into the app. This goal of the app allows for transactions to automatically be categorised, so that users can see their spending habits.

## Plans and Progress

Overview, initially we have progressed from the overview to the end ability to release the application. Our creation of the overview contains our overall goal to achieve which involves creating a financial planning application which allows for the users to simplify their spending and account for multiple bank accounts from different providers in to the one secure application.
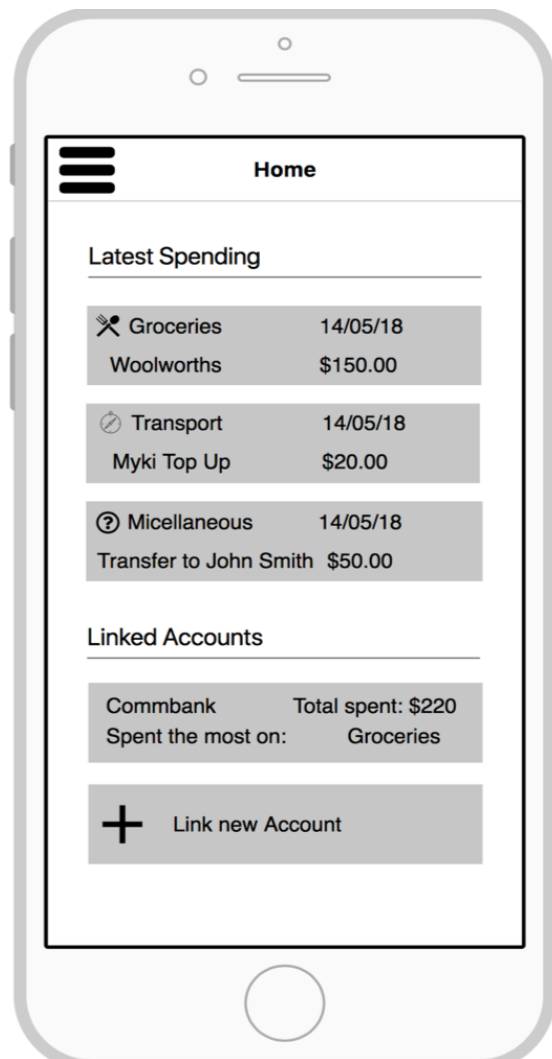
Unlike other apps that also use financial planning such as the Commonwealth Bank App; there app layout is very limited in what they show you spend your finances on. We strive to make our app to provide more in depth visual layout of what you spend your money on. And also have a budgeting icon on which you can also use. As there are some features that the bank apps don't have.

After creating the overview for our application, we set out to delegate tasks which involves each member of the group taking upon themselves 1-2 parts each, which will then allow us to collate our ideas into the final result of the project. Furthermore, the group assisted each other to specify which tools and technologies they require in order to complete their allocated tasks at hand within the project. This also bought upon the issue that whilst many of the programming tasks and other allocations in order to bring the app to fruition can be completed and handled by those within the group, the aspect of security (a highly important criteria for our app) cannot be handled by ourselves. Hence why within the plan we have allocated time for contracting this to an individual who has the skill set required.  This is a risk that has been accounted for.

In continuation, our progress has brought us to the stage where we have been able to collaboratively design a medium fidelity prototype within proto.io, allowing us to view and customise transitions between windows and button mappings. Currently we have created two mock-up screens which visualise the "latest spending" window and the "detailed spending" window. Thus, allowing us to have some user testing applied as it is to scale of what the application is to eventually behave like without the high fidelity of the functions being available. Whilst our application initially was aimed at accounting for both personal and business spending, it was within our best interest to focus on and modify out plan to only account for personal finance, as larger businesses and companies usually already have access to highly detailed and functional financial services as they have a greater budget. Whereas, our application is aimed at being low-cost and providing the user ability to connect multiple personal bank accounts from

different banks, which businesses may not require as they may already have personal accountants to specify spending amounts and so on.

**Home**

Latest Spending

| | |
|---|---|
| ✕ Groceries | 14/05/18 |
| Woolworths | $150.00 |

| | |
|---|---|
| ⊘ Transport | 14/05/18 |
| Myki Top Up | $20.00 |

| | |
|---|---|
| ⑦ Micellaneous | 14/05/18 |
| Transfer to John Smith | $50.00 |

Linked Accounts

| | |
|---|---|
| Commbank | Total spent: $220 |
| Spent the most on: | Groceries |

**+** Link new Account

During this stage of our production we have developed a prototype of our idea of what the app will look like at the end of our project. The design process began with what we wanted the app to do. By having an idea of what we wanted from the application we were able to design a few pages detailing the key points and features we wanted to show.

We wanted the application to be a slick and elegant design without having too much information on the screen so that our users do not feel confused. The simplistic design is aimed to allow users to easily navigate the app without getting lost between pages. We have also placed tabs indicating to our users that they are able to link multiple bank accounts as well which was one of our key

features for our application. During our early stages of production, we have yet to decide on a colouring scheme. Some improvements that can be made include creating a high-fidelity mock-up of our application which can allow users to try our app before it gets released. This stage of the design process allows us to get a feel for how the app works as well as get feedback from our users so that we can make any further adjustments.
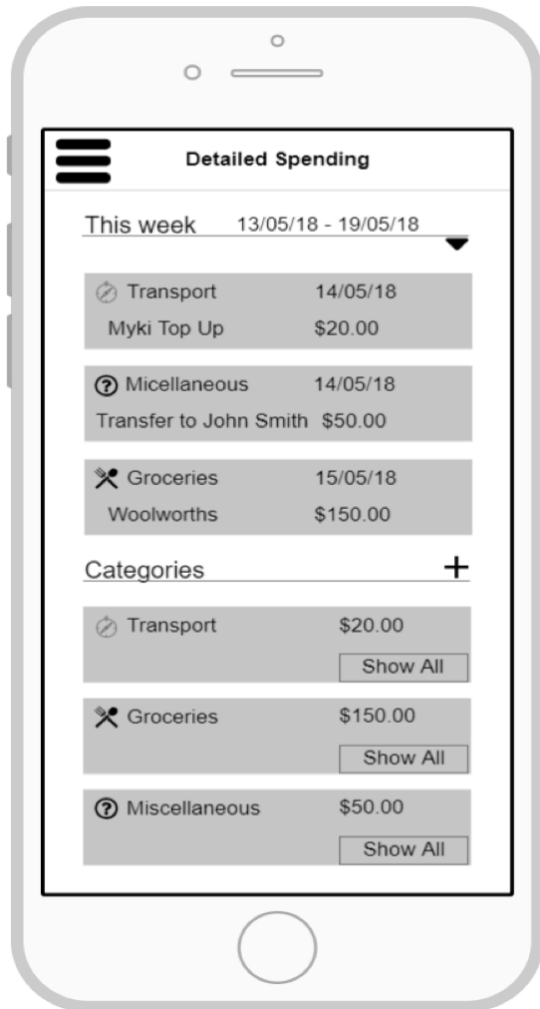
On this screen of our prototype, you can see how your spending goes into different categories such as transport and groceries. However, unlike other apps, a user can create a new category using the + button to cater to their needs. The detailed tab also provides a date in which the transaction occurred.

Through a combination of pre-set, and customisable categories, users are able to gather better insights to their spending and make decisions based of the information presented to them.

## Roles

During our work on the current project, we have decided not to give roles to each individual as we are working together on this project. We have all agreed to work on the project together through each stage of development. From the design of how the application will look like and also how it functions, we are all always contributing our ideas which will allow us to create an end product that we are all happy with. Each individual stage of the project will be done together so that we all have an idea on how it is coming along and if any of us are unhappy with the current stage of production we are able to communicate with each other and make any adjustments. Ultimately the end result of our project will be the result of everyone's dedication and work towards it which shows our commitment and passion towards our work. We thought as a group that by assigning roles to each member would not allow us to frequently share our ideas and as a result we decided it would be a better decision to all work on the production elements together.

## Scope and Limits

During our work for assignment 3 we have had many ideas of how big our project can potentially become, we have collaborated as much as we can to ensure that the design of our project is up to every ones expected standards. Because we have a limited time available to work on the project we cannot create an app that has all of the details and features we want included in it. However, with the amount of time we have to work on the project, we believe that we can develop a working prototype of the app which allows us to focus on one of the main ideas we thought would be important when designing our app. Some features we intended the final product would have but cannot be in the prototype include the ability to integrate multiple bank accounts to the app, with the time that we have to work on this project it is going to be difficult to include a feature in which we need to get authorization from banks as it is a process that will most likely take longer than the time allowed. However, one feature that we aim to include in our prototype is the ability to add detailed descriptions to our purchases which will allow our users to see the basic levels of our design process. We would primarily focus on this stage of the project as it is a stage in our work that would be achievable to finish within the time frame allocated to us.

## Tools and Technologies

In regards to the tools required for out group to complete the project there are many that come to hand. With the obvious inclusion of a general laptop/computer for creation of the program we will also require an apple mobile phone to test the software on. In regards to the development of the program, the Apple XCode 9.3 IDE would be required to program and write the code needed. Furthermore, in order to create the presentation, it is required that Microsoft PowerPoint 2010 and onwards must be used for the creation of our presentation slides. Whilst no one in the group has experience with Apple XCode, every member within the group has experience and can utilize Microsoft PowerPoint to its potential. Furthermore, the use of tools for prototyping is also required, this may be through Adobe Photoshop Creative Cloud 2018, Proto IO and Microsoft Word for a low fidelity mock-up. Proto IO is a prototyping tool used to create in interactive prototype which allows the user to scroll through and design an application in a semi-functional form. Allowing for the design of transitions, movements to other screens and visualisation on a mobile device itself. The team has skills within Proto IO through their User Centred Design.

## Testing

In order to test our project, it is required that we must utilize user testing. This is the format of getting outside users with various experience levels of both technology and the financial tracking aspect of our applications to test our application and its functions. The aim of such testing is to analyse the programs ability to be intuitive to users and comprehendible in both format and within functions to see if any improvements need to be made or to confirm that specific goals have been attained.  This is done by specifying a list of scenarios and paths that a user is required to take to complete a function, furthermore, then recording the time that it takes to users to complete such task and further analyse to see whether the application is intuitive. For example, a young technology and financially fluent gentlemen should take no longer than 1 minute to add in his daily spending, whereas if it takes over a minute then the program is failing to be efficient and if he cannot add his spending then the program is failing to be effective and the results need to be addressed. For our application, ideally there would be 5 testers with a variance in age, technology experience and financial experience.

## Time Frame

| Week | Tasks | Description |
|---|---|---|
| **1**<br>**April 30th - May 6th** | Delegate Tasks | Work out who is responsible for each part of the assignment |
| **2**<br>**May 7th - May 13th** | Develop more detailed plan (overview) | Build upon the description given in assignment 2, and go further in depth about the project |
| | Work on Project timeline | Develop the schedule for when tasks should be completed. |
| | Work out prototype | Discuss what our prototype will be for the presentation, and what will be shown |
| | Begin working out Presentation | Ideas for presentation |
| **3**<br>**May 14th - May 20th** | Finalize timeline | Completion of overall timeline |
| | Complete prototype | Have a prototype that be used in the presentation |
| | Complete Tools and technologies | Discussion of the tools needed to complete the assignment |
| | Complete Aims | Completion of what the app should be able to do, and functionalities based upon the description |
| **4**<br>**May 21st - May 27th** | Finalize Presentation | Completion of what and how we will deliver our presentation |
| | Complete scope and limits | A paragraph on what will and won't be included in the app at the end of the timeline |
| | Complete testing | |
| **5 - Presentation**<br>**May 28th - June 3rd** | Present Presentation | Complete our presentation at the given time |
| | Begin Plans and Progress | Background of app, its progression, and overall changes made to the plan. |

| | Complete Risks | Overall risks of the project |
|---|---|---|
| | Begin compiling assignment | Gathering work and placing into pdf |
| **6 – Assignment Submission June 4th - June 10th** | Finalize PDF | Preparing the pdf for final submission |
| | Complete group feedback | |
| | Complete Group reflection | |
| **7 June 11th – June 17th** | Hiring of security professional | Hiring someone who can carry out security testing for within the app. |
| | Finalization of app design | Make any changes to the design of the app before development begins |
| **8 June 18th – June 24th** | Development of app | Begin developing the app |
| | Security Analysis - what security to implement | Complete a security analysis about how to minimize risks within the app |
| **9 June 25Th – July 1st** | Development of app | |
| **10 July 2nd – July 8th** | Development of app | |
| | Progress Report | An overall report about where the app is, and what needs to be completed |
| **11 July 9th – July 15th** | Development of app | Finalize the app |
| **12 July 16th - 22nd** | Security Analysis | Have security risks been minimized? What needs to be changed. |
| **13 July 23rd – July 29th** | Any changes to the security of the app | Implement security recommendations |
| | Security Analysis | Final security report |

| | | |
|---|---|---|
| **14**<br>**July 30th – August 5th** | App testing | Testing functionality of apps<br>Identifying issues |
| **15**<br>**August 6th - August 12th** | Changes to app | Implementing any recommendations from app testing |
| | App testing | Testing any changes that could have been made. |
| **16**<br>**August 13th – August 19th** | App Release | |

## Risks

When starting any project there are many problems that could be at risk. That being the group of people that you are placed in a group to work with is that you all get along and are able to get the job done by the deadline. However, this isn't always the case and the group that you could be placed into can have a lot of outbursts and people not getting along with each other can cause delays or incompletion of the project. It is a priority that all people placed in teams have adequate social skills that allow them to communicate to each other even if there is problem; know how to resolve it.

In our group, we have been very fortunate enough that all of us get along with each other and there has been no time where the team has come to a disagreement in the whole time of the project.

However, only meeting once a week can cause communication issues. All members living in all different parts of Melbourne can cause people to not turn up to classes or be late to classes. When other team members have already continued on with the project without all team members being there. With moving forward in a project, it is vital that all team members are in agreement, and this can go the opposite way when working on a project when not everyone is there.

Also, there is another risk that when working on a project there are all different knowledge skills e.g. someone might be more advanced in a program then another person. In our case it is making an app. Some people in our group might

have a better idea than others of how to make and the process it takes, so these people to help the people the others who aren't an experienced with it. This can cause the group to take extra time and might annoy other members in the team to make sure all team members know what they are talking about before moving on with the project they are working on.

Within the planning process of the finance app we have want to create, it is important that everyone agrees on the basic look of what it is going to look like. And also use a programming software that some tam members are familiar with so that we don't have difficulty creating the final product; and turns out the way we want it to.

Giving different sections of the projects for each team member to work on by a certain deadline, can sometimes not always be completed. It is important that each team member documents and sticks to the timeframe in which their part of the work should be completed.

To make sure everyone is up to date with their work, there should be a platform that all team members have that they have access to 24/7 that being a Facebook group chat or some sort of other communication platform where the team can communicate outside of meeting hours if they have a problem.

These are just some common risk that any group can face. We are just fortunate that out group hasn't yet (and hopefully won't) have to experience. The main risk though that we have to face is that no one falls behind with the project and every team member is on the same page with our project.

## Group Processes and communications

For our group, we used various social media platforms to communicate with each other. We used Facebook to talk about our progress, the delegation of tasks, and even how late we'd be to our meetings. We used class time, two hours weekly as face to face time. Our communication between each-other were all positive, and were quite frequent, around four times a week. Our members are always on Facebook, so the possibilities of one not responding were quite slim. However, if an occasion did arise where one didn't respond, we messaged them on a different platform (Snapchat). It's expected from the members of the group to respond to the messages when needed, and always come to the weekly meeting.

# Skills and Jobs

1. Solution/Security Architect
2. Business Analyst
3. Developer
4. Tester

## 1. Solution/Security Architect

SLEJD is looking for an innovative member to join their team as a dual position. In this position, you will be a valuable member of the team who uses expert architect skills to design and support the delivery of solutions within our discipline and to contribute to the development and implementation of the project. As well as lead the project with both a business and technical approach.

**Skills Required:**

- Previous experience as a Solution or Security Architect
- Demonstrated track record of technical leadership across project and operational tasks
- Experience working with teams
- Experience designing and documenting architectures for large systems
- Ability to provide detailed application architecture guidance to developers
- Experience in working effectively with a highly skilled technical team
- Excellent communication skills
- Able to work effectively with a minimum of supervision
- Be effective with time management

## 2. Business Analyst

SLEJD is looking for a skilled business analyst with the help of the implementation and business information systems and support for the current project. They will be the go to person when the team needs advice to help develop initiatives and strategies' that will make the group be successful together.

**Skills Required:**
- To be able to identify problems and opportunities within the company
- Provide solutions that help project milestones
- Develop business cases
- Develop user guided and process documentation
- Troubleshooting client requirements and system issues
- Software configuration
- Needs to have great organisation skills
- Leadership skills
- Requires excellent time management and communication skill

## 3. Developer

SLEJD is looking for an experienced and motivated app developer, who has a passion for helping people. As a developer, you will be working with a team, supporting clients, IT applications; by translating software requirements into workable programming code.

**Skills Required:**
- Needs to be have experience and be familiar with Apple XCode
- Strong IOS mobile app development skills (Swift & Objective-C)
- Support the entire application cycle (concept, design, test, release and support)
- Produce fully functional mobile applications writing in clean code
- Troubleshoot and debug to optimize performance
- Gather specific requirements and suggest solutions
- Strong understanding of app security
- Able to design the ultimate user experience
- Comfortable with working apart of a team
- Excellence presentation, communication and interpersonal skills
- Strong organisation and time management skills
- Passion for programming

**4. Tester**

SLEJD is looking for a highly motivated software tester to join their team. It is a very important role as it is your key job to ensure that our project works exactly how it should before its release. It is up to you to make the final decisions.

**Skills Required:**
- Experience in reviewing soft requirements, preparing test cases, execution of tests, reporting of defects and preparing test reports
- A good understanding of the software development process
- An understanding of business
- Ensure that modifications are delivered on schedule
- To provide product handovers to both technical and non-technical audiences
- Willingness to learn and suggest process improvements
- Eye for detail
- Good verbal and written communication skills
- The ability to work under pressure and to tight deadlines
- Comfortable with working apart of a team
- Passion for testing

# Group Reflection

## Individual Reflections

**Darian:** During our work within the group we expected there to be a fluid transition from assignment 2, and I believe that as a group we experienced this transition perfectly. Personally, I believe that we worked together exceptionally well and I believe that any work that was contributed was written very clearly and presented well. Like assignment 2, we all were able to get along with one another which allowed us to produce an assignment that was up to the standard that we saw from our first assignment. Overall, our teamwork and communication has improved from last assignment as we have known each other for a longer period of time which resulted in us allocating roles which we were all happy with. I was very happy with the amount of time that we all spent meeting up and discussing the work as I think that because we are working in a group it is important to touch base with everyone and see how far they have gotten with their assigned parts, additionally the group meetings were beneficial as they allowed us to see if a particular member was struggling with their part and the rest of us could contribute some ideas so that they could get back on the right track. Assignment 3 was quite difficult but our ability to work together as a team allowed us to make it not only an enjoyable experience but also create a piece of work that we are all happy with.

**Eliza:** Our team worked just as efficiently as what we did while working on assignment 2. We were able to delegate each of the tasks evenly. However, we lacked in communicating when we would get our particular parts done, but overall our communication has improved since the last assignment. Overall, we had more productive sessions when we met up and use of communicating on social media; to help each other out if need be. As this was a major improvement with our group, I believe we worked great as a team and we were still able to get the assignment completed on time.

**Josh:** I believe within our group our overall communication was very effective and timely as we communicated thoroughly our delegation of tasks and times due for each individuals' parts to allow for sequential completion of topics within the assignment. I believe that whilst our communication was excellent, our timeliness in regards to individual completion of segments could be improved by better discussion of the allocation of tasks. Furthermore, an aspect I found quite

surprising is the group's ability to improve among aspects in which we had fallen behind on within our collaboration within assignment 2; such as the overall delegation of specified tasks and the ability to have one local source of tasks compiling. One thing that I have learned about groups is that while the factor of criticism can initially be taken offensively, once listened to can greatly improve the quality of work produced. I believe our GitHub log accurately reflects our contribution to the assignment, however as we mainly used a Google shared document to collaborate, some intricacies and finer detail of submissions may have been left out.

**Liam:** During this assignment I felt as if we worked better together than we did during assignment 2. Our communication improved from what was already a good amount from the second assignment. During this assignment we were able to better delegate tasks, through the use of GitHub. During Assignment 2 we hadn't used GitHub, which was reflected in those marks, so this time we decided to make an effort and use it, which ending up working in our favour. We made time to meet up which was beneficial to the assignment, however we left compiling everything together to the last minute. Overall, we all worked well together, and enabled us to get the assignment done on time.

**Suhaib:** Our group was a well-oiled machine. Our communication between ourselves was pretty good. We had each other's social media so communications came by quite frequent. We've made some improvements regarding our ability to delegate tasks between us. We were able to do it more efficiently. Our time management however could need some improvement. I for one often left tasks till the last minute. Our group worked together pretty well.

**Overall Reflection:**

Throughout Assignment 3, we all felt we worked better than we did during assignment 2. We all took onboard the criticism from not using GitHub in assignment 2 and was able to use GitHub during this assignment. This allowed us to better delegate tasks more evenly, and keep track of what was completed, and what still needed to be done. Although we used GitHub, we still primarily used google docs to place all of our information, therefore the GitHub trail may not accurately reflect the work that every member completed. The main issue we had with this assignment was leaving compiling the assignment to the last minute, in the future it would be beneficial work this out earlier, but we were still able to submit on time. Overall, we all felt we worked great as a team, and had great communication between everyone. We are happy with what we were able to accomplish during this assignment.