**Role Allocation**

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| Name | Role |
| Emma | Project Manager |
| Matt | QA Tester |
| Mark | UX Designer |
| Josh | Developer |
| Juan | Technical Lead |

Role Justification

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| **Name** | **Paragraph** |
| **Joshua** | I was assigned to the role of developer and this conclusion was made with 2 things in mind. Firstly, as an individual and as a group member I feel that my interests are largely in programming, production and development which leads me to believe that is the best skill I can offer to the team. Secondly, using the Belbin self-perception inventory, I discovered that I had 3 high scoring types. These were plant, team worker and implementer. Plant suggests qualities such as imagination and knowledge, team workers can respond to situations and are socially oriented, and finally an implementer is someone that can turn ideas into practical action. These qualities would suggest that a developer role is ideal for me because a developer needs to be able to produce something from ideas and concepts while using their imagination and knowledge in order to make it. Also, being socially oriented makes it easier to approach work interactively with my team to improve the product we are making and easily share ideas for what the product should be able to do. |
| **Matt** | I chose the role of QA/Tester because I enjoy reviewing work and giving constructive feedback to people. I also like breaking things. This is also a role that I have not had in a group before but, despite this I am fully aware of what the role entails. I think that I would bring a lot of enthusiasm to the role and give it 100% like I do with every other challenge I set myself. Alongside the drive to achieve in this role the Belbin Self-Perception Inventory gave me my only very high in Completer Finisher. Having had some time to reflect on the Belbin result, I think this perfectly describes me. It states that Completer Finishers: look after the details, search out errors, and deliver on time. These are all great traits of a QA/Tester as the role is all about delivery of the final product, making sure everyone has done the work to the same standard, and making sure there is nothing that can break. So it is for these reasons I think that I would make a fantastic QA/Tester. |
| **Emma** | The role that I have is that of a Project Manager. This involves ensuring that every member of the team is aware of the work currently going on and also taking responsibility for the organisation of the on goings within the whole project. I believe that this role is well suited to me due to the fact that I am naturally an organised person and therefore I can use this skill to keep the whole group on track. Belbins self-perception inventory gave me the results of implementer and shaper. I believe that the results are accurate due to the fact that I am always hands on in projects getting work done as well as taking a lead role in organising the flow of the project. I have had experience of being the leader of various other group projects throughout my time at school and in university so I have experience of doing this before. |
| **Mark** | Following the completion of the Belbin perception test the group’s results were reviewed, this gave the group a good insight to what role may best suit each person. Alongside these results each person’s preference were taken into consideration. My skill set includes front and back end development, giving a good range when coming down to the implementation side therefore i have been assigned the role of UX/Designer. This also coincides with my Belbin test result of Implementer. This type of personality is good for turning ideas into practical action. For example, when we need to take ideas for the smart system and turn them into a working application. |
| **Juan** | According to belbin the groups roles were distributed and i was chosen to be the technical lead now this role  is the one who actually creates a technical vision in order to turn it into reality with the help of the team. As the result of belbin indicate me as a implementer it is suitable as it mains team role is to turn ideas into practical action through a good organization ability. However I also scored quite highly at belbin secondly as a Co-Ordinator which objectively has a capacity for treating and welcoming all potential contributors on their merits without prejudice. Allowing in this role a positive collaboration with team members. Thirdly in belbin scored Resource Investigator. As a technical lead I considered important this role as it often imperative to explore new opportunities outside contacts conducting an ability to resolve new challenges. |

Software Development Methodology (benefits, limitations and suitability)

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|  | Benefits | Limitations | Suitability |
| Waterfall | Adapts to Shifting Teams due to the large amount of documentation laid out in the first stages of the waterfall methodology.  Forces Structured Organization the developer is forced to be disciplined with the project documentation that is created. Making sure they have documentation to run for the complete life cycle, once again making the waterfall method more robust to team changes.  Allows for Early Design Changes due to the large amount of documentation created at the beginning of the project more changes can be made by the client easily in the early stages of development. However, it is much harder to make changes near the end and customers will not see a prototype for an extremely long time.  Suited for Milestone-Focused Development due to the linear nature of waterfall this is a great model for use with large organisations that require dates and a complete timeline of the project as it is much easier to develop both of those things using this model. | Nonadaptive Design Constraints the waterfall model is unable to adapt to changes quickly as a major design flaw discovered in the application at the testing phase means costly delays or potentially scrapping the project completely.  Ignores Mid-Process User/Client Feedback the waterfall model is unable to adapt to client feedback at a late stage without taking steps backwards thought the model that will be costly and time-consuming.  Delayed Testing Period testing is not started until the penultimate stage of the model potentially finding design flaws at an extremely late stage. It also breeds lackadaisical programming as testing is seen as an afterthought rather than an integral part of the development process. | Waterfall does not have the built-in flexibility of Agile but, on a project of this size it will not be difficult to move back steps if required.  It is simple for all members to understand in depth with defined start and finish points. Making it easier to write a full plan for the entire length of the project.  I believe this will also be easier to implement in the limited time we have before the hand in deadline in May. |
| Agile | The life cycle is an iterative process which means each stage will be carried out multiple times and with each iteration the software is able to become even more developed. This gives the opportunity for customer testing during the development process and changes can be made easier.The product has the opportunity to be adjusted and made better after each iteration as ‘the model produces ongoing releases, each with small, incremental changes’ (Morris, 2018). If a client is not happy with a part of the project, this methodology does give them the chance to change their system requirements at a variety of different stages within the project. | This methodology can take longer than the others due to testing and possibly changing the project at each iteration. This also creates a greater workload for developers and you need to ensure you have good communication with your clients for this methodology to be successful. The documentation for a project created using the agile methodology can often be less detailed due to the fact that it is likely that the project may change during the process of developing it so not everything can be documented straight away. | This will be beneficial for our project as we meet with the client regularly so they can see each update, test it themselves and decide whether they are happy or would like something different. |
| Rapid | Flexible and adaptable to changes  Reduces risks (by having constant communication with the client)  Due to code generators and code reuse, there is a reduction of manual coding  Due to prototyping in nature, there is a possibility of lesser defects  With less people, productivity can be increased in short time | It can’t be used for smaller projects  Requires highly skilled designers or developers  Progress and problems are hard to track as there is little documentation to demonstrate what has been done    Reduced scalability occurs because a RAD developed application begins as a prototype and evolves into a finished application    Reduced features due to limited time and features are pushed in a later version. | Software product is to be developed in a short time span (2-3 months)         The client is available throughout the development process. |
| DevOps |  | Difficulty to implement the methodology, standardizing procedures and processes |  |
| Rational Unified Process | This methodology emphasizes on accurate documentation  It is proactively able to resolve the project risks that are associated with the clients evolving requirements for careful changes and request management  Very less need for integration as the process of integration goes on throughout the development process | The software developer needs to be expert in their work to develop software under this methodology.  The development process in this methodology is very complex and not exactly organized.  Integration throughout the process of software development adds the confusion that causes more issues during the stages of testing.  This process is too complex therefore it is very hard to understand. | This is an object-oriented and web-enabled program development methodology. Which considering the project in hand I considered rapidly that will be suitable, This model also helps software developers for providing them guidelines, templates, and examples for all aspects and stages of software development. |

Morris, A. (2018). 6 basic SDLC methodologies: Which one is best? | Robert Half. [online] Roberthalf.com.au. Available at: https://www.roberthalf.com.au/blog/employers/6-basic-sdlc-methodologies-which-one-best [Accessed 24 Jan. 2019].