- 12 to 18 pages long.  
- Full Diss will be 40 pages max.  
  
## Project Definition  
  
#### Project Motivation  
  
#### Project Aims  
  
#### Related Work  
  
    Mark Scheme help  
    The motivation and context are evidenced through reference to initiatives or reports from government, industry, public bodies or academic sources.  
  
    There are clear, ambitious and detailed aims for the project. There is evidence they can be carried through to completion. Aims are imaginative and creative. These are conveyed precisely and effectively to the reader.  
  
    Extensive independent research and effort using primary sources  
  
    Mature and thorough evaluation of previous work including a critical comparison and reflection on the knowledge and evidence of integration into the project.  
  
## Understanding Of The Topic  
  
#### Related Work  
  
#### Background Research  
  
    Mark Scheme help  
    Demonstration of a sound body of understanding across the topic, and effective judgement in the selection of appropriate techniques.  
  
    In depth understanding of technical background and evidence of ability to apply it in a constructive fashion.  
  
    Critical evaluation of approaches and the current limits of knowledge are appreciated.  
  
    Substantial progress has been made for this stage of the project.  
  
    Original thinking has been demonstrated.  
  
    Demonstration of conceptual understanding at the forefront of the discipline.

Project Management  
  
Plan  
  
Risk assessment  
Risks are an obstacle that can prevent the success of a project. I believe it is important to assess the possible risks within a project ahead of time so that there can be enough plans made to prevent these risks or reduce their severity.   
  
I have created a risk assessment table [1] which identifies possible risks when completing different tasks. These risks are identified with actions to reduce their severity or prevent them entirely.

|  |  |  |  |
| --- | --- | --- | --- |
| Risk | Type | Hazard | Mitigation |
| Time Management | Generic | This risk emerges when failing to assess how long tasks will take to complete. This can lead to failing to complete work on time. This risk also emerges when working too many long hours which can lead to burn out. | A solution to reduce the severity of this risk is to follow the time management graph I have created. Writing down an estimate time to complete tasks will help organise my time. |
| Dependency Software Updates | Specific | Software projects have their dependencies. Using libraries that fulfil certain functions saves us time and maintenance. However, if a dependency a project uses updates and changes its behaviour it could break the project that depends on it. This can lead to a time-consuming process of trying to debug where the problem has come from which is expensive. | A solution to this risk is instead of just depending on the latest version of a software dependency, I will depend on certain version. This way I guarantee that the behaviour of that dependency will always be the same. |
| Hard Drive Error | Generic | It is possible a hard drive can become corrupt during development. This can lead to a loss of work on that machine, which can be very time consuming to replace. | A solution to this problem is to have the code base and other resources backed up by source control on a separate computer. This is so work is easily recoverable. I will be using A bitbucket cloud server as my source control. |
| Change in Development PC | Specific | Moving to a new computer for development can be stressful. The project compiles on the previous PC but may fails to compile on the new PC. This is usually due to a new development environment. Time will have to be spent setting up the new PC to match the development environment of the previous machine. | I will create batch or python scripts to set up the development environment on my PC automatically, this will make moving to a new PC easier. |
| Internet Access Issues | Generic | Development requires access to the internet. This is mainly required when fetching new dependencies from online, browsing the web for solutions to issues or committing changes to remote branches. The loss of internet can slow down progress on a project massively, as the tasks mentioned above cannot be completed. | I will make sure I am close to multiple locations that include access to the internet. I will use my Laptop as a development PC and so can move to another location with internet access if it is lost. |
| Git Server Failure | Specific | This project will be using a Bitbucket Cloud server to store its source code. It is possible that Bitbucket may go down for maintenance and so will mean that a lack of access to the source-controlled code. It’s also possible that this, wherever it is in the world could be damaged or stolen, this will lead to a loss of source code under source control which will be very time consuming to recover. | This risk is extremely unlikely, however a way to solve this is to keep a up to date checkout of my master branch on one of my local PC’s. This means if their server goes down, I have an up to date version on my local computer. |
| Requirement Overload | Generic | When writing the software requirements for this project it can be easy to overlook how long the features will take to complete. It’s possible that there will be too many requirements created with not enough time to complete all the requirements. | To avoid requirement overload, I have created a set of minimum requirements (Minimal Viable Product). These are the requirements that I will complete first before starting any additional work. |
| Feature Overload | Generic | It’s an easy mistake to focus on creating features rather than fixing bugs and writing tests. This can lead to a feature overload as the product may be feature complete but can be very unreliable and under tested which could lead to lots of bugs and issues not being discovered until deployment. | Feature overload is solved by the same problem above. The use of a Minimum viable product will make sure only the minimum required features are added first. |
| Inadequate User Interface | Generic | A user interface that is not easy to use will discourage new users to learn how to use the product and can lead to users being unaware of certain features and getting lost within the user interface. | To solve this risk, I have created some wireframes which focus on making a smooth and easy to use user experience. When creating the UI for the web application, these wireframes will be copied into the application. |
| Developing Wrong Purpose Functionality | Generic | When developing features, it’s possible that the point and use of that feature may be misunderstood. This can lead to a creation of a feature that does not fulfil the user requirements. This leads to wasted time and additional code being added to the code base. | To prevent wrong purpose functionality, I have created a set of requirements that have to be bet, I will not implement a feature if it does not reach any of the requirements. |

I have identified these risks by using multiple different approaches:

* I have investigated problems that have occurred for other previous third year students and industrial software development projects.
* I have investigated all aspects of my own project, including generic risks and specific risks related to my project.
* I have also spoken to other students with experience in software engineering as they may be aware of risks that aren't obvious to me.

I will continue to manage the risk of my project by following up with another risk assessment which will be used to identify new risks and update the risk assessment table above.  
  
    Mark Scheme help  
    Effective judgement in the selection of a software development model has been demonstrated.  
  
    There is a clear and precise description of how the chosen SDLC will be applied.  
  
    The work schedule identifies deliverables that are detailed and ambitious.  
  
    The size of each deliverable is appropriate and demonstrates progression.  
  
    Each deliverable is associated with a method to measure its success, and risks are identified with mitigation.  
  
    Delivery is timetabled appropriately.  
  
    The reader is convinced that effective project management will take place as an integrated and useful component of the project.  
  
    All risks are identified with mitigation. These include generic and project specific risks.  
  
    It is clear how risks will be identified during the project, and risk management is a core component of the project.

Bibliography  
- [1]: https://www.ccohs.ca/oshanswers/hsprograms/risk\_assessment.html