

## Risk Register

Risk	Description	Likelihood	Impact	Mitigation
Team member absent	Team members may have extensive knowledge about the parts of the project they're focusing on, if a team member is absent then another team member must be able to take over.	Low	High	Appropriate documentation is required so another team member can take over at any stage. Appropriate analysis of project requirements will help assist people know what's needed from components of the project
Unfinished project	Not finishing the project by the end of unit deadline is a risk due to the scope of the project and the need to meet all client requirements. This means the client will not receive a functioning project.	Low	High	Identifying requirements and describing project scope clear in a requirements analysis document. Regular meetings with the client to show progress and employing project management techniques to ensure our team is on track. Separation of concerns and breaking down tasks to team members.
Scope creep	As the project progresses the client may request more features which they want for the software. This may delay the delivery of sprints, the final project or result in increased costs for the team.	Low	Medium	Identifying requirements and describing project scope clear in a requirements analysis document. Discussing addition of new features with the client and coming to a logical compromise. Conducting a \$100 test to check priorities with clients and focusing on priorities in each sprint.
API cost	Useful APIs for the project may cost money and reliance on these APIs could result in increased cost for the client or may result in components of the project not functioning correctly due to availability of the API.	Low	Medium	It is essential that the software is available to the client. We will not be using APIs that cost money unless discussed with the client if there is a strong case to use one. This ensures that the project will not incur large costs.
Knowledge risk	There are tools and technologies such as optical character recognition technologies	Medium	High	The team will conduct a skills and resources audit at the beginning of the project to identify gaps in skills, what we

	which are essential for the project to meet requirements of the client, team member require knowledge to use these technologies and implement them.			need to learn and where we can learn it to ensure the success of our project. Conducting this early in the project will ensure we are ready prior to coding and regular skills audits will become beneficial as the project progresses.
Delay in deliverables	It is important to deliver our sprints in a timely manner so that we deliver our project on time and ensure we achieve a successful product. A delay in deliverables may occur due to scope creep, lack of management, sick team members, etc.	Low	Medium	Implementing project management techniques to ensure that team members are appropriately allocated tasks, team members are available to help others, skills and resources audits are conducted to ensure all team members have the abilities and resources to complete tasks. Regular meetings with the group and client will also mean that components of the project can be clarified, and vulnerable aspects of the project can be assessed.
Building a system too complex for the client	There are many technologies that will be implemented in the project some of which are very complex. It is important that the system is usable by non-technical end users as well as technical users. This means the system will be user friendly, simple, while achieving the requirements from the client.	Low	Medium	Ensuring a friendly graphical user interface is implemented is important so that all users can use the system easily without much requirement for training. Ensuring the system outputs clear and intuitive errors messages and that the system is not error prone will ensure the system won't be too complex.
Building an unmaintainable system	There are many technologies that will be implemented in the project some of which are very complex. It is important that the system being built is able to be maintained by the	Low	High	Writing clear and concise code will help the maintainability of the code. Writing comments in code and extensive documentation for the software is essential so the client can directly refer to that for maintenance of the system. Regular meetings with the client

	client after handover of the project.			to show them how the system functions will also be conducted so that they at least have a basic understanding of the architecture.
Building a system that doesn't meet client requirements	For the project to be delivered successfully it must meet minimum criteria such as achieving a minimum accuracy result for the OCR text extraction.	Low	High	Identifying client requirements and constructing a clear and comprehensive requirements analysis document, identifying user stories will ensure we can assess user requirements clearly. The requirements can be set out and the system can be built to meet those requirements. Extra requirements can be accounted for. Ongoing meeting with the client ensures we are focusing on the client's priorities. Conducting frequent \$100 tests for client priorities to ensure we focus on the correct components of the system. Employing project management techniques to ensure components are split between the team appropriately so we can deliver sprints and the final project in a timely manner.
Bugs and errors in software	Bugs and errors in the software will result in the accuracy of the OCR not meeting the client requirements. It will also result in the system being difficult to use and debug especially for non-technical users which may result in the system being unusable if errors occur.	Low	High	Ensuring the team conduct unit tests, system tests etc. Using frameworks such as PyTest to conduct tests of the software. Doing walk through and simulations of the software. Building a test-first system. Ensuring we follow processes like these and test our system extensively before we deliver will ensure a bug free system. It is also important to conduct user stories to ensure we understand how to present error messages to the user if they do occur so that any user can resolve them.
Client unavailable	Our client may be unavailable when we	Medium	Low/Medium	We have discussed regular meetings with the client to

when required by project team	need assistance or clarifications which may result in the team working on aspects of the project which are not a priority for the client. This may result in the project not meeting client requirements.			ensure we can frequently communicate with the client. The client gave us a contact for a second in charge person who we can contact if need be. Identifying project requirements in a requirements analysis document and a clear scope of work document will ensure that we can work toward the client requirements and deliver successfully even without immediate input from the client. Conducting frequent \$100 tests for client priorities and demoing the current software at meetings will ensure we can work on the project in sprints without needed constant client input.
Performance Risks	The OCR technology may require long processing times, and the client requires large amounts of documents to be processed at a time. On a low-end system this may result in performance degrading which is unideal when requiring many documents to be processed.	Medium	Low	Ensuring we follow appropriate coding practices will help our code run faster, conducting code reviews of our team's code will ensure we are writing good code. Specifying minimum system requirements in the scope of work document for the client ensure we can test and build our system to achieve a minimum speed for the client. Also, in the scope of work document, after discussing with the client a minimum document processing time and be identified and this can be a project deliverable.
Building a system that isn't portable on multiple device types	There may be many users of this software who will want to use the software on many device types such as computers and mobile devices, or on different operating systems like android, Windows, MacOS, etc.	Low	Low	Specifying system requirements with the client and clear setting these in the requirements analysis document will mean that it will be in the scope of the project that the software will be built and tested for a certain device type and operating system.
Lack of access to resources for	To be able to test the OCR output and the GUI we require resources that	Low	Medium	Having regular meetings to discuss resources and gain an understanding of the real-world

testing purposes	the client may use in the real world to check the accuracy of the OCR software and error checking. This ensures that the software won't be error prone, and that the accuracy meets client expectations.			uses of the software is important to understand the inputs and outputs of the software. Using class and data diagrams to understand how data is used. We have organised access to the client's resources for testing purposes. A skills and resources audit will be conducted to ensure our team has access to all the skills and resources required to successfully deliver the project. User stories also help assess the types of resources that the client will be inputting into the system.
Security and data vulnerabilities	The project will involve inputs and outputs of sensitive data. This means that there are significant responsibilities for the development team to ensure that the software handles this data appropriately.	Low	High	The software will be running locally so an attacker will require physical access to a device. We will follow secure coding practices, such as not using deprecated functions which have security vulnerabilities. Data will be handled securely, and the system will not permanently store data, temporary files will be deleted. It will be clearly specified in the requirements analysis document about the responsibilities of handling data. When using data like PDF documents for testing purposes which the client will provide to us, we will ensure appropriate code of conduct and ethical standards will be followed when handling the documents.