

Skill and Resources Audit

Identified Technical Skills	Description	Why this skill is necessary	How we can learn/improve this skill set
LaTeX	LaTeX is a system used for document preparation on medium to large documents.	The input of physics questions fed into the project interface are of a .tex format (Latex file) or a .txt file format. A sound understanding of the compilation and storage of these files will be necessary to successfully use them.	<ul style="list-style-type: none"> - Online research - Listening to our Mentor - Learn from peers at University
Html	Html is used for creating web pages and applications.	We will need to know this language to make the online interface.	
Javascript	Javascript is an object-oriented language used to make web pages more interactive and allows more complex functions on the client side of an interface.	This will be used for client-side scripting, including necessary pre-processing functions and making a more dynamic interface.	
MYSQL	MYSQL is a database management system.	We need to know this language to create a secure place to store and access the physics questions. The more we know about the language, the better we can design the databases to improve efficiency.	
CSS	CSS is used to alter the presentation of web pages.	The front end of the project might require a certain aesthetic that would be very difficult to achieve without CSS. In this case it would require an interface like the standard UWA webpage.	
Node.js	Node.js is an open source server environment that is run on Javascript.		

Identified Non-Technical Skills	Why this Skill is necessary	How we can learn/improve this skill set
Communication	With a large project comes a significant workload. Clear communication allows effective delegation of tasks and progress reports of those tasks. It also allows disagreements and disputes to be dealt with faster.	<ul style="list-style-type: none"> - Slack - Github - Google Drive - Facebook Messenger
Flexibility/Adaptability	Although a general understanding of how to complete the project may be reached, there is always a chance that circumstances may change. Being adaptive will be necessary in a situation like this will be crucial to the completion of the project.	<ul style="list-style-type: none"> - Accept multiple perspectives - Listen - Get feedback
Time Management/Organisation	Time management will be a large consideration during the entire project. Using time effectively and being able to correctly allocate time based on the importance of the task will be crucial. It will help prevent the same work being done repeatedly or work not being done at all.	<ul style="list-style-type: none"> - Have a schedule - Have goals - Allocate time based on importance of task
Cooperation	Cooperation is a necessary trait for a group project because without working together the workload will be far too great. Cooperation will be especially important when working on the same pieces of code and when critiquing work. It is important to understand that we are working together and not against each other.	<ul style="list-style-type: none"> - Slack - Github - Google Drive - Facebook messenger
Problem solving	There will be many large and small problems that need solving within the project. Without the ability to think of creative solutions to these problems the progress of the project will come to a halt, potentially wasting valuable time.	<ul style="list-style-type: none"> - Online research - Listening to our Mentor - Learn from peers at university

Resources	Description	Why this resource is valuable
Internet	A global computer network, the internet is the home of vast amounts of information on all topics.	We can find appropriate information on topics of interest and use it to communicate effectively.
Mentor	For this project we were assigned a mentor with project experience to oversee our work and provide us with advice.	Working someone who has decades of project experience will help provide more perspective on how to approach design and implementation..
University Staff and Students	UWA is filled with knowledgeable students and staff that would be willing to help provide thoughts and information about a project.	Like the mentor, we can gain more perspective and information about our project.
Books	Books have always been a reliable source of information, being comprehensive and detailed.	If we require very specific information about a topic, finding a book might be more efficient than looking online.

Risk Matrix

Identified Risks	Risk Score				Comments	How To Control	Residual Risk (Risk After Control Applied)			
	C	L	E	R			C	L	E	R
Loss Of Data	5	2	5	50	<p>This could include the but isn't limited too</p> <ul style="list-style-type: none"> • Accidental Deletion of important files • Erasing of Files on GitHub • Accidental 'corruption' of files on GitHub 	<p>This can be controlled by the members of the group (1-all) periodically downloading the registry on GitHub and all other Files</p> <p>Doing this will create a secondary/tertiary source of data.</p>	5	1	2	10
Data Security	5	3	4	60	<p>This is the security of the data that is stored in the database. This will primarily be an issue when trying to rollout the database</p> <p>If proper encryption isn't applied at this stage there is a potential that data can be corrupted, stolen or deleted entirely by an attacker</p>	<p>Obviously applying proper encryption on all data in and out of the database will be crucial but can also inhibit the amount of chances that an attacker would have to effect this.</p> <p>What we will do is test all connections (prior to encryption especially) on single machines or on a</p>	5	1	1	5

						closed network in which we can control the devices that have access to it				
Websites Being Down	3	1	5	15	<p>This is extremely bad for a large group assignment and also it would affect the group heavily if websites where we have to submit parts of the assignment.</p> <p>For example, if GitHub was down on the day in which sprint 1 was due the group would have no (clear) way to submit the assignment.</p>	<p>To prevent this being an issue, in a similar way to the control of loss of data the group can create redundancies such as backups of data.</p> <p>Also, the group should be aware of the status of all required technologies so in the event of a website going down, the group is able to fix the issue as so as possible</p>	2	1	3	6
Group Members Getting Sick (or other like situations)	2	3	4	21	<p>In a large group assignment that exists over the course of a semester it is almost inevitable that a member of the group will get sick. If this occurs the group will be placed under the strain of not having a member being able to work and (potentially) lacking a particular set of skills that are integral to the assignments completion</p>	<p>Avoiding getting sick is a lot harder to do than planning for the event, so that is a better way to control this risk.</p> <p>The group should delegate tasks in such a way that multiple people are responsible for the task so should one of them get sick the task isn't completely disregarded.</p> <p>Also, the group members should (hopefully) have some knowledge of how all</p>	1	3	3	9

						parts of the project work so that any discrepancies caused by the loss of a member can be managed.				
Lack of group cohesion	4	3	4	48	<p>In such a large group there is a tendency that people will start to butt heads or disagree on how they think the group should proceed with the project.</p> <p>This can cause members of the group to grow disinterested in the project and become a hindrance on the rest of the group when they aren't working at their full capacity.</p>	<p>To avoid this the group has to be careful to avoid the quashing of ideas from all members of the group.</p> <p>A good strategy to avoid this is for (in meetings) the group to create an agenda for discussions in which everyone has their own time to speak without interruption. What this does is allows people who are less controlling in conversations to still be heard. Also, the noting of this down in minutes will allow all members ideas to be recorded and potentially used.</p>	2	2	4	16

KEY

C = Consequences (1-5) : 5 being the worst

E = Exposure (1-5): 5 being the most people/things exposed to this

L = likelihood of occurrence (1-5): 5 being incredibly likely

R = Total Risk (multiplication of the other 3 values)