Module	ENG1
Year	20/21
Team	33 (Short Circuits)
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Deliverable	Risk Assessment and mitigation

A. Risk justification

Risk refers to the potential or apparent negative impact on the project. It must influence the process of the project when a risk event happens. Thus, managing the risks is necessary.

Risk management is the process of identifying, analysing, mitigating and monitoring risks.

Identifying risks is the first step of risk management. The objective of risk identification is to identify all possible risks. We followed Rebecca Webb's way [1] to identify the risks as all of us have limited experience. Engineer projects have common risk categories like technical, financial, staff, timing, and so on. We gathered all members and brainstormed to consider the detailed risks based on these categories. All possible risks should be listed to reduce the possibility of overlooking all possible risks. And then consolidated some overlapping risks which can be mitigated similarly and removed the risks with very low possible risks or have minor consequences.

The second step is analysing risks. The objective of risk analysing is to determine the likelihood of each risk's impact if the risk occurs. When risks happen, we need to know which risks can be accepted and which should be solved in priority.

The degree of the risks is discussed by all group members. For disagreement risks, the group members gave their own opinions and took the opinion of the majority. The scale we used is ranked from low to high. The table below is the degree of the risk analysing.

Likelihood	Severity
High	High
Medium	Medium
Low	Low

The next step is mitigating risks. We used the risk avoidance strategy to eliminate and avoid some risks. Risk avoidance seeks to reduce the probability of risk occurrence to a minimum to an acceptable value.

The final step is risk monitoring. This step is aimed at tracking the identified risks and discovering any problems in time. The risks owner should re-assess the likelihood and the severity of risks regularly. Members need to update the risk register once the new risks appear.

B. Risk Register

ID	Type	Description	Likelihood	Severity	Mitigation	Owner
R_DESIGN_CHANGE	PRODUCT AND PROJECT	Product design may change in the process of implementation, causing the previous work to be useless.	M	H	Develop with a plan that allows for changes and maintenance of code/design.	Qi
R_ORGANIZE_REQUIREMENTS	PROJECT	Failure to organize requirements early may result in missed necessary requirements.	M	M	Make a list of all requirements and check whether all requirements are realized	Sam
R_ABSTRACT_REQUIREMENTS	PROJECT	The requirements are too abstract to carry efficiently.	L	M	Identify each requirement clearly. Discuss anything vague.	Neo
R_CUSTOMERS_PARTICIPATION	PROJECT	Lack of customer participation may lead to communication that is not timely.	L	M	Keep in touch with customers and provide timely feedback	Sam
R_UNSATISFY	PRODUCT	The customer is not satisfied with the final product that needs to redesign. Result: spend longer on test, design and implementation.	M	H	Feedback and adjust timely during the course of the project	Mohammad
R_TIME_PRESSURE	PROJECT	Tight schedule may put pressure on staff.	M	H	Make time schedule and consider various potential factors	Jack
R_UNFAMILIAR	PROJECT AND PROJECT	Unfamiliar with the development tools leads to taking longer than expected.	H	H	Use development tools that familiar as far as possible	Neo

R_TOOLS_BUG	PRODUCT	Development tools have bugs that cause the project not to proceed smoothly.	L	M	Fix it if it can return normal in a short time or choose alternative development tools.	Neo
R_TASKS_DELAY	PROJECT AND PRODUCT	A delay in a task causes a chain reaction of related projects.	M	M	Emphasize the importance of keeping the project on schedule	Jack
R_PLANNING	PROJECT AND PROJECT	Not making a plan before starting may lead to repeat work.	M	M	Make a detailed planning and carry according to plan	Mohammad
R_TEAM_STRUCTURE	PRODUCT	An inefficient project team structure reduces productivity.	M	H	Assign tasks according to everyone's advantages	Sam
R_TRAINING	PROJECT	Members need long time training may affect the process of project	L	M	Effective delegation of tasks to team members familiar with experience performing certain roles using tools that they do not require as much training with.	Qi
R_DIVERGENCE	PROJECT	Disagreements among team members.	L	L	Speaking to the lecturer and/or discussing the requirements in detail	Jack
R_TURNOVER	PROJECT	Turnover influences the process of the project	L	M	Delegate the core of a project to more than one person(rather than focusing on just one person)	Mohammad

R_MOTIVATION	PROJECT	Some group members have lack of motivation which may affect the whole group	L	L	Encourage each other to create a good atmosphere	Qi
R_LACK_OF_STAFF	PROJECT	Limited staff number may lead to each members need to work overload	L	M	Distribute the tasks reasonably.	Sam
R_MISUNDERSTANDING	PROJECT	Misunderstandings with the requirements may result in wrong subtasks	M	M	Having the meetings regularly and providing feedback timely.	Qi
R_LEARNING	PROJECT	The learning period for new development tools is longer than expected	L	M	Use the development tools which we are familiar with.	Mohammad
R_OTHER_COMMITMENTS	PROJECT	Team members may have other commitments that can not put all efforts on one project	M	M	Members should have a time schedule and make sure to finish on time.	Jack

REFERENCES

[1]Webb, R.(2020). 8 Ways to Identify Risks in Your Organization [ONLINE]. Available at: https://www.clearrisk.com/risk-management-blog/6-ways-to-identify-risk-0