UNIVERSITY
OF WOLLONGONG
AUSTRALIA

PROJECT RISK MANAGEMENT

Group ID: 01

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Document History			
Version	**Date**	**Editor**	**Comment**
0.1	08/09/2020	Yusai	Create the document
0.5	02/10/2020	Kyle	Finish the first edition, waiting the review
1.0	05/10/2020	Kyle	Finish the correct

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1 Project Risk Identification

Actors

- Personnel shortfalls
  - → tasks become delayed
  - → Project becomes over budget and over time
- Development technically to difficult
  - → Project tasks take longer
  - → Project takes longer
  - → Project becomes over budget and over time
- Staff sickness
  - → Delays in project tasks
  - → Project becomes over budget and over time

Structure

- Unrealistic time and cost estimates
  - → Project becomes over budget and over time
- Late changes to requirements
  - → Project becomes over budget and over time
- Theft of data
  - → Loss of work
  - → Project becomes over budget and over time
- Natural disaster
  - → Project becomes over budget and over time
  - → Loss of hardware and data

Tasks

- Developing the wrong user interface
  - → Project becomes over budget and over time
- Developing the wrong software functions
  - → Project becomes over budget and over time
- Gold plating
  - → Project becomes over budget and over time

Technology

- Real time performance problems
  - → Project task take longer

Project becomes over budget and over time

2 Risk Analysis and Prioritization

R1. Real time performance problems
- (450,000) * (0.60) = 270,500

R2. Late changes to requirements
- (390,000) * (0.60) = 234,000

R3. Gold plating
- (380,000) * (0.60) = 228,000

R4. Development technically to difficult
- (430,000) * (0.40) = 172,000

R5. Developing the wrong software functions
- (425,000) * (0.40) = 170,000

R6. Developing the wrong user interface
- (420,000) * (0.40) = 168,000

R7. Unrealistic time and cost estimates
- (400,000) * (0.40) = 160,000

R8. Personnel shortfalls
- (385,000) * (0.35) = 134,750

R9. Staff sickness
- (385,000) * (0.25) = 96,520

R10. Theft of data
- (480,000) * (0.20) = 96,000

R11. Natural disaster
- (500,000) * (0.05) = 25,000

Budget = 375,000

Impact					
	High	**R11,**			
	Significant		**R10,**		**R1,**
	Moderate			**R4, R5, R6,**	
	Low		**R9,**	**R7, R8,**	**R2, R3,**
		Low	**Moderate**	**Significant**	**High**
		Probability			

Probability level	*Range*
High	Greater than 50% chance of happening
Significant	30-50% chance of happening
Moderate	10-29% chance of happening
Low	Less than 10% chance of happening

Impact level	*Range*
High	Greater than 30% above budgeted expenditure
Significant	20 to 29% above budgeted expenditure
Moderate	10 to 19% above budgeted expenditure
Low	Within 10% of budgeted expenditure.

3 Project Risk Planning

Risk Acceptance

N/A

Risk Avoidance

N/A

Risk reduction

R3 Gold plating

- **Requirements scrubbing, prototyping, design to cost, stockholder approval**

Risk exposure before: 60% chance of gold plating with potential cost of $380,000

Risk exposure after: with additional prototyping and time spent with stockholders at a cost of $1000 reduces the chance to 20%

RRL = (((60*390000)/100)-((20*390000)/100))/1000

RRL = 156

R5 Developing the wrong software functions

- **Improved software evaluation; formal specification methods; user surveys; prototyping; early user manuals**

R6 Developing the wrong user interface

- **Prototyping; task analysis; user involvement**

R7 Unrealistic time and cost estimates

- **Use multiple techniques for estimations; design to cost; incremental development; analysis of past projects.**

R8 Personnel shortfalls

- **job matching asses team members and utilize their skills; teambuilding and training; early scheduling of key personnel.**

R10 Theft of data

- **Implement buck ups off site and increase security protocols in servers and physical security on site.**

Risk transfer

R11 Natural disaster

- **Implement buck ups off site and across multiple geographical locations**

Risk mitigation

R1 Real time performance problems

- **Testing, prototyping and get end user input**

R2 Late changes to requirements

- **Implement change control, agree and sign off on agreed requirements early**

R4 Development technically to difficult

- **Technical analysis, cost-benefit analysis, prototyping, training**

R9 Staff sickness

- **Implement critical chain buffer in scheduling**

4 Risk Monitoring

R1. Real time performance problems

Risk record					
Risk ID	R1	Risk title	Real time performance problems		
Owner		Date raised		status	
Risk description Performance problems with the use of the system, slow to respond, hangs at tasks or crashes					
Impact description The impact of this could cause project delays as development team will need to search the system to find why, and fix the issue, this could be hardware or software. Costing money and time to find and fix.					
Recommended risk mitigation Test regularly and in depth, run prototypes and get users input often,					

To catch and performance issues early.				
Probability/impact values				
	probability	Impact		
		Cost	Duration	quality
Pre-mitigation	60%	390,000		
Post-mitigation	20%	390,000		
Incident/action history				
Date	Incident/action	Actor	Outcome/comment	

R2. Late changes to requirements

Risk record					
Risk ID	R2	Risk title	Late changes to requirements		
Owner		Date raised		status	
Risk description Any changes by the client to the requirements in the late stages of the project					

Impact description This could cause the project to be delayed with the add requirements And cost more to implement.				
Recommended risk mitigation Implement change control and agree and sign off on all requirements early in the project				
Probability/impact values				
	probability	Impact		
		Cost	Duration	quality
Pre-mitigation	60%	390,000		
Post-mitigation				
Incident/action history				
Date	Incident/action	Actor	Outcome/comment	

R3. Gold plating

Risk record

Risk ID	R3	Risk title	Gold plating		
Owner		Date raised		status	
Risk description Development team adding in functionality to the system that stakeholders did not ask for or need					
Impact description The impact is that the development team waist time and effort on this unwanted functionality.					
Recommended risk mitigation Make sure that all team members are aware of the requirements asked for by the client and keep track of what requirements check list					
Probability/impact values					
	probability	Impact			
		Cost	Duration	quality	
Pre-mitigation	60%	380,000			
Post-mitigation					
Incident/action history					
Date	Incident/action	Actor	Outcome/comment		

R4. Development technically to difficult

Risk record					
Risk ID	R4	Risk title	Development technically to difficult		
Owner		Date raised		status	
Risk description Development team taking on tasks that they might be outside of their skill set and not be able to complete on time because of a lack of experience or technical knowledge					
Impact description This can cause tasks to be delayed and potentially the entire project. Costing more and taking longer					
Recommended risk mitigation Perform technical analysis of the project, prototype the project.					
Probability/impact values					
	probability	Impact			

		Cost	Duration	quality
Pre-mitigation	40%	480,000		
Post-mitigation				
Incident/action history				
Date	Incident/action	Actor	Outcome/comment	

R5. Developing the wrong software functions

Risk record					
Risk ID	R5	Risk title	Developing the wrong software functions		
Owner		Date raised		status	
Risk description The development team do not have a clear understanding of the requirements for software functions					
Impact description					

The impact is that the client could end up with system that is not what they had indented to be made				
Recommended risk mitigation formal specification methods of the requirements of the functions, prototyping and early user manuals to help find these issues early in the development				
Probability/impact values				
	probability	Impact		
		Cost	Duration	quality
Pre-mitigation	40%	425,000		
Post-mitigation				
Incident/action history				
Date	Incident/action	Actor	Outcome/comment	

R6. Developing the wrong user interface

Risk record

Risk ID	R6	Risk title	Developing the wrong user interface		
Owner		Date raised		status	
Risk description Where the development team creates a user interface that does not match the specification because they do not understand the requirements regarding the user interface					
Impact description A user interface could be created that the client did not ask for. This can cause the team to completely redo the interface costing time and money, can cause project delays and spending over budget to complete					
Recommended risk mitigation formal specification methods of the requirements of the user interface, prototyping and client approval of designs					
Probability/impact values					
	probability	Impact			
		Cost	Duration	quality	
Pre-mitigation	40%	420,000			
Post-mitigation					
Incident/action history					
Date	Incident/action	Actor	Outcome/comment		

R7. Unrealistic time and cost estimates

Risk record					
Risk ID	R7	Risk title	Unrealistic time and cost estimates		
Owner		Date raised		status	
Risk description Time and cost estimates by the project team for project and tasks are too optimistic and potentially not achievable					
Impact description The project could take longer and cost more than first estimated.					
Recommended risk mitigation With the use of multiple estimations techniques to cross reference and analysis of past project that are similar as a base line, incremental development techniques and design to cost.					
Probability/impact values					

	probability	Impact		
		Cost	Duration	quality
Pre-mitigation	40%	400,000		
Post-mitigation				
Incident/action history				
Date	Incident/action	Actor	Outcome/comment	

R8. Personnel shortfalls

Risk record					
Risk ID	R8	Risk title	Personnel shortfalls		
Owner		Date raised		status	
Risk description some team members may not have the experience or skills for some of the tasks					
Impact description causing delays in task completion and potentially the entire project.					

Recommended risk mitigation Assess all team members and utilize their strengths for tasks, schedule key personal to tasks early, and training of team members that may need it.				
Probability/impact values				
	probability	Impact		
		Cost	Duration	quality
Pre-mitigation	35%	385,000		
Post-mitigation				
Incident/action history				
Date	Incident/action	Actor	Outcome/comment	

R9. Staff sickness

Risk record					
Risk ID	R9	Risk title	Staff sickness		
Owner		Date raised		status	

Risk description Team members having to take time off work in account of falling sick Or potentially multiple team members falling sick at the same time				
Impact description This can cause task delays in the project potentially causing the project to run over time				
Recommended risk mitigation Schedule early and implement critical chain buffer to allow for any time delays in critical path				
Probability/impact values				
	probability	Impact		
		Cost	Duration	quality
Pre-mitigation	25%	385,000		
Post-mitigation				
Incident/action history				
Date	Incident/action	Actor	Outcome/comment	

R10. Theft of data

Risk record					
Risk ID	R10	Risk title	Theft of data		
Owner		Date raised		status	
Risk description Loss of project data to theft due to lack of system security					
Impact description With the loss of project data can cost the project a lot of money and time to recover the lost data causing delays in the project and costing the company money and intellectual property					
Recommended risk mitigation Implement tighter system security protocols in the server and use off site back ups of project data and use physical security measures for on site security					
Probability/impact values					
	probability	Impact			
		Cost	Duration	quality	
Pre-mitigation	20%	480,000			
Post-mitigation					
Incident/action history					
Date	Incident/action	Actor	Outcome/comment		

R11. Natural disaster

Risk record					
Risk ID	R11	Risk title	Natural disaster		
Owner		Date raised		status	
Risk description In the event of a natural disaster such as earthquake or tsunami at the geographical location of project					
Impact description This can cause massive loss of data and hardware and cost the company money to recover these and cost a lot of time to recover the lost data and hardware					
Recommended risk mitigation Implement off site backups across multiple sites					
Probability/impact values					
	probability	Impact			
		Cost	Duration	quality	
Pre-mitigation	5%	500,000			

Post-mitigation				
Incident/action history				
Date	Incident/action	Actor	Outcome/comment	