EXP. NO. 10: - Case study on RMMM Plan: Risk Mitigation, Monitoring & Management.

What is Risk?

It's an activity or event that may compromise the success of a software development project. Risk is the possibility of suffering loss, and total risk exposure to a specific project will account for both the *probability* and the *size* of the potential loss.

What is Risk Management?

Risk management means risk containment and mitigation. First, you've got to identify and plan. Then be ready to act when a risk arises, drawing upon the experience and knowledge of the entire team to minimize the imapact to the project.

Risk management includes the following tasks:

- *Identify* risks and their triggers
- *Classify* and prioritize all risks
- Craft a *plan* that links each risk to a mitigation
- *Monitor* for risk triggers during the project
- Implement the *mitigating action* if any risk materializes
- *Communicate* risk status throughout project

Five Types of Risk In Software Project Management: -

1. **New, unproven technologies:**

The majority of software projects entail the use of new technologies. Ever-changing tools, techniques, protocols, standards, and development systems increase the probability that technology risks will arise in virtually any substantial software engineering effort. Training and knowledge are of critical importance, and the improper use of new technology most often leads directly to project failure.

2. User and functional requirements

Software requirements capture all user needs with respect to the software system features, functions, and quality of service. Too often, the process of requirements definition is lengthy, tedious, and complex. Moreover, requirements usually change with discovery, prototyping, and integration activities. Change in elemental requirements will likely propagate throughout the entire project, and modifications to user requirements might not translate to functional requirements. These disruptions often lead to one or more critical failures of a poorly-planned software development project.

3. Application and system architecture:

Taking the wrong direction with a platform, component, or architecture can have disastrous consequences. As with the technological risks, it is vital that the team includes experts who understand the architecture and have the capability to make sound design choices.

4. Performance:

It’s important to ensure that any risk management plan encompasses user and partner expectations on performance. Consideration must be given to benchmarks and threshold testing throughout the project to ensure that the work products are moving in the right direction.

5. Organizational:

Organizational problems may have adverse effects on project outcomes. Project management must plan for efficient execution of the project, and find a balance between the needs of the development team and the expectations of the customers. Of course, adequate staffing includes choosing team members with skill sets that are a good match with the project.

Sr. No.	Risks	Category	Probability	Impact	RMM
1.	Larger number of users than Planned	PS	45%	2	
2.	Compatibility Issues with different work environments	TE	30%	2	
3.	Scalability issue	TE	60%	3	
4.	Inexperienced Staff	ST	30%	2	
5.	Insufficient Funds	CU	20%	1	
6.	Inability to complete project by deadline	CU	50%	2	
7.	Physical damage, data loss, data breach	TE	30%	1	
8.	End Product does not meet Customer’s needs	PS	20%	1	
9.	Staff resigns in between the project	ST	30%	4	
10.	Lack of technology to develop the project	TE	10%	2	
11.	The customer leaves the project or takes away the project	CU	80%	3	

Impact Values:
1 - - Catastrophic
2 - - Critical
3 - - Marginal
4 - - Negligible

Risk Information Sheet			
Risk ID: RMS01-1	Date: 23/3/19	Prob.: - 45%	Impact: Critical
Description: The System is design for only 1lakh Simultaneous connections. Traffic over this value will lead to crashing of servers and in-availability of services.			
Refinement/Context: Sub-Condition 1: High number of users accesses the system at same time Sub-Condition 2: Servers are not meant to handle the traffic generated. Sub-Condition 3: Databases storing User Information may overflow and no longer store new credentials.			
Mitigation/Monitoring: 1. Create the Sever which have larger bandwidth with minimum Downtime 2.Create Large Database that can store large user data			
Management/Contingency Plan/Trigger: RE Computed Cost of 20000$ for larger DB Storage and Bandwidth for RMS which is not included in project contingency cost.			
Current Status: 25/3/19: Mitigation Initiated.			
Originator: Yash Kalaria		Assigned: Abin .B	

Risk Information Sheet			
Risk ID: RMS01-4	Date: 22/3/19	Prob.: - 30%	Impact: Catastrophic
Description: The System is developed by skilled professionals, so non-technical staff couldn't maintain back end of software			
Refinement/Context: Sub-Condition 1: Staff may not possess proper training to understand the system thoroughly. Sub-Condition 2: Certain scenarios where system complexity is high and no can handle the software except developers.			
Mitigation/Monitoring: 1. Proper Training of Staff before actually handling the software. 2. Non-technical alternative for staff to maintain the software.			
Management/Contingency Plan/Trigger: Developing a separate role-based system to tackle the problem of inexperience by giving levels of credibility and job experience, past projects & Technical Education			
Current Status: 25/3/19: Mitigation Initiated.			
Originator: Mehul		Assigned: Yash	

Risk Information Sheet			
Risk ID: RMS01-8	Date: 20/3/19	Prob.: - 20%	Impact: Marginal
Description: Final product may not satisfy the customer nor the business organization.			
Refinement/Context: Sub-Condition 1: Customer keeps on changing the requirements in project which create additional cost in estimated cost Sub-Condition 2: The Customer Requirements were not clearly understood by the developers. Sub-Condition 3: Final product does not meet any expectations of Customer.			
Mitigation/Monitoring: 1. Contact the customer to prepare the Software Requirements Specifications and additionally update him/her about the progress after every development phase. 2. Use of prototypes of the software before adding them to the main system.			
Management/Contingency Plan/Trigger Use of Prototyping model and additional 3 weeks to properly gathered requirements			
Current Status: 25/3/19: Mitigation Finished.			
Originator: Abin B.		Assigned: Mehul.	

Conclusion :- Thus we have successfully studied about RMMM plan