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**Experiment No. 11**

**Aim :** To prepare RMMM Plan.

**Theory :** Risk is an expectation of loss, a potential problem that may or may not occur in the future. It is generally caused due to lack of information, control or time. A possibility of suffering from loss in the software development process is called a software risk. A risk management technique is usually seen in the software Project plan. This can be divided into Risk Mitigation, Monitoring, and Management Plan (RMMM). In this plan, all work is done as part of risk analysis. As part of the overall project plan, the project manager generally uses this RMMM plan. In some software teams, risk is documented with the help of a Risk Information Sheet (RIS). After documentation of RMMM and start of a project, risk mitigation and monitoring steps will start.

**Risk Mitigation :**

It is an activity used to avoid problems (Risk Avoidance)

* Finding out the risk
* Removing causes that are the reason for risk creation.
* Controlling the corresponding documents from time to time.
* Conducting timely reviews to speed up the work.

**Risk Monitoring :**

It is an activity used for project tracking. It has the following primary objectives as follows

* To check if predicted risks occur or not.
* To collect data for future risk analysis.
* To allocate what problems are caused by which risks throughout the project.

**Risk Management and planning :**

It assumes that the mitigation activity failed and the risk is a reality. This task is done by the Project manager when risk becomes reality and causes severe problems. If the project manager effectively uses project mitigation to remove risks successfully then it is easier to manage the risks. This shows the response that will be taken for each risk by a manager.

**Drawbacks of RMMM :**

* It incurs additional project costs.
* It takes additional time.
* For larger projects, implementing an RMMM may itself turn out to be another tedious project.
* RMMM does not guarantee a risk-free project; in fact, risks may also come up after the project is delivered.

| **Risk Information Sheet** | | | |
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| Risk ID : R01 | Date : 12 Aug 2023 | Prob : 80% | Impact : High |
| **Description :**  Risk of conflicts or incompatibility issues among various technology components (front-end, back-end, database). | | | |
| **Refinement/Context :**  Incompatibility might arise due to different versions of software, libraries, or APIs. | | | |
| **Mitigation/Monitoring :**  Regularly update and synchronize versions of software components.  Continuous integration and automated testing to detect compatibility issues early.  Monitoring through version control systems. | | | |
| **Management/Contingency Plan/Trigger :**  Alternative libraries or components identified in case of compatibility issues.  Trigger: Error logs or failed automated tests indicating compatibility issues. | | | |
| **Current Status :** Mitigation steps initiated | | | |
| Originator : Soban | | Assigned : Anas | |

| **Risk Information Sheet** | | | |
| --- | --- | --- | --- |
| Risk ID : R02 | Date : 15 Aug 2023 | Prob : 70% | Impact : Medium |
| **Description :**  Potential data breaches, hacking, or vulnerabilities in user data, transactions, or sensitive information. | | | |
| **Refinement/Context :**  Security risks could arise due to weak authentication, unencrypted data, or outdated security protocols. | | | |
| **Mitigation/Monitoring :**  Implementation of SSL certificates, encryption, and secure authentication methods.  Regular security audits, penetration testing, and vulnerability assessments.  Monitoring user access logs and security alerts. | | | |
| **Management/Contingency Plan/Trigger :**  Immediate system lockdown and investigation in case of suspected security breach.  Trigger: Unusual user access patterns, unauthorized access attempts, or security alerts. | | | |
| **Current Status :** Mitigation steps initiated | | | |
| Originator : Anas | | Assigned : Amaan | |

| **Risk Information Sheet** | | | |
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| Risk ID : R03 | Date : 20 Aug 2023 | Prob : 75% | Impact : High |
| **Description :**  Risk of the website failing to handle sudden spikes in traffic during peak times or marketing campaigns. | | | |
| **Refinement/Context :**  Scalability issues due to under-provisioned infrastructure or inefficient code. | | | |
| **Mitigation/Monitoring :**  Performance testing to identify potential bottlenecks and optimize code.  Implementation of scalable infrastructure with load balancing and auto-scaling capabilities.  Continuous performance monitoring. | | | |
| **Management/Contingency Plan/Trigger :**  Automatic scaling triggers set up based on predefined traffic thresholds.  Trigger: System response times exceeding defined thresholds or server load reaching critical levels. | | | |
| **Current Status :** Mitigation steps initiated | | | |
| Originator : Shadulla | | Assigned : Soban | |

| **Risk Information Sheet** | | | |
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| Risk ID : R04 | Date : 30 Aug 2023 | Prob : 75% | Impact : High |
| **Description :**  Risks associated with dependence on external services (payment gateways, shipping APIs) experiencing downtime or malfunction. | | | |
| **Refinement/Context :**  Downtime might result from third-party server issues, network problems, or API changes. | | | |
| **Mitigation/Monitoring :**  Regular communication with third-party service providers and staying updated on their service status.  Alternative APIs or failover mechanisms for critical services.  Continuous monitoring and automated alerts for service disruptions. | | | |
| **Management/Contingency Plan/Trigger :**  Automatic failover to backup APIs or services in case of primary service disruption.  Trigger: Service downtime alerts or failure to receive expected responses. | | | |
| **Current Status :** Mitigation steps initiated | | | |
| Originator : Shadulla | | Assigned : Amaan | |

| **Risk Information Sheet** | | | |
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| Risk ID : R05 | Date : 10 Sep  2023 | Prob : 75% | Impact : High |
| **Description :**  Risk of users, especially farmers, finding the platform difficult to use or not engaging with it effectively. | | | |
| **Refinement/Context :**  Issues might arise due to complex navigation, confusing UI, or lack of necessary functionalities. | | | |
| **Mitigation/Monitoring :**  Continuous user testing, feedback collection, and iterative UI/UX improvements.  User surveys, feedback forms, and behavior analytics to track user engagement. | | | |
| **Management/Contingency Plan/Trigger :**  Rapid UI/UX modifications based on immediate user feedback or complaints.  Trigger: Declining user activity, high bounce rates, or negative user feedback. | | | |
| **Current Status :** Mitigation steps initiated | | | |
| Originator : Anas | | Assigned : Soban | |