# 6.9 Risk Management Plan

## 6.9.1 Introduction

The Rams E-Caf: A Cafeteria Management System, aims to provide a system for the Asia Pacific College Cafeteria

The risk management plan includes an outline of the risk management process, the project team's duties and responsibilities, and the plan for risk assessments. The strategy will also outline the methods for managing and monitoring risks as well as the strategies for handling them. The efficiency of the plan will be evaluated by how quickly threats are found and addressed.

The following are information that are considered when developing a Risk Management Plan for the project, Rams E-Caf:

* **Identifying Risk:** The Rams E-Caf development, implementation, and operation project group should be aware of any potential dangers. Risks may appear from a variety of ways, including technical problems, legal requirements, cybersecurity, and human factors. Risks should be identified and then evaluated for both chance of occurrence and potential effects on the project.
* **Risk Monitoring:** The continuous nature of risk management requires regular monitoring and assessment. The project team should implement a regular review process to ensure that risk management policies are up to date, risks are identified, and new risks are uncovered. Any adjustments made throughout the open and transparent review process should be communicated to all stakeholders.
* **Contingency Plans:** The project team must develop contingency plans for significant risks that could significantly affect the project's success. Plans for alternatives should outline the steps required to minimize the risk's impact and maintain project progress. These plans should be frequently examined and altered as the project advances and new hazards are identified.
* **Risk Mitigation Tactics:** The project team should create a plan for minimizing or avoiding the risks after having identified and assessed the risks. Prioritizing mitigation tactics should be done in accordance with how well they reduce risk and how easily they can be implemented in terms of both time and money. Contingency planning, redundancy, risk transfer through insurance, and the creation of fallback processes are some possible strategies.

The Rams E-Caf project team Coderist, will ensure that the project is executed effectively, satisfying all objectives while avoiding potential risks by taking these extra considerations into account in a risk management plan.

## 6.9.2 Top Three Risks

1. The Rams E-Caf will not be accessed by the customers if the customers have no internet connection.
2. The risk of connection interruption in the middle of payment process done with the use of payment gateways inside the Rams E-Caf web application.
3. The unsynchronized stocks/available food amount displayed in the web application and the physical food stall may cause confusion and conflict.

## 6.9.3 Risk Management Approach

The steps below are to help in being able to manage risks in the Rams E-Caf project:

* **Risk Identification and Assessment:** The project team will identify project-related dangers through brainstorming sessions, research into previous project experiences, and appraisal of the project's requirements and scope. A risk registry will contain a list of the dangers as well as information on their description, potential impacts, and likelihood of occurrence. The risks that have been identified will be evaluated in terms of both their likelihood of happening and their impact on the project. Using the risk matrix, the project team will assess each risk according to its seriousness. High severity risks will be given priority for either contingency planning or mitigation.
* **Risk Monitoring:** Throughout the project, risks will be regularly watched for. The project team will periodically examine the risk register to make sure that risks are being managed appropriately. The risk assessment procedure will be repeated as new threats are discovered and added to the risk register during the project.
* **Risk Mitigation:** For hazards with a high effect and likelihood of occurrence, risk mitigation plans will be devised. The mitigation plans will contain risk-mitigation techniques. In addition, the project team will choose backup strategies for hazards that cannot be eliminated.
* **Risk Communication:** The process of informing relevant parties—such as the project sponsor, the project team, and other stakeholders—about risks and associated management techniques is known as risk communication. The project team will keep all stakeholders informed and continue frequent communication if any risks are found, evaluated, and dealt with.

## 6.9.4 Risk Identification

The Rams E-Caf project utilized expert interviews, historical data analysis, and a risk assessment conference to identify and document risks. A risk register was created, containing descriptions, potential impact, and likelihood of occurrence. The project team and stakeholders participated in a risk assessment meeting, contributing to the identification and assessment of risks. The team also reviewed historical information and conducted expert interviews to identify additional risks and develop mitigation strategies. The identified risks are regularly updated in an Agile risk management plan to ensure effective risk management throughout the project. The following are a few of the project's potential risks for the Rams E-Caf project:

* **Human Error:** Admin’s computer or devices that have access to the database of APC student’s information in the Rams E-Caf might be left open due to negligence which could leave the data open for anyone in the area to access.
* **Security Vulnerabilities:** The initiative runs the risk of being exposed to security lapses or data loss, both of which might have dire repercussions.
* **Unforeseen Circumstances:** There is a chance that unanticipated events (such market shifts) could have an unexpected effect on the project. The payment gateway company goes inactive or loses connection in the middle of payment.

## 6.9.5 Risk Qualification and Prioritization

The project team will regularly review and update the risk record to make sure that risks are prioritized appropriately. The risks mentioned in the risk records were classified and evaluated using a probability-impact matrix. Risks that would have a significant effect on the project and a high possibility of occurring were given top consideration. Determine the probability and impact of each risk after analyzing potential risks related to Rams E-Caf business case. Following is an overview of the likelihood of risks and their effects on the project:

* Extreme: Risks that could seriously harm the project and have a very high possibility of happening.
* High: Risks that could have a big impact on the project and have a high chance of happening. The team must immediately address these risks and create mitigation plans for them.
* Medium: Risks that have an average chance of happening and a fair impact on the project. To prepare for these risks, mitigation plans should be created, and these risks should be continuously monitored.
* Low: Risks that have a small impact on the project and a low likelihood of occurring. Periodically monitoring these risks will allow for the development of mitigation plans in case that they occur.
* Negligible: Risks that have little chance of happening and little effect on the project. These dangers can be disregarded.

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| RISK ASSESSMENT MATRIX | | | | | |
| PROBABILITY  IMPACT | RARE  (1) | UNLIKELY  (2) | POSSIBLE  (3) | LIKELY  (4) | ALMOST  CERTAIN (5) |
| INSIGNIFICANT  (1) | N | N | N | N | L |
| MINOR  (2) | N | N | L | L | M |
| SIGNIFICANT  (3) | N | L | L | M | H |
| DISASTROUS  (4) | N | L | M | H | E |
| CATASTROPHIC  (5) | L | M | H | E | E |

**Technical Risks:**

• High probability and high impact

• Lack of technical expertise to develop the system

• Failure of the new system to integrate with the current systems

**Resource Risks:**

• Medium probability and medium impact

• Inadequate resources for the project

• Security Risks:

• Medium probability and medium impact

• Unauthorized access to the system

Based on the risk prioritization, the focus will be on developing mitigation strategies for extreme and high priority risks, while continuously monitoring medium and low priority risks. Negligible priority risks will be disregarded due to their low probability and minimal impact on the project. The risk qualification and prioritization will align with the Agile risk management plan, with regular reviews and updates to the risk register. Risks will be included in sprint planning to ensure the team's awareness and appropriate planning. The team will be encouraged to identify and report any new risks encountered during the project.

## 6.9.6 Risk Monitoring

The Rams E-Caf Agile Risk Management Plan offers a framework for actively tracking risks throughout the project. To do this, it is crucial to closely document the process, including defining the circumstances that might set off risks, and to regularly monitor risks during the project.

The high-scoring risks will be incorporated into the project schedule, and the risk manager will be given responsibility for their monitoring. This will make it easier for the project manager to decide when hazards need to be closely monitored and when the risk manager should provide project team meetings with updates. The risk manager will oversee monitoring the risk trigger circumstances. The project manager will also make sure that the project team is informed of the risks that have been identified and their potential effects on the project. Any new risks or modifications to existing risks should be reported to the risk management by the project team so that they can be evaluated and given the appropriate level of priority.

The project team will employ the agile risk management technique, which places an emphasis on adaptability and continuous development. The effectiveness of the risk management plan will be reevaluated as needed to ensure that the project's objectives and quality requirements are satisfied.

## 6.9.7 Risk Mitigation and Avoidance

The risk management strategy will be created by the project team based on the weight each risk is given. Identification and prioritization of potential hazards is the first step in risk mitigation and avoidance. Alternative plans, greater resources, or a change in project deadlines are possible preparation techniques for expected delays. The project team should identify the risks that are most likely to occur and have the greatest potential impact, and then develop methods to lessen or eliminate those risks. The project manager has the following main factors and choices to think about:

* **Resource Allocation:** The project manager must make sure the team has the necessary resources, including competence, abilities, and expertise, as well as access to tools and equipment, for the project to be effective and efficient. The project manager oversees making sure that the team has access to these resources to complete the project on schedule and within the allocated budget.
* **Risk Assessment:** To effectively estimate and handle potential hazards, the team should do a detailed analysis of them. Early in the project, the risk assessment should be finished, and the project manager should move quickly to identify and reduce any potential risks.
* **Contingency Planning:** The project team must develop backup plans for emergencies to be ready for potential dangers. The project manager is responsible for supervising the creation, validation, and testing of these strategies for each potential risk.
* **Agile Approach:** Risk management can be done in a flexible and quick manner by using the Agile methodology. The team's use of the Agile methodology, which permits continual risk management and the capacity for change, must be ensured by the project manager.
* **Communication:** The project manager must encourage open and transparent communication between the project team, clients, and stakeholders to reduce risks and avoid misunderstandings.

## 6.9.8 Risk Register

The risk registry, which will be kept up to date throughout the project, will include comprehensive explanations of each risk, its likelihood, potential effects, and any mitigating measures. To ensure that it appropriately reflects the project's current situation, the risk register will be constantly reviewed and updated. All interested parties will have access to the risk registry, which will be kept in a centralized location.

This risk management approach emphasizes early and frequent risk discovery, collaborative risk management, and ongoing risk monitoring, which is frequently in line with the Agile methodology. The Rams E-Caf project team, Coderist, can lessen the effects and raise the possibility that the project will be successful by anticipating and resolving any hazards. The following criteria will serve as the basis for the risk register:

* Risk ID - Each risk will receive a special unique number.
* Risk Description - The risk event will be clearly and concisely described.
* Risk Category - Risks will be categorized as technical, organizational, or legal.
* Risk Owner - Will oversee monitoring and managing every risk.
* Probability - On a scale of 1 to 5, with 1 denoting the lowest chance and 5 denoting the highest, the likelihood of a risk occurring is evaluated.
* Impact - On a scale of 1 to 5, where 1 represents the least significant impact and 5 represents the most significant impact, the risk's potential impact on the project is evaluated.
* Risk Score - To calculate the overall risk score, the likelihood and impact scores are compounded.
* Mitigation Strategy - explains the precise steps that must be taken to reduce the risk.
* Status - The current state of the risk, including whether it is open, ongoing, or closed, is also recorded.
* Target Resolution Date - predicted day that the risk will be resolved.

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| RISK ID | RISK RANK | RISK | DESCRIPTION | CATEGORY | DESTINATION/  OWNER | PROBABILITY | IMPACT | STATUS |
| RID 001 | 1 | Connection  Risk | The risk of connection interruption in the middle of payment process done with the use of payment gateways inside the Rams E-Caf web application. | Technological | System Developer | Medium | High | In Progress |
| RID  002 | 2 | Human  Risk | The unsynchronized stocks/available food amount displayed in the web application and the physical food stall may cause confusion and conflict. | Technical | Project Lead | High | Medium | In Progress |
| RID  003 | 3 | Technical  Risk | The Rams E-Caf will not be accessed by the customers if the customers have no internet connection. | Technological | Project  Lead | High | Low | In Progress |