*GOLDFOLKS*

Risk Management Plan

Version *1.0*

*17/09/2021*

VERSION HISTORY

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Version #** | **Implemented**  **By** | **Revision**  **Date** | **Approved**  **By** | **Approval**  **Date** | **Reason** |
| 1.0 | Jackson Low  Lionel Wong | 17/09/2021 | Chan Shao Jing | 17/09/2021 | Initial Risk Management Plan draft |
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**UP Template Version**: 11/30/06

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# INTRODUCTION

## Purpose Of the Risk Management Plan

A risk is an event or condition that, if it occurs, could have a positive or negative effect on a project’s objectives. Risk Management is the process of identifying, assessing, responding to, monitoring, and reporting risks. These risks could be created from a variety of sources, including financial uncertainty, legal liabilities, strategic management errors, accidents and natural disasters. Every organization faces the danger of unexpected detrimental circumstances that could damage the company, and in the worst-case scenario, possibly close the company. As such, Risk Management allows companies to prepare and establish structured workflows in such events to potentially mitigate and minimise the costs associated with the risks before they happen. With a robust Risk Management Plan, the company will be able to understand and protect their future, which will allow their employees to be confident in their business decisions and have a smooth development of the project.

This Risk Management Plan will define how risks associated with the GoldFolks project will be identified, analyzed, and managed. It outlines how risk management activities will be performed, recorded, and monitored throughout the lifecycle of the project and provides templates and practices for recording and prioritizing risks.

## Benefits of Risk Management Plan

Below is a list of benefits the risk management plan can bring to the company, project and stakeholders involved:

* Ensure there is a safe environment to work in throughout the project lifecycle.
* Provides protection from possible situations that may jeopardize the development of the project or the company itself.
* Increases stability of business operations while decreasing legal liability.
* Establish insurance needs of the company to save cost on unnecessary premiums.
* Protect the company’s employees and assets from potential damage.

## Possible risks

Some risks that a software project may have but are not limited to:

**Resource risks**

Risks that arise from any possible shortage of resources needed for the project, such as manpower or time management.

**Software risks**

Risks that occur when there are possible bugs from software programs or poor software design.

**Communication risks**

Risks that could happen if information is not conveyed to every member and assumptions are made.

**External risks**

Risks that are not created by the members of the project, but from outside factors that the members are unable to control.

**Hardware risks**

Risks that are formed when there are possible electrical faults with hardware products used for the project.

## Stakeholders

The Risk Management Plan is created by the Quality Assurance (QA) Engineer in the planning phase of the GoldFolks project development lifecycle and is monitored and updated throughout the project.

The intended audience of this document is the project team, project sponsor and management.

# risk management Procedure

## Process

The QA Manager working with the project team and project sponsors will ensure that risks are actively identified, analyzed, and managed throughout the life of the project. Risks will be identified as early as possible in the project to minimize their impact. The steps for accomplishing this are outlined in the following sections. The QA Manager will serve as the Risk Manager for this project.

The team plans to take the following steps in order to manage any potential risks:

**Risk Identification**

The first step is to identify all possible risks that may occur during the entire project. The more risks that we can identify, the lower the chance of a risk disrupting the project’s progress. We will list out all the possible risks in the Risk Management Log.

**Risk Analysis**

After identifying all the possible risks, analysis must be done on every one of them. We must consider the severity and seriousness of each risk through qualitative and quantitative analysis and understand the repercussions of these risks. We also must identify the probability of each risk.

**Risk Response Planning**

In order to eliminate or reduce the possible detrimental effects of the risks, we must use the 4 risk management approaches. These approaches will be discussed among the project members and come to a consensus on the most suitable approach to each risk.

**Risk Monitoring, Controlling, And Reporting**

Despite the responses coming up by us, there will always be risks that cannot be fully eliminated, hence the need to monitor such risks. This can also help to ensure that the project can progress smoothly and meet deadlines on time.

## Risk Identification

Risk identification will involve the project team, appropriate stakeholders, and will include an evaluation of environmental factors, organizational culture and the project management plan including the project scope. Careful attention will be given to the project deliverables, assumptions, constraints, work breakdown structure (WBS), cost/effort estimates, resource plan, and other key project documents.

A Risk Management Log will be generated and updated as needed and will be stored electronically in the project library located on the project’s MediaWiki site.

The Risk Management Log will include the following information:

1. Version Control
2. Number
3. Type
4. Description
5. Probability
6. Impact
7. Numerical Rating
8. Ramifications
9. Team Member-in-charge
10. Approach
11. Course of Action
12. Top 10 Risks
13. Impact-Probability Matrix

For the risk type, we have classified the risks based on section 1.3 or the categories of Resource, Software, Communication, External and Hardware risks. The list of risks identified can be found in our Risk Management Log.

## Risk Analysis

All risks identified will be assessed to identify the range of possible project outcomes. Each risk will be analysed in detail to determine the scope of the risks and the relationship between each risk and the project. Qualifications, such as the severity and seriousness of the risk, will be used to determine which risks are the top risks to pursue and respond to and which risks can be ignored.

### 2.3.1 Qualitative Risk Analysis

The probability and impact of occurrence for each identified risk will be assessed by the QA Manager, with input from the project team using the following approach:

**Probability**

* High – Greater than 75% probability of occurrence
* Medium – Between 25% and 75% probability of occurrence
* Low – Below 25% probability of occurrence

**Impact**

* High – Risk that has the potential to greatly impact project cost, project schedule or performance
* Medium – Risk that has the potential to slightly impact project cost, project schedule or performance
* Low – Risk that has relatively little impact on cost, schedule or performance

Risks that fall within the RED and YELLOW zones will have risk response planning which may include both a risk mitigation and a risk contingency plan. The team has created an Impact-Probability matrix to summarize the qualitative risk analysis for the GoldFolks Project.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Impact** | **High** | *1.Hardware failure e.g., Hard Drive corrupted  2. System not meeting requirements 3. Misunderstanding/Miscommunication of requirements from stakeholders 4. Sensitive data being leaked/hacked* | *1. Unable to meet Project Deadline 2. Feature creep* |  |
| **Medium** | *1. Poor code design (e.g., high coupling) 2. COVID 19* | *1. Staff Unavailability* | *1. Updates to code not communicated to every group member* |
| **Low** | *1. Incomplete Documentation* | *1. Inconsistent Programming Style* |  |
|  | **Low** | **Medium** | **High** |
| **Probability** | | | |

Figure 1: Impact-Probability Matrix

### 2.3.2 Quantative Risk Analysis

Analysis of risk events that have been prioritized using the qualitative risk analysis process and their effect on project activities will be estimated. A numerical rating has been applied to each of the risks identified based on this analysis, and they are documented in the Risk Management Log.

## Risk Response Planning

Each major risk (those falling in the Red & Yellow zones) will be assigned to a project team member for monitoring purposes to ensure that the risk will not “fall through the cracks”.

For each major risk, one of the following approaches will be selected to address it:

* **Avoid** – eliminate the threat by eliminating the cause
* **Mitigate** – Identify ways to reduce the probability or the impact of the risk
* **Accept** – Nothing will be done
* **Transfer** – Make another party responsible for the risk (buy insurance, outsourcing, etc.)

For each risk that will be mitigated, the project team will identify ways to prevent the risk from occurring or reduce its impact or probability of occurring. This may include prototyping, adding tasks to the project schedule, adding resources, etc.

For each major risk that is to be mitigated or that is accepted, a course of action will be outlined for the event that the risk does materialize in order to minimize its impact.

These are all documented and maintained in the Risk Management Log.

## Risk Monitoring, Controlling, And Reporting

1. The level of risk on a project will be tracked, monitored and reported throughout the project lifecycle.
2. A “Top 10 Risk List” will be maintained by the project team and will be reported as a component of the project status reporting process for this project.
3. All project change requests will be analyzed for their possible impact to the project risks.
4. All team members should constantly keep track of the risk management log and be aware of the risks they oversee.
5. Any changes made to the risk management log should be communicated to the QA Manager and disseminated to the team during the weekly project team meetings
6. Management will be notified of important changes to risk status as a component to the Executive Project Status Report.

# Tools And Practices

1. A Risk Management Log will be maintained by the QA Manager and will be reviewed as a standing agenda item for project team meetings.
2. All new risks identified by any member will be reported to the QA Manager immediately. The QA Manager will assess the risk severity level based on our matrix analysis and update it in the risk management log.
3. In the event where a high risk occurs, the project manager should be notified immediately, and the team should take the necessary action to minimize the impact and ramifications.
4. For each risk identified, the team member assigned to it should diligently carry out the strategy or course of action indicated in the risk management log.
5. The risk will only be deemed as resolved when the project manager checked and gave approval to resolve.

risk management plan approval

The undersigned acknowledge they have reviewed the **Risk Management Plan** for the GoldFolks project. Changes to this Risk Management Plan will be coordinated with and approved by the undersigned or their designated representatives.

|  |  |  |  |
| --- | --- | --- | --- |
| Signature: |  | Date: | 17/9/2021 |
| Print Name: | Low Jin Teng Jackson |  |  |
| Role: | QA Manager |  |  |

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| --- | --- | --- | --- |
| Signature: |  | Date: | 17/9/2021 |
| Print Name: | Lionel Wong Zhi Neng |  |  |
| Role: | QA Engineer |  |  |

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| --- | --- | --- | --- |
| Signature: |  | Date: | 18/9/2021 |
| Print Name: | Chan Shao Jing |  |  |
| Role: | Project Manager |  |  |

APPENDIX A: REFERENCES

The following table summarizes the documents referenced in this document.

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| --- | --- | --- |
| **Document Name and Version** | **Description** | **Location** |
| Risk Management Log Version 1.0 | An excel workbook containing the list of risks and risk analysis performed. | http://155.69.100.27/3002S12122\_TS3ElevenDegree/index.php/File:Risk\_Management\_Log.xlsx |
| GoldFolks Software Quality Assurance (SQA) Plan Version 1.00 | The Software Quality Assurance (SQA) Plan establishes the goals, processes, and responsibilities required to implement effective quality assurance functions for the GoldFolks project. | http://155.69.100.27/3002S12122\_TS3ElevenDegree/index.php/File:Quality\_Plan\_(Lab\_2).pdf |
| CDC UP Risk Management Plan Template | GoldFolks Risk Management Plan is based on the CDC UP Risk Management Plan Template. | NTULearn Blackboard |

APPENDIX B: KEY TERMS

The following table provides definitions for terms relevant to the .

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Quality Assurance (QA) | The process of evaluating overall project performance on a regular basis to ensure that it will satisfy the relevant quality standards. |
| Work Breakdown Structure (WBS) | WBS in project management is a deliverable-oriented breakdown of a project into smaller components. |