

**NANYANG
TECHNOLOGICAL
UNIVERSITY**

SINGAPORE

Risk Management Plan for TimeWise

Team 0
Lab group : SSP7

Group members	Roles
Mantri Raghav	Project Manager
Dwivedee Lakshyajeet	Development Lead
Harding James	Back-End Developer
Alex Bernini	Front-End Developer
Mittal Madhav	Release Manager
Xue Xueting	QA Engineer
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Lek Jie Ling	QA Manager

Version History

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Jie Ling	02/27/2020	Lakshyajeet	03/10/2020	Initial Risk Management Plan draft
1.1	Xue Xueting	03/05/2020	Raghav	03/10/2020	Updates on document

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. This Risk Management Plan defines how risks associated with the Timewise 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.

The Risk Management Plan is created by the project manager in the Planning Phase of TimeWise 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 project 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 so as to minimize their impact. The steps for accomplishing this are outlined in the following sections. Jie Ling will serve as the Risk Manager for this project.

Team 0 will take the following steps with regards to risk management:

- Identify risks that would potentially majorly affect the project, especially related to project deadlines and budget.
- Plan ahead so that the team would be able to adapt to unplanned incidents, minimizing any negative impacts on the project itself.
- Ensure that the whole team is on the same page when having to deal with risks, avoiding any clashes.
- For recording purposes, to ensure that there exists a document that logs the team's discussions with respect to the project risk.

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, WBS, cost/effort estimates, resource plan, and other key project documents. A Risk Management Log will be kept and updated as needed and will be kept electronically in the project's MediaWiki.

The Risk Management Log will include the following information:

1. Risk ID
2. Risk Type
3. Risk Description
4. Risk Probability/Impact/Score
5. Assigned Personnel to deal with Risk
6. Risk Mitigation Strategy

Area of risks	Details of risks
Technology	<ul style="list-style-type: none"> • The scraper assumes that the web documents are of a particular structure and would not work if the NTU website is updated drastically • Some of the data of students are confidential and security is not enforced enough to prevent data theft • Server crashes and essential data is lost
Requirement changes	<ul style="list-style-type: none"> • Changes in requirements are proposed to improve the quality of the software at late stage of development
People	<ul style="list-style-type: none"> • The developers are occupied with multiple projects at the same time and may be unavailable to attend possible meetings • As the project duration is short, a team member falling ill and needing a week off would drastically delay project milestones • As there is an ongoing global epidemic, a team member needing to be quarantined would hinder effective meetings and communication.
Underestimated development time	<ul style="list-style-type: none"> • The time required to develop the various components of the software is underestimated.

Table 1 Risks for the TimeWise project

Risk Analysis

All risks identified will be assessed to identify the range of possible project outcomes. Qualification will be used to determine which risks are the top risks to pursue and respond to and which risks can be ignored.

1. Qualitative Risk Analysis

The assessment of risk level would be brought up by experienced team members and agreed upon collectively by the team. The probability and impact of occurrence for each identified risk will be assessed by the project manager, with input from the project team using the following approach:

		Probability		
		Low	Medium	High
Impact	High			
	Medium			
	Low			

Fig. 1 Impact-Probability Matrix

a. Probability:

- **High** - Greater than 70% probability of occurrence
- **Medium** - Between 30% and 70% probability of occurrence
- **Low** - Below 30% probability of occurrence

b. 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.

Impact	High	1. Data theft (2) 2. Quarantined team members (7)	1. Scraper failure (1) 2. Requirement changes (4) 3. Sick Developer (6)	1. Server crash (3)
	Medium			
	Low	1. Overworked developers (5)	1. Underestimated deadlines (8)	
		Low	Medium	High
	Probability			

Table 2 Impact-Probability Matrix for TimeWise

One area where qualitative risks would be actively monitored is the project schedule. This project has a 1 month development timeframe which is not long for a mobile app project. The other

commitments of the developers as well as unexpected coding hurdles that could not be resolved quickly within a few days could lead to missed deadlines.

2. Quantitative 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 applied to each risk based on this analysis, and then documented in this section of the risk management plan.

Severity is the effect that will cause this project. It will be ranged from 1 to 3, with 1 as low effect that can be accepted/reduced easily and 3 as high effect that will cause major disruption for the project if it is not solved properly.

Likelihood is the probability that the event will happen. It will be ranged from 1 to 3, with 1 as low probability and 3 as high probability of happening.

Level of control is the control we have for this particular risk type. It will be ranged from 1 to 3 as well, with 1 as low level control and 3 as high level control.

Lastly, will be Significance, which is the sum of Severity, Likelihood and Level of control.

Risk	Severity	Likelihood	Level of control	Significance
People	2	2	3	7
Technology	3	1	1	5
Requirement changes	3	3	1	7
Underestimated development time	3	2	1	6

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, our 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.

Risk	Approach selected	Strategy
People	Mitigate	A team member will be assigned to be incharge of writing and updating meeting minutes and send the updates to all members so that the member that is sick will be aware of the current progress and new task assigned to each member. Another member will takeover in taking the minutes if he/she is sick
Technology	Mitigate	Investigate the possibility of buying a higher-performance database through research on the reliability of the vendors
Requirement changes	Accept	Necessary requirement changes to the system must be accepted
Underestimated development time	Avoid	Do a more concise and detailed plan, this plan will be discussed and reviewed in the project meeting and must be agreed by all members before the commencement of the project. Any changes on this plan must be brought up in the following meeting and must be constantly monitored by a team member.

Table 3 Risk Response Plans for TimeWise

Risk Monitoring, Controlling, And Reporting

Identification of new possible risks will be done on a weekly basis. Each new identified risk and its effect will be discussed at management progress meetings.

The level of risk of the TimeWise project will be tracked, monitored and reported throughout the TimeWise system's project lifecycle.

A "Top Priority 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.

Analysis will be done on all project/requirement change requests for their impact on each of the key risks identified. All the changes allowed must be ensured that it will not cause huge impact to the project before implementation.

Management will be notified of important changes to risk status as a component to the Executive Project Status Report.

Tools And Practices

A Risk Management Log will be maintained by the project manager and will be reviewed as a standing agenda item for project team meetings.

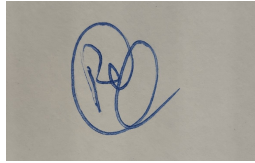
Constant monitoring on each risk on a weekly basis will also be done and checked by the project manager to ensure everything is in control.

Since Team 0 will be following an agile methodology, risks will be reviewed and updated bi-weekly during each Scrum meeting.

Risk Management Plan Approval

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

Signature:

A handwritten signature in blue ink, appearing to be 'RM', enclosed within a circular loop.

Date: 9th March 2020

Print Name: Raghav Mantri
Role: Project Manager

Appendix A: References

The following table summarizes the documents referenced in this document.

Document Name and Version	Description	Location
Team 0 Proposal	Defines the details of the project such as the scraper	https://drive.google.com/open?id=11KF0QgAUE8aR2BDdbZ89AdZO5uvyJ1trT

Appendix B: Key Terms

The following table provides definitions for terms relevant to the Risk Management Plan.

Term	Definition
Scraper	Code which automatically copies a student's timetable from their STARS planner