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6/1/2020

# Project Plan

Grade 6 & 7 General Science

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## Group 9

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# 1 Introduction

Teachers Without Frontiers is a development program designed to empower teachers in remote areas, by providing them materials to support local academic curriculum, at the same time augmenting their knowledge and approaches in teaching. The Project Management course BE 605 focuses on providing Pakistani teachers with materials matching their curriculum in specific areas. This Project Plan has been put together by Group 9 with a concentration on Grade 6 and 7 General Science curriculum. The plan has been broken down into 10 sections, not including the appendices.

Section 1 is the Introduction which briefly summarizes the rest of the plan. Project Objectives and Scope Management plans are discussed in Section 2, including what is in the scope and what is out of the scope of this project, project assumptions, and project constraints. Section 3 is Project Milestones and Deliverables. This section breaks down how major project milestones and deliverables will be completed and on which date. The Project Schedule and Management Plan is Section 4. This section breaks down the schedule into specific tasks including start date and end date of the task and which members of the group will be working on the given task. A Gantt chart is provided in Appendix A with further details regarding the project schedule and timeline. Section 5, the Communication Management Plan, provides communication rules for group members to follow, communication channels including each member's email and phone number, as well as a schedule of group meetings. Section 6 of the project plan is the Change Management Plan. This section provides a change management control process which is to be followed if change to the project must occur. The section also provides a change request form and change management log, found in Appendix B and C, which must also be followed if the project needs to be changed in anyway. Section 7, the Quality Management Plan, covers quality assurance and control as it relates to the project itself and team responsibilities. The Risk Management Plan, Section 8, identifies potential areas of risk and how the team will respond to them. Since risk management evolves as the project is being completed, it will be continually reviewed as the project proceeds. Section 9, Human Resources Management Plan, defines the different roles of each member of the group as well as the responsibilities for each. The project plan ends with Section 10 which is the Sponsor and Professor Acceptance. Once the professor and client have read the entire plan, they will formally approve it ensuring they agree with what is being completed and contribute themselves where necessary.

## 2 Project Objectives and Scope Management

### 2.1 Project Scope Statement

The project scope serves to highlight the project objectives and remove any ambiguity among stakeholders with regards to the project's intentions. It ensures that the proposed project changes, tasks, and deliverables will be consistent with the main objectives of the project.

### 2.2 Project Objectives

Teachers Without Frontiers (TWF) Team 9 project intends to expand and update the Grade 6 and Grade 7 General Science (GS) teaching material on "The Technology Enabled Education Resource Library" with high-quality learning resources to achieve the desired student learning outcomes (SLO).

The description above is achieved by fulfilling the following objectives:

1. Advancing the TWF's effort to provide a tech-enabled learning platform for teachers in Pakistan.
2. Providing free online resources that are accessible and contextually relevant to the teachers and students of Pakistan.
3. Enhancing the capabilities of teachers by providing a wide information library categorized by subject, year, and unit for easy access.
4. Supporting critical thinking and social change in societies through modern teaching practices.
5. Updating and reviewing learning resources to stay in line with the current Punjab school curriculum.

## 2.3 Scope Description

This section serves to assist in avoiding scope creep by highlighting the project boundaries and classifying some tasks as consistent or inconsistent with the project scope.

### In Scope

- Conducting a thorough study of Grade 6 and Grade 7 General Science material; recognizing and understanding the required topics to be covered in the project.
- Comparing the new Pakistan national curriculum with the existing UWaterloo online library for TWF while reporting and correcting any inconsistencies between the two.
- Supplying resource materials in multiple media forms such as documents, videos, and games.
- Ensuring the resources are accessible on both computers and mobile devices through the use of TinyURL.
- Reviewing updated material to ensure it reflects the content is in line with the Pakistan culture and can be appropriately used in schools.

### Out of Scope

- Providing learning resources that are irrelevant to the Grade 6 and Grade 7 General Science material or syllabus units.
- Editing or updating the supplied Punjab syllabus.
- Creating new learning resources.
- Uploading files and documents to the website.

### Project Assumptions

- The up-to-date science and technology curriculum is supplied.
- Deliverables submitted will be reviewed by the supervisor and approved by the client.
- The client would assist with any inquiries from the team.
- SLO units could be left blank in case there is no high-quality content available for the section.

### Project Constraints

- Limited time commitment for daily tasks from team members.
- The project should be submitted by the 28th of July 2020.
- Learning resources are constrained to free content.

## 3 Project Milestones and Deliverables

This section's purpose is to outline the project milestones and the subtasks required to achieve those milestones. It also schedules these tasks according to start date, end date, and duration. There are a total of 31 units containing 192 SLOs in the Grade 6 & 7 General Science syllabus. Due to the project deadline, it was optimal to divide the work into 6 weekly batches with approximately 5 units per week. The project team was divided into 3 subgroups and each subgroup was assigned to finish 2 of the 6 total weekly batches to finish the SLO teaching milestones.

The milestones are tabulated in chronological order according to the scheduling dates. A milestone is considered completed whenever all the desired subtasks are completed. Only then will the next step start. A more detailed dissection of the people assigned to each subtask is shown in Table 3.

Table 1: Project Milestones.

Project milestones	Deliverables	Date
Project Initiation	✓ Commencement of project management plan.	05/26/20
Team introduction meeting.		
Project plan task breakdown meeting.		
Assigning team roles and responsibilities.		
Constructed subgroups to work on project plan draft sections.		
Acceptance of Project Plan	✓ Project plan accepted by prof.	06/02/20
Prepare project plan draft.		
Meeting with the professor.	✓ Amendment of project plan.	
Completion of 1st batch of SLOs – GS (6) unit 1 – unit 3, GS (7) unit 1 – unit 2	✓ Verified and updated the links of online resources in 1 <sup>st</sup> batch.	06/08/20
Review relevant GS (6) and GS (7) curriculum.		
Update existing resources using revised content.		
Conduct a quality check following quality plan guidelines.		
Completion of 2nd batch of SLOs – GS (6) unit 4 – unit 6, GS (7) unit 3 – unit 4	✓ Verified and updated the links of online resources in 2 <sup>nd</sup> batch.	
Review relevant GS (6) and GS (7) curriculum.		

Update existing resources using revised content.	✓ Updated the spread sheet and weekly report.	06/15/20
Conduct a quality check following quality plan guidelines.		
Completion of 3rd batch of SLOs – GS (6) unit 7 – unit 9, GS (7) unit 5 – unit 6	✓ Verified and updated the links of online resources in 3 <sup>rd</sup> batch.	06/22/20
Review relevant GS (6) and GS (7) curriculum.		
Update existing resources using revised content.		
Conduct a quality check following quality plan guidelines.	✓ Updated the spread sheet and weekly report.	
Completion of 4th batch of SLOs – GS (6) unit 10 – unit 11, GS (7) unit 7 – unit 9	✓ Verified and updated the links of online resources in 4 <sup>th</sup> batch.	06/29/20
Review relevant GS (6) and GS (7) curriculum.		
Update existing resources using revised content.		
Conduct a quality check following quality plan guidelines.	✓ Updated the spread sheet and weekly report.	
Completion of 5th batch of SLOs – GS (6) unit 12 – unit 13, GS (7) unit 10 – unit 12	✓ Verified and updated the links of online resources in 5 <sup>th</sup> batch.	07/06/20
Review relevant GS (6) and GS (7) curriculum.		
Update existing resources using revised content.		
Conduct a quality check following quality plan guidelines.	✓ Updated the spread sheet and weekly report.	
Completion of 6th batch of SLOs – GS (6) unit 14 – unit 16, GS (7) unit 13 – unit 15	✓ Verified and updated the links of online resources in 6 <sup>th</sup> batch.	07/13/20
Review relevant GS (6) and GS (7) curriculum.		
Update existing resources using revised content.		
Conduct a quality check following quality plan guidelines.	✓ Updated the spread sheet and weekly report.	
Acceptance of Final Project Report	✓ Approved the final project report.	07/27/20
Collect and combine all project accomplishments and major findings.		
Interpret main outcomes and suggest actions for optimizing future projects.		
Draft project 'Final Report'.		
Review and amend initial draft.		
Finalize the project report and submit it to professor for review.		

Conclude the Video Presentation	✓ Video presentation approved.	07/27/20
Meet to organize outline for video presentation.		
Produce the initial version of the video presentation.		
Review and update the presentation.		
Finalize the presentation and submit it to the professor for review.		
Submit work to client and Celebrate	✓ Project completed.	07/28/20

## 4 Project Schedule and Management Plan

This segment lists and details the tasks and subtasks required to achieve the project's expectations, the assessed span with due dates, the succession of tasks, and the member(s) assigned to complete them. Smartsheet was used to create the management schedule. A Gantt chart (Appendix A), which depicts the tasks to be done in each phase of the project with a clear visual schedule of the set of events and duties was also produced.

The project aims to expand and update the Grade 6 and Grade 7 General Science learning resources. It will be executed in 6 batches, with 5 units assigned for each cluster.

The Project Manager will organize with group members daily to monitor progress and ensure that the project tasks are fulfilled smoothly. Group members will report the project progress on the mapping and quality tracking sheet (Appendix D). The Quality Manager will ensure the provided sources are of a good standard before the Project Manager will set up the weekly status report. This will update the team and Project Sponsor on the week's advancements compared to the planned progress and will provide a flexible platform to strategize for the next week's objectives.

Table 2: Project Schedule.

Task Name	Start Date	End Date	Duration
<b>Project Initiation</b>	05/22/20	05/24/20	3d
Team introduction meeting.	05/22/20	05/22/20	1d
Project plan task breakdown meeting.	05/26/20	05/26/20	1d
Assigning team roles and responsibilities.	05/26/20	05/26/20	1d
Constructed subgroups to work on project plan draft sections.	05/26/20	05/26/20	1d
<b>Acceptance of Project Plan</b>	06/02/20	06/02/20	1d
Prepare project plan draft.	05/27/20	06/01/20	6d
Meeting with the professor.	06/02/20	06/02/20	1d
<b>Completion of 1st batch of SLOs – GS (6) unit 1 – unit 3, GS (7) unit 1 – unit 2</b>	06/02/20	06/08/20	7d



Review relevant GS (6) and GS (7) curriculum.	06/02/20	06/03/20	2d
Update existing resources using revised content.	06/04/20	06/07/20	4d
Conduct a quality check following quality plan guidelines.	06/08/20	06/08/20	1d
Completion of 2nd batch of SLOs – GS (6) unit 4 – unit 6, GS (7) unit 3 – unit 4	06/09/20	06/15/20	7d
Review relevant GS (6) and GS (7) curriculum.	06/09/20	06/10/20	2d
Update existing resources using revised content.	06/11/20	06/14/20	4d
Conduct a quality check following quality plan guidelines.	06/15/20	06/15/20	1d
Completion of 3rd batch of SLOs – GS (6) unit 7 – unit 9, GS (7) unit 5 – unit 6	06/16/20	06/22/20	7d
Review relevant GS (6) and GS (7) curriculum.	06/16/20	06/17/20	2d
Update existing resources using revised content.	06/18/20	06/21/20	4d
Conduct a quality check following quality plan guidelines.	06/22/20	06/22/20	1d
Completion of 4th batch of SLOs – GS (6) unit 10 – unit 11, GS (7) unit 7 – unit 9	06/23/20	06/29/20	7d
Review relevant GS (6) and GS (7) curriculum.	06/23/20	06/24/20	2d
Update existing resources using revised content.	06/25/20	06/28/20	4d
Conduct a quality check following quality plan guidelines.	06/29/20	06/29/20	1d
Completion of 5th batch of SLOs – GS (6) unit 12 – unit 13, GS (7) unit 10 – unit 12	06/30/20	07/06/20	7d
Review relevant GS (6) and GS (7) curriculum.	06/30/20	07/01/20	2d
Update existing resources using revised content.	07/02/20	07/05/20	4d
Conduct a quality check following quality plan guidelines.	07/06/20	07/06/20	1d
Completion of 6th batch of SLOs – GS (6) unit 14 – unit 16, GS (7) unit 13 – unit 15	07/07/20	07/14/20	8d
Review relevant GS (6) and GS (7) curriculum.	07/07/20	07/08/20	2d
Update existing resources using revised content.	07/09/20	07/13/20	5d
Conduct a quality check following quality plan guidelines.	07/14/20	07/14/20	1d
Acceptance of Final Project Report	07/15/20	07/24/20	10d
Collect and combine all project accomplishments and major findings.	07/15/20	07/17/20	3d
Interpret main outcomes and suggest actions for optimizing future projects.	07/18/20	07/18/20	1d
Draft project 'Final Report'.	07/19/20	07/22/20	4d
Review and amend initial draft.	07/23/20	07/23/20	1d
Finalize the project report and submit it to professor for review.	07/24/20	07/24/20	1d
Conclude the Video Presentation	07/21/20	07/26/20	6d
Meet to organize outline for video presentation.	07/21/20	07/21/20	1d
Produce the initial version of the video presentation.	07/22/20	07/24/20	3d
Review and update the presentation.	07/25/20	07/25/20	1d
Finalize the presentation and submit it to the professor for review.	07/26/20	07/26/20	1d
Submit work to client and Celebrate	07/28/20	07/28/20	1d

Table 3: Project plan assigned tasks.

Task Name	Assigned Team
<b>Project Initiation</b>	<b>All team</b>
Team introduction meeting.	All team
Project plan task breakdown meeting.	All team
Assigning team roles and responsibilities.	All team
Constructed subgroups to work on project plan draft sections	All team
Communication Channels	All team
<b>Acceptance of Project Plan</b>	<b>All team</b>
Prepare project plan draft.	All team
Meeting with the professor.	All team
<b>Completion of 1st batch of SLOs – GS (6) unit 1 – unit 3, GS (7) unit 1 – unit 2</b>	<b>Subgroup 1</b>
Review relevant GS (6) and GS (7) curriculum.	Chinoso
Review relevant GS (6) and GS (7) curriculum.	Alex
Review relevant GS (6) and GS (7) curriculum.	Evan
Update existing resources using revised content.	Chinoso
Update existing resources using revised content.	Alex
Update existing resources using revised content.	Evan
Conduct a quality check following quality plan guidelines.	Chinoso
Conduct a quality check following quality plan guidelines.	Alex
Conduct a quality check following quality plan guidelines.	Evan
<b>Completion of 2nd batch of SLOs – GS (6) unit 4 – unit 6, GS (7) unit 3 – unit 4</b>	<b>Subgroup 2</b>
Review relevant GS (6) and GS (7) curriculum.	Mohamad
Review relevant GS (6) and GS (7) curriculum.	Sushmitha
Review relevant GS (6) and GS (7) curriculum.	Karthik
Update existing resources using revised content.	Mohamad
Update existing resources using revised content.	Sushmitha
Update existing resources using revised content.	Karthik
Conduct a quality check following quality plan guidelines.	Mohamad
Conduct a quality check following quality plan guidelines.	Sushmitha
Conduct a quality check following quality plan guidelines.	Karthik
<b>Completion of 3rd batch of SLOs – GS (6) unit 7 – unit 9, GS (7) unit 5 – unit 6</b>	<b>Subgroup 3</b>
Review relevant GS (6) and GS (7) curriculum.	Martins
Review relevant GS (6) and GS (7) curriculum.	Oscar
Review relevant GS (6) and GS (7) curriculum.	Watson
Update existing resources using revised content.	Martins
Update existing resources using revised content.	Oscar
Update existing resources using revised content.	Watson
Conduct a quality check following quality plan guidelines.	Martins
Conduct a quality check following quality plan guidelines.	Oscar

Conduct a quality check following quality plan guidelines.	Watson
<b>Completion of 4th batch of SLOs – GS (6) unit 10 – unit 11, GS (7) unit 7 – unit 9</b>	<b>Subgroup 1</b>
Review relevant GS (6) and GS (7) curriculum.	Chinoso
Review relevant GS (6) and GS (7) curriculum.	Alex
Review relevant GS (6) and GS (7) curriculum.	Evan
Update existing resources using revised content.	Chinoso
Update existing resources using revised content.	Alex
Update existing resources using revised content.	Evan
Conduct a quality check following quality plan guidelines.	Chinoso
Conduct a quality check following quality plan guidelines.	Alex
Conduct a quality check following quality plan guidelines.	Evan
<b>Completion of 5th batch of SLOs – GS (6) unit 12 – unit 13, GS (7) unit 10 – unit 12</b>	<b>Subgroup 2</b>
Review relevant GS (6) and GS (7) curriculum.	Mohamad
Review relevant GS (6) and GS (7) curriculum.	Sushmitha
Review relevant GS (6) and GS (7) curriculum.	Karthik
Update existing resources using revised content.	Mohamad
Update existing resources using revised content.	Sushmitha
Update existing resources using revised content.	Karthik
Conduct a quality check following quality plan guidelines.	Mohamad
Conduct a quality check following quality plan guidelines.	Sushmitha
Conduct a quality check following quality plan guidelines.	Karthik
<b>Completion of 6th batch of SLOs – GS (6) unit 14 – unit 16, GS (7) unit 13 – unit 15</b>	<b>Subgroup 3</b>
Review relevant GS (6) and GS (7) curriculum.	Martins
Review relevant GS (6) and GS (7) curriculum.	Oscar
Review relevant GS (6) and GS (7) curriculum.	Watson
Update existing resources using revised content.	Martins
Update existing resources using revised content.	Oscar
Update existing resources using revised content.	Watson
Conduct a quality check following quality plan guidelines.	Martins
Conduct a quality check following quality plan guidelines.	Oscar
Conduct a quality check following quality plan guidelines.	Watson
<b>Acceptance of Final Project Report</b>	<b>All team</b>
Collect and combine all project accomplishments and major findings.	All team
Interpret main outcomes and suggest actions for optimizing future projects.	All team
Draft project 'Final Report'.	All team
Review and amend initial draft.	All team
Finalize the project report and submit it to professor for review.	All team
<b>Conclude the Video Presentation</b>	<b>All team</b>
Meet to organize outline for video presentation.	All team
Produce the initial version of the video presentation.	All team
Review and update the presentation.	All team

Finalize the presentation and submit it to the professor for review.	All team
Submit work to client and Celebrate	All team

## 5 Communication Management Plan

The Communication Management Plan provides a framework to ensure that the project deliverables and personnel in-charge are aware of their tasks. This plan clearly identifies the tasks of team members and the channels to be used in effective communication.

### 5.1 Purpose

Effective communication plays an important role in any project to ensure successful project implementation. The essence of this plan is:

- To facilitate the critical links among people, ideas, and information which are necessary for the success of the project.
- To ensure an end – to – end plan of project execution, delivering of strategic messages, and information to professor, stakeholders and group members.
- To certify a well-structured successful Group 9 (General Science Grade 6&7) project execution meeting pertaining to the goals and values of the project.
- To ensure project scope is accomplished with proper information dissemination within the team. Thus, ensuring effective project coordination.
- To provide effective communication without delay or barrier within and outside the project group, with stakeholders and professor.

### 5.2 The Communication Management Plan Rules

Communication Management Plan rules create a road map for getting all activities done on time and with supportive effort within the group. This ensures the project is delivered to the client with all the essential tools and materials.

The Communication Management Plan rules for the group are:

- To not place blame on others and resolve issues amicably and professionally.
- To support each other as a team and request assistance as required.
- To keep communication within the group open and direct.
- To ensure accuracy and comprehension of the resource materials.
- To demonstrate a genuine commitment to support others within the group when things get difficult.

### 5.3 Communication Management Task

The Communication Management task entails an orderly manner of proper communication for the inflow and outflow of information within the project group. It ensures that an active point of

contact exists for every member of the group in case any unforeseen issues arise during the project. Points of contact include email and phone number of each member and a WhatsApp group.

#### 5.4 Mode of communication channels, meeting days are outline below

Table 4: Communication Plan

Communication Plan	Mode of Communication Channel
Internal Communication	Daily update of any new ideas and follow-up within the group using WhatsApp group forum and emails as means of communication.
	Weekly meetings of all group members to be held every Monday (10 – 11am) and Friday (10 – 11 am). Webex will be used for weekly meetings.
	Internal team group spreadsheet link on LEARN for sharing project report
External (Stakeholders, Professor)	Weekly project update meetings with Professor Peter Carr (PENDING)
	Project Director and any of the managers will be assigned to represent the team for weekly meetings with client / Professor Peter Carr.
	Weekly update of project to be submitted to Professor Peter Carr using the spreadsheet link on LEARN
	Final Project report and video presentation to be submitted to Professor Peter Carr
Unforeseen circumstance	If there are any major concerns during the project, the Project Director will relay the issues to the Project Sponsor.
Meetings	Monday (10 – 11 am) and Friday (10 – 11 am)

#### 5.5 Communication Channel

Table 5: Communication Channel

Team Members	Roles	Cell Phone No	Emails
AGBRAMU, WATSON	R & D Manager	+1 (519)-575-5584	wagbramu@uwaterloo.ca
AKHUOKHALE, MARTINS	Communications Manager	+1 (548)-333-3325	makhuokh@uwaterloo.ca
ARDATI, MOHAMAD	Project Manager G7	+1 (647)-679-7451	mardati@uwaterloo.ca
HERRERA, ALEJANDRO	Operations Manager G6	+1 (226)-455-9120	a2herrer@uwaterloo.ca
NAGILLA, S.V. SUSHMITHA	Operations Manager G7	+1 (226)-978-8656	svsnagil@uwaterloo.ca
ROSS, EVAN	Project Director	+1 (647)-929-7677	e7ross@waterloo.ca
THIRUMALA, KARTHIK REDDY	Quality Manager G6	+1 (437)-988-3230	krthirum@uwaterloo.ca
UDOJI, CHINONSO	Project Manager G6	+1 (519)-781-7939	cudoji@uwaterloo.ca
WAKA, OSCAR	Quality Manager G7	+1 (226)-749-3861	owaka@uwaterloo.ca
PROF. PETER CARR	Project Sponsor	+1(519)-888-4567 x33990 CPH 3637	pdcar@uwaterloo.ca

## 6 Change Management Plan

The Change Management Plan provides guidance on how to approach and process changes that may occur during the project timeline. It also discusses the methodology implemented by the team in order to manage change throughout the project.

### 6.1 Aim of the Change Management Plan

Considering that changes in a project are inevitable, the purpose of this plan is to ensure that the quality, scope, and objectives of the project isn't compromised when implementing changes.

An approach towards implementing changes in this project is developed, and the roles and responsibilities of the team members regarding the change process are discussed.

### 6.2 Types of Change

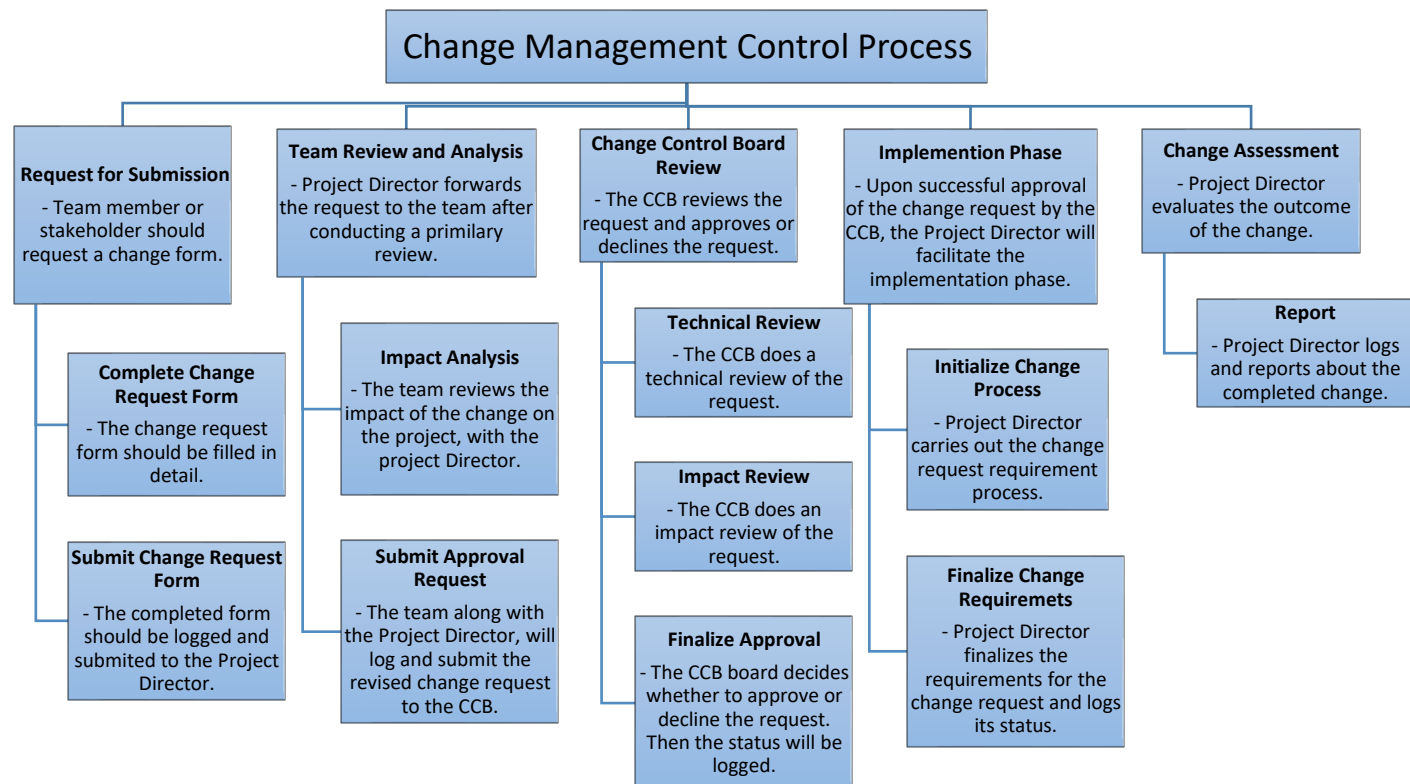
A change is referred to as the deviation or modification from its original plan. It can also be the inclusion of a new content. Highlighted are the possible areas where changes might occur during the project timeline. This helps to evaluate the impact of the change on the project.

Table 6: Types of Change

Types	Descriptions
Scope	This refers to changes to the scope of the project.
Schedule	This refers to the changes in the schedule of the project.
Quality	This refers to changes made in quality requirements, control, and assurance.
Resource	This refers to changes in human resources, and team members.
Communication	This refers to the changes to the communication plan of the team.
Risk	This refers to changes in the risk evaluation of the project.

### 6.3 Change Management Control Process

The Change Management Control Process guides the procedure for implementing a change in the project. This will ensure that changes are properly defined, reviewed, approved, and implemented within the project scope and timeline. The Project Director is responsible for ensuring all changes are properly communicated to the stakeholders and managing all change processes. The diagram below illustrates the change management processes.



## 6.4 Change Management Roles and Responsibilities

Change Management Roles and Responsibilities describe the roles and responsibilities of the project team and stakeholders. Some of the group members will also participate in the Change Control Board (CCB), which will decide on the final approval change request.

Table 7: Roles with Descriptions

Roles	Descriptions
Project Director	Approves all types of change requests, in consultation with Project Sponsor if required. Chair of CCB.
Project Manager	Manages the change request process. Participates on CCB. Submits change requests. Participates in review and analysis.
Project Team members	Submit change requests. Participate in review and analysis.

## 6.5 Change Management Form and Log

Appendix B represents the Change Request Form and Appendix C represents the Change Management Log. Both are used for the Change Management Control Process.

The table below shows the various status report levels of a change request.

Table 8: Status Options

Status	Description
Open	A Change request form has opened/submitted.
In-Progress	Change request is still a work in progress.
In Review	Change request is in final review.
Closed	Change request is complete, tested, and assessed.

The table below shows the various priority levels of a change request.

Table 9: Priority Options

Priority	Description
Low	This change has the lowest priority, and effect on the project.
Medium	This change has potentials to be of great effect to the project.
High	This change is mandatory to achieve certain project needs.
Critical	This change has the highest priority as regards to the project objectives and scope.

## 7 Quality Management Plan

### 7.1 Aim of the Quality Management Plan

The Quality Management Plan is an essential part of the project plan. It also includes the operating procedure for ensuring quality planning, quality assurance, quality improvement and quality control in the project.

The main purpose of this plan is to:

- Ensure quality is planned
- Define how quality will be managed
- Define quality assurance activities
- Define quality control activities
- Define acceptable quality standards

### 7.2 Quality Planning

Quality Planning is formulated to ensure that all works carried out during the project are in conformance with appropriate standards and the client's requirements.



- i. Quality Standards: To ensure all deliverables are
  - a) Legitimate and Valid
  - b) Accurate and Precise
  - c) Conforms to the Quality Assurance and Quality Control Key Performance Indicators
- ii. Quality Approach: Quality Control (for quality results) and Quality Assurance (for quality processes)

### 7.3 Quality Control

To ensure optimal quality of deliverables throughout the project, the table below is used. This table shows the quality control standards, handlers and intervals.

Table 10: Quality Control Standards, Handlers, and Intervals

Project Result	Performance Standards	Quality Control Reviewer	Assessment Interval
Project Management Plan	Shows the summary of the actual work	Team Quality Manager Project Manager Project Director /Project Sponsor	Monthly Twice a month Twice a month Twice (First and last version)
Weekly Project Status Report	Complete and aligns with project standards and schedule	Team Quality Manager Project Manager	Weekly (Saturdays) Weekly (Saturdays) Weekly (Saturdays)
Project Final Report and Presentation	Aligns with the project management plan and the actual results	Team  Quality Manager Project Manager  Project Director Project Sponsor	Two times (July 22 <sup>nd</sup> and 23 <sup>rd</sup> ) Three times (July 24 <sup>th</sup> , 25 <sup>th</sup> and 26 <sup>th</sup> ) Two times (July 26 <sup>th</sup> and 27 <sup>th</sup> ) Once (July 28 <sup>th</sup> )
QC Matrix	Ensuring that all resources pass the quality check according to Appendix D	Team Quality Manager  Project Manager / Project Director  Project Sponsor	Weekly (To be completed individually) After every unit completion After every review by the Quality Manager Once (After submission)

## 7.4 Quality Assurance

Quality Assurance is the process of monitoring the processes and methods to ensure quality deliverables. It is a review of each submission and it is done when Quality Control is completed.

Table 11: Quality Assurance

Project Result	Performance Standards	Quality Control Reviewer	Assessment Interval
Organize Project Management Plan	Ensure it complies to PMBOK 6 <sup>th</sup> Edition	Team Quality Manager Project Manager Project Director/Project Sponsor	Monthly Twice a month Twice a month Twice (First and last version)
Execute Project according Project Management Plan	Ensure it complies to PMBOK 6 <sup>th</sup> Edition	Team Quality Manager Project Manager	Weekly (Saturdays) Weekly (Saturdays) Weekly (Saturdays)
Approve each Project Stage	Ensure it complies to PMBOK 6 <sup>th</sup> Edition	Team Quality Manager Project Manager	Once (Upon completion of project stage) Twice (Before Submission) Twice (Before Submission)
Final Project Review	Ensure it complies to PMBOK 6 <sup>th</sup> Edition	Team Quality Manager Project Manager  Project Director  Project Sponsor	Two times (July 22 <sup>nd</sup> and 23 <sup>rd</sup> ) Three times (July 24 <sup>th</sup> , 25 <sup>th</sup> and 26 <sup>th</sup> )  Two times (July 26 <sup>th</sup> and 27 <sup>th</sup> ) Once (July 28 <sup>th</sup> )

## 7.5 Quality Management Team Responsibilities

Responsibilities were assigned using the RACI matrix where everyone knows precisely who is responsible (R), accountable (A), who must be consulted (C), and who needs to be informed (I).

Table 12: RACI Matrix

Responsibilities	Project Director/Project Sponsor	Project Manager	Quality Manager	Team (Group 9)
QA	C	R	A	R

QC	C	R	A	R
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## 7.6 Quality Improvement and Change Management

As the project advances, various changes as regards to quality control and quality assurance will arise during the project timeline. Hence, improvements to the previously established Quality Plan ensure quality is maintained throughout the lifespan of the project.

The Quality Managers are responsible for addressing any issues that may arise within the project and escalating any large issues to the Project Director. However, if changes are to be implemented on the Quality Management Plan, then the Change Management Plan will be followed to implement these changes.

## 8 Risk Management Plan

A project risk is an uncertain event or condition has a positive or negative effect on one or more project aspects such as scope, schedule, cost, quality. Some risks are identified later in the implementation phase because of the evolving nature of the project. The objective of the Risk Management Plan is to analyze and identify possible risks that might affect the project implementation and the achieving of deadlines. Once these risks have been identified it is the responsibility of the team members to find appropriate solutions to mitigate the risks.

The team has identified potential risks and some mitigation strategies have been provided. The team added these risks to the Risk Register (Appendix E), which includes a list of identified risks with their description, owner, status, and mitigation strategies. Due to the nature of the project, more risks might be identified and added to the Risk Register. It is the responsibility of the team members to evaluate each risk and propose ideas to mitigate it. The Risk Management Plan will be continually reviewed as the project proceeds do to its evolving nature.

1. There is the possibility that one or more team members drop the course, so this will put the team in a situation where the remaining members need to adapt roles and responsibilities.
  - a. As it is hard to mitigate, the team needs to attack the issue modifying the project plan.
  - b. Change in roles and responsibilities.
2. Researching different sources on the web, the quality of resources might vary, and some of them may contain inaccurate information.
  - a. Adhere to the Quality Plan when a new source is added.
  - b. Double check each reference and compare it with other resources to validate information.
3. These times are extraordinary, and the smoothness of in-person meetings with the group nowadays need to be realized online.

- a. Have constant communication with team members through different platforms.
  - b. Schedule periodic meetings with the Project Sponsor to review project progress.
4. Since team members are taking different academic courses, it will be hard to find availability that might fit all agendas.
  - a. Schedule two meetings a week to ensure the presence of all team members.
  - b. Have constant communication with team members through different platforms.
5. Each member of the team may have different criteria for what is an appropriate source.
  - a. Adhere to the quality plan when a new source is added.
  - b. Double check each reference and compare it with other sources to validate its information.
6. The communication with the Project Sponsor might not be constant, and he could feel out of date on the progress of the project.
  - a. Schedule periodic meetings with the Project Sponsor to review project progress.
7. A subgroup may have difficulties finishing their work on time each week and this will cause delays for the next batch.
  - a. Have constant communication with team members through different platforms.
  - b. Request help from other subgroups that have a lower workload that week.
8. Team members may have workload issues external to the project which may cause delays in the project delivery.
  - a. Have constant communication with team members through different platforms.
  - b. Request help from other team members.
  - c. Modify the batch assignment among subgroups.

## 9 Human Resource Management Plan

The Human Resource Management Plan clearly identifies and outlines the role of each team member as agreed by the team. This plan communicates the human resources needed and the responsibilities of team members as well as the interaction with the Project Client and Project Sponsor.

Human resources management is an important part of the project. This tool will aid in the management of this project's human resource activities throughout the project until completion. The Human Resources Management Plan includes:

- Roles and responsibilities of team members
- Project Organizational Chart
- Core Values
- Performance Reviews

## 9.1 Roles and Responsibilities

Table 13: Roles and Responsibilities

ROLE	RESPONSIBILITIES
Project Sponsor	<ul style="list-style-type: none"><li>- Approve project plan and final project report.</li><li>- Approve weekly status report of project.</li><li>- Assist the team with possible solutions where necessary.</li><li>- Interact directly with client on project requirement and changes.</li><li>- Evaluate the quality of the presented work/resources.</li></ul>
Project Director	<ul style="list-style-type: none"><li>- Oversee the entire project from start to finish and develop team schedule.</li><li>- Resolve team differences.</li><li>- Present status report to Project Sponsor.</li><li>- Ensure the quality of resources.</li><li>- Liaise with the Project Managers on work progress.</li></ul>
Project Manager	<ul style="list-style-type: none"><li>- Develop team schedule.</li><li>- Present status report to Project Director.</li><li>- Get progress status from Operations and Quality managers.</li><li>- Ensure that team performs required tasks promptly.</li><li>- Communicate with Project Director.</li></ul>
Communications Manager	<ul style="list-style-type: none"><li>- Respond to communication issues promptly.</li><li>- Prepare detailed status report.</li><li>- Organize and inform members of team meetings.</li><li>- Manage both internal and external meetings.</li></ul>
Research & Development Manager (R&D Manager)	<ul style="list-style-type: none"><li>- Document research and development phases.</li><li>- Manage client relationship and perform reviews based on client needs.</li><li>- Understand client expectations.</li><li>- Completes technical evaluation of new resources.</li><li>- Evaluate and make recommendations concerning the new resources.</li></ul>
Quality Manager	<ul style="list-style-type: none"><li>- Examine the quality of each resource and the final compiled work.</li><li>- Dismiss poor resources that do not meet requirement.</li><li>- Develop quality control and assurance processes.</li><li>- Ensure resources adhere to client needs.</li></ul>
Operations Manager	<ul style="list-style-type: none"><li>- Manage the team to ensure effective execution of task.</li><li>- Identify potential risks and seek appropriate solutions.</li><li>- Ensure that project deliverables meet client expectation.</li><li>- Conduct team performance review.</li><li>- Conduct bi-weekly project status meeting.</li></ul>

## 9.2 Project Organizational Chart

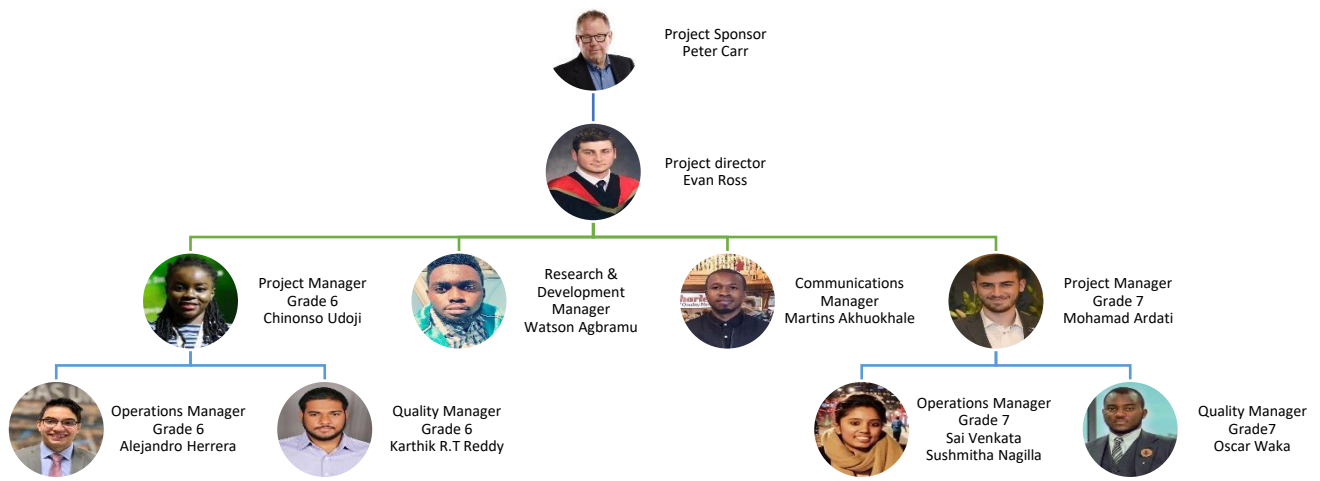


Figure 1: Project Organizational Chart

The project organizational chart, in Figure 1 above, shows the hierarchical distribution from the Project Sponsor down to the managers who will also act as team members. This will serve as a guide on task distribution to ensure efficiency of work. Each team member in this chain is equally valuable and they all bring valuable traits to the team.

**Project Director (Evan Ross)** - He has gained invaluable leadership skills built through years of being the captain of a baseball team as well as being the leader in numerous Engineering projects during his undergraduate Mechanical Engineering degree. This leadership knowledge will help him in his role as Project Director. Evan is accountable and hard-working which will make him a vital member of the team.

**Project Manager Grade 6 (Chinonso Udoji)** – She has empathy and great attention to detail. She has functioned in various teams as a Graduate Engineer where they successfully completed different projects. She also loves to use her skills to give back to society, with various volunteer work in her portfolio. These skills acquired over the years will be brought to the team where she functions as a Project Manager.

**Project Manager Grade 7 (Mohamad Ardati)** – He is determined, focused and with a great sense of humor. He has previously worked as a Research Assistant where he was attached to different teams. He received recognition due to being devoted to his tasks and delivering effective results. He promises to bring his leadership and task management skills to the team.

**Communications Manager (Martins Akhuokhale)** – He is optimistic and strives for excellence. He possesses excellent communication skills which he has acquired over the years being a Lecturer. He will ensure that he effectively manages the entire communication process for the team.

Research and Development Manager (Watson Agbramu) – He possesses a great sense of humor as well as practical research skills. He has functioned as a Graduate Assistant where he provided better alternatives to the workflow. His research and organizational enhancement skills will be valuable to the team.

Operations Manager Grade 6 (Alejandro Herrera) – He has almost four years of experience as a Project Coordinator working in supply chain management. He plans to apply his knowledge gained in the industry to his current role.

Operations Manager Grade 7 (Sai Venkata Sushmitha Nagillla) – She is apt and organized. She has organized various events which were successful. Her skillset will be valuable to the team and the role which she handles.

Quality Manager Grade 6 (Karthik R.T. Reddy) – He is hardworking and attentive. He has gained experience in the poultry industry and at an appliance company where he saw to customer satisfaction without compromising quality. His skillset is fundamental to the role he holds.

Quality Manager Grade 7 (Oscar Waka) – He has an eye for detail and accuracy. He has functioned as a Software Development Engineer where he ensured that the quality of the work met the design requirement. His prowess will be beneficial to the team and the role he handles in this project.

The RAC chart below shows the relationship between the project tasks and the team members responsible for the task completion.

Table 14: RAC Chart

	Project Sponsor	Project Director	Project Manager	R & D Manager	Communications Manager	Operations Manager	Quality Manager
Determining team progress	P	RA	RA	R	R	RC	RC
Communicating tasks done	P	RA	RA	R	R	RC	RC
Quality of resources	P	RA	RA	R	R	RC	RC
Gathering resources	P	RA	RA	R	R	RC	RC
Implementing Changes	P	RA	RA	R	R	RC	RC
Evaluating team Performance	P	RA	RA	R	R	RC	RC

Key:

P – Performs Evaluation and Approval.

R – Responsible for completing the work

A – Accountable for ensuring task completion/sign off

C – Consulted before any decisions are made

### 9.3 Core Values

There will be specific norms that define the working relationship and values expected of each team member. These values define how to handle and resolve issues as well as treat one another as a team. The team will:

- Respect the opinions of each team member.
- Have a positive mindset to the given tasks and relay views in a polite manner.
- Have integrity and follow the quality measures.
- Be committed to the assigned tasks and deliver in a timely fashion.
- Appreciate the work/input of each team member.
- Trust and exercise a positive outlook about the capability of each team member.
- Follow the right process to work and communicate concerns to the appropriate authority.

### 9.4 Performance Reviews

The Project Director and the Project Managers will, at the commencement of the project, outline and communicate the expectations required of each team member on the allotted tasks. This will serve as the basis for evaluation throughout the course of the project. The efficiency, completion, quality, and timeliness of task delivery will be evaluated. Recognition to exceptional team members will be given virtually as “HI FIVE” to encourage and show them they are acknowledged.

- On successful completion of the project, a virtual party will be held with all team members.
- The Project Director will acknowledge the input of the team members towards the completion of the project.
- All team members will recognize the input of the Project Director towards the completion of the project.

## 10 Sponsor & Professor Acceptance

The Project Sponsor, Project Director, and Client should sign and date their acceptance of the project plan.

Name	Position	Signature	Date
Professor Peter Carr	Project Sponsor		
Evan Ross	Project Director	<i>Evan Ross</i>	
Client	Client		



## 11 Appendix A: Project Schedule



## 12 Appendix B: Change Request Form

PROJECT NAME				CHANGE REQUEST NUMBER
PROJECT DIR.				

CHANGE REQUEST				
REQUESTER NAME			DATE OF REQUEST	
REQUESTER CONTACT			PRIORITY	
TYPE OF CHANGE				
CHANGE DESCRIPTION				
ESTIMATED TIMELINE				
WORK DESCRIPTION				
RESOURCES REQUIRED				

AREA OF IMPACT	IMPACT DESCRIPTION	IMPACT LEVEL

CHANGE REVIEW / APPROVAL			
REVIEWER NAME		STATUS	ACCEPTED / REJECTED
REVIEWER SIGNATURE		DATE OF REVIEW	
ADDITIONAL COMMENTS			

### 13 [Appendix C: Management Log](#)

No.	Name	Estimated Completion Date	Actual Completion Date	Description of requested change	Impact Summary	Change Request By	Date of Request	Change Type	Current Status	Priority

### 14 [Appendix D: Quality Control Matrix, Assurance & Control Log](#)

#### Quality Control Matrix

(To be completed by every member of the group)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Details to be reviewed	Yes	No
URL link is short		
URL link is working		
URL connects you to the relevant material		
Content of the URL coincides the material		
Content of the URL is free of mistakes		

Content of the URL is culturally appropriate		
Content of the URL is in the approved language		
Content of the URL is from legally free resources		
Content of the URL aligns with course curriculum		
Content of the URL is continually relevant		
Content of the URL does not contain any hate speech		
Content of the URL does not discriminate against Religion, gender, culture, lifestyle and violence		
Content of the URL is neutral and takes no political sides		
Content of the URL is not offensive to any culture or religion		

#### Quality Assurance Log

Trial #	Date	Process Measured	Required Value	Actual Measured	Acceptable (Y/N)	Recommendation	Date Resolved

## Quality Control Log

Cable #	Date	Deliverable Measured	Required Value	Actual Measured	Acceptable (Y/N)	Recommendation	Date Resolved

## 15 [Appendix E: Risk Management Register](#)

Risk Register											
Risk ID	Risk	Current Risk			Status	Owner	Raise Date	Mitigation Strategies	Residual Risk		
		Likelihood	Impact	Severity					Likelihood	Impact	Severity
1	Course Drop	3	4	12	Open		05-30-2020	- Modify Project Plan - Change roles and responsibilities	2	2	4
2	Source Quality	4	4	16	Open		05-30-2020	- Attain to the quality plan when a new source is added. - Review with a double-check each reference and compare it with other sources to validate its information.	2	2	4
3	Online Communication	2	2	4	Open		05-30-2020	- Have constant communication with team members through different platforms. - Schedule periodic meetings with the professor and sponsor to review project progress.	1	1	1
4	Availability	4	2	8	Open		05-30-2020	- Schedule two meetings a week to ensure the presence of all team members. - Have constant communication with team members through different platforms.	2	1	2
5	Update Criteria	3	4	12	Open		05-30-2020	- Attain to the quality plan when a new source is added. - Review with a double-check each reference and compare it with other sources to validate its information.	2	2	4
6	Sponsor Communication	3	2	6	Open		05-30-2020	- Schedule periodic meetings with the professor and sponsor to review project progress.	1	1	1
7	Batch Delay	4	5	20	Open		05-30-2020	- Have constant communication with team members through different platforms. - Request help from other subgroups that for that week have a lower workload.	2	3	6
8	Subgroup Workload	4	4	16	Open		05-30-2020	- Have constant communication with team members through different platforms. - Request help from other subgroups that for that week have a lower workload. - Modify the batch assignment between subgroups.	2	2	4
9	Lack of KPI	3	3	9	Open		05-30-2020	- Create a KPI that represent the progress report and can be updated by every team member.	1	1	1