

**University of Toronto**  
**Faculty of Applied Science & Engineering**  
**APS112**  
***Team Charter***




Team Number	121
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## Team 121 – Wellness Room Expansion




## 1.0 People &amp; Responsibilities

Table 1 details the roles of our team stemming from our individual strengths (bolded in Appendix A), using a format inspired by another document [1].

Table 1. Roles and Responsibilities

Group Member	Responsible for...
<b>Team Leader</b> Warrick Tsui 	<ul style="list-style-type: none"> <li>• Distributing workload for deliverables and redistributing them during contingencies</li> <li>• Sending the Team Feedback Survey (see Section 3.4) before every tutorial</li> <li>• Reviewing and discussing survey responses with the team</li> <li>• Monitoring the team's progression towards its goals</li> </ul> warrick.tsui@mail.utoronto.ca
<b>Project Manager</b> Yongkang (Ken) Cheng 	<ul style="list-style-type: none"> <li>• Scheduling meetings and booking rooms</li> <li>• Setting and reminding team members of internal deadlines</li> <li>• Organizing workloads on Google Sheets</li> <li>• Making an agenda before team meetings</li> </ul> yongkang.cheng@mail.utoronto.ca
<b>Lead Editor</b> Aileen Sun 	<ul style="list-style-type: none"> <li>• Ensuring a consistent, concise, and grammatically proper writing style throughout the document</li> <li>• Ensuring documents abide by word limits</li> <li>• Back-up for taking meeting notes</li> </ul> aileen.sun@mail.utoronto.ca



Group Member	Responsible for...
<b>Formatter</b> Youssef Bayoudh 	<ul style="list-style-type: none"> <li>Ensuring documents abide by IEEE formatting requirements</li> <li>Checking that references are complete and correct</li> </ul> youssef.bayoudh@mail.utoronto.ca
<b>Communication Liaison</b> Akshaya Velmurugan 	<ul style="list-style-type: none"> <li>Facilitating and ensuring smooth communication and collaboration between team, instructors, and client</li> <li>Writing and sending emails to instructors and client</li> </ul> a.velmurugan@mail.utoronto.ca
<b>Research Analyst</b> Ethan Lam 	<ul style="list-style-type: none"> <li>Conducting relevant primary research on-site <ul style="list-style-type: none"> <li>Ensuring measurements and data-gathering are accurate and precise</li> </ul> </li> <li>Researching reliable secondary sources to guarantee documentation and overall project insights' credibility</li> <li>Taking meeting notes when members are absent</li> </ul> ethanchunkiu.lam@mail.utoronto.ca

*Note:* General expectations for all members include writing and creating visuals for documentation and collaborating on status reports.

## 2.0 Goals & Measures of Success

Our team's central goal is to refine our professional engineering and communication skills (Appendix C). We wish to achieve a client approved and professional solution, and a 90% average on this project. Additionally, our team will prioritize an equitable workload distribution throughout the term. To nurture a positive team dynamic, a weekly team survey (see Section 3.4)



will help us reflect and foster an environment where everyone is heard. Our team strives to achieve a total average score of 8 out of 10 on the weekly surveys by the end of the project.

### 3.0 Ways of Working Together

As bolded in Appendices A and B, our team's "Ways of Working Together" stems from individual and team strengths and weaknesses.

#### 3.1 Code of Conduct

Table 2 illustrates the rules to establish a healthy work environment and indicates the violations allowed per rule. This code was made by defining our team's ideas of respect in Appendix D.

Table 2. Code of Conduct

Code of Conduct	Tolerance
Respecting every team member	None
Being honest and sharing work-related information openly	
Not sharing the team's work to other teams	
Respecting the course and assignment rules and guidelines	
Attending all lectures, tutorials, and meetings	Two non-justified absences
Following internal deadlines	Three missed deadlines
Showing up on time to lecture and tutorials	Five occurrences of tardiness
Not interrupting a team member who is speaking	Ten unauthorized interruptions
Being up-to-date with the team's work	Three instances of not reading group messages

Whenever a member notices someone is not following the code of conduct, they will consult Figure 1.



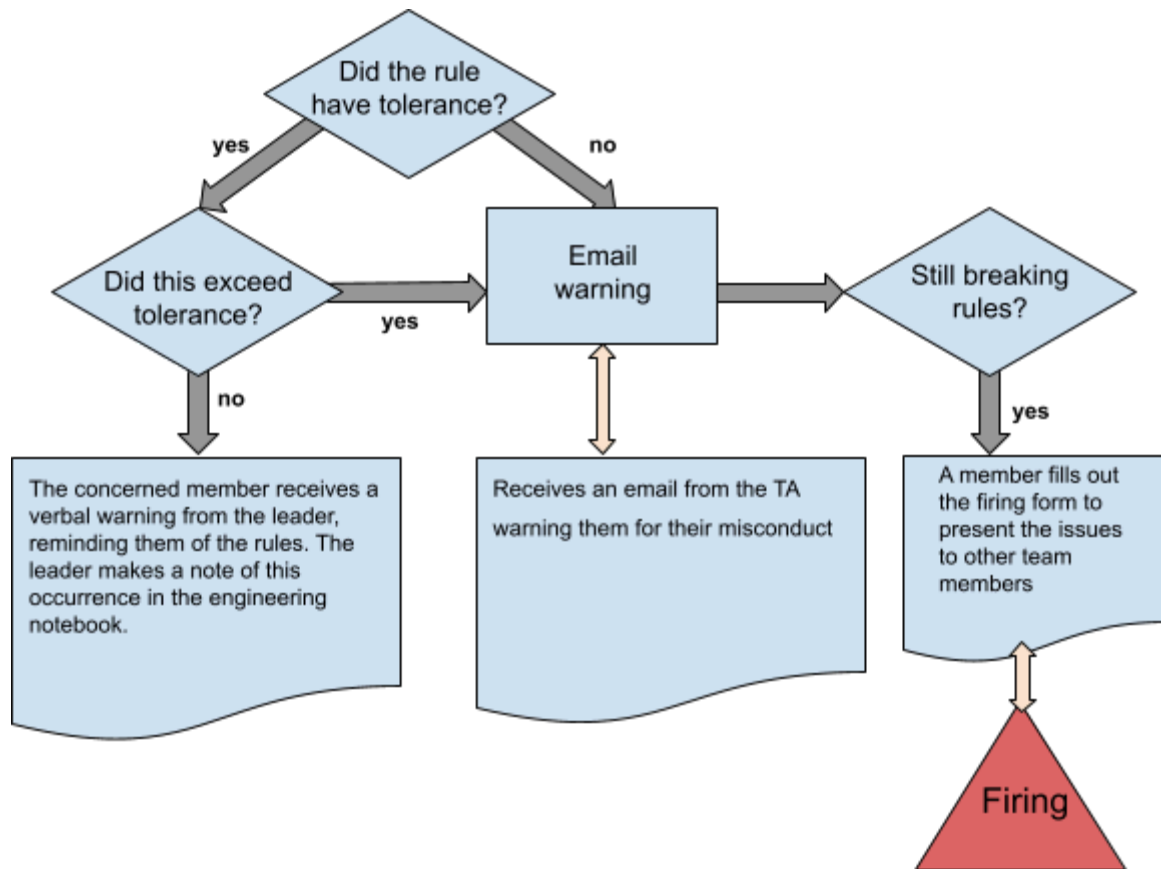


Figure 1: Flowchart portraying the consequences for not following the code.

The firing form mentioned in Figure 1 is shown below.

## Firing form

This is a complaint submitted towards a member for their violation of one or several of our code of conduct, and the first step towards the firing process.

Person being warned \*

Short answer text

Person warning (optional)

Short answer text

Reasons for warning

- ☐ Discriminatory language (racism, sexism, etc.)
- ☐ Unsafe or disrespectful (verbal/physical aggression, bullying, harassment)
- ☐ Not doing assigned work or responding to questions/comments by deadlines
- ☐ Lack of effort - not doing sufficient work or participating in team discussions
- ☐ Modifying or taking credit for another team member's work without their consent
- ☐ Plagiarism in research, creating false information or using AI without telling other members
- ☐ Repeated lateness or absence to meetings
- ☐ Inappropriate or off-topic contributions taking up work time

Figure 2: Firing form.



### 3.2 Decision making guidelines

The flowchart below guides team members to make work-related decisions.

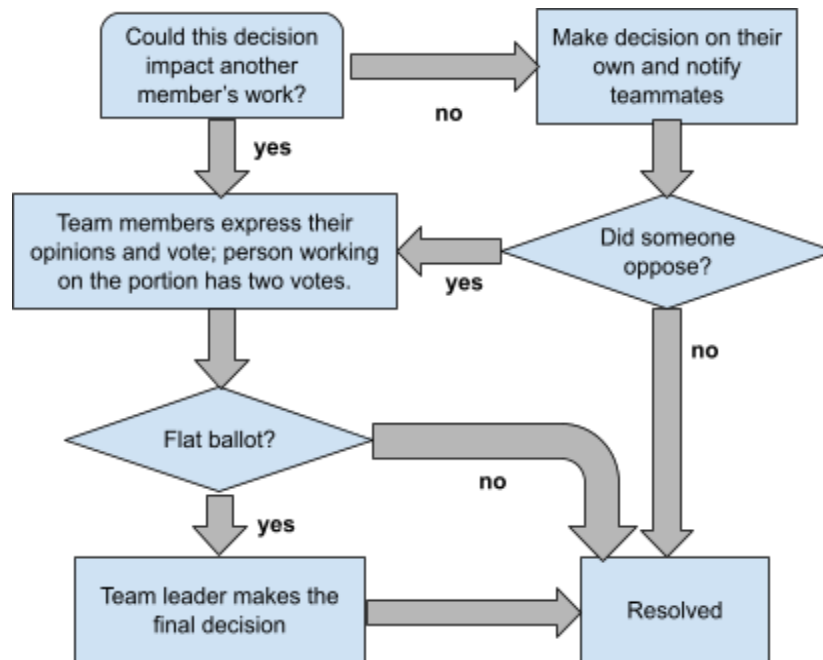


Figure 3: Flowchart of decision making guidelines.

### 3.3 Conflict Resolution Process

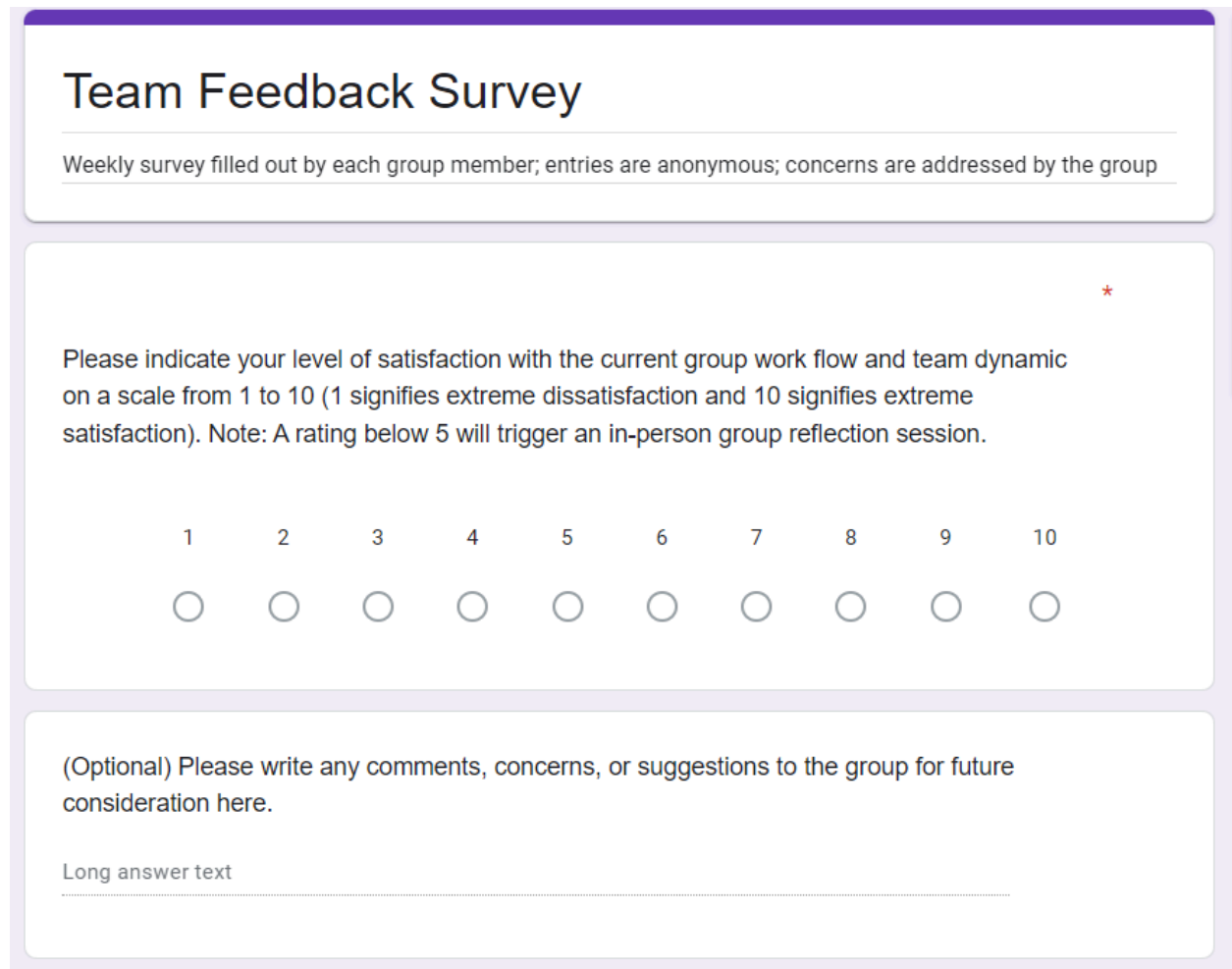
Table 3 outlines our interpersonal conflict resolution process; begin at the first step and proceed to the next if the current step fails. If the instigating members decide the situation must be resolved within two or four days, start the process at the red or yellow step respectively.

Table 3. Conflict Resolution Process

Concerns all team members	Concerns individual members
1. Follow the Team Charter (see Sections 3.1, 3.2).  If inapplicable, revise the Team Charter after the conflict.	1. Resolve in private conversations.
2. Resolve in group discussion where the Team Leader has the final say.	2. Ask for unbiased opinions from uninvolved team members.
3. Contact the TA.	

### 3.4 Improvement/Change Guidelines

Figure 4 exhibits the survey to be sent weekly before tutorials to all team members, allowing members the opportunity to anonymously present any concerns and suggestions with the project and team dynamic so far. If the weekly average score is below 5, the team leader must begin a group discussion to reflect on and modify the team dynamics to ensure all members feel satisfied. This idea came from a past Team Charter [1].



The image shows a digital form titled "Team Feedback Survey". Below the title is a subtitle: "Weekly survey filled out by each group member; entries are anonymous; concerns are addressed by the group". The main instruction reads: "Please indicate your level of satisfaction with the current group work flow and team dynamic on a scale from 1 to 10 (1 signifies extreme dissatisfaction and 10 signifies extreme satisfaction). Note: A rating below 5 will trigger an in-person group reflection session." Below this is a horizontal row of ten radio buttons, each preceded by a number from 1 to 10. The bottom section of the form is labeled "(Optional) Please write any comments, concerns, or suggestions to the group for future consideration here." and contains a text input field with the placeholder "Long answer text".

## Team Feedback Survey

Weekly survey filled out by each group member; entries are anonymous; concerns are addressed by the group

Please indicate your level of satisfaction with the current group work flow and team dynamic on a scale from 1 to 10 (1 signifies extreme dissatisfaction and 10 signifies extreme satisfaction). Note: A rating below 5 will trigger an in-person group reflection session.

1 2 3 4 5 6 7 8 9 10

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

(Optional) Please write any comments, concerns, or suggestions to the group for future consideration here.

Long answer text

Figure 4: Team feedback survey.

### 3.5 Internal and External Communications

Table 4 lists this team's online methods of communication. Team members are expected to respond within 24 hours. Messages to instructors or the client should be sent between 8 am and 11 pm for professionalism.





Table 4. Channels for Communications

	Internal	External (with instructors, client)
<b>Casual</b>	<ul style="list-style-type: none"> <li>- Google Docs (adding comments)</li> <li>- Instagram group chat</li> <li>- Discord server</li> <li>- Microsoft Teams (virtual)</li> </ul>	<ul style="list-style-type: none"> <li>- Microsoft Teams</li> </ul>
<b>Formal</b>	<ul style="list-style-type: none"> <li>- Email</li> </ul>	<ul style="list-style-type: none"> <li>- Email</li> </ul>

### 3.6 Meeting Guidelines and Scheduling

Figure 5 presents the schedule and guidelines for team meetings.

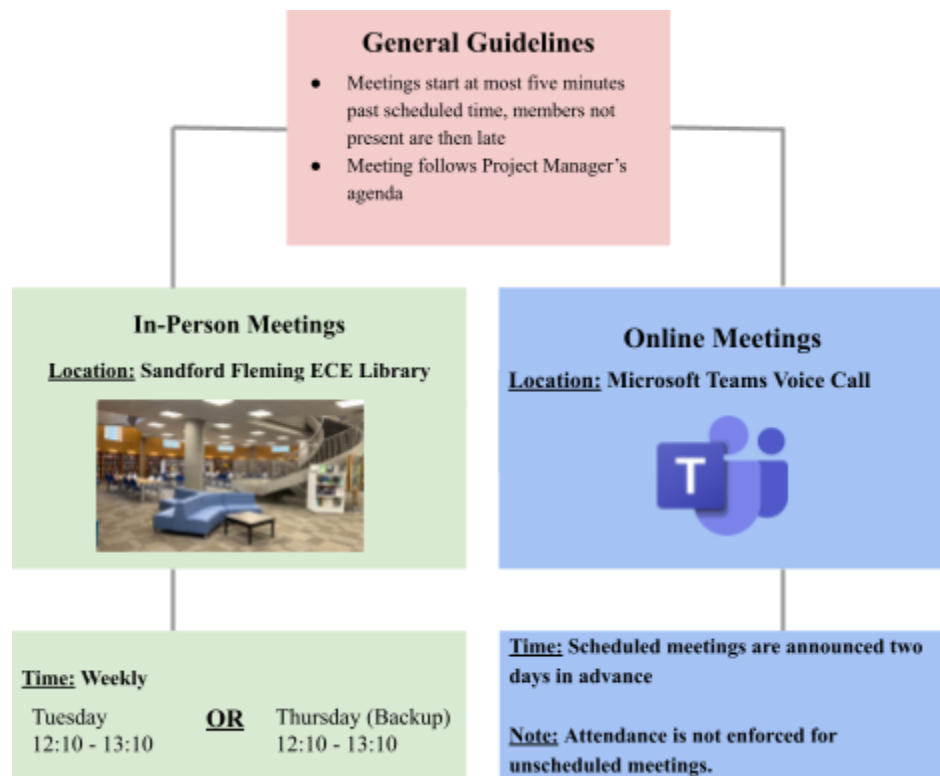


Figure 5: Guidelines and times for different meetings [2].

Figure 6 depicts the general timeline for completing course deliverables.

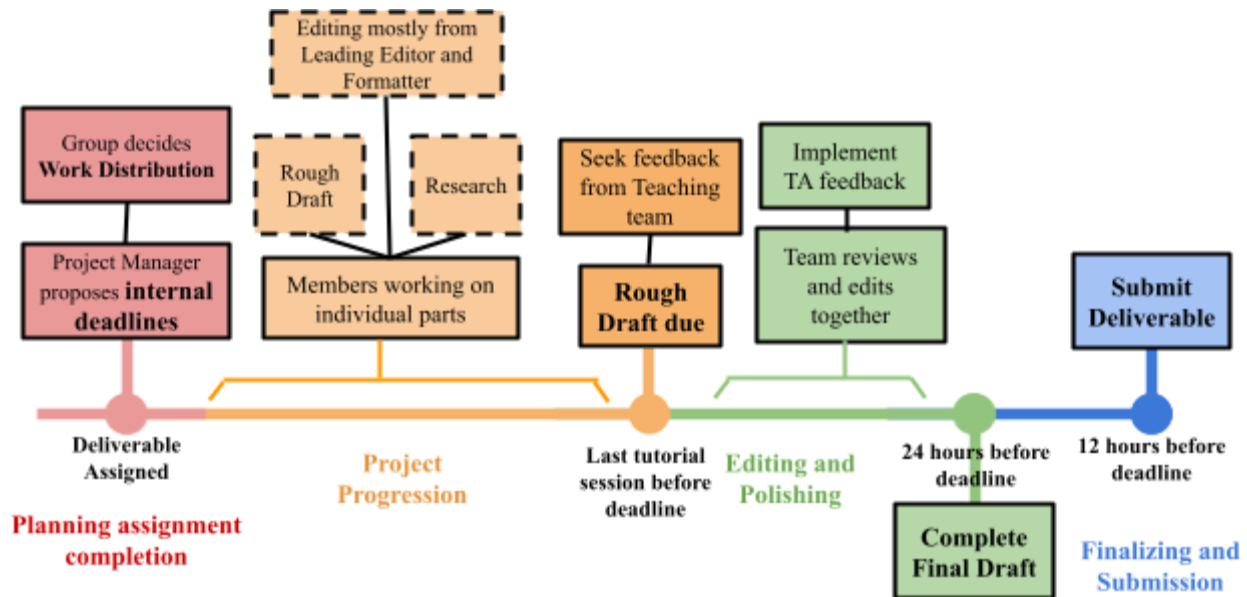


Figure 6: General workflow timeline.

#### 4.0 Contingencies

Table 5 suggests how to handle circumstances that may hinder the team's progression toward project milestones.

Table 5. Navigating Contingencies

Contingency	The affected member(s) should...	The team will proceed by having the...
<b>Short absences (&lt;3 days)</b>	→ Inform team and provide an estimated duration	→ Research Analyst take notes of team decisions to update the affected member
<b>Prolonged absences</b>	→ Share their work in progress with the team → Provide absence's estimated duration	→ Team Leader redistribute their remaining work to members having tasks with least urgent deadlines

Contingency	The affected member(s) should...	The team will proceed by having the...
<b>Member goes missing</b>	<ul style="list-style-type: none"> <li>→ Respond to Communication Liaison when possible</li> </ul>	<ul style="list-style-type: none"> <li>→ Communication Liaison contact the missing member via all communication channels</li> </ul> <p><b>No response for 3 days OR next deadline is &lt;1 week:</b></p> <ul style="list-style-type: none"> <li>→ Communication Liaison informs CI</li> <li>→ Treat as prolonged absence</li> </ul>
<b>Commuting issue arises</b>	<ul style="list-style-type: none"> <li>→ Inform team they will be late</li> <li>→ Attend meeting through Teams if possible; otherwise, treat as short absence</li> </ul>	<ul style="list-style-type: none"> <li>→ Project Manager opens a Microsoft Teams meeting</li> </ul>
<b>Member lacks the skill to complete their task</b>	<ul style="list-style-type: none"> <li>→ Attempt to fulfill responsibility optimally</li> <li>→ Communicate transparently with team</li> </ul>	<ul style="list-style-type: none"> <li>→ Other members offer advice and resources</li> </ul> <p><b>If inability to complete task persists:</b></p> <ul style="list-style-type: none"> <li>→ Team Leader identifies and notes the gaps of the member's skillset</li> <li>→ Project Manager reassesses future distributions of tasks</li> </ul>



## 5.0 Reference List

- [1] E. Lam et al., “TUT0112\_Team082\_TC\_rev1,” 2023. [Online]. Available: <https://docs.google.com/document/d/1GjF28G9xWHuZT86GYGnn0dkyBgMDubDsbCtXP25V0mY/edit> [Accessed: 27-Jan-2024]
  
- [2] S. Phill, “A photo from the Engineering and Computer Science Library (ECSL) in the Sandford Fleming Building at the University of Toronto on May 2, 2022”. Civil and Mineral Engineering University of Toronto. Accessed: Jan 27, 2024. [Online]. Available: <https://civmin.utoronto.ca/library-refresh-benefits-engineering-students-diverse-needs/>



### Appendix A: Strengths and Skills

Table 6. Team's Strengths and Skills

Group Member	Strength & Skills
Ken	<ul style="list-style-type: none"> <li>• Technical Skills: <ul style="list-style-type: none"> <li>○ <b>Python programming</b>, including PyTorch, Tkinter, Pygame, etc.</li> <li>○ Rhinoceros <b>3D modeling</b></li> <li>○ hardware skills including tackling Arduinos and RaspberryPis</li> </ul> </li> <li>• Interpersonal: <ul style="list-style-type: none"> <li>○ I'm kind of a perfectionist. I can help make documents look good.</li> <li>○ Mild temper</li> </ul> </li> <li>• Other: <ul style="list-style-type: none"> <li>○ I got a high GPA in the last term. I will not be overwhelmed during the Finals.</li> <li>○ I sometimes have creative ideas.</li> </ul> </li> </ul>
Warrick	<ul style="list-style-type: none"> <li>• Interpersonal <ul style="list-style-type: none"> <li>○ Willing to be <b>honest</b> towards others</li> <li>○ <b>Vocal</b> about <b>setting standards for teams</b></li> <li>○ <b>Adapts to different work environments</b></li> <li>○ Able to take <b>leadership roles</b> regardless of position. For example, leading idea selection in the APS111 Conceptual Design Specifications as an editor</li> </ul> </li> <li>• Technical <ul style="list-style-type: none"> <li>○ Work Ethic</li> <li>○ Remaining <b>focused</b> during tasks</li> <li>○ Java programming; has experience with <b>web scraping</b> and <b>GUI</b></li> </ul> </li> </ul>
Aileen	<ul style="list-style-type: none"> <li>• Technical: ability to write clear and concise documentation, using the defined keywords, structures and methods outlined in APS111 and APS112</li> <li>• Technical: ability to use various external specialized softwares to create multimodal diagrams that convey information optimally, and are preferably professional-looking</li> <li>• Interpersonal: understand how to allow for other team members' personalities and working methods to cooperate with yours, and knowing when to trust them and when to prioritize the completion of the final goal</li> <li>• Individually- has experience from APS111 in <b>diagram-writing and utilizing the course's technical terms</b>. Experience outside the</li> </ul>

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Group Member	Strength & Skills
	<ul style="list-style-type: none"> <li>• <b>course in creative writing and editing</b>, and drawing</li> <li>• As a team- team meetings so far have been on time and on topic, with promising cooperative work</li> </ul>
Ethan	<ul style="list-style-type: none"> <li>• Technical skills: <ul style="list-style-type: none"> <li>○ Refining essays, writing reports, and documenting ideas</li> <li>○ <b>Conducting reliable and accurate experiments and secondary research</b></li> <li>○ Systematically addressing challenges and problems</li> </ul> </li> <li>• Interpersonal skills: <ul style="list-style-type: none"> <li>○ <b>Demonstrating adaptability and reliability during team meetings</b></li> <li>○ Foreseeing potential flaws early on and <b>voicing concerns</b></li> </ul> </li> <li>• Organizational skills: <ul style="list-style-type: none"> <li>○ Maintaining focus on the current task</li> <li>○ Organizing work and documents into suitable folders</li> </ul> </li> </ul>
Youssef	<ul style="list-style-type: none"> <li>• Creative</li> <li>• <b>Good knowledge of the aps111 methodology</b></li> <li>• Solution finding</li> <li>• Time management</li> <li>• Python programming</li> </ul>
Akshaya	<ul style="list-style-type: none"> <li>• Good at managing time</li> <li>• Organized</li> <li>• <b>Observant</b></li> <li>• Solution oriented</li> </ul>
Team Strength & Skills	
<p>Technical: We have some technical knowledge which will give us a greater range of possible ideas for solutions and methods of presenting documentation. For example, if the solution requires implementation of a bit of software, that should be no challenge for this team.</p> <p>Organizational: Currently, the roles and responsibilities are clearly and evenly divided, with members working on tasks they are most comfortable with. Additionally, every member appears to be creative and remember the necessary content from APS111, which will be an asset as we work towards our goals and solution for our client.</p> <p>Interpersonal: Teammates are keen to help. Members are open-minded and accepting of new methods and ways of working together.</p>	



### Appendix B: Challenges

Table 7. Team's Challenges and Weaknesses

Group Member	Challenges
Ken	<ul style="list-style-type: none"> <li>• I sometimes <b>procrastinate</b></li> <li>• Sometimes <b>confused</b> and don't know what to do / how to do tasks</li> <li>• Not good at speaking and writing in English</li> </ul>
Warrick	<ul style="list-style-type: none"> <li>• My keenness to complete work can cause me to rush tasks and make careless errors</li> <li>• Spending <b>excessive effort</b> in things of little significance; sometimes a perfectionist</li> <li>• My <b>clarity and tone when conversing</b> needs work</li> <li>• My <b>motivation levels</b> and <b>focus</b> could decrease from frustration and fatigue</li> </ul>
Aileen	<ul style="list-style-type: none"> <li>• Lack of motivation, especially near the end of the term when there are other pressing exams, or after receiving disappointing marks on previously submitted deliverables</li> <li>• Unexpected time-consuming troubles that make it harder for the team when a member does not deliver by deadlines, or have absences</li> <li>• Proper communication as a team is important</li> <li>• Personally I would like to <b>learn better verbal communication</b>, as I find I can only provide <b>good written communication</b> after very non-spontaneous, time consuming revisions, which is not possible during team discussions</li> </ul>
Ethan	<ul style="list-style-type: none"> <li>• <b>I prefer articulating my ideas in writing or at the very least, thought out with some degree of detail to avoid miscommunication or misunderstanding</b></li> <li>• I often lack the skills for public speaking and presenting confidently in front of large audiences</li> <li>• I am somewhat introverted and may feel anxious or fatigued in energetic social settings</li> </ul>
Youssef	<ul style="list-style-type: none"> <li>• I need to apply myself more in my work and give more importance to details.</li> <li>• I should also improve the quality of my English.</li> <li>• I sometimes struggle with oral communication as well.</li> <li>• I can also occasionally identify organizational issues.</li> </ul>
Akshaya	<ul style="list-style-type: none"> <li>• I commute to school, which can potentially be a challenge in attending last minute or late in person meetings.</li> <li>• Can be impatient.</li> </ul>

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Group Member	Challenges
	<ul style="list-style-type: none"> <li>Tend to keep my opinions to myself which can be a challenge when working with a team.</li> </ul>
Team Weaknesses	
<p>A common challenge for most group members involves the lack of clear and effective impromptu communication during group discussions, leading to potentially inefficient use of time during meetings and possible miscommunication. This group weakness can be addressed through significant individual prior planning and writing, effectively leveraging group meetings as a method for sharing findings and results rather than writing documentation, which can be done independently. Our attempt to amend this team weakness is evident in Figure 6 where we meet to edit and revise after our rough draft is complete.</p>	





### Appendix C: Personal Meaning

Table 8. Project's personal meaning to individuals and the team

Group Member	Personal Meaning
Ken	<ul style="list-style-type: none"> <li>• This project helps me develop a professional manner of doing engineering works.</li> <li>• We can learn to communicate with real clients.</li> <li>• As the project manager, it's a good opportunity to <b>improve my leadership</b>.</li> </ul>
Warrick	<ul style="list-style-type: none"> <li>• I am hoping to further experience that teamwork isn't just a lump sum of each member's individual work. Rather, it is the <b>product of constantly planning, collaborating, and monitoring things</b>.</li> <li>• I have yet to <b>experience proper meetings and project management while working under a professional client</b>.</li> <li>• The insights and experiences I gain from this project will be invaluable for my future career endeavors in the engineering field. I wish to make the best out of this opportunity to improve my interpersonal and technical skills.</li> </ul>
Aileen	<ul style="list-style-type: none"> <li>• Future career will highly value teamwork like this, and I would rather learn the skills and run into the problems now, in university, than embarrassingly in a work environment while I am being paid</li> <li>• I think team projects can create a sum better than something every individual can create, which may create something impressive that I would want to look upon in the future and feel proud about</li> <li>• I am motivated by the possibility of my work actually changing important processes and aiding my client</li> </ul>
Ethan	<ul style="list-style-type: none"> <li>• Providing first hand experience in the engineering design process, from crafting a problem statement based on the client's needs to implementing measures of success</li> <li>• Gaining further insights into effective teamwork and professional conduct</li> <li>• Seeking opportunities for growth in future projects by reflecting on areas of improvement</li> <li>• Exploring and leveraging personal strengths to determine optimal team role in the future</li> </ul>
Youssef	<ul style="list-style-type: none"> <li>• This project holds significant value for me as it represents one of my initial experiences in design and conception.</li> <li>• Through this project, I aim to enhance not only my teamwork skills but also improve my communication.</li> <li>• I also intend to learn to be more meticulous and detailed in my work.</li> <li>• Additionally, I plan to acquire the ability to communicate effectively</li> </ul>

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Group Member	Personal Meaning
	with clients.
Akshaya	<ul style="list-style-type: none"> <li>Collaborating with diverse groups and individuals with a variety of skills is something that I am really looking forward to as it is an unique opportunity to learn.</li> <li>I plan to refine my problem-solving abilities, enhance my <b>communication</b> and <b>collaboration skills</b>, and develop a deeper understanding of the field of engineering.</li> </ul>
Meaning to the Team	
<p>As articulated by every member, the goals of this project stretch far beyond simply finding the optimal solution for the client. By collaborating professionally as an engineering team, we are given the opportunity to learn the necessary interpersonal skills, such as leadership and effective communication, that come along with it. Throughout this term, we hope to foster a friendly learning environment where we are able to constructively build off of each other and develop positive teamwork dynamics.</p>	



### Appendix D: Meaning of Respect within our Team.

Table 9. Meaning of Showing Respect in our Team

Showing respect within our team entails...
<ul style="list-style-type: none"><li>• Listening to a person when they speak and taking their words seriously.</li></ul>
<ul style="list-style-type: none"><li>• Refraining from interrupting members who are speaking.</li></ul>
<ul style="list-style-type: none"><li>• Not altering a member's work without obtaining their permission</li></ul>
<ul style="list-style-type: none"><li>• Being open and accepting of others' ideas.</li></ul>
<ul style="list-style-type: none"><li>• Not ignoring a member during physical meetings or in the group chat.</li></ul>
<ul style="list-style-type: none"><li>• Avoiding belittling remarks directed at a member.</li></ul>
<ul style="list-style-type: none"><li>• Refraining from judging a member based on their opinions or background.</li></ul>

