

Project Organization

Current Roster and Roles

Abigail Figueroa	Grade 12	Chief Executive Officer
Charuvi Singh	Grade 12	Chief Manufacturing Officer
Kruthi Gundu	Grade 12	Chief Technology Officer
Samhitha Bodangi	Grade 12	Chief Manufacturing Officer
Derek Desrosiers	Grade 12	Chief Information Officer
Kevin Crowthers	-	STEM Teacher and Mentor
Anne Ludes	-	Director and Fiscal Officer

Since this project is undertaking a pertinent issue for the VIP community, it is important that the members of this team operate effectively according to their strengths for the projected success of the project. Abigail Figueroa, experienced in team management through previous leadership roles, provides direction in project development and technical knowledge from past works. Charuvi Singh has an extensive track record in CAD design, 3D printing, and prototyping, based on past engineering project experience. Kruthi Gundu possesses strong creative, technical, programming, research, and teamwork skills gained from different successful engineering and research projects. Derek Desrosiers, with a budget management and technical testing background, contributes valuable design knowledge to the team and has an admirable hard-working quality. Samhitha Bodangi has a comprehensive background in computer science and programming, allowing her to effectively problem-solve in technical and non-technical situations. Altogether, the team's diverse skill sets will help advance the project to result in a high-quality and functional device.

Since this project is undertaking a pertinent issue for the VIP community, it is important that the members of this team operate effectively according to their strengths for the projected success of the project. Members of our team of adept leadership, CAD, 3D printing, programming, budget management, technical testing, research, and teamwork skills, allowing the team to efficiently problem solve in technical and non-technical situations. Altogether, the team's diverse skill sets will help advance the project to result in a high-quality and functional device.

Recruiting Team Members

However, any good team knows that finding new talent brings ideas and improvements to any project. Keeping that in mind, this original team is planning to recruit juniors (grade 11) and additional seniors from the Massachusetts Academy of Math and Science at WPI. We hope to instill our vision and commitment to addressing issues faced by the VIP community in the next generation, ensuring the project's continuity and ongoing improvement over time. We hope to recruit more teammates to take up the following positions:

- Project Management Assistant
- CAD Design and Prototyping Assistant
- Programming and Technical Assistant

These above positions provide valuable opportunities for Mass Academy students to gain hands-on experience in a real-world engineering project. Not only does it build their technical and project management skills, but it also helps the VIP community and allows the team to build a device that can better suit the requirements of the consumers. We are open to including everyone interested in the inventing process and believe that every student at Mass Academy has valuable talents and skills to share and build on. The recruitment process will likely involve:

- Announcing the openings to Mass Academy juniors through school channels
- Reviewing applications and portfolios
- Conducting interviews with promising candidates
- Inviting successful individuals to our team

We have created an application that allows students to share their current skills and indicate the areas they are interested in working on. The questions we are asking in our application form include:

- Please describe any previous technical experience you have.
- Please describe any previous non-technical experience you have (such as communication, organization, budgeting, etc.).
- Are there specific roles or responsibilities you are interested in taking on within the team?
- How much time per week are you willing to contribute to the project?
- Additionally, we ask for a resume and/or links to previous projects that are relevant to the position they are interested in.

Recruiting students effectively often involves offering them clear, structured opportunities that align with their goals and skills. By gathering detailed information from the applicant form, we aim to better understand each student's unique background and preferences, allowing us to match them with roles that align with their skills and interests.

However, it is also important to ensure the commitment and specific roles are clearly defined from the beginning to establish a solid foundation for accountability and effective

collaboration. Therefore, we have crafted a simple contract, which includes information communicating the roles of individual positions, as well as important values and the team's culture and expectations. While we aim to foster an open and collaborative environment, we also hope to maintain a focus on professionalism and mutual respect. In doing so, we strive to create a productive and harmonious team dynamic where everyone's skills and ideas are valued, contributing to our common goal of addressing the needs of the VIP community.

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Meeting Structure

We will plan to meet at least two times every week. At least one of our meetings will be in person if possible. Depending on the needs of the team at the moment and what our immediate goals are, we will decide whether it is most logical to meet in person more often or remotely. We will fix two times to meet throughout the week to hold all team members accountable and plan additional meetings if necessary.

All of the meetings will be after school, however, there may also be a need to hold meetings during the weekend. To make sure all the needs of the team are met, we will maintain strong and open communication practices which will be detailed later in this document.

Currently, we have a Google Calendar shared with all team members. In the calendar, we track all of our group meetings, events, and meetings with external individuals and organizations in our community and the blind and visually impaired community. We will continue to add meetings with their location on the Google Calendar so that all teammates are aware and reminded of when meetings and other events will take place.

Team Structure

As mentioned in the "Recruiting Team Members" section, members of the team will hold roles specific to certain areas of the project. The central team (current 5 members) will decide based on the student's skills and areas of interest what their responsibilities are on the team. The individual responsibilities and tasks of each position are thoroughly outlined in our team contract, which will be shared with any and all new members.

The responsibilities of each team member are something that will be taken very seriously. All team members will hold each other accountable and action will be taken if any member is not taking their responsibilities earnestly. This may include communicating with the specific member

privately to make sure everything is going smoothly and if there are any issues the member is facing that we can tackle as a team. This may also necessitate including our team advisor (Dr. Crowthers) and/or other adults (such as our Director Ms. Ludes) in the conversation. Expectations for each member will be explicitly defined for all new members to ensure there is no ambiguity in what is expected.

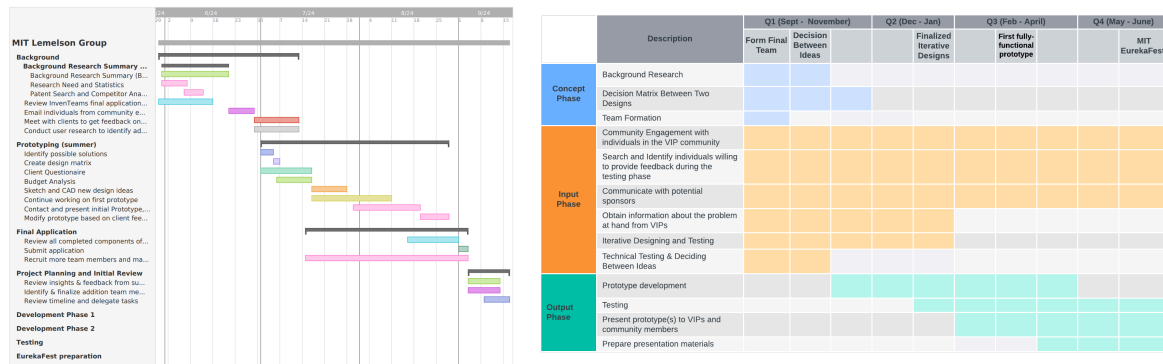
Task Organization

Our core group has identified a method of distributing and keeping track of all tasks and responsibilities through trial and error this summer. We are currently using a Google Spreadsheet (displayed below) to track every task assigned to a team member(s) and important corresponding information. For every task, we include the name, the category the task falls under, how urgent the task is, the member(s) assigned, the current status, the date the task should be finished, and if applicable, the file corresponding to the task as well as any notes. We have noticed that this system is effective and efficient. There is less confusion about what each person is responsible for. Furthermore, since everything is “on paper,” members will be held accountable for the tasks they are responsible for. Currently, our categories consist of the different parts of the 2nd Inventeams application. However, in the preceding months, we will define specific areas of our project. Examples include Outreach, Modeling, Software, etc.

We have found that it is crucial for the engineering and design process to keep track of all tasks. It not only helps us organize tasks and goals into the different stages of the process (brainstorm, design, build, test, etc.), but it allows us to come back to decisions made and work that was done previously as everything is being documented. This allows us to encourage the crucial iterative nature of inventing.

Tr Name	Category	Priority	Tr Person	Status	Due date	Deliverable	Tr Notes
Update Logbook till date	Project Organization and Timeline	II	Kruthi, Derek	In progress	-	Monsters, Inc Logbook	
Create guidelines + contract for additional team members	Project Organization and Timeline	I	Charuvi	Completed	6/30/2024	Student Recruitment InvenTeam Te	Contract subject to change by core team
Email all the people we emailed already again	Community Engagement	II	Kruthi	Completed	6/30/2024	Email Drafts	
Gantt Chart (will work continuously)	Project Organization and Timeline	II	Charuvi	Completed	6/14/2024	https://app.teamgantt.com/projects/gantt?	
Identify Important Components of the Invention Statement	Invention Statement	II	Samhitha, Abi	Completed	6/14/2024	File	
Identify students to potentially add to the team in the fall	Project Organization and Timeline	I	Everyone	Completed	6/14/2024	File	Need to meet as a group to make final guidelines
Read and Take Notes on Packet	Other	III	Everyone	Completed	6/14/2024	File	
Make an Outline for Background Research	Background Research Summary	III	Kruthi, Charuvi	Completed	6/14/2024	Background Research Outline	Needs and final look
Email Dr. C for logbook	Project Organization and Timeline	III	Kruthi	Completed	6/10/2024	Monsters, Inc Logbook	
Website + emailing Mrs. Taricco about hosting it	Project Organization and Timeline	I	Samhitha	Completed	7/20/2024	Website Hosting Taricco Email.pdf	
Create google form for recruiting new team members	Project Organization and Timeline	II	Samhitha	Completed	7/20/2024	https://forms.gle/rCKyNJBuR8ZxNSA	

Additionally, we have created a Gantt chart (below) outlining the long-term deadlines and key milestones, providing a clear visual timeline for project planning and progress tracking. As seen in our chart, we aim to include VIPs in every step of our device development to ensure our project is aligned with the needs and feedback of the VIP community. By organizing tasks in this manner, we can efficiently manage resources, track progress, and adapt to any emerging challenges or opportunities.



Internal Communication

Currently, our team communicates with each other through emails and text messaging. As our team expands, we may have to rethink what is most convenient for everyone. Microsoft Teams is a platform all students at our schools have access to with their educational emails. Our team has tested this platform as a potential candidate for future internal communication with a bigger team and has found it very effective. With teams, you can create a “Team” and create multiple channels if needed in the environment. It can also be used for video conferencing which would be very helpful when our team meets virtually.

In terms of important communication practices, our team holds a safe and open space for all members to voice their opinions, concerns, and ideas. Everyone will be heard and no one will be left out, this is an indisputable ground rule for everyone on our team. For this reason, we will make sure that when our team is meeting and communicating online, everyone will be respected. Furthermore, the core team will make sure the announcements, important information, and decisions will always be communicated to everyone. Similarly, it will be expected that all team members communicate openly, especially if they are facing challenges.

In addition to the students communicating with each other, our team advisor, Dr. Crowthers, will always be an important part of our team and updates will always be given to him. Our team will ensure that decisions are always made with his advice in mind and that progress will be shared as well.

External Communication

Our team has maintained strong communication with individuals and organizations in our local community and in the Blind and Visually Impaired community throughout the past few months (see Community Engagement document). We have identified that it is best for a select number of team members to be responsible for communication with external individuals. This is something we will likely continue as more students join the team. If any students are particularly interested in outreach and external communications, it will become part of their specialized responsibilities.

External Communication, similar to other tasks, will be organized on our task tracker spreadsheet to make sure emails and other forms of communication are being made on time. We

also frequently have meetings with individuals we reach out to. To ensure that all team members join these meetings, we will make sure that they are on the Google Calendar as mentioned above.

Collaborations

In addition to the individuals we are already collaborating with (see Community Engagement document), we will also collaborate with certain clubs at Mass Academy. These will include the CAD Club, Computer Club, and Worcester Polytechnic Institute Robotics. Similarly, we have worked with our Physics teacher in the past and will continue to use her expertise in the technical aspects of our project. The Mass Academy STEM and Technical Writing teacher Dr. Crowthers is our current team mentor.

Something we have already done and will continue to do is obtain as much feedback on our invention idea and prototype as possible. We have met many individuals who work in disability technology or are part of the Visually Impaired and Blind community who have highlighted the current issues they face and how we should tailor ideas to better fit the needs of the community. This feedback is immensely valuable to our team and we will continue reaching out to as many organizations and individuals as we can to ensure that we are working directly with the Visually Impaired and Blind community.

Resources

Since our school is connected with Worcester Polytechnic Institute (WPI), something we have already begun is connecting with professors and professionals on campus with technical experience. We have spoken to individuals in the Electrical Engineering department and have also been referred to the Robotics and Engineering department as well. WPI also has a makerspace which we will continue to use in the building and testing processes.

Mass Academy also has a makerspace with a variety of 3D printers. We have used these printers to print out models and will keep using the tools and resources that Mass Academy provides its students in our invention process. Mass Academy also has a Parent Support Group which provides funding for student project needs. This is something that can be kept in mind when planning out expenses.

Another major resource we have identified and connected with is the Howe Innovation Center at the Perkins Institute for the Blind in Boston. We spoke with the Center's Sr. Manager of Innovation Programs and he told us how he could help us in terms of finding contacts in the industry, providing funding and resources, and of course, feedback and advice.

These are just a few of the resources we have identified and we will continue looking for more throughout the coming months. This responsibility will come under Communication, as we will be reaching out to individuals and organizations who can potentially support our work in some way.