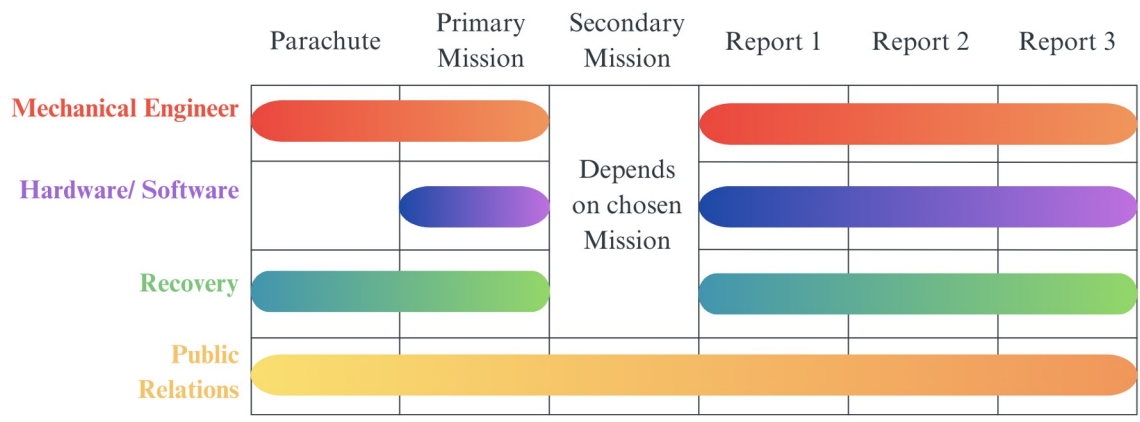


Since 2016, my school has an engineering club in which there are various roles, all having a dependency on each other. Each year, new members join the club along with existing members. For competition, the club team is divided into 2 groups of 6 students (plus 1 extra intern per group) with a total of 4 roles, mechanical engineer (body team), hardware/software, recovery and public relations. It is important to understand that each of us rely heavily on each other's workflow. The nature of the problem is the lack of motivation and clear communication within this engineering club. For communication, we use multiple platforms, such as Trello, Whatsapp, and google calendar but due to the fact that all team members are not equally motivated to work together on the project, the team is not able to reach to its maximum potential and deliver high quality solutions. Due to this, the new team members also do not get enough clarity regarding the various roles and the process needed to complete the project. Our team's project is to create a satellite the size of a can, with respective missions that are chosen to solve a real-life problem, called the secondary mission.

The chart on the side shows the interconnectedness of every role, if the members do not comply with their roles on each specific section the team cannot succeed. Depending on the chosen secondary mission, some teams might be required to support and integrate with other members very closely, to ensure that the product dependency is managed well. An example: tech related hardware/software members need to inform the mechanical engineers the amount of space needed inside the body to fit the secondary mission. Another example: if the mission is related to the landing of the body, the recovery team needs to help with the secondary mission and inform the state of progress to the rest of the team. Due to the lack of motivation and coordination amongst the team members, at this moment the members of the teamwork in isolation from other members or not at all. This puts the entire projects timeline to risk.



Some of the problems which we face on regular basis are people forget components at home, missing the meetings schedule and no communication between members to inform the outcome of the weekly meetings. The communications and weekly assignments are not recorded properly, it is hard to communicate via our current platforms, files are not managed properly in centralized drive etc. One of the major reasons for these problems is the fact that there is no process or guideline in place which clearly defines how a project needs to be developed and the roles and responsibilities of each team. The new team members who join each year also do not receive much guidance from older students; making them less motivated to do the job. Our teams mentor provides guidance in the correct direction. However, the team’s motivation is still lacking to develop new skills while creating the product. Since the end-to-end process is not clear for any team member, we are not able to have a structured plan, meaning we miss a large amount of valuable time which in turn affects our workflow and timelines. For example, last year the primary mission was completed in the end and exceeded the size originally made for it within the body, meaning the hardware would not fit and a new body must be made. As valuable time is lost such scenarios happen allowing for us to lose the competition.

The targeted audience are my peers of this engineering club. To solve the above stated problems, we need a real-life solution defining clearly the process, roles, dependencies, interactions and most importantly, the outcome of the mission. Since, this is a European competition, we get high exposure to various products, teams and countries; the carrot on top being getting selected for the finals that compete against other international winning teams in Portugal. Along with this, majority of the students within this club aim to gain experience for their future, which will be in some line of engineering. This experience not only develops skills for an individual but adding this to the student’s application/ CV, it gives a good impression on the company or college that the student is applying to. To achieve this, it is highly important that the team is equally motivated enough and has a clear understanding of the process in order to complete and win the competition.

Research topic	Priority and justification	Primary/Secondary Research methods
Interactions 1. What are primary interactions? 2. Can interactions change consumer behaviour? 3. How do interactions help us with daily lives? 4. On a scale from 1 to 10 how well does our club interact?	Mid Interactions are a huge aspect of my solution. Much of my solution will involve complex interactions. Understanding more on interactions is necessary for my solution to be of better quality. My final product aims to increase interaction within my group hence it is important to understand how they are used. I have information about them already.	Primary: By having a general discussion with my target audience, I can understand what they feel about interactions and understand the current state of interactions in our club. Secondary: Understanding what the various types of interaction there all shall help me understand how to create good ones. I can do this research on the general web.
Communication 1. What defines communication? 2. What is the best way to communicate? 3. How can our target audience communicate better? 4. On a scale from 1 to 10 how well does our club communicate?	Mid Communication is a big aspect of my solution. One of my main goals is to create better communication and to do this knowledge on communication is necessary. Looking back at the problem, motivation and communication where the main issues, and I want to be able to inspire interactions with my product hence it is important to understand how they are used. I have some general information about them already.	Primary: By having a general discussion with my target audience, I can understand what they feel about interactions and understand the current state of communications in our club. The questions for these along with answers will be placed in the appendix. Secondary: Understanding what are the ways that improve communication will help there all shall help me understand how to create good ones. I can do this research on the general web.
Existing Products 1. How does the existing product tackle the problem? 2. Does the existing product apply communication and interaction to produce a successful product? 3. Are there already existing products that solve my exact problem?	High There are many ways to tackle a problem, the product analysis must analysis some types that tackle problems of management. This is a key part of the Design Portfolio and is the main point of inspiration for my initial designs leading to the final product.	Primary: The product analysis shall be a personal interpretation using various analysis styles depending on the specific product that shall allow me to understand how to create me own product to tackle this specific problem. I will be analgising 4 different products with different analysis styles.
Target Audience 1. Who is my target market? 2. What does my target market think the ideal solution is? 3. How does the target market feel about the problem?	Low It is important to know what everyone still wants and graph that data in a quantitative and qualitative way, however I already have a rough idea on this as I am part of the group.	Primary: I am aware about who my target audience is however to better fit their needs my questionnaire will help me understand their perspective and problems that I need to create the solution for. Shown in appendix.
Editing 1. What is a keyframe? 2. How will keyframing help me? 3. Will keyframing give me the effect I need?	Low I have some experience with editing, and I am able to do the basic tasks, however keyframing is quite new to me, especially when it comes to using it for majority of the video. Hence it is low however still important to research about.	Secondary: There are many professional editors online on YouTube that give various tutorials. A channel that I can use to learn this information is MrAlexTech. The rest I must research on the net of editing spots or tech blogs as they might have the most information.
Engagement 1. What makes a visual piece engaging? 2. What sound effects make a video engaging? 3. How to capture the audience's attention?	High Engagement is one of the factors that is most important when it comes to my final product as I must create an engaging video to keep the retention of my audience. It is important to know how to keep the audience engaged to create a compelling video.	Secondary: I will be using secondary methods for this such as researching articles, news and other reliable sources (reliable websites, images etc), or YouTube videos that discuss the phycology.

Microsoft Teams: Is an application that combines all Microsoft features and further applications. Microsoft Teams is a collaboration platform developed by Microsoft, designed to facilitate communication and teamwork within organizations. Launched in 2017, Teams has quickly become a key player in the realm of business communication and collaboration tools.

N: Navigation in Microsoft Teams is quite straightforward. When opening the application, the user will be directed to the Team's dashboard, this will be done automatically as this is the default setting of the application. Once on this dashboard the user can see the teams, they are a part of and share, post and communicate with people from their teams. There is a navigation bar on the left side of the application where the user can access tools such as activity, chat, teams, calendar, calls and files. The activity feed is where the user receives notifications about mentions, responses to messages, reactions, meeting invitations or updates, updates on the teams and app activities. The chats are where the user can have private or group conversations with members of their teams. The calendar feature can allow the user to schedule/join meetings, view upcoming meetings and be notified of upcoming meetings. On the head bar the user can change their status and search or type a command. The overall navigation of the application is simple, clean, and easy to understand at first glance and navigate through.

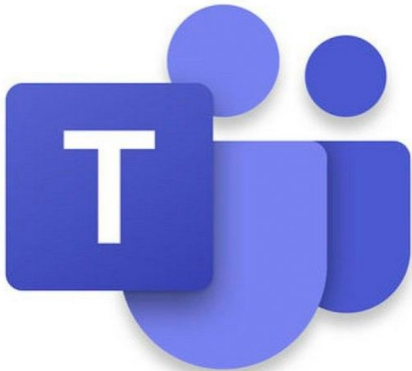
I: Interactivity in an application such as Microsoft teams refers to the engagement of users with the interface that allows them to communicate with the system in multiple ways. interacts with the user to manage their calendar, contacts and business communications. It can notify the user about received messages, missed meetings or calls, mentions etc. The application can be integrated with other Microsoft apps such as outlook to provide better interactions. It is a central console in which all Microsoft product, plus extensions can be used.

L: The user opens the app on the default page which is teams. Here they will see a grid layout of the teams they are in. This layout can be changed by going to ‘Select Teams’ > ‘Switch view’. A head bar and sidebar will also be visible when on the default start-up page. On the sidebar the user can see multiple tools such as activity, chat, teams, calendar, calls, files and there is also a help icon at the end. On the head bar you can see your profile and the search bar. With the search bar placed in the top centre, and the user’s account on the top right.

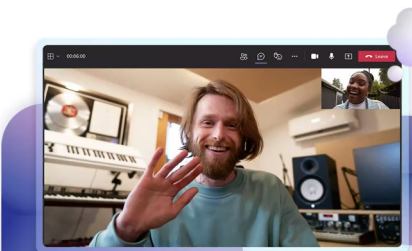
U: Microsoft Teams offers a robust chat and messaging system that allows users to communicate in real-time. It supports one-on-one conversations as well as group discussions, enabling seamless communication across teams. One of the standout features of Teams is its deep integration with the Microsoft 365 suite. Users can access and collaborate on Word, Excel, PowerPoint, and other Microsoft Office documents directly within the platform. Teams provides a powerful video conferencing solution, allowing users to conduct virtual meetings with features such as screen sharing, file sharing, and real-time collaboration on documents. Teams organizes communication into channels, providing a structured way for teams to collaborate on specific projects or topics. This helps in keeping conversations organized and easily accessible. Microsoft Teams supports a wide range of third-party integrations, enabling users to connect and collaborate with other tools they use regularly. This enhances productivity by centralizing various workflows within Teams. Microsoft has implemented robust security measures in Teams, ensuring data privacy and compliance with industry regulations. Features such as data encryption and multi-factor authentication contribute to a secure collaboration environment.

S: This application is most suitable for users who are in organisations, businesses, educational institutions, small groups, distributed workforces etc. Many companies use Microsoft teams due to its integration of multiple platforms and complex user interface. Some examples of companies that use this application include; Toyota, Pfizer and Accenture. This application is able to integrate a large variety of other applications and storing all data in a central homing system that can be shared with other colleagues/ family/ friends easily.

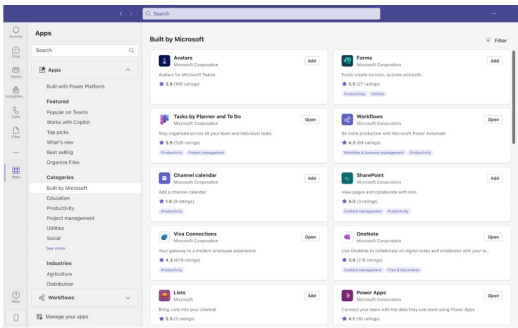
Inspirational: From this product, I can take the organizational factor of various apps. Microsoft teams is able to integrate many useful apps that many companies use, even if they are not created by Microsoft themselves. In my product, I may be able to integrate all other applications and software's used by our team, such as our 3D editing software, excel files, all documents, and such parts.



(Wikipedia)



(Microsoft)



Motivational Video: “Unbroken - Motivational Video ”, produced by Mateusz M - https://youtu.be/26U_seo0a1g

S: This motivational video starts with black; it then consists of a large amount of extreme static up-close shots. Along with scenes in between that have shots from the worms-eye view. Along with some scenes in between that have general pans targeting the subject. This video aims to tell a story in multiple ways. It has its speech in the background along with has scenes in the background that do not always work consecutively however it shows the growth of humans, as the video is based upon the fact of not giving up. The video consists of short clips ranging for about 5 seconds each with fades in between all of them. The video shows scenes of gymnasts, people working at apple, ones who want to improve their overall health, and many other sports can be seen with clips of hockey, rugby and other people aiming to improve their work life along with family life. These scenes all overall each other with these fades between each other. As these shots progress over the timeline, it shows the progression of the individual in their life. The video captures many roles and the way that all can be improved upon, targeting a wide audience with wide jobs. About 1 minute into the video there is a large wide pan, this being an establishing shot of city, followed by extreme close ups showing the emotion of the characters, as they dread around in confusion and angst. In the end of the video, it shows the title “unbroken”, symbolising no matter what, these people have not been broken and are able to progress to success, by initially showing them stressed, and then in success. It shows 2 close up shots of a small child studying and fades.

S: The setting/scene is very displaced throughout the whole of the video, it follows multiple narratives. The video targets overall growth of a human in mental, and physical ways, showing them progressing in work, in health and in relationships. In terms of each scene itself, there are a total of 10 settings with various narratives being played by various actors within them. The forest, coast, mountains, homes, gyms, schools, libraires, office (specifically apple workers), gardens and large city skylines. The video shows these characters as they all express their own emotion as they slowly build up courage to work harder to achieve their goal. On the side there are various screenshots that show the shots that are being showed within the video, along with their timestamp at the bottom with the script added too.

S: The video does not consist of any speech, but rather a scripted overlay, this being the motivation video. It consists 1 single speech stated by multiple figures, with the voice actor changing at points. The speech is said in a deep voice that sounds convincing. Along with this the main piece that brings the media, and the audio together is the instrumental music, which in this case is motivational music. It is clear that within this video has a large amount of high and low notes in its beat. After every one of these beats, the background clip changes, making it spontaneous and synced to the background making it more appealing when watching. All people in each of the 4 scenes on the side are various people according one timeline in the same video. The video, music and script all match by at the same time stating and showing similar points, such as seen with the close-up shots of people's faces.

S: The basic story that the video is trying to show is that an individual must never give up on their dreams no matter what. Hence, I chose this video as it linked back to motivation. The video has small clips of every person progressing on their own goal, with all being overlapped each other playing simultaneously, showing how they person struggles, and then aims to achieve his goal, and near the end success. There is no one narrative that this video takes a look at, but rather a multiple set of narratives showing their struggle and then their success. Along with this there are various monologues playing in the background aiming to motivate the audience. Along with this the speech that they say in the background directly links to the shot being shown. Such as at 1:26, where the background states ”There is nothing as powerful – It is hard to kill a human spirt”, as a boy gets beat to the ground and then lifts himself back up, showing us that he is strong.

Inspirational: From this product analysis I can use the fact that the music is synced with the video clips, it makes a large difference to the overall viewing experience as it captures the attention of the audience and keeps them hooked as they are able to sync their hearing with their sight allowing them to be more attracted towards the video. If I were to create any piece that includes music, I will make sure to sync the clips with the background and chose a musical piece that has many high notes.



Datona Workbench: The workbench being analysed is the Datona workbench trolley. This trolley is used by our engineering club. It is an organizational tool with large amount of space.	
A: Aesthetics wise, this workbench may not appeal to everyone. Due to the material, it is made of which is metal, it has a black - grey finish and light brown countertop. This trolley looks quite professional and is a piece that can be used in a workspace as it would allow the workspace to also look professional. The layout and organisation of this trolley is organised, it consists of different components/ sections. These different sections help organise different types of tools.	 (Brandfetch)  (Datona)
Cost: The cost of this workbench is quite expensive; it costs 1295 euros when it is off sale. Due to this expensive price, it may be out of many people's budgets however for groups such as our engineering club this is affordable. There are occasions when this item goes on sale, for example on Easter this year the price has been reduced by 21 percent meaning it is not 1023.05 euros. This would allow clients to save 271.95 euros. It's price, when considered with its size, use of good material and along with its manufacturing costs however makes more sense.	
Client: The main target audience is usually handymen, people who fix parts of their house by themselves, hobbyists, DIYers and engineers such as us. This trolley however is likely mostly bought by groups of people in workspaces that may need tools such as these. We use this trolley as a group together. This is because for someone who needs it for personal use, it may be too big of an investment. It could also be used by someone who has a lot of tools they may need to store.	
Size/Shape: The product is in a cuboid shape and this model in particular is from the XXL - Premium series meaning it is quite large. The exact dimensions are 136 x 46 x 106 cm for the and 136 x 46 x 50 cm for the chest. It has a few different components of different shapes and sizes. These include 5 drawers in cuboid shapes that are layered one on top of the other and a cabinet with three different sections. The large size of this workbench makes it very spacious and provides a lot of storage.	
Environment: This workbench is very durable which also makes them more environmentally friendly as it will not break or decay anytime soon. This would allow it to be used perhaps even through multiple generations. It can be used for different purposes and will create a good working environment for buyers.	
Safety: A workbench should be safe so as to not cause harm or damage to anyone or anything in the work environment, this is a feature many people consider before purchasing one. This workbench is quite safe as many safety features are considered. The cart can be easily moved due to the two swivel wheels on it. These wheels also have a break which allows us to stop the workbench. The drawers as well as the cupboards have a cylinder lock which allows them to be locked, this prevents any younger children, or anyone accessing the workbench without the keys and increases its safety. However, the workbench has sharp edges and is made of a hard material which could be dangerous if used without care or incorrectly.	
Manufacturing/ Materials: This workbench was made with sturdy materials; these are metal and part plastic. These materials are sturdy and stiff, this makes them good to use in workspaces. The worktop is made out of oak which is a durable material. This combination of sturdy, heavy materials are perfect for workspaces and storing tools and other materials.	
Inspirational: I will use the information that I learned in order to organize my application in a structured manner and add only the features that the target audience needs, nothing extra which will overpopulate the application with various features.	

The Lego House: The LEGO House is a museum in Billund, Denmark, designed like stacked LEGO bricks. It opened in 2017 and features interactive exhibits showcasing the history and creativity of LEGO. Visitors can explore zones dedicated to different aspects of LEGO play and enjoy a LEGO store, restaurants, and event spaces.

F: The primary function of the LEGO House is to serve as an experience centre and museum dedicated to celebrating the history, creativity, and imagination associated with the LEGO brand. It provides an interactive and immersive space for visitors to explore various exhibits, play areas, and zones related to LEGO play. The LEGO House aims to engage and inspire visitors, both young and old, by showcasing the iconic LEGO brick and its impact on culture and play. Additionally, the facility includes a LEGO store, restaurants, and event spaces, creating a comprehensive experience for LEGO enthusiasts.

F: The inside of the LEGO house is all themed around LEGO, with structural columns made of LEGO. Along with the outside being made up of large 2x4 lego bricks. Everything inside is designed with a hint of LEGO with either being large bricks, or brightly coloured smooth furniture to be welcoming and friendly to the public.

E: The LEGO House has incorporated a variety of audio-visual and interactive technologies to enhance visitor engagement. These may include interactive displays, touchscreens, projectors, sound systems, and possibly augmented reality or virtual reality elements. The exact equipment and technology used can evolve over time as the LEGO House updates its exhibits and experiences to provide visitors with the latest and most engaging features. One major feature that is seen inside are the portfolio catalogues in which children can come, build a design, take an image of it and scan their wrist band to add it to their collection. Along with this on the base floor they have a brick building machines in which people can create their own unique card, showing the possible combination number they got of the famous 6 interlocking red bricks that has over 9 million ways to be placed around.

L: The LEGO House in Billund features an innovative layout designed to resemble stacked LEGO bricks. It includes different themed zones with interactive exhibits and play areas, allowing visitors to explore various aspects of LEGO creativity, history, and innovation. The incorporation of a LEGO store, restaurants, and event spaces enhances the overall experience, creating a dynamic and engaging layout for visitors of all ages.

L: Given the emphasis on the vibrant and colourful nature of LEGO, it's plausible that the interior lighting is designed to enhance the overall atmosphere, possibly featuring a mix of natural light and strategically placed artificial lighting to highlight exhibits and create an inviting environment. The lighting could be adaptable to different zones, helping to evoke good moods and enhance the overall visitor experience.

A: The overall ambience has been commented on in various sections, all these things allow for the lego house to have a welcoming aura. The colours, lighting and layout all affect the inside feel that the building gives off. It allows for a joyful mood allowing for creativity.

S/S: The LEGO House in Billund, Denmark, is notable for its spacious design, allowing for a diverse range of exhibits and interactive areas. The architecture, resembling stacked LEGO bricks, contributes to a visually impressive and flexible interior layout. This sizeable space accommodates various themed zones, play areas, and exhibits, offering visitors an extensive and immersive experience. The facility also includes a LEGO store, restaurants, and event spaces, enhancing its overall appeal.

Inspirational: I will use the information gathered from this analysis, such as the use of colour to inspire creativity and communication. The fact that there are various workstations to help the overall interactivity in a workspace. The building it well connected through the centre tree being the place by which all floors are connected, with an open view, this can be used too.



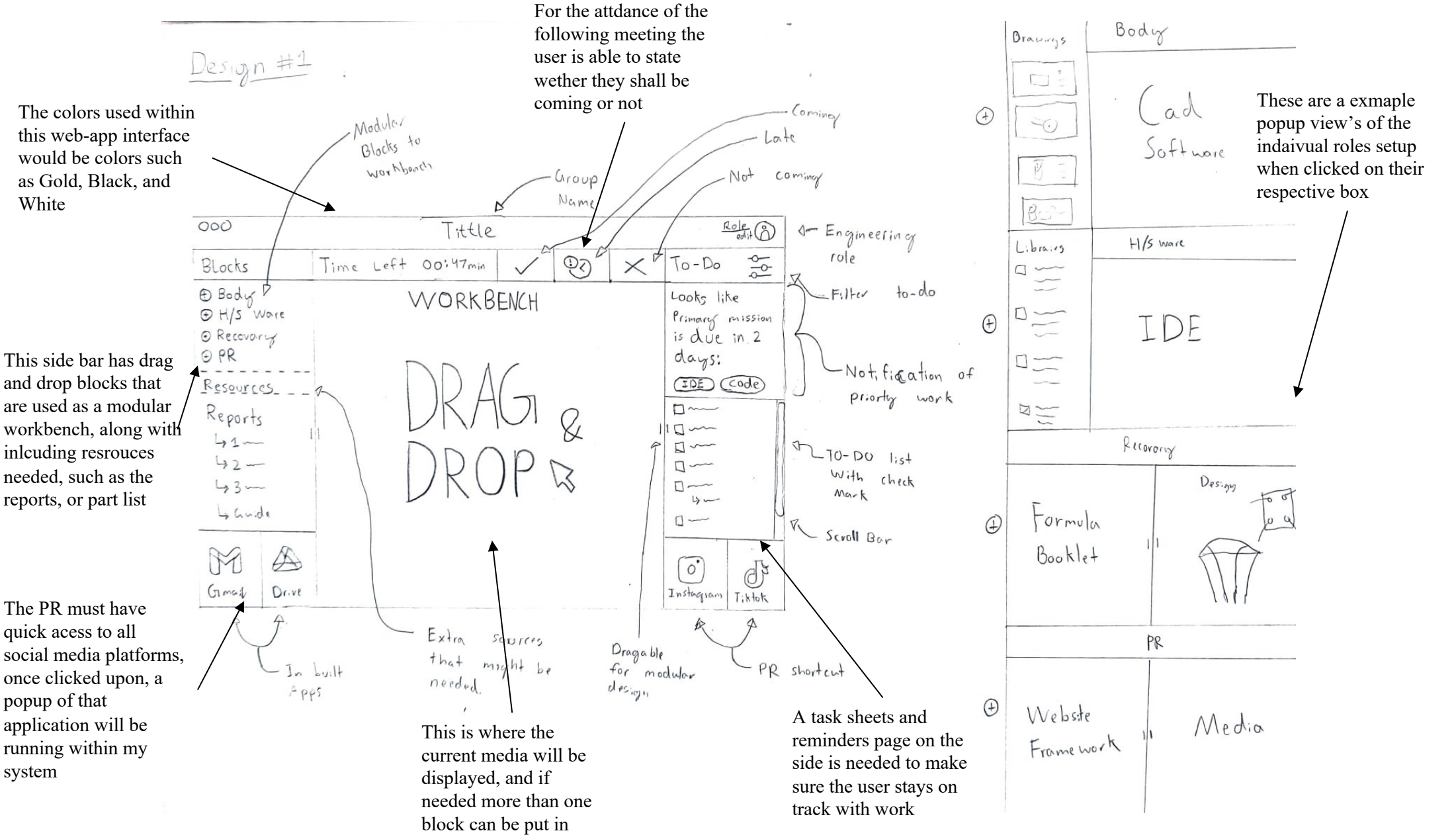
The engineering club at my school has a poor execution of interactions, our team is interdependent on each-other. With there being a total of 4 roles, mechanical engineer, hardware/software, recovery and public relations. In order to complete our satellite first the hardware/software developers must finish their part, along with the recovery making a parachute, once those two are complete, the mechanical engineer’s must make a body to house the electronics and testing must be done, all along with the PR documenting our team’s journey. In prior years the collaboration has been high however the time-management, resource distribution, and organization have been low. Due to this each year our school is not able to place high in our competition. In order to solve this problem, I must come up with a solution that is specifically targeted toward the engineering club’s members. My target audience is the members of my school's engineering team, this includes the new members, old members, interns, and the head of the team. My main problem is the lack of motivation in this club. This lack of communication negatively affects the communication between members, work quality, and the amount of work done. I want to create a motivational video that helps us solve these issues. My video should encourage the team to work harder and engage more with our projects. In turn, I will end up measuring this by comparing it to the specification and grading each specification on a scale from 1 to 10. The specification will have 4 factors with 3 sub-sections each. The MUST’s, the SHOULD’s, and the COULD’s. The MUSTs are things that must be in my product in order for me to call it successful, if they are not met the product is not successful. The SHOULDs are factors that can be put in the product and would be helpful however are not necessary for it to be considered successful. The COULDS are extra gimmicks that can be added if there is extra time however are not needed. Along with this, there will be user testing in which I will give the target market my product and they must test it based on questions given, from that I must take the data and see whether I met my specifications or not according to the target audience view-point. As I am a part of this community and take an active part in creating the product, I myself experience this problem every time, hence I am motivated in order to come up with a solution for the problem. If I look back at the product analysis there are a total of 4 various types of products that I could make, creating an application, a video, an organizational system, or a 3D model of workspace. For each one of these, I have some skill in creating an application, creating a video, and in 3D modelling as they are all tasks that we have aimed to create previously in design class. However, I am not used to creating an organizational system, that would be something new to me. In this case I would have to add a section to my research plan based on the research of how to create such a product, I mainly learn from watching others do, hence watching YouTube videos about the thing allows me to follow and learn side by side to do so as well. This year our team has 5 old members and 9 new members (2 of which are interns; not official members but help out) as the majority of members are new, it seems as if they are lost with what to do as they do not have much experience and are new to the system. Along with this during our meetings we do not have a structured plan, meaning we miss a large amount of valuable time which in turn affects our workflow. This makes this a relevant issue currently, while compared to last year there were only 4 new members. From my other research, it is also clear that our group is in need of a design that inspires interactions and communication which will help us do well in our competition. For this unit I have till about the end of March, hence I will aim to complete the product by early March which will allow me to have a large amount of time to do my testing and completing off other slides.

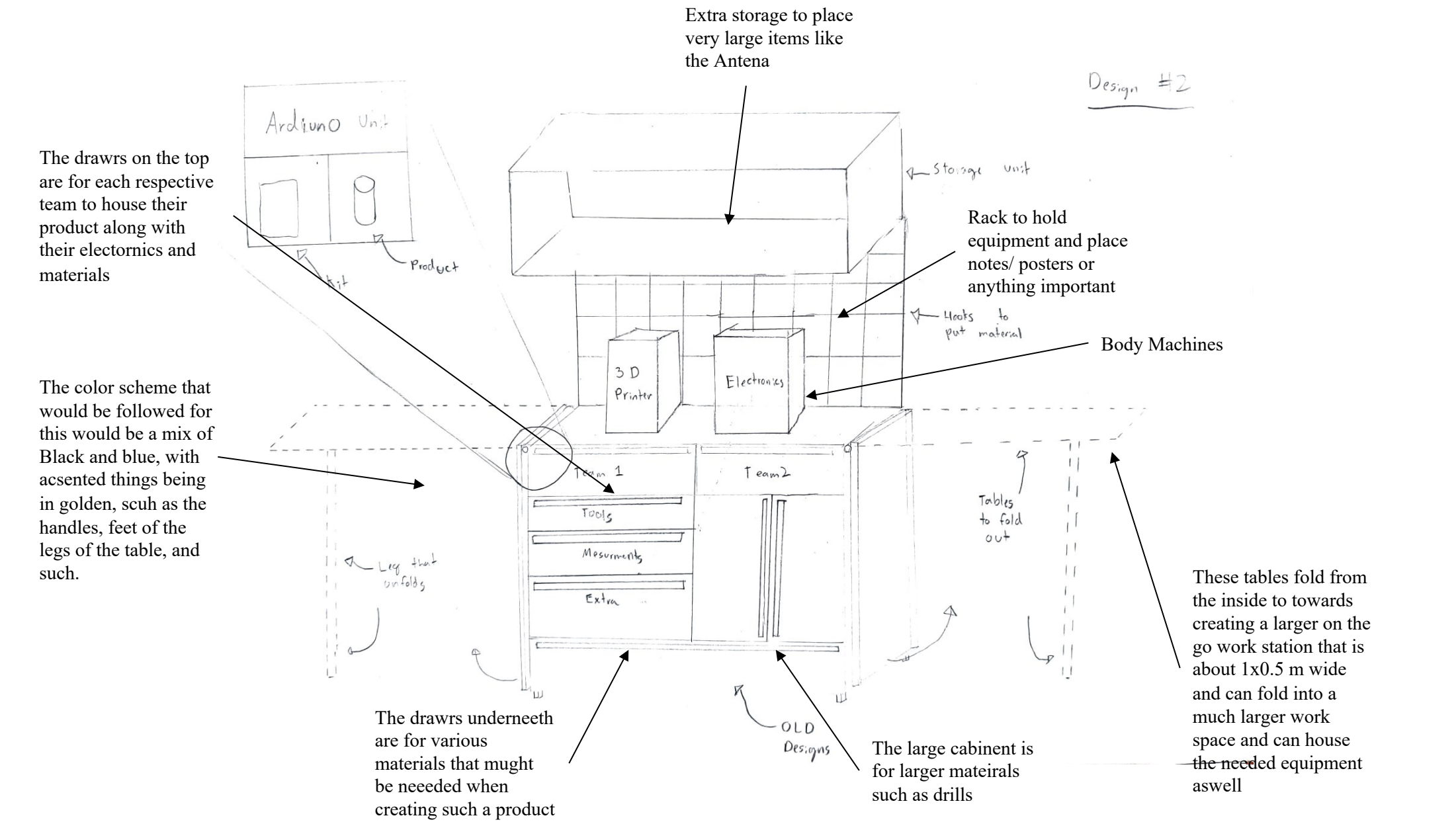
Research	Research Summary	Analysis of Research
Interactions	Interactions are known as when there are two or more people who discuss with each other and have live reactions to one's speech (Cambridge). When looking at this through a physiological lens there are 4 main types of interaction, these being, exchange, competition, cooperation, and conflict. Exchange being simple, when there is a small exchange of information between a group of people, this can be either the exchange for an award or some sort of greater value. All of these are self-explanatory by name, competition is when two or more are going against each other for a prize. Cooperation is when two or more are exchange information with each other when they have a common goal. Conflict is when two or more people fail to cooperate with each other and go against each other’s ideas. These are all interactions that we have in our daily lives that help us to gather knowledge from others and benefit others with ours. Depending on the mode of interaction being done, it may be that consumer behaviour changes (study smarter). Upon having a discussion with a member from each team, I was able to understand that they feel as if their team’s overall interactions are very high, they discuss a lot however when it comes to the practical work, they are not always able to do it.	It is important to understand the relevance of interactions between people. As the interactions that our team currently have are exchange, however they must be changed to cooperation in order to increases productivity in the club.
Communications	Now when we look at the lens through communication it is quite different. After asking the 2 members, their communication is quite poor, as they are not able to get their ideas across. Communication is when a person is able to share knowledge or information to another person or set of people (skillsyouneed). There are many ways to communicate well however after researching the best way is to have turns listening to each person's idea and further brainstorming (Gatting). If the target audience is able to actively listen it will improve communication a lot.	This is relvelnt as interactions and communcation go hand in hand when it comes to improving speech.

Research	Research Summary	Analysis of Research
Exisiting Products	All existing products are able to tackle this issue of low motivation very well. As discussed in the original problem, there are many reasons that there is low motivation in our group, some being the miscommunication, and bad organizational skills. The first product (Microsoft teams) is able to organise all necessary apps and include extensions of famous apps that allow for a good workflow within the Teams application. It is able to integrate a large variety of applications that is helpful for many offices. They are able to keep all information stored at one point thanks to the integration between all their other Microsoft 365 products, such as outlook and OneDrive. With Microsoft teams comes a synced sharing mode as well, in which calls, chats, documents, photos, add-ons can all be accessed from one app regardless of the company an individual is working in, Microsoft teams will be helpful for their team to increase their organization, communication and interactions. This also being the only product that I was able to find that is the closet to being able to solve my team's exact issue. However, it is not fully as it will not be able to integrate apps such as Cura. In terms of the second product (Motivational Video), it is able to tackle the problem very well by directly giving a motivating speech, along with a progressive story that shows the narrative of many various peoples feeling more motivated and reaching their goal. This product was able to perfectly show communication and interaction. In terms of the third product (Workbench), our group has this exact workbench in our room, and we use it to organise all of our tools, it is generally cleaner compared to other workstations in our room and it helps organizes all our large tools that the body team uses. This product helps with the overall organization of our group’s materials however it does not directly affect the interactions between our group. In terms of the last product (The Lego House), it is a large structure made by the LEGO group as a museum that allows all people to interact with each other with various workstations all around the place. If our team had the larger budget to create an actual workspace dedicated to our work, it would help boost overall moral due to the better management.	Each time a design unit is done, it is imporant that we anaylsis spesfic products that already exisit that somehow relate to our original problem. Upon analysing them it allows for us to begin brainstorming what kind of product we want to create, what would best suit the audince, and what would best create a soultion for the given problem.
Target Audince	My target audience for this project are my engineering club’s members. In the same discussion with the 2 members, one from each team. I was able to understand that both wanted some sort of system in place that forced us to work on time. Along with it being specifically catered to our needs, not an external application in which we are not able to do what we want. But a more modular system that had everything that our roles would need, every application, such as editing software, document editing software’s, and merch creating software.	The target audince is also always an important point as I must understand what my target audince was as the product is being created for them.
Editing	A keyframe is an anchor point in the timeline of a clip, that essentially is the start and stop point of the selected object. With a keyframe many things can be altered, such as position, zoom, opacity and such sort features (Hauser). Keyframes are very helpful when it comes to taking shortcuts in animation without reducing the quality of the video. They inform the software that in this point in the timeline they wish for the object to change one of its factor, such as its position. Yes, keyframing will in-turn help my project a lot.	I found this to be better way to create my animtion rather than paper animtion as it is much faster
Engagnment	It is important to have consistency between the piece. For example, the product must use similar pieces throughout and they must not change. If I am trying to show the satellite, it must not suddenly change shape colour or form (Lumen). Along with that, in order to make an engaging piece it must include high sharp contrasting images to capture the audience's attention (hootsuite). When it comes to the background music of a video, it must include simple melodies and repetitive chord progressions, the more bass there is the harder the music hits with each beat making it more tense. (vidyard). Starting the video at a high climactic point that brings the audience’s attention to the screen, use of high bass music helps with this as well as, along with linking the clips to the background music (Hogan).	This is also very importatnt as the video might be a bit long, it is important that the audince is wanting to watch the video

Design specifications

Specification type	Function	Aesthetics	Target Market	Communication and Engagement
MUST	The design MUST be helpful for all roles within the engineering club . With clear indication of how/where every member may contribute their part in the product. The design MUST be useable for both teams at the same time . In case of a physical model, it must have separate section or combined areas for all members to collaborate, while if it is a non-physical design it must aim to be easily accessible for all members. At last, the product must be generic to not cater to a specific year but help our team in all years to come .	It MUST be aesthetically pleasing; following the colours of our engineering club, with Black and Golden . It must be a warm and welcome design that allows for the user to interact with the product easily. In the case of a non-physical model, the model must be clearly represented aiming to not include eye-sore colours and easy to use . Along with this include the respective logos and icons . The product must look professional.	The product MUST show integration of all roles , with body, hardware/software, recovery, public relations showing their individual or grouped workstations that allow the target market to work together .	The product MUST be able to improve the communication between team members and both teams . The product MUST be able to highly increase the engagement between students and the task . This will be seen when the deadlines are met on time and the work is structured properly in a way that there is no miss-communication between students.
SHOULD	It SHOULD be a virtual, online or physical space that aims to allow for the engineering teams, along with show either individual stations or grouped that work well together . The body team works directly with the hardware/software group and the parachute team needs to align.	The design SHOULD be able to integrate the colour scheme of the competition, these being, light blue and white . Along with that if needed it SHOULD have a well-designed typography set that matches the mood and tone of the product.	The product SHOULD house all the target audience's needs , such as materials or specific items. Such as a solder machine or 3D printer. In the case of a digital product, it SHOULD have dedicated areas or show the devices being used	The product SHOULD adhere to the problem and be able to make sure that the that the product that the engineering club is making is done 1 week in advance (meaning by the meeting before the deadline the product must be done) to make sure that there is no last second panic for both of the teams .
COULD	The design COULD aim to solve the smaller issues in between the teams . Such as organising all material in a proper manner and make sure that the material gets place back in the correct place or boosting team spirit. Along with that additional rooms such a storage room, or sections with old models that previous engineering teams have made, or separate meeting places that complement the teams.	It COULD include extra gestures that boost aesthetically pleasing, in terms of virtual designs, it may include well-lit lighting that shows off the design (Lighting in terms of either a 3D model or tint of colours, pastel, warm or cool, unlike pop that are harsh colours), or smooth animations. In the case of a physical model, it COULD have extra spaces that complement the need .	The product COULD, depending on the role, be connected or separate workstations with the two teams. In case of hardware/software, both teams help each other but don't have too, integrated workstations can increase productivity.	It COULD allow to increase the overall communication across members with various roles that might not be necessary but can be helpful. Such as the PR member/s informing about any new posts, or when a deal is made with a company as a sponsor for the team. This would e.g. help the body team know they have more money to spend for the product or components.





Design #13

This is a floorplan of our current room with the a redeisnged layout

Moving the table to the side will allow for people to work on both sides of the table and take use of the large electornics cabinet more.

Hardware/ software members have now more than enough room to collaborate together to create the electronical system

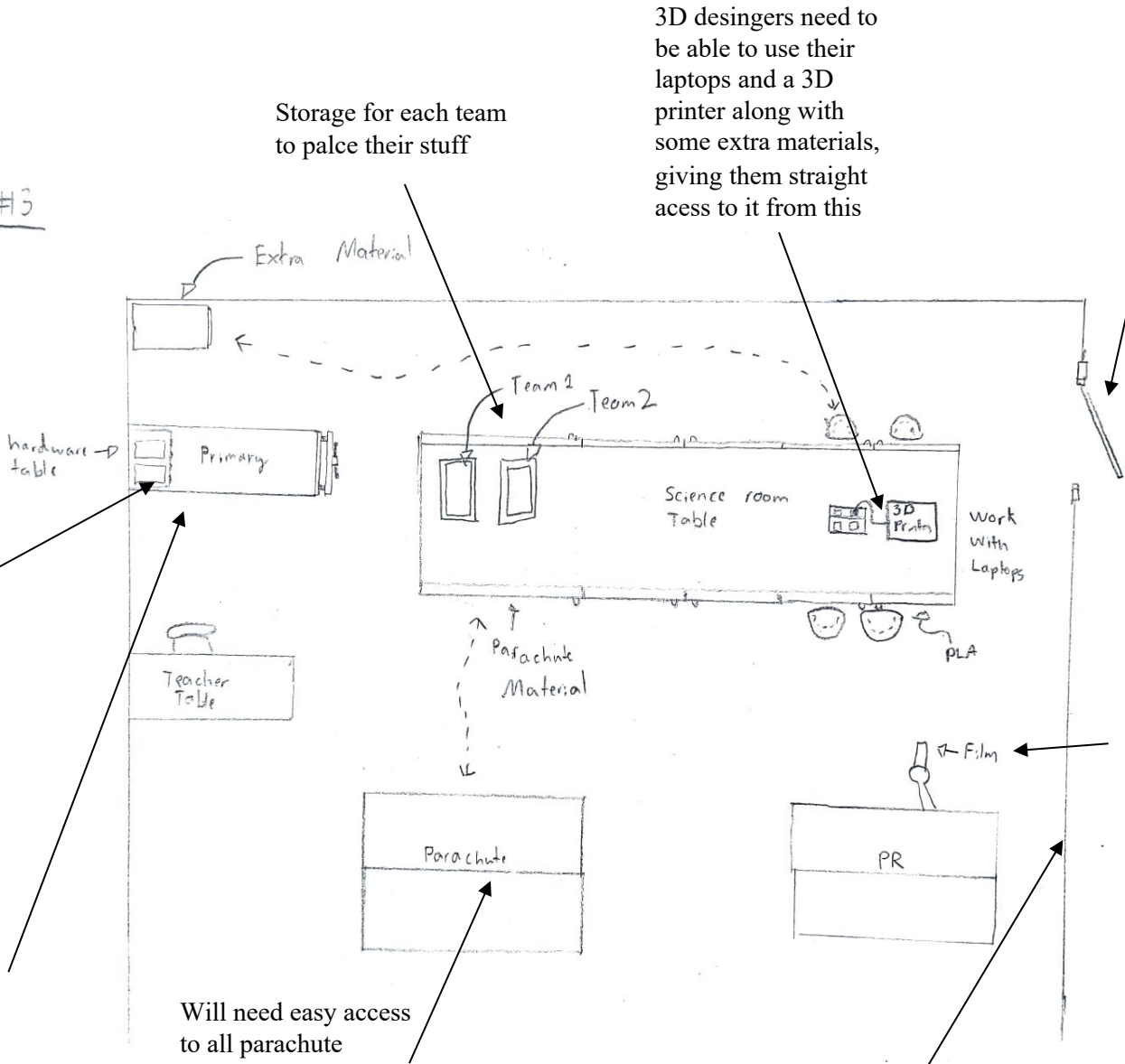
Will need easy access to all parachute materais and can be found in the drawr near the table

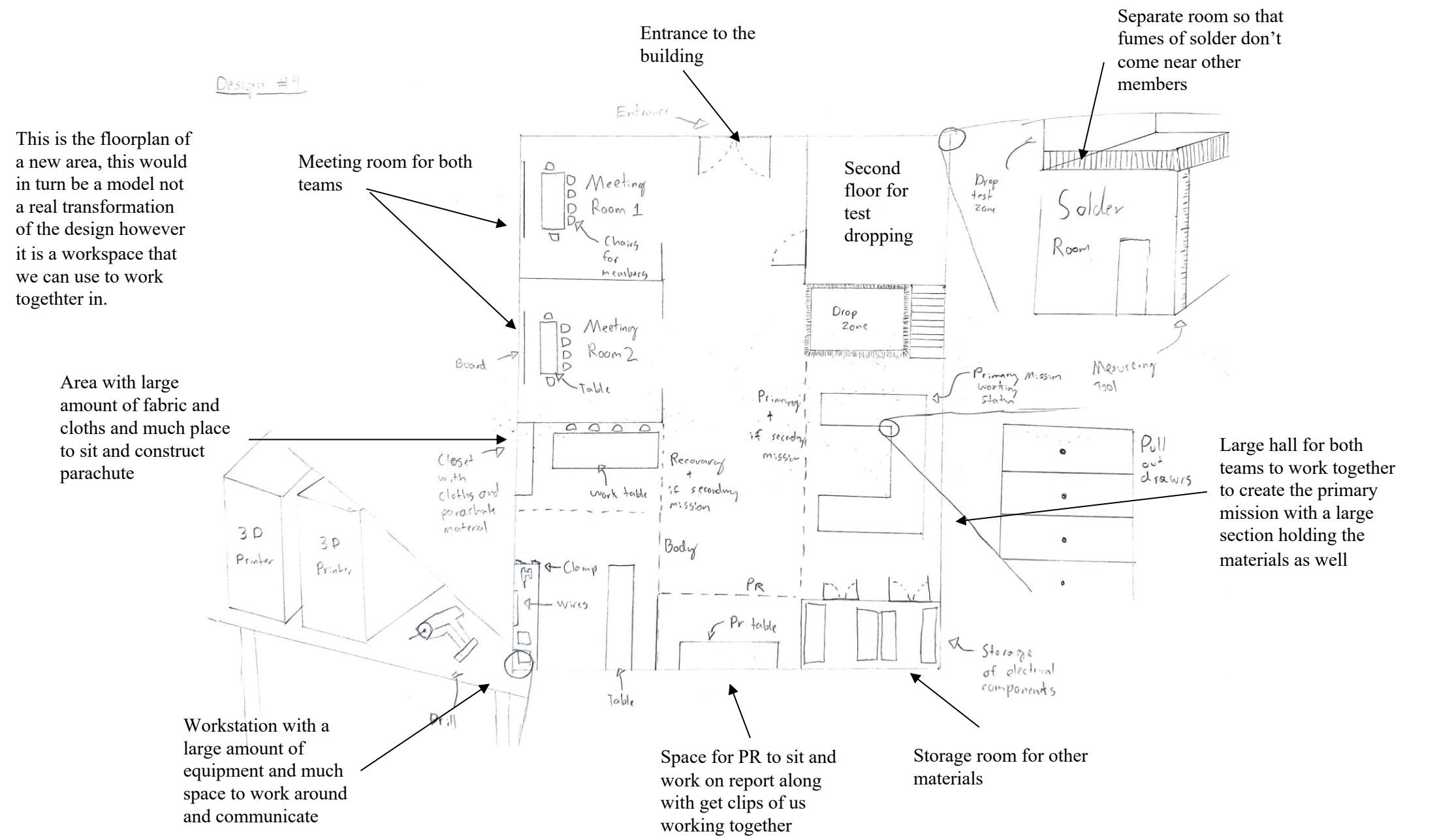
3D desingers need to be able to use their laptops and a 3D printer along with some extra materials, giving them straight access to it from this

Door to other room

The PR station is near the end of the design as they will be able to capture everythng that the team is currently working on and work on the report side by side

The colors of the room will not change however posters can be hung on the walls





This is my final design, and it is a motivational video that aims to show what must be done inside this competition and how you must win it

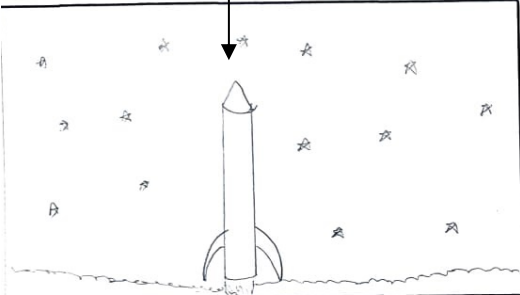
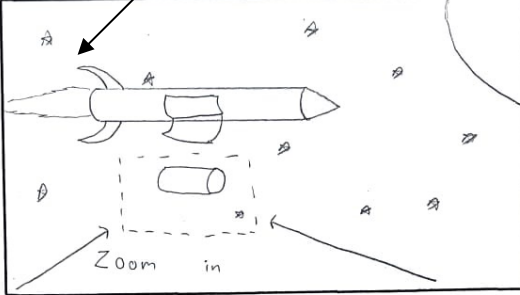
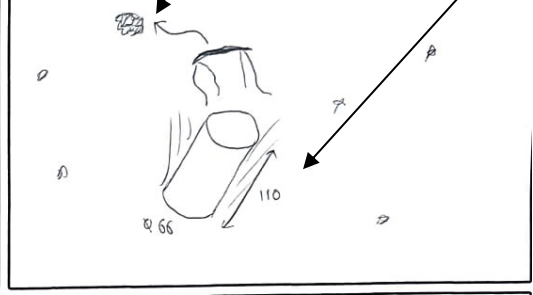
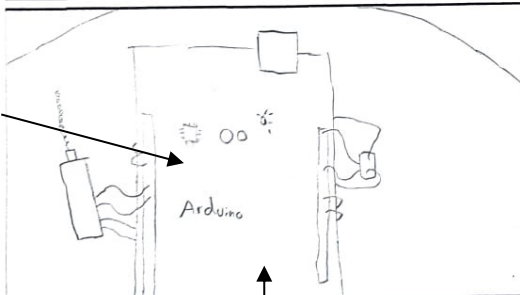
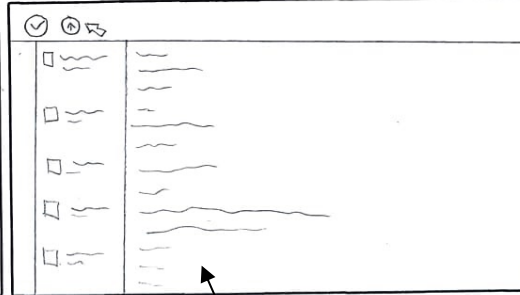
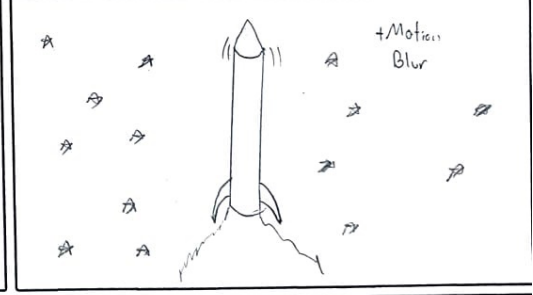
Design #5

Black background to show sky and link with specification
Show stars in the background

Use red orange and yellow colored paper strips to show fire coming from the rocket

Parachute must dethatch and fly away into space as seen

Camera pans down and shows can fall side to side and then getting stable

Scene: 1  - Black void to sky, background change - Rocket goes UP	Scene: 2  - Rocket hatch opens, can falls out - Can falls down, parachute opens	Scene: 3  - Parachute detaches, crumples and flies away - Measurements drawn on side of can
Scene: 4  - Zooms inside can, shows arduino - Outside Black	Scene: 5  - Camera pans forward and up to laptop - Clicks "Upload code"	Scene: 6  - Zooms into arrow, morphs into Rocket - Flies up fast and ends on Black screen

Use real Arduino to make it more realistic

Zoom into can and then into the electronics

Show the code being played and once it says upload the rocket must go to space

Show the rocket getting lift off and then screen goes black showing process with fast paced music

Mainly Black, Golden Stars, and Blue used

<u>Specification</u>	<u>Design 1</u> <i>(x/10)</i>	<u>Design 2</u> <i>(x/10)</i>	<u>Design 3</u> <i>(x/10)</i>	<u>Design 4</u> <i>(x/10)</i>	<u>Design 5</u> <i>(x/10)</i>	<u>Explanation of scoring</u>
Function	8/10	8/10	8/10	10/10	8/10	Looking at the scores on the side it is clear that design 4 best solves the problem getting a 9/10 score. This is since it clearly meets the goal of the function by creating a space of being helpful for everyone, with wide usability of both teams with an easily accessible area in a physical space with additional space, while not being able to tackle any smaller issues. All other designs had an 8/10 as they tackled the Must and Should section.
Aesthetics	7/10	5/10	4/10	7/10	10/10	Design 5 has a perfect score in terms of the aesthetics tab, this is since it is a visual product that integrates all the given colours in the Must and Could section along with aiming to be visually pleasing to view. Design 3 scored the lowest points as it is a reorganization of our current room, and we cannot change the aesthetics of the room.
Target Market	10/10	6/10	10/10	10/10	8/10	Design, 1,3, and 4 all fit the specifications perfectly by integrating all roles and allowing them to work together. Along with being able to house all of the target audience's needs, by including all of their 3D-printers and materials. Design 2 the lowest score as it did not include enough space for all team members to work together on the project.
Communication and Engagement	6/10	7/10	7/10	8/10	9/10	The 5th design scored the best in terms of communication and engagement, this is since it fully aims to increase the engagement between students and the task and demonstrate how to complete the project on time. The lowest scoring project was design 1 as it was only a virtual hub to store information however does not increase the overall communication or engagement.
<u>Total Score</u> <i>(x/40)</i>	31/40	26/40	29/40	34/40	35/40	

Final selection and Justification: For the final design I have furthermore develop is Design 5, the storyboard. The reason for this being is that it scored the highest mark of 35/40, meaning it completed my specification to the highest degree. Along with that, my main issue is communication and engagement in which Design 5 scores a 9/10, thus showing it can best solve my issue. Giving the facilities in order to create the product does not guarantee success, it all boils down to the will power of the students and their ability/effort they are willing to put into the project in order to complete it. If no-one is motivated enough, the equipment, or workbench or design cannot ensure collaboration between members. Hence, I have decided to create a video that aims to boost communication and engagement. In order to do this, I must do more research on how this is done and add it in my research plan (A.ii). Overall, it seems to best fit the problem situation at hand and will be able to help improve the state of the issue by the highest degree. As it has earned the greatest score based on the specification it is safe to say I was to create design 5 into my final product.

Logos

1

- Have quick fire logo shots
- Similar colors / Match design specification

Match
Launch Date

2

- Title
- Text gets typed on the bottom of the screen with SFX

3

- Shows off rocket
- Countdown begins

4

- Rocket flies up into sky
- Rocket Turns side ways

5

- Zooms into Hatch
- Stars continue to pass by

Can

6

- Rocket Door opens and can falls out

7

- Parachute Opens
- Continues to fall down

Can

8

- Zooms into rocket

Antenna

Arduino

Sensor

9

- Rocket flies up into sky
- Rocket Turns side ways

Arduino

10

- Zooms into Arduino Board untill it gets black and then switch to next scene

Code

11

- Shows Arduino IDE with code.
- Zoom into next scene while following the cursor

12

- Cursor moves to the verify and upload button

Upload Complete

13

- Notification pops up on the corner

Arduino

14

- The Body gets assembled togher and then put into the rocket

10

- Can gets put inside and rocket flies upwards.
- Camera shows Portugal once the rocket is in the sky and No.1 is shown on the screen

16

- Rocket flies out of Portugal showing the the country
- Text of Portugal shows up as an overlay

17

- Rocket goes back down to the ground and cants fall out.

18

- Cansats fall down on the ground

Certificate

19

- Certificate gets handed in and winning team goes to MIT

Mit

20

- Mit is shown and switches to various types of Engineering schools
- End Logos.

Materials:

All paper in A4

1. Logos from internet
2. Golden colored overlay
3. Green paper (2)
4. Red Paper (1)
5. Yellow Paper (2)
6. Orange Paper (1)
7. Blue paper (3)
8. Model Rocekt (1)
9. Ardiuno UNO
10. BMP (1)
11. APC (1)
12. 9V battery (1)
13. White Oil Pastel
14. Male to Female Wires (12)
15. Battery Connector (1)
16. Arduino IDE
17. BMP Code
18. Stop Motion Studio Pro (Mac)
19. Canon EOS Ti R3 (1)
20. Mini USB a To USB wire (1)
21. USB to USB type C converter (1)
22. Tripod Stand (1)
23. LED panel (2)
24. Black Paper (6)
25. Sticky Tac (1)
26. Scissors (1)
27. Laptop
28. Brown Paper (2)
29. White paper (2)

A storyboard is provided rather than a cutting list as a cutting list is later on described in the manufacturing plan while a sotryboard gives visual aid to the viewer.

No.	Shot	Time (Sec)	Script/Actions	VFX	SFX
1	Shadow Box	3	Include shots of logos, of company icons, along with our team's logos, a quick-fire shoot with all logos with various colour filters on top to create that shadow box effect. Must match to beat of music.	Colour filters	Fast camera shutter
2	Pedestal	3	From the previous shot, there is a pedestal shift downwards slowly revealing the stars in the sky and come down to the floor revealing the rocket on the base launch.		Slow rustle
3	Dolly Zoom	2	Rocket is shown on the base and is placed above the grass, zoom into rocket while camera moves backwards.		Portal effect
4	Object Portal	1	Rocket files upwards and then takes off. Different planets gets seen from the outside. Rocket stays in the middle while other objects pass by it.	Shake	Rocket Sound
5	Object POV	1	Rocket files in a horizontal state and the moon goes around the rocket.	Shake	Rocket
6	Static	2	While rocket stays horizontal the camera while it flying.	Zoom in	Rocket
7	Static	1	The hatch of the rocket opens up about 160 degrees		Open
8	Pedestal	2	The Cansat falls out of the rocket while falling downwards with the camera tracking its movement making it the centre object.		Fall Down Cartoon
9	Static	1	Show the inside of the Cansat as if it were a bomb, Arduino and wires with everything attached.	Shake	Tick
10	Static	2	Zoom into the Arduino IDE application showing the code and then zooming into the verify button,	Zoom	Tick
11	Static	1	Once zoomed in show the cursor at the button and click it while showing the notification.		Tick + Click
12	Spin	3	Camera moved around assembling the body for launch and then adding it into the rocket back.		Shift
13	Pedestal	3	Show the rocket getting shot up into space.		Rocket
14	Zoom	2	Goes out and into Portugal and the Cansat’s come out of the can.	Zoom out	Rocket
15	Static	2	Cansat’s land down on ground.	Shake	Rocket
16	Parallel Shift	2	Certificate gets handed with camera moving with the hand.		Fold
17	Shadow Box	8	Many colleges are shown and end credit logos to show carrot on top.	Colours	Fast Camera

<u>Task Description</u>	<u>Materials/ resources needed</u>	<u>26/FEB/24</u>	<u>28/FEB/24</u>	<u>29/FEB/24</u>	<u>1MAR/24</u>
Shot 1: Editing	Laptop, Editing Software (Da Vinci Resolve), Icons/Logos	<i>Estimated: 15 Minutes</i> <i>Actual: 30 Minutes</i>			
Shot 2 - 8: Filming	Canon Rebel i3 Camera, Shot and Script List, Storyboard, 128GB SD Card, RGD coloured Lights, Red Paper, Green Paper, Yellow Paper, Blue Paper, Black Paper, Tripod Stand, mini–USB A to USB, USB A to C converter		<i>Estimated: 2 Hours</i> <i>Actual: 4 Hours</i>		
Shot 9: Filming	Canon Rebel i3 Camera, Shot and Script List, Storyboard, 128GB SD Card, RGD coloured Lights, Black Paper, Tripod Stand, mini–USB A to USB, USB A to C converter, Arduino in Cansat (With APC, and BMP), Wires, Battery			<i>Estimated: 10 Minutes</i> <i>Actual: 30 Minutes</i>	
Shot 10 - 11: Editing	Canon Rebel i3 Camera, Shot and Script List, Storyboard, 128GB SD Card, RGD coloured Lights, Tripod Stand, mini–USB A to USB, USB A to C converter, Arduino IDE Application, Screen Recorder Application				<i>Estimated: 15 Minutes</i> <i>Actual: 15 Minutes</i>
Shot 12 -16: Filming	Canon Rebel i3 Camera, Shot and Script List, Storyboard, 128GB SD Card, RGD coloured Lights, Red Paper, Green Paper, Yellow Paper, Blue Paper, Black Paper, Tripod Stand, mini–USB A to USB, USB A to C converter			<i>Estimated: 1 Hours</i> <i>Actual: 2 Hours</i>	
Shot 17: Editing	Laptop, Editing Software (Da Vinci Resolve), 128GB SD Card, SD Card to USB A converter	<i>Estimated: 15 Minutes</i> <i>Actual: 10 Minutes</i>			
Shot 2 -16: Editing	Laptop, Editing Software (Da Vinci Resolve), 128GB SD Card, SD Card to USB A converter				<i>Estimated: 2 Hours</i> <i>Actual: 4 Hours</i>

This is a general view of what the overall timeline is of making the product is, with general materials, and time estimates, this has been taken from the final drawing and planning drawing and so are the following 2 pages from.

<u>Task/Skill</u>	<u>Description</u>	<u>Materials</u>	<u>Quality Checks</u>	<u>Time</u> (<i>Minutes</i>)
Shot 1 & 17/ Editing	Download the free editing software Da Vinci Resolve and begin playing in text according to the storyboard and SS list.	Laptop Icons from the web	Make sure that the icons are of high quality.	30
Materials/ Setup	The first step is to gather all of the necessary equipment needed to create this product; the materials are listed on the side.	<i>All materials listed on slide for b.iii</i>	Double check if all material is collected with list.	10
	On a flat surface, preferably a table about waist height, take 6 black pieces of paper and place them in a 3 x 2 grid and use sticky tac underneath them to place the sheets firmly to the surface. Then using the white oil pastel, make small circular clear marks on the sheet in a random dotted pattern to represent stars.	Black Paper (6) Sticky Tac White Oil Pastel	Make sure paper is in good condition, not ripped. White Oil Pastel must not have any other color on it than white. Sticky Tac must be clean.	5
	Then once the background is set up, take 2 green sheets of paper to create a layer of grass. Fold both green papers at about the $\frac{3}{4}$ mark from the short end of the paper, then using that line as your base, use the extra $\frac{3}{4}$ side remaining to cut tall pieces of grass.	Green Paper (2) Sticky Tac Scissors	Make sure paper is in good condition, not ripped. Sticky Tac must be clean. Lines must be cut straight.	5
	The last step before setting up is cutting out the pieces for the flames, cut out a large red flame, a medium-sized orange flame, and a small yellow flame 4 times. Place the LED lights on the side and turn them on pointing towards the stage.	Red Paper (1), Yellow Paper (1), Orange Paper (1) Scissors LED Panel	Make sure paper is in good condition, not ripped. Lines must be cut straight.	10
	Go to the Microsoft Store or App Store to download the Stop Motion Studio Pro application. Install it and plug your connectors into the laptop depending on which laptop you have. If a USB A port is available plug the Mini USB to the USB cable directly in, otherwise, use the adapter for type C input. Place the camera on the tripod and plug the camera into the laptop. The view will now be broadcast to the laptop screen within the application,	Laptop Mini USB A to USB USB to type converter Canon EOS Ti R3 Tripod	Make sure that USBs are being placed correctly. Be careful with the camera it is expensive; you don't want to drop it anywhere.	10
Shot 2 – 8/ Animation	Using the storyboard follow the overall layout and begin animating. Panning down from the black sky, towards the rocket, place the rocket at the base of the grass, and begin animating, slowly bringing the various sizes of flames in. Show the rocket being lifted off. And then include a scene in which it travels through space with the fire still blasting. Using brown paper and white paper show the Cansat being dropped from the cant, by creating a hatch made out of two pieces of paper stuck tighter, use white paper to show the Cansat,	Flame Cutouts Rocket Model Brown Paper (2) White Paper (1)	Make sure the blinds are closed. Lighting is consistent between all frames,	90

<u>Task/Skill</u>	<u>Description</u>	<u>Materials</u>	<u>Quality Checks</u>	<u>Time</u> <i>(Minutes)</i>
Shot 9/ Animation	Place the UNO in the middle and using the wires connect 4 wires to random points to the board, along with putting the battery inside it.	Ardiuno UNO BMP (1) APC (1) 9V battery (1) Male to Female Wires (12) Battery Connector (1)	Make sure that the wires are put in tightly and do not come out during filming. Keep safe of not smoking anything up.	10
Shot 10/11 Editing	Using the built-in screen recorder app, rerecord the upload and verify buttons being clicked, along with the complete verification notification that it sends back.	Arduino IDE BMP Code	Make sure to save the screen recording in a place that can we find the file later.	10
Shot 12/16 Animation	Using 2 halves of brown paper, and the Arduino in the background, close the electronics within the Cansat, and place the smaller mold of the Cansat back within the flap made for the previous scene. Show the electronics being put inside the Cansat.	Brown Paper (1) Ardiuno UNO BMP (1) APC (1) 9V battery (1) Male to Female Wires (12) Battery Connector (1)	Make sure that the wires are put in tightly and do not come out during filming. Keep safe of not smoking anything up.	20
	After that scene, above the black sheets, place 3 blue sheets 2 yellow and a cut green sheet to form the shape of Portugal and Spain above the Ocean, just as seen in the planning drawing. Show the rocket coming out from the bottom left of Portugal upwards and then flips around to go back down. During this time a small white paper must leave from the model of the rocket to symbolize the Cansat.	Brown Paper (1) Black Paper background Green Paper (1) Yellow Paper (2) Blue Paper (3) Model Rocket (1)	When cutting, cut straight lines for every piece.	20
	Remove the blue sheets and show the black ones with various colors of Cansat’s falling down on the ground. Using the spare paper create a yellow hand bringing its hand down and handing the certificate over such as in the planning drawing.	Black Paper Background Green Grass Paper colored small sheets	When cutting, cut straight lines for every piece. Make the Cansat's falling down look like they follow laws of physics.	20
Shot 12-16/Editing	Once all clips have been made, export them from the application and save them in a folder. Upload them to Da Vinci Resolve, along with placing the background music and SFX in the background. Arrange the clips accordingly to the storyboard and SS list.	Laptop Editing Software	Make sure the editing is consistent and follows the specification.	120
Setup	Clean up all the material and and throw the rubbish in the bin.	<i>Bin</i>	Throw disposable items only.	15

I have uploaded an .mov file in the drop box for this task, labelled “Design_ePortfolio_Product_FinalV” with a file size of 143.4 MB. Below are screenshots of evidence of the production of this video, editing of this video, and scenes of this video. Some sections have been blurred out due to privacy reasons.

For editing this video, I used Da
Vinci Resolve 18.6 for Mac.

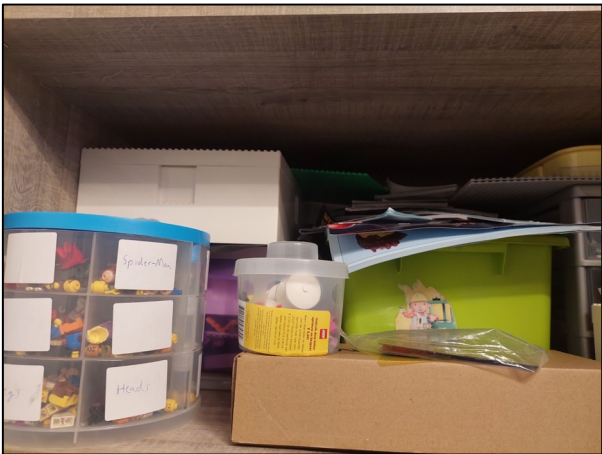
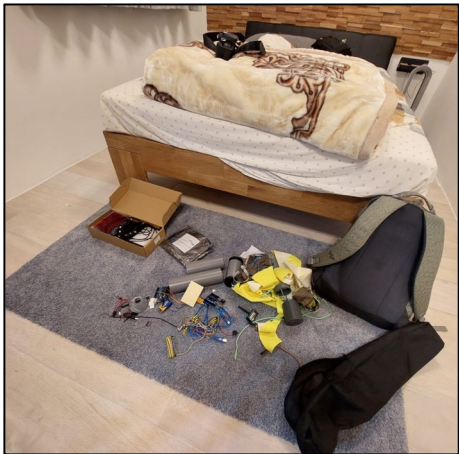
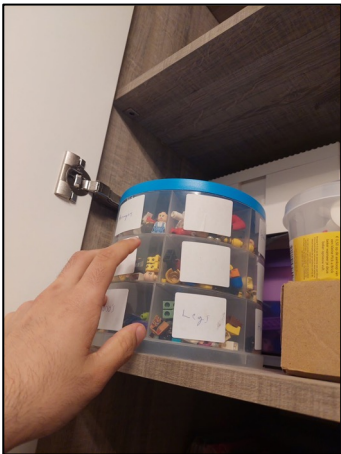
The timeline can be seen on the side with my titles being in V5, and clips ranging from V1-V4. With my incidental music being in A1, and sound effects being places in A2 and A3. My video is a total of 3 minutes and 12 seconds.

This image on the side is an overall display of my timeline, showing the VFX, SFX, Incidental Music, Clips, and Titles. All being shown on one page with a base overview of the skills used to create this video. Further on I have added in depth sections these skills explaining each one of them in depth.

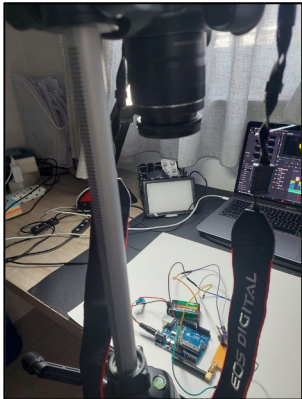
For this project I mainly did Stop Motion Animation (**Clips**), Keyframing (**VFX**), and Sound Design (**SFX** & **Music**). All being edited together with **Titles**.

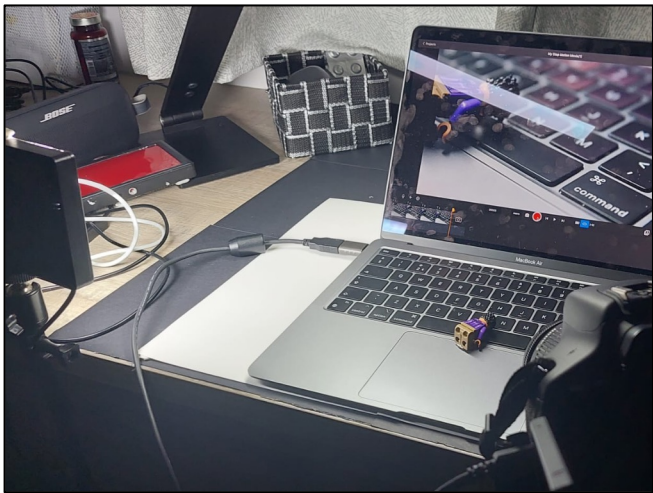


The first step for filming is to set up the camera. I took out all the material for filming, this being my camera body, my lens, the tripod, and the charging brick. I first had to get my battery to full charge, so I placed it on charging. Once charging was complete, I put the battery pack inside the camera and placed the lens on, then attaching the peg to the camera I screwed it in tightly so that it is stable, and then sliding it into the tripod stand being ready to start shooting. Then I need to open my light box and place the LED panels in their respective areas.



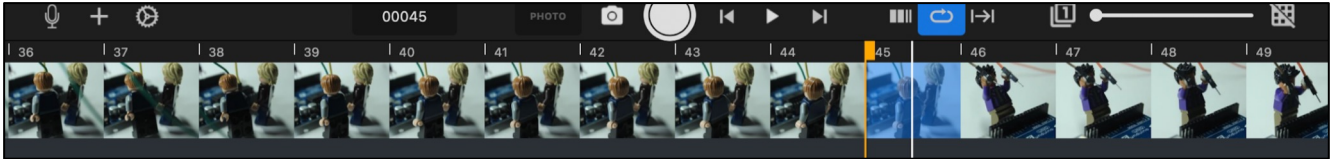
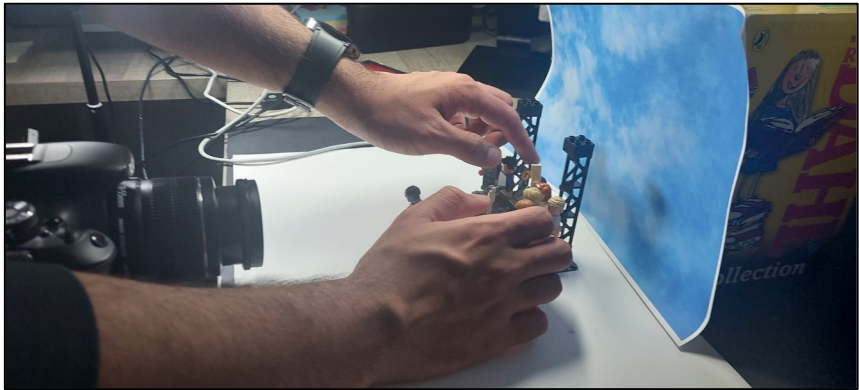
The next step was to gather all of the lego needed to create this video. Once I had gathered all of the equipment, I got everything set up and started filming using the stop motion studio Pro application for Mac. I shot all of my scenes and brought them into my editing software to edit. I also had to take some shots using my Arduino hence I needed those materials. As can be seen with the further slides.

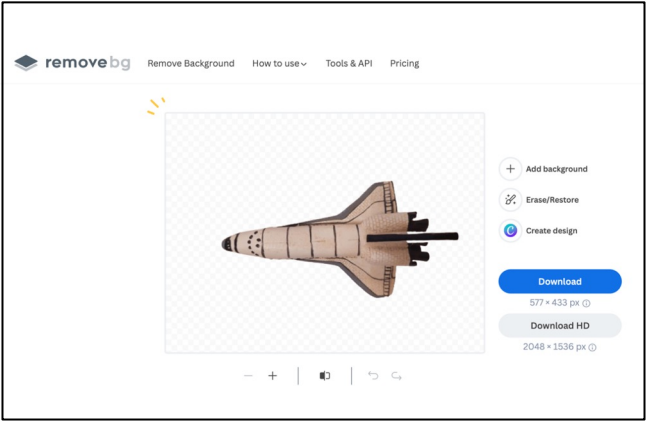




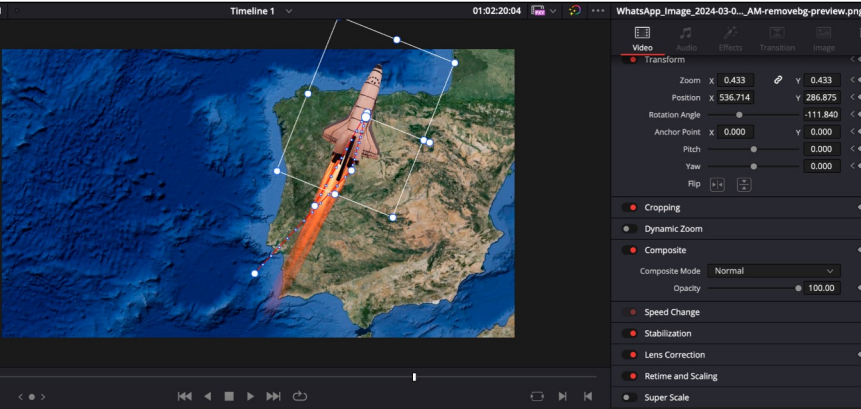
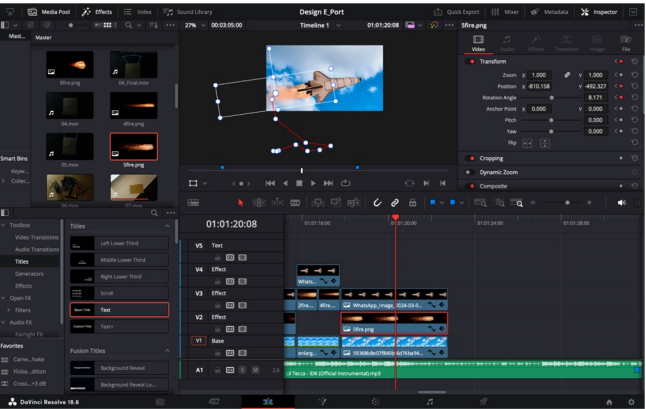
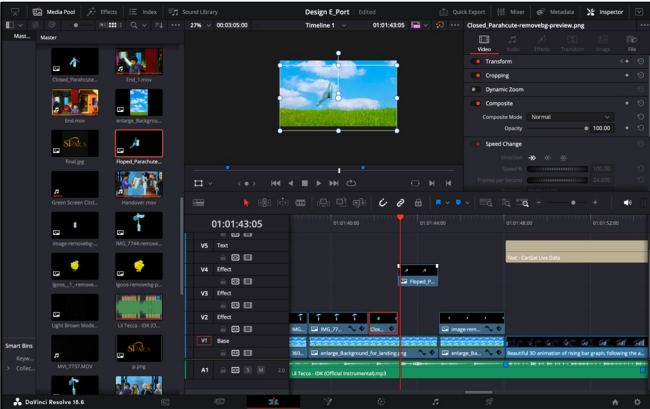
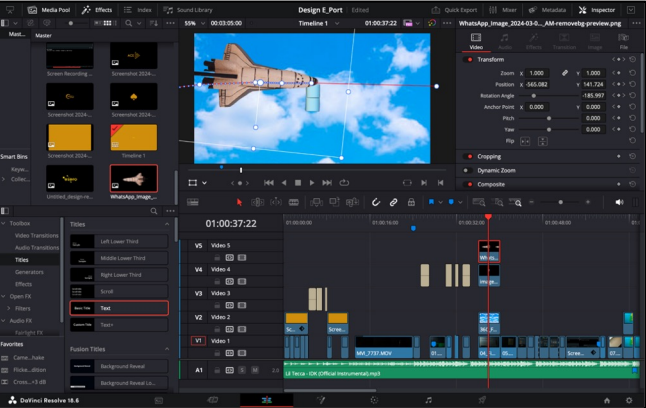
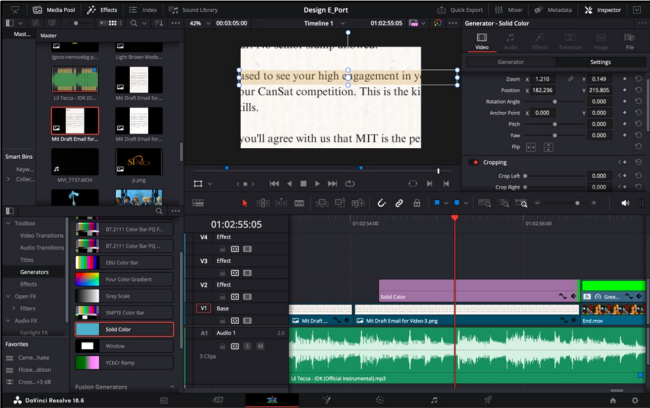
The next step was to begin animating the scenes. I gathered the LEGO figures along with the Camera. In order to animate I bought the Stop Motion Studio Pro app from the App Store. I then connected my Camera to the software allowing me to access my viewfinder on a bigger screen. The application gave me advanced features which allowed me to control the shutter speed, aperture, ISO, all giving my manual control. However, this did not always work as there was a large amount of light flicker coming from the outside, this light flicker is seen in my video in some scenes. To reduce this light flicker with each scene I played around with the manual settings to create the correct light however was not always successful. Below is a photo of the timeline of photos. I used a base FPS of about 12, as animating on TWOS would be much more time effective. Animating on ONES is when you compose 24 frames per second, while on TOWS is creating 12 frames a second, halving the work, while still creating a smooth look by using the 12 principles of animation.

On the side I have added at least 1 image of every scene taken within my video. For creating the scenes in which the characters were building the Cansat, I kept the camera at an angle downwards and kept a large white paper for the background to emphasis the construction of the Arduino. For the scene in which the members are getting the award I printed out an image of the sky and blurred it a bit to create a depth of field. And created a small set for it. I had the Lego UP house on the side and used to to represent the main characters house and used the interior as well by flipping the set around. I used figures I had lying around and made them characters in my animation, a group must have between 3 - 6 members. I primarily used 4 figures in most shots so that the scene was not very cluttered up. However, in the scene in which the the group was recovering the award I showed 6 figures. I have experience in stop motion animation from previous assignments and was able to use those skills in this project.

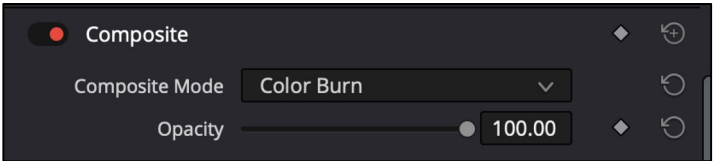
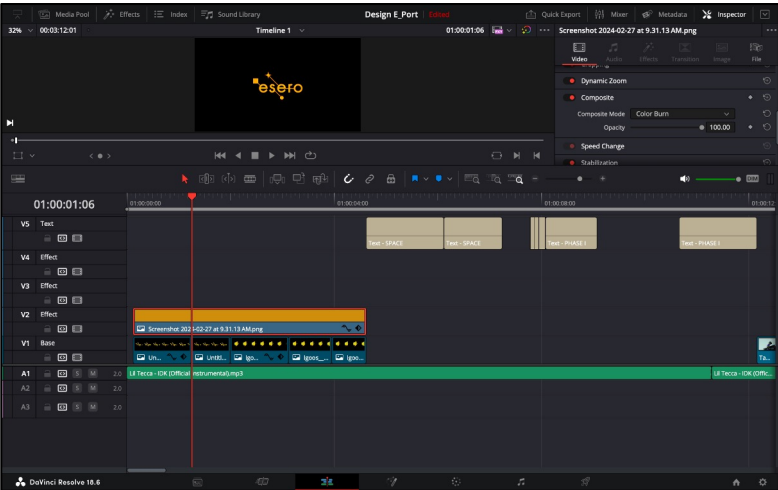




Initially my idea was to produce the video fully using Stop Motion animation. However, Stop Motion animation is a very time-consuming process and there are easier ways to complete such tasks. A new popular form of animation is keyframing. Keyframing is the process of placing markers in a timeline on an object to create its trajectory path. It is a much faster way of animation as the editing software is able to fill in the path, and you just have to create an initial keyframe, and it's changed axis points, rather than animating each frame. I used this technique in a large amount of the video. On the side I have provided evidence in places I used this. Instead of having to mask the rocket in every frame. I decided to create a photo of the rocket, a couple photos of the parachute at different stages in the air using my camera, and brought them into the software remove.bg, this allowed me to create a transparent image of the objects. I was then able to drag the images into my editing software and set its individual keyframes. As seen with the images on the side and highlighted with red. Keyframes are indicated with a diamond symbol and seen with blue/white dots in the media player with the red line being its trajectory. I had to keyframe 6 various objects in this video. The background, text, rocket, Cansat, fire, and a highlighter. I was able to combine the rocket, Cansat, background and fire together in order to create the illusion of a rocket lifting off, and the Cansat then falling down., The path is seen in the screenshots on the side. It shows a clear animation and saves a large amount of time.

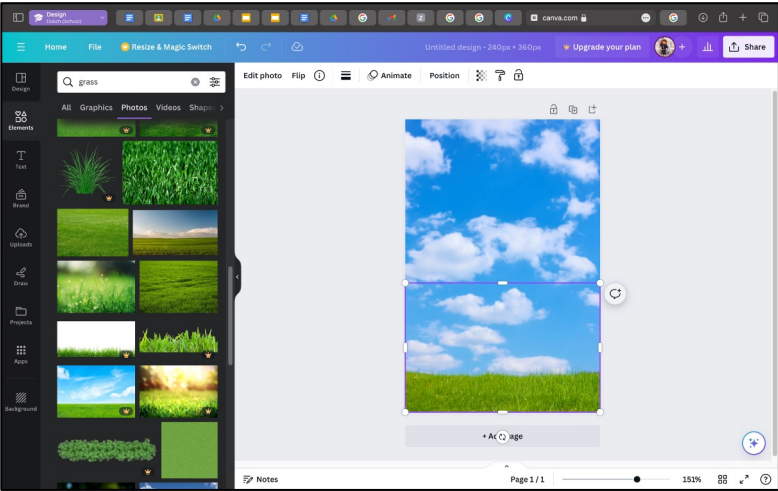
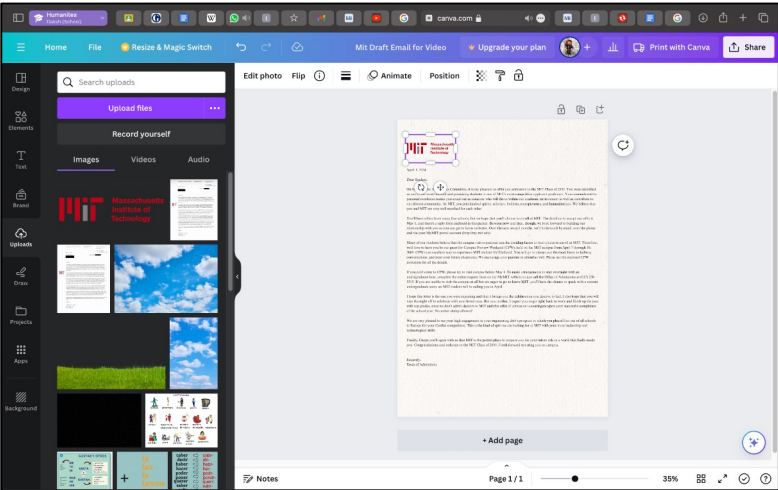


A large problem I found was that I was not able to clearly show that the student has been accepted into MIT and that the Cansat competition gave him a large boost in this. I decided a clear way to show this was to highlight this statement in the email. After some research online I realised I can use keyframing in order to show this highlight. After getting a still coloured image and changing the colour to the base gold colour, as well as lowering its opacity, I was able to stretch the highlight and move the page of the letter to show the statement “We are very pleased to see your high engagement in your engineering club”. Clearly showing the final prize of joining and winning this competition.

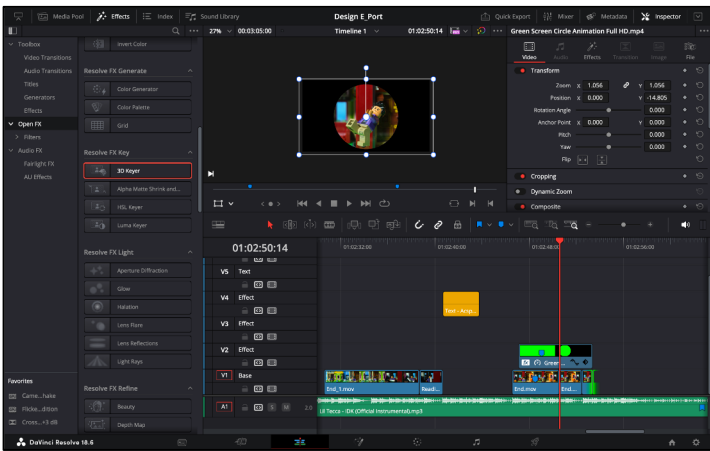
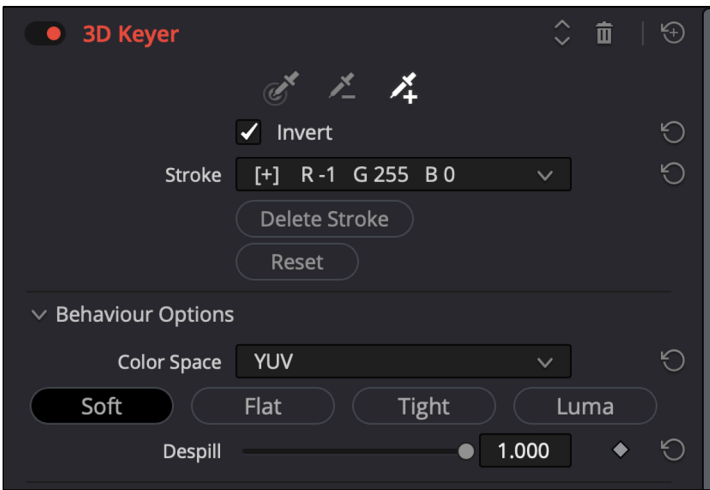


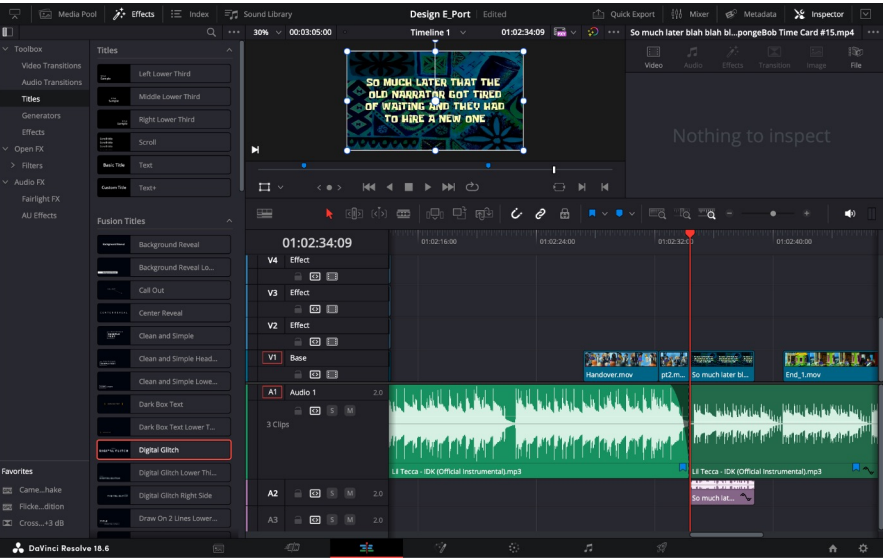
To show off the logos I had to get the logo of ESERO and the Cansat competition logo. As in the specification I aimed to have the colour as our engineering clubs, I used a colour picker with our logo and found out our logo used colour #cf8f0d. In Canva I later on created a blank a canvas of this colour, downloaded it and creates a colour burn composite in order to get this colour onto on the other logos. Along with this after, to the beat I created the titles to display Phase 1. Above I have added the composite design section that allows me to create the logos in the shade of our gold by burning that shade onto the layer's underneath.

I had to design two things in Canva for this video. One being the admission email into MIT, and another being a large vertical design of the sky and the ground. I began looking online at how MIT emails look like, and started designing my own in canvas as I wanted it to be general. I used an image to text convertor to get the base text from the image and copy paste it into Canva. After that I created a paragraph discussing the student and their interaction with the engineering club and how they are proud of it. A high resolution A3 background was needed of the sky as I would keyframe this in most of my background for the scenes in which the rocket went up in the sky. As when bringing it into my editing software, I had to expand it, and I did not want a high pixelated background. Getting a large high-resolution background would allow me to expand the image without getting clear image quality lose. I edited both of these on Canva as seen above and download them as .png and later on imported them into my editing software.

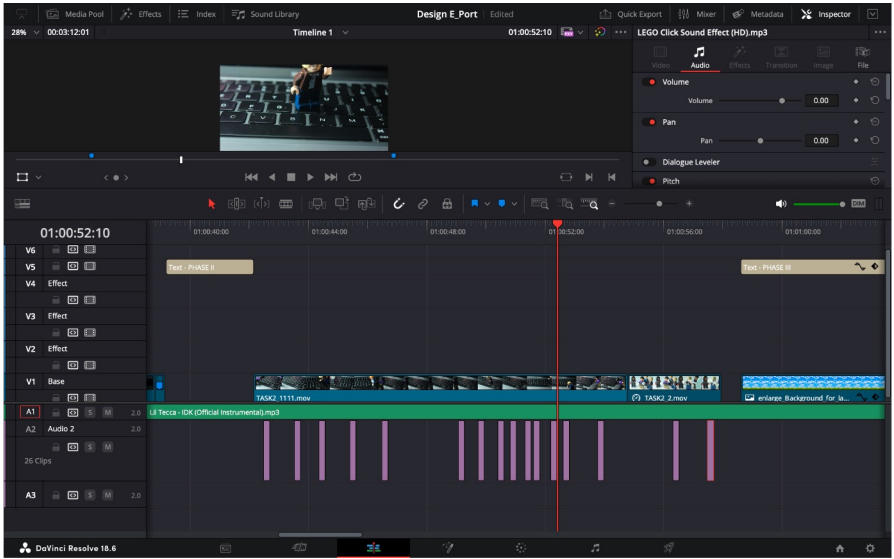


In the end I aimed to end with an old classic cartoon, in which the character gets circled around by black area and then close off the scene. I animated the scenes in which the group member jumps in the sky as he got accepted into MIT. I began testing with the fusion page in Da Vinci Resolve, however it would have been a waste of time as an easier way would be using the 3D keyer. Using an online video, I was able to get a green screen video of the effect I needed and downloaded it from a YouTube to MP4 converter. And brought it into my editing software and applied the correct keyer onto the video and placed the other video on the base as seen in the second image below.

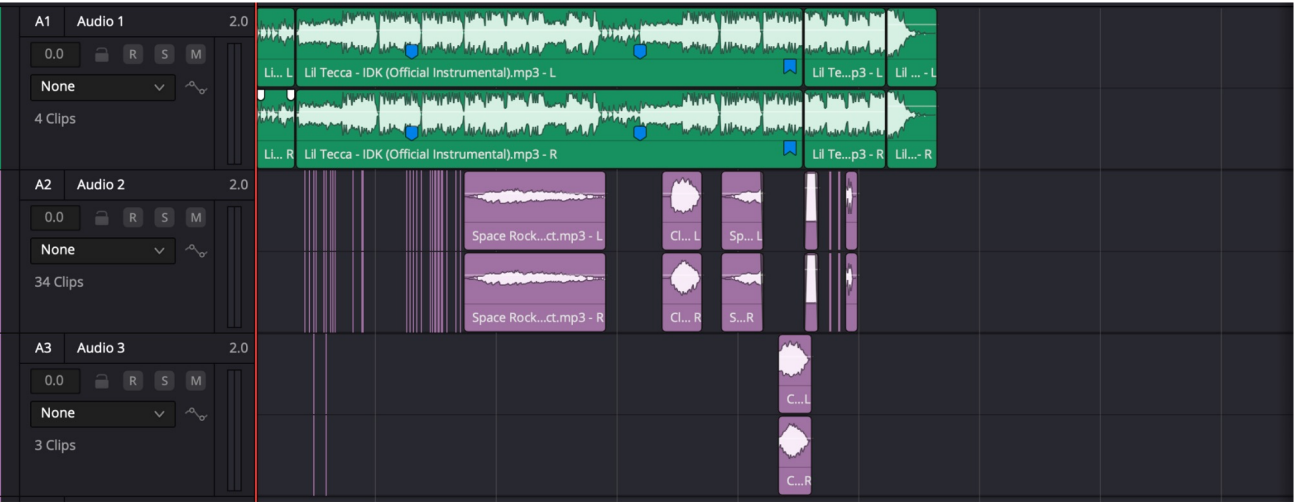




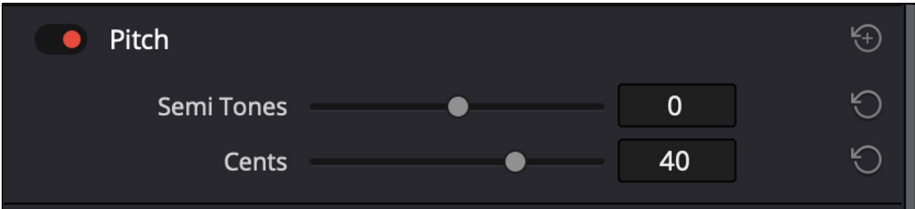
In my video there is a SpongeBob timecard, in which if I increased the volume too much the audio would be distorted, or if I didn't the background music would be too dominant. Hence, I created a fade and lowered the volume of the instrumental music. In order to create a smoother transition, I faded in the timecard audio as well for a cleaner shift between these two scenes.



In terms of the sound design, there was a clear incidental music, shown in green in the screenshots, with a basic set of sound effects used, shown in purple in the screenshots. The base background music that was chosen was, “IDK”, produced by Lil Tecca, the reason I chose this song was as seen in the screenshot with the individual left and right audio tracks. There are many points in which the beat goes high and low creating a more intense scene, it sets the mood needed for my creation. I was able to take my clips and time them to the sound to create a more engaging video. While creating the animations I aimed for the scene changes to be on par with the change of the beat in the music. I did not want to have talking in the song hence I took the instrumental version of the song which was available on YouTube. However, the issue with this instrumental version was that it did not have its own fade out, it just cut near the end of the song. In order to find a solution to this I decided to download the original version of the song and overlay it, as the near ending of the original song did not have any rapping, I could use that and align it correctly and clip it with the instrumental version. However, after playing it, there was a clear change in the music. I assume this reason is when playing with the equalizer of the song (to make it instrumental), it changes the way the audio sounded as well. In order to try and match this, I changed some of the new song to match with the rest of the instrumental base. By changing the pitch by 40 it gave a much closer result to the original song and seemed smooth.



The sound effects made where for the basic movements made by the characters. Such as when getting the wires in order to create the primary mission, I got a lego Brick building SFX from online and used it for these scene. Along with that I got SFX for a rocket launch to implement in the correct scenes. And in some other places such as when the audience claps for the winning team.



In this task, I made a total of 3 major product changes, based on my original plan. The first being the change of storyboard planning. In my initial storyboard, I covered the final launch, however this did not show the rest of the process needed when creating the Cansat. Hence, I integrated all phases of this process. The other major change in this was the conversion from paper animation to LEGO stop motion animation and keyframing, as it is a much easier solution to my problem, at the same time looking cleaner. This ended up changing the final product, making it longer, and it required rearranging the storyboard, along with rearranging the shot and script list. The last product change was not very large however, it had to do with the logos. Due to the privacy rules given with IB, I had to re-plan the shots.

The storyboard on the side is the storyboard of the final video. While comparing it to the original it is clear that there have been some changes. This new storyboard has been designed based upon the point to be created in Lego Stop Motion studio and keyframing animation, this being a much faster and easier way of animating using the computers brains to fill in the blanks between specific keyframes.

The reason for this change is due to the fact that, I have done Lego Stop Motion previously and I would be able to develop those skills better. Along with that Lego Stop Motion Animation is a much easier way to animate and help solve the problem as it is clearer when looked at.

I did end up creating a couple of scenes from the original plan. It was very unclear what was going on, The rocket and paper motion seemed out of context and were not able to be well comprehended. As Lego is something known by all, it was much easier for me to get my idea across with that medium.

Along with that, the song that I chose for this was the song “IDK” by Lil Tecca, however, I did not want to have any speaking in the video, hence I found an instrumental version online. However, this song was a total of 3 minutes long, editing music like this is difficult to master and I wanted to use this song in an instrumental version as it had a constant range of high beats. By adding more to the script, I was able to fit this song limit, hence I added not only the final launch, but all other phases in between as can be seen with the main title cards on the side.

Switching to Lego Stop Motion and keyframing allowed me to change my storyboard, and it was a much better way to complete the product. Upon changing the storyboard, I was able to spend less time animating, increase my storytelling, and learn new skills such as keyframing. The storyboard on the side is made to help show the viewer that it is possible to compare the too original one.



The second change is directly affected by the first change. As using Lego stop motion was a much easier alternative, I began to replace all my scenes, for which I had to produce a new storyboard. While there are a small number of changes in this product, this is a large product change itself, and is completely changes the manufacturing plan, instead of cutting and pasting and wasting papers I can use google Earth studio and keyframing of still images to produce the idea that I am trying to sell with my product. The more realistic the video, the more engaging it is the more motivated the audience will be in turn creating more reactions. As I would be able to create the video in a faster and easier way with better output.

Initially, I did begin with creating a video using paper, however after reviewing the footage, I realized that it would take too long to create and that there was a much easier way to show it. Along with that while using paper the video did not look very professional, and the product was not very clear and not understandable to the audience.

On the side, I show the final launch compared to the original shooting, and the new version. It is much cleaner in the final version of what is happening it is clear that it is Portugal, and there is an image of the rocket with the Cansat falling out of it. Compared to the large amount of Cansat's falling to the ground that is not able to properly convey my idea.

This is just one example of the scenes that I have changed. This new version is much brighter, and less grainy giving it a more professional look and giving more of a reason to use Lego Stop Motion Animation rather than traditional paper motion.

The other main reason that I made this switch was that it looked very shabby and did not have a high quality due to the grain and dim sense, as I made everything black it made all the scenes extremely grainy and hard to even watch, hence I tried a new more joyful approach such as it ended up meeting my specification to a much higher degree than the original version.



The third product change is the logos at the start and end of the video. I aimed to originally place logos on our club's hoodies, along with sponsors that we have, however later on, my teacher informed me that it is not allowed to include such logos, hence I had to remove those, just the fact that it is not allowed for ePortfolio. Hence, I had to come up with an alternative to fill in the time frame that was given by the song, the first 15 seconds had very high-speed beats, and after the beat dropped, I placed my clips in that, I placed the logos in various ways to make it fit, as I could only use 2 logos in order to keep privacy, I ended up creating some glitch aspects in between allowing me to repeat myself with the text and logos as I am then able to display that subject for a longer time without it feeling oddly long. From these product changes, I was able to save a lot of time and create a better product that suits the target audience's needs, along with making it better suit the given specification. It allowed me to create a professional-looking video in a short amount of time, along with learning how to use keyframing to help with speeding up the making process of animated videos.

From my testing methods I want to be able to test my product while comparing it to my original design specification. I will be gathering quantitate and qualitative data from two various testing methods. I must look at the function, aesthetic along with communication and engagement mixed with how well it suits the target audience in my testing method. In order to test my design, I must do a total of 2 tests; One being a survey based on the functionally of the test to see whether it passes my Must and Should specification in B.i, along with that a 4 P’s protocol which will allow me to gather more feedback from an expert in animation and film making .Below I have added all the questions with each one having its own justification and the testing having more of an in-depth description.

My first design testing method is a mix of expert trial with the 4 P’s method. I have a wide contact list with various animators, in which there are experts in animation, that will allow me to see the overall engagement and production of the video. I will text him on a reachable social media platform and send them the text: “Hey *expert name*, I have another school project and I need some feedback from an expert animator. My product is a motivational video, aiming to bring interconnection between members of our engineering club, in a result of us doing well in the competition. The video shows the process, end result, and prize of the competition. I need 3 pointers, What do you like about the product? What is unclear about the product? and what are some improvements you have for my product? I would love the help! Thanks. *Video Link*” .I will be able to gather feedback on animation, editing and sound design, be able to understand what can be improved. I will later on look at those and discuss them within the product improvements section. I will be using the questions from the 4 P’s and ask my expert allowing me to see whether the product has met a high standard, and whether it looks professional. These questions will all be quantitative. Its results are in the appendix.

Question	Justification
What do you like about the product?	From this review, I want to be able to understand what the key highlights of my video was. I included many skills, such as editing, animation, and sound design, all being created to a certain degree to look flush and professional. With the feedback for what the expert likes about the product, I will be able to understand what was done well, whether the animation is clean and smooth or not. Along with that I need to be able to understand what clearly stands out from the video, it may not be the animation itself, but the keyframing of the rocket. Once I find out what these are I will be able to create a clear analysis and write my success of the solution based on these responses, along with my other testing method.
What is unclear about the product?	When looking at the positives of my creation, it is important to look at both what stands out from the video and what is not clear, which can lead to further improvements. However unclear is also parts that the viewer does not fully understand, scenes in which they do not know what is happening, in which they are not able to follow the storyline. Along with that the unclear aspects are understood, as it might end up taking away from the final message. If the message is not delivered properly, then the product has not been successful in solving the problems.
What are some improvements you have for my product?	As the person being asked these questions is an expert in the animation field, they can inform me on what improvements I can make in order to meet my specification to a higher degree. From my improvements I can later on see what product improvements can be made. Allowing me to learn more from more experienced animators/ editors. Once I note down these improvements, I will be able to further implement them in other projects that I work on that include animation, editing, and sound design to an extent.

After gathering the data from the questions given above with its extensive justification, I must use the data to start producing my product impartments, along with test my own success of the solution.

My second product testing is user test. By sharing the video to my target audience attached with a survey in which I added both quantitative and qualitative questions that are directly linked to my original specification to fully test my product. I sent this survey to 7 members from my target audience. The results can be seen in appendix.

Question	Justification
On a scale from 1 to 10, how much did you enjoy watching the video?	In order for the video to be motivational, it must be enjoyable to watch, hence it is important to understand how much did the audience enjoy watching the video to see their overall engagement with the product. A scale lets us graph this data.
Which roles does the video inspire? <i>(If all, click All option)</i>	It is important for the product to target all roles of the team, asking them this helps me understand if the roles are clear.
Do you think this video would appeal to our club? <i>(If so which team, if both chose Both Teams)</i>	In our club, there are two teams, with distinctive products, with the mission changing every year. The product should be generic to apply to all years, hence it is important to understand if the video has a bias, highlighting a specific team or not.
Can all engineering club members access this video?	My original specification targeted for the product to be accessible to all, it is important for all to be able to view it.
Does the use of LEGO characters help show the individual roles? If yes, which roles does it show?	In my video, I used LEGO figures as they tend to be able to get the idea across easily, in my video I aimed to show the construction of the Cansat with all roles being shown. It is important for the audience to understand what the LEGO figures are used for within the video. The follow-up question is needed for my improvements to the product.
On a scale from 1 to 10, how well does this video clearly display a Golden and Black colour scheme?	The specification had a specific tab in which the colour's golden and black MUST be used, hence it is important to understand how well the audience was able to see these colours, the scale lets us graph this data clearly and find a mean.
On a scale from 1 to 10, how well does this video clearly display a Blue and White colour scheme?	In the SHOULD section I aimed to include colours of the makers logo, these being blue and white, hence I needed to include this as a separate question, to see whether which specification was met better in terms of the colour tab.
Does the video show the Hardware/ Software designs, working with the Recovery, PR, and Body designers? If yes, which roles does it show?	The video aims to show the coordination and members working with each other to link to interconnectedness. The product should show the fact that all members need to work together in order to get the final prize and get into a high ranked university. The follow-up question is for the improvement to the product.
Does this video have a catchy soundtrack?	From the research, I was able to understand that the product must have a catchy soundtrack with the clips matching it.
Until what point in the video did you start losing interest?	As for engagement, I must know where the audience loses interest, if this is too early in my product, it is not successful.
Does the font being used convey the right message for our club? If no, please explain why?	For the typography for the video, it is important to understand whether the font fits the mood and tone of the video, as the video is based in a space/ futuristic theme, the font must match this. The audience must agree with the use of the font in all places. The follow-up question allows me to understand if the font is not well applied, how would I be able to improve it.
On a scale from 1 to 10, how motivated do you feel to work in the upcoming meetings?	The final impression of the product is to increase overall motivation of all members and guiding them into creating a successful Cansat. This scale will allow me to understand to what degree has my product been able to create an impact.

When creating the specification, I did not have any clear product in mind, hence my specifications are written in a way with an undecided product theme, hence it has been constructed in a way for there to be specifications for all types of products, physical or digital. The evaluation underneath has been catered to my type of product, being a digital video.

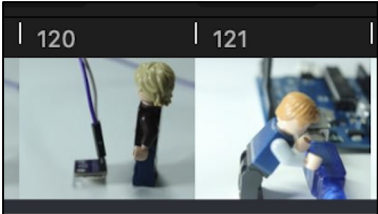
<u>Specification</u>	<u>Score</u>	<u>Explanation evaluation</u>
Function	6/10	In terms of the function, my product does a decent job. Looking at the practical specifications, my aim was to create a product that is helpful for all the roles. As the problem tackles all roles, the product must too, to ensure that the problem is resolved. After my testing methods, it is clear that majority of the roles are visible in the video, with the Hardware/Software, Body and Recovery team visible to all members of my community, With some feeling the role of PR was not seen. The hardware/software is the most clearly identify aspect as the first 30 seconds of the video are based around the construction of the Arduino. Along with this there is a small clip in which the body team is seen putting the Cansat tighter and the following scene showing the recovery team placing the parachute onto the Cansat once it is assembled. From the survey given out, majority members felt that the product was not specific to any year or team. This covers all of the MUST specifications, in terms of the SHOULD, the only note that was written was that it must show all the roles working together. This links back to the other note from the MUST section. As the PR role was not seen that much within the video, it was not able to show ALL roles working together with each other, however from testing it is clear that every other role is clearly identifiable. The specifications for the COULD section do not apply to my product. Hence making this specification score an average grade. This specification was not that well met, however the main reason for this being that the role of PR was not very well shown. If I were to include an extra scene in which I take a look at the role of PR, this specification may be raised by about 2 points as it is another MUST specification the complemented. I have improved back on this in my product improvements section further on.
Aesthetics	8/10	In terms of the aesthetic, I was able to achieve this specification to a high score due to the correct following of the specification. My product is well able to display colors of gold and black thought-out the video with its cuts being black, along with all text being written in the same gold as our clubs' original logo. With other next that had to be displayed I used this same font and color to match the theme. The font used throughout my whole video was ‘Zero Hour’ being a futuristic font that fit the mood and tone that looked aesthetically pleasing as well. This being the MUST section. In terms of the SHOULD section, the colors blue and white were also used in a majority of the video with the sky being prominent in many scenes using similar colors as the logo of our organization's logo. The lighting was well lit making the set itself bright and appealing, however the light flicker bough those points a big down.
Target Market	10/10	The topic of target market is clearly seen throughout the whole video. The product is still able to show integration of all roles by in scenes showing all members in the group, such as when being handed the award, and completing the Cansat initially. Along with this, the product is able to meet all the target audiences needs and solve the problem.
Communication and Engagement	8/10	In terms of the overall communication and engagement, the product is able to help communication between members as seen with the testing data, along with being structured properly. This covers all the MUST topics, on top of this it is able to cover all COULD’s as the product is generic to allow communication between both teams. However, the SHOULD section is not applicable to for the product made, hence lowering the overall grade. Nevertheless, the effects of this product will still increase the team's performance as the students are still yet motivated to work hard on their project. In turn still being able to target the speciation to a higher degree.

Evaluation (32/40): Overall my product is quite successful, scoring a bit higher than 75%, it lost the most amount of point for its function due to the fact that the video was not able to integrate all roles, while only highlighting 3 roles, and leaving out PR, as can be seen with the survey results. This point dropped down that factor by a large amount. The target market was met perfectly, with the aesthetics and communication and engagement also being created to a high degree only losing points in the Could and Should section however the product was still able to in turn create the needed product. The needed product being the MUST based specifications from the initial plan. Overall, I was able to create a product that met all MUSTS, most SHOULDs and some COULDS, in turn helping to improve the state of the issue.

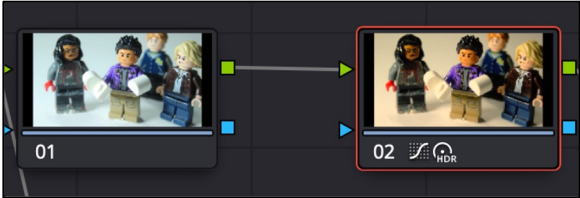
When looking back at all of the testing done, in D.i, and D.ii, along with the evaluation done on my product, there are a couple of key components that I would like to change:

The first change is a more prominent inclusion of every role. There are a total of 4 roles, and in the product, the hardware/ software role was visible for majority of the time, with a couple other recognizable roles of body design and recovery with the construction of the Cansat itself. However, the PR role is nowhere to be seen in a clear way. Their main role is to gather sponsors, and upload posts to social media frequently. However, none of these two majorly defining features of a PR member are seen in the video. Hence a change that could be adding more prominent separate scene’s showing the inclusion of the PR members roles. For example, a scene that begins with the the PR member filming the body team, and the camera pans over to the body team constructing the Cansat with tools, and then later on showing the Recovery team adding a parachute, as the roles for body and recovery were defined well however had a shorter on-screen time compared to the hardware/software role. This would in-turn help fixing the specification, it would target all of the roles in an equal form and show their respective roles. Along with this, in the end of the video, only one of the characters get a letter from MIT, which takes a bit from the ‘carrot on top’ feeling, as not all roles end up getting the letter. If I were to redo this, I would be adding more shorter clips of every member meeting at one final spot with their individual's letter's getting into respective high IVY league schools, this would help motivate the audience more as it gives more of a prize in the end.

In terms of the lighting of the animation, there was a large amount of light flicker, and that was given through the expert analysis during my testing. Light flicker is a term used in animation which is when the frames in a sequence have various lighting settings. When these frames are played after each other, it gives the effect of light flicker. Typically, animators tend to not have light flicker, which is achieved by blocking out all-natural sunlight, turning off all lights in the room and artificial lighting is placed on the set. Along with that the cameras setting must be placed on manual mode. The camera settings must be locked. Meaning the ISO, shutter speed, and aperture must be fixed between all frames in order to keep this setting. As seen with the below two frames (120 and 121), there is a clear light difference between these frames enough though they take place in the same location, hence they must have the same lighting. Other ways to fix this would be to wear full black cloths, as brighter colours reflect off light, in turn providing lighter flicker onto the Lego figures due to their build. This in turn would help make a more aesthetically pleasing film to look at. While not fully necessary it is important to create a product that is met to a professional standard, and fixing the light flicker would help add to this.



In my original specification, I aimed to use the colour of gold and black, with some people finding it was used well, while come think not so well. Hence a way to improve this is by integrating a gold/black colour grade. In the colour tab in Da Vinci Resolve, I could create a warmer tint, along with bring down the whites in the curve tab, allowing to create a darker (black) scenes along with placing a warm overlay (gold). I would in turn add this effect to every clip on my timeline using the node feature. Making these such changes as seen in the image below, meets the specification to a much higher degree, the shadows of the clip are much darker, with the overall look being warmer as well, this would help show our clubs colours in a clearer form and help make the video more aesthetically pleasing as well as warm colours make it more welcoming, and the overall image quality looks crisper. The render below is an example of this change. This after changing it for one clip was able to make it more aesthetically pleasing to see as well.



The last small product change has to do with an editing mistake that was seen by a peer when he pointed it out while answering my survey. When talking to them, they told me that near the end of the video in the credit section it was seen that one of the texts did not use the stable “Zero Hour” font. In order to improve my product and its typography, As the titles had a glitch effect on them, I did not notice this while exporting it, and upon submission it was clear that this font was different from the rest. This is a simple fix, when going back into my editing software I must click on that tittle and scroll down too its font and change it to the “Zero Hour” font. Upon originally creating this, I was using the font Papyrus, however after looking back at it with my mentor we decided to choose a more futuristic font, such as the chosen one seen all around the video.

Overall, many changes where already made in the making of this product to ensure that the problem is met. These were already all stated in the product changes tab. Hence there are only a couple changes here and there that need to be fixed in order for the success of the solution to be full 10/10 in every specification tab.

To summarise the problem was the lack of motivation in my engineering club, our work ethic and communication was low due to various reasons. There a total of 2 teams within our club, with 6 members and 1 intern each. With a total of 4 roles that may be assigned to these 6 members, hardware/software designers, body designers, recovery team, and the PR. All needing to work together to create a successful product. Our goal is to create a small-scale satellite the size of a can, in which many schools from countries within Europe are competing. Each of these roles are highly dependent on each other to complete the work on the given time for there to be progression in our project. While we already have application that our club uses to organise ourselves, it has not showed massive improvement. The main issue comes with the motivation of all members. To boost the team's motivation, I have created a motivational video that highlights the correct journey and final prize that is awarded when the competition is won, this being the fact that the members are able to get into high-ranking universities, such as displayed in the video with the member being accepted into MIT. This allowed for the target market to realise what the outcome can be when the project is taken seriously and when commination is clear between members. The product has solved the original problem to the extent that majority members feel quite motivated now, they have now been able to see the prize of this combination boosting their overall performance and this can be seen with the final question of my survey in which majority of the members feel highly motivated to practice well in the next meeting. The impact being positive.

During this design unit, all my research gathered is linked, the specification is based on my design brief. Upon doing the justification with the success of the solution, which is based on my testing, both from the expert and the target audience, I am able to say that the specification has been met to high degree. Mainly losing points for not integrating the role of the PR member which was a large downfall. As my product must aim to show all members working together to produce the product, showing that design is able to impact interactions. While my product does still allow for interactions to occur, the target audience found the discussion of the PR role odd, while it was not purposeful. For this unit I had a total of 4 specifications, function, aesthetics, target market, and communication and engagement. All being well met with a score of 7+ other than function as previously talked about. However, the reason for this being that not all they COULD specifications were met. In terms of the design brief itself, I have been able to meet my smart goal as my product has been able to motivate my team members to a high degree as they see what prize lies before them if they were to complete the project properly, on time and done well.

The product that I have created is a motivation video, specifically catered to my target audience, showing my teams roles, and the process they must go through in order to win the competition. The positive impact of my product being is that I would be able to solve my solution. With a well-motivated team with the drive to win the competition by making it all the way to Portugal and wining the finals, in turn allowing for the students to get into high ranked schools, and possibly get scholarships as winning the competition is a very large scale. Our team must be number 1 out of every school that partakes in this competition in whole of Europe. Along with this if the team is well motivated, with both new and old students working well together, it allows them to learn many new skills, such as thinking, collaboration, along with learn new things such as how to 3D model, or how to use Arduino. These are very large positive impacts that my product can make if its impact is well portrayed on the members of the club.

The negative effects of my product maybe the idea that it is implanting in the member's brain. While our goal is to achieve first place, it is very difficult to do so and a team must work together for a long period of time while creating a well-functioning Primary and Secondary mission, along with a strong body, a strong parachute that is able to meet all the requirements and a PR that documents the whole journey of the creation of the product, along with being able to write strong reports and submit the tasks on time. The members must not think they if they discuss with their team, they will be able to win first place, there must not be a false image placed in their head. They must understand the changes that they will face when creating it and knowing not to give up and to stay motivated for the final carrot on top.

To give a conclusion to my product, it has been able to create a positive effect on the target audience. The specification is almost met while the design brief is fully met its goal, making it a rather successful product. There have been many changed through the planning phase of this, as I began with an unsure design, and worked my way up to a motivational video as originally analysed in from my existing products. The product is able to motivate people to collaborate more with each other in order to meet the goal, this being, first place in the European competition sponsored by Esero.

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Define the word communication:

- Communication can be defined as the interaction of knowledge thru various forms, between 2 or more people.
- Sending or receiving information

Forms:

- Verbal
- Digital
- Visual
- Written
- Body-Language
- Non-verbal
- Spoken
- Emotional
- Interpersonal communication

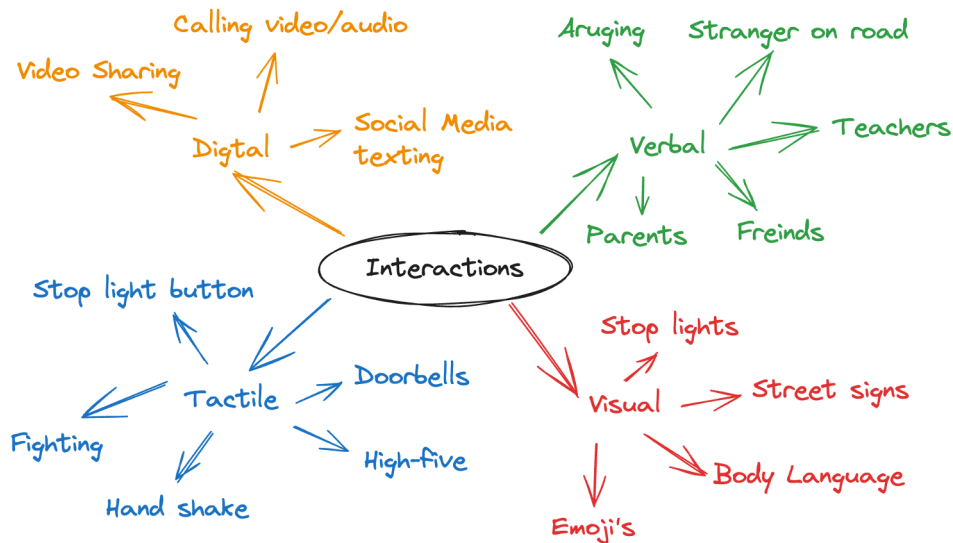
Success criteria:

- When the correct idea comes across the from the communicator to the other person or people

Define the word interaction:

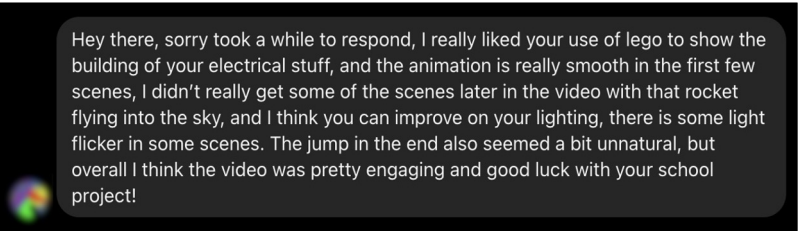
- Interaction is defined by the communication with a reaction

Mind map based on interactions:



Text to send to expert: Hey *EXPERT NAME*, I have another school project and I need some feedback from an expert animator. My product is a motivational video, aiming to bring interconnection between members of our engineering club, in a result of us doing well in the competition. The video shows the process, end result, and prize of the competition. I need 3 pointers, What do you like about the product? What is unclear about the product? and what are some improvements you have for my product? I would love the help! Thanks.

These questions are based on the 4 P’s protocol.



The feedback is from an expert animator whose identity will not be revealed due to privacy reasons.

Testing Method: User Trial

These images on the side are the results from the survey sent out to the target audience for testing



MYP5- ePortfolio Design Testing Methods

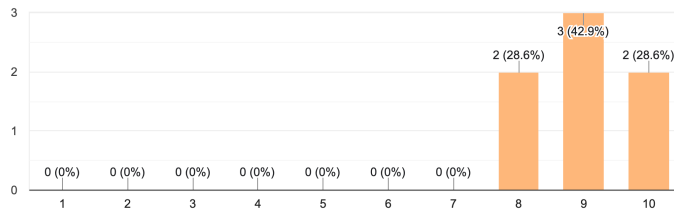
Within this Unit for Digital Design, I have created a motivational video to help solve our engineering club's issue, with the lack of interconnectedness between us team members. The following survey shall help me with my Design testing methods.

The following link shall allow you to view the video: <https://youtube.com/6dAVx53Zpas>

Could you please take 3-5 minutes of your time to fill 12 small questions in :)

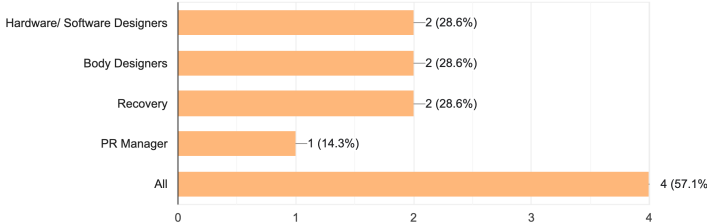
1. On a scale from 1 to 10, how much did you enjoy watching the video?

7 responses



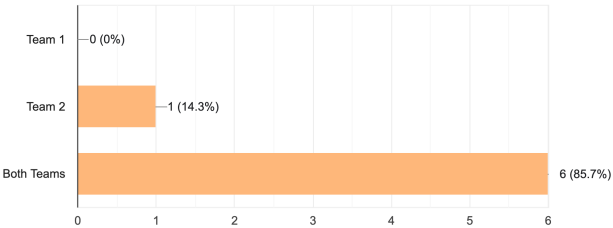
2. Which roles does the video inspire? (If all, click All option)

7 responses



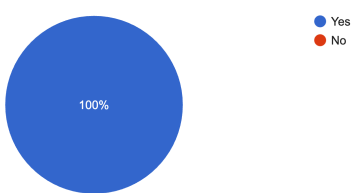
3. Do you think this video would appeal to our club? (If so which team, if both chose Both Teams)

7 responses



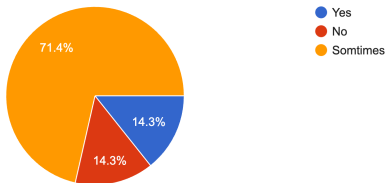
4. Can all engineering club members access this video?

7 responses



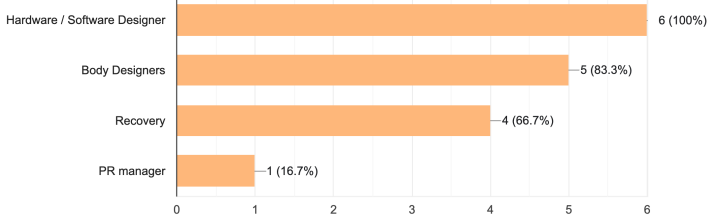
5a. Does the use of LEGO characters help show the individual roles?

7 responses



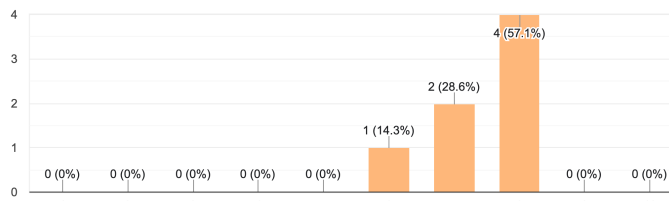
5b. If yes, which roles does it show?

6 responses



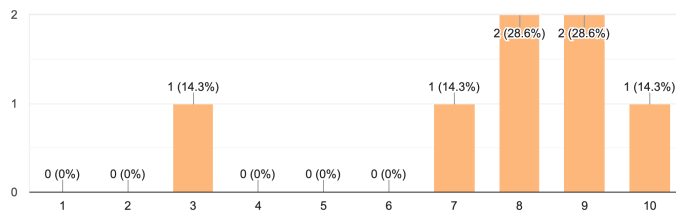
6. On a scale from 1 to 10, how well does this video clearly display a Golden and Black color scheme?

7 responses



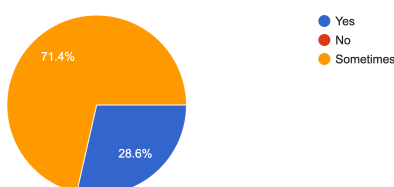
7. On a scale from 1 to 10, how well does this video clearly display a Blue and White color scheme?

7 responses



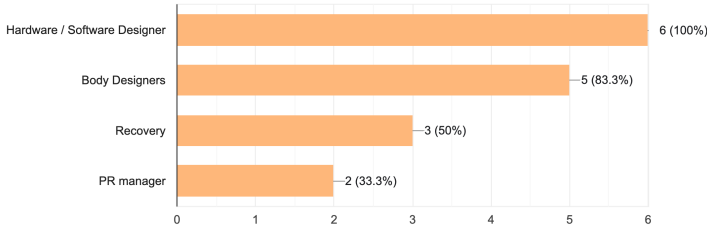
8a. Does the video show the Hardware/ Software designs, working with the Recovery, PR, and Body designers?

7 responses

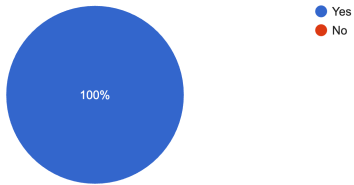


8b. If yes, which roles does it show?

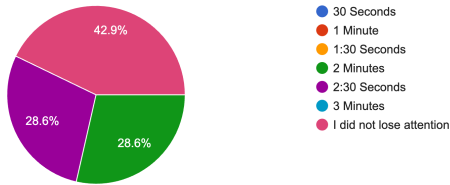
6 responses



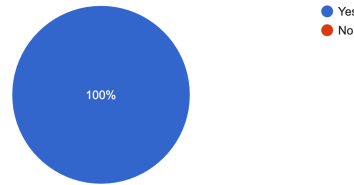
9. Does this video have a catchy soundtrack?
7 responses



10. Until what point in the video did you start losing interest?
7 responses



11a. Does the font being used convey the right message for our club?
7 responses

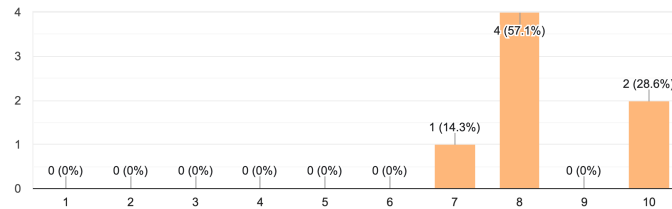


11b. If no, please explain why?

0 responses

No responses yet for this question.

12. On a scale from 1 to 10, how motivated do you feel to work in the upcoming meetings?
7 responses



Discussion for research: *(With 1 member per team)*

On a scale from 1 to 10 how well does our club interact?

- 7, we talk a lot with each other but its not always about our work.
- 6, we talk a lot with each other

On a scale from 1 to 10 how well does our club communicate?

- In terms of the actual work, 4
- Not very well, we don't tell each other when stuff happens

Do you think we communicate enough with each other?

- Not really and that's why its always really confusing
- No we don't and that's why we aren't able to work well together

Do we always tell each other when something is completed, like if a part is bought or not?

- Not really, like we are always confused on what to buy and how to buy stuff
- And if we finish something its not like there is a checklist or a plan or anything to mark it down

What do you think the solution is?

- Some sort of place that we could work together better, kind of like Trello but we have it so that it suits us
- I feel like our group just is 'nt very motivated to work and we don't feel like we are going to win

What do you feel about this problem?

- I feel like this is actually a big problem for our group because we are always behind schedule
- Yeah our group is really lost and this problem needs to be fixed otherwise we wont be able to win.