

Introduction

in this report I will reflect on the positives and negatives on how the group performed. I will talk about mine and the groups journey and how we ended up with a successful firing launcher. I will discuss how the group resolved problems, product ideas, materials and cad work, and our presentation.

Working together

Looking back on the work I realise the good points and the bad designing a squash ball launcher. First of all, we assigned rolls to the group members however there was five areas to designing and building a launcher and only four group members. However, Timothy Lee was willing to take on the second roll. When building the launcher, we all helped each other on their areas, for example Sam Johns helped me resolve the problem of the squash ball from sticking to the barrel of the launcher by placing the ball inside a hollow cylindrical tube made of a thin plastic which slides freely along the barrel with a less friction.

Communication

As a group we tried to meet up as much as possible to ensure success. On the day the task was given a Facebook messenger group chat was made to discuss ideas and meeting times. We first met up to one day after a lecture to discuss rolls, we shared our strength and weaknesses to find which roll suited whom best. After the meeting we each set off to do our written task of research, while writing the task we were communicating and sharing ideas. After the first written task was submitted with many ideas eliminated we came up with the idea of a trebuchet. By seeing how my group members work has improved my group working skills and bettered myself as an engineer.

Once we had all agreed we were going to build a trebuchet. We all set off and came up with designs on each other's areas of the trebuchet. For example, I was dealt the roll of projectile launch therefore, I designed the sling, trebuchet firing arm and counter weight. Group meetings were held in the IQ building to discuss what we had designed and asking other group members how each individual could improve their design. I feel this was a strong area of my group, we were very creative and honest with each other which has led us to our design today.

The Launcher

We did more research into a trebuchet and we realised the aiming system of the trebuchet is very inaccurate. Therefore, we went back to the drawing board and designed a new launcher. At this moment in time we lost communication of one of our team members, which effected our work because we the three of us had to do extra work designing. Three thirds of the group went to *B and Q* to find products to build our new and improved design. However, it may have been a better design but it was a set back because we had to design new aspects to the launcher on solid works with limited time. The build of the new design costed significantly less than a trebuchet would have costed. The three of us came together and spent a lot of time building and design our launcher I learnt then I had good team members.

The forth member came back into the project after we built our first prototype. Our first prototype was a good start however it wasn't firing and didn't have a trigger system. I remember shamed in myself because it was my area which was letting the launcher down. However, I engineered and designed a new system which tested to be good. It allowed the ball to travel more than six meters.

Sadly, we did not sort out a trigger system which was irritating which means we didn't qualify with the regulations given. However, that didn't mean we failed because our launcher fires, we can adjust the aiming, distance and the ball is retrievable.

Conclusion

If I were to build the launcher again there would be a few things I'd change personally, however I believe we completed the task. I will apply the skills I learnt from this task into my future career as an engineer. The task challenged me because I am a quiet when discussing ideas, but the group was friendly and allowed me to share my ideas. How did this experience foretell things that would happen later? The loss of communication of a member I knew that his part would be as good as other groups because we were a man down. However I knew we would get a good working launcher by the work ethic of the group, we spent many hours in the work shop to insure the task gets completed.