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Reflective Report

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Team working dynamic

We have divided the tasks so that each member of the group has had equal involvement. My part was the projectile launch which meant designing the barrel of the launcher. Jason worked on the power generation, Harry on the release system, Jacob on the aiming system, Gwydion on the mounting system. We have agreed that if someone isn't able to participate equally in a certain part of the project, they can help someone else with their part so that it was equal involvement. For instance, other members of the team have better manual skills, whereas I have better computer skills. So I have put together and designed the poster which boosted my involvement within the team, Overall, we have worked well as a team because we split the priorities well. If I was to do this project again I'd improve the teamwork by weighing out our abilities better when setting and prioritising the different tasks.

Time management

As a group, we have managed to meet up at least every ten days in a set location. However, it was sometimes a struggle due to some of us having commitments outside of lectures. To overcome that, we tried setting the times close to previously scheduled lectures so that we wouldn't have to go out of our way to come in on days free of uni. We would always set a time and date in advance so that we could work around it. In the future, I would improve the time management by setting specific meeting times and places for the whole project in advance, which would allow us to try and set our other commitments outside of those meeting times.

Communication

We have set up a group chat on social media to allow us to communicate easily outside of lectures. It allowed us to track each other's progress and give feedback on our coursework to make sure we all do our best. Thanks to this we have managed to allocate meeting times, and adjust it so that it would be suitable for every team member. We also used the 'Team' on Microsoft so that our lecturers could stay up to date with how we're getting on with our work, and answer any questions along the way. I think it could have been improved by making sure everyone is on the chat, daily at a certain time to discuss our progress and plan the next steps. Sometimes, we didn't have everyone on the chat while discussing the project and that delayed other member's ideas and input.

The concept and technical design activities

I think the overall concept was good. The launcher was stabilised on the flat surface, and we have actually managed to launch the squash ball. I think that if we had a bigger power supply connected to it, it would have projected further. If I was to improve the concept, I would have used a longer spring so that it would release more energy, and maybe some sort of extra power down the middle of the barrel to shoot it further. I think that using a metal barrel would reduce the friction as well.

The prototyping and building phases

During the building phase, the biggest issue was the £30 budget. It was hard to use good parts (as I stated earlier, it would have been better to use a steel barrel). During prototyping, there were no major issues, and it went quite smooth. We have designed the parts in CAD well, meaning the parts fitted each other. During the demonstration, the launcher has worked and it launched the squash ball about 1 foot far. After the initial try, we have improved it by making the barrel more slippery and other team members

made adjustments to the power generation system to make it more powerful, by adding more batteries.

At the beginning of the project, I wish I could have turned up to more Design lectures. It would have boosted my knowledge about it and allowed me to get myself involved more. However due to certain circumstances, I was unable to but, still tried to communicate and stay up to date with the rest of the team. Towards the end, I was back on track. If I was to do this project again I would have definitely tried to manage my time better and more efficiently.