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Assignment 4

Unit 17

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UTC Reading

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# P7 – Review of Project Management

In this section of the report I will be assessing the project management. I will compare good points and bad points of the project and suggest improvements that could be made to the general management of the project. I will also include information about unexpected events that affected the process.

## Good features

### Periodic meeting

One thing that was very beneficial to the team was periodic meetings. This was done about half way through each session. Team leaders of each competency attended along with the main leadership team and the Army stakeholder. The meetings were around 10-15 minutes long and they were used to grasp how long along the process each competency is. The stakeholder would also give input into these meetings to keep the project on track and to the needs of the Army.

### Clear end goal

Another good factor about the project management was that all members knew a clear end goal. This was mainly because everyone was in the meeting in which the project was opened and explained to us. All work was made sure to be working towards the end goal and made sure that it was relevant to the project. This made sure that there was very little wasted time or work.

### High contact time with leadership

Due to the fact that the leadership teams for each of the competency, all of them were very close to the teams at all times. This allowed for a high amount of contact time with the team leaders which encourages a strong work ethic. This meant that we were being constantly being kept on task by the leaders. The stakeholders were also constantly walking around giving us an extra incentive to be on task at our most efficient.

## Not so good features

### Not very clear day to day goals

Although the end goal of the project was very clear, the day to day, week to week goals were a little less obvious. I put this down to two factors. Firstly, the project leadership team had not created a plan on when they wanted all of the tasks to be done, or even what those tasks were. This then meant that competency leaders had to guess what to do when the meetings arrived. Secondly, after the meeting had taken place, the competency leaders did not clearly illustrate what had to be done. Instead they let the students carry on with their current tasks until that was complete. This meant only a part of the session was spent following the set tasks by the head of the project, making it highly inefficient.

### Limited foresight

Another factor that was not done so well was the limited foresight. This was done numerous times. One example was the ordering process. The orders were placed by the accounting team but were not checked to see if the orders were correct. This meant that when the orders arrived there were some duplicates and some items that were not ordered. This was mainly the items that were between competencies such as RC receivers and transmitters. Some items arrived damaged and some were damaged during the build. As there was little foresight there were no spares so we had to spend a lot on fast delivery. This cost the project both time and money.

### Lack of collaboration between competencies

This was the main downfall of the project. The first problem was that there was very little definition between the competencies, we were just told that you are one competency and you are another, not, this is what you are responsible for. This meant we had very little scope for the project. There was then no one going between the competencies as the leadership team was planning what should be happening rather than checking what is happening. This left us in a similar position to the ordering mistake. There was duplicates of some work and lack of other work.

## Unexpected events

### Change of team leader

Around half way through the project our team leader was taken ill. This meant that he could no longer participate in the project. This meant that one of the team leaders from a competency had to step up and become project team leader. This then meant that the new team leader had to try to work out what the aim of the project was and how to take it there. This meant that for a few weeks there was very little guidance and little work was achieved. This put us behind and meant we had work to catch up on.

### Ordering problems

There were a few problems when it came to the ordering process. When the items arrived, a lot were either missing or problematic. This meant that we had to order some more and spend a lot of money on the shipping (the cost of the products was refunded to us) so that it would arrive in time for the build. There was also a problem with sorting out who’s items were who’s, throughout the college. Due to the fact that a lot of the other companies projects were similar, a lot of companies ordered the same parts. This meant that when they arrived and some were missing, there was debate about who's items they were and who had to order more.

## Suggested Improvements

### Pre planning

There was a massive amount of pre planning that should have been done that wasn’t. This could have solved a lot of problems in the project, saving time and money. One example of this is one of the unexpected errors if the initial project manager had fully planned out the project, he could have just given that to the new project manager. This would mean a few weeks would not be lost trying to figure out all of the planning.

### More foresight

If more foresight was had, it would have solved a lot of the bad decisions made during the process. All that this means is that the people who were making the decisions (the leadership team) should have looked more deeply into what was happening rather than just saying yes. One example of this is the shipping mistakes. If a team-leader had checked the order sheet for mistakes then we would not have ended up with lots of duplicates and missing items. Instead they just said yes to the order going out and we had a lot of problems.

# D2 – Review of tools used for planning

In this section I will be evaluating the effectiveness of tools used in the project process. I will begin by defining each tool, then explaining whether it was useful or not and why. I will then suggest ways in which the use of the tool could be improved.

### OneNote

OneNote is an application that allows for shared notebooks. The way that we used the application was by making notes on them during meetings and then making them public so that others can see them. Unfortunately the same view was not taken by team-leaders which was one of the reasoning for lack of direction. The way that I would improve the use of this application is by making everyone use it. If all members of the competencies were to have used it, information would have been passed around more easily.

### Word

Word is an application that is used for Word processing. It was used very rarely in the project however when it was used, it was for general note making. In the future I would suggest that it isn’t used and OneNote would be used instead as it is easier to share and collaborate.

### Raspbian

Raspbian is an operating system for the Raspberry Pi. We used it for running the raspberry pi and to install and run all of the pi applications. The OS was very good and as it was Linux based we had experience and knowledge of the OS and the applications with it. I couldn’t find a way that we could use this better as it was used effectively across the team and was limited to the one pi that we had.

### GitHub

GitHub is cloud based system that is controlled with an application or through the terminal. In the project we used GitHub for version control and to report and correct errors in the code. I believe this application was used very well by the team as all members used it including the team leaders. This meant that team leaders knew what the teams were working on and any problems that they had with the tasks. The only way that this could be used better is by using it more. It was found that people were not committing very often which resulted in un-organized code and also code being lost. This could have been solved with a little more dedication.

### Vex

Vex robots are kits used for easily building basic robotics modules. In the project we used it for prototyping ideas about the robot. These were then tested and then parts were chosen that were similar to that of the Vex prototype. One way in which we could have used tis better is try to prototype with the products that we had ordered. This would be things such as trying to control the robot from our self-built control system rather than the vex’s. This would create a better testing environment to help narrow down any errors. Instead we build and tested the whole robot at the same time which meant that we didn’t do direct testing on modules, making it harder to fix problems with the robot.

### Google Chrome

Google Chrome is a web browser that has extra add-ons. In the project we used it to look up guides for the hardware we were using, access GitHub, and download applications that we were using. This was used constantly through the project and everyone was very experienced in using the application. The only way to improve the use of this application is by using more chrome add-ons. If we used add-ons such as push bullet then we could easily transfer large files between machines and devices. This would improve efficiency and save time.

### SolidWorks

SolidWorks is an offline CAD application that is used for 2D and 3D design. In the project the engineering team used SolidWorks for prototype designs of the RCV that were used in the advertisement campaigns. They also used the application for making 3D printing designs for the model arm that was used in the final presentation. The only way that we could use tool better is by using it more. There were only a few people who knew how to use the application, and they spent all of their time modelling the RCV itself. It would have been useful to model up some housings for electronics and other features to give a more durable design. This would have also given the design a more realistic look, on that is more applicable to the finished design.

### Python

Python is a 3GL programming language. This section also applies to the text editor and compiler that comes along with python. The way that we used python was to code the application that ran the webcam and a LED that we used for demonstration purposes. Almost all of the coding and compiling was done on the raspberry pi however some was done on other machines. The way that we could use python better is use more library applications. Python is known for its vast abundance of libraries and how useful they are for avoiding lots of work. If we had used some more of these then we would have spent less time coding, and more time testing.