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Reflection: Group Innovation Project

Working on the smart electrical fire prevention power strip project helped me understand what it actually means to develop an engineering innovation. Prior to this project, I mostly thought of an innovation as coming up with a new idea or improvising something that already existed. After working on this assignment, I realized that innovation is much more than just having a good idea. It needs research, planning, technical understanding, teamwork, and the ability to explain how a design would work in real life. This project made me think more in depth about how much work really goes into even a product that might seem simple from the outside.

One of the biggest things I got out of this project was a better understanding of how engineering ideas connect to real problems. Electrical fires are not just a theoretical issue. They can affect homes, families, and communities. Because of that, the project felt more meaningful than simply designing a random device. It made me see how engineering can be used to prevent danger and improve safety, while on the flip side, some can use engineering for other things, like engineering weapons and potentially harmful machines. I prefer to see the lighter side of where the work I do with our innovation and others in the future could aid rather than harm. I also realized that a good innovation does not always have to be something completely new. Sometimes innovation can come from improving an existing product in a way that makes it safer, smarter, or more useful for people.

This project also affected the way I think about research. At first, it was easy to say that the device would use sensors or artificial intelligence, but once we started developing the idea more, I realized that those terms need to be explained clearly. It is not enough to just say that the product is “smart”. We, as a collective, had to think about what the device would actually detect, how it responded, and why those features would matter. That made me understand that innovation requires support and explanation, hence the technical description, which was my part of the assignment. A person designing a product has to know the purpose of each feature and how each part contributes to the overall function of the device.

Another rather important but overlooked part of the project was working alongside my peers. Group work can be helpful because each person brings different ideas and perspectives to the table, and could be used as building blocks for improving the idea or, if needed, restarting. IN my group, I felt like I was able to connect with my partners through the project because we all had to contribute to the same final goal. I learned that communication is one of the most important parts of working in a group. It is not enough for everyone just to say they will do their part. Each person has to understand what they are responsible for and take full responsibility for their part. How their section also connects to the rest of the project, and when it needs to be

completed, is also a big take. In my group, there were a few setbacks due to unforeseen circumstances that took me away from school itself; however, through it all, I took responsibility and did what I needed to do in order for my group to finish on time.

To reiterate, responsibility was one of the most crucial factors. In a group project, one person's work affects everyone else. If someone does not finish their section or if something becomes too difficult to complete on time, the group has to be able to adjust. I learned that it is important to be honest about what you can finish and to communicate early if there is a problem. That way, the group can switch tasks, come up with a solution, or help each other before the deadline becomes a pressing matter. This showed me that teamwork is not only about dividing work equally, but also about being flexible and responsible when problems arise.

I also noticed how collaboration can improve an idea. When one person works alone, they might only see the project from one angle. In a group, different people can notice different details. One person might focus more on the technical parts, another might focus on the appearance of the product, and another might focus on how to present the idea clearly. By putting those ideas together, the final project becomes stronger. This helped me understand why engineering projects often require teams instead of just one person. Real engineering work depends on communication between different people with different responsibilities.

Overall, this group project helped me learn more about the process and presentation of an innovation, engineering design, and teamwork. It made me realize that creating a useful product takes much more than an idea. It takes research, organization, problem-solving, and the ability to explain how the product would function. It also taught me that working with peers requires responsibility, communication, and flexibility. The smart electrical fire prevention power strip project helped me see engineering as something practical and connected to real life. More importantly, it showed me that innovation is not only about creating something new, but about creating something useful, thoughtful, and capable of helping people, or harming if you decide to go down that route with engineering knowledge.