Apple, the Multibillion STEM Company

OBOTICS

By - Yuma Nagayoshi and Sean Chan Sato Team # - 1021W

R

Location - West Vancouver, B.C

Ten Ton Robotics

Apple, the Multibillion STEM company

The world famous, multi billion dollar company, Apple. The company that comes to mind when it comes to technology, but may also be one of the best subjects that incorporates the Engineering Design Processes. When it comes to designing, Apple may be the best out of all in the current century. They were able to develop many different types of phones and other commodities throughout the course of 46 years. They first developed their Apple I, which was an old styled computer that has a thick monitor with a basic keyboard. Now they have come so far into this world making a Computer screen almost as thick as a piece of paper and a phone that has multiple features in many different ways. This is one of the reasons why we choose Apple since it has made such a big progress in the time period given. We thought that the company would be a great example of showing how much technology has improved throughout the years.

Apple uses their own Engineering Design Process by taking multiple steps when designing. Their steps are as follows: Idea, Product Start Up Created, Prototyping, ANPP (Apple's New Product Process), Weekly Executive Team Reviews, Peer Design Meetings, Production Management, Testing the Product, Packaging, and the Rules of the Road. As you may see, this process is a lot more advanced in comparison to VEX Robotics, so let us break down each of the steps.



The first step that Apple takes is to come up with ideas. In this step, the company often makes brief thoughts about what they would make. None of these ideas are fixed, but are basic sketches of some of the functions it would have. The procedures later would improve their idea more and more, and this is where things become a little difficult. After Apple had made a brief idea of what they are going to make, they will use a separate step to develop the new product. This procedure is known as the "Product Start Up Created", and in this stage, Apple focuses on how the new product would act like and to settle upon a certain idea. And once their idea is fully decided, they would incorporate other ideas to this main one, to ensure that the product will be outstanding. When their initial product design is finished, they begin making a prototype of the actual product they will be selling. Apple often uses their own technique called "10 to 3 to 1". This is a strategy where 10 concepts are selected from the design team, then 3 of the ideas become the finalists, and the last one standing is selected as the prototype design. Afterwards, the company starts the ANPP (Apple's new product process) which is where the EPM (Engineering Process Manager) and GSM (Global Supply Manager) work together to put the ideas together. The next step is called the "weekly executive team review" which is where the teams meet up every monday to discuss the production processes inside the company. In addition to the weekly

meetings, there are going to be separate meetings where the teams would go over how they could improve the product's design. Once the Beta product is created, both the EPM and GSM would take the product to the executives, so that they can ensure it is an approved product. Finally, there will be a packaging process where the design team makes a design for the packaging specifically made for their product. It is amazing to see that Apple takes their products further, by making designs for each of their packages. The final step of Apple's Engineering Design Process is to evaluate their final product. This is similar to our version of the Engineering Design Process where we make sure all mechanics of our robot are functioning properly. As you can see, although there is a significant difference between a world known company and a small team from VEX Robotics, there are some similarities in how we make a robot.



VEX Robotics is teaching us how the Engineering Design Process can be implemented when designing, building, and programming robots. But, they are also teaching us the basis of most careers, and how they incorporate their version of the process. As you saw before, the strategy that Apple uses is almost identical to how we build our robots, and we believe this to be a factor that only VEX Robotics can deliver. The reason why the Engineering Design Process is so crucial to VEX is because it prepares young students for their future careers.

The procedure is designed to be used for most STEM careers, and it's important students to get used to this. VEX has helped me in building robots specifically, as we are now able to include the process when designing. We are grateful to how much VEX has developed us by using the Engineering Design Process, and we now understand the importance of following it. The basis of the process is being used throughout the entire world, and it is important for us to be teaching others about this as well. Even if Apple and VEX Robotics may have different destinations, their route towards their objective is the alike.

