

Career Readiness Essay

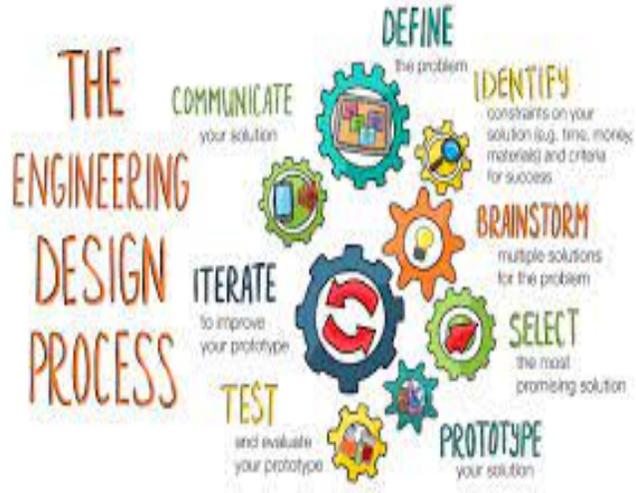
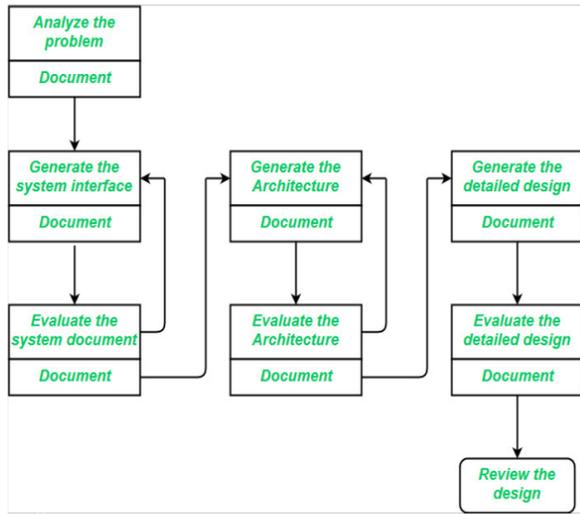
Our chosen STEM career is a software engineer. We chose this career because it involves our Robotics roles like how the programmer who programs and codes the robot can be used for the future reference of programming and coding software. It can also be compared to the technical writer who documents and keeps track of important data, the builder who builds the robot which can be a practice for designing the software because they both involve in being structuralized, being able to be used properly, correctly and efficiently and testing the software applications like how drivers test the building of the robot. Software engineering and the skills that are needed can be connected to our VEX Robotics roles.



The engineering design process is a series of steps that helps answer a question or problem. The first step is to define the problem. The second step is to brainstorm and generate ideas and concepts that would answer the problem. We are planning ideas with the decision matrix which helps organize, list, order and prioritize the pros and cons of our options. The decision matrix helps narrow down to the specific and most helpful solution provided. The third step is to pick the chosen idea. This step is about choosing the plan that is going to be used to solve the problem. We are developing the solution. The fourth step is to develop and put the idea into action. If the idea that is chosen isn't the best solution or answer to the problem, we can always go back and brainstorm more ideas and then use the decision matrix again to narrow down to the most suitable solution. It is a trial and error method to see which idea is the best solution for the problem. To modify, adapt and change the solution to its best improvement. Step five is to test and evaluate the solution. To see if we should modify the solution in any way and to verify and validate that it is the best solution provided. That if it can work efficiently, effectively, usefully, correctly and properly. The last and sixth step is to present the solution

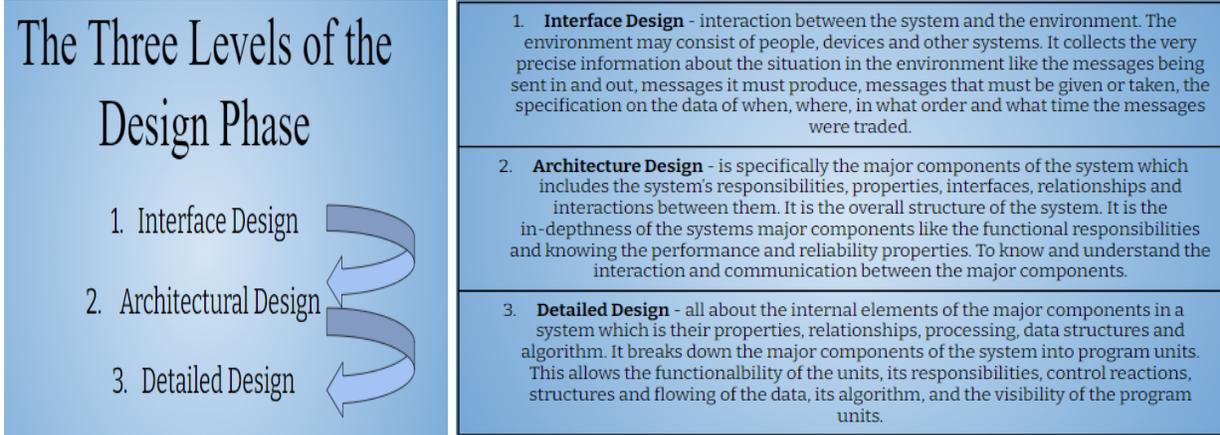
Career Readiness Essay

which is to show how we got the solution, the process of getting the solution, the concepts and the results.

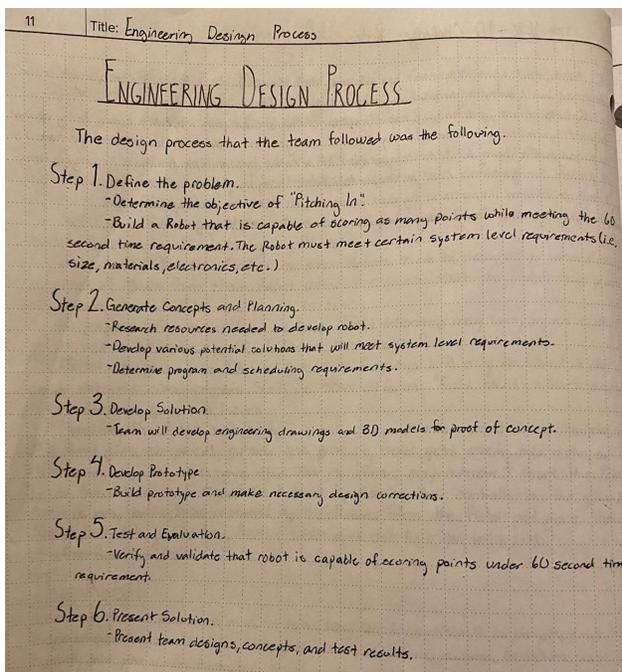


The resources that we found to learn about the professionals in software engineering and how they use the engineering design process. It is a process that is divided into three levels. They are called the design phases and known as the Interface Design, Architectural Design, and the Detailed Design. The professionals of these design phases incorporate and apply the engineering design process during these tasks. The engineering design process for software engineering is that they first analyze the problem and document it, generate the system interface and document it, conclude and evaluate the system document and document it. If the system document isn't the most suitable they can always go back to generating the system interface. After finding the most suitable system document, the professionals generate the architecture and document it, evaluate and reflect on the architecture and if it is not the most proper architecture, they can go back and evaluate and reflect the architecture again to find the most proper and fitting architecture. They then generate and brainstorm the detailed design and document it, evaluate the detailed design and review, modify, change, and reflect on the detailed design. The Interface Design is interaction between the system and its environment which includes its surroundings, the people, other systems and devices. The Architecture Design is the specification of the important and major components of the system which includes the responsibilities, properties, interfaces, relationships, and interactions of the system. The Detailed Design is the specification of the internal elements in all of the major system components, their properties, relationships, processings, algorithms and the data structure.

Career Readiness Essay

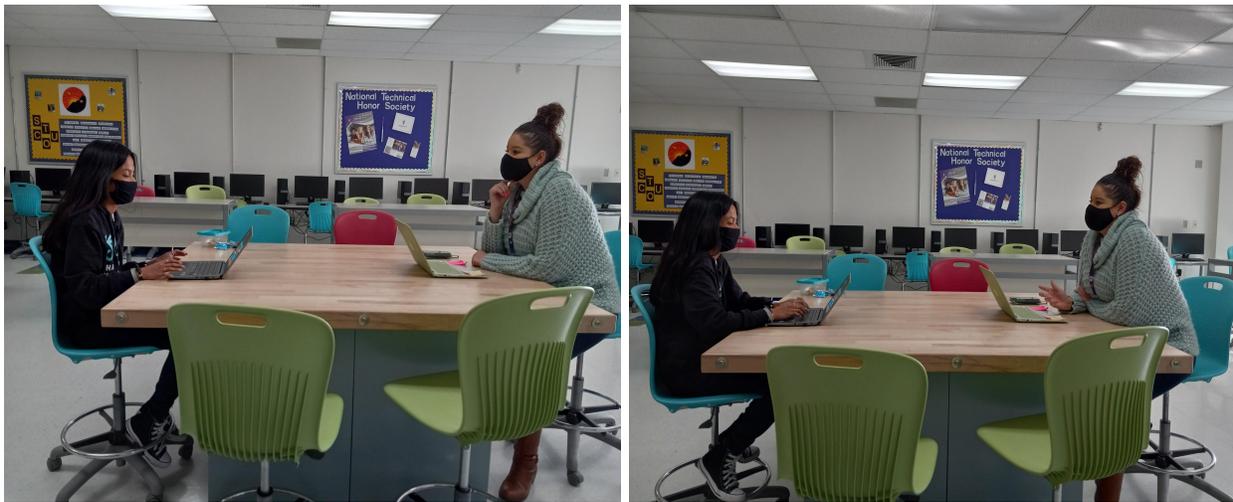


The professionals of software engineering use the engineering design process in a more complex and detailed manner. We do have similar wording and the same starter and ending which includes identifying the problem and reflecting and presenting the solution. Our team had to use the engineering design process to make and use a robot that matches all the requirements, doesn't break the rules and is efficient. The programming and coding isn't as thorough or complicated. Another similarity is the documentation. Documenting all the important information needed. Participation in VEX Robotics has prepared us for a future career because it expanded our knowledge in the STEM and engineering field, helped with the growth of our collaboration, communication, teamwork, critical thinking, hands on and engagement skills. We would need those skills for any type of career. They are all essential for a successful career.



Career Readiness Essay

Most people might think that a career is just a job. It is chosen just based on our interests. That it helps get wealth and happiness. A job simply just provides for you. You don't need a specific degree, and it is just an everyday task. A career is something that needs a further depth of knowledge, a more elaborated education, long term, and knowledgeable. Careers and jobs may be similar to the financial side of the situation but their impacts are also very different. Careers can help make a difference in the world, to grow, to be more meaningful and purposeful. To leave an impact on others. It is not something that is just required and mandatory like a job.



Credits - Written by Jin, Amanda, Marianne, Sabrina and Kaylee

- Team number: 45009P
- Resources - [Software Engineering Design Process](#), and created questions that were based or similar to the given questions from the challenge that were required to answer and had interviewed teachers with the created questions. These questions helped brainstorm and generate ideas to help answer the given questions of the challenge.

Career Readiness Essay

- Questions given to the teachers:
 1. What do you look for in a career? Like why that career?
 2. When you hear the word career, what's the first thing that comes to your mind and why?
 3. What does Career Readiness mean to you?
 4. Do you ever need to apply the engineering design process when you're teaching or working?
 5. In what ways could the engineering design process help you when you're teaching?
 6. Do you think you can use the engineering design process more often when you're teaching?
 7. How would you want to include the engineering design process more when you are teaching?
 8. If you could get into the stem field, what career would you choose?

From the Young Women's Leadership Academy, 8040 Yermoland, El

Paso, Texas 79907