

Career Readiness

Architects

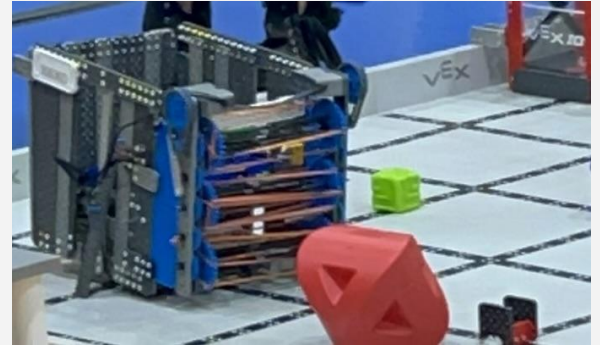
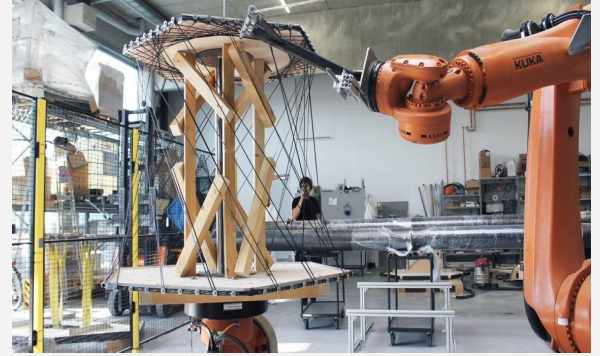


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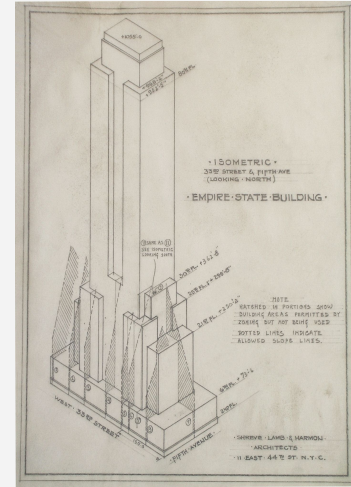
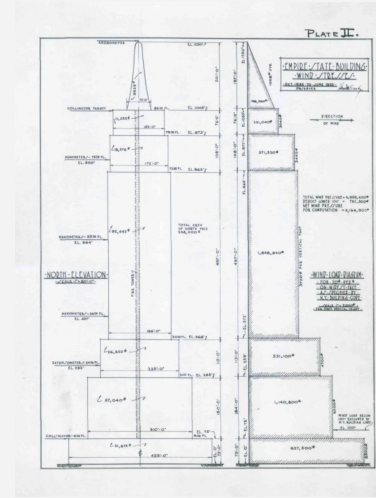
Introduction

If you ever go on a trip to Paris, you will see famous architectures like the Eiffel tower. If you visit to Barcelona, you will see architecture designed by Gaudi. However, one question comes in my mind; How do they create magnificent structure? The answer is *engineering design process*. With this engineering design process, architects and engineers have been able to create many buildings. But it is not just architects use this process. In Vex IQ robotics students also use the engineering design process to build robots. Then, can a robot design the building? Or Can a robot replace an architect? So we are curious how architects have to think and work. If we understand the architectural engineering process, we might make architect robot.

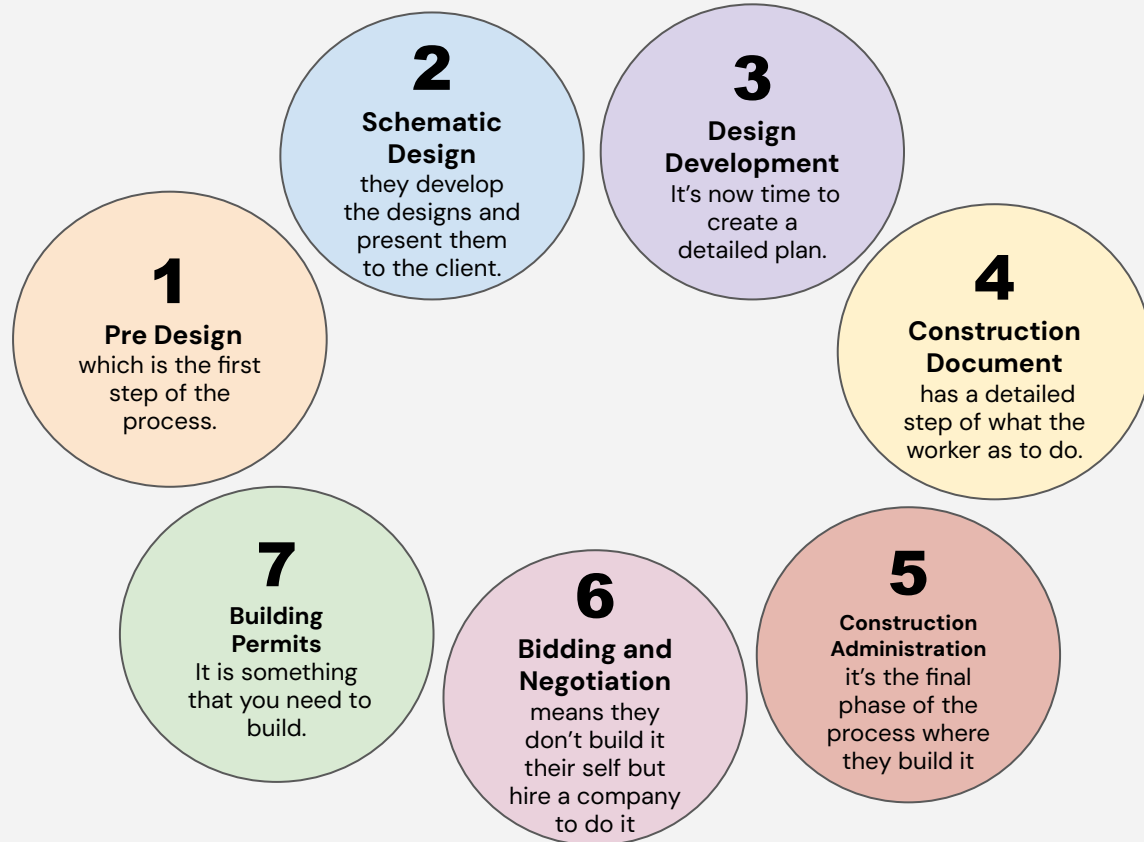


Research on Shreve, Lamb and Harmon

- Shreve, Lamb, and Harmon, founded as Shreve & Lamb, was an architectural firm.
- They designed ***Empire State Building***
- The Empire State Building is a 102-story skyscraper in Manhattan, New York City. It is the first over 100 plus building and it is a popular tourist attraction from now. They started building it in 1930 and they finished it in 1931. It is only took 20 month to complete the and it was the tallest building until 1971.

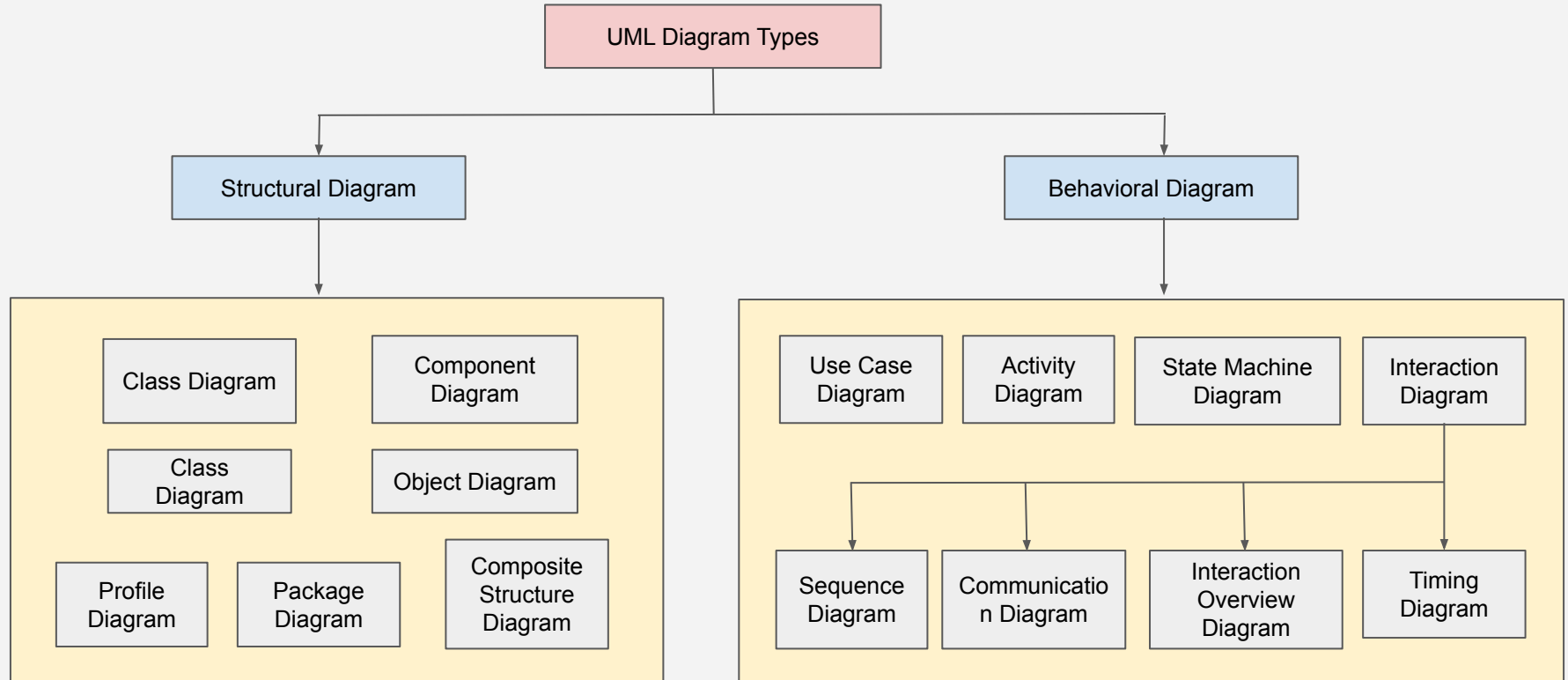


Architectural Engineering Design Process



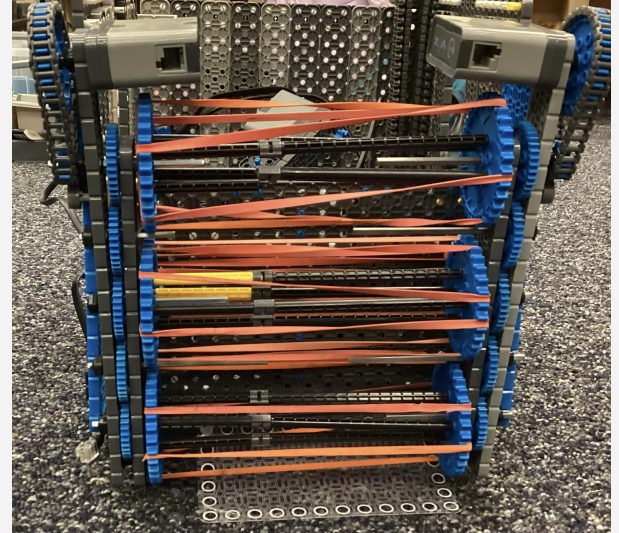
The reason why architects use the engineering design process is because if you used the engineering design process it is much more easier than just building it straight from scratch and let's say you were missing on a project well no problem because everything is already planned out which means they could keep on working. Another reason why people use the engineering design process is because it makes the progress much more organized and you will have a plan since you already planned out everything if you used the engineering design process.

Architectures refer to how you divide a subsystem and then those interact together. So does the system of a robot (diagram), it is often represented by using rectangles, squares, and arrows or using high techniques also using unified modeling language such as (UML) [8.1].

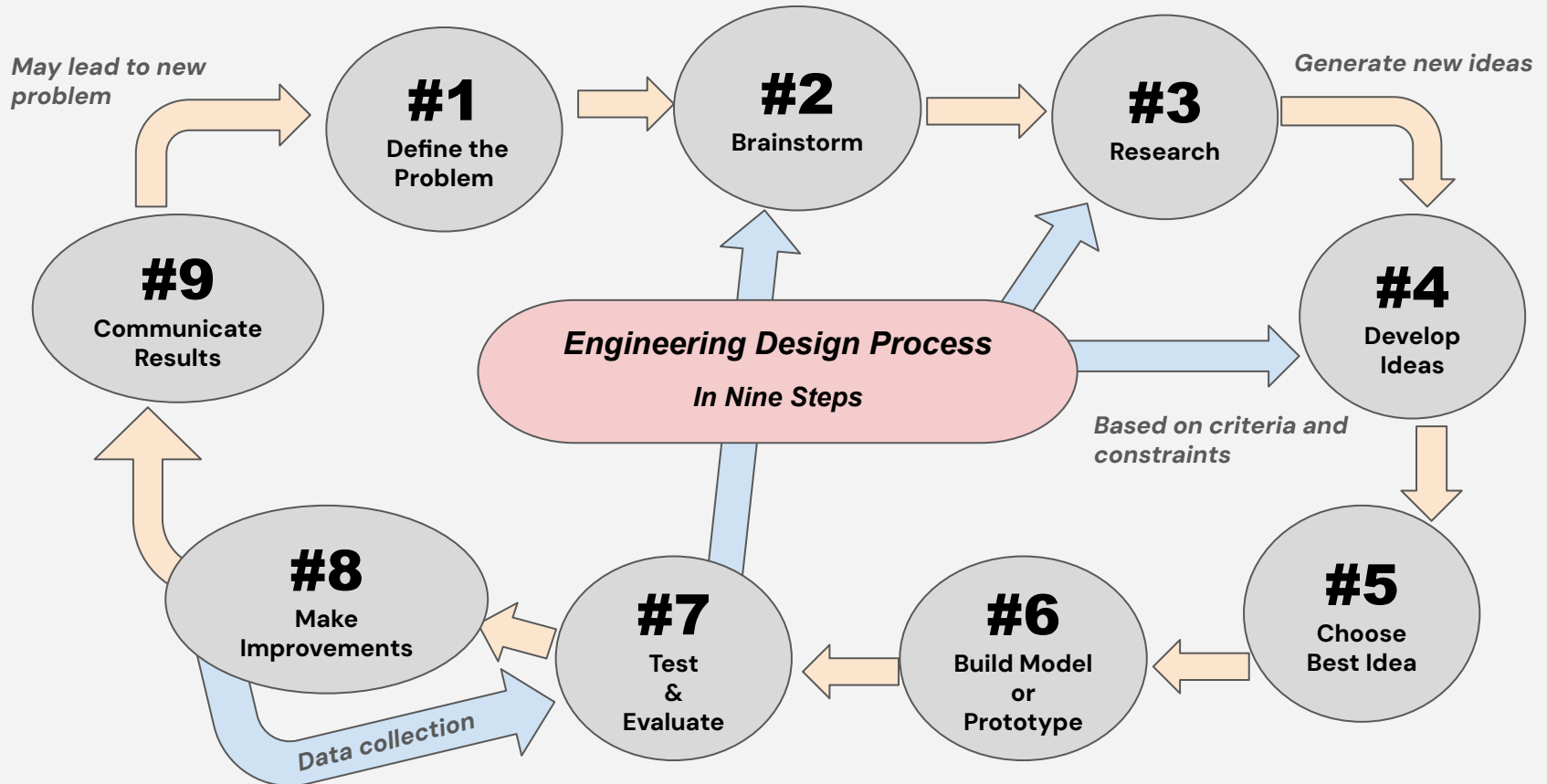


Architects and VEX IQ competition

Making robots and Architects, they both use the engineering design process. However, architectural design is not that simple. Architects have to consider many things when designing building such as environmental effects, beauty of the building, technologies, human and so many other factors. We can guess that is more complicated than building a robot in Vex IQ. Making robot is logic and technology while architects think about harmony of everything. It's not just building but it's also an art.



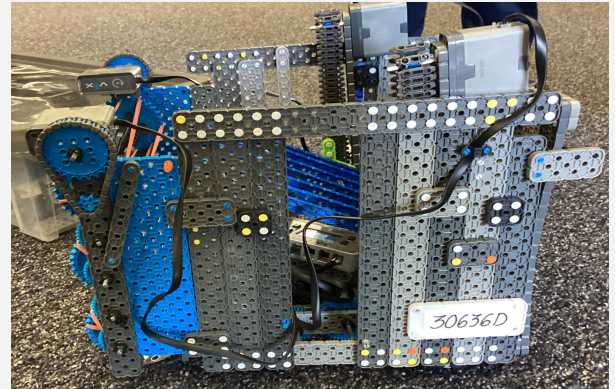
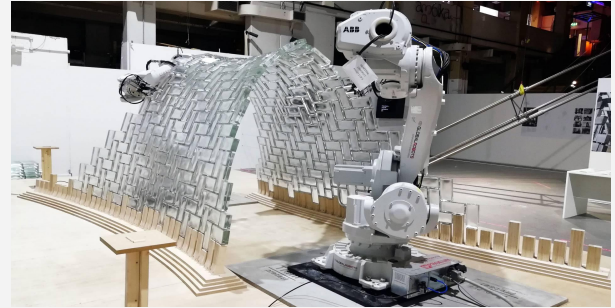
Our team use 9 steps Engineering Process to build the robot.



Can a robot replace *Architects*?

We are thinking that the robots might help an architect to design buildings. But we are doubt that a robot can replace an architect. Of course, in construction field, robots can be a big help to finish more quickly, efficiently and safely. But, designing a building is more complicated and *architects cannot be replaced by a robot*. Not very soon, but someday in the future.

Wait! We are working on it!



VEX IQ Robotics and a future career

VEX competitions are a good way to help students develop the skills like communication, teamwork, and time-management in a fun way. Additionally, all kids are very creative and are problem solvers. In VEX competitions, Kids use these skills and capitalize on the motivational effects of competitions. These skills can help them get jobs in the future and collaborate with their co-workers to solve problem. Robotics help students create an opportunity for future careers.



Credits

- <https://www.projectmanager.com/blog/architectural-design-process#:~:text=The%20architectural%20design%20process%20is%20made%20up%20of%20seven%20phases,deliverables%20and%20deadlines%20in%20place>
- <https://ivdesigninteriors.com/interior-design-process/>
- <https://cariwilliamzvex.weebly.com/engineering-design-process.html>
- <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKewiLuLiRg-ODAxVHLkQIHUuCAe4QFnoECCAQAQ&url=https%3A%2F%2Fwww.vexforum.com%2Ft%2Fnew-robot-designs-for-vex-iq-rise-above%2F84847%2F40&usg=AOvVawImed-zo9fTaYmP8h26-1Bg&opi=89978449>
- <http://asmaqureshi.blogspot.com/2016/07/drawing-of-famous-buildings.html>
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- https://en.wikipedia.org/wiki/Empire_State_Building
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- https://www.reddit.com/r/StructuralEngineering/comments/13f77ud/wind_load_diagram_and_other_drawings_of_the/?rdt=47899