TJ Augustine
MI 462
Dr. Pursell
7 December, 2021

Starting off with design thinking, it is the process of getting everyone together that is involved in a project and discussing the problems that they are trying to solve, and come up with an innovative solution to the problem.The main steps are as follows. Identify the problem, figure out the first strategy to solve the problem, then find other approaches to solve the problem if the first strategy does not work. A good example is supply and demand for bulletproof vests. Him and the woman looked at the supply and demand problem, came up with a possible cause for demand (mass shootings), then dug deeper to discuss variables to possibly predict shootings. They are insanely hard to predict, but it is a start. Design thinking is just the start of the process to get things done. One of the biggest things that surprised me was that more often than not, design thinking fails. Also when meeting for one task, it is quite possible to come up with a totally different objective, For example a fleet of trucks for a company. The company can go in looking for a way to try to save money on air filters, and they can leave trying to investigate fraud from vehicle maintenance companies.

The basic idea of a feedback loop is being able to tell an algorithm whether a decision is a good or bad decision. One good example is the ‘Facebook model’ where users are able to give a thumbs up or thumbs down to a feature or something else, and if they give a thumbs down, they have the option to explain their rating. These explanations are then reviewed by someone, so that whatever feature is being reviewed is improved. Being someone who has worked retail stocking for multiple years, feedback loops to determine when something needs to be restocked is something that can really be beneficial for stores. The user can set a slider to determine how big of a hole on the shelf there needs to be before being alerted. I assume this is what Marty the robot from Giant does when it rolls through aisles. It most likely alerts the stock system when something needs to be replenished based on the decision in the original feedback loop given to the user. The user becomes a “human bug catcher” to see what works and what doesn’t and adjust accordingly.

MLOps is machine learning operations. This is basically the solution or algorithm to solve the problem. Different companies have different ways to solve things using MLOps. One good example was the airline prices at the start of the pandemic. Some places were selling tickets for crazy cheap prices since there was little demand, some were selling for crazy expensive prices to try to recoup the lost money. It comes down to how the company designed the MLOps algorithm back in the design thinking phase. One good idea is having alerts when data starts to get really skewed, so that a human can help fix any problems, which is really important in the current Covid climate.

Design thinking, feedback loops, and MLOps all relate to each other as steps in a process. The first step is design thinking to plan out the project. The MLOps come in to be the actual algorithm that runs the project. Lastly feedback loops can come in at different points to connect a user to the project to be able to adjust to any changes. The user then can go back and adjust the MLOps solution based on the information from feedback loops.