In exploring the topic of education, we discovered many issues pertaining to the topic. There were systemic problems prevalent in the education system, many of which are political and could not easily be addressed in a simple design solution. We found that the overarching problem in education was the lack of student engagement in large auditorium-style seating. Due to the large distance between the students and the professor, it was difficult for students to feel engaged during class. Many students also felt that due to the way the material was presented, it was difficult for them to find interest in the topic because the presentation was lacking in interactivity. Peer-to-peer interactions were limited due to the style of how lectures are taught, so we decided to come up with a design solution that would attempt to rectify the main issue of the lack of student engagement.

When we began gathering data on the topic of education, we observed students on campus in lecture halls and study areas. During our observations, we noticed that students were easily distracted by their friends, social media, and games on their laptops. This was a consistent issue throughout all the observations done by our group, but we had not decided to take on this issue yet. After the interview phase, where we interviewed students on campus, we began to see that the students themselves also saw their lack of engagement to be an issue. To further solidify our decision to pursue the issue of student engagement we did collages and cultural probes to highlight the views of students on engagement during class in an abstract way. Through the process of gathering data, we concluded that the issue of student engagement was an issue we needed and wanted to address.

The next step we took was to create an affinity diagram to try and figure out in what direction we wanted to tackle in addressing student engagement. Through the affinity diagram, we were able to narrow down the issue and discovered that we would like to focus on student engagement in the classroom by incorporating interactive ways in which students could stay engaged while the professor is lecturing. However, we were not sure how to approach the issue of an interactive lecture, so we used brainstorming to come up with different ideas that could possibly address our problem. After several brainstorming sessions, we were able to flesh out a solution that incorporated several of the different ideas we had into a unified system. With storyboards, we created possible scenarios involving our system and decided which features worked best and which would be best to leave out.

Once we developed a clear design path, we began working on a prototype of our system. This process was more challenging than we had expected because we needed to design the flow of user interaction. We wanted our system to be simple to use while offering the user various features. After completing our first prototype, we tested it using cognitive walkthroughs, heuristic evaluations, and Think Aloud session where users evaluated it. Through these evaluations, we discovered a few flaws in our system but gained a considerable amount of knowledge on what was and was not important to have in a user-centered design system. If we were to continue on with the project further, we would enact the changes in our system discovered through the evaluations, and test with users once again. The prototyping phase taught us the importance of user testing and how users often have different perspectives of how things work then we ourselves do.

In conclusion, our design solution emcompasses an interactive learning system which allows students to give feedback to the professor in real-time, regardless of their seating location in the classroom. Students are allowed to comment, question, and like sections of the lecture notes, as the lecture notes are available for viewing on the student interface. Professors will have their own interface where they can see what students have asked, commented on, and liked in order to have a better idea of how students approach problems as well as which sections they found most interesting. For the kinesthetic learners, we have an augmented reality gaming interface which helps students learn through actions while practicing hand-eye coordination and encouraged peer-to-peer interactions. During the design process, we followed through each phase. The empathize phase included our observations and interviews, define phase was where we developed our problem statement through the use of affinity diagrams and others, ideate phase was prevalently brainstorming, prototyping was when we created our prototype using Balsamiq, and during testing phase we used the THINK ALOUD sessions, heuristic evaluations, and cognitive walkthroughs to get feedback from users to better our design solution.