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Assignment 8

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Hypothesis

The goal of our prototype is to test the children's interaction with the Kinect. The kids will use the Kinect to control a character on the screen to stop a soccer ball. They will stop the soccer ball by moving to the correct coordinates on the screen. I believe that this game-like interface will help the kids learn a lot about coordinate systems. From our first two trips to the school our group gained a lot of knowledge about the skills and interests of the students. They have a great interest in both sports and video games, and our prototype has aspects of both of those. The device is not just a sports video game, but a teaching device. The kids will have to figure out what coordinates to go to in order to do well in the game, and cannot just keep guessing. This will force the kids to learn the coordinate system and they will have fun doing so.

Ethnography

The third trip to the school was very successful and greatly reinforced our goals and hypothesis. Our prototype consisted of an Xbox Kinect and a computer program to use the Kinect. The program took the image of the player and put them in front of a soccer goal, similar to a green screen. A coordinate system was laid over the goal and the kids would have to move their hands to the correct coordinates. For the prototype, a point was called out by one of our group members and once the player moved to the correct spot on the screen we would confirm whether or not they were correct.

The students were very engaged in our prototype and enjoyed finding the correct coordinates on the screen. In each group, the biggest problem that we encountered was getting the students to take turns with our prototype. Our program worked very well with one student at a time, but once more than one student was in the field of view of the Kinect, the program did not work as well. With too many people on the screen it was hard to see the coordinates and the Kinect would also get confused. However, when the kids did take turns, they were able to choose the correct coordinates and had a lot of fun learning the math behind it.

The students were also able to show some teamwork during the gameplay. If the student playing the game was having trouble getting the correct coordinates, the other students would either jump into the picture and help the player, or they would verbally help out, shouting out directions such as left, right, up, or down.

Besides the Soccer game, we used the opportunity to ask the kids a couple of questions and test other aspects of the final design. We had a couple more Kinect programs to test out, and we let the kids play around with those as well. One of the programs was a user interface similar to Kinect sports. This

just tracked the player's hand and allowed them to select things on the screen by hovering over a selection. This was being tested as a possible interface for the title menu for our game. The kids responded well to this but got bored with it rather quickly. It was just a simple interface with information that wasn't very interesting to the students. However, we did learn that kids were able to use it very well and the one problem with it was the time it took to click on something once they hovered over it. This problem can be easily fixed by simply altering the hover time.

The other program that we tested was a program to control a character on the screen. The kids had a lot of fun with this program, making the character dance and do goofy poses. Again, it was difficult to get the students to take turns with this program and when a couple kids were in view at a time, the program could not determine who the actual player was.

Overall, these three programs tested very well and we learned a lot about how the students could learn from our device. The majority of the kids enjoyed the sports themed game and also liked the idea of having a character to control instead of themselves. There were many different suggestions on what sports they would want as the base for the game and what kinds of characters to control. Because of the wide variety of opinions, we would like to make the final prototype very customizable. For instance, the base for the game could be one of a few options. The kids could choose from a couple different games, such as soccer, football, or basketball (these three were the most commonly suggested). We would also give the player the option of whom or what represents them on the screen. We would create many different characters for the kids to choose from as well as give them the option of playing as themselves.

Because the kids had a hard time taking turns with our prototype, we might consider taking that into account for the final game design. We might incorporate teamwork into the game or have the options for more players at once. This way more of the students could be involved at once without confusing the program.

The kids were able to learn a lot from our prototype and could be able to learn even more from the final game. The Kinect was a success and if we make the game fun for the kids to play, they will learn even more because they will be very engaged. While we were testing, a math teacher at the school came in to see how things were going. He saw our game and was very impressed. He expressed a lot of interest in it and was excited to have it as a project. He said that he has been looking for something like this to help teach the kids and was very confident that it would get the kids into math, and engaged with the lesson.