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Project Ideas Brainstorming  
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## Introduction

I have narrowed my project brainstorming to two ideas. One of which is geared towards augmented reality, and the other is strictly virtual reality. I've always had a considerable interest in the fields of health and fitness. With this project, if my ideas are chosen by the group, I feel that it could become a viable and useful product in these fields. My first idea is essentially an augmented reality glasses, similar to google glass, used to assist people with their workouts. The other is a virtual reality based anatomy lesson.

## Details

### Workout glasses

The work out glasses are glasses that read in a collection of user data from someone's workout and relay that data real time to the person wearing them. I plan to couple these with a Kinect and a series of wearable sensors on the user's body. The Kinect's sole propose is to watch the users form while they go through a normal workout and tell the user if their form is correct. One of the biggest factors in injury through exercise is incorrect form, so if you can correct a user's form while they are performing their movements, you can theoretically cut down on this significantly. The wearable sensors are attached to the user's body and collect a series of measurements. Possibilities for this include: a heart rate sensor, a CO2 sensor, and a controllable timer. The point of displaying the information received from these sensors on the glass is that it allows a user to optimize their workout. With this they can receive real time data on their bodies and use this information to know the correct times for rest and recover among other things. This idea would aid in the education of fitness in both knowing the correct form of an exercise and how to correctly regiment your workout program.

### Anatomy Class

My second idea is what I like to describe as an interactive anatomy class. When learning about the human body, one of the biggest difficulties I had was imagining how small body parts textbooks were referring to were connected with the larger image of the human body. Once you get to minutia of anatomy, it can be hard to visualize where these things are located. This brings in my second idea, a fully interactive 3-D rendering of the human body that someone can travel through and learn about. I want the user to be fully immersed in a virtual reality headset using something like Oculus Rift or HTC Vive. They will control the 3-D body through some sort of controller. This will be able to rotate, zoom, and go through layers of the 3-D rendered body. This will also allow the user to press a button and learn more about the body part that they're viewing. This in my opinion would be a huge help in the average person's understanding of the

human body. Also, it could theoretically be used as a tool in medical schools to help in the education of human anatomy.

### Final Words

With these two ideas, I hope to use virtual reality or augmented reality to aid in the education of proper fitness techniques and understanding of the human body. The workout glasses at this point seem to be a more realistic idea solely on the basis that I'm not sure if it would be reasonable to create a full 3-D rendering of the human body in one semester. That being said however, if there exist a 3-D rendering, both of these could be viable projects.