Written Response:

2. A.

My innovation of choice, reflected in my artifact, is the innovation of AR, or augmented reality. Augmented reality is the projection of virtual objects into the real world. My artifact has a basic diagram of how AR functions in regards to its basic components. Below the diagram, I include images of existing programs that utilize AR, and descriptions of the programs' practical use of AR. Further below, the artifact show the other practical uses of augmented reality and their different real-world applications (recreation, business etc.).

2. B.

I used the application Google Drawings to create my artifact. For my diagram showing the precise operative function, I used pictures of parts of an IPhone to illustrate the different processes that are involved in successful AR. To show the process of gleaning data in regards the surroundings, I used a photo of an IPhone camera at the far left of the artifact. Just to the right of the camera photo, I have a photo of an Apple 11 central processor. Here, this represents any processor designed to use camera data for AR programs. To the right of the image of the processor, there is a picture of a disassembled iPhone screen. This image is meant to represent the display on which the completed AR image is shown. Below, I show the real world applications of AR by displaying a screenshots of programs that utilize AR (Pokémon Go, etc.) accompanied by text (with color contrasting the background) Below that, I include two charts displaying the market trends surrounding AR technologies. The chart to the left shows real world statistics and market projections on the different markets that use AR. The chart to the left

displays the popularity and projected popularity of the different versions of AR-based applications.

2. C.

Although the exact date that augmented reality software was created is unknown, the term “augmented reality” was coined in the 1990’s. Since then, the popularity of AR software applications has increased dramatically. The wild popularity of Pokemon GO in 2016 can attest to the fact that AR can greatly augment an app’s immersion. An increased feeling of immersion is one of the factors that propelled the popularity of Pokemon GO. (How else could more than nine million people be convinced to get off their butts and walk around to find digital monsters?) The most beneficial effect of this innovation is a heightened feeling of realism of interactions between the virtual and the real world. One potentially negative effect of this innovation is that heightened sense of realism. This virtual realism could cause those who interact with this technology for the purpose of social interaction to lose touch regarding what is real and what is fictitious.

2. D.

AR technology takes the input from a camera, and sends the data to a processor containing the AR software. From there, the software discerns spatial cues from the image. Shadows, vertical lines, right angles and possibly a marked base can serve as spatial cues. Then, the 3D object, whether it be a knight, superhero, alien, or ghost, the AR program is meant to display is superimposed on top of the image and positioned to appear in an upright position. Finally, the completed image is converted into visual data, and that visual data is sent to a display, whether it be a computer monitor or tablet or smart phone screen.

2. E.

1. http://www.augment.com/how-augmented-reality-works/
2. https://www.darfdesign.com/arki.html
3. http://www.ikea.com/ms/en_US/rooms_ideas/splashplanners_new.html
4. https://www.tractica.com/newsroom/press-releases/mobile-augmented-reality-app-downloads-to-reach-1-2-billion-annually-by-2019/
5. https://www.tractica.com/newsroom/press-releases/mobile-augmented-reality-market-to-reach-1-9-billion-unique-monthly-active-users-by-2022-according-to-tractica/