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PSY/CS 484
Project Proposal
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The problem to be solved

The domain of this problem is productivity. The problem itself is the following: what can we do to keep focused on important tasks? The world we live in seems to get more and more distracting by the day. Distracting objects such as our smartphones and computers are constantly around us. We see it especially through Zoom, where students pay less attention to lectures and employees pay less attention in meetings. The amount of sensory information we take in subconsciously and consciously from our environment is astronomical.

Target users

Our app will not require much domain-specific expertise. The target users are anyone who needs to study for an extended period of time, particularly students anywhere from elementary school to college. However, individuals in this audience must have a sufficient understanding of computers to use this product. They must understand how exactly to open and close applications and how to connect an AR-capable VR headset to their computer. We believe there are also applications for this to assist those suffering from ADHD. By blocking out external stimuli in the environment it will allow them and others to focus better on tasks.

Why VR?

Our solution to the posed problem makes use of AR-ready VR headsets in specific. Our solution involves blocking out distracting visual stimuli from the environment entirely. This cannot be accomplished by adding some sort of supplement to the users visual perception. For example, if this were an app running on a regular computer screen, we would not be solving the issue of *removing* distractions. Some sort of mixed reality is suitable, because it essentially allows us to hook into the user's visual system and remove distracting visuals from their perception.

Solution description

Our solution to the posed problem is an MR app that removes distractions from the users real-life environment. This is accomplished by letting the user wear a VR headset to prevent them from "cheating" by looking away from the MR experience. Once the app is launched, the user is allowed to draw a box around the area of their environment they wish to focus on such as a textbook and paper for taking notes. Everything outside of the box is censored by replacing that part of the area with a black screen. The user may also set a timer for when the censoring effect will wear off to signal that they may take a break.

In a perfect world, our idea would utilize computer vision and artificial intelligence techniques to blur out objects like smartphone screens instead of using a black screen. However, acquiring the appropriate training data is too impractical for the timeframe we have for this project.