

Note: This project requires a lot of research before we begin to design and implement, causing our requirements and standards to be very vague at this point in time.

1.1 REQUIREMENTS & CONSTRAINTS

- Functional
 - The exhibit should be interactive
 - The exhibit should be safe to use
- User (Specifications)
 - An exhibit should be constructed to inform the public about one of the 21st-century engineering challenges
- Aesthetic
 - The exhibit should be eye-catching, so someone will come to it without knowing what it is
- User Experience
 - The exhibit should appeal to all ages and levels of experience with engineering
 - The exhibit should be usable with minimal instruction or outside assistance
- Economic
 - \$500 (constraint)
- Environmental
 - Likely to have limited space for the exhibit (constraint)
 - Should use standard power outlets and connections (constraint)

1.2 ENGINEERING STANDARDS

- IEEE 1621-2004
IEEE Standard for User Interface Elements in Power Control of Electronic Devices Employed in Office/Consumer Environments
 - Power control elements should be properly identified and protected to prevent injuries to the user and persons responsible for set-up and maintenance.
- IEEE 1680.1-2018
IEEE Standard for Environmental and Social Responsibility Assessment of Computers and Displays
 - Because our exhibit will be interactive and more than likely use some sort of display, we will want to ensure that we use the computers and displays responsibly.
- IEEE 3079-2020
IEEE Standard for Head-Mounted Display (HMD)-Based Virtual Reality(VR) Sickness Reduction Technology
 - We are strongly considering using VR. This standard outlines Content design for VR sickness reduction and how to assess sickness related to the VR content.
- IEEE 610.2-1987
IEEE Standard Glossary of Computer Applications Terminology
 - Because we will probably be talking about AI and other applications related to reverse engineering the brain, we will want to make sure our terms relate to the standard glossary.