**Objective**

With remote viewing and virtual reality being limited in their functionalities and market, Orient aims to expand these markets and interlink them together. By combining the two markets, the market we have created is immersive remote viewing systems with our user base focused on USAR

**System 1:**
VR headset which contains a phone used to provide the immersive viewing environment with our custom application and control the movements of system 2 by the user’s head movements

**System 2:**
Viewing platform which contains the camera, pan/tilt platform, and live streaming circuit board that will provided the viewing environment for system 1

**Introduction**
Optimize two systems to work in parallel to offer immersive remote viewing with the use of a VR environment

**System Design**
6-layer board design based on the BeagleBone Black v3
Second USB connector was added; accommodated design change from one stereo camera to two mono cameras
Due to time constraints and unforeseen circumstances the board could not be assembled in time

**Setup**

1. Plug in Power
2. ssh into Orient (user +Pw)
3. Run “python 4Expo.py”
4. ********************************
5. Install OrientExpo from Playstore
6. Launch App + Play
7. Start to move around!
8. Quit App + Power Off Orient!

**How It Works**

**Flow & Block Diagrams**

1. Phone
2. Gstreamer
3. Overall Process
4. Secure Shell Interface
5. Application Interface
6. Custom PCB
7. Pipeline Flow Diagram
8. Setup

**Conclusion**
Our initial goals were ambitious, resulting in a refocusing of the project to act as developing a prototype for our future entrepreneurial endeavors. From this prototype we gained various skills and realized the possibility of a functioning product. With continued development of features and capabilities, we see our product being highly marketable

**Results**

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