To explain the problem statement briefly, consider a real-life scenario. A person configured the orientation and volume levels of my sound system to get perfect surround sound at some position where he usually sit. However, he wants to change his sitting position or even arrangement to some other part of room which can be far right or left or may be forward or backward from the last sitting arrangement. In this case, to get perfect surround sound, he will need to reconfigure speakers again (their orientation and volume levels) as per the new seating position, either with the assistance of a technician or on his own, which are mostly manual adjustments.

To overcome this scenario, we experimented with a combination of stereo vision and hardware technology which responds to real-time movements of the listener and dynamically adjust the sound pocket. This system uses the OpenCV face detection algorithm and simple geometrical formulae to calculate depths and angles for an individual speaker to introduce dynamically adjusted surround sound. Since the system avoids the heavy usage of hardware, complex algorithms, and machine learning approaches, it can be implemented on low-powered microprocessors and the current processors which are being used by sound systems.