

SIXTH-SENSE DEVICE TO DETECT SURROUNDING ENVIRONMENT USING ULTRASONIC RANGEFINDER

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Abstract: Obliviousness to unfamiliar or hazardous environments create problems for people's safety. It is stated that in the night alone, an average of 39 percent of people in OECD countries feel unsafe. General knowledge of one's surroundings and dangers, limits the threat for accidents. Threats include vehicles, structures, uneven terrain, and suspicious people/animals. We seek to combat this issue by creating a device that generates instantaneous aid to one's awareness of their surroundings. This device utilizes ultrasonic to detect moving and stationary objects, with the option to refine its detection for specific desired hazards. This in turn, gives users mental solace by providing perceived safety. Experimentation will include applying multiple ultrasonic rangefinders on a person, testing the device's capability to operate between two different functions. Sending a narrow/farther distance soundwave to find singular objects far from the user, and a 360-degree short distance soundwave to find multiple nearby objects around the user. With this, a 6th sense of sorts can be simulated for a person. Users would be alerted of different objects near them via a directional vibration generated by the same ultrasonic device. Its effectiveness in detecting objects, large, small, and its precision in high obstacle locations, and detection of moving objects will be tested to see if the device is a viable form of security/6th sense, device to have awareness of your surroundings even when distracted. Therefore increasing any user's safety mentally and physically.

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