ABSTRACT

Human movement monitoring in closed spaces plays a vital role in various contexts such as security and facility management. This final report presents the development of a monitoring device utilizing uRAD radar technology to detect human movement. The device not only detects motion but also determine whether a human is in motion or not.

The uRAD radar system used in this research has been customized to achieve a high level of accuracy in detecting human movements in closed spaces. Data obtained from the radar is processed using custom program to perform motion detection. In situations where the system detects human movement over a specified duration set by the researcher, an alarm system is triggered.

A key feature of this monitoring device is its ability to link human detection data to an alarm system. If the user fails to deactivate the alarm within the predetermined time, it indicates a situation that requires further attention. Information regarding this detection is promptly transmitted to a website accessible in real-time. This enables efficient and responsive monitoring of human movement, allowing for quick action in emergency situations or scenarios requiring corrective measures.

This final assignment details the development process of the human activity monitoring device, including the use of uRAD radar technology, motion classification software, and integration with the alarm system and website. Testing results indicate that the device provides accurate and reliable monitoring in closed spaces. It is anticipated that this device will make a significant contribution to enhancing security and facility management in areas requiring human activity monitoring.

Keywords: Human movement recognition, uRAD radar, motion detection