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

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