Corrosion RADAR device. Purpose and tasks of the device, monitoring of currents in insulated pipes, remote detection, prediction of corrosion.

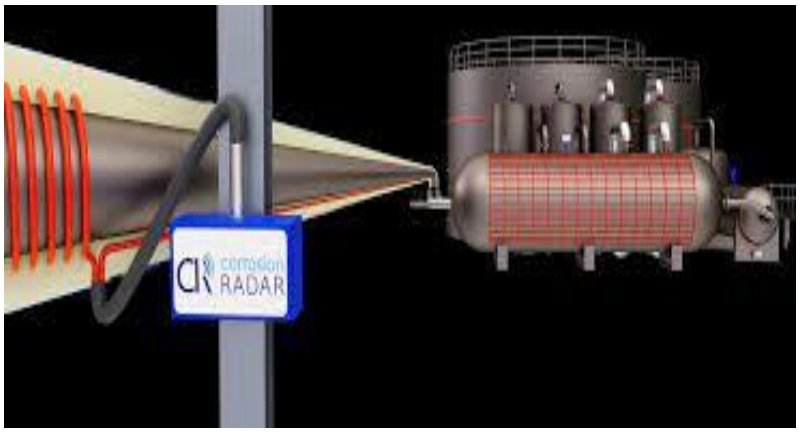

Fig. 1. Corrosion radar technology

The technology uses sensors and artificial intelligence to monitor this corrosion in real-time, enabling early detection and prevention of corrosion seen in industry. Their technology can be used in a variety of industries, including oil and gas, marine, and mining. In addition, the advantage of the device is that it can be used in complex technological devices, including the most complex geometric shapes, and in the hottest (+300 °C) or cold (–190 °C) industrial devices. As a result, based on the reports that will be presented at the installation, it provides the necessary information for the protection of the technological pipelines and the protection of the devices.

Sensor technology: Corrosion RADAR uses non-intrusive wireless sensors that are attached to the surface of the structure or pipeline being monitored. These sensors are designed to detect changes in the electrochemical properties of metal, providing early signs of corrosion.

Real-time monitoring: Sensors continuously collect data on corrosion rate, metal loss and other relevant parameters. This real-time monitoring enables immediate detection of corrosion and enables proactive maintenance and intervention.

Artificial Intelligence (AI): Corrosion RADAR uses artificial intelligence algorithms to analyze data collected by sensors. An artificial intelligence algorithm can identify patterns, identify corrosion hotspots, and predict future corrosion behavior based on historical data. This will help you optimize your maintenance strategy and prevent serious damage.

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УДК 681

SMART SECURITY SYSTEM USING RASPBERRY PI

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Now a day's Detecting burglary and theft is a major security concern in a variety of contexts, ranging from small residences to large industries. The need for cameras is expanding rapidly for theft monitoring, yet these cameras do not provide an alarm when motion is detected. CCTV cameras are expensive due to the incorporation of computer technology in surveillance systems. It allocates too much space for continuous recording and necessitates person to identify unauthorized activity. Hamzah H. Qasim et al. [1] proposes real time monitoring using IoT and SMS. D. Mathew et al. [2] proposes the

Raspberry Pi system is more cost-effective, has superior resolution, and has lower power consumption compared to the previous systems.

In this paper we are using a PIR sensor for motion detection and a Raspberry Pi camera for capturing photographs of intruders. When motion is detected by the PIR sensor in the room, the camera captures an image and saves it temporarily in the Raspberry Pi module. It then sends an email notification to the user with the associated image upon recognizing motion. This system provides an advanced method for detecting theft and is suited for many applications such as bank locker rooms, tiny personal areas, surveillance in homes/offices, and parking entrances. Fig. 1 shows the experimental setup. Fig. 2 shows email notification after motion detected with image of intruder.

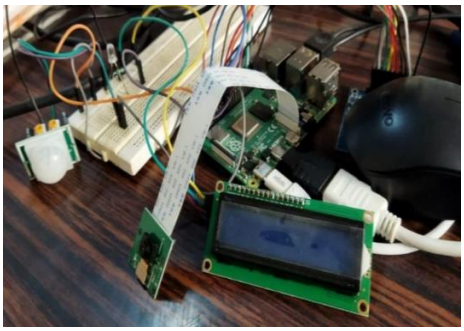

Fig. 1. Experimental Set up

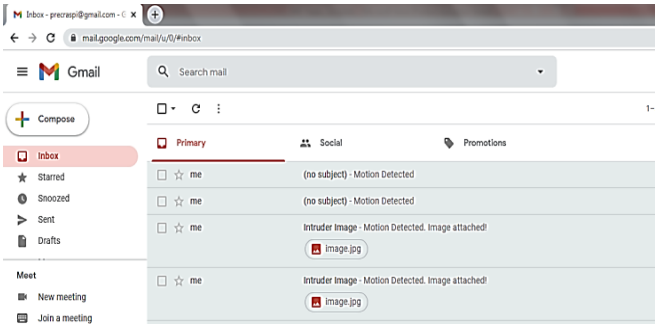

Fig. 2. Email notification with image

Reference

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IoT-BASED WEARABLE DEVICE FOR CONTINUOUS INFANT HEALTH MONITORING WITH AI INTEGRATION

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This paper addresses the global challenge of infant mortality, where nearly 3 million infants succumb to health disorders within their initial month of life. The inability of infants to articulate their distress necessitates continuous monitoring, as traditional periodic check-ups fall short in predicting and preventing potential illnesses.

A significant hurdle in existing wearable infant monitoring systems lies in the accuracy and consistency of health information. Many wearables lack scientific validation, raising concerns about their safety and efficacy in healthcare applications. This paper emphasizes the need for producers to substantiate the safety and efficacy of their products through peer-reviewed scientific research.

The proposed solution involves developing an IoT-enabled wearable device, specifically a wristband, for continuous infant health tracking. This device assigns a Unique Identification Number (UIN) to each infant, ensuring secure access to health data by healthcare professionals and parents through various applications, such as web and mobile interfaces.

Key project objectives include a comprehensive review of existing wearable health monitoring systems, the design and implementation of an intelligent AI & IoT-enabled wristband, the creation of a decision support system for healthcare professionals, and the advancement towards a paperless healthcare system through the development of smart next-generation medical devices.