ABSTRACT

The global population of cats has experienced a drastic increase over the past four decades, leading to various issues in the human living environment. Stray cats that roam freely often cause problems such as indiscriminate littering, plant destruction, and conflicts with humans. In this context, this Capstone Design aims to address the problems associated with cats and the disruptions they create. By integrating technological concepts, the proposed solution is to develop an effective cat deterrent device that is non-harmful to cats, safe for humans, and capable of detecting their presence.

The proposed cat deterrent device combines various functions, including the utilization of sounds or specific frequencies disliked by cats, water sprays to repel cats, and a cat presence detection system through cameras. Additionally, the device can transmit information to a cloud-based system for data processing and monitor the water level in the tank.

Integration testing of the system showed that the cat deterrent device effectively repelled the detected cats. The test results confirmed the device's consistent capability to detect the presence of cats. This demonstrates the effectiveness of the proposed cat deterrent solution in addressing cat-related issues and disturbances in the human living environment. The device is effective in quickly repelling cats, utilizing effective sound waves and water sprays, while achieving a good level of accuracy in detecting cat presence and monitoring water levels. Although certain aspects still require improvements, the test results indicate the potential of this solution to be a safe, humane, and effective approach in mitigating the problems caused by disruptive cats.

Keywords: Cats, cat deterrent device, cat presence detection, water level monitoring.