Customer Requirements

Thermal Imaging and Computer Vision

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Customer Requirements Document (CRD) - Doggy Doo Detector

1. Introduction

The Doggy Doo Detector is a stationary detection device designed to identify objects emitting thermal energy and transmit the data to an external source. This document outlines the customer requirements necessary for project success, focusing on form, fit, and function.

2. Scope

The primary function of the Doggy Doo Detector is to detect objects emitting thermal energy, such as animal waste, within a defined range and transmit the detected data to a user interface. The device does not include onboard power and will be designed for stationary use.

3. Functional Requirements

- The device must detect objects emitting infrared energy within a limited range.
- The detection system will consist of an infrared camera and a computational unit.
- The device must transmit detection data to an external system for processing or display.
- The system must indicate a successful detection event, either visually or via transmitted data.

4. Form and Fit Requirements

- The device must be compact and suitable for stationary placement.
- It must be designed to operate in a specified environment with minimal maintenance.
- The infrared camera and computational unit must be housed to be established as one device.

5. Operational Requirements

- The device must be capable of continuous operation when connected to an external power source.
- The system must function reliably within a close range for effective detection.
- The transmission of detection data must be accurate and timely.

6. Constraints and Exclusions

- The detection system does not require advanced image recognition or classification of detected objects.
- The project will not include mobile or battery-powered versions at this stage.

7. Acceptance Criteria

- The device must successfully detect heat-emitting objects within close range.
- Detection data must be transmitted correctly to an external system.
- The system must be functional when supplied with power and meet reliability standards in a specified setting.
- The design must align with the outlined form, fit, and function criteria.

This document serves as the foundational agreement between the customer and the development team, ensuring alignment on expectations and deliverables for the Doggy Doo Detector project.