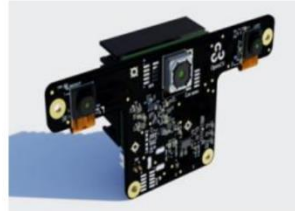


# Thermal Screening System with face recognition and tracking

## Applications

This invention presents a real time thermal screening and monitoring of temperature and image capture of a person entering into the premises for prevention and control of an epidemic. Therefore, this technology has widespread applications in:

- Industries
- Academic Institutions
- Hospitals
- Commercial Offices
- Residential Area
- Public Places



## Inventors

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## Categories of this invention

- ▶ Photonics - Sensors (Detector, Images)
- ▶ Electronic circuits (Semiconductors & Integrated circuits)
- ▶ Computer Science and IT (Artificial Intelligence - Machine Learning)
- ▶ Medical Devices (Diagnostics)

## Intellectual Property

**Thermal Screening system and method**

Applicants - Dr.Pampa Sinha, Dr. Chitrallekha Jena, Mr. Biswaranjan Acharya

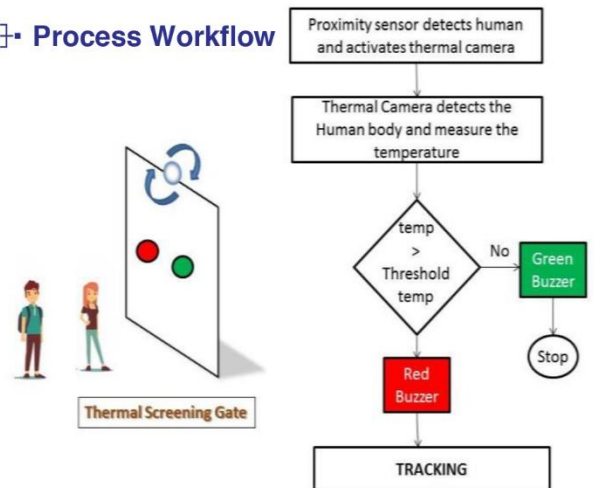
Indian Patent: 369726

## Problem Addressed

Currently, thermal screening devices with manual operations are deployed in several entry gates to detect body temperature of the humans to prevent the spread of disease. However, it is a tedious task to measure temperature for every individual person in a larger crowd. Moreover, it is time-consuming and also requires close contact.

Therefore, there is a need for a device, such as this, for a contactless and efficient thermal screening to automatically measure the temperature of the person from a pre-determined distance and simultaneously collect image data for individual tracking.

## Process Workflow



## Technology

This technology is a complete thermal screening system consists of a proximity sensor, infrared temperature sensors, a microcontroller, 2 notification buzzers, a camera, and a rotatable camera.

- **Proximity sensor** detects the presence of a human to transmit a detection signal.
- **Infrared thermal imager array temperature sensor** measures the temperature of the human on receiving the detection signal.
- **AI programmable microcontroller** transmits a signal by comparing the temperature measured by the IR temperature sensor with a threshold temperature.
- **Camera** captures face images of the human facing the entry gate.
- **Rotatable camera** captures images of human movements passing the entry gate.
- **Red Buzzer** - Person forehead temperature is abnormal and face is not recognized
- **Green Buzzer** - Person forehead temperature is normal and face is recognized.

## Advantages

- **Accurate temperature measurement**
- **Rapid, Non-invasive Screening tool**
- **Face detection**
- **Contactless attendance**
- **Security monitoring**
- **Automated Screening Mode**

## Potential Value

- 1 The market size is estimated to reach 19% CAGR during 2020 and 2026.
- 2 Global demand for surveillance thermal imaging products due to outbreak of COVID-19.

## Reach Us

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