Motivation and Objectives

System Objectives:
Examine triggers for chronic illnesses affected by environmental changes to collect data and feed it back into an app that will track changes in environment, migraines, and look for patterns or correlations.

Motivation:
Migraine headaches are the sixth most disabling disease in the world, affecting more than 1 billion people worldwide. Migraines are just one illness affected by environmental triggers.

Migraine Triggers

Climate changes in temperature and humidity
• Very cold and humid
• Dry and dusty weather
Altitude and pressure changes
Bright or flickering lights
Poor ventilation

Overall System Design

Sensor Design

Light Detection Sensor

Temperature Sensor

Voltage of the TMP35 source changing from 0 to 2 V produces the following output through the comparator

App Design

Light Sensor

Detects the presence of light which changes resistance of the LDR producing the following output response

References