

# E- Thermosensor

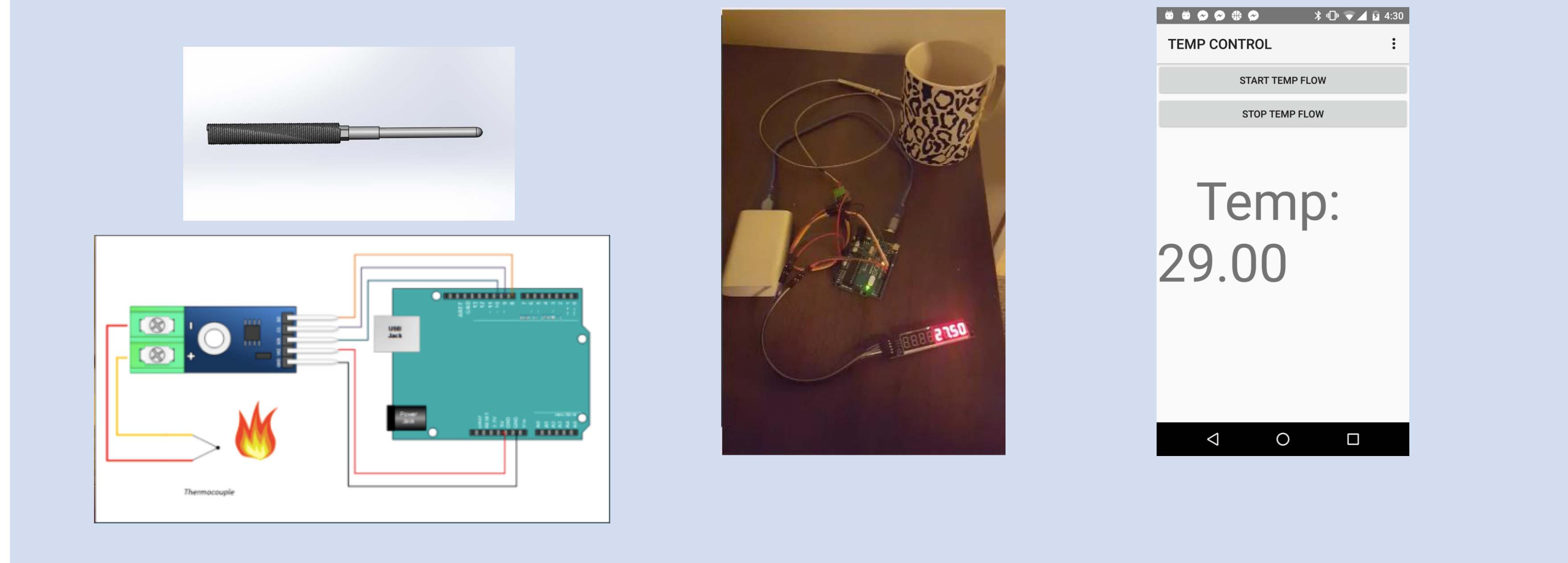
MAE 189 Senior Design Project

Advisor	Team
Professor Yun Wang	KaKui Chan, Dmitriy Gutnik, Erin Ho, Katie Kim, Sohee Oh

## Background / Goal

Our goal is to manufacture a temperature measuring device that can collect data wirelessly and to produce a sensor that can measure temperature and wirelessly transmit real time data to a mobile phone. This sensor will use an integrated technologies of Bluetooth and radio frequency to send data to our mobile app. We aim out product to transmit data within 30 meter diameter from the sensor.

## Innovation



## Budget

Item	Quantity	Cost
Arduino Uno	1	25
Bluetooth Module	1	8
Wireless Transceiver	2	3
Thermocouple Probe	1	5
External Battery Pack	1	15
Casing	1	~50
<b>Total:</b>		<b>~100</b>

## Objective 1

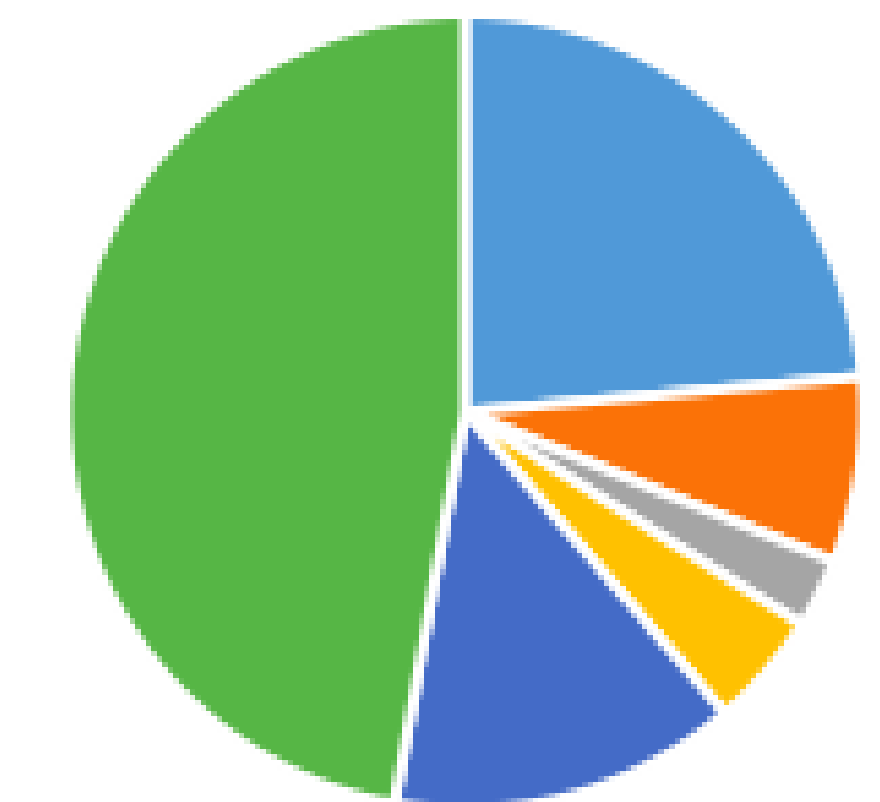
**Model Circuit Diagram and Sensor Casing**  
Using SolidWorks, create a CAD model of the components: temperature probe, casing, Arduino, battery pack and necessary wires. 3-D print the casing to demonstrate the appearance and feel of the product.

## Objective 2

**Develop an App/ User Interface (UI)**  
Create an user-friendly interface that can wireless collect data from a sensor that uses a bluetooth module and a radio frequency module to optimize the quality and accuracy of data.

## Objective 3

**Testing and Analysis**  
Test the accuracy and range of the wireless thermal sensor and compare to design specifications. Analyze the delay in transmitted data and make modifications, if necessary. Design and construct other practical applications of the E-Thermosensor.



■ Arduino ■ Bluetooth Module ■ Wireless Transceiver  
■ Thermocouple Probe ■ External Battery Pack ■ Casing

