

CSC 591/791 Group1 - Homework 2

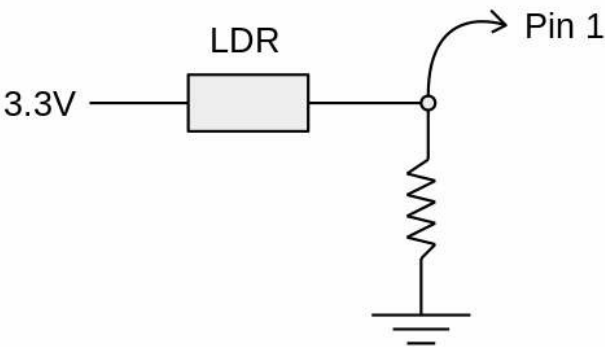
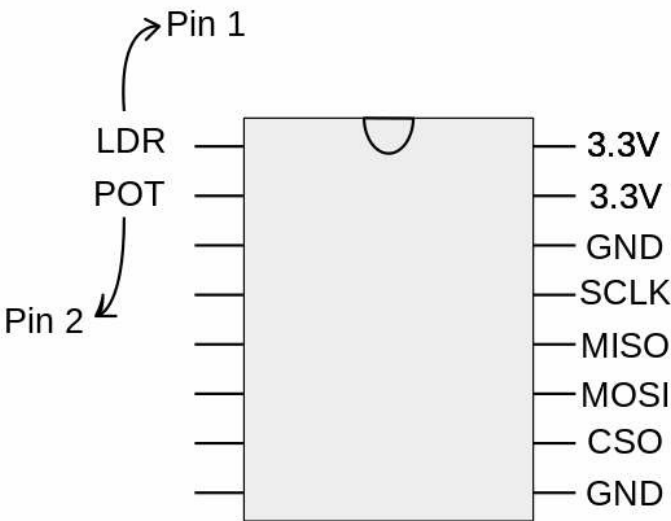
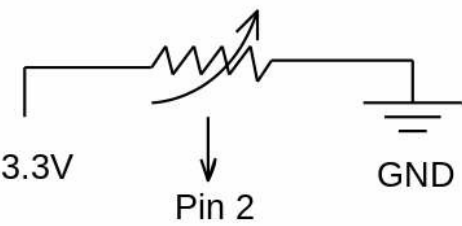
Group Members: Omar Chedid, Anirudh Ganji, Athishay Kiran, Katherine Brown

Group Member Contributions

Member Name	Contribution %
Omar Chedid	25%
Athishay Kiran	25%
Anirudh Ganji	25%
Katherine Brown	25%

Subtasks	Omar Chedid	Athishay Kiran	Anirudh Ganji	Katherine Brown
Project Design	25%	25%	25%	25%
Software Design	40%	20%	20%	20%
Software Exec	40%	20%	20%	20%
S - PiA Client	40%	20%	20%	20%
S - PiB Client	40%	20%	20%	20%
S - PiC Client	40%	20%	20%	20%
S - Broker	25%	25%	25%	25%
Hardware Design	20%	40%	20%	20%
Hardware Exec	20%	30%	30%	20%
Hardware PiA	20%	40%	20%	20%
Hardware PiB	20%	40%	20%	20%
Hardware PiC	20%	40%	20%	20%
Testing	25%	25%	25%	25%
Testing Software	20%	20%	40%	20%
Testing Hardware	20%	20%	40%	20%
Documentation	20%	20%	20%	40%
Schematics	20%	20%	20%	40%

Schematics



Design Choices

- MQTT Broker Choice: We chose to use Mosquitto as our MQTT broker due to its maturity, extensive documentation, and open source availability.
- Installation instructions: On Fedora 27 OS, install MQTT with following commands:

```
sudo dnf install mqtt
```

```
sudo dnf install mosquitto
```

```
sudo dnf install mosquitto-clients
```

To enable the MQTT broker, run the following commands:

```
systemctl enable mosquitto.service
```

```
systemctl start mosquitto.service
```

- The ADC sampling frequency was 100 milliseconds.
- We chose not to scale the values, as we implemented using a threshold value comparison of 50.
- Raw value range from ADC from Potentiometer: 0 - 1024