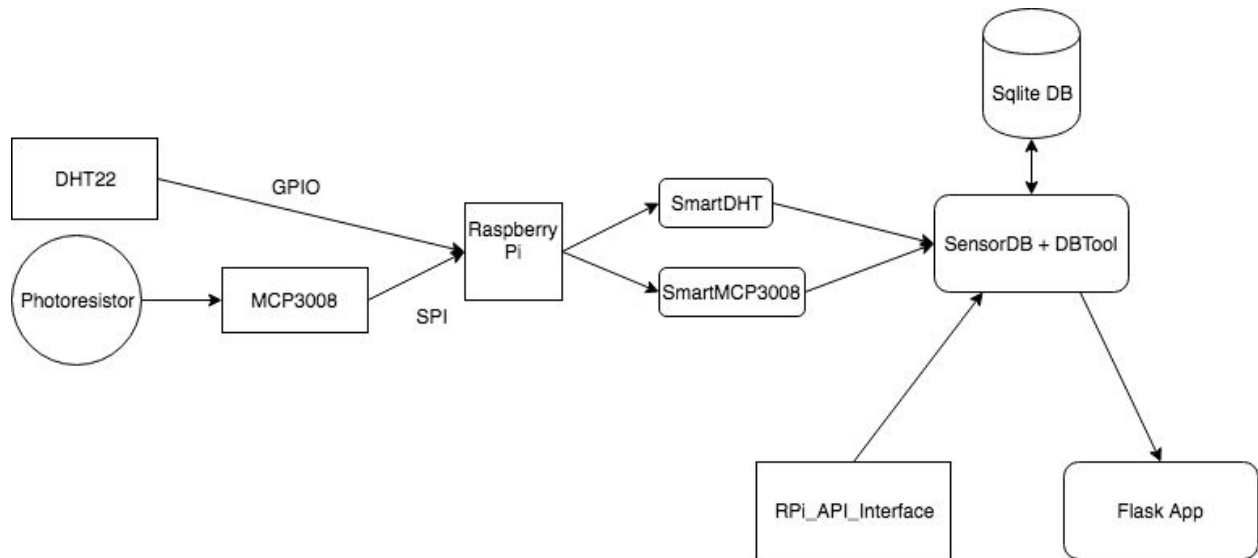


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## ECE 140A Lab 5



- The photoresistor sends an analog signal to the MCP3008.
- The MCP3008 sends a digital signal to the RPi using the SPI interface
- The DHT22 sends a signal to the GPIO pin on the RPi
- SmartDHT and SmartMCP3008 obtain readings from the RPi
- Data obtained from readings are sent to the SensorDB, where data is inserted in a database
- Instead of making RPi\_API\_Interface require the Flask App to add data, we allowed the RPi\_API\_Interface to directly communicate with the SensorDB.
- Flask App handles GUI or REST API of sensor data



Here, we display the sensor data in a way that is focused on the User's context. Instead of simply viewing past data, we chose to display metrics that could help out our persona, futuristic plant grower. By not having any interactions, we keep our UX very usable and seamless. Our minimalist UI/UX design is the outcome of long-term planning and senioritis. We only have one page navigation button.

## Dirt In The Plant

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[Home](#)

| Date                | Temp | Humidity |
|---------------------|------|----------|
| 2018-02-28 22:19:18 | 76   | 24       |
| 2018-02-28 22:21:09 | 76   | 24       |
| 2018-02-28 22:23:03 | 76   | 24       |
| 2018-02-28 22:23:08 | 76   | 24       |
| 2018-02-28 22:23:11 | 76   | 24       |
| 2018-02-28 22:23:13 | 76   | 24       |
| 2018-02-28 22:23:15 | 76   | 24       |
| 2018-02-28 22:23:17 | 76   | 24       |
| 2018-02-28 22:23:19 | 76   | 24       |
| 2018-02-28 22:23:21 | 76   | 24       |
| 2018-02-28 22:23:23 | 76   | 24       |
| 2018-02-28 22:23:28 | 76   | 24       |
| 2018-02-28 22:23:32 | 76   | 25       |
| 2018-02-28 22:23:47 | 76   | 25       |
| 2018-02-28 22:23:49 | 76   | 25       |

| Date                | Light |
|---------------------|-------|
| 2018-02-28 22:19:23 | 896   |
| 2018-02-28 22:21:10 | 823   |
| 2018-02-28 22:23:07 | 823   |
| 2018-02-28 22:23:10 | 825   |
| 2018-02-28 22:23:12 | 823   |
| 2018-02-28 22:23:14 | 825   |
| 2018-02-28 22:23:16 | 823   |
| 2018-02-28 22:23:18 | 821   |
| 2018-02-28 22:23:20 | 790   |
| 2018-02-28 22:23:22 | 790   |
| 2018-02-28 22:23:27 | 790   |
| 2018-02-28 22:23:31 | 789   |
| 2018-02-28 22:23:46 | 790   |

