

Mobile Autonomous Database

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Asana

Purpose: To **organize and manage** all project requirements and equally **assign tasks** to each individual in the group.


Our ranking for Asana is:
3/5



















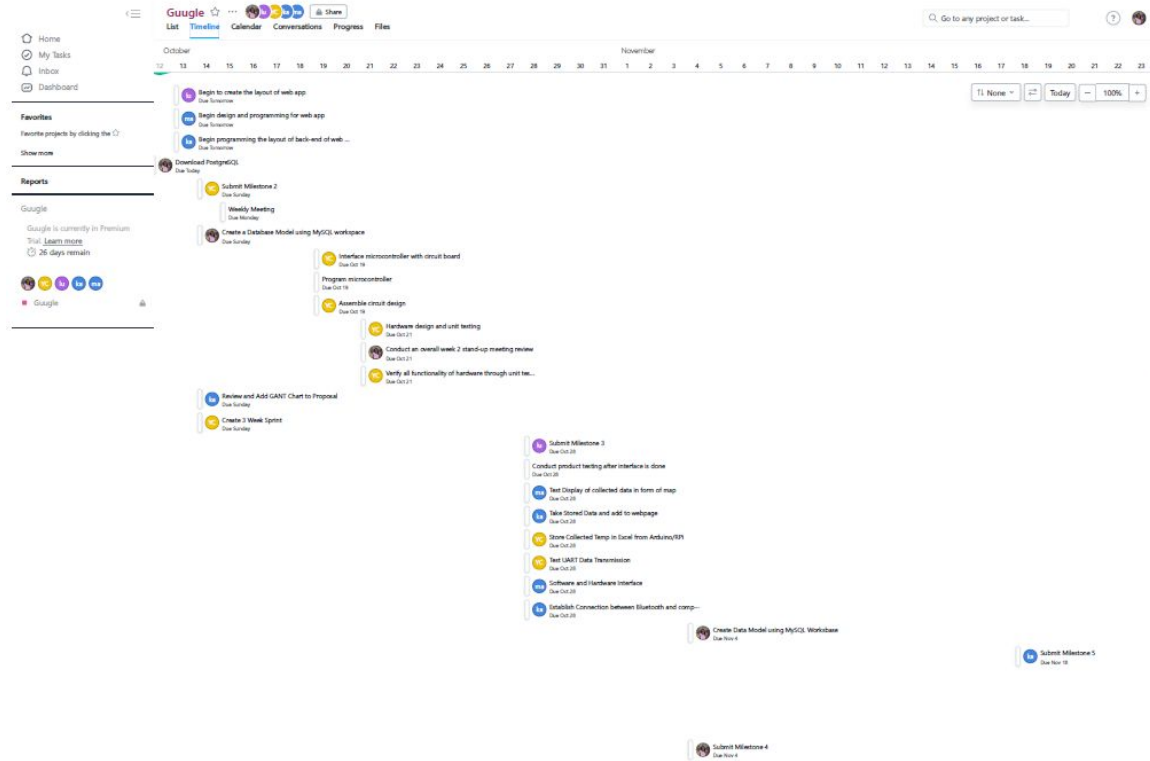
Asana Workflow

3 ☆ ...  Share

Timeline Calendar Conversations Progress Files

[Add Task](#) [Add Section](#) [Add Custom Fields](#) 

| | |
|---|--|
| ✓ Conduct product testing after interface is done | Oct 28 |
| ✓ Hardware design and unit testing | Oct 21  |
| ✓ Assemble circuit design | Oct 19  |
| ✓ Verify all functionality of hardware through unit testing and debugging | Oct 21  |
| ✓ Create the layout of web app |  |
| ✓ Program microcontroller | Oct 19 |
| ✓ Interface microcontroller with circuit board | Oct 19  |
| ✓ Establish Connection between Bluetooth and computer | Oct 28  |
| ✓ Software and Hardware Interface | Oct 28  |
| ✓ Test UART Data Transmission | Oct 28  |
| ✓ Store Collected Temp in Excel from Arduino/RPi | Oct 28  |
| ✓ Take Stored Data and add to webpage | Oct 28  |
| ✓ Test Display of collected data in form of map | Oct 28  |
| ✓ Create Data Model using MySQL Workbase | Nov 4  |
| ✓ Download PostgreSQL | Today  |
| ✓ Weekly Meeting | Today |
| ✓ Submit Milestone 2 | Sunday  |
| ✓ Submit Milestone 3 | Oct 28  |
| ✓ Submit Milestone 4 | Nov 4  |



Slack

Purpose: To **communicate**
efficiently through online
instant messaging

Our ranking for Slack is:
2/5



Github

Purpose: To quickly update and add project components to a repository so that **everyone in the group** is able to download and use each file in real time.

Our ranking for Github is:

5/5



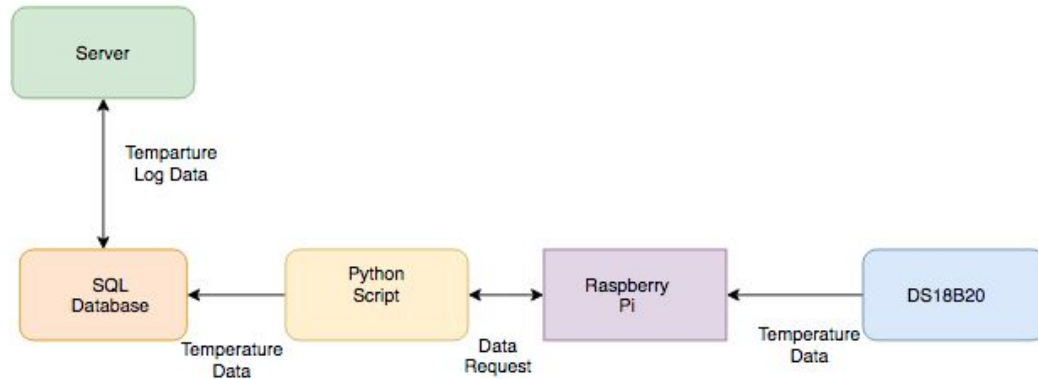
SQLite3

Purpose: **Lightweight** database that is able to run and update on the Raspberry Pi 3 in **real time**.

Our ranking for SQLite3 is:
4/5



SQLite Workflow



| temperature | |
|-------------------------------|-------------|
| id | INT |
| tem perature | VARCHAR(45) |
| timestamp | VARCHAR(45) |
| sessions_id | INT |
| sessions_users_id | INT |
| Indexes | |
| PRIMARY | |
| id_UNIQUE | |
| fk_tem perature_sessions1_idx | |

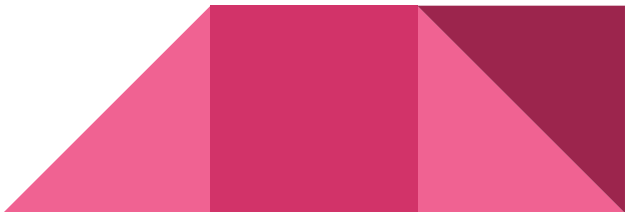
[Travis CI]

Purpose: To conduct **Python unit tests** on specific features of our app and make sure they are working as they should, through **continuous integration**.



Our ranking for Travis CI is:

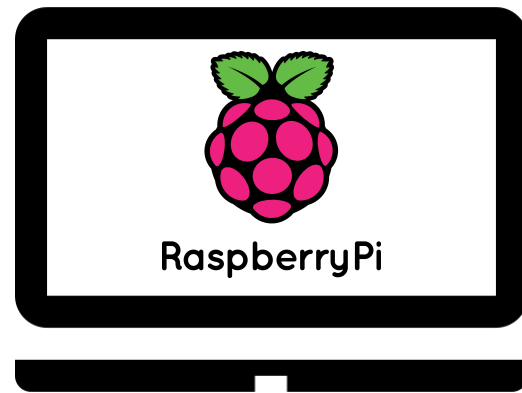
4/5



Development Environment

Purpose: We used a **local environment** on the **Raspberry Pi 3**, which contains the server, the database, and the code to connect to HTML.

Our ranking for the Raspberry Pi environment is:
4/5



Lessons Learned

Compatibility with hardware

- There was an issue where we had to use 3 separate applications to transfer data from hardware to the web app.
 - This issue could have been mitigated by researching what specifications were needed for this project.
 - We ended up using the Raspberry Pi 3, because it has Wi-Fi capability.

Lessons Learned

- Assigning Tasks
 - Know each team member's strengths
- Don't reinvent the wheel
 - APIs and tutorials
- Share your resources with team members
- Communication is Key
- Ask a knowledgeable peer, reduce time-to-prototype

Project Management Method

Agile Management

- We were adaptive with our project development.
- For example, when we had an issue with the Arduino we were able to quickly make the changes needed to get our project back on track.
- Sprints based on each milestone

Project Demo