Sprint: 2

From: 04/22/2024 – 05/03/2024

Team: ERA: Emergency Response Assist

Team Member	Tickets	Points
Jatin Madan	3	12
Vaishnavi Sunil Desai	3	12
Isha Ghiria	2	10
Sharvesh Patki	3	12

Sprint Overview:

Planned		Completed	
Items	**Points**	**Items**	**Points**
11	46	11	46

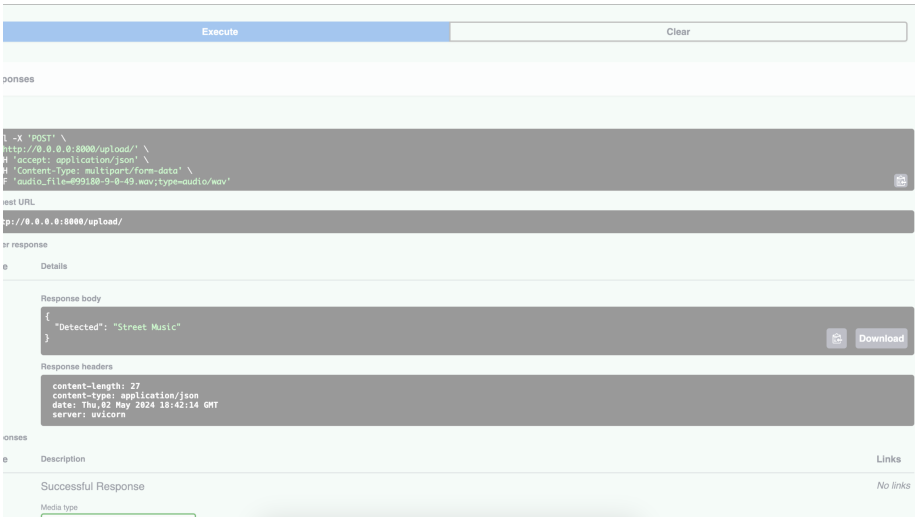
Sprint Retrospective:

- What have you done during this sprint?
    - Jatin Madan
        - Jatin worked on building the Gunshot Detection Model for the ERA System. This model achieved an accuracy of 95%, with a 99.9% accuracy for detecting Gunshots.

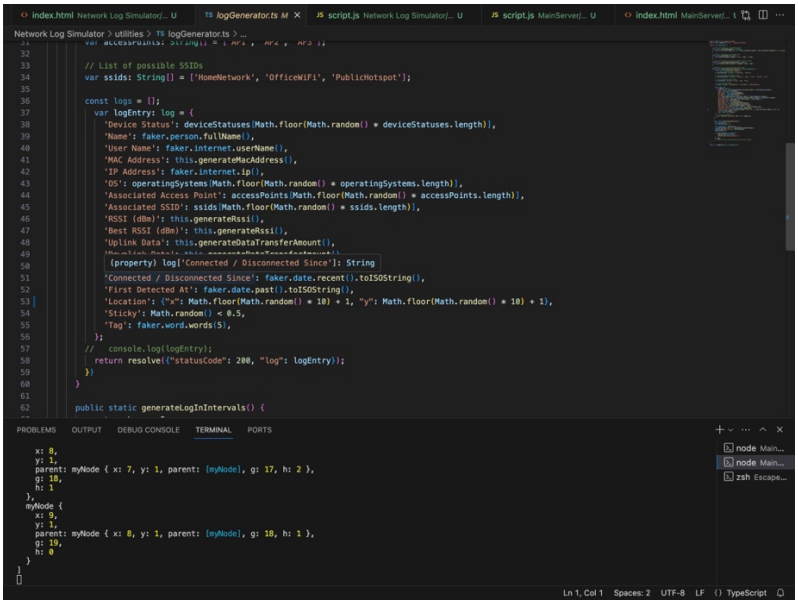
	precision	recall	f1-score	support
Air Conditioner	0.98	0.95	0.96	1317
Car Horn	0.94	0.96	0.95	610
Children Playing	0.93	0.92	0.92	1368
Dog bark	0.93	0.94	0.94	1405
Drilling	0.96	0.96	0.96	1436
Engine Idling	0.96	0.97	0.97	1406
Gun Shot	0.94	0.99	0.97	532
Jackhammer	0.96	0.99	0.97	1421
Siren	0.99	0.96	0.97	1265
Street Music	0.92	0.93	0.92	1429
accuracy			0.95	12189
macro avg	0.95	0.96	0.95	12189
weighted avg	0.95	0.95	0.95	12189

	CLASS	ACCURACY
6	Gun Shot	99.248120
7	Jackhammer	98.592540
5	Engine Idling	97.226174
4	Drilling	96.169916
8	Siren	96.126482
1	Car Horn	95.573770
0	Air Conditioner	94.608960
3	Dog bark	93.807829
9	Street Music	92.512246
2	Children Playing	91.739766

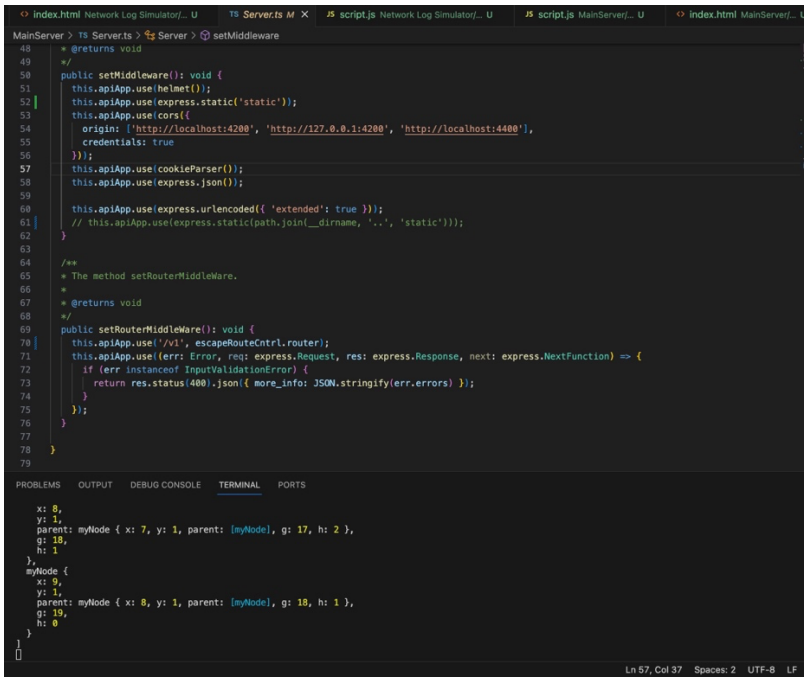
- Jatin also worked on developing an API Endpoint to Deploy and Test the Gunshot Detection Model



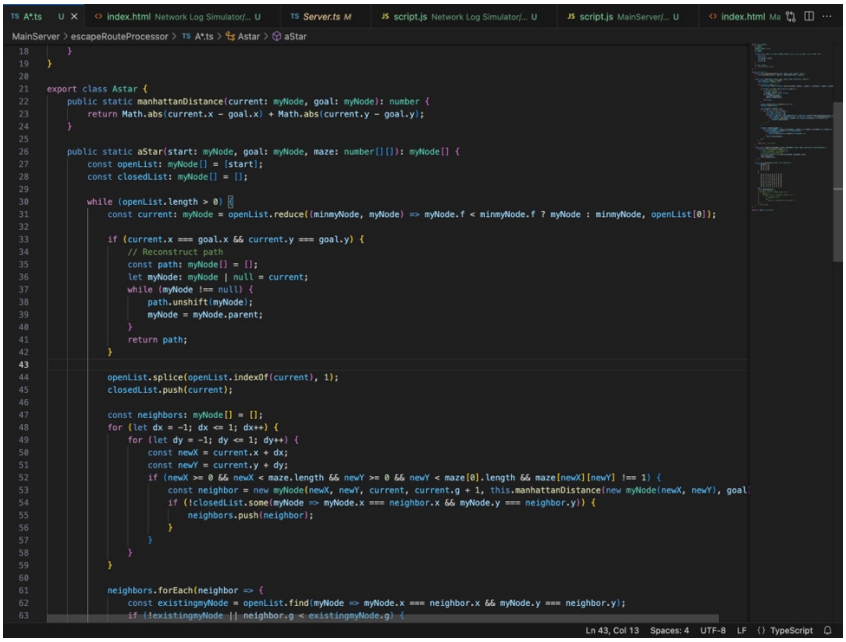
- Isha Ghiria
  - Isha worked on testing and validation of the Gunshot model develop by Jatin, providing feedback on the API as an end user.
  - Isha also worked on developing the backend for streaming live user location a map, to triangulate the user's approximate location for the administrators.



- Vaishnavi Sunil Desai
    - Vaishnavi Worked on establishing a Main ERA Server to work as the integration hub for every module to interface with.

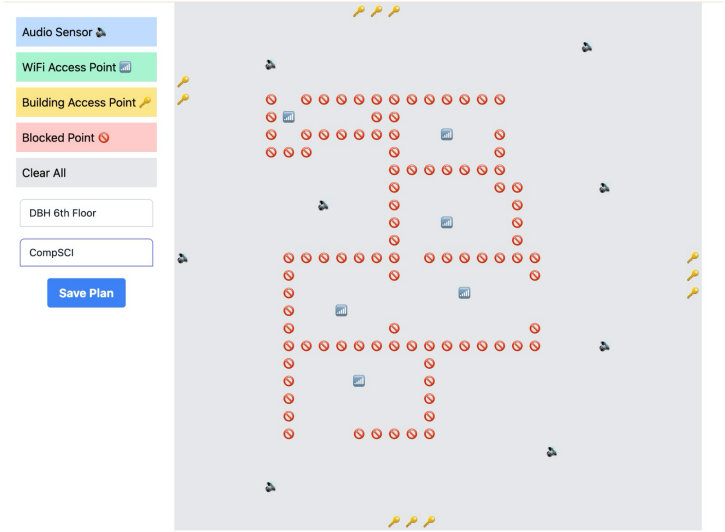


- Vaishnavi also worked on identifying possible Escape Route Detection Algorithms and Developed an algorithm based on her research to identify the safest path.



- Vaishnavi also worked on developing an API endpoint capable of streaming live WIFI access point logs to be consumed by the ERA application in real-time.

- Sharvesh Patki
  - Sharvesh worked on creating the front-end interface for the ERA Floor Plan Input Module, providing an accessible and interactive user interface with options to design any floor plans.



        - Sharvesh worked on creating the front-end interface for the ERA User Tracking Module, providing an accessible interface for administrator view and live user triangulation.

- What went well?
    - Despite, certain issues in task estimation, the team was successfully able to complete all the user stories for this sprint and make considerable progress on building the backbone of the ERA system.
    - The team demonstrated adaptability in responding to changes and adjusting plans as needed to address emerging issues or accommodate new requirements. This flexibility allowed them to maintain progress and keep the sprint on track.
    - The sprint provided opportunities for learning and growth, both individually and as a team. Challenges encountered during the sprint served as valuable learning experiences, helping the team identify areas for improvement and develop new skills.
    - The team applied best practices in agile development, such as conducting regular stand-up meetings, holding retrospectives, and using agile tools effectively. These practices contributed to the overall success of the sprint.

- What didn't go well?
    - Team
        - As some of the team members were working remotely, communication was a little difficult which led to a delay in completion for Front-End Development of User Input Module
        - The Task estimation for User Story 2 (Build a Back End for Streaming Live User Locations on Maps) turned out to be inaccurate, as we went into development for the module, and we had to update our story points to include the updated effort.

- What could/should be improved during the next sprint?
    - As we faced issue with one of the tasks in Task Estimation, we would be working on improving our estimates for the next sprint as they are crucial for better planning and execution. We would be involving the whole team during our sprint goal planning to have inputs on the task estimates.
    - We can divide our user stories into smaller atomic tasks, instead of grouping multiple tasks in one umbrella user story.

Sprint Backlog

ID	Type	Owner	Summary	Status	Estimate
1	User Story	Vaishnavi Desai	Establish the Main Server to interface with all 3 modules	Completed	4
2	User Story	Isha Ghiria	Build a Back End for Streaming Live User Locations on Maps	Completed	6
3	User Story	Sharvesh Patki	Build a Front End for Streaming Live User Locations on Maps	Completed	4
4	User Story	Sharvesh Patki	Build the Front End For Floor Plan Input	Completed	4
5	User Story	Sharvesh Patki	Expose and Endpoint to Consume the WiFi access point logs as a Pub-Sub Model	Completed	4
6	User Story	Vaishnavi Desai	Expose an Endpoint to generate Stream of Access Point Logs	Completed	4
7	User Story	Isha Ghiria	Test and Evaluate the Gunshot Detection Model	Completed	4
8	User Story	Jatin Madan	Build and Deploy Gunshot Detection ML Model API	Completed	4
9	User Story	Jatin Madan	Create an API using the Gun Detection ML Model	Completed	4
10	User Story	Jatin Madan	Create a Simulation Software to generate Network Logs	Completed	4
11	User Story	Vaishnavi Desai	Research on Escape Route Detection Algorithms	Completed	4