

Sprint: 4

From: 05/20/2024 – 05/31/2024

Team: ERA: Emergency Response Assist

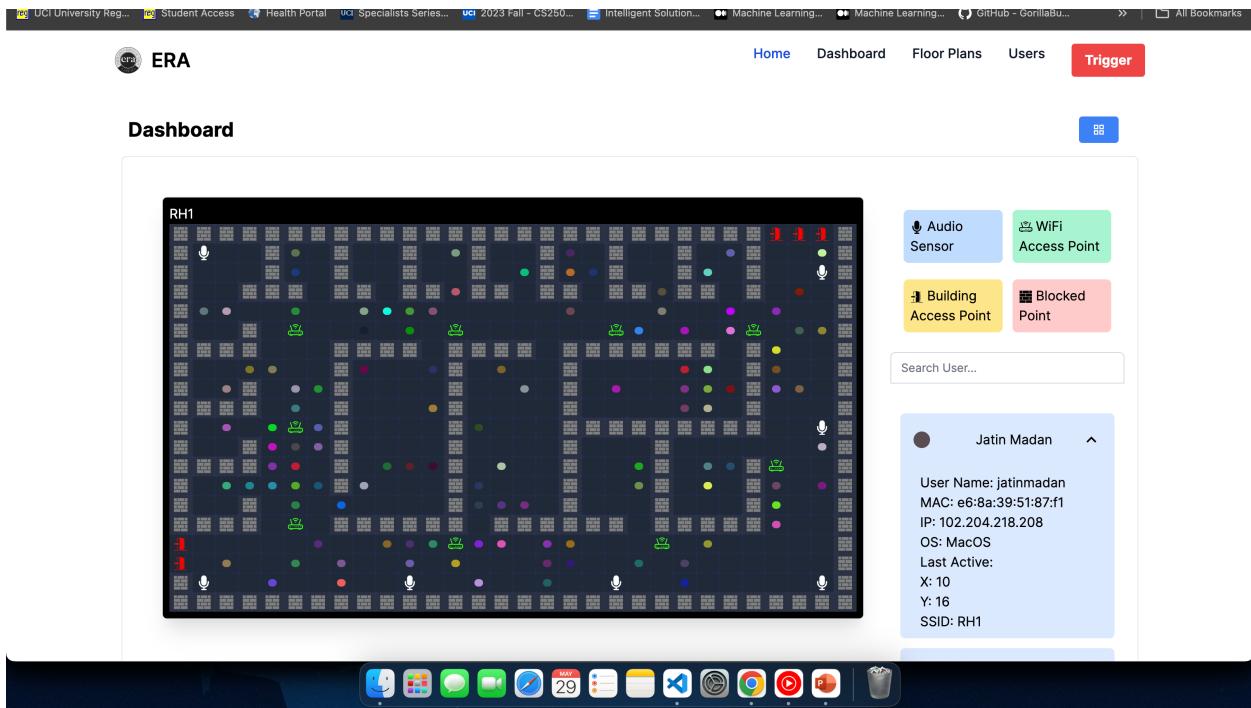
Team Member	Tickets	Points
Jatin Madan	3	12
Vaishnavi Sunil Desai	3	12
Isha Ghiria	3	12
Sharvesh Patki	3	12

Sprint Overview:

Planned		Completed	
Items	Points	Items	Points
12	48	12	48

Sprint Retrospective:

- What have you done during this sprint?
 - Jatin Madan
 - Jatin worked on materializing the UI for the ERA Administrator Dashboard to make it look modern and appealing for users.



- Jatin also worked on integrating the Gunshot Machine Learning API with the Main ERA Server to include capabilities to initiate Triggers on Successful Gunshot Detection.

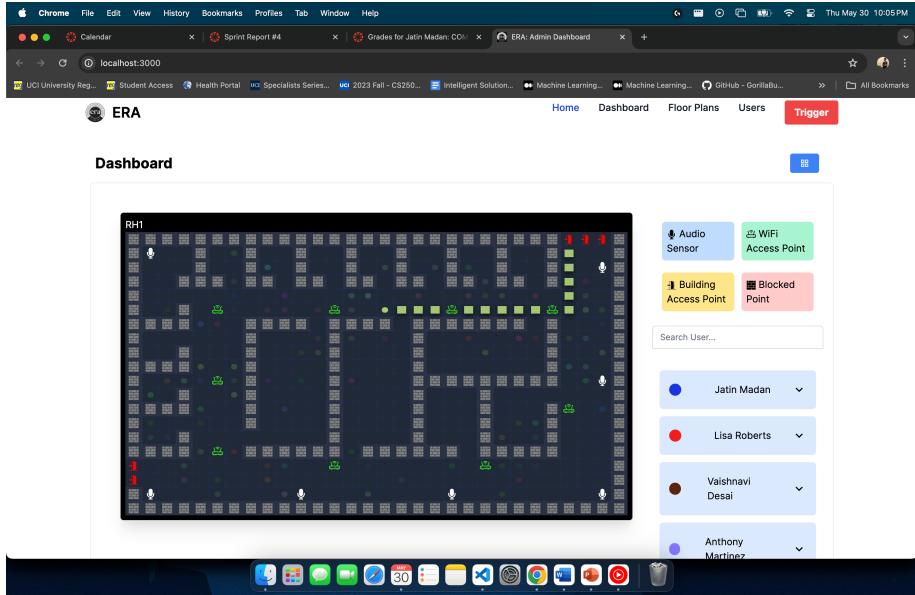
```

    Execute      Clear
    responses
    POST /upload
    Content-Type: multipart/form-data
    audio_file=@93168-9-0-49.wav;type=audio/wav
    test URL
    http://0.0.0.0:8000/upload/
    or response
    e   Details
    Response body
    {
        "Detected": "Street Music"
    }
    Response headers
    content-length: 27
    content-type: application/json
    date: Thu, 02 May 2024 18:42:14 GMT
    server: uvicorn
    responses
    e   Description
    Successful Response
    Media type
    Links
    No links
  
```

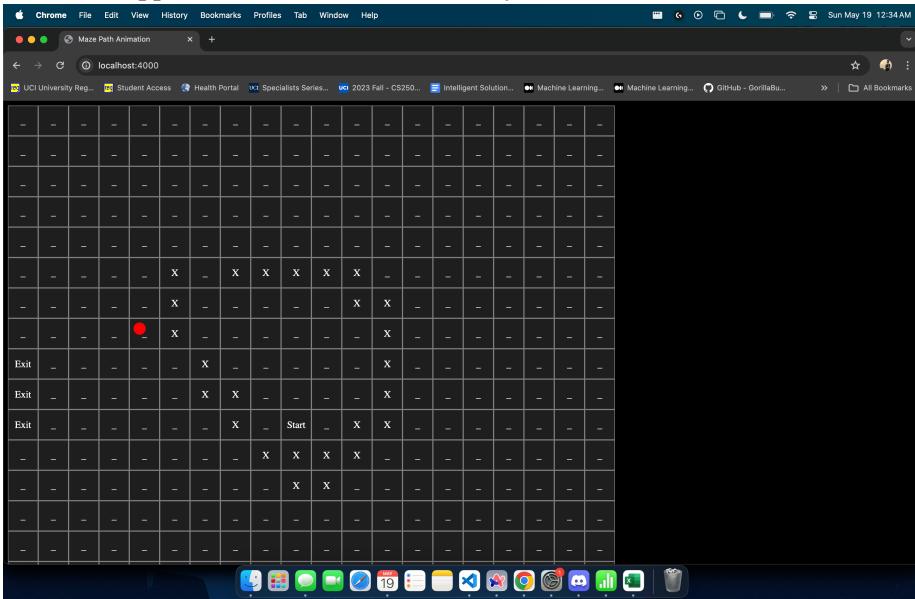
- Jatin also worked on improving the algorithm that would be able to predict and triangulate a user's approximate location in a specified radius.

- Isha Ghiria

- Isha worked on updating the A* algorithm used for escape route planning to include multiple exit points during the search, and bifurcating the users between the different exit points to ensure order during the emergency



- Isha also worked on transforming the Floor Plan Data into Escape Route Algorithm Readable Format. This serves as the basis for the rest of the application to consume and analyze.



- Isha also worked on integrating the API on the Main ERA Server to plan the shortest route to the closest exit point for each user.

```

    5   class Floorplan {
    6     ...
    7     public deletePlanName(name: string, callback: (err: any) => void): void {
    8       ...
    9       const deleteQuery = `DELETE FROM plans WHERE name = ?`;
   10      db.run(deleteQuery, [name], function (err) {
   11        if (err) {
   12          callback(err);
   13        } else {
   14          callback(null);
   15        }
   16      });
   17    }
   18
   19    public transformPlan(plan: PlanRow): number[][] {
   20      let rows: number = plan.height;
   21      let cols: number = plan.width;
   22      var maze: number[][] = new Array(rows);
   23
   24      for (let i = 0; i < rows; i++) {
   25        maze[i] = new Array(cols).fill(0);
   26      }
   27      //blocked / walls
   28      const data = JSON.parse(plan.data.toString());
   29      data.blocked.forEach(point: { x: number; y: number }) => {
   30        maze[point.x][point.y] = 1;
   31      };
   32      //access points
   33      // plan.data.access.forEach(point => {
   34      //   maze[point.x][point.y] = 9;
   35      // });
   36
   37      return maze;
   38    }
   39
   40    public getAccessPoints(plan: PlanRow): myNode[] {
   41      var accessPoints: myNode[] = [];
   42      const data = JSON.parse(plan.data.toString());
   43      data.access.forEach((ap: { x: number; y: number }) => {
   44        const node = new myNode(ap.x, ap.y);
   45        accessPoints.push(node);
   46      });
   47    }
  
```

- Vaishnavi Sunil Desai
 - Vaishnavi worked on materializing and updating the UI Component of Floor Plans Dashboard

The screenshot shows the ERA Admin Dashboard interface. At the top, there's a navigation bar with tabs for Home, Dashboard, Floor Plans, Users, and a red 'Trigger' button. Below the navigation bar are two large, square grid-based floor plan visualizations. The left one is labeled 'RH1' and the right one is labeled 'DBH01'. Both grids contain numerous colored dots (green, blue, red, yellow) representing different nodes or access points. The bottom of the screen features the standard Mac OS X dock with icons for Finder, Mail, Safari, and other applications.

- Vaishnavi also worked on integrating the API on the Main ERA Server responsible for polling data from Network Logs Simulator

```

class LocationProcessorCtrl {
    /**
     * Returns void
     */
    public static setRouterMiddleWare(router: express.Router): void {
        router.route('/userlocation')
            .get(LocationProcessorCtrl.getUserLocation);
    }
}

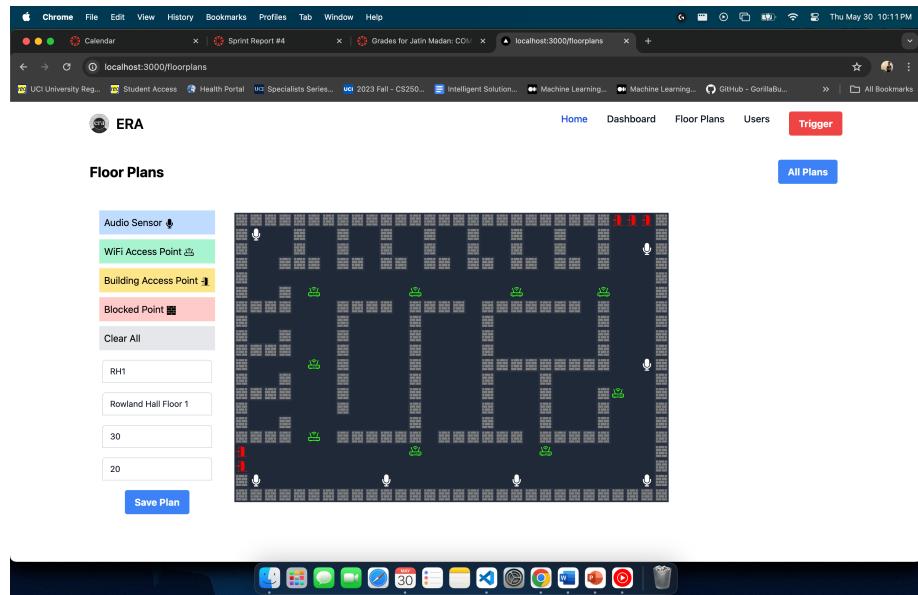
/* The method getStates, undefined */

// ignore req of type express.Request
// ignore res of type express.Response
// returns void
// ignore
public static getUserLocation(req: express.Request, res: express.Response): void {
    console.log('getUserLocation - ', req.url);
    var floorname: string = req.query.name ? req.query.name.toString() : 'DBM286th#8Floor';
    UserLocation.getFloorPlan(floorname).then(floorPlanData => {
        console.log("calling");
        res.setHeader('Content-Type', 'text/plain');
        res.setHeader('Transfer-Encoding', 'chunked');
        UserLocation.getUserLocation(floorname, LocationProcessorCtrl.processUserLocation, res, floorPlanData).then(res => {
            res.end();
        })
            .catch(err => {
                res.write(JSON.stringify(err)) + '\n\n';
                res.end();
            });
    })
}

public static processUserLocation(parsed: any, res: express.Response, floorPlanData: any) {
    // console.log("Parsed Data Chunk: ", parsed);
    var userLocation = UserLocationProcessor.processUserLocation(parsed, floorPlanData);
    res.write(JSON.stringify(userLocation)) + '\n\n';
}

```

- Sharvesh Patki
 - Sharvesh worked on materializing and updating the Input UI Component of ERA Administrator Dashboard



- Sharvesh also worked on materializing and updating the UI Component of ERA User View Module

Name	MAC Address	Operating System	Email
Jatin Madan	e6:8a:39:51:87:f1	MacOS	madanj@uci.edu
Vaishnavi Desai	e4:d3:7a:49:bb:4a	MacOS	desaivs@uci.edu
Betty Reyes	1e:16:2b:88:b4:2c	iOS	bettreyes@gmail.com
Mike Davis	46:49:c4:36:25:01	Windows	mikedavis@gmail.com
Sharon Rodriguez	79:bc:52:39:ca:81	MacOS	sharonrodriguez@gmail.com
Melissa Edwards	a2:84:64:73:09:54	Android	melissaedwards@gmail.com
Angela Roberts	41:e6:28:2e:00:86	MacOS	angelaroberts@gmail.com
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Ryan Brown	37:9e:24:fb:34:74	iOS	ryanbrown@gmail.com
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- 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
 - The Integration task estimation for the modules 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?
 - Divide User Stories into Smaller Atomic Tasks:
 - Break down user stories into smaller, more manageable tasks to ensure each task is clear, specific, and actionable.
 - Avoid grouping multiple tasks under a single, broad user story to improve focus and task management.

- Improve Task Estimation and Involve the Whole Team in Sprint Planning:
 - Address issues encountered with task estimation by refining and improving the accuracy of estimates in the next sprint.
 - Involve the entire team in sprint goal planning to gather diverse inputs and ensure more accurate and realistic task estimates.
 - Foster collaborative planning sessions to enhance team understanding and commitment to sprint goals.

The screenshot shows the Jira software interface for the ERA: Emergency Response project. The main view is the Backlog for EERA Sprint 4, which runs from May 20 to June 29. There are 12 issues listed, all of which are marked as 'DONE'. The tasks are:

- ERA-27 Fix Users showing up on Blocked Points on the Floor
- ERA-28 Materialize and Update the UI for ERA User View Module
- ERA-29 Materialize and Update the UI for ERA Administrator Dashboard Module
- ERA-30 Materialize and Update the UI for ERA User Input Module
- ERA-31 Materialize and Update the UI for ERA Floor Plans Dashboard Module
- ERA-32 Integrate the Gunshot Detection API with the Main Server to analyze audio
- ERA-33 Improve the User Triangulation Algorithm to increase precision
- ERA-34 Update the Escape Route Detection Algorithm to bifurcate the users between access points
- ERA-35 Fix the Floor Plan Conversion between the Different Modules
- ERA-36 Integrate the Shortest Escape Route API with the Main Server
- ERA-37 Integrate the Network Logs Stream Analyzer API with the Main Server
- ERA-38 Integrate the Telegram API for Instant User Communication

The sidebar on the left includes links for Backlog, Board, Calendar, List, Reports, Issues, and Project pages. The bottom of the screen shows the Mac OS X dock with various application icons.

Sprint Backlog

ID	Type	Owner	Summary	Status	Estimate
1	User Story	Vaishnavi Desai	Integrate the Telegram API for Instant User Communication	Completed	4
2	User Story	Vaishnavi Desai	Integrate the Network Logs Stream Analyzer API with the Main Server	Completed	4
3	User Story	Isha Ghiria	Integrate the Shortest Escape Route API with the Main Server	Completed	4
4	User Story	Isha Ghiria	Fix the Floor Plan Conversion between the Different Modules	Completed	4
5	User Story	Isha Ghiria	Update the Escape Route Detection Algorithm to bifurcate the users between access points	Completed	4
6	User Story	Sharvesh Patki	Improve the User Triangulation Algorithm to increase precision	Completed	4
7	User Story	Jatin Madan	Integrate the Gunshot Detection API with the Main Server to analyze audio	Completed	4
8	User Story	Vaishnavi Desai	Materialize and Update the UI for ERA Floor Plans Dashboard Module	Completed	4
9	User Story	Sharvesh Patki	Materialize and Update the UI for ERA User Input Module	Completed	4
10	User Story	Jatin Madan	Materialize and Update the UI for ERA Administrator Dashboard Module	Completed	4
11	User Story	Sharvesh Patki	Materialize and Update the UI for ERA User View Module	Completed	4
12	User Story	Jatin Madan	Fix Users showing up on Blocked Points on the Floor	Completed	4