Weekly Scrum Report
Team I: Will Weidler, Brennen Crawford, Bailey Schoenike, Donovan Bale, Lucas Wiley

Air-to-Ground Search 3/4/25

- What did you do this week?

One thing we focused on was building the initial Blazor environment for our front end GUI. It is now ready to build out with any extra pages needed and has the ability to expand into an external database with an API if needed. At the moment we are just utilizing the web server and keeping all data held locally in the user's filesystem. The Boeing script was added to the codebase, and we have become familiar with how it outputs and displays its information. It has also been edited to export a png as well as the csv file, with the png having a colored pixel for the start and goal point.

Using the Boeing script to generate a map, a drone class was created that can manually navigate the map. Firstly, it's randomly placed in an available tile in the world, then the user is prompted for whether they'd like to go straight, or turn left or right. The drone cannot navigate onto any obstacles.

Began implementation of map reading and metadata parsing. Load the grid world into a csv and return it to the pathfinding handler.

Modified the find_start_coordinate function to include a goal location and included colored pixels for our drone and goal for readability on the map.

- What went well?

The integration of the Blazor environment went very smoothly, as we have had experience setting one up before. It is ready and set up to debug through vscode, so that development can stay focused on one application. The web server is hosted on localhost and runs on port 5000 during development. This will enable us to start building our front-end UI for our project, allowing us to align it with project requirements and goals. This also gives us something to work with when attempting to connect the front-end with whatever backend algorithms we start to develop. The script provided by Boeing was successfully integrated into the codebase, with the creation of an external folder for it and any other files we use that are not our own.

Implementing the basic drone navigation. The drone gets placed in an available space in the world. The drone cannot navigate onto any obstacle space. The drone also cannot navigate off the map. It was also ensured that the drone moves forward, and when turning, turns and then moves forward. The direction the drone is facing is also stored.

- What could be improved?

One major thing that could be improved going forward is finding a good time for all of us to meet together, rather than having a meeting with a few people and filling in those who missed it. This problem stems from the fact that we all have different responsibilities outside of classes, which makes it hard to focus on this class alone for the majority of our time.

We are doing a significantly better job than last week in finding time to meet and work on our project, so I believe it will only continue to improve. As requirements and tasks begin to become more defined, it has become much easier to plan what we need to do in the week, and balance my responsibilities between our organization and this project. We are all getting more

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settled into this semester and are eager to continue to build a good project and showcase our skills.

The pixels corresponding to the start and end point are very difficult to see with how small they are, and we will have to implement something for that if we use the png in the display. Relating to the drone navigation, the map is constantly output to the terminal. This includes the fact that all free spaces are a 0, obstacles are 1, and the drone is represented with a 2. As such, it's a bit difficult to understand. This will be addressed as we get the web server implemented.