
DRONE SPOOF DETECTOR

TEAM MEMBERS:

- LEAH CASEY
- SAMUEL GROSS
- LOGAN PARKER
- ASHLEY VANAMAN
- MICHAELA WALKER

CLIENT INFORMATION

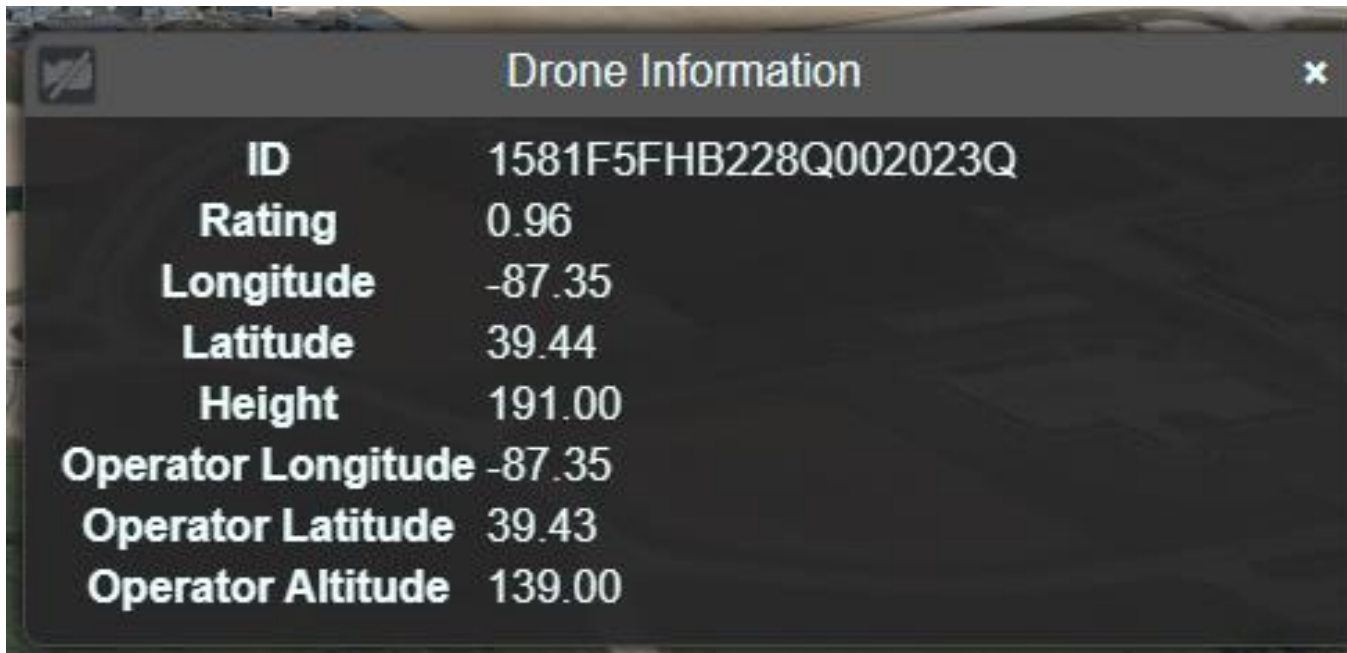
Pierce Aerospace

- Aaron (CEO)
- Gary (CTO)
- Chris (Direct contact)
- Michael

The background of the image is a complex, organic marbled pattern in shades of black, grey, and white, resembling stone or liquid swirls. A solid dark purple rectangle is positioned on the left side of the image, serving as a backdrop for the text.

FEATURES

FEATURE 1: DISPLAY MORE DRONE INFORMATION



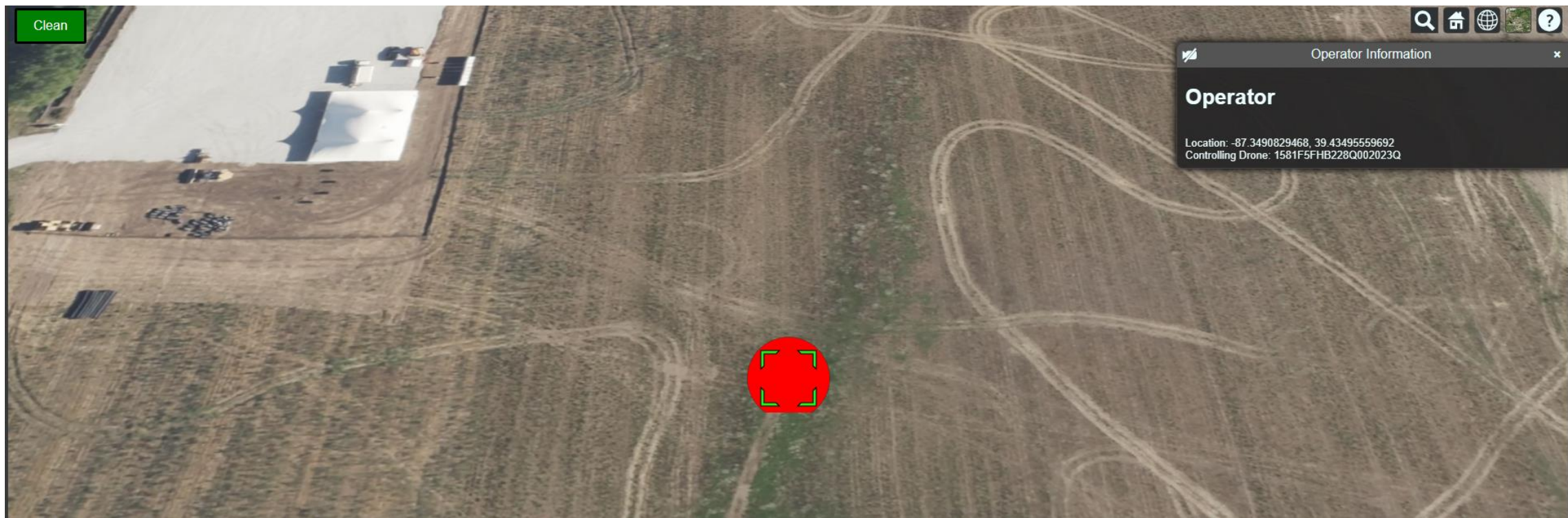
A screenshot of a 'Drone Information' popup window. The window has a dark background with white text. It contains a table of drone and operator information. The drone information includes ID, Rating, Longitude, Latitude, and Height. The operator information includes Operator Longitude, Operator Latitude, and Operator Altitude.

Drone Information	
ID	1581F5FHB228Q002023Q
Rating	0.96
Longitude	-87.35
Latitude	39.44
Height	191.00
Operator Longitude	-87.35
Operator Latitude	39.43
Operator Altitude	139.00

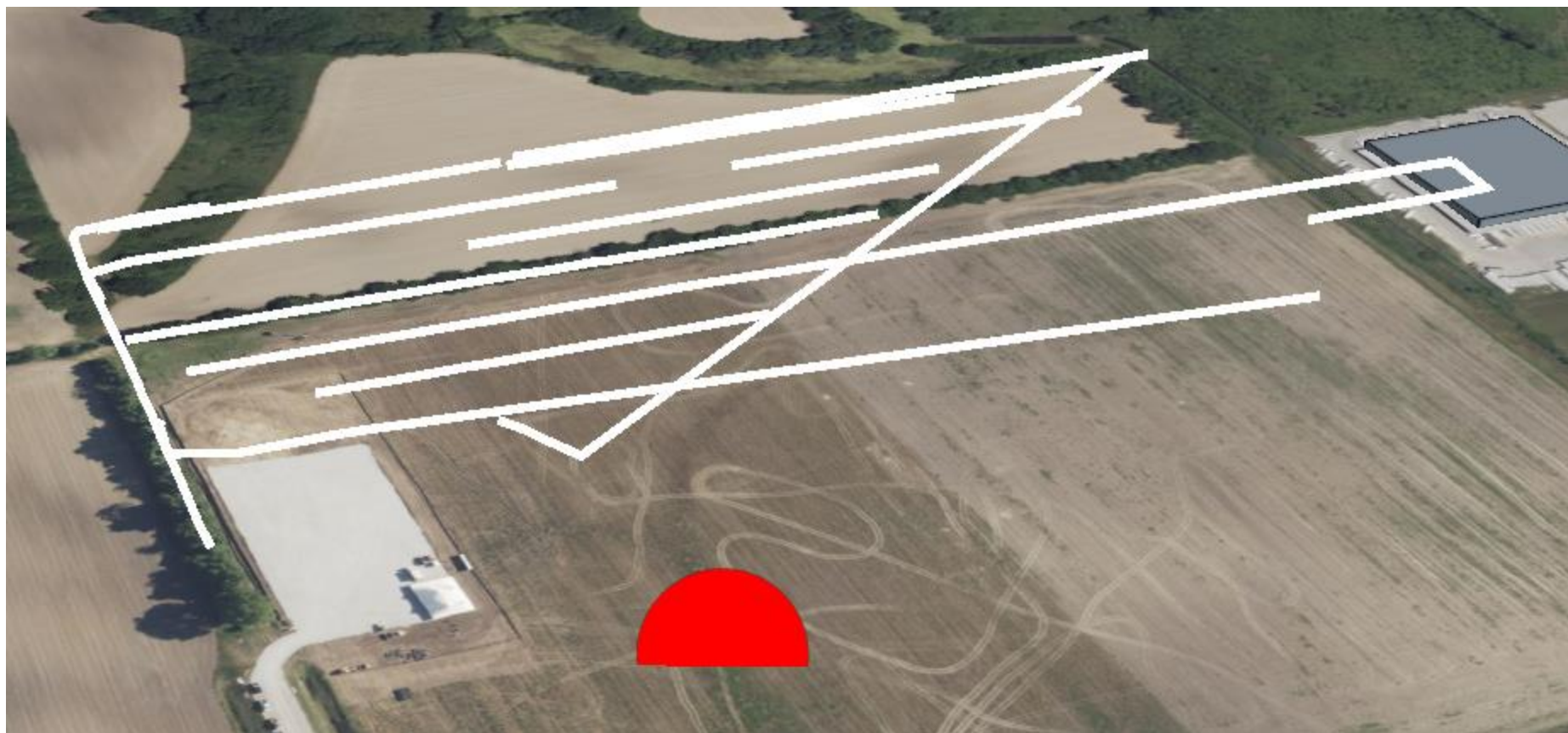
When a drone is clicked, an info box shows its information: ID, rating, longitude, latitude, and height.

You can also see the operator's information.

FEATURE 2: SHOW OPERATOR LOCATION ON MAP



FEATURE 3: LIVE AUTOMATIC REFRESH AND FLIGHT TRAILS



HOW DOES EACH FEATURE CONNECT TO BUSINESS REQUIREMENTS?

- Feature 1 connects to BR 2
 - Feature 1 Displays visual and text information to end-users by showing information of the drone, when clicked on, such as the ID, rating, longitude, latitude, and height.
- Feature 2 connects to BR 2
 - Feature 2 Displays visual and text information to end-users by showing the location of the operator based on a dot on a map as well as providing information such as the longitude and latitude of the operators location as well as the drone they are operating.
- Feature 3 connects to BR 2
 - Feature 3 Displays visual and test information to end-users by showing the full flight path trail of the drone and as well does a live automatic refresh to show the most current drone flight information provided.

The background of the image is a complex, organic pattern of swirling, marbled lines in shades of black, grey, and white, resembling natural stone or liquid movement. On the left side, there is a solid, dark purple rectangular area that serves as a backdrop for the text.

FEEDBACK

MENTOR FEEDBACK

Mid Iteration

- Liked game plan for iteration features
- Believes we have a good UI.
- Thinks we have a good approach for proceeding with unreal engine.

End of Iteration

- Features looked good
- Was happy with test coverage
- Offered to help with unreal engine if we need it

CLIENT FEEDBACK

Mid Iteration

- Client was understanding of our setbacks in coding this iteration as we researched ways out of using unreal engine.

End of Iteration

- Client liked the current progress and encouraged us to continue to add features that increased usability. Especially liked how clean the features looked this iteration.

CLIENT USING SOFTWARE

- How did the client use the software?
 - Client used the software well. No complications in getting it to run
- What features were tested?
 - Features tested included flight simulation, locating the operator, and that after a few minutes the drone path would still be present.
- How long did they mess with your software?
 - Approximately 3 Minutes
- How was their reaction?
 - He was positive and liked the progress of the project
- Anything recognized that was weird/unusual/bad?
 - The drone flight ended up being a bit buggy, we made a note to fix that after the meeting.
- Any issues (usability and functionality)?
 - Only issues noticed were based on getting the project to run on unreal engine. Things that were hindering progress on switching to unreal.

5TH ITERATION FEATURES

1. Shift from a webpage to an unreal engine executable
2. Add line-of-sight requirement between drone and operator
3. Topdown map that displays live drone location with 'shapes' (triangle, square, circle)
4. User SSO

TEAM CONTRIBUTIONS

- Leah: Researched OAuth2 and added code to make sure only one token is accessed per day. Added tests for data processor to get test coverage up. Added code to show drone information when a drone is clicked. Fixed some path issues and other minor things after project restructuring to get the flight sim working again. Fixed some errors coming from data_rater.
- Samuel: Made significant progress on bringing our unreal engine project up to speed with current project. I added in the operator location data added in the operator at a point. I also got the display to automatically update and to leave a trail. Fixed many problems pertaining to project structure, path names and tests.
- Logan: Updated refresh button in user interface to match cesium user interface. Added GitHub workflow to lint code, then added unit tests and coverage reports on both the python and JavaScript. Added a dockerfile to run the project in docker, and reconfigured project to run in docker smoothly. Worked with Sam and Michaela to add operator location to each drone instance.
- Ashley:
- Michaela: Worked on attempting to get project running on lab computers on Unreal engine. Was able to run project on laptop but for a limited time (processor doesn't meet minimum requirements). Researched how to do java-script tests. Added tests for drone.py class to increase test coverage. Worked on adding operator location to drone instances.



INTERESTING SLIDE



WHO WOULD WIN?

Stable and optimized game

One ticky boy

120.00 FPS
8.33 ms
Frame: 8.33 ms
Game: 7.14 ms
Draw: 0.11 ms
GPU: 8.38 ms
DynRes: OFF

