

School of Engineering & Applied Science

THE GEORGE WASHINGTON UNIVERSITY

What exactly is the problem? (Viraj)

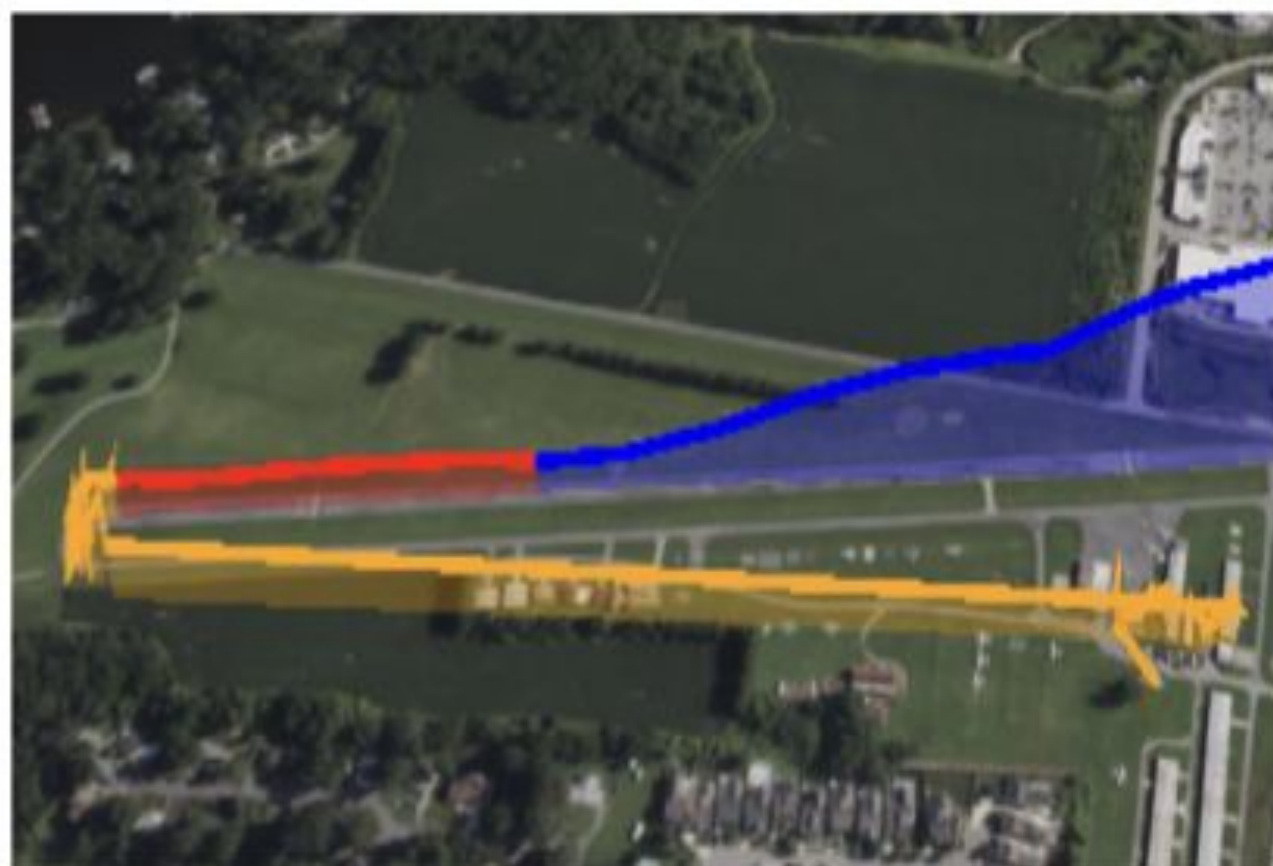
- Current postflight debriefing tools are confusing
- Pilots want to receive insights from previous flights



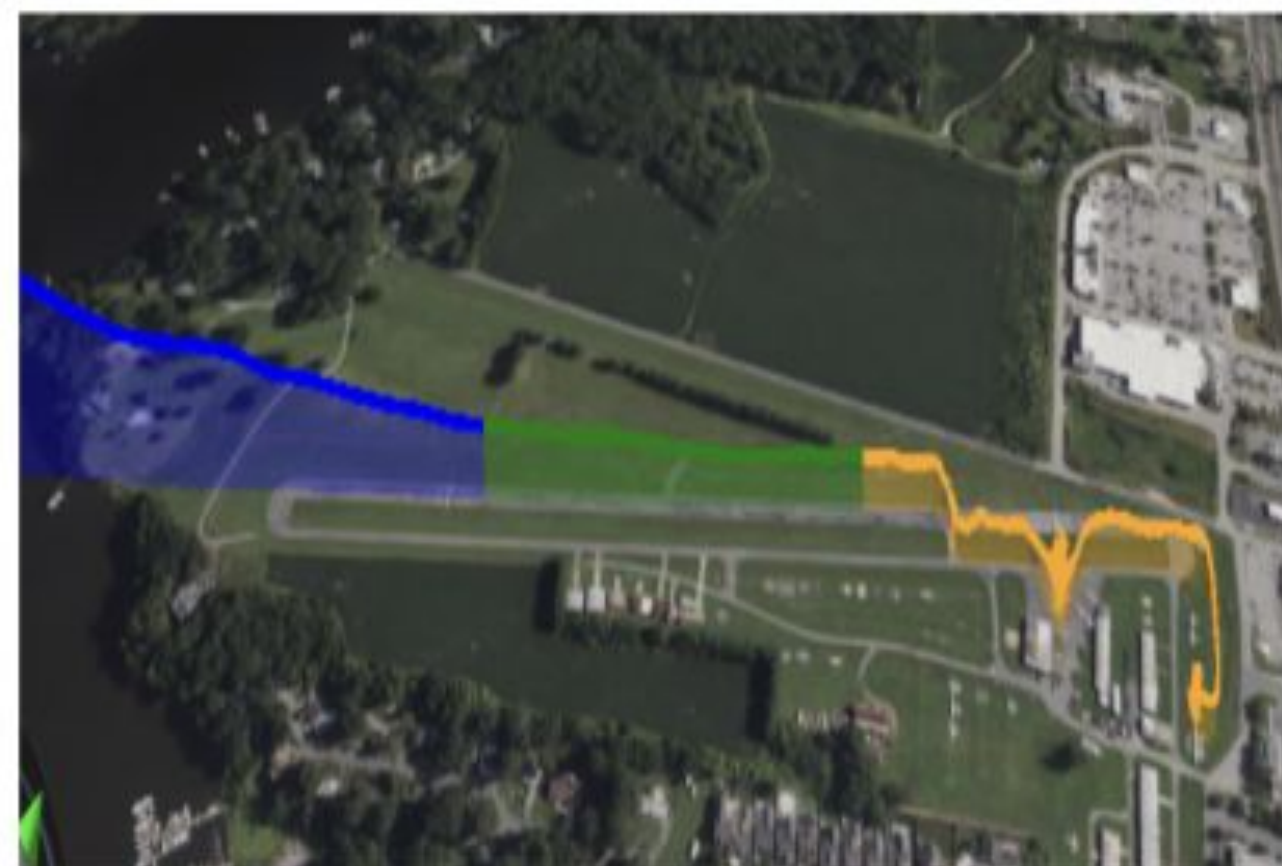
Skills	The applicant demonstrates the ability to:
PA.V.A.S1	Clear the area.

Takeoff & Landing Segmentation (Ben)

- Use ground speed in order to identify segments where takeoff / landing maneuvers are occurring.



TAKEOFF



LANDING

Scoring System (Adnan)

Slow Flight:

- Score calculated based off of the deviation from the average slow flight speed performed during the maneuver.



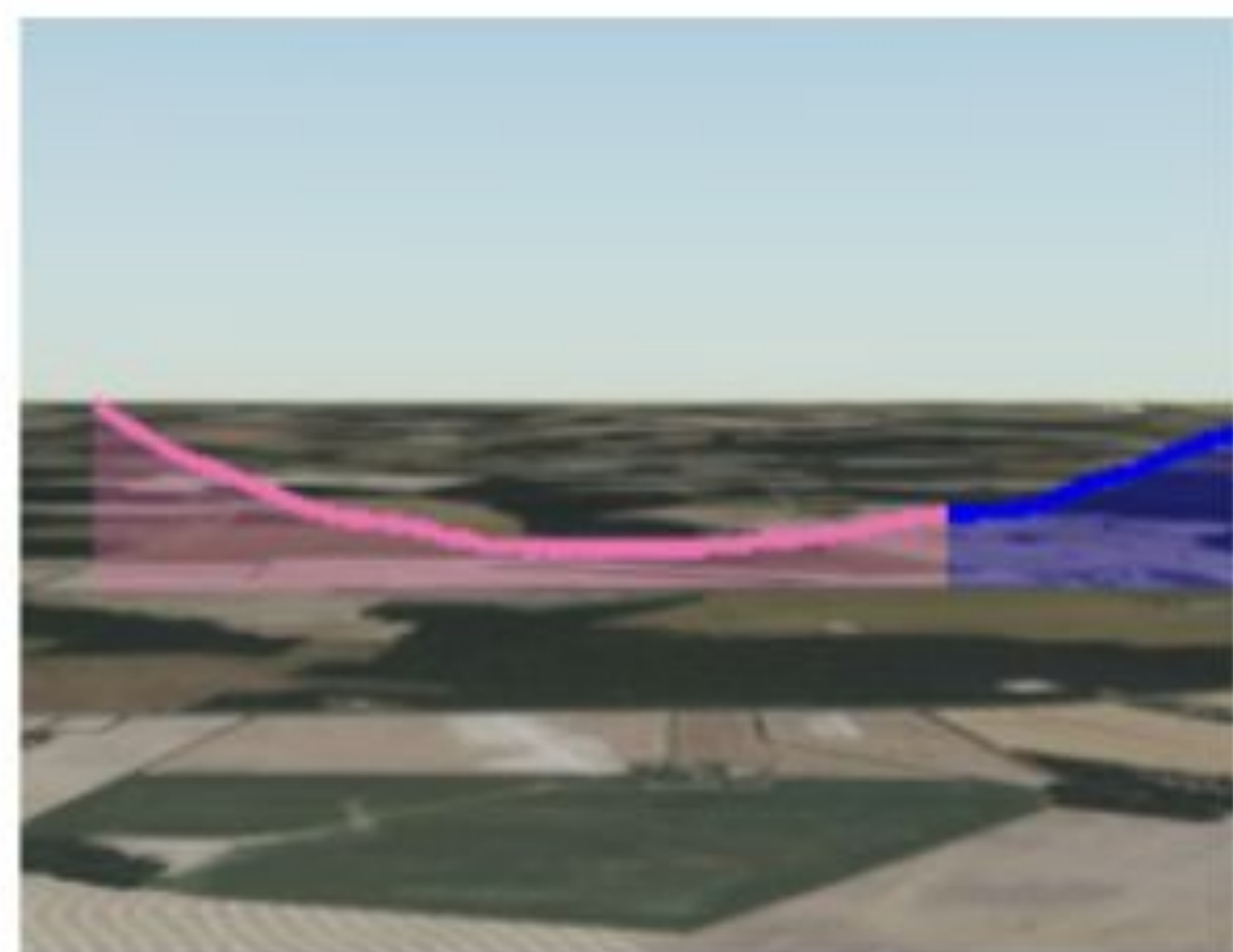
SLOW FLIGHT

Turn Around a Point:

- Calculated based off of the level of altitude control and speed control, as performed by the pilot.

Takeoff / Landing / Touch & Go:

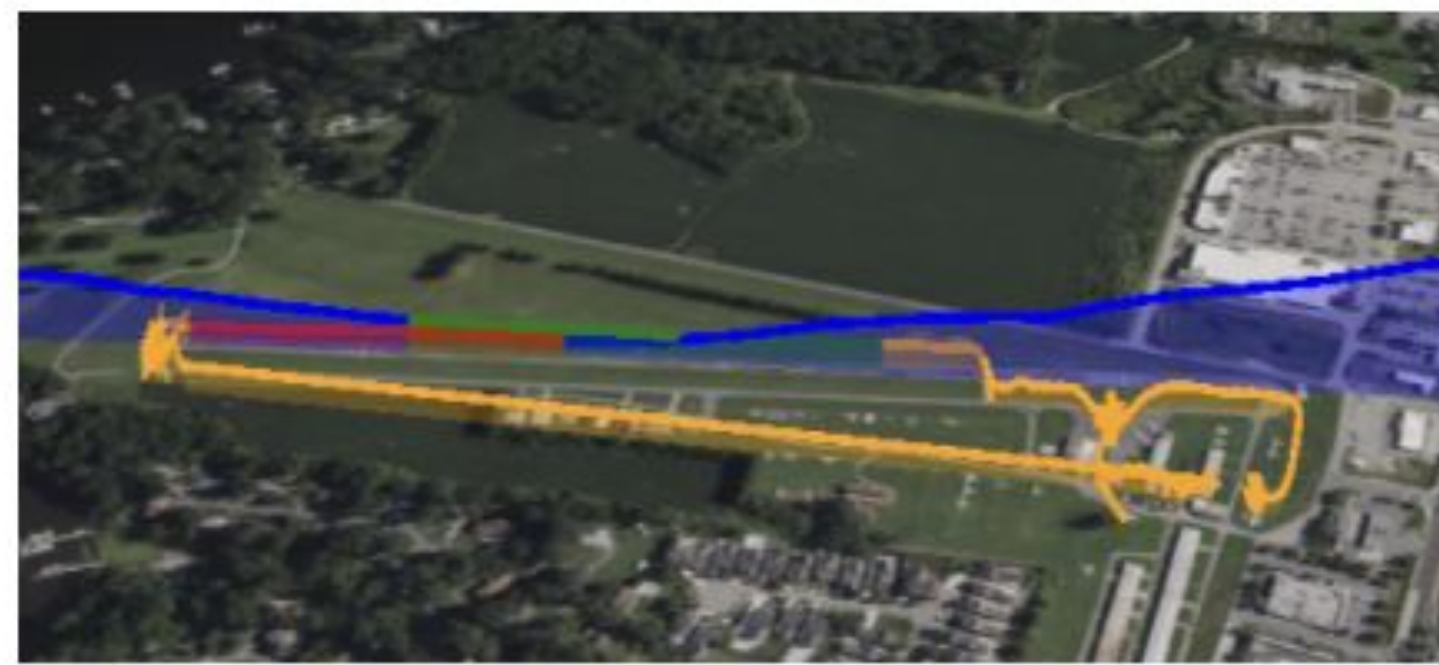
- Score calculated based off of the deviation from the average course performed during the maneuver.



TOUCH & GO

Overview of Project (Viraj)

- Take in user flight data
- Display 3D worldview
- Provide tailored feedback from our scoring algorithm.
 - All based on maneuvers in FAA airman certification standards.



#	Segment	Start	End	Score	View
1	Taxi	00:00:00	00:05:25	NA	Fly
2	Takeoff	00:05:25	00:05:40	86.6	Fly
3	Airborne	00:05:40	00:44:20	NA	Fly
4	Landing	00:44:20	00:44:35	92.8	Fly
5	Taxi	00:44:35	00:46:35	NA	Fly
6	Takeoff	00:46:35	00:46:50	96.9	Fly
7	Airborne	00:46:50	00:53:59	NA	Fly
8	Touch and Go	00:53:59	00:54:39	NA	Fly
9	Airborne	00:54:39	01:00:20	NA	Fly
10	Touch and Go	01:00:20			

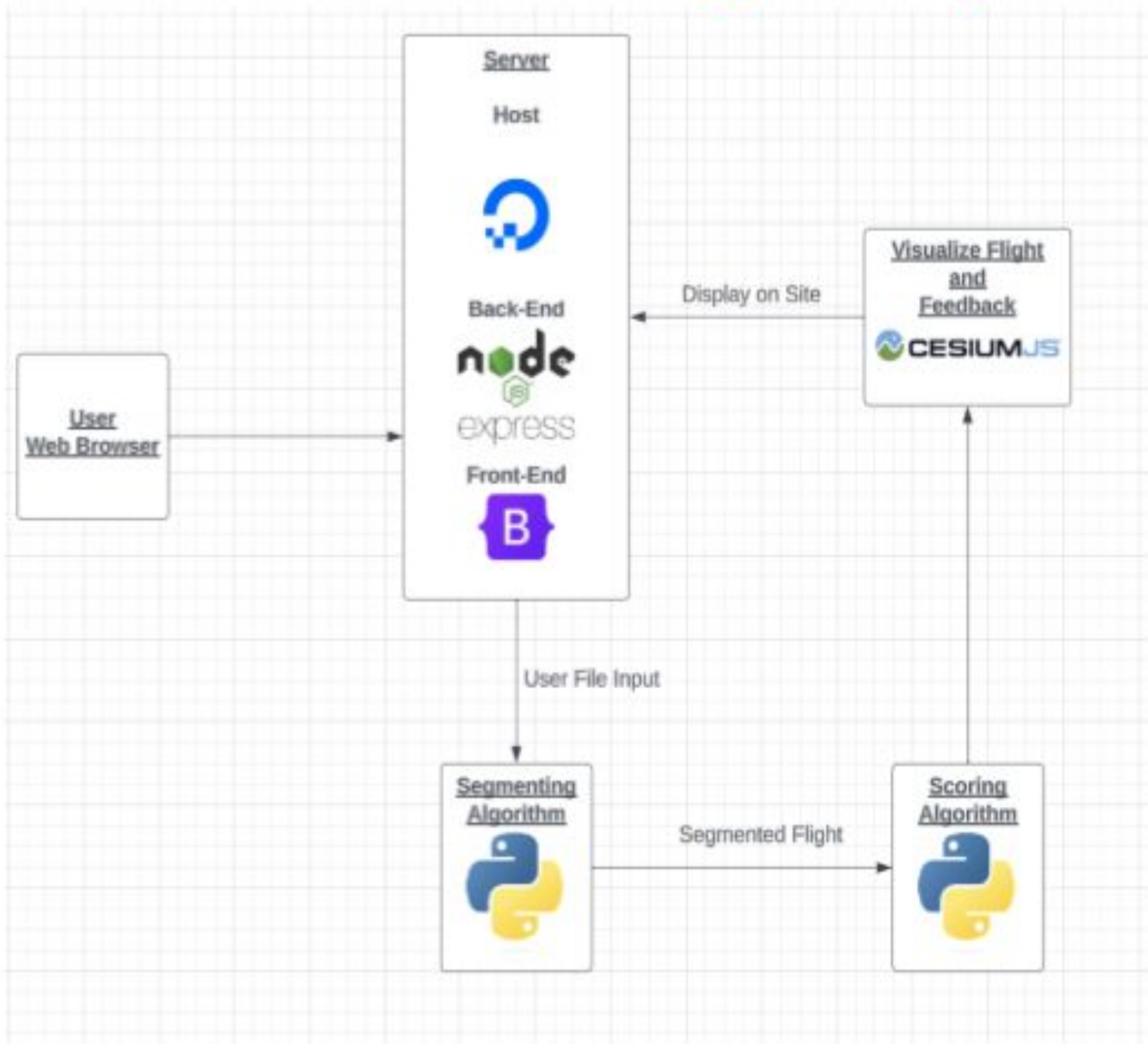


PILOT INSIGHT

Viraj Prakash, Ben Chapman, Adnan Shaker

GW

System Architecture Diagram (Adnan)



Other Segmentation (Ben)

Slow Flight:

- Segmented based off of airspeed, must be performed at or above 1500' AGL (above ground level)

Turn Around a Point:

- Segmented based off change in bank and altitude (must be between 800' and 1000')

Touch & Go:

- When the aircraft lands and takes off again in a 40 second time frame



TURN AROUND A POINT