

Boeing 737-MAX Case Study

17-313 Fall 2026

Foundations of Software Engineering

<https://cmu-17313q.github.io>

Eduardo Feo Flushing

Administrivia

- Project 1B due Sunday, Sep. 6th, 11:59PM
- Slack:
 - Use #p1 instead of direct messages / emails
 - Alternatively, create a private chat and include all course staff

Discussion



Participation Activity: Facts

- In groups of 2 - 3
- **Enumerate five (5)** facts about what happened
- Write it down on a piece of paper with your Andrew ID(s) on it.
- Share with the class!



Participation Activity: Connecting Facts

- In groups of 2-3
- **Find two connections between the facts.**
For each connection, explain how or why the facts are connected.
- Write it down on a piece of paper with your Andrew ID(s) on it.
- Share with the class!



Takeaways

No “bug” in the code: The software worked exactly as specified. FAA would not have flagged it

System-level failure: The tragedy came from how correct software interacted with sensors, human operators, and certification processes

Key lesson: Software engineers must examine assumptions, inputs, users, system interactions, failure modes, and organizational pressures