MICHIGAN STATE
U N I V E R S I T Y

Project Plan Presentation
Efficacy Report Generator

The Capstone Experience

Team United Airlines Training

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From Students…
…to Professionals

Project Sponsor Overview

- One of the top 5 airlines worldwide
- Tammy Woodeshick, the Program Manager for Tech Ops Training and Safety
- Maintaining skillset of thousands of technicians for United Airlines

Functional Specifications

- Bridge communication gap between training leadership and the course instructors

- Generate reports and data visualizations to give training team swift data on issues

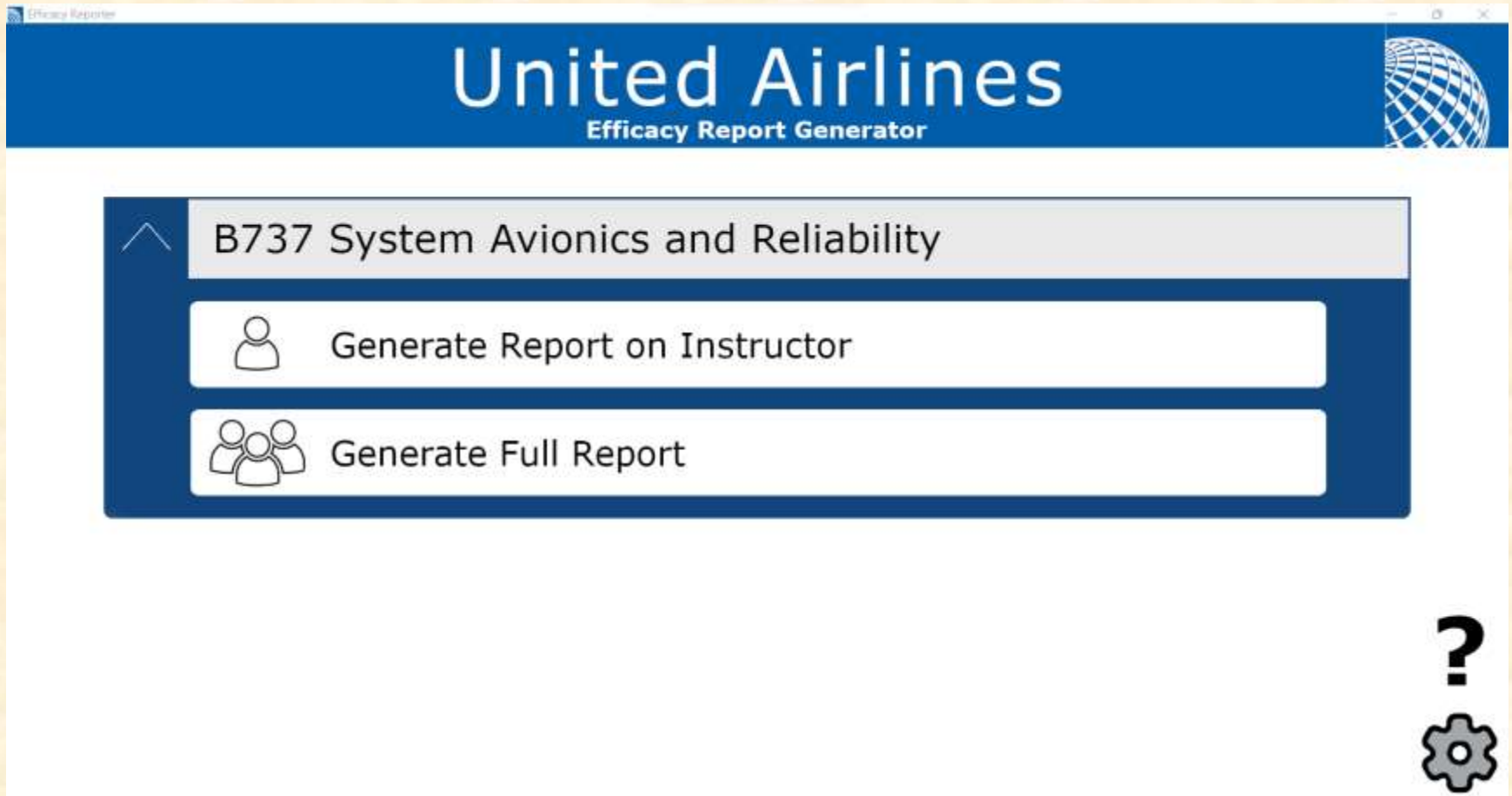- Make software easily expandable to other tests that United Airlines wants reports on
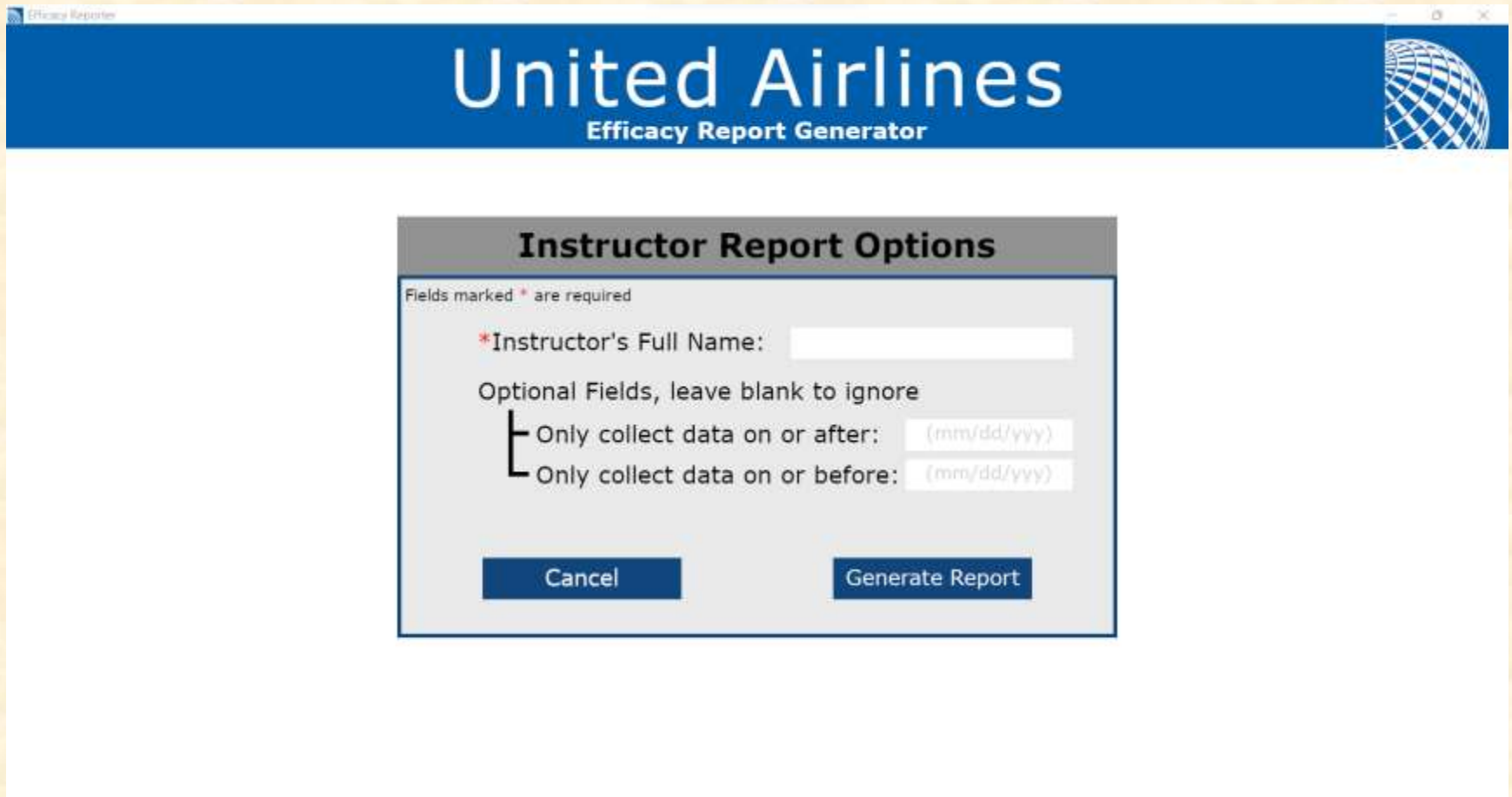
Design Specifications

- Software that is user friendly
- Design UI that non-technical people can add new tests to
- Provides multiple ways to receive reports

Screen Mockup: Main UI

Screen Mockup: Form

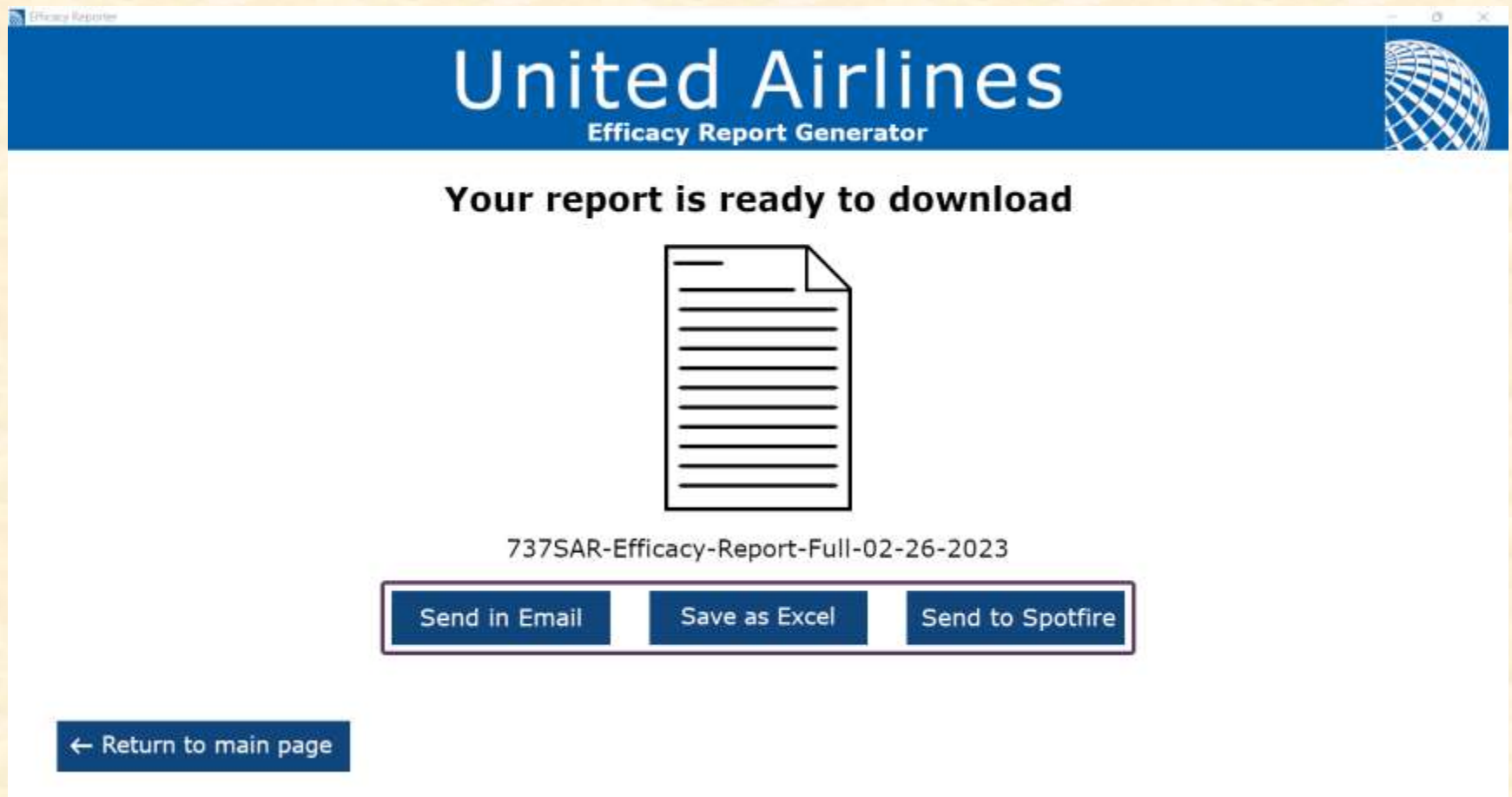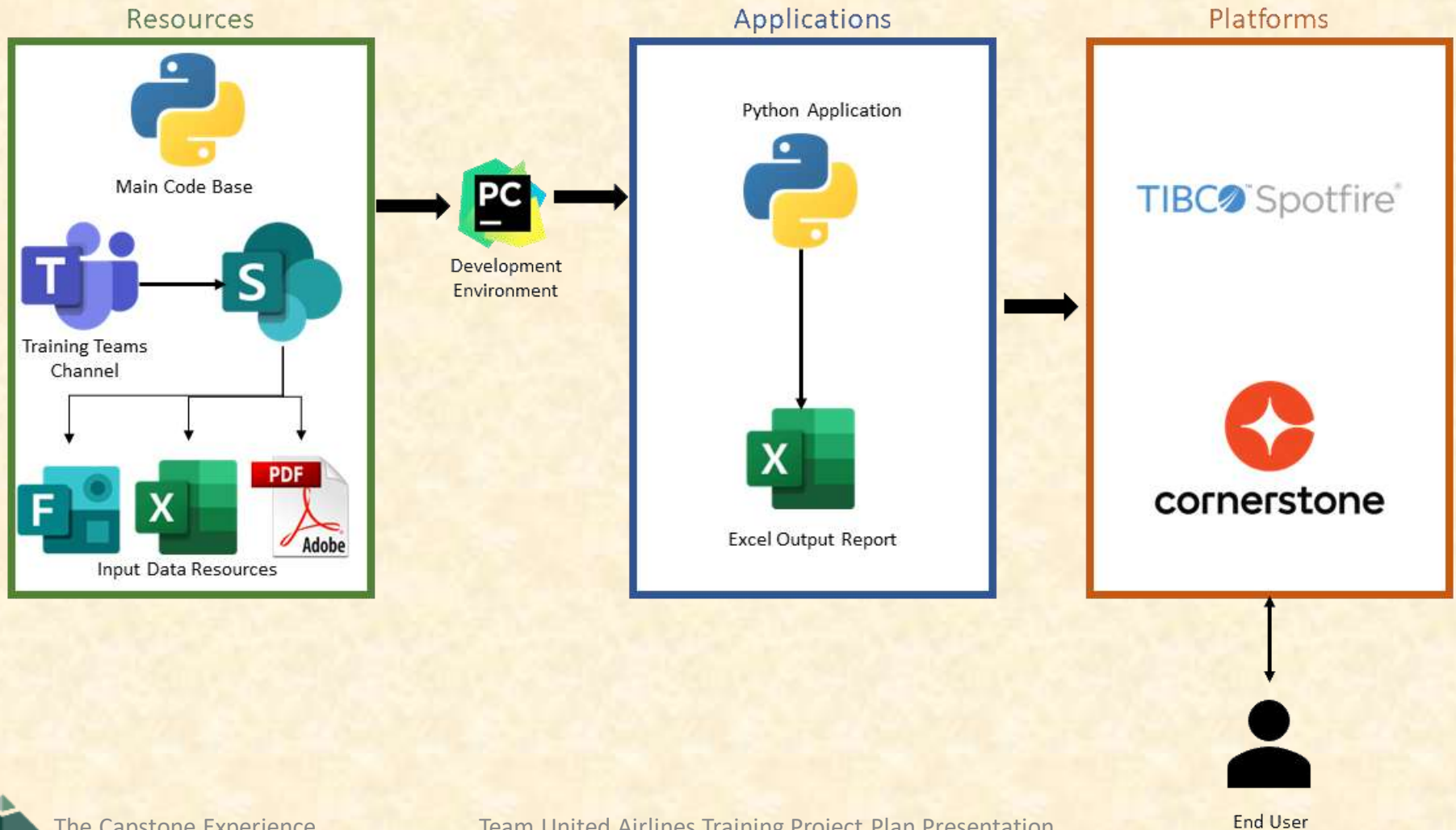# Screen Mockup: Loading
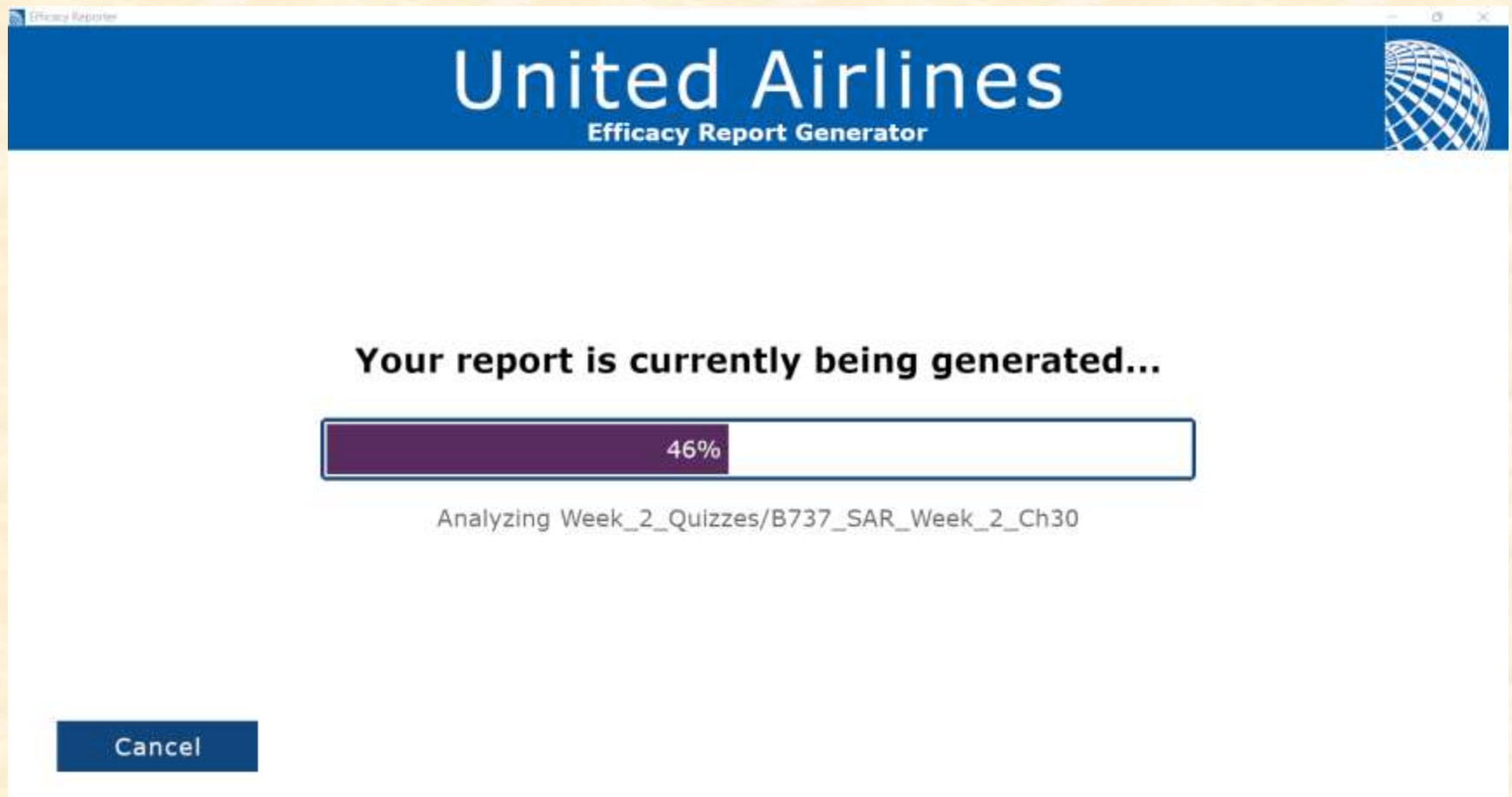
Screen Mockup: File Download

Technical Specifications

- Python base front end/back end
  - Tkinter for the front end
  - Python packages like NumPy, Pandas, PIL, NLP
- SharePoint host of files
- Spotfire dashboard
  - Spotfire Mods dashboard application

System Architecture

System Components

- Hardware Platforms
  - There are no hardware platforms specific to this project
- Software Platforms / Technologies
  - TIABCO Spotfire
  - PyCharm
  - Cornerstone LMS
  - Gimp

Risks

- **Integration of Spotfire analytics**
  - Spotfire is a data visualization and analytics tool that is used by United Airlines. It is desired for the software to contain an option that will send the report generated to Spotfire, so it is easy for members of the team to share the information amongst themselves.
  - <u>Mitigation</u>: If it is deemed unable to be done, there are backup plans: it is known that PowerBI, a Microsoft data visualization tool, can also be used. While this result is not preferred, it will still output a visualization of the report that can be shared.

- **Fairness regarding evaluation of Instructors**
  - Ensure the Efficacy Report Generator's Algorithm is producing a report that is fair and accurate when evaluating instructors regarding their job.
  - <u>Mitigation</u>: Work with instructors to understand the students' performance and assess if they are not covering the course content efficiently or if the students are struggling with the training or rushing through the training.

- **Evaluating poorly worded versus poorly taught questions for discrepancies**
  - The evaluation of discrepancies within poorly worded vs poorly taught questions may be a tricky task for the Efficacy Report Generator's Algorithm .
  - <u>Mitigation</u>: Analyze and study data produced to determine if poorly worded and poorly taught questions have different accuracy rates.

Questions?