

SUMMARY

- ASCT replaces the outdated Illustrated Parts Catalog (IPC) with an accessible user-friendly web application.
- ASCT allows flexibility to maintain configurations and ease of use for technicians in determining correct software for aircraft.

FRONT END SUMMARY

- Technicians use the **technician portal** to find correct software configurations for uploading onto a aircraft
- Administrators and engineers use the **admin portal** to make changes to the software configurations that technicians will use to load onto the aircrafts



TECHNICIAN PORTAL

- Technician *enters* in: Fleet Type, Tail Number, System Name.
- Technician *receives*: LRU Part Numbers (hardware box), Software Name, Software Part Number.
- Output is displayed in a table format for simplicity and easy access to information.
- Implemented with Angular JS.

ADMIN PORTAL

- Allows engineers to create, approve, modify, and audit new aircrafts configurations.
- New configuration is added in the **Submit Change** section.
- Any request must be approved in the **Approve** section. This allows the information to be accessed by technicians.
- A request can be modified in the **Modify/Delete** section.
- The history of changes can be audited in the **Historical Change Log** section.

BACK END SUMMARY

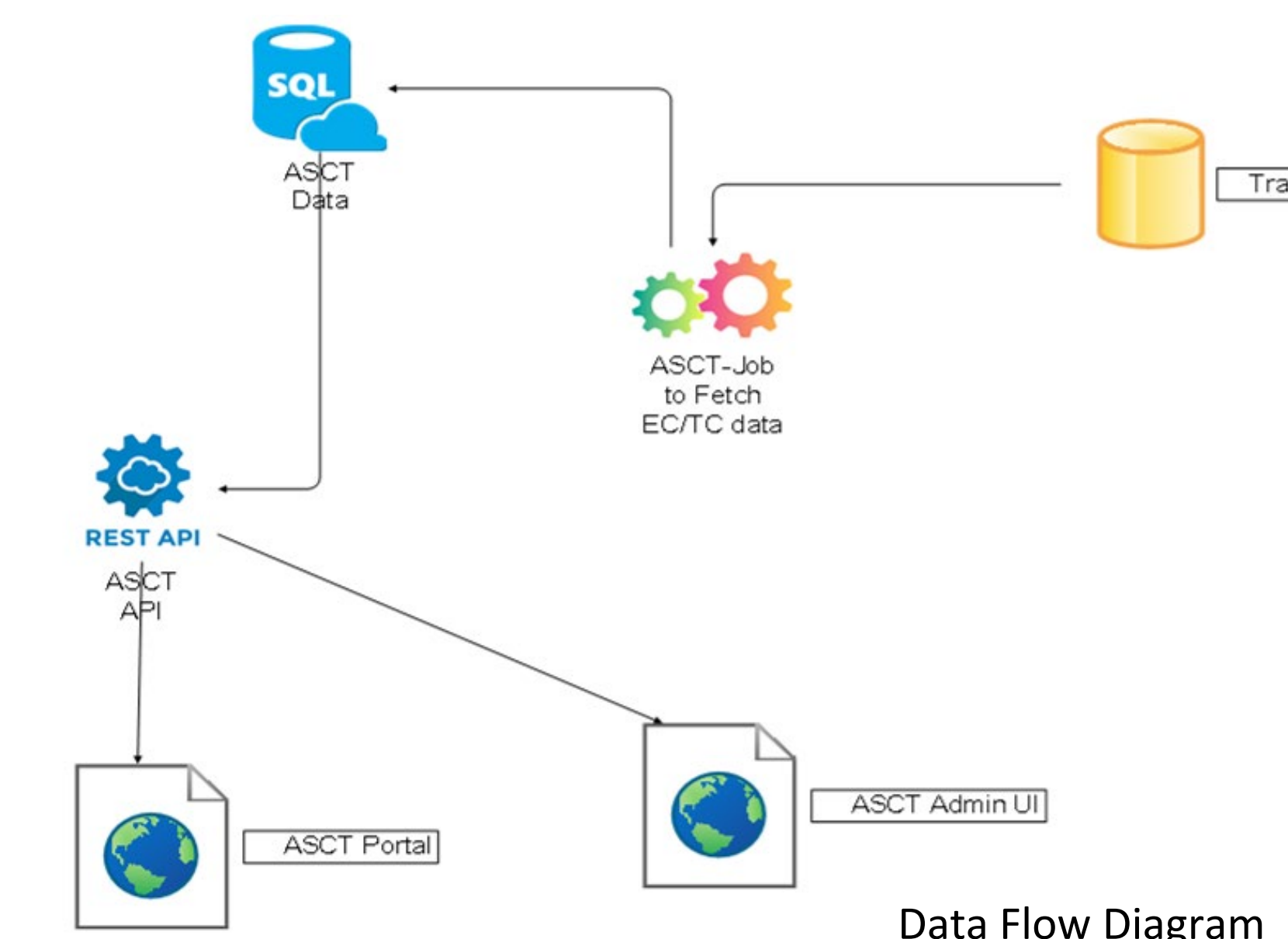
- A database was built to extract the specific configuration information for given aircraft Tail Number and System Name.
- An API was developed to fetch aircrafts configuration information including per Technicians or/and Administrator request.

API

- Implemented with ASP.NET Core 3.0.
- Utilizes Entity Framework Core to connect with the Azure database.
- Handles HTTP requests including GET, POST, and PUT.
- Runs code first migration to update the design of the database.

AZURE DATABASE

- Implemented with SQL and hosted on Azure.
- Stores information about all aircrafts and their software configurations used by Alaska Airlines.
- Connects with TRAX DB to get the latest updates about configuration status.



Future Work, References, and Acknowledgments

- Further implementation of JOB service between ASCT db and TRAX db
- Integration of Alaska Airlines SSO authentication
- Faculty Mentor: PaymanArabshahi
- Industry Mentors: Mohammad Ali, LisaRoderiques