ALASKA SOFTWARE CONFIGURATION TOOL

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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• ASCT replaces the outdated Illustrated Parts Catalog (IPC) with an accessible user-friendly web application.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

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