

# Improving Avionic Traceability through Software Architecture Design

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## Description

The project involved designing and updating the software documentation for two of Safran's current projects: the Auxiliary Power Unit (APU) and the Landing Gear and Control Steering Unit (LGCSU) for Bombardier's Global 7000/8000 Series aircrafts.

The goal of the project was to analyze source code written in C and Assembly and create architecture diagrams, adhering to the guidelines set out by DO-178B.

## Objectives

- The objectives for this project were to:
- Define a process to create consistent architecture diagrams
  - Document software architecture while adhering to the avionic guidelines, outlined by DO-178B
  - Test and verify that the existing documentation adheres to Safran's Software Document Standards (SDS)

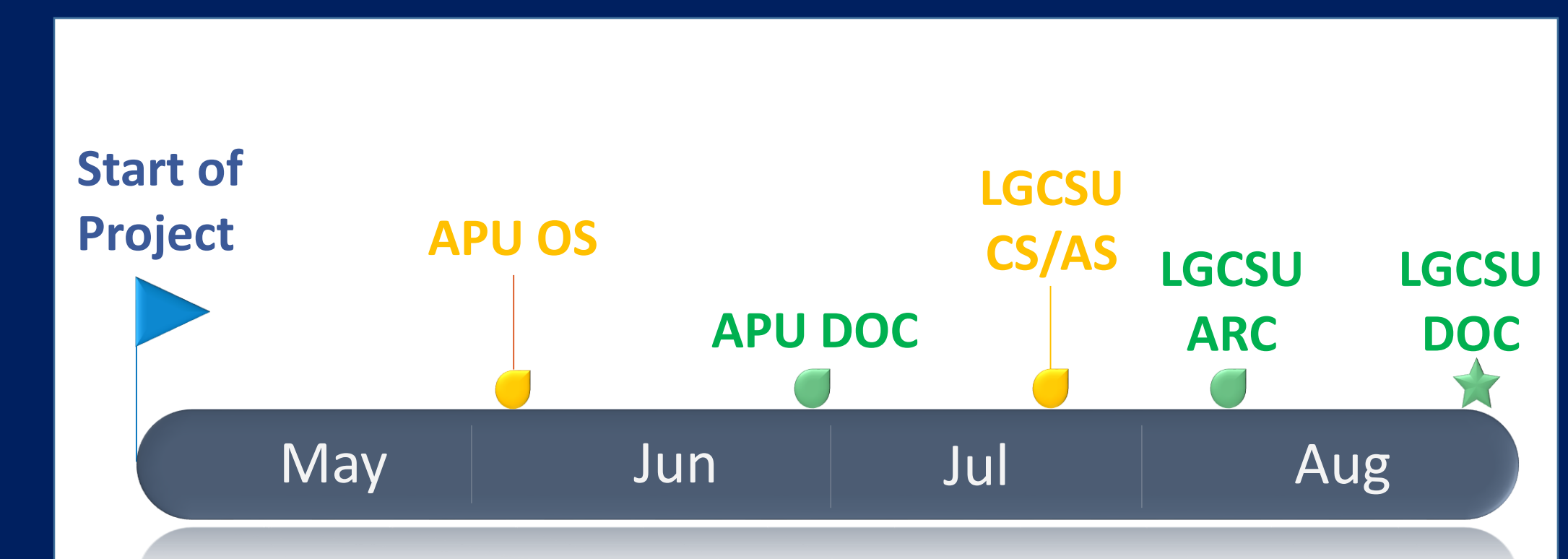
## Milestones

The project had the following major milestones:

- Complete documentation for APU
- Complete documentation for LGCSU

And the following minor milestones:

- Finish architecture for OS/BS libraries for APU/LGCSU
- Finish architecture for AS/CS libraries in LGCSU

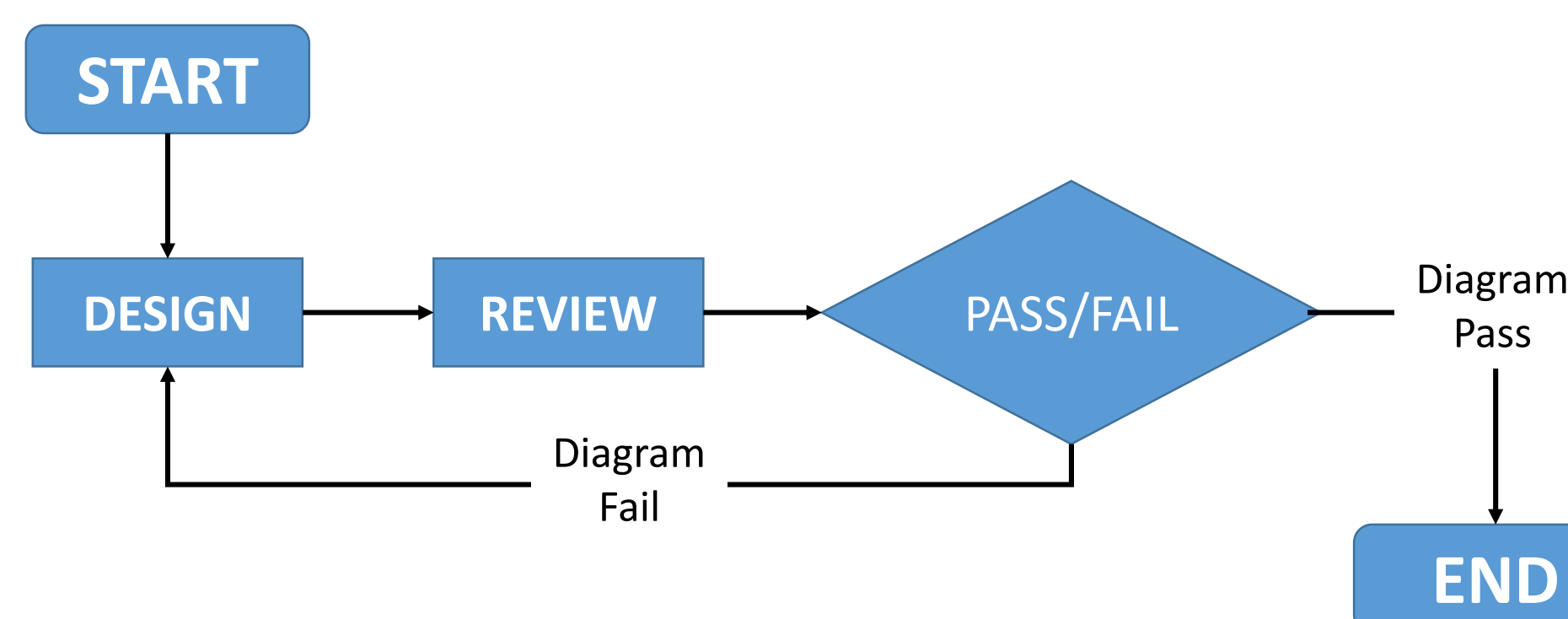


## Impact

Documenting the architecture improved the overall **traceability** of Safran's projects as the code can now be easily traced back to the lower level requirements.

In addition, defining a process for creating architecture diagrams will ensure that future updates in the software architecture can be completed at **reduced cost**.

### SOFTWARE DOCUMENTATION PROCESS



### SOFTWARE ARCHITECTURE: DATAFLOW DIAGRAM

