Analysis Report (Student #3)



**Group Number:** C3.040  
**Repository:** <https://github.com/DP2-C1-037/Acme-ANS-C3>

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# Executive Summary

This document presents my individual analysis of multiple requirements from the project Acme-ANS-C3. These requirements specify various constraints on attributes related to flight crew members, flight assignments, and activity logs. However, some of the attribute constraints were not explicitly defined in the initial requirements document.

The main uncertainty lies in the exact range of values for certain attributes. To clarify these ambiguities, a formal inquiry was made to the professor. The proposed solution aims to ensure the correct implementation of these constraints while maintaining flexibility for client input.

# Revision Table

|  |  |  |
| --- | --- | --- |
| **Revision Number** | **Date** | **Description** |
| 1.0 | 12/03/2025 | Initial Version |
| 2.0 | 08/10/2025 | Updated to Third Call |

# Introduction

During the requirement analysis phase, I identified multiple requirements that mandate the system to store and manage information regarding flight crew members, their assignments, and activity logs.

A key issue is the lack of defined ranges for specific attributes, such as salary, years of experience, or severity level of incidents. This omission makes it challenging to implement these constraints correctly without further clarification.

To resolve these ambiguities, I made an inquiry to the professor requesting guidance on the appropriate values for these attributes. The inquiry also sought confirmation on the expected data type for the severity level attribute.

This report presents an analysis of the requirement constraints, discusses the identified problem, explores alternative solutions, and justifies the selected approach.

# Contents

## Requirement Definition

• **Requirement** **3**: *“The flight crew members are the people responsible for operating aircrafts and en-suring passenger safety and comfort during a flight. The system must store the following data about them: an employee code (unique, pattern "^[A-Z]{2-3}\d{6}$", where the first two or three letters correspond to their initials), a phone number (pattern "^+?\d{6,15}$"), their language skills (up to 255 characters), their availability status ("AVAILABLE", "ON VACATION", "ON LEAVE"), the airline they are working for, and their salary. Optionally, the system may store his or her years of experience.”*

• **Requirement 4**: *“A flight assignment represents the allocation of a flight crew member to a specific leg of a flight. Each assignment specifies the flight crew's duty in that leg ("PILOT", "COPILOT", "LEAD ATTENDANT", "CABIN ATTENDANT"), the moment of the last update (in the past), the current status of the assignment ("CONFIRMED", "PENDING", or "CANCELLED"), and some remarks (up to 255 characters), if necessary.”*

• **Requirement 5**: *“An activity log records incidents that occur during a flight. They are logged by any of the flight crew members assigned to the corresponding leg and after the leg has taken place. The incidents include weather related disruptions, route deviations, passenger issues, or mechanical failures, to mention a few. Each log entry includes a registration moment (in the past), a type of incident (up to 50 characters) a description (up to 255 characters), and a severity level (ranging from 0 to 10, where 0 indicates no issue and 10 represents a highly critical situation).”*

## Problem Identification

The main issue with the given requirements is the lack of precise attribute constraints, specifically:

* Flight crew member: language skills (min), salary (max, min) and years of experience (max, min).
* Flight assignment: remarks (min).
* Activity log: type of incident (min), description (min), severity level (data type).

Without this information, the system may not enforce appropriate validations, leading to inconsistencies in data handling.

## Solution Alternatives

To address the lack of defined attribute constraints, I considered the following approaches:

* Alternative 1: Requesting additional information from the Client (Inquiry via forum).
  + Pros:
    - Ensures accuracy by obtaining values directly from the client.
  + Cons:
    - May cause delays if client response is low.
* Alternative 2: Using industry-standard default values.
  + Pros:
    - Allows for immediate implementation based on best practices.
  + Cons:
    - Might require later adjustment if the client’s requirements differ.
* Alternative 3: Defining Provisional Ranges and Validation (based on my perspective)
  + Pros:
    - Provides temporary constraints that can be refined once feedback is received.
  + Cons:
    - Increases the likelihood of rework if provisional values are incorrect

## Proposed Solution

After evaluating these alternatives, the chosen approach was requesting additional information from the client. This was done through a formal inquiry in the forum, ensuring that the defined constraints align with business needs and expectations.  
The link to the lecturer's validation is: <https://ev.us.es/webapps/discussionboard/do/message?action=list_messages&course_id=_89154_1&nav=discussion_board&conf_id=_426211_1&forum_id=_253522_1&message_id=_461074_1>

Although this approach had the potential to introduce slight delays, it did not occur in this case (furthermore, it had already been posted by another student and answered). It guarantees that the final implementation will adhere to client requirements, minimizing the risk of rework in the future. This strategy ensures:

* Compliance with project specifications.
* Efficient system development with accurately defined constraints.

# Conclusions

In this analysis, I addressed several key issues related to the requirements of the project Acme-ANS-C3, specifically focusing on the lack of defined constraints for various attributes related to flight crew members, flight assignments, and activity logs. The absence of clear attribute constraints, such as salary ranges, experience years, or severity levels of incidents, created uncertainty in the system's implementation, potentially leading to inconsistent data management.

To resolve these issues, I proposed and evaluated three potential solutions: requesting additional information from the client, using industry-standard default values, and defining provisional ranges. After careful consideration, the preferred solution was to seek further clarification from the client through a formal inquiry. This approach ensures that the defined constraints align with client needs, minimizing the likelihood of errors and future rework.

By requesting clarification, the project can proceed with well-defined parameters, ensuring the system’s accuracy and flexibility to meet the client’s expectations. The process of gathering detailed input from the client will enhance the system's robustness and reduce any ambiguity in the final implementation.

Overall, the proposed solution facilitates accurate and efficient system development, ensuring that the final product is aligned with client requirements and minimizing risks associated with misinterpreted or incomplete data.

# Bibliography

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