# Requirements – Student #1

Please, fill in the following form, make sure that you have ticked the requirements that you consider fulfilled, save this document, **and attach it in its original format (.docx)** to every deliverable. Regarding your ID, please keep only four random digits and mask the others using an asterisk. **Please, note that this document must be edited with the desktop version of Word since the web version does not properly support forms.** Attaching this document entails that you are the authors of the work delivered, you have not cheated in any way, and you have read and understood the information delivered regarding the subject, with a special emphasis on the methodological guidelines and how your work is going to be graded. Make sure that your project works well with the latest version of the development framework.

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| --- |
| **Group:** C1.051 |
| **Repository:** https://github.com/danjimdia1/Acme-ANS |
| **Student #2**  **ID Number:** 7\*9\*5\*6\*X  **UVUS:**  mansangar13  **Name:**  Sánchez García, Manuel Jesús  **Roles:**  Developer, Tester, Analyst |
| **Date:** ETSII May 26rd, 2025 |

# MANDATORY Deliverable D01: introduction

## Information requirements

Intentionally blank.

## Functional requirements

1. Modify the anonymous menu so that it shows an option that takes the browser to the home page of your favourite web site. The title must read as follows: “〈id-number〉: 〈surname〉, 〈name〉”, where “〈id-number〉” denotes your DNI, NIE, or passport number, “〈surname〉” denotes your surname/s, and “〈name〉” denotes your name/s.

X

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

1. Provide a link to your planning dashboard in GitHub to review the tasks, their current status, and your schedule.

X Resulta extraño que en un proyecto terminado, aún haya tareas pendientes:

A screenshot of a computer

AI-generated content may be incorrect.

# MANDATORY Deliverable D02: data models

OJO: no se encuentra la D02 en EV

Se revisa el modelo de datos y se encuentran queries nativos, pese a haber recomendado explícitamente no usarlos:

A close-up of a computer code

AI-generated content may be incorrect.

Comment-Student: Se han eliminado las queries nativas y se han sustituido por queries JPQL. Ahora se obtienen las listas ordenadas y se obtiene el primer elemento.

## Information requirements

1. **Airline managers** are the people responsible for managing flights. The system must handle the following information about **managers**: an **identifier number** (unique, pattern "^[A-Z]{2-3}\d{6}$", where the first two or three letters correspond to their initials), **years of experience** in the airline, his or her **date of birth** and an optional link to a **picture** that must be stored somewhere else.

X OJO: falta mensaje de error personalizado y hay atributos redundantes en:

A black and white text

AI-generated content may be incorrect.

Comment-Student: Se ha eliminado el min y max y se ha añadido un mensaje personalizado para el patrón.

1. A **flight** is a scheduled journey made by airlines to transport passengers between two locations. The system must store the following data about them: a **tag** that highlights some feature of the flight such as "the fastest", "the cheapest" (up to 50 characters), an **indication** on whether it requires self-transfer or not, a **cost**, an optional **description** (up to 255 characters). It also stores information that comes from its **legs**, namely: a **scheduled departure** and a **scheduled arrival** that depends on the first scheduled departure moment of the first leg and the scheduled arrival moment of the last leg, the origin and destination **cities** that comes from the city of the airports to which first and last leg refers to, and finally, the **number of layovers**.

X

1. A flight aggregates several **legs**. A leg represents an individual segment of a flight, typically corresponding to layovers or connections. The system must store the following data for each leg: a unique **flight number** (composed of the airline's IATA code followed by four digits, unique), a **scheduled departure** and a **scheduled arrival**, a **duration** in hours, a **status** ("ON TIME", "DELAYED", "CANCELLED", "LANDED"). Additionally, each leg must track the **departure** and **arrival** **airports,** as well as the **aircraft** that will be deployed for the journey.

X

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

1. Produce assorted sample data to test your application informally. The data must include two **manager** accounts with credentials “**manager1**/**manager1**” and “**manager2**/**manager2**”. Create an additional manager account with credentials “**manager3/manager3”** that represents a manager with no associated data, except for his or her profile.

X

## Managerial requirements

1. Provide a link to your planning dashboard in GitHub to review the tasks, their current status, and your schedule.

X

# MANDATORY Deliverable D03: implementing features

## Information requirements

Intentionally blank.

## Functional requirements

1. Operations by **managers** on their **flights**:

* List the flights that they have created and show their details.
* Create, update, or delete their flights. Flights can be updated or deleted as long as they have not been published. For a flight to be published, it must have at least one leg, and all its legs must have been published.

He creado y publicado el siguiente vuelo:

A screenshot of a computer

AI-generated content may be incorrect.

Accedo ahora a los tramos y me encuentro con lo siguiente:

A screenshot of a computer

AI-generated content may be incorrect.

¿Qué sentido tiene poner ahí un botón para crear un nuevo tramo? Lo pulso y el resultado es:

A screenshot of a computer

AI-generated content may be incorrect.

Por lo tanto, una acción legal (dado que la interfaz me ofrece la posibilidad de solicitar esa feature) da lugar a un fallo de autorización, lo que no tiene sentido. No he intentado hackear la aplicación, sólo he pulsado un botón que me ofrece.

Comment-Student: Se ha corregido la interfaz de usuario para que, cuando un vuelo ya esté publicado, el botón de crear un tramo no esté disponible para el usuario.

1. Operations by **managers** on their **legs**:

* List the legs in their flights ordered by their moments (no other sorting criteria is allowed).
* Show the details of their legs.
* Create and publish a leg.
* Update or delete a leg as long as it is not published.

X

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

1. Provide a link to your planning dashboard in GitHub to review the tasks, their current status, and your schedule.

X

# MANDATORY Deliverable D04: formal testing

## Information requirements

1. Create appropriate indices for your entities, if required.

Se incluyen índices redundantes.

A screenshot of a computer program

AI-generated content may be incorrect.

A screenshot of a computer program

AI-generated content may be incorrect.

Pero faltan índices muy evidentes. Por ejemplo:

A screenshot of a computer code

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

El estudiante podrá encontrar fácilmente los índices que falten siguiendo la metodología explicada.

Comment-Student: Se han eliminado índices cómo los referenciados solo a id, o id de atributos de navegación y se han añadido nuevos índices para las entidades AirlineManager, Flight y Leg.

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

1. Produce a test suite for Requirements #8 and #9.

Un vistazo rápido a las pruebas de manager/flight/create, por ejemplo, desvela la incompletitud de la suite:

A screenshot of a computer

AI-generated content may be incorrect.

Nótese que no hay injections ni pruebas con otros juegos de caracteres en la descripción. El problema es el mismo en publish y update y apenas hay una prueba de borrado.

Comment-Student: Se ha modificado la suite de test, ahora se juegos de caracteres e injections, además se han añadido algunos borrados tanto para flight cómo para leg.

## Managerial requirements

1. Provide a link to your planning dashboard in GitHub to review the tasks, their current status, and your schedule.

X

1. Produce a testing report.

El informe indica lo siguiente:

A screenshot of a computer

AI-generated content may be incorrect.

El estudiante olvida las desviaciones/varianzas en su análisis intuitivo. Para el test estadístico usa el Z-test con dos colas, que no es aplicable dado que nuestro objetivo es determinar si After < Before.

Comment-Student: Se ha repetido el análisis de performance testing tras modificar los índices. Además, se ha revisado y corregido el análisis estadístico. Para comprobar si el rendimiento ha mejorado, ahora se utiliza correctamente un contraste de hipótesis unilateral (test de una cola).

# SUPPLEMENTARY I Deliverable D01: introduction

## Information requirements

Intentionally blank.

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

Intentionally blank.

# SUPPLEMENTARY I Deliverable D02: data models

## Information requirements

1. The system must handle **manager** **dashboards** with the following **indicators**:

* The ranking the manager achieves based on their years of experience. The more years of experience, the higher the position in the ranking.
* The number of years to retire, assuming that they retire at 65.
* Ratio of on-time and delayed legs.
* The most popular and less popular airports within their flights. An airport is popular as long as it has been an origin or destination for many flights.
* The number of legs of their flights grouped by their status.
* The average, minimum, maximum, and standard deviation of the cost of their flights.

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

1. Produce a UML domain model regarding the information requirements.

# SUPPLEMENTARY I Deliverable D03: implementing features

## Information requirements

Intentionally blank.

## Functional requirements

1. Operations by **anonymous principals** on **user accounts**:

* Sign up to the system and become a manager.

1. Operations by **managers** on **user** **accounts**:

* Update their profiles.

1. Operations by **any principals** on **flights**:

* List the flights in the system that are published.
* Show the details of the flights that they can list (including their legs).

1. Operations by **managers** on **manager dashboards**:

* Show their manager dashboards.

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

1. Provide a link to a video in which you informally test Requirements #8 and #9. Videos should not exceed 10 minutes in length and must be stored at the USE's facilities.

# SUPPLEMENTARY I Deliverable D04: formal testing

## Information requirements

Intentionally blank.

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

1. Perform five mutations in your code and report on the results.

X

## Managerial requirements

1. Produce a lint report.

# SUPPLEMENTARY II Deliverable D01: introduction

## Information requirements

Intentionally blank.

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

1. Produce an analysis report.

X

1. Produce a planning and progress report.

# SUPPLEMENTARY II Deliverable D02: data models

## Information requirements

1. The system must track **weather conditions**. A web service must be used to populate this entity with information about weather conditions. Thus, the exact data to store depends on the chosen service, and it is the students' responsibility to define them accordingly. It is also the students’ responsibility to find the appropriate service; no implicit or explicit liabilities shall be covered by the University of Seville or their individual affiliates if the students contract pay-per-use services!  The students are strongly advised to ensure that the service they choose is free of charge.

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

1. Produce an analysis report.

1. Produce a planning and progress report.

# SUPPLEMENTARY II Deliverable D03: implementing features

## Information requirements

Intentionally blank.

## Functional requirements

1. Operations by **any principals** on **weather conditions**:

* List the forecast weather conditions and show their details.
* List the flights that took place in the last month under bad weather conditions.

1. Operations by **administrators** on **weather conditions**:

* Populate the database with forecast weather conditions.

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

1. Produce an analysis report.

1. Produce a planning and progress report.

# SUPPLEMENTARY II Deliverable D04: formal testing

## Information requirements

Intentionally blank.

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

1. Produce as a complete test suite as possible for Requirement #29 ensuring that the API is properly mocked.

## Managerial requirements

1. Produce an analysis report.

1. Produce a planning and progress report.