# Requirements – Student #3

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.

|  |
| --- |
| **Group:** C3.035 |
| **Repository:** https://github.com/DP2-2025-C1-040/Acme-ANS |
| Student #2  **ID Number:** \*\*\*\*8115  **UVUS:**  isasancas  **Name:**  Sánchez Castro, Isabel  **Roles:**  Manager, Developer |
| **Date:** Seville July 03, 2025 |
| **No hay testing report**  Solucionado con la profesora encargada de la evaluación, sí hay testing report, fue un error. |

# 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

# MANDATORY Deliverable D02: data models

## Information requirements

1. The **flight crew members** are the people responsible for operating aircrafts and ensuring 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**.

X

1. 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", "CO-PILOT", "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.

X

1. 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).

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 four **flight crew** **member** accounts with credentials “**memberX**/**memberX**” with X ranging from 1 to 4 (and different duties each). Additionally, create a fifth member account **member/member**,representing a new member with no flight assignment, as if the account had just been created.

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 **flight crew members** on **flight assignments**:

* List the flight assignments separately, one for completed flight legs and another one for those planned but that have not taken place yet.
* Show the details of their flight assignments and the associated legs and flight crew members.
* Create, update, and publish their flight assignments. Only crew members with duty “LEAD ATTENDANT” can perform these operations. Please, note that to publish a flight assignment these cannot be linked to legs that have already occurred. Additionally, only flight crew members with an "AVAILABLE" status can be assigned to a leg, and they cannot be assigned to multiple legs simultaneously. Lastly, each leg can only have one pilot and one co-pilot. The allocation of remaining roles for other flight crew members is at the discretion of the “LEAD ATTENDANT”. Flight assignments can be updated or deleted as long as they have not been published.

X Segunda convocatoria: requisito corregido y validado.

A la hora de crear un flight assignment carga las legs publicadas pero no tiene en cuenta la fecha de la misma. Tiene que tener en cuenta que la leg esté publicada (y también el flight) pero, además, tiene que tener en cuenta que la leg no haya tenido lugar. Como se indica en este requisito, " note that to publish a flight assignment these cannot be linked to legs that have already occurred". Es cierto que a la hora de publicar se indica que la leg ya ha tenido lugar, pero si no se va a permitir publicar lo que he escrito en el formulario anterior, ¿para qué se cargan datos que luego no se pueden publicar? Lo muestro haciendo capturas. Según la BD, las legs DEF0035, DEF0036 y DEF0037, son legs publicadas pero que yan han tenido lugar:

A screenshot of a computer

Description automatically generated

Cuando creo un flight assignment, éstas legs se muestran en el desplegable, pero no se debería:

A screenshot of a computer

Description automatically generated

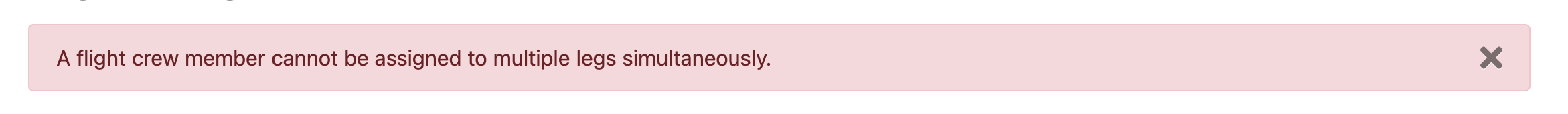
Además, indicar que el proyecto tarda mucho en hacer peticiones. ¿Están seguros que no se traen todos los datos de la BD y después hacen algún tipo de filtrado con código Java?

En la actualización, si hay algún error, se borran todos los datos de abajo que están en modo readonly:

A screenshot of a computer

Description automatically generated

Finalmente, no se permite que un miembro de la tripulación tenga dos asignaciones a vuelos distintos con el mismo rol. ¿Por qué? Siempre y cuando los vuelos no se solapen en el tiempo, un miembro de la tripulación puede ser piloto o copiloto muchas veces a lo largo de su experiencia profesional. He intentado crear dos asignaciones para el mismo member (member/member) y no lo ha permitido indicando



Sin embargo, ambas legs tienen lugar en distintos períodos de tiempo como se muestra a continuación en la base de datos (las dos legs que he marcado, son las que he intentado asignar al mismo miembro):

A screenshot of a computer

Description automatically generated

Aquí se para de evaluar.

Comentario 1 – desplegable: se ha cambiado la query que obtiene las legs que se muestran en el desplegable. Ahora filtra también por un momento dado (en este caso el momento actual) y que el flight asignado esté también publicado. La query quedaría así:

@Query("SELECT l FROM Leg l WHERE l.draftMode = false AND l.scheduledDeparture > :currentMoment AND l.airline.id = :airlineId AND l.flight.draftMode = false")

Collection<Leg> findUpcomingPublishedLegs(Date currentMoment, int airlineId);

Comentario 2 – tarda en hacer peticiones: se han mejorado los métodos authorise tanto de los servicios de flight assignment como de activity log ya que, efectivamente, había una query ineficiente (findAllLegs) que se podía sustituir por otra (findLegById). Se puede observar una mejora sustancial en el análisis del testing report.

Comentario 3 – borrado de datos en read only: se ha añadido en los métodos unbind de los servicios update y publish que, si se produce algún tipo de error, se traigan los datos originales de la base de datos de la leg asignada y el flight crew member asignado y se muestren.

Comentario 4 – validación multiples legs asignadas: se modifica el validate de los servicios para que compruebe si hay alguna leg asignada en el rango desde scheduledDeparture hasta scheduledArrival que coincida con la leg que quiero asignar en ese momento.

1. Operations by **flight crew members** on **activity log records**:

* List the activity log records in their flight assignments.
* Show the details of their activity log records.
* Create, update, delete and publish activity log records. They cannot be published if their corresponding flight assignments have not been published yet. No updating or deletion is possible once an activity log record has been published.

Segunda convocatoria: he hecho login con member/member y he creado el siguiente flight assignment:

A screenshot of a computer

AI-generated content may be incorrect.

He seleccionado el flight number DEF0045 y lo he publicado:

A screenshot of a computer

AI-generated content may be incorrect.

Como para poder crear un activity log es necesario que el vuelo (leg) esté publicado y haya tenido lugar, simulo que el tiempo ha pasado. La leg con flight number DEF0045 tenía una fecha de partida y de llegada 2026-12-15 00:01:00 y 2026-12-16 00:02:00, respectivamente. Así, voy a simular que estamos en el 2027 y así la leg anterior estará publicada y habrá tenido lugar. Entonces se podrá crear un activity log para informar sobre lo que ha ocurrido durante el vuelo. Para simular que estamos en el 1 de enero de 2027 a las 00:00, realizo la petición:

He simulado que el tiempo ha pasado con la url <http://localhost:8080/Acme-ANS-C2/any/system/set-parameter?key=moment&value=2027/01/01+00:00>.

Si nos fijamos, ya en el campo leg, el desplegable no tiene ningún dato porque se están cargando las legs en el futuro, pero si estamos mostrando los flight assignment que han aterrizado, ese desplegable no debería de ser un desplegable y ser la leg que se había seleccionado inicialmente:

A screenshot of a computer

AI-generated content may be incorrect.

Cuando hago clic en Activity Logs, se puede comprobar que aún no tiene ninguno:

A screenshot of a computer

AI-generated content may be incorrect.

Paso a crear uno, haciendo clic en el botón de “Create” y el sistema lanza una excepción de que el acceso no está autorizado, cuando realmente no se está realizando ninguna acción ilegal:

A screenshot of a computer

AI-generated content may be incorrect.

El problema se debe a que el código del método authorise, del servicio correspondiente, no está bien implementado. Inicialmente, el estado de autorización es falso (línea 27 del código). En este caso que he planteado, la línea 37 resulta en falso, porque el assignment existe y no está en modo draft, por lo que la petición se queda sin autorizar:

A screenshot of a computer program

AI-generated content may be incorrect.

Tiene usted toda la razón, entendí mal el requisito e implementé que solo se podían crear activity logs si el flight assignment asociado estaba en modo borrador, lo cual no es correcto. Para subsanarlo, simplemente he quitado la comprobación de que el flight assignment esté en modo borrador, ya que en el requisito no se especifica en qué estado debe estar. Actualmente, la linea 37 quedaría así:

**if** (assignment != **null**)

## 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.

X

## Functional requirements

Intentionally blank.

## Non-functional requirements

Intentionally blank.

## Testing requirements

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

X

## 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.

X

# 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 **flight crew member** **dashboards** with the following **indicators**:

* The last five destinations to which they have been assigned.
* The number of legs that have an activity log record with an incident severity ranging from 0 up to 3, 4 up to 7, and 8 up to 10.
* The crew members who were assigned with him or her in their last leg.
* Their flight assignments grouped by their statuses.
* The average, minimum, maximum, and standard deviation of the number of flight assignments they had in the last month.

X

## 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 in your project.

X

# 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 flight crew member.

1. Operations by **flight crew members** on **user accounts**:

* Update their profiles.

1. Operations by **any principals** on **flight assignments**:

* List the flight assignments that are published.
* Show the details of the flight assignments (excluding their activity logs).

1. Operations by **flight crew member** on **dashboards**:

* Show their flight crew member dashboards.

## Non-functional requirements

Intentionally blank.

## Testing requirements

Intentionally blank.

## Managerial requirements

1. Provide a link to a video in which you informally test requirement #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.

## 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.

X

# SUPPLEMENTARY II Deliverable D02: data models

## Information requirements

1. The system is required to provide crew members with information about **visa requirements**. A web service must be used to populate this entity with information about visa requirements. 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 hire 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 **flight crew members** on **visa requirements**:

* List visa requirements according to the destination countries of their flight assignments.
* Show the details of the visa requirements they can list.

1. Operations by **administrators** on **visa requirements**:

* Populate the database with visa requirements data.

## 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 web service is properly mocked.

## Managerial requirements

1. Produce an analysis report.

1. Produce a planning and progress report.