

Planning and Progress Report



Acme AirNav Solutions, Inc

Group Number: C1.066

Repository: <https://github.com/mquirosq/DP2-C1.066>

Student #2:

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Executive Summary

This document presents the Planning and Progress Report for Delivery 02, detailing the approach taken to plan, execute and monitor the project. It provides an overview of the tasks performed, the methodology applied, and a comparison of estimated and actual project costs.

In the Planning section, the report details the tasks performed, the methodology used to organize and ensure quality, and the estimated budget. A planning dashboard in GitHub was used to track task progress. The budget estimation covers personnel costs based on roles and amortization expenses for necessary resources, with a final estimated budget of **316.50 euros**.

The Progress section makes use of the performance indicators defined in the Chartering Report [1] to track progress. The actual time spent per role was also recorded and compared against initial estimates. The personnel cost was slightly higher than expected (**325,10 euros**), resulting in a small deviation of **8.60 euros**. However, the variance remained minimal, demonstrating effective planning. No additional expenses were incurred, keeping the amortization cost at **25 euros**, leading to a final project cost of **350.10 euros**.

The report concludes with the intention of applying the insights and lessons learned during this delivery to improve efficiency in future project deliveries.

Revision History

Revision	Date	Description
1.0	2025-02-27	Initial draft
1.1	2025-03-07	Added image of dashboard during development
1.2	2025-03-13	Add metrics for 2025-03-11
1.3	2025-05-08	Add budget and final results

1. Introduction

This document describes the approach taken to plan, execute and monitor the project's development. The report provides an overview of the tasks performed, the methodologies applied, and records my progress. Additionally, it includes a budget and compares the estimated and actual costs of the project.

The Planning section details the tasks performed, and the methodology used to organize and track tasks on the planning board. It also includes a budget plan, detailing the estimated hours worked per role and their corresponding monetary cost.

The Progress section details how I advanced towards the project's objective. This includes insights on my performance using the indicators defined in the Chartering Report [1] . It also provides a comparison between the estimated budget of the project and the actual costs.

As mentioned, the document is structured in two major sections: Planning and Progress. In the planning section, a list of completed tasks is provided, the planning and development methodology (including screen captures of the planning dashboard at various stages) is described, and the budget is detailed. The Progress section covers performance records, conflicts faced, and a comparison of the actual costs with the initial budget.

2. Planning

2.1. Tasks listing

During the project, the following tasks have been performed. Some tasks do not have a final actual time, as their actual duration can only be measured after this document is complete.

- **Task 008:**

- Plan delivery 2

- * Description: Create the tasks corresponding to delivery 2.
 - * Assignees: María Quirós
 - * Role: Manager
 - * Planned time: 0:30:00
 - * Actual time: 0:17:57

- **Task 009:**

- Update development environment

- * Description: Update the framework to the new version for deliverable 4.

- * Assignees: María Quirós
- * Role: Developer
- * Planned time: 0:30:00
- * Actual time: 0:23:59

• **Task 010:**

- Create the Customers role
 - * Description: Create the customer's role according to the following requirement: "Customers are the people who purchase flights. The system must store the following data about them: an identifier, where the first two or three letters correspond to their initials), a phone number, a physical address (up to 255 characters), plus a city and a country (both up to 50 characters). Optionally, customers may have some earned points (up to 500k points)."
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:14:27
- Create the Customers role \T1
 - * Description: Test "S2-Task 010: Create the Customers role" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:05:28
- Create the Customer role \R1
 - * Description: Add custom validation and ranges.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:30:00
 - * Actual time: 0:31:55
- Create the Customer role \T2
 - * Description: Test "S2-Task 010: Create the Customer role" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:04:05
- Create the Customer role \R2
 - * Description: Make the changes indicated in test 2 (#260).
 - * Assignees: María Quirós

- * Role: Developer
- * Planned time: 0:10:00
- * Actual time: 0:07:00
- Create the Customer role \T3
 - * Description: Test "S2-Task 010: Create the Customer role" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:05:00
- Create the Customer role \R3
 - * Description: Change the custom validator of the customer role to only check for the first two initials instead of the first three.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:05:00
 - * Actual time: 0:10:16
- Create the Customer role \T4
 - * Description: Test "S2-Task 010: Create the Customer role" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:07:55
- Create the Customer role \R4
 - * Description: Add ValidPhoneNumber annotation to the phone number. Implement uniqueness validator for unique attributes. Also, change the validator to account for null values.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:10:00
- Create the Customer role \T5
 - * Description: Test "S2-Task 010: Create the Customer role" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:05:00

• **Task 011:**

- Create the Booking entity
 - * Description: Create the Booking entity regarding the requirement: "A booking is a reservation made by a customer to purchase a flight, guaranteeing some seats on a specific itinerary and associating some passengers' details with the trip. The system must manage the following information for each booking: a locator code, a purchase moment (in the past), a travel class ("ECONOMY", BUSINESS"), and a price. Optionally, the system should record the last nibble of the credit card used for payment. "
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:29:03
- Create the Booking entity \T1
 - * Description: Test "S2-Task 011: Create the Booking entity" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:02:29
- Create the Booking entity \R1
 - * Description: Add uniqueness validator for unique attributes.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:10:00
- Create the Booking entity \T2
 - * Description: Test "S2-Task 011: Create the Booking entity" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:05:00
- Create the Booking entity \R2
 - * Description: Adapt entity to have a draftMode. Additionally, modify the sample data accordingly.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:30:00
 - * Actual time: 0:31:00
- Create the Booking entity \T3
 - * Description: Test "S2-Task 011: Create the Booking entity" and ensure it complies with the requirements.

- * Assignees: María Quirós
- * Role: Tester
- * Planned time: 0:10:00
- * Actual time: 0:07:00

- **Task 012:**

- Create the Passenger entity
 - * Description: Create the Passenger entity as per the following requirement:

”A passenger is an individual who takes a flight and he or she must be registered in the corresponding booking. The system must store the following data about passengers: a full name (shorter than 256 characters), an email, a passport number, a date of birth, and, optionally, his or her special needs (shorter than 51 characters).”
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:10:00
 - * Actual time: 0:15:33
- Create the Passenger entity \T1
 - * Description: Test ”S2-Task 012: Create the Passenger entity” and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:04:17
- Create the Passenger entity \R1
 - * Description: Add draft mode attributes. Additionally, update the sample data to match the updated entity.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:20:00
 - * Actual time: 0:15:00
- Create the Passenger entity \T2
 - * Description: Test ”S2-Task 012: Create the Passenger entity” and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:05:00

- **Task 013:**

- Produce Sample data to test requirements

- * Description: Produce assorted sample data to test the application informally. The data must include two customer accounts with credentials “customer1/customer1” and “customer2/customer2”. Additionally, create a customer account with credentials “customer3/ customer3” that represents a customer with only profile data.
- * Assignees: María Quirós
- * Role: Tester
- * Planned time: 2:00:00
- * Actual time: 3:22:10
- Produce Sample data to test requirements \T1
 - * Description: Check that the sample data contains all needed variations (those explained in theory lessons like: null values for optional attributes, association variations, and general variations and singular values). Additionally, check that they are in the correct folder and that the database is correct.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:10:00
 - * Actual time: 0:11:20
- Produce Sample data to test requirements \R1
 - * Description: Change sample data to make base values the same across all entries.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:10:00
 - * Actual time: 0:07:30
- Produce Sample data to test requirements \T2
 - * Description: Check that the sample data contains all needed variations (those explained in theory lessons like: null values for optional attributes, association variations, and general variations and singular values). Additionally, check that they are in the correct folder and that the database is correct.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:07:00

● **Task 014:**

- Provide a link to the planning dashboard
 - * Description: Provide a link to the planning dashboard in the reports/D02/Student#2 folder.
 - * Assignees: María Quirós
 - * Role: Operator

- * Planned time: 0:05:00
- * Actual time: 0:05:28
- Provide a link to the planning dashboard \T1
 - * Description: Test "S2-Task 014: Provide a link to the planning dashboard" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:03:00
 - * Actual time: 0:03:10
- **Task 015:**
 - Create a Customer dashboard form
 - * Description: Create a customer dashboard form with the following indicators: the last five destinations; the money spent in bookings during the last year; their number of bookings grouped by travel class; total, average, minimum, maximum, and standard deviation of the cost of their bookings in the last five years; and, count, average, minimum, maximum, and standard deviation of the number of passengers in their bookings.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 1:00:00
 - * Actual time: 1:01:15
 - Create a Customer dashboard form \T1
 - * Description: Test "S2-Task 015: Create a Customer dashboard form" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:05:00
 - Create a Customer dashboard form \R1
 - * Description: Make the changes indicated in test 1 (#546).
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:10:00
 - * Actual time: 0:07:00
 - Create a Customer dashboard form \T2
 - * Description: Test "S2-Task 015: Create a Customer dashboard form" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00

- * Actual time: 0:05:00
- Create a Customer dashboard form \R2
 - * Description: Solve issue with final query.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:07:00
 - * Actual time: 0:06:00
- Create a Customer dashboard form \T3
 - * Description: Test "S2-Task 015: Create a Customer dashboard form" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:07:00
- **Task 016:**
 - Create a UML domain model
 - * Description: Produce a UML domain model regarding the information requirements of the project. The UML domain model in "ACME Jobs" may be checked for inspiration.
 - * Assignees: María Quirós
 - * Role: Analyst
 - * Planned time: 1:00:00
 - * Actual time: 1:32:28
 - Create a UML domain model \T1
 - * Description: Test "S2-Task 016: Create a UML domain model" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:10:00
 - * Actual time: 0:07:27
 - Create a UML domain model \R1
 - * Description: Update UML diagram to match the changes in the project.
 - * Assignees: María Quirós
 - * Role: Analyst
 - * Planned time: 0:15:00
 - * Actual time: 0:29:09
 - Create a UML domain model \T2
 - * Description: Test "S2-Task 016: Create a UML domain model" and ensure it complies with the requirements. Check that all classes are correctly represented.

- * Assignees: María Quirós
- * Role: Tester
- * Planned time: 0:15:00
- * Actual time: 0:08:00

• **Task 017:**

- Implement recommendations
 - * Description: The system must include a board to recommend something in the city and/or country of a given airport. Recommendations can be about experiences, activities, restaurants, accommodation or any other thing that a person may find interesting at the destination. A web service must be used to populate this entity with information about recommendations. 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.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 1:00:00
 - * Actual time: 0:32:33
- Implement recommendations \T1
 - * Description: Check that the recommendations entity has been correctly created and that the sample data was generated according to the methodology proposed on the course.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:05:00

• **Task 018:**

- Produce an analysis report
 - * Description: Produce an analysis report. Follow the general report guidelines provided in the Annex document of the project statement in EV. The contents of the report are also defined in the Annex document mentioned above. Upload the document to the repository once it is finished.
 - * Assignees: María Quirós
 - * Role: Analyst
 - * Planned time: 1:30:00
 - * Actual time: 1:43:41
- Produce and analysis report \T1
 - * Description: Test "S2-Task 018: Produce an analysis report" and ensure it complies with the requirements.

- * Assignees: María Quirós
- * Role: Tester
- * Planned time: 0:07:00
- * Actual time: 0:08:00

• **Task 019:**

- Produce a Planning and Progress report
 - * Description: Produce a planning and progress report. Follow the general report guidelines provided in the Annex document of the project statement in EV. The contents of the report are also defined in the Annex document mentioned above. Upload the document to the repository once it is finished.
 - * Assignees: María Quirós
 - * Role: Manager
 - * Planned time: 1:30:00
 - * Actual time: not applicable
- Produce a Planning and Progress report \T1
 - * Description: Test "S2-Task 019: Produce a Planning and Progress report" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: not applicable

• **Task 020:**

- Add checked requirements document
 - * Description: Add the Student#2 Requirements document with the checked requirements to the D02/Student#2 folder in the reports folder.
 - * Assignees: María Quirós
 - * Role: Operator
 - * Planned time: 0:10:00
 - * Actual time: 0:13:00
- Add checked requirements document \T1
 - * Description: Test "S2-Task 020: Add checked requirements document" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Operator
 - * Planned time: 0:05:00
 - * Actual time: 0:04:13

• **Task 021:**

- Add intermediate class for Booking and Passenger

- * Description: Add an intermediate entity (BookingRecord) that links Booking to Passenger to simulate a many to many relationship.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:11:20
- Add intermediate class for Booking and Passenger \T1
 - * Description: Test "S2-Task 021: Add intermediate class for Booking and Passenger" and ensure it complies with the requirements.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:03:33

2.2. Planning methodology

In this section, I will present the planning methodology, using some screen captures of the planning dashboard at the start, during and at the end of development.

The first step of the project was to plan the tasks for the first deliverable. Once this step was completed, as shown in Figure 1, all tasks in the planning dashboard were placed in the "To do" column, except for the planning task itself.

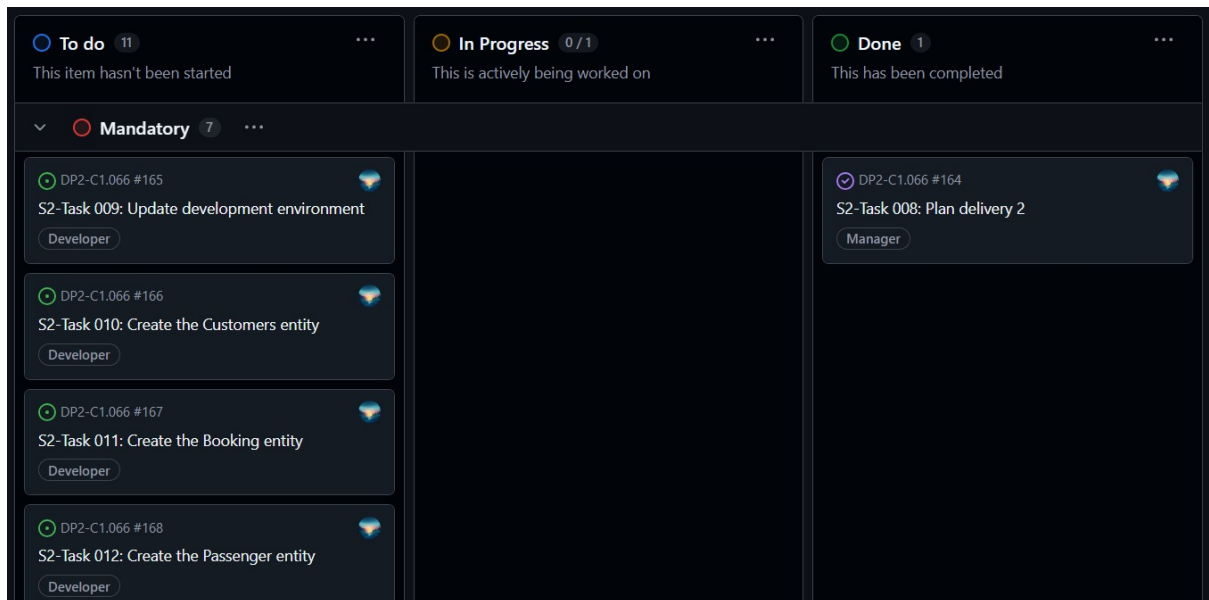


Figure 1: Screen capture of the planning dashboard at the start of the delivery

Once all the tasks were created, the development process started. When I started working on a task, it was moved to the "In Progress" column. Upon completion, the task is moved

to the "Done" column. Then, a quality assurance task is created to test the completed task.

Quality assurance tasks are named after the task they are verifying, followed by "\Tx", where x represents the test iteration number (e.g., "\T1" for the test, "\T2" for a second test if needed, and so on). If any issues are identified during testing, a review task is created to address them. Review tasks follow the same naming convention as quality assurance tasks but use "\Rx" instead (e.g., "\R1", "\R2"). Once a review task is completed, a new quality assurance task is created.

An example of the dashboard during the development process can be seen in Figure ?? . Note the appearance of testing and review tasks in the "Done" column.

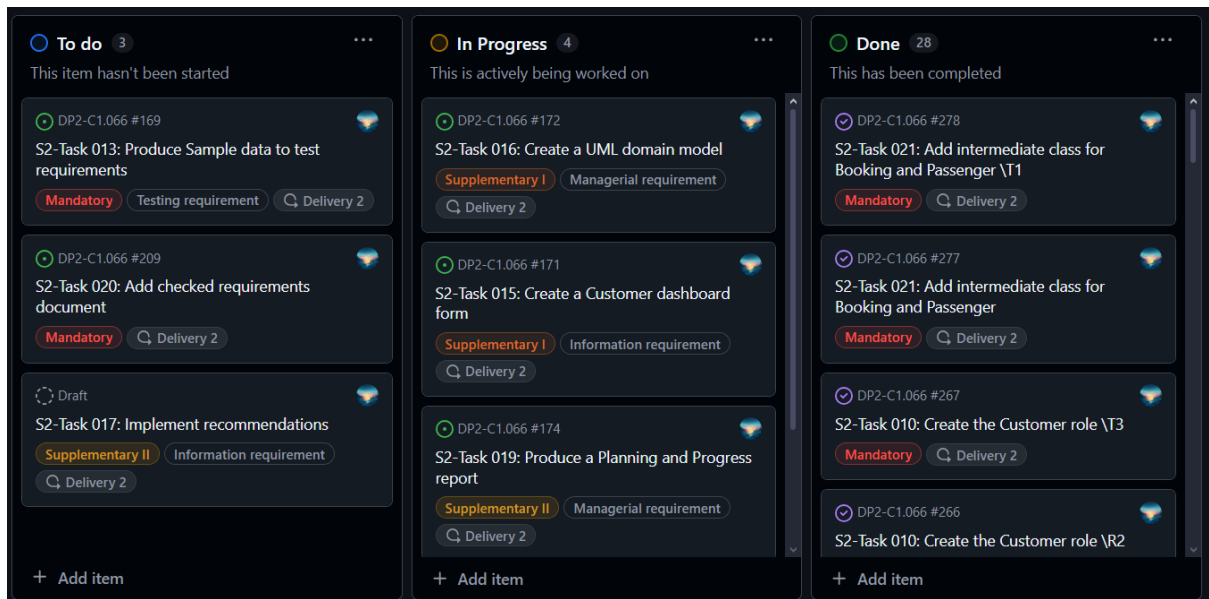


Figure 2: Screen capture of the planning dashboard during the delivery

Once the development is completed, all tasks are moved to the "Done" column, as shown in Figure 3. Note that only task associated with mandatory requirements are shown.

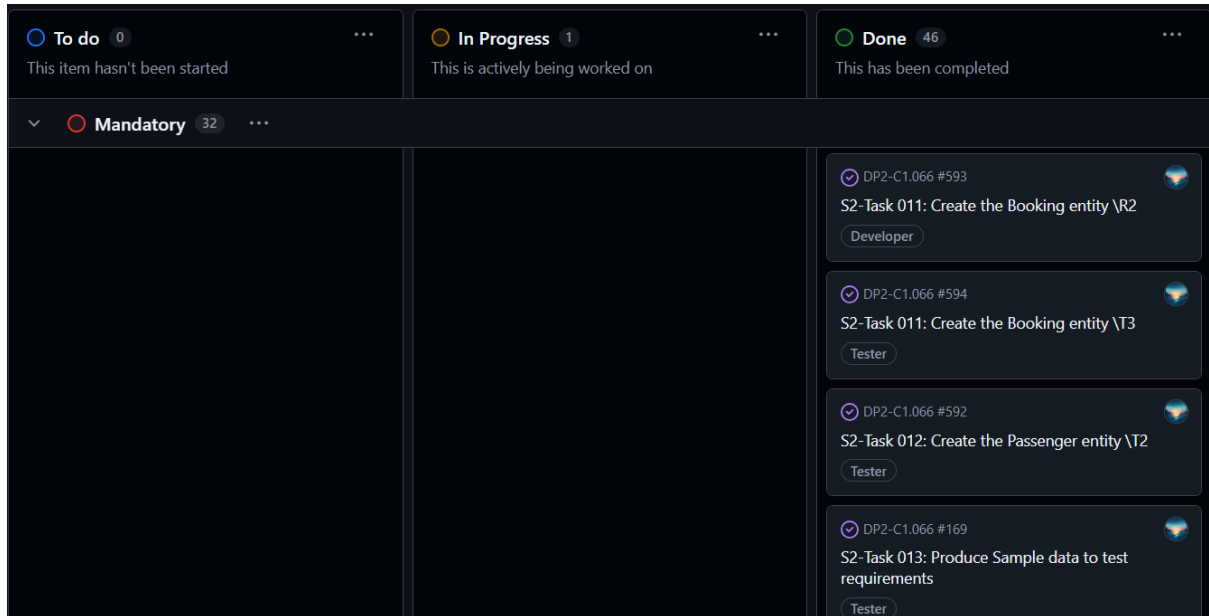


Figure 3: Screen capture of the planning dashboard at the end of the delivery

2.3. Budget

The budget for Delivery 02 includes the estimated hours per role, personnel costs, and amortization costs. Depending on the nature of the task, I have adopted a specific role, which is taken into account when computing the budget. The personnel costs are computed based on the following hourly rates:

- Managers and analysts: **30,00 euros per hour**
- Developers, testers, and other roles: **20,00 euros per hour**

After summing the estimated times for each task, taking into account the role adopted, we obtain the results in Figure 4. The total expected work is **14.2 hours**, and the total personnel cost is **316.50 euros**.

Role	Hourly Rate	Estimated Time (hrs)	Estimated costs
Manager	30,00 €	0,5	15,00 €
Developer	20,00 €	5,95	119,00 €
Tester	20,00 €	4,67	93,40 €
Operator	20,00 €	0,33	6,60 €
Analyst	30,00 €	2,75	82,50 €
Student	20,00 €	0	0,00 €
Totals:		14,2	316,50 €

Figure 4: Table with estimated costs in hours and euros by role and the totals

The project requires the use of a laptop, valued at 1.200 euros, which is amortized over three years (36 months with 4 weeks per month). The weekly amortization cost is:

$$\text{Amortization cost per week} = \frac{1,200}{36 * 4} = 8.33 \text{ euros}$$

Since Delivery 02 has a duration of three weeks, the amortization costs are:

$$\text{Amortization cost for 3 weeks} = 8.33 \times 3 = 25.00 \text{ euros}$$

Thus, the estimated cost of the delivery ascends to **341.50 euros**.

3. Progress

3.1. Progress records

The following records provide an overview of my performance in individual tasks according to the performance indicators defined in the Chartering Report [1] and the corresponding actions taken.

Feedback session 1 (25/02/2025) Regarding the "Grade" performance indicator, I expected to obtain three marked requirements, including both mandatory requirements for Delivery 01 and the planning dashboard requirement for Delivery 02. During the session, the lecturer marked all three requirements as completed.

$$\text{Grade} = 3 - 3 = 0$$

Thus, the final value of the Grade indicator was 0. A zero value indicates that I am adequately making progress towards the goal without exceeding expectations, so I decided to keep working as I have.

Feedback session 2 (11/03/2025) I presented all mandatory requirements to the lecturer for validation. So, regarding the "Grade" performance indicator, I expected to obtain marked requirements, including both mandatory requirements for Delivery 01 and mandatory requirements for Delivery 02. During the session, the lecturer marked all requirements as valid.

$$\text{Grade} = 7 - 7 = 0$$

Thus, the final value of the Grade indicator was 0. A zero value indicates that I am adequately making progress towards the goal without exceeding expectations, so I decided to keep working as I have, taking into account the feedback received.

3.2. Conflicts

No conflicts have arisen.

3.3. Cost comparison

After completing Delivery 02, we compare the initial estimated costs with the actual costs incurred. This includes the number of hours spent per role, personnel costs, amortization, and the total cost difference.

By summing the total time spent on each task, considering the role adopted, we obtain the results in Figure 5. To ensure a fair comparison, we will not account for the tasks not yet completed (this document), the estimated time matches the final recorded time. The total time dedicated to the project amounts to **14.23 hours**, with a total personnel cost of **325.10 euros**.

Role	Hourly Rate	Estimated Time (hrs)	Estimated costs	# Total Hours	Total cost (€)
Manager	30,00 €	0,5	15,00 €	0,3	9,00 €
Developer	20,00 €	5,95	119,00 €	4,4	88,00 €
Tester	20,00 €	4,67	93,40 €	5,4	108,00 €
Operator	20,00 €	0,33	6,60 €	0,38	7,60 €
Analyst	30,00 €	2,75	82,50 €	3,75	112,50 €
Student	20,00 €	0	0,00 €	0	0,00 €
Totals:		14,2	316,50 €	14,23	325,10 €
Reality - Estimation				0,03	8,60 €

Figure 5: Budget comparison with actual costs

When comparing the estimated and actual costs for Delivery 02, only a minor deviation from the original budget can be appreciated. Initially, the personnel cost was estimated at 316.50 euros, while the actual cost amounted to 325.10 euros, resulting in an increase of just 8.60 euros. The slight variance stems from three main discrepancies: developer work was overestimated by almost two hours, while tester and analyst effort were underestimated by one hour each, effectively balancing each other. The increase in cost can be

mainly attributed to the higher-than-expected analyst hours, which have a higher salary, though this was partially mitigated by reduced manager involvement.

Despite the slight increase in personnel expenses, the overall budget deviation remains minimal, reflecting a generally accurate estimation process. No additional costs were incurred, and the amortization expenses remained fixed at 25 euros.

Thus, the real cost of Delivery 02 stands at **350.10 euros**.

4. Conclusions

Throughout this document, I have demonstrated the approach taken to achieve the objectives set for Delivery 02. Through task allocation, quality assurance processes, monitoring after feedback sessions, and iterative improvement based on said feedback, I made steady progress towards the goal.

In the planning section, I have provided evidence that my planning was conducted using a structured approach. I have demonstrated that I have followed the course's methodology regarding quality assurance and reviews, as well as presented the budget per role and the totals.

In the progress section, I have demonstrated how progress was measured and the actions taken to improve performance. Additionally, I have compared the estimated budget with the final costs with a positive result, as the deviations were minimal.

Throughout this delivery, I have gained valuable lessons about planning, execution and the importance of quality assurance. Moving forward, I aim to incorporate the lessons learned from this second delivery to enhance productivity and ensure successful completion of my goal.

References

- [1] Team C1.066, *Chartering Report*, 2025. Included in project delivery.