

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 03, 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 **752,33 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 (**731,33 euros**), resulting in a small deviation of **4 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 **756,33 euros**.

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

Revision History

Revision	Date	Description
1.0	2025-04-27	Initial draft
1.2	2025-05-26	Final version

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 022:**

- Plan delivery 3
 - * Description: Create the tasks corresponding to delivery 3.
 - * Assignees: María Quirós
 - * Role: Manager
 - * Planned time: 0:40:00
 - * Actual time: 0:25:00

- **Task 023:**

- List and show details of customer/booking
 - * Description: Implement the features to allow customers to list their bookings and show their details, including the associated passengers.

- * Assignees: María Quirós
- * Role: Developer
- * Planned time: 2:00:00
- * Actual time: 2:28:43
- List and show details of customer/booking \T1
 - * Description: Check that customers can correctly list and show bookings. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized. Finally, make sure that the passengers of each booking are also correctly listed.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:04:45
- List and show details of customer/booking \R1
 - * Description: Add draft attribute to list.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:11:19
- List and show details of customer/booking \T2
 - * Description: Check that customers can correctly list and show bookings. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized. Finally, make sure that the passengers of each booking are also correctly listed.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:11:24

• **Task 024:**

- Create and update bookings for customer/booking
 - * Description: Implement features necessary to create and update a customer's bookings. Bookings can be updated as long as they have not been published. A booking can be published only when the last credit card nibble has been stored and it has some passengers.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 2:00:00
 - * Actual time: 2:31:28
- Create and update bookings for customer/booking \T1

- * Description: Check that customers can correctly update, create and publish bookings, adding and removing passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
- * Assignees: María Quirós
- * Role: Tester
- * Planned time: 0:15:00
- * Actual time: 0:12:07
- Create and update bookings for customer/booking \R1
 - * Description: Solve bug in which published passengers do not show in the passengers list.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:20:00
 - * Actual time: 0:15:06
- Create and update bookings for customer/booking \T2
 - * Description: Check that customers can correctly update, create and publish bookings, adding and removing passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:03:44
- Create and update bookings for customer/booking \R2
 - * Description: Modify the form so that read-only attributes are not shown, consider flights' draft mode in the selection, reconsider the read-only fields to update when they must. Users should not be able to access unpublished entities that they are not the creator of. Check that the ids provided in the url exist.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:45:00
 - * Actual time: 0:50:28
- Create and update bookings for customer/booking \T3
 - * Description: Check that customers can correctly update, create and publish bookings, adding and removing passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
 - * Assignees: María Quirós

- * Role: Tester
- * Planned time: 0:15:00
- * Actual time: 0:16:09
- Create and update booking for customer/booking \R3
 - * Description: Add the passport number to the passengers in the booking and change the identifier of flights shown.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:30:00
 - * Actual time: 0:33:27
- Create and update booking for customer/booking \T4
 - * Description: Check that customers can correctly update, create and publish bookings, adding and removing passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:06:29
- Create and update booking for customer/booking \R4
 - * Description: Change the "purchased at" date to be read only and set by the server when a booking is created/updated or published.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:30:00
 - * Actual time: 0:21:47
- Create and update booking for customer/booking \T5
 - * Description: Check that customers can correctly update, create and publish bookings, adding and removing passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:07:00
 - * Actual time: 0:06:43

• **Task 025:**

- List and show passengers customer/passenger
 - * Description: Implement feature for a customer to list the passengers in their bookings and show the details of their passengers.

- * Assignees: María Quirós
- * Role: Developer
- * Planned time: 1:00:00
- * Actual time: 1:23:42
- List and show passengers customer/passenger \T1
 - * Description: Check that administrators can correctly list and show passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:04:35
- List and show passengers customer/passenger \R1
 - * Description: Handle draft attribute in the passenger draft list, as the my drafts button is always showing.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:30:00
 - * Actual time: 0:31:57
- List and show passengers customer/passenger \T2
 - * Description: Check that administrators can correctly list and show passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:10:20

• **Task 026:**

- Create and update for customer/passenger
 - * Description: Implement the features so that customers can create a passenger and record the information related to that passenger and update a passenger as long as it has not been published.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 1:00:00
 - * Actual time: 0:52:27
- Create and update for customer/passenger \T1

- * Description: Check that customers can correctly update, create and publish passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
- * Assignees: María Quirós
- * Role: Tester
- * Planned time: 0:15:00
- * Actual time: 0:04:53
- Create and update for customer/passenger \R1
 - * Description: Read only attributes should not be shown, reconsider the readonly fields to update when they must, you cannot access unpublished things that you are not the creator of, check that the ids provided exist.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:20:00
 - * Actual time: 0:18:07
- Create and update for customer/passenger \T2
 - * Description: Check that customers can correctly update, create and publish bookings, adding and removing passengers. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:10:24

• **Task 027:**

- Provide a link to planning dashboard in GitHub
 - * Description: Provide a link to the planning dashboard in the reports/D03/Student#2 folder.
 - * Assignees: María Quirós
 - * Role: Operator
 - * Planned time: 0:10:00
 - * Actual time: 0:02:46
- Provide link to planning dashboard in GitHub \T1
 - * Description: Check that the planning dashboard link is correct and in the folder reports/D03/Student#2.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:05:00

- * Actual time: 0:01:07

- **Task 028:**

- Sign up to the system and become a customer
 - * Description: Allow anonymous principals to sing up into the system and become a customer.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:30:00
 - * Actual time: 0:25:38
- Sign up to the system and become a customer \T1
 - * Description: Check that a user can become a customer. Additionally, check that a customer cannot become a customer again.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:10:00
 - * Actual time: 0:15:50
- Sign up to the system and become a customer \R1
 - * Description: Add a placeholder for the phone number.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:10:00
 - * Actual time: 0:05:27
- Sign up to the system and become a customer \T2
 - * Description: Check that a user can become a customer. Additionally, check that a customer cannot become a customer again.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:10:00
 - * Actual time: 0:05:02

- **Task 029:**

- Allow customers to update their profiles
 - * Description: Implement the necessary features so that a customer can update their profile. Additionally, check that a non-customer may not update their customer profile.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:30:00
 - * Actual time: 0:11:50
- Allow customers to update their profiles \T1

- * Description: Check that a customer can update their profile. Additionally, check that a non-customer may not update their customer profile.
- * Assignees: María Quirós
- * Role: Tester
- * Planned time: 0:15:00
- * Actual time: 0:00:00

- **Task 030:**

- List and show the bookings to administrators
 - * Description: Allow administrators to list the bookings in the system that are published and show the details of the bookings (including the passengers).
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 1:00:00
 - * Actual time: 0:40:00
- List and show the bookings to administrators \T1
 - * Description: Check that an administrator can correctly list and show all published bookings. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized. Finally, make sure that the passengers of each booking are also correctly listed.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:10:08
- List and show the bookings to administrators \R1
 - * Description: Change the way flights are identified in the dropdown.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:11:04
- List and show the bookings to administrators \T2
 - * Description: Check that an administrator can correctly list and show all non-draft bookings. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized. Finally, make sure that the passengers of each booking are also correctly listed.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:10:00

- * Actual time: 0:08:21

- **Task 031:**

- Show customers their dashboards
 - * Description: Implement feature to allow customers to see their dashboards.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 1:30:00
 - * Actual time: 1:20:26
- Show customers their dashboards \T1
 - * Description: Check that the feature cannot be hacked and it always returns success or errors except in exceptional circumstances.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:06:12
- Show customers their dashboards \R1
 - * Description: Check money amounts, they are not being rendered correctly.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:30:00
 - * Actual time: 0:33:32
- Show customers their dashboards \T2
 - * Description: Check that the feature cannot be hacked and it always returns success or errors except in exceptional circumstances.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:13:42

- **Task 032:**

- Create video to informally test requirements #8 and #9
 - * Description: Provide a link to a video in which we informally test requirement #8 and #9. Videos should not exceed 10 minutes in length and must be stored at the USE's facilities.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 2:30:00
 - * Actual time: 2:00:00
- Create video to informally test requirements #8 and #9 \T1

- * Description: Check that the video is no more than 10 minutes long and that it is correctly stored in the USE's facilities.
- * Assignees: María Quirós
- * Role: Tester
- * Planned time: 0:15:00
- * Actual time: 0:15:00

• **Task 033:**

- Customers can list recommendations
 - * Description: Allow customers to list recommendations related to final destinations in their bookings.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 1:00:00
 - * Actual time: 0:47:21
- Customers can list recommendations \T1
 - * Description: Check that a customer can correctly list and show recommendations related to their destinations. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized. Finally, make sure the feature cannot be hacked.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:10:00
 - * Actual time: 0:05:36

• **Task 034:**

- Allow administrators to populate the database with recommendations
 - * Description: Allow administrators to populate the database with recommendations somehow related to locations (e.g., related to cities or countries).
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 2:30:00
 - * Actual time: 3:05:05
- Allow administrators to populate the database with recommendations \T1
 - * Description: Check that an administrator can correctly populate the database with new recommendations. Additionally, check that the repository, service and controller are correctly implemented and that the information shown corresponds to the requirement and check that all messages are correctly internationalized. Finally, make sure the feature cannot be hacked.
 - * Assignees: María Quirós

- * Role: Tester
- * Planned time: 0:15:00
- * Actual time: 0:12:44

• **Task 035:**

- Produce 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: 1:29:33
- Produce analysis report \T1
 - * Description: Check that the document includes the correct content, has no grammatical or typing issues and is located in the correct folder.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:14:16

• **Task 036:**

- Produce 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: 2:00:00
 - * Actual time: Not applicable

• **Task 037:**

- Add marked requirements document
 - * Description: Add the Student#2 Requirements document with the checked requirements to the D03/Student#2 folder in the reports folder.
 - * Assignees: María Quirós
 - * Role: Operator
 - * Planned time: 0:10:00
 - * Actual time: 0:07:24

- Add marked requirements document \T1
 - * Description: Check that the Student#2 Requirements document with the checked requirements has been added to the D03/Student#2 folder in the reports folder.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:05:00
 - * Actual time: 0:03:47
- **Task 037:**
 - Update development environment
 - * Description: Update the framework to the new version for deliverable 3.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 1:00:00
 - * Actual time: 1:08:34
- **Task 041:**
 - Add security measures to avoid common hacking attacks
 - * Description: Use the knowledge acquired in lesson 5 to check the controllers and service and make sure that the application follows the guidelines to avoid common hacking attacks, specially GET and POST hacking through the bind/unbind/authorise methods.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 2:00:00
 - * Actual time: 4:12:22
 - Add security measures to avoid common hacking attacks \T1
 - * Description: Check that all illegal actions are successfully detected and that all legal actions pass successfully or return errors.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:20:00
 - * Actual time: 0:20:22
 - Add security measures to avoid common hacking attacks \R1
 - * Description: Add measures to check that the id is correct before parsing it in the db.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:31:07
 - Add security measures to avoid common hacking attacks \T2

- * Description: Check that all illegal actions are successfully detected and that all legal actions pass successfully or return errors.
- * Assignees: María Quirós
- * Role: Developer
- * Planned time: 0:15:00
- * Actual time: 0:06:33
- Add security measures to avoid common hacking attacks \R2
 - * Description: When publish/show/delete/update are called without an id they rise an exception when accessing the id, de-authorise it. When customer 2 accesses their passenger booking-record the application throws an exception, it should not. A passenger that is no of customer 2 is in one of their bookings, change the passenger. Add validation messages to patterns. Administrators are seeing draft bookings, update the validation.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:25:00
 - * Actual time: 0:23:07
- Add security measures to avoid common hacking attacks \T3
 - * Description: Check that all illegal actions are successfully detected and that all legal actions pass successfully or return errors.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:19:45
- Add security measures to avoid common hacking attacks \R3
 - * Description: Check that entities that may be null are not accessed before checking they are not null.
 - * Assignees: María Quirós
 - * Role: Developer
 - * Planned time: 0:15:00
 - * Actual time: 0:11:11
- **S2-Task 041:**
- Add security measures to avoid common hacking attacks \T4
 - * Description: Check that all illegal actions are successfully detected and that all legal actions pass successfully or return errors.
 - * Assignees: María Quirós
 - * Role: Tester
 - * Planned time: 0:15:00
 - * Actual time: 0:07:00

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 D03 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.

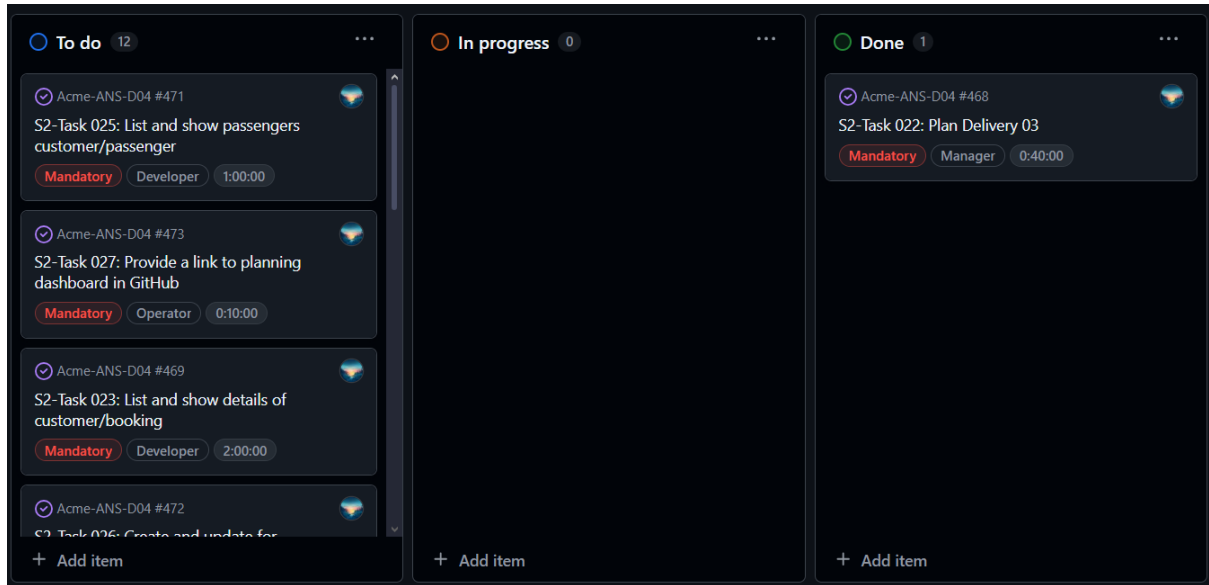


Figure 1: Screen capture of the planning dashboard at the start of the delivery

Once all the tasks were created, I started development. 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 2. Note the appearance of testing and review tasks in the "Done" column.

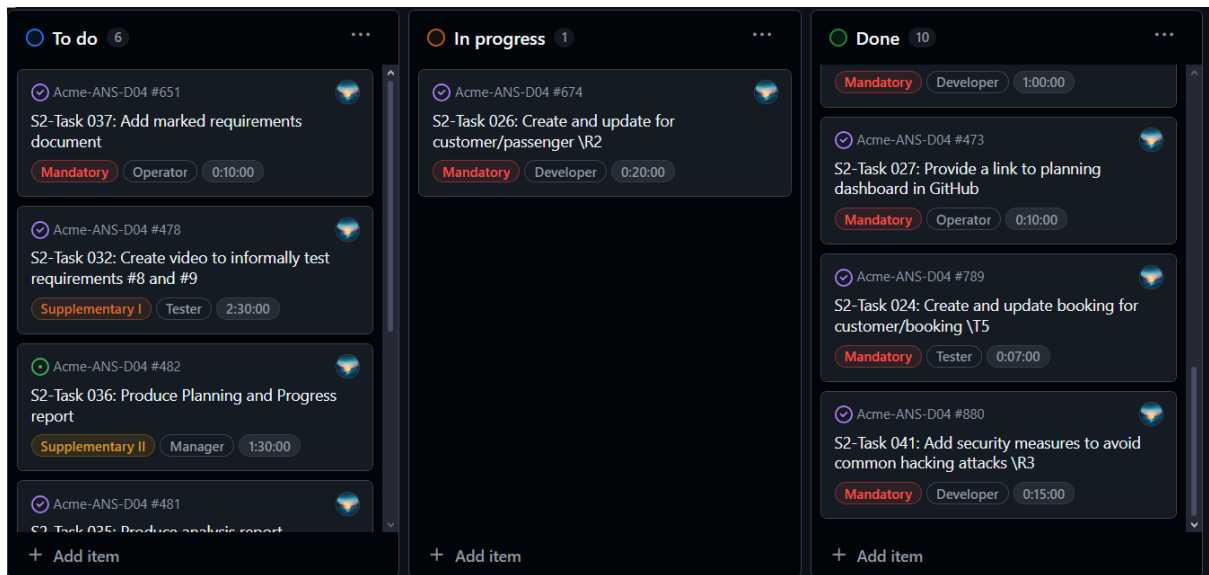


Figure 2: Screen capture of the planning dashboard during the delivery

Once the development is completed, all tasks are moved to the "Done" column, as shown in Figure 3. Note that the task regarding marking the Planning and Progress report is still in the "In Progress" section as it cannot be marked as completed until this document is finished.

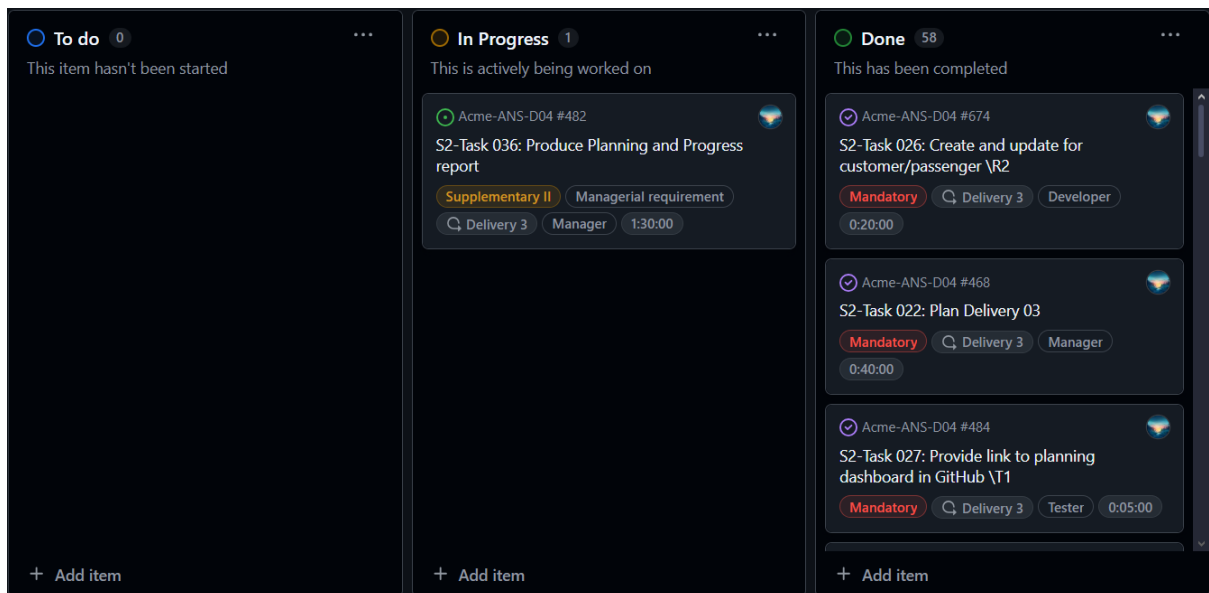


Figure 3: Screen capture of the planning dashboard at the end of the delivery

2.3. Budget

The budget for Delivery 03 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 **34,28 hours**, and the total personnel cost is **727,33 euros**.

Role	Hourly Rate	Estimated Time (hrs)	Estimated costs
Manager	30,00 €	2,67	80,00 €
Developer	20,00 €	21,25	425,00 €
Tester	20,00 €	8,53	170,67 €
Operator	20,00 €	0,33	6,67 €
Analyst	30,00 €	1,50	45,00 €
Student	20,00 €	0,00	0,00 €
Totals:		34,28	727,33 €

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 **752,33 euros**.

3. Progress

3.1. Progress records

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

Feedback session 1 (18/03/2025) Regarding the "Grade" performance indicator, I expected to obtain seven marked requirements, including both mandatory requirements for Delivery 01 and mandatory requirements for Delivery 02. During the session, the lecturer marked all seven requirements as completed.

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

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.

Feedback session 2 (25/03/2025) I presented all mandatory requirements to the lecturer for validation. So, regarding the "Grade" performance indicator, I expected to obtain ten marked requirements, including both mandatory requirements for Delivery 01 and mandatory requirements for Delivery 02. During the session, the lecturer marked all but one requirements as valid.

$$\text{Grade} = 10 - 9 = -1$$

Thus, the final value of the Grade indicator was -1. As the value was negative, an effort had to be made in order to solve the issues pointed out in one of the requirements.

3.2. Conflicts

No conflicts have arisen.

3.3. Cost comparison

After completing Delivery 03, 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 assume that for tasks not yet completed, the estimated time matches the final recorded time. The total time dedicated to the project amounts to **34,62 hours**, with a total personnel cost of **731,33 euros**.

Role	Hourly Rate	Estimated Time (hrs)	Estimated costs	#	Total Hours	Total cost (€)
Manager	30,00 €	2,67	80,00 €		2,42	72,50 €
Developer	20,00 €	21,25	425,00 €		24,13	482,67 €
Tester	20,00 €	8,53	170,67 €		6,42	128,33 €
Operator	20,00 €	0,33	6,67 €		0,17	3,33 €
Analyst	30,00 €	1,50	45,00 €		1,48	44,50 €
Student	20,00 €	0,00	0,00 €		0,00	0,00 €
Totals:		34,28	727,33 €		34,62	731,33 €
			Reality - Estimation		0,33	4,00 €

Figure 5: Budget comparison with actual costs

When comparing the estimated and actual costs for Delivery 03, a slight deviation from the original budget can be appreciated. Initially, the personnel cost was estimated at 727,33 euros, whereas the actual cost incurred was 731,33 euros, resulting in a 4-euro increase. This difference was caused by variations in some roles, particularly in the Developer role, where tasks exceeded initial estimates, and the Tester role, where tasks are below initial estimates.

Despite the slight increase in personnel costs, the overall budget deviation remains minimal, indicating an effective estimation process. No additional expenses were incurred during the process, so the amortization costs remained 25 euros.

Thus, the real cost of the delivery is **756,33 euros**.

4. Conclusions

Throughout this document, I have demonstrated the approach taken to achieve the objectives set for Delivery 03. 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 first delivery to enhance productivity and ensure successful completion of my goal.

References

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