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Group: C1.036

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**1. Executive Summary**

*This report is intended to present the alternatives considered by Student 4 to meet the requirements of D02. Unlike D01, this deliverable involved more tasks, each with a higher level of complexity. As a result, a more thorough analysis of possible approaches was carried out to ensure that the requirements were met effectively.*

**2. Revision Table**

|  |  |  |
| --- | --- | --- |
| Revision number | Date | Description |
| 1 | 02/03/2025 | The report was created |
| 2 | 05/03/2025 | Parts of the document were completed |
| 3 | 13/03/2025 | Report completed |

**3. Introduction**

This analysis report aims to present the evaluation of the approaches and alternatives considered to meet the requirements of the project deliverables. It provides a detailed overview of the decision-making process, including the strengths and weaknesses of the different solutions explored. The report also highlights the steps taken to ensure the most effective and efficient implementation, focusing on the key considerations and challenges faced throughout the process.

**4. Contents  
4.1 Analysis Log**  
***Task 3:*** *Implement the assistance agents entity, storing the following data: employee code (unique, pattern "^[A-Z]{2-3}\d{6}$", where the first two or three letters correspond to their initials), a list of spoken languages (no longer than 255 characters), the airline for which they work, the moment they began to work for that airline (in the past), and optionally, a brief bio (up to 255 characters), their salary, and a link to a photo that should be stored elsewhere.*Task 3 involved the implementation of the AssistanceAgents entity, aimed at storing data related to assistance agents. A Java class was created with the necessary attributes, such as employee code, spoken languages, etc. Custom validations were implemented for some fields, like employeeCode, using a specific regular expression. Additionally, a validation framework was used to ensure the correctness of the entered data, such as ensuring the start date is in the past.

*T****ask 4:*** *Develop the claim registration system, where the data to store includes: registration moment (in the past), passenger email, description (up to 255 characters), type (“FLIGHT ISSUES”, “LUGGAGE ISSUES”, “SECURITY INCIDENT”, “OTHER ISSUES”), and an indicator of whether the claim is accepted or not.*Task 4 involved the development of the Claim entity, which stores data related to passenger claims. A Java class was created with the necessary attributes, such as the registration moment (which must be in the past), passenger email, etc. The claim type is represented using an enumeration (ClaimType). Additionally, relationships were established with the AssistanceAgents entity to link each claim to the relevant assistance agent. Custom validations were applied to ensure that all data entered is correct, such as validating the passenger's email and ensuring the description does not exceed 255 characters.

***Task 5:*** *Implement a claim tracking system that records each step in the procedure to resolve or reject a claim. The data to store includes: the last update moment, the step undergoing (up to 50 characters), a resolution percentage, and an indicator on whether the claim was finally accepted or not. Additionally, when a claim is accepted or rejected, the system must store the resolution, indicating the reason for rejection or compensation to offer (up to 255 characters).*Task 5 focused on implementing the TrackingLog entity, which stores data related to the tracking of each claim's progress. A Java class was created with attributes such as the last update moment, the current step in the claim process, etc. The tracking information is linked to a specific claim through a one-to-one relationship. Custom validations were applied to ensure that the data entered is accurate, such as ensuring the last update moment is valid and that the resolution details do not exceed 255 characters.

***Task 6:*** *Generate sample data for informal testing of the application. The data should include two assistance agent accounts with credentials “agent1/agent1” and “agent2/agent2”. Create an additional agent account with credentials “manager3/manager3” with no associated data except for their profile.*

***Task 15:*** *Develop an assistance agent dashboard that includes several key indicators: the ratio of claims that have been resolved successfully, the ratio of claims that have been rejected, the top three months with the highest number of claims, the average, minimum, maximum, and standard deviation of the number of logs associated with the claims, and the average, minimum, maximum, and standard deviation of the number of claims the agent assisted with during the last month.*Task 15 involved the creation of the AssistanceAgentDashboard form, which is designed to display key performance indicators for assistance agents. The form was implemented with attributes to store these statistics, which are essential for evaluating an agent's performance.

***Task 16:*** *Produce a UML domain model regarding the information requirements*Task 16 has been completed by analyzing the entities and creating the diagram in Umlet.

***Task 26:*** *Integrate a web service to retrieve and store flight status or delay information. This information will help assistance agents handle claims more effectively. The exact data to store depends on the chosen service, and it is the student's responsibility to define them accordingly. It is also the student’s responsibility to find the appropriate service, and they are advised to ensure that the service they choose is free of charge.*Task 26 has not been completed yet.

***Task 7:*** *Provide a link to your planning dashboard.* ***Task 27:*** *Produce an analysis report.*

***Task 28:*** *Produce a planning and progress report.*

Tasks 7, 27 and 28 mainly focus on documentation. These tasks require recording and detailing the implemented processes, decisions, and functionalities clearly and accurately, ensuring that all relevant information is properly organized and accessible for future reference or audits.

**5. Conclusions**

This report provides a comprehensive analysis of the tasks undertaken to meet the requirements of D02. Compared to D01, this deliverable involved a greater number of tasks with higher complexity, necessitating a more detailed evaluation of approaches and solutions. The implementation of key entities such as AssistanceAgents, Claims, and TrackingLog ensured that data integrity and validation were effectively maintained.

Additionally, significant progress was made in dashboard development to monitor assistance agent performance, as well as in structuring the UML domain model. However, certain tasks, such as integrating a web service for flight status retrieval, remain pending and require further development.

The documentation tasks, including the analysis report, planning and progress report, and planning dashboard, serve as essential records of the implementation process. These reports provide valuable insights into decision-making, challenges faced, and solutions adopted.

Overall, this deliverable reflects a structured and systematic approach to problem-solving, balancing technical implementation with clear documentation to ensure project success.

**6. Bibliography**

Does not apply