

Exercise Sheet for Lecture Integration Architecture

Winter Term 2023 / 2024 Exercise Sheet No. 1

(Due Date for Assignment No. 1-1: October 17th, 2023, 15:00 pm)

Ismail Amrati

What is the idea of the current performance management process in general?

The core idea of the current performance management process at SmartHoover Ltd is to assess the performance of senior salesmen and determine their bonuses. This assessment is based on both sales achievements and social performance evaluations.

Which actors are involved in the current process of the company SmartHoover?

Dr. Michael Moore (CEO, SmartHoover Ltd): Dr. Moore is responsible for the overall leadership of the company. He plays a crucial role in defining the bonus calculation process, and he manually assigns bonus values based on various parameters. He is also involved in the final review and confirmation of bonuses.

Chantal Banks (HR Senior Consultant, SmartHoover Ltd): Chantal Banks is responsible for HR-related tasks in the performance management process. She gathers and prepares data from different sources, creates Excel sheets for each senior salesman, and enriches employee records in OrangeHRM with bonus information. She also communicates with employees to provide them with feedback and bonus values.

Tom Foster (IT-Admin, SmartHoover Ltd): Tom Foster is the IT administrator responsible for managing the database tool used to collect performance records. He receives requests from Chantal to fetch performance data, performs database queries, and sends the data back to Chantal. He is also responsible for maintaining the MongoDB-Client tool.

What are the disadvantages of the current process?

Complexity: The process is complex, involving multiple manual steps and interactions with various tools and systems.

Lack of Transparency: The criteria for bonus calculation are not transparent, and employees are unaware of the factors that influence their bonuses.

Manual Work: Data gathering and bonus calculation involve a significant amount of manual work, leading to inefficiencies and potential errors.

Inefficiency: The process is inefficient due to the need for data integration from multiple sources and the lack of automation.

Subjectivity: The process relies on subjective evaluations, and there is a risk of ambiguous values being computed.

Limited Employee Involvement: Employees have limited involvement in the process, with little say in the evaluation process.

Lack of Integration: The process lacks seamless integration between the various tools and systems involved, leading to data discrepancies and inefficiencies.

How does the current software support look like? Are there any drawbacks?

The current software support for the performance management process at SmartHoover Ltd is characterized by a combination of various tools and systems. However, there are several drawbacks associated with this setup:

Multiple Tools: The software support involves the use of multiple tools and systems, including OrangeHRM, OpenCRX, a database tool (MongoDB), and Excel spreadsheets.

Manual Data Gathering: Data collection is primarily done manually, with HR personnel, the CEO, and the IT administrator manually collecting, transforming, and inputting data from these tools. This manual process is time-consuming and error-prone.

Lack of Data Integration: The software support lacks seamless data integration between these tools. Data from various sources must be collected and transformed, leading to potential data discrepancies.

Limited Automation: The process is not fully automated, with manual data entry and bonus assignment. There is resistance to complete automation, as the CEO insists on a final review and confirmation step.

Complex Data Flow: The data flow within the process involves multiple stages, including data collection, transformation, and bonus assignment, making it complex and increasing the risk of errors.

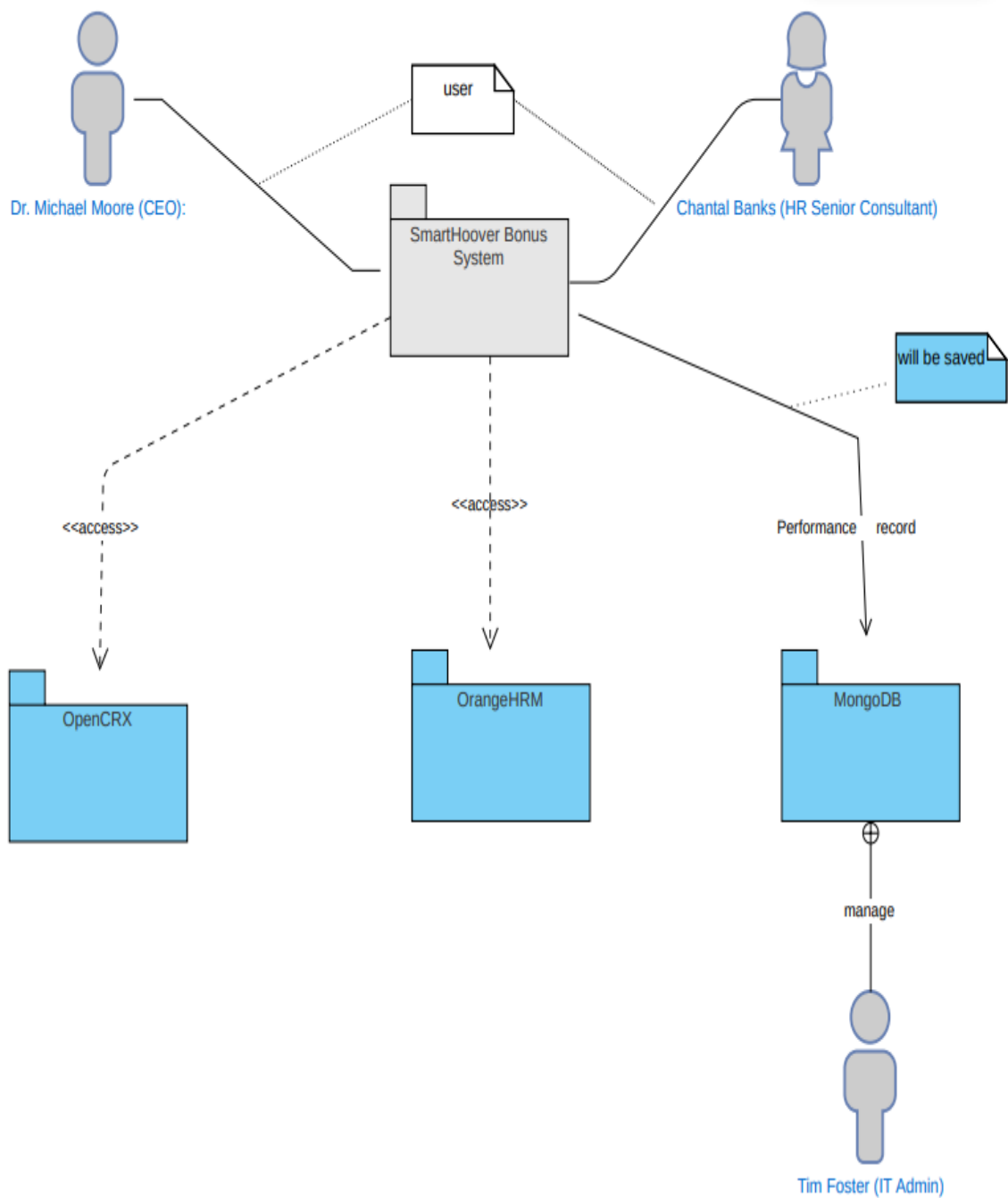
Subjectivity: The criteria for bonus calculation are not transparent, and bonus values are manually assigned by the CEO. This subjectivity can lead to inconsistent results.

Limited Employee Involvement: Senior salesmen have limited access to the software support, and their involvement is passive. They primarily receive feedback and bonus information via email.

Heavy Reliance on Key Individuals: The software support heavily relies on key individuals, such as the CEO, HR personnel, and the IT administrator. This reliance poses a risk if these individuals are unavailable or inconsistent.

Lack of Feedback Mechanism: While personal feedback statements are collected, there is no structured feedback loop for employees to provide input or confirm bonus values.

b) Package Diagram (Bonus System)



c) User Stories

1. User Story: Data Integration

As an HR professional, I want the performance cockpit to automatically fetch employee data from OrangeHRM and integrate it seamlessly to eliminate manual data entry.

2. User Story: Performance Data Aggregation

As a senior sales manager, I want the cockpit to aggregate sales performance data from OpenCRX to provide a comprehensive view of products sold and client ratings.

3. User Story: Automated Database Query

As an IT administrator, I want the cockpit to automatically query performance records from the database tool (MongoDB) and provide real-time access to the data.

4. User Story: Transparent Bonus Calculation

As an employee, I want the cockpit to display the criteria used for bonus calculation, ensuring transparency in the process.

5. User Story: Data Validation and Consistency

As an HR professional, I want the cockpit to validate and ensure the consistency of data collected from different sources, reducing the risk of errors.

6. User Story: Streamlined Reporting

As a performance analyst, I want the cockpit to generate standardized performance reports for each employee, eliminating the need for manual Excel sheet preparation.

7. User Story: Real-time Feedback

As a senior sales manager, I want the cockpit to provide real-time feedback from subordinated junior salesmen and colleagues, facilitating immediate performance improvement.

8. User Story: Employee Access

As an employee, I want the ability to access the performance cockpit to view my performance records, bonus calculations, and feedback, promoting transparency and engagement.

9. User Story: Workflow Automation

As an HR professional, I want the cockpit to automate the bonus calculation process while allowing for final review and confirmation, reducing the need for manual intervention.

10. User Story: Integration with External Systems

As an IT administrator, I want the cockpit to integrate with external systems, such as Odoo, to seamlessly manage data from newly acquired companies and improve overall data accuracy and accessibility.

In terms of software integration, the following areas are essential:

- **API Integration:** To fetch and update data from external sources, such as OrangeHRM, OpenCRX, and Odoo, the performance cockpit should integrate with these systems via APIs.
- **Database Integration:** The cockpit needs to integrate with the existing database tool (MongoDB) to automate data retrieval and updates.
- **Real-time Data Flow:** The software should support real-time data flow to ensure that performance data is always up-to-date and accessible to relevant stakeholders.
- **User Authentication:** Secure user authentication and access control should be integrated to allow employees, managers, and administrators to access the cockpit.
- **Data Validation and Consistency Checks:** The software should include data validation and consistency checks to ensure that data from various sources align correctly and are free from errors.
- **Automated Reporting:** The cockpit should automate the generation of performance reports, reducing manual efforts and potential errors in report preparation.

- **Feedback Mechanism:** Software should facilitate real-time feedback collection and distribution, improving communication between employees and their superiors.