

# Reflection on Group Assignment 2IRR00

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## 1 PROJECT DESCRIPTION AND SCOPE

Our project is a music rating and recommendation application designed to enable users to comment on and rate songs. The primary objective was to develop an effective recommendation algorithm that suggests songs and artists based on user feedback.

To support this, we are building a database to store user comments, ratings, song information, and user profiles, along with a graphical user interface (GUI) that allows users to post comments and interact with the system. Currently, the project works with all functionalities implemented.

## 2 PROJECT REFLECTION

### 2.1 Process and Collaboration

Our team held weekly meetings and frequent online check-ins to monitor progress and coordinate tasks. During these meetings, we finalized the project idea and discussed how each feature should function.

Questions or issues were addressed promptly via our group chat, facilitating fast problem-solving. The project idea was selected through a voting process, ensuring that all team members contributed to the decision.

While this collaborative approach was effective, we recognized the need to enhance communication with teacher/stakeholders in future projects to avoid misunderstandings about project constraints.

### 2.2 Testing and Quality Assurance

Each team member was responsible for thoroughly testing and documenting their completed tasks to ensure functionality and facilitate integration.

This practice helped us identify issues early and maintain a stable code standard when combining individual components. The documentation included clear descriptions of test cases and expected behavior, which proved valuable during integration and troubleshooting.

### 2.3 Design Principles and Patterns

We created a detailed design scheme that clearly outlined the system architecture, component interactions, and data flow throughout the application.

This design documentation served as a valuable communication tool, minimizing misunderstandings among team members and providing a shared reference during development.

To improve code organization and maintainability, we adopted the Model-View-Controller (MVC) design pattern, which effectively separated the graphical user interface (GUI) from the backend logic. This separation of concerns facilitated independent development and testing of different components, enhanced scalability, and simplified future modifications.

Additionally, we implemented the singleton design pattern for key components such as session management and database instance, ensuring controlled global access across the application.

For data persistence, we developed a custom CSV-based database system designed to function similarly to a SQL database, providing structured storage and query capabilities while adhering to the project constraints of avoiding external dependencies like SQL. This approach allowed us to maintain efficient data handling and retrieval within the limits of our environment.

## 3 SELF-REFLECTION

As my role focused on constructing the database, I encountered challenges due to the project restriction of not using external dependencies, which required me to implement data storage using plain CSV files.

This constraint compelled me to explore alternative methods of data management and deepen my understanding of database design principles.

Additionally, I gained valuable experience working for the first time with graphical user interfaces (GUI) and the Model-View-Controller (MVC) architecture. Through this, I made major improvements to the GUI's functionality and usability, enhancing the overall user experience while ensuring that the backend and frontend components remained cleanly separated and maintainable.

## 4 CONCLUSION AND LEARNINGS

Overall, our team collaborated effectively with consistent communication, although there is room for improvement in stakeholder engagement.

The technical development was completed according to plan, supported by a clear task division and design framework.

The final product is finished, and the results are satisfying, meeting the project requirements and expectations.

Through this project, I have expanded my skills in data storage techniques and algorithm design within project constraints. Moving forward, I intend to apply these lessons to enhance both my technical expertise and collaborative practices in future projects.