

# Personal Report

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## 1. Final Product

The final product of our project is a sports arena reservation management system. The system architecture consists of various components and technologies. We have successfully implemented the following tasks:

- Designed and developed a user-friendly interface for the system.
- Implemented a database to store and manage reservation information.
- Integrated RESTful protocols for seamless communication between the frontend and backend.
- Implemented user authentication and authorization functionalities.
- Developed a mobile application for users to make reservations on the go.
- Implemented a notification system to inform users about their reservation status.

Some tasks were partially implemented or remained unfinished due to time constraints and prioritization. These include:

- Integration with third-party payment gateways.
- Advanced reporting and analytics features.
- Integration with external calendar systems.

## 2. Contributions

Each team member has contributed to the project in various ways. Here is a summary of the contributions made by the other team members:

- [Ruijie Liu, Yijun Chen]: Played a key role in frontend development, focusing on creating responsive and user-friendly interfaces. Also contributed to the design and implementation of the mobile application.
- [Qipeng Lin]: Took the lead in backend development, including database design, API development, and system security. Ensured smooth integration between frontend and backend components.
- [Jingru Zhang, Yunling He]: Assisted in project management, including task allocation, timeline planning, and coordination between team members. Also contributed to frontend development and testing activities.

As for my specific contributions to the project, I actively participated in all aspects, including programming and non-programming tasks. Here are the main contributions I made:

- Sprint 1: Assisted in field research and data analysis. Designed and developed questionnaires, analyzed the results, and provided valuable insights. Contributed to system interface discussions and helped standardize RESTful protocols. Resolved issues related to cross-domain access.
- Sprint 2: Worked on the development of the new interface and gathered feedback through a questionnaire for the mobile app. Collaborated with the team to write user stories and added value to the mobile application. Tested the mobile app and resolved front-end and back-end issues.
- Sprint 3: Collaborated with the design team to create wireframes and prototypes based on user requirements. Developed the web interface using Vue, CSS, and JavaScript. Resolved front-end and back-end connection issues.
- Sprint 4: Focused on optimizing completed projects, identifying bottlenecks, and refactoring the code for improved efficiency. Contributed to the preparation of the final report.

### 3. Teamwork

In the initial report, we identified the roles of the Belbin team and discussed the team's strengths and weaknesses. Now that the project is complete, let's evaluate the accuracy of these roles and the observed strengths and weaknesses. We will refer to meeting records and other wiki documents for examples.

#### a. Accuracy of Belbin Team Roles:

Comparing the identified Belbin team roles with the actual behaviors observed, we found that the roles were relatively accurate. Each team member exhibited characteristics and behaviors corresponding to their assigned roles. However,

there were instances where team members took on additional responsibilities outside their assigned roles, showcasing flexibility and collaboration.

b. Observed Team Strengths and Weaknesses:

Throughout the project's progress, we observed both team strengths and weaknesses. Examples from meeting records and wiki documents include:

- Strengths: Effective communication and collaboration, especially during the planning and execution stages. Strong problem-solving skills, as demonstrated in resolving technical issues. Proactive approach in supporting and assisting team members.
- Weaknesses: Occasionally faced challenges in managing time and adhering to strict deadlines. Limited experience with certain technologies led to a learning curve and required additional effort for successful implementation. In some instances, coordination between frontend and backend development could have been improved to ensure seamless integration.

## 4. Critical Analysis

Now, let's critically evaluate our product and development process. Here are areas where our team could have performed better:

a. User Experience: While we strived to create a user-friendly interface, there were instances where the user experience could have been further improved. Conducting more extensive user testing and gathering feedback at earlier stages could have helped identify potential usability issues and refine the design accordingly.

b. Testing and Quality Assurance: Although we conducted thorough testing, including unit testing and integration testing, there were a few instances where some issues slipped through the cracks. Implementing more robust testing practices, such as automated testing and comprehensive test coverage, would have further ensured the quality and reliability of our product.

c. Agile Practices: While we followed an agile development approach, there were moments when we faced challenges in adapting to changes and managing priorities effectively. Improved communication and coordination within the team, as well as regular retrospective meetings, could have facilitated smoother agile implementation.

d. Documentation: Although we maintained documentation throughout the project, there were areas where it could have been more comprehensive and organized. Providing detailed documentation for system components, APIs,

and deployment processes would have assisted in future maintenance and further development.

## 5. Lessons Learned

From this experience, I have learned two valuable lessons that I would apply or continue in future team projects.

a. **Effective Communication:** Communication played a crucial role in our team's success. Clear and frequent communication ensured that everyone was aligned with project goals, progress, and challenges. Going forward, I would prioritize open and transparent communication to foster collaboration and mitigate misunderstandings.

b. **Continuous Improvement:** Reflecting on our project, I realized the importance of continuous improvement. By regularly evaluating our processes, identifying areas for enhancement, and implementing changes, we can optimize our productivity and deliver higher-quality outcomes. I would actively seek feedback, conduct retrospective meetings, and actively participate in personal and team growth opportunities.

These lessons will also be relevant for my future third-year individual project, as effective communication and continuous improvement are critical factors for success in any project.

In conclusion, our sports arena reservation management system project involved the successful implementation of various components and technologies. Each team member made significant contributions, and we exhibited both strengths and weaknesses throughout the project. Through critical analysis, we identified areas for improvement in our product and development process. However, we also gained valuable lessons, particularly in effective communication and continuous improvement. Overall, this experience has provided me with valuable insights and skills that will benefit me in future team and individual projects.