SOFTWARE REQUIREMENTS SPECIFICATION (SRS)

Group 3 :

Candelaria, Ernesto B.
Barbadillo, Brent Justine P.
Trillana, Mark Joseph C.
Oxina, Azzaleah Faith G.
Luna, Jov Matthew

Subject Instructor

MICAH JOY P. FORMARAN

TABLE OF CONTENTS

INTRODUCTION AND PURPOSE

This Software Requirements Specification (SRS) document provides a detailed overview of the requirements for the Municipal of Sta. Cruz Sports Committee Program and Activity Monitoring System with Online Registration. The purpose of this document is to serve as a comprehensive guide for the development team, stakeholders, and project managers involved in the design, implementation, and evaluation of the system.

The Municipal of Sta. Cruz Sports Committee is dedicated to promoting sports and physical activities within the community. To enhance the efficiency of its operations, the committee requires a robust software solution that allows for the online registration of participants, monitoring of programs and activities, and management of related data. This system will streamline the registration process, improve communication with participants, and provide valuable insights into the effectiveness of various sports programs.

1.1 BACKGROUND

The Municipal of Sta. Cruz has a rich history of promoting sports and physical activities among its residents. However, the current manual processes for managing registrations and monitoring activities are cumbersome and prone to errors. The introduction of an online registration and monitoring system will not only simplify these processes but also encourage greater participation in sports programs by making it easier for residents to sign up and stay informed.

1.2 SCOPE

The scope of this SRS includes the functional and non-functional requirements for the Municipal of Sta. Cruz Sports Committee Program and Activity Monitoring System. The system will provide features for user registration, program management, participant monitoring, and reporting. It will be accessible via web browsers and designed to accommodate various user roles, including administrators, committee members, and participants.

1.3 OBJECTIVES

The primary objectives of the system are as follows:

- To provide a user-friendly online registration platform for participants.
- To enable the Sports Committee to efficiently manage sports programs and activities.
- To facilitate real-time monitoring of participant registrations and attendance.
- To generate reports and analytics to evaluate the effectiveness of sports programs.
- To enhance communication between the committee and participants.

2. OVERALL DESCRIPTION

The Municipal of Sta. Cruz Sports Committee Program and Activity Monitoring System is a web-based application designed to facilitate the management of sports programs and activities. The system will provide an online registration feature for participants, allowing them to sign up for various sports events and activities conveniently. Additionally, the system will enable the committee to monitor and manage these programs effectively.

2.1 USER CLASSES AND CHARACTERISTICS

The system will cater to three primary user classes:

1. **Participants:** Individuals who wish to register for sports programs and activities. They will have access to the registration portal and their personal profiles.
2. **Committee Members**: Individuals responsible for managing sports programs and activities. They will have access to program management features and participant monitoring tools.
3. **Administrators:** Users with the highest level of access, responsible for overseeing the entire system. They will manage user accounts, program settings, and generate reports.

2.2 OPERATING ENVIRONMENT

The system will be a web-based application accessible through modern web browsers, including Chrome, Firefox, Safari, and Edge. It will be hosted on a secure server with a reliable internet connection to ensure availability and performance. The application will be designed to be responsive, allowing users to access it from various devices, including desktops, tablets, and smartphones.

2.3 DESIGN AND IMPLEMENTATION CONSTRAINTS

- The system will be developed using web technologies, including HTML, CSS, JavaScript, and a backend framework (e.g., Node.js, Django).
- The database will be implemented using a relational database management system (RDBMS) such as MySQL or PostgreSQL.
- The system must comply with relevant data protection regulations to ensure the security and privacy of user data.

2.4 USER NEEDS

The following user needs have been identified:

- Participants need a simple and efficient way to register for sports programs online.
- Committee members require tools to manage programs, track participant attendance, and generate reports.
- Administrators need comprehensive access to manage user accounts and system settings.

3. FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS

3.1 FUNCTIONAL REQUIREMENTSTIONAL REQUIREMENTS

1.User Registration and Authentication:

- The system shall allow users to create accounts by providing personal information, including name, email, and password.
- Users shall be able to log in securely using their registered email and password.
- The system shall provide a password reset feature for users who forget their passwords.
-

2. Online Registration for Programs

- Participants shall be able to view a list of available sports programs and activities.
- The system shall allow participants to register for selected programs online.
- Upon successful registration, participants shall receive a confirmation email with program details.

3. Program Management:

- Administrators shall be able to create, edit, and delete sports programs and activities.
- The system shall allow administrators to set registration deadlines and participant limits for each program.
- Administrators shall be able to view a list of all registered participants for each program.

4.Participant Monitoring:

- The system shall track participant registrations and attendance for each program.
- Administrators shall be able to view participant performance metrics, including attendance rates and feedback.

5. Reporting and Analytics:

- The system shall generate reports on participant registrations, attendance, and program effectiveness.
- Administrators shall be able to export reports in various formats (e.g., PDF, Excel) for further analysis.

6. User Roles and Permissions:

- The system shall support different user roles, including administrators, committee members, and participants.
- Each role shall have specific permissions to access and manage different features of the system.

3.2 NON-FUNCTIONAL REQUIREMENTS

1. **Performance:**
   - The system shall have a response time of less than 2 seconds for all user interactions.
   - The system shall support at least 500 concurrent users without performance degradation.
2. **Usability:**
   - The user interface shall be intuitive and easy to navigate for all user roles.
   - The system shall provide help documentation and user guides to assist users in navigating the application.
3. **Security:**
   - The system shall implement secure authentication and authorization mechanisms to protect user accounts.
   - User data shall be encrypted and stored securely to prevent unauthorized access.
4. **Scalability:**
   - The system shall be designed to accommodate future growth in the number of users and programs.
   - The architecture shall support the addition of new features and functionalities without major redesign.
5. **Compatibility:**
   - The system shall be compatible with modern web browsers, including Chrome, Firefox, Safari, and Edge.
   - The system shall be responsive and accessible on various devices, including desktops, tablets, and smartphones.

4. SYSTEM FEATURES AND INTERFACES

4.1 USER INTERFACE

- **Registration Page:** A user-friendly interface for participants to create accounts and register for programs. The page will include form fields for personal information and a submit button.
- **Dashboard:** A central hub for administrators to manage programs, view participant data, and generate reports. The dashboard will display key metrics and provide quick access to various features.
- **Program Management Interface:** A dedicated section for administrators to create and manage sports programs and activities. This interface will include options to add new programs, edit existing ones, and view participant lists

4.2 SYSTEM INTERFACES

- **Database Interface:** The system shall interact with a relational database to store user data, program information, and registration records. The database will be designed to ensure data integrity and security.
- **Email Notification System:** The system shall integrate with an email service to send registration confirmations and notifications to participants. This integration will ensure timely communication with users.
-

5. ASSUMPTIONS AND CONSTRAINTS

1. **Development Environment:** The software will be developed using web technologies, including HTML, CSS, JavaScript, and a backend framework (e.g., Node.js, Django).
2. **User Expertise:** It is assumed that users of the system will have basic computer skills and familiarity with web applications.
3. **Data Format:** The system will assume that data is provided in a compatible format (e.g., JSON) for integration with the database.
4. **Internet Connectivity:** The system will require a stable internet connection for users to access the online registration and monitoring features.

6. USE CASE DIAGRAMS OR DESCRIPTIONS

6.1 USE CASE 1: PARTICIPANT REGISTRATION

- **Actors**: Participant
- **Preconditions**: The participant has access to the internet and the registration page.
- **Flow**:
- The participant navigates to the registration page.
- The participant fills out the registration form with personal information.
- The participant submits the form.

- The system validates the information and creates a new user account.
- The participant receives a confirmation email.

6.2 USE CASE 2: PROGRAM MANAGEMENT

- **Actors:** Administrator
- **Preconditions:** The administrator is logged into the system.
- **Flow:**
- The administrator navigates to the program management interface.
- The administrator creates a new sports program by filling out the required details.
- The administrator sets registration deadlines and participant limits.
- The administrator saves the program, and it becomes available for registration.

6.3 USE CASE 3: MONITORING PARTICIPANT ATTENDANCE

- **Actors:** Administrator
- **Preconditions:** The administrator is logged into the system and has created programs.
- **Flow:**
- The administrator navigates to the participant monitoring section.
- The administrator selects a specific program to view participant attendance.
- The system displays a list of registered participants and their attendance status.

- The administrator can update attendance records as needed.

7. TESTING TOOL DOCUMENTATION

7.1 UNIT TESTING

- **Tool:** Jest
- **Purpose:** Jest is a widely used JavaScript testing framework that provides a robust environment for unit testing. It allows developers to write and run tests to ensure that individual components of the system function correctly.

7.2 PERFORMANCE BENCHMARKING

- **Tool:** Lighthouse
- **Purpose:** Lighthouse is a performance benchmarking tool that provides detailed metrics for evaluating the performance of web applications. It helps identify areas for improvement in the system's performance.

7.3 COMPATIBILITY TESTING

- **Tool:** BrowserStack
- **Purpose:** BrowserStack is a cloud-based testing platform that enables developers to test their applications across various browsers and devices. It ensures that the system functions correctly on different platforms.

7.4 RATIONALE FOR TOOL SELECTION

- **Jest:** Chosen for its ease of use, extensive documentation, and strong community support, making it an ideal choice for unit testing.
- **Lighthouse:** Selected for its ability to provide detailed performance metrics and recommendations for optimization, helping to ensure that the system performs well under various conditions.
- **BrowserStack:** Chosen for its comprehensive browser and device coverage, allowing for thorough compatibility testing across different environments.

8. CONCLUSION

In conclusion, the Municipal of Sta. Cruz Sports Committee Program and Activity Monitoring System with Online Registration is designed to enhance the efficiency of managing sports programs and activities within the community. By providing a user-friendly online registration platform, robust program management tools, and comprehensive reporting capabilities, the system aims to promote greater participation in sports and physical activities.

This Software Requirements Specification serves as a foundational document to guide the development process and ensure that all stakeholders have a clear understanding of the software's requirements and capabilities. The successful implementation of this system will significantly contribute to the Municipal of Sta. Cruz's mission of fostering a vibrant sports culture and encouraging active lifestyles among its residents.

The development team is committed to delivering a high-quality product that meets the needs of the Sports Committee and the community it serves. Through careful planning, rigorous testing, and ongoing collaboration with stakeholders, we aim to create a system that not only meets but exceeds expectations.