Lebanese American University

Department of Computer Science and Mathematics

Capstone Project - Spring 2022

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1 Introduction

1.1 The Team

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1.2 The Client

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1.3 The Project

Sports Manager
A Sports Management System for the Athletic Department at the Lebanese American University is a software solution designed to manage all aspects of the athletic department's operations, including event scheduling, player information, team management, league management, staff management, facility management, equipment and supply management, uniform management, and more. The system aims to provide a streamlined, and user-friendly platform for managing all athletic department activities and data. With this system, the athletic department can improve efficiency, accuracy, and overall productivity while reducing the time and effort required to manage operations manually. The system is designed to meet the unique needs and requirements of the Lebanese American University Athletic Department, providing a customized and scalable solution that can adapt and grow as the department's needs change.

2 Software User Requirements

2.1 Login Functionality

The system shall provide a login functionality that allows registered users to log into the system securely.

- The login screen shall include fields for entering username and password.

- Passwords shall be encrypted and stored securely.

- Upon successful login, the user shall be directed to their dashboard.

- If a user enters an incorrect username or password, the system shall display an error message indicating that the login has failed.

Rationale: A login functionality is essential for ensuring the security and privacy of the athletic department's data and information within the system. This requirement ensures that only sport administrators can access the account and view or edit information and other sensitive data.

Source: Samer Saber

2.2 Event scheduling Functionality

The system shall provide a functionality for scheduling sports events, including the ability to schedule and manage multiple events simultaneously.

- User shall be able to create, edit, and delete events.

- Events shall be displayed in a calendar view, showing the date, time, location, and other relevant information.

- User shall be able to filter events by date, location, and other criteria.

Rationale: Effective scheduling and management of sports events is critical for ensuring a smooth and efficient operation of the athletic department. This requirement provides a comprehensive solution for scheduling and managing multiple events, including the ability to create, edit, and delete events, view events in a calendar view, filter events by date and location. By providing these capabilities, the system will help the athletic department to efficiently and effectively manage their events, reducing the risk of scheduling conflicts and improving the overall experience for participants and stakeholders.

Source: Samer Saber

2.3   Player Management Functionality

The system shall provide a functionality for managing players, including the ability to add, edit, and delete players, and view player information.

- User shall be able to add new players to the system, including the player's name, email address, phone number, and other relevant information.

- User shall be able to edit existing player information, including the player's name, email address, phone number, and other relevant information.

- User shall be able to delete players from the system.

- The system shall display a list of players, including the player's name, email address, phone number, and other relevant information.

- User shall be able to search for players name, email address, phone number, or other relevant information.

Rationale: Effective management of player information is critical for ensuring the smooth and efficient operation of the athletic department. This requirement provides a comprehensive solution for managing player information, including the ability to add, edit, and delete players, view player information, and search for players by various criteria. By providing these capabilities, the system will help the athletic department to efficiently and effectively manage their player information, reducing the risk of errors and improving the overall experience for participants and stakeholders.

Source: Samer Saber

2.4   Team Management Functionality

The system shall provide a functionality for managing teams, including the ability to add, edit, and delete teams, and view team information.

- User shall be able to add new teams to the system, including the team's name, description, and other relevant information.

- User shall be able to edit existing team information, including the team's name, description, and other relevant information.

- User shall be able to delete teams from the system.

- The system shall display a list of all teams, including the team's name, description, and other relevant information.

- User shall be able to search for teams name, description, and other relevant information.

Rationale: Effective management of team information is critical for ensuring the smooth and efficient operation of the athletic department. This requirement provides a comprehensive solution for managing team information, including the ability to add, edit, and delete teams, view team information, and search for teams by various criteria. By providing these capabilities, the system will help the athletic department to efficiently and effectively manage their team information, reducing the risk of errors and improving the overall experience for participants and stakeholders.

Source: Samer Saber

2.5 Staff Management Functionality

The system shall provide a functionality for managing staff members, including the ability to add, edit, and delete staff members, and view staff information.

- User shall be able to add new staff members to the system, including their name, contact information, role, and other relevant information.

- User shall be able to edit existing staff information, including their name, contact information, role, and other relevant information.

- User shall be able to delete staff members from the system.

- The system shall display a list of all staff members, including their name, contact information, role, and other relevant information.

- User shall be able to search for staff members by name, role, or other relevant information.

Rationale: Effective management of staff information is critical for the successful operation of the athletic department. This requirement provides a comprehensive solution for managing staff information, including the ability to add, edit, and delete staff members, view staff information, and search for staff members by various criteria. By providing these capabilities, the system will help the athletic department manage their staff information effectively and efficiently, reducing the risk of errors and improving the overall experience for participants and stakeholders. Additionally, the ability to search for staff members by various criteria will help users quickly find the information they need, improving the usability of the system.

Source: Samer Saber

2.6 Facility Management Functionality

The system shall provide a functionality for managing facilities, including the ability to add, edit, and delete facilities, and view facility information.

- User shall be able to add new facilities to the system, including the facility name, location, capacity, and other relevant information.

- User shall be able to edit existing facility information, including the facility name, location, capacity, and other relevant information.

- User shall be able to delete facilities from the system.

- The system shall display a list of all facilities, including the facility name, location, capacity, and other relevant information.

- User shall be able to search for facilities by name, location, capacity, or other relevant information.

Rationale: Effective management of facility information is critical for the successful scheduling and operation of sports events. This requirement provides a comprehensive solution for managing facility information, including the ability to add, edit, and delete facilities, view facility information, and search for facilities by various criteria. By providing these capabilities, the system will help the athletic department to manage their facilities effectively and efficiently, reducing the risk of errors and improving the overall experience for participants and stakeholders. Additionally, the ability to search for facilities by various criteria will help users quickly find the information they need, improving the usability of the system.

Source: Samer Saber

2.7 Equipment Management Functionality

The system shall provide a functionality for managing equipment, including the ability to add, edit, and delete equipment, and view equipment information.

- User shall be able to add new equipment to the system, including the equipment name, type, quantity, and other relevant information.

- User shall be able to edit existing equipment information, including the equipment name, type, quantity, and other relevant information.

- User shall be able to delete equipment from the system.

- The system shall display a list of all equipment, including the equipment name, type, quantity, and other relevant information.

- User shall be able to search for equipment by name, type, quantity, or other relevant information.

Rationale: Effective management of equipment information is critical for the successful operation of sports events. This requirement provides a comprehensive solution for managing equipment information, including the ability to add, edit, and delete equipment, and view equipment information. By providing these capabilities, the system will help the athletic department manage their equipment effectively and efficiently, reducing the risk of errors and improving the overall experience for participants and stakeholders. Additionally, the ability to search for equipment by various criteria will help users quickly find the information they need, improving the usability of the system.

Source: Samer Saber

2.8   Uniform Management Functionality

The system shall provide a functionality for managing uniforms, including the ability to add, edit, and delete uniforms, and view uniform information.

- User shall be able to add new uniforms to the system, including the uniform name, size, color, and other relevant information.

- User shall be able to edit existing uniform information, including the uniform name, size, color, and other relevant information.

- User shall be able to delete uniforms from the system.

- The system shall display a list of all uniforms, including the uniform name, size, color, and other relevant information.

- User shall be able to search for uniforms by name, size, color, or other relevant information.

Rationale: The management of uniforms is an important aspect of sports events, and having a system that can efficiently manage uniform information can help to streamline operations and reduce the risk of errors. This requirement ensures that the system provides a comprehensive solution for managing uniforms, including the ability to add, edit, and delete uniforms, and view uniform information. This will allow the athletic department to keep track of their uniforms effectively, ensuring that they are properly allocated and accounted for. Additionally, the ability to search for uniforms by various criteria will improve the usability of the system and help users quickly find the information they need. By providing this functionality, the system will help sports organizations to run more smoothly and efficiently, improving the overall experience for participants and stakeholders.

Source: Samer Saber

2.9   Data Import Functionality

The system shall provide a functionality for importing data into the system, allowing users to import data from external sources instead of manually entering it into the system.

- The system shall support the import of data in commonly used file formats, including CSV and Excel.

- The system shall validate the data being imported and display any errors or inconsistencies to the user, who can then correct the data before importing it again.

- The system shall provide a clear and user-friendly interface for importing data, including step-by-step instructions and progress indicators.

- The system shall allow users to import data for various entities, including players, teams, leagues, staff, facilities, equipment, supplies, and uniforms.

Rationale: By providing a functionality for importing data from external sources, the system can reduce the time and effort required to manually enter data into the system. This will help to minimize the risk of errors and inconsistencies, and improve the overall reliability and quality of the data stored in the system. Additionally, the support for commonly used file formats and the validation of imported data will ensure that the data is accurate and consistent, further improving the quality of the data stored in the system. The clear and user-friendly interface for importing data will also make it easy for users to import data into the system, further improving the efficiency and user experience of the system.

Source: Samer Saber

2.10   Data Export Functionality

The system shall provide a functionality for exporting data from the system, allowing users to export data to external sources instead of manually copying it from the system.

- The system shall support the export of data in commonly used file formats, including CSV and Excel.

- The system shall provide a clear and user-friendly interface for exporting data.

- The system shall allow users to export data for various entities, including players, teams, leagues, staff, facilities, equipment, supplies, and uniforms.

Rationale: The requirement for exporting data is to enable users to easily transfer and analyze data outside of the system. By providing support for commonly used file formats, users can easily import the exported data into other software applications for further analysis or to create reports. The ability to export data will also allow users to backup and archive important data, providing additional data security and reducing the risk of data loss. The user-friendly interface for exporting data will also make it easy for users to export the data they need, further improving the efficiency and user experience of the system.

Source: Samer Saber