# **CSC 431** OneStat and WARLeagues Software Requirements Specification (SRS)

**Team 10**

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| --- | --- |
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# Version History

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author(s) | Change Comments |
| 1.0 | 2/21/2021 | Nolan | First Draft |
| 2.0 | 3/8/2021 | Nolan/Zach/Talon | Added Use Case Diagrams, constraints, more non-functional requirements. |
| 2.1 | 3/9/2021 | Nolan/Zach/Talon | Added a few constraints, tweaks |
| 3.0 | 4/13/2021 | Zach | Fixes Based on TA Feedback |
| 3.1 | 4/29/2021 | Nolan | Final fixes |

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### System Requirements

#### Functional Requirements

##### Player Comparison

|  |  |
| --- | --- |
| Title | Player Comparison |
| Description | User wants to compare the stats of 2 players |
| Priority | 1 |
| Precondition(s) | User must be authenticated |
| Basic Flow | 1. User chooses the “player comparison” option. 2. User enters 2 names into player comparison prompt. 3. User is presented with a comparison of the default stats. |
| Postconditions(s) | User can change players or statistics presented |
| Use Case Diagram | 3.1.1 |

##### OneStat Leaderboard

|  |  |
| --- | --- |
| Title | Leaderboard |
| Description | User wants to view the leaders of the default stats. |
| Priority | 0 |
| Precondition(s) | None (homepage, no authentication needed) |
| Basic Flow | 1. User selects “OneStat leaderboard” option. 2. User is presented with a comprehensive leaderboard of the default statistics of all qualified players from the most recent year. |
| Postconditions(s) | User can change order, year, position or team statistics presented |
| Use Case Diagram | 3.1.1 |

##### Custom Leaderboard Creation

|  |  |
| --- | --- |
| Title | Custom Leaderboard Creation |
| Description | User wants to create a leaderboard with specific statistics |
| Priority | 1 |
| Precondition(s) | User must be authenticated |
| Basic Flow | 1. User chooses the “create custom leaderboard” option. 2. User chooses the stats, position, team, year for the leaderboard to present. 3. User is presented with his custom leaderboard |
| Postconditions(s) | User can change order, year, position, or team statistics presented |
| Use Case Diagram | 3.1.1 |

##### Statistic Dictionary

|  |  |
| --- | --- |
| Title | Statistic Dictionary |
| Description | User wants to see definitions and explanations of statistics. |
| Priority | 3 |
| Precondition(s) | User must be authenticated |
| Basic Flow | 1. User chooses the “statistic dictionary” option. 2. User is presented with a cumulative list of definitions and examples of the statistics. |
| Postconditions(s) | User can navigate to other view |
| Use Case Diagram | 3.1.3 |

##### User Signup System

|  |  |
| --- | --- |
| Title | User Signup System |
| Description | User creates a username and password for the software. |
| Priority | 0 |
| Precondition(s) | N/A |
| Basic Flow | 1. User enters a username and password for a personal account. 2. The system stores the information for future authentication. |
| Postconditions(s) | User can navigate to other view |
| Use Case Diagram | 3.1.1 |

##### User Authentication System

|  |  |
| --- | --- |
| Title | User Authentication System |
| Description | User logs in by matching username and password to existing account. |
| Priority | 0 |
| Precondition(s) | N/A |
| Basic Flow | 1. User enters their username and password to by authenticated. 2. If the system has a match for the user entry, the user is authenticated. |
| Postconditions(s) | User can navigate to other view |
| Use Case Diagram | 3.1.1 |

##### WARLeague Creation

|  |  |
| --- | --- |
| Title | WARLeague Creation |
| Description | User wants to create a fantasy WARLeague |
| Priority | 2 |
| Precondition(s) | User must be authenticated |
| Basic Flow | 1. User chooses “Create WARLeague.” 2. User fills out league information. 3. User can invite other players to join the league. 4. User can draft. |
| Postconditions(s) | User can navigate to other views |
| Use Case Diagram | 3.1.2 |

##### WARLeague Drafting

|  |  |
| --- | --- |
| Title | WARLeague Drafting |
| Description | User wants to draft teams for his WARLeague |
| Priority | 2 |
| Precondition(s) | N/A |
| Basic Flow | 1. User chooses “Draft.” 2. User and any other members choose players to fill out their team. |
| Postconditions(s) | User can navigate to other views |
| Use Case Diagram | 3.1.2 |

##### WARLeague Standings

|  |  |
| --- | --- |
| Title | WARLeague Standings |
| Description | User wants to view the standings for his WARLeague |
| Priority | 2 |
| Precondition(s) | N/A |
| Basic Flow | 1. User chooses “View Standings.” 2. User is presented with the standings of the WARLeague |
| Postconditions(s) | User can navigate to other views |
| Use Case Diagram | 3.1.2 |

#### Non-Functional Requirements

##### **Fast Player Comparisons**

|  |  |
| --- | --- |
| Title | Fast player comparisons |
| Description | When the player comparison feature is used, it returns the results in under a minute |
| Priority | 0 |
| Applicable FR(s) | 1.1.1 Player comparisons |

##### **Visually Pleasing Leaderboards**

|  |  |
| --- | --- |
| Title | Visually pleasing leaderboards |
| Description | Leaderboards should have clear and consistent formatting |
| Priority | 3 |
| Applicable FR(s) | 1.1.2 OneStat Leaderboard, 1.1.3 Custom Leaderboard Creation |

##### **Up-to-date Standings**

|  |  |
| --- | --- |
| Title | Up-to-Date Standings |
| Description | The WARLeague standings are updated to reflect the most recent in game results. |
| Priority | 3 |
| Applicable FR(s) | 1.1.9 WARLeague Standings |

##### **Information Encryption**

|  |  |
| --- | --- |
| Title | Information Encryption |
| Description | The user’s information (Username, Password) is store under encryption to ensure safekeeping |
| Priority | 2 |
| Applicable FR(s) | 1.1.5 User Signup System, 1.1.6 User Authentication System |

### System Constraints

#### Tool Constraints

##### **MySQL**

|  |  |
| --- | --- |
| Title | MySQL |
| Description | MySQL is used for the OneStat database |
| Priority | 0 |

##### **PyMySQL**

|  |  |
| --- | --- |
| Title | PyMySQL |
| Description | PyMySQL is used for by the software to interact with the database and the UI. |
| Priority | 0 |

#### Language Constraints

##### **Python Based**

|  |  |
| --- | --- |
| Title | Python Based |
| Description | The core function of the program is written in python for easy updating, readability, and functionality. |
| Priority | 0 |

##### **SQL Database**

|  |  |
| --- | --- |
| Title | SQL Database |
| Description | The OneStat Database will be in SQL for fast and easy to write queries of large data. |
| Priority | 0 |

#### Platform Constraints

##### **IOS Support**

|  |  |
| --- | --- |
| Title | IOS Support |
| Description | The application can run on IOS |
| Priority | 2 |

##### **Desktop Support**

|  |  |
| --- | --- |
| Title | Desktop Support |
| Description | The application can run on Desktop |
| Priority | 0 |

##### **Android Support**

|  |  |
| --- | --- |
| Title | Android Support |
| Description | The application can run on Android |
| Priority | 4 |

#### Hardware Constraints

##### **Memory**

|  |  |
| --- | --- |
| Title | Memory Requirement |
| Description | Must be able to run on a platform with 5 GB DDR3 RAM |
| Priority | 0 |

##### **Processor**

|  |  |
| --- | --- |
| Title | CPU requirement |
| Description | Must be able to run using an Intel Pentium i5 processor or comparable |
| Priority | 0 |

#### Network Constraints

##### **Network Connection**

|  |  |
| --- | --- |
| Title | Network Connection Requirement |
| Description | Software must work with any network connection |
| Priority | 0 |

#### Deployment Constraints

##### **Coordinated Release**

|  |  |
| --- | --- |
| Title | Coordinated Release |
| Description | All versions are released at the same time |
| Priority | 3 |

#### Transition & Support Constraints

##### **PayPal Donations**

|  |  |
| --- | --- |
| Title | PayPal Donations |
| Description | Software accepted PayPal Donations for support in server costs |
| Priority | 5 |

#### Budget & Schedule Constraints

##### **500 Hour Maximum**

|  |  |
| --- | --- |
| Title | 500 Hour Maximum |
| Description | The project must be completed in under 500 hours of work |
| Priority | 1 |

##### **$500 Budget**

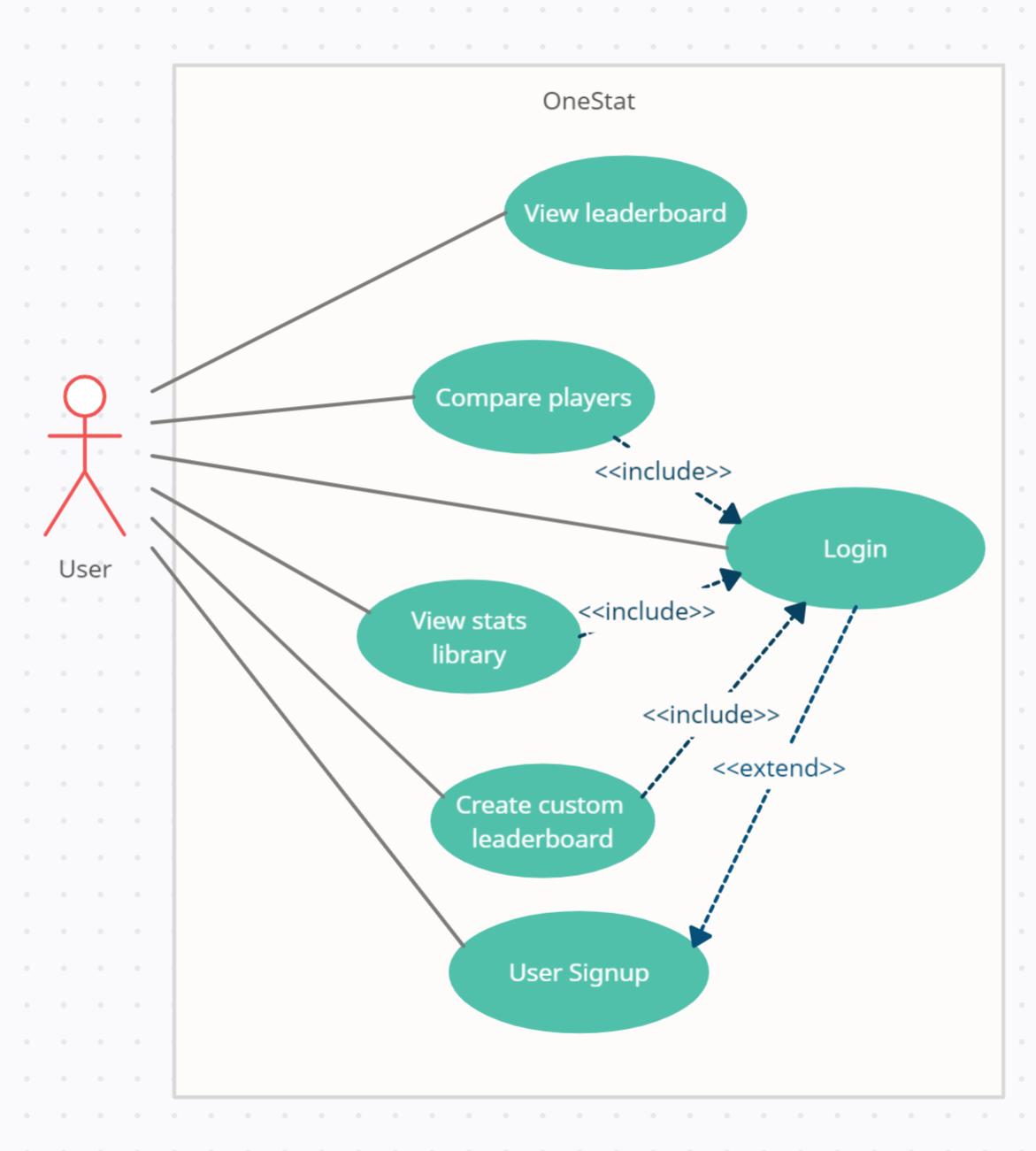
|  |  |
| --- | --- |
| Title | $500 Budget |
| Description | Project must be completed for under $500 |
| Priority | 0 |

##### **May 9th Deadline**

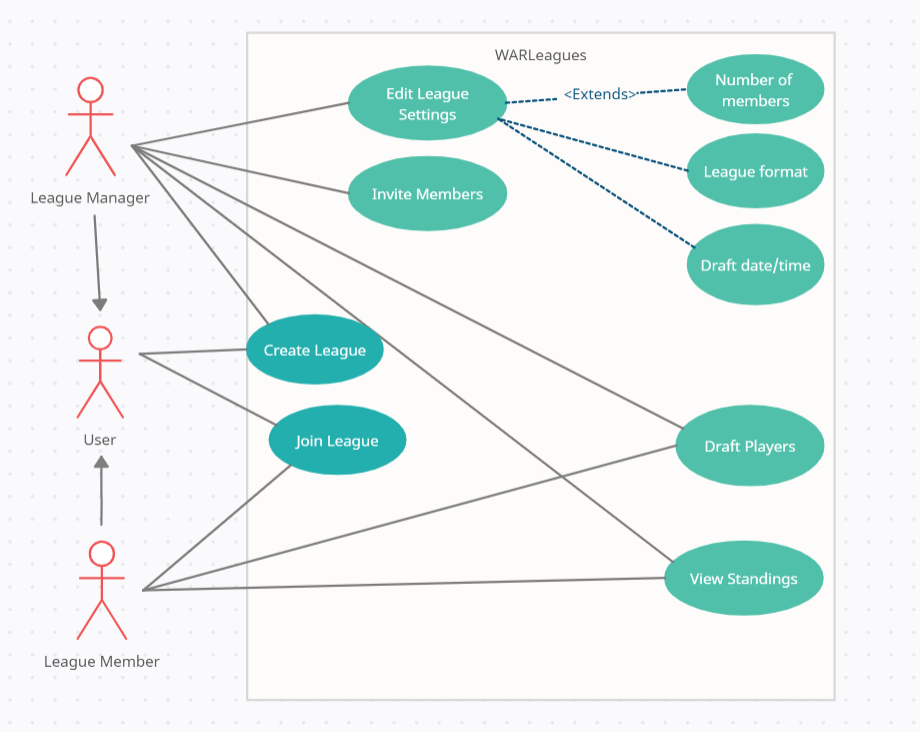
|  |  |
| --- | --- |
| Title | May 5th deadline |
| Description | Project must be completed by May 5th |
| Priority | 0 |

### Requirements Modeling

##### **OneStat Use Case**



##### **WARLeagues Use Case**



##### Stats Dictionary Use Case

Diagram

Description automatically generated

### Evolutionary Requirements

#### Functional Requirements

##### **Chart Creation**

|  |  |
| --- | --- |
| Title | Chart Creation |
| Description | Users will be able to generate their own charts and graphs based on site data. |
| Priority | 4 |
| Precondition(s) | User is authenticated |
| Postconditions(s) | Chart displayed |
| General flow | 1. User chooses stat and clicks “Create chart.” 2. Chart is created and presented to the user. |

#### Non-Functional Requirements

##### **Database Creation**

|  |  |
| --- | --- |
| Title | Creating Backend Database for OneStat |
| Description | We would use a DBaaS to not rely on third parties for data |
| Priority | 3 |
| Applicable FR(s) | 1.1.2 OneStat Leaderboard |

##### **Sport Expansion**

|  |  |
| --- | --- |
| Title | Creating OneStat for other sports |
| Description | Once the baseball OneStat is up and running, expand into building specialized statistics for other sports. |
| Priority | 5 |
| Applicable FR(s) | 1.1.2 OneStat Leaderboard, 1.1.4 Statistic Dictionary |