

Software Requirements Specification for Sandlot: Softball League Scheduling and Management Web Application

Team 29

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October 10, 2024

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Revision History

Date	Version	Notes
October 7, 2024	1.0	TA Feedback
October 9, 2024	1.1	Rev0

1 Purpose of the Project

1.1 User Business

The McMaster GSA softball league's current scheduling and management platform is used from the 1st week of May until the last week of August. The website creates a season schedule based on the 30-40 teams that are entered into the league by their respective captains. If scheduling conflicts or weather concerns occur, games are able to be rescheduled by the team captains based on a team's availability. For the many users interacting with the platform, individuals need an intuitive interface that is robust and will allow administrators to easily maintain the system, especially when the website experiences problems. The current platform lacks the capabilities to provide these functionalities to the players, captains, and commissioners. With this project, our team is provided an opportunity to apply our software engineering background to fulfill a desired need for an upgrade to an outdated website.

1.2 Goals of the Project

Our goals with the project are to recreate everything the current website solution does, with a better user interface and a more stable foundation, so that future site admins and league commissioners don't have to deal with the solution breaking or captains/players not understanding how to use the tool. We also plan to add features such as player accounts to help players view their schedules, and a standings viewer to see league scores.

2 Stakeholders

2.1 Client

The client of the project, Dr. Jake Nease, is an active participant in the McMaster GSA softball league and understands the difficulties associated with the current scheduling and management platform. The stability and maintainability concerns with the website are driving factors that contribute to the need for an improved interface.

2.2 Customer

The customers for this project include the players, captains, commissioners, umpires, and other individuals that may interact with the website. These individuals require an easy-to-use platform that allows them to seamlessly enter the website and view the season schedule, whether or not they have an account created.

2.3 Other Stakeholders

Future website administrators and maintainers have an interest in the maintainability, learnability of administrative functions, and the robustness of the website.

2.4 Hands-On Users of the Project

Insert your content here.

2.5 Personas

1. Josh Brown is a 26 year old player that has recently joined the McMaster GSA softball league and he is unfamiliar with how the website functions. As someone who understands how technology works though, he is able to navigate the interface quite well. However, some links he interacts with give him a 404 page not found error. This aggravates Josh as he just wants to understand certain information about the softball league, but the website isn't able to provide it to him because the links on the website are faulty or other issues occur. Josh, along with many others who are new to the league, may be technically literate, but due to the structural integrity of the system, there are many times where users may not be able to access certain information because there is either an error or a link that leads to nothing.
2. Ken Phillips is a 58 year old captain for his McMaster GSA softball team and he has been using the current website for as long as he can remember. Although he is not too familiar with how technology works, he is still able to navigate and utilize the website's functionalities as he has used them for quite some time now. Unfortunately, with the creation of the new website, even though the website has the same existing

functions as the old system, he is not as familiar with how to navigate the interface the same way he has before. Ken and other individuals that may be comfortable and familiar with the current outdated platform, need the new website to be easy-to-use, especially for people that are either older or not as technically literate.

2.6 Priorities Assigned to Users

Insert your content here.

2.7 User Participation

Insert your content here.

2.8 Maintenance Users and Service Technicians

Insert your content here.

3 Mandated Constraints

3.1 Solution Constraints

Requirement #:	0	Requirement Type:	0	Event/BUC/PUC #:	2,3
Description:	Non-commissioner accounts can only be a member of one team.				
Rationale:	To ensure competition is fair and to avoid captains accidentally making extraneous teams, users are limited to one team each.				
Originator:	Alex Verity				
Fit Criterion:	Once a team is created by a captain or a team is joined by a player, they shall not be allowed to use the functionality to create a team or join a team.				
Customer Satisfaction:	2	Customer Dissatisfaction:	2		
Dependencies:	None	Conflicts:	None		
Materials:					
History:					

3.2 Implementation Environment of the Current System

Insert your content here.

3.3 Partner or Collaborative Applications

Insert your content here.

3.4 Off-the-Shelf Software

Insert your content here.

3.5 Anticipated Workplace Environment

Insert your content here.

3.6 Schedule Constraints

Insert your content here.

3.7 Budget Constraints

Insert your content here.

3.8 Enterprise Constraints

Insert your content here.

4 Naming Conventions and Terminology

4.1 Glossary of All Terms, Including Acronyms, Used by Stakeholders involved in the Project

Sandlot: Management software for a softball baseball league, the software that is the subject of this document.

Player: A person who plays on a baseball team in the league. They have an account on Sandlot and are a member of a team.

Captain: A person who plays and leads a baseball team in the league. They are in charge of defining the team's information on Sandlot.

Team: A name and a list of players representing a baseball team defined by a captain. Teams are stored on a database on Sandlot.

5 Relevant Facts And Assumptions

5.1 Relevant Facts

- The current solution is a website with url <https://www.gsasoftball.ca/>
- There are currently 25-32 teams in the league playing an average of 100 games a month.
- Many users are older and require an intuitive UI to enjoy using the site

5.2 Business Rules

Not applicable

5.3 Assumptions

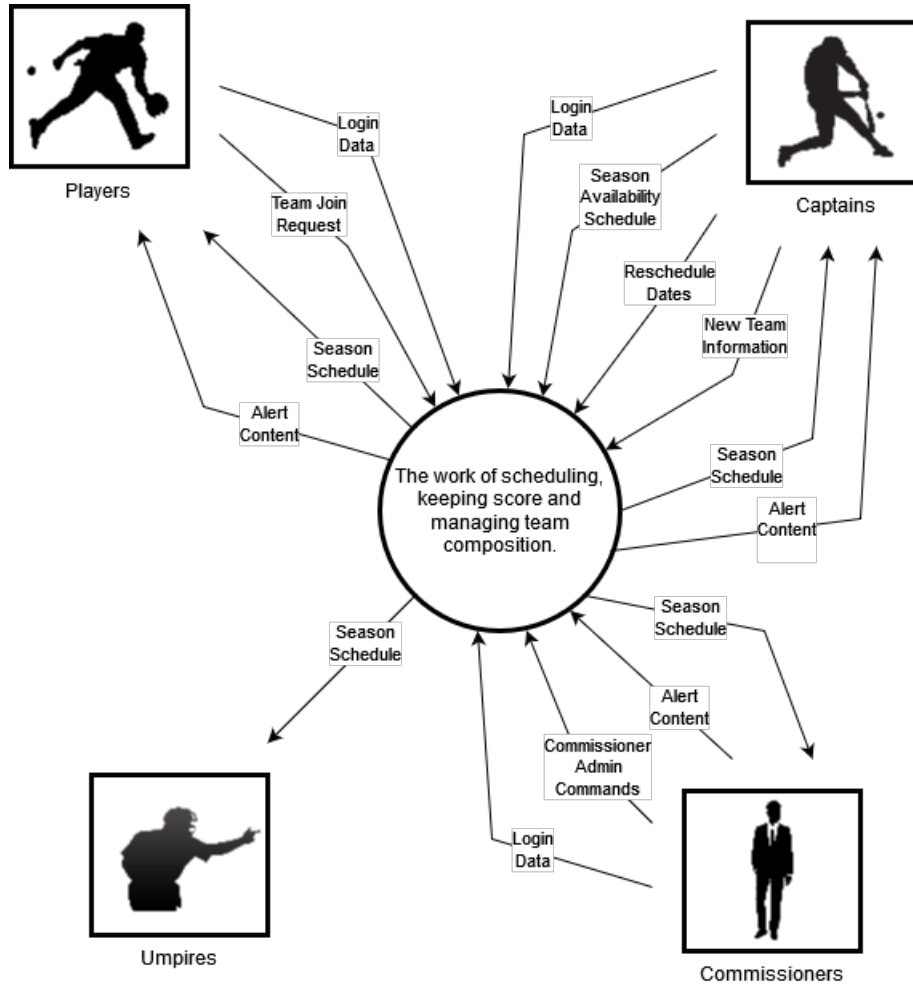
- All users will understand how to log in to a website using a username and password.
- Users will know how a softball league is structured and how it functions.

6 The Scope of the Work

6.1 The Current Situation

It is important to note that we will not be using the existing solution other than as a feature guide. The current solution is hosted on the web and is written in PHP. The current login system does not use a username and password. Only captains can log in, and they are emailed an ASCII code which they use to access the website to schedule games and submit scores. Commissioners can login in the same way as captains and can modify schedules, scores and team compositions as needed. Currently the standings functionality, which would allow users to view the scores of played games, is not working.

6.2 The Context of the Work



6.3 Work Partitioning

Event Name	Input and Output	Summary of BUC
1. User logs in	Login Data (in)	A player, captain or commissioner enters their username and password and the system grants them access to their account.
2. Captain creates a team	New Team Information (in)	At the start of the season, captains can enter team information such as a team name. This registers a new team.
2. Player requests to join a team	Team Join Request (in)	At the start of the season, players are not assigned to a team and must request to join one.
3. Season starts and availability entered	Season Availability Schedule (in)	Record the team captain's entered availability schedule. This will be used to generate the league schedule.
4. Reschedule request entered	Reschedule Dates (in)	Record availability dates the requesting captain entered as alternates for the planned date.
5. Reschedule request recieved	Reschedule Dates (out)	Send the dates the captain who sent the request submit to the other team's captain.
6. User navigates to schedule section	Season Schedule (out)	Display stored season schedule (if available) to site user.
7. User submits alert	Alert Content (in)	Commissioners can submit custom alerts to send to any chosen users.
8. System sends alert	Alert Content (out)	Send the alert to any user the alert must reach.
9. Commissioner inputs admin command	Commissioner Admin Commands (in)	Commissioners have the ability to overwrite team composition and schedule.

6.4 Specifying a Business Use Case (BUC)

Insert your content here.

7 Business Data Model and Data Dictionary

7.1 Business Data Model

Insert your content here.

7.2 Data Dictionary

Insert your content here.

8 The Scope of the Product

8.1 Product Boundary

Insert your content here.

8.2 Product Use Case Table

Insert your content here.

8.3 Individual Product Use Cases (PUC's)

Insert your content here.

9 Functional Requirements

9.1 Functional Requirements

Insert your content here.

Requirement #: **75** Requirement Type: **9** Event/BUC/PUC #: **7.9**

Description: **description text description text description text**

Rationale: **some more text some more text some more text**

Originator: **other text other text other text**

Fit Criterion: **longer text that needs more than one line longer
text that needs more than one line**

Customer Satisfaction: **5** Customer Dissatisfaction: **3**

Dependencies: **some more text** Conflicts: **111**

Materials: **other text other text other text**

History: **other text other text other text**

Requirement #: **xx** Requirement Type: **0** Event/BUC/PUC #: **7**

Description: **System must display the season schedule and standings to all users without login.**

Rationale: **Users who don't have a login (ie. spectators and umpires) will still need to access the schedule and standings, so it should be visible to all.**

Originator: **Alex Verity**

Fit Criterion: **The schedule and standings shall be viewable without entering a username and password.**

Customer Satisfaction: **3**

Customer Dissatisfaction: **3**

Dependencies: **None**

Conflicts: **None**

Materials:

History:

Requirement #: **xx** Requirement Type: **0** Event/BUC/PUC #: **2**

Description: **Captains should be able to create a team which is added to the Sandlot database.**

Rationale: **Teams are defined by captains, in charge of scheduling and recording scores. Captains must be able to define teams at the start of the season.**

Originator: **Alex Verity**

Fit Criterion: **When captains make a team, it should be added to the Sandlot database.**

Customer Satisfaction: **5**

Customer Dissatisfaction: **5**

Dependencies: **None**

Conflicts: **None**

Materials:

History:

Requirement #: **xx** Requirement Type: **0** Event/BUC/PUC #: **2**

Description: **Users should be able to create a new account by providing the necessary information.**

Rationale: **An account strcuture is necessary to be able to change what a user of the system can see/do based on who they are. For example, a player and captain should not be able to see/do the same things or 2 players from different teams should not be able to see/do the same things.**

Originator: **Casra Ghazanfari**

Fit Criterion: **When a user provides the necessary information, an account should be created from that information**

Customer Satisfaction: **5**

Customer Dissatisfaction: **5**

Dependencies: **None**

Conflicts: **None**

Materials:

History:

Requirement #: **xx** Requirement Type: **0** Event/BUC/PUC #: **2**

Description: **Users should be able to change their account information by providing the necessary information.**

Rationale: **User information does not stay the same forever, therefore the system should have a way for the user to change their information if it ever changes.**

Originator: **Casra Ghazanfari**

Fit Criterion: **When a user provides the necessary information, their account information should change.**

Customer Satisfaction: **5**

Customer Dissatisfaction: **5**

Dependencies: **None**

Conflicts: **None**

Materials:

History:

Requirement #: **xx** Requirement Type: **0** Event/BUC/PUC #: **2**

Description: **Users should be able delete their account by providing the necessary information.**

Rationale: **If a user wants to quit the league they should be able to delete any of their personal information at any time.**

Originator: **Casra Ghazanfari**

Fit Criterion: **When a user provides the necessary information, their account should be deleted.**

Customer Satisfaction: **5**

Customer Dissatisfaction: **5**

Dependencies: **None**

Conflicts: **None**

Materials:

History:

Requirement #: **xx** Requirement Type: **0** Event/BUC/PUC #: **8,9**

Description: **Commissioners should be able to send alerts with custom information to a specified user or group of user.**

Rationale: **Commissioners have the need to notify league members with any new information relevant to the league.**

Originator: **Alex Verity**

Fit Criterion: **When a commissioner enters information to alert league members, the league members receive a notification with the relevant information.**

Customer Satisfaction: **2**

Customer Dissatisfaction: **3**

Dependencies: **None**

Conflicts: **None**

Materials:

History:

Requirement #: **xx** Requirement Type: **0** Event/BUC/PUC #: **9**

Description: **Commissioners should be able to update the team information of any team, including player list and scores.**

Rationale: **Commissioners have the need to easily fix any errors made by users.**

Originator: **Alex Verity**

Fit Criterion: **When a commissioner enters team information to be changed, the changes are made in the database.**

Customer Satisfaction: **2**

Customer Dissatisfaction: **2**

Dependencies: **None**

Conflicts: **None**

Materials:

History:

Requirement #: **xx** Requirement Type: **0** Event/BUC/PUC #: **3**

Description: **Before the season starts, captains must have the option to give a list of days over the season marking their team's availabilty.**

Rationale: **Each team will have members who may only be free on certain days of the season. This availability will inform the season schedule so that teams will have as many people attending each game as possible.**

Originator: **Alex Verity**

Fit Criterion: **Before the seaon starts, captains shall be able to view the option to enter their availability and once entered, it shall be stored by the system.**

Customer Satisfaction: **3**

Customer Dissatisfaction: **3**

Dependencies: **None**

Conflicts: **None**

Materials:

History:

Requirement #: xx Requirement Type: 0 Event/BUC/PUC #: 3	
Description: Once the season start due date is reached, all captain's availability will be used to generate a season schedule.	
Rationale: Once the season starts all users need to know the schedule to know when and where to go to games.	
Originator: Alex Verity	
Fit Criterion: When the season start due date is reached, a season schedule shall be displayed on the website.	
Customer Satisfaction: 4	Customer Dissatisfaction: 5
Dependencies: None	Conflicts: None
Materials:	
History:	

10 Look and Feel Requirements

10.1 Appearance Requirements

Insert your content here.

10.2 Style Requirements

Insert your content here.

11 Usability and Humanity Requirements

11.1 Ease of Use Requirements

Requirement #: xx Requirement Type: 0 Event/BUC/PUC #: 7	
Description: All users must be able to easily find the season schedule.	
Rationale: Many users of Sandlot will not be using it often, and the schedule will be one of the most frequented parts of Sandlot. It must be easy to find and access.	
Originator: Alex Verity	
Fit Criterion: On average, a new user shall not take more than one minute to find the schedule, and it should not take more than 2 clicks to access.	
Customer Satisfaction: 3	Customer Dissatisfaction: 5
Dependencies: None	Conflicts: None
Materials:	
History:	

11.2 Personalization and Internationalization Requirements

Insert your content here.

11.3 Learning Requirements

Insert your content here.

11.4 Understandability and Politeness Requirements

Insert your content here.

11.5 Accessibility Requirements

Insert your content here.

12 Performance Requirements

12.1 Speed and Latency Requirements

Insert your content here.

12.2 Safety-Critical Requirements

Insert your content here.

12.3 Precision or Accuracy Requirements

Insert your content here.

12.4 Robustness or Fault-Tolerance Requirements

Insert your content here.

12.5 Capacity Requirements

Insert your content here.

12.6 Scalability or Extensibility Requirements

Insert your content here.

12.7 Longevity Requirements

Insert your content here.

13 Operational and Environmental Requirements

13.1 Expected Physical Environment

Insert your content here.

13.2 Wider Environment Requirements

Insert your content here.

13.3 Requirements for Interfacing with Adjacent Systems

Insert your content here.

13.4 Productization Requirements

Insert your content here.

13.5 Release Requirements

Insert your content here.

14 Maintainability and Support Requirements

14.1 Maintenance Requirements

Insert your content here.

14.2 Supportability Requirements

Insert your content here.

14.3 Adaptability Requirements

Insert your content here.

15 Security Requirements

15.1 Access Requirements

Requirement #: xx Requirement Type: 1E Event/BUC/PUC #: 1	
Description: Players, captains, and commissioners must sign in to their account to access respective functionalities.	
Rationale: Only commissioners can send league-wide announcements and rain out games, captains can create their own team and reschedule games, players can join teams.	
Originator: Nicholas Fabugais-Inaba	
Fit Criterion: Users are able to only perform the functions that apply to their role (player, captain, commissioner)	
Customer Satisfaction: 5	Customer Dissatisfaction: 5
Dependencies: None	Conflicts: None
Materials: None	
History: Created October 7, 2024	

Requirement #: **xx** Requirement Type: **12**Event/BUC/PUC #: **1**

Description: **A user's contact information must be kept private.**

Rationale: **A user's email, phone number, and gender shall remain anonymous to individuals outside the league or to certain parties.**

Originator: **other text other text other text**

Fit Criterion: **Contact information for players can only be seen by their own captain or the other players on their team, captain contact information can only be seen by the players on their team or other captains from other teams, and commissioner contact information can only be seen by captains. Commissioners can see everything.**

Customer Satisfaction: **5** Customer Dissatisfaction: **5**

Dependencies: **some more text**Conflicts: **None**

Materials: **None**

History: **Created October 7, 2024**

15.2 Integrity Requirements

Requirement #:	xx	Requirement Type:	12	Event/BUC/PUC #:	4
Description:	Website must not create conflicts when scheduling games.				
Rationale:	For the start of the season, the system shall create an entire schedule with all of the teams registered in the league, without games being scheduled on the same day, at the same time, on the same field. Rescheduled games must not conflict with the season schedule as well.				
Originator:	Nicholas Fabugais-Inaba				
Fit Criterion:	There exists no conflicts in the season schedule when the season begins or throughout the season when games are rescheduled.				
Customer Satisfaction:	5	Customer Dissatisfaction:	5		
Dependencies:	None	Conflicts:	None		
Materials:	None				
History:	Created October 7, 2024				

15.3 Privacy Requirements

Insert your content here.

15.4 Audit Requirements

Insert your content here.

15.5 Immunity Requirements

Insert your content here.

16 Cultural Requirements

16.1 Cultural Requirements

Insert your content here.

17 Compliance Requirements

17.1 Legal Requirements

Insert your content here.

17.2 Standards Compliance Requirements

Insert your content here.

18 Open Issues

Insert your content here.

19 Off-the-Shelf Solutions

19.1 Ready-Made Products

Insert your content here.

19.2 Reusable Components

Insert your content here.

19.3 Products That Can Be Copied

Insert your content here.

20 New Problems

20.1 Effects on the Current Environment

Insert your content here.

20.2 Effects on the Installed Systems

Insert your content here.

20.3 Potential User Problems

Insert your content here.

20.4 Limitations in the Anticipated Implementation Environment That May Inhibit the New Product

Insert your content here.

20.5 Follow-Up Problems

Insert your content here.

21 Tasks

21.1 Project Planning

Insert your content here.

21.2 Planning of the Development Phases

Insert your content here.

22 Migration to the New Product

22.1 Requirements for Migration to the New Product

Insert your content here.

22.2 Data That Has to be Modified or Translated for the New System

Insert your content here.

23 Costs

Insert your content here.

24 User Documentation and Training

24.1 User Documentation Requirements

Insert your content here.

24.2 Training Requirements

Insert your content here.

25 Waiting Room

Insert your content here.

26 Ideas for Solution

Insert your content here.

Appendix — Reflection

The information in this section will be used to evaluate the team members on the graduate attribute of Lifelong Learning. Please answer the following questions:

1. What knowledge and skills will the team collectively need to acquire to successfully complete this capstone project? Examples of possible knowledge to acquire include domain specific knowledge from the domain of your application, or software engineering knowledge, mechatronics knowledge or computer science knowledge. Skills may be related to technology, or writing, or presentation, or team management, etc. You should look to identify at least one item for each team member.
2. For each of the knowledge areas and skills identified in the previous question, what are at least two approaches to acquiring the knowledge or mastering the skill? Of the identified approaches, which will each team member pursue, and why did they make this choice?