Problem Statement and Goals
Sandlot

Team 29
Nicholas Fabugais-Inaba
Casra Ghazanfari
Alex Verity
Jung Woo Lee

Table 1: Revision History

Date	Developer(s)	Change
September 23, 2024	NFI, JL, CG, AV	Initial Draft
...	...	...

1 Problem Statement

1.1 Background

The McMaster GSA softball league is used every summer by 30-40 teams and as many as 1,000 unique participants. The league is currently organized through an old software platform accessible via a web browser, but it is outdated and does not include features for administrators to maintain the site without extensive knowledge of computer programming. The GSA league is aware that paid-for and ad-supported services are available, and features present in those applications should be explored and added if possible. The GSA league is a minimal-cost non-profit and would like a personalized platform by which to operate without committing to paid-for services. Some players find the current website UI difficult to use and unstable, and would prefer a more intuitive solution that needs little to no maintenance.

1.2 Problem

The platform will be responsible for including all functionalities of the current solution such as scheduling, division management, communication between captains, waiver management, rescheduling, score and league standings management, and other tasks identified by the stakeholders. Our solution would be an updated form of the existing website's capabilities with a modernized UI and the additional features of player-specific logins, real-time standings, and commisioner announcements. Additionally, enhanced stability is key in replacing the lack of maintainability of the current website.

1.3 Inputs and Outputs

1.3.1 Inputs

- Player/Captain/Commissioner login information
- Player/Captain/Commissioner contact information
- Team information
- Game score
- Captain/Team availability
- Reschedule requests
- Commissioner announcements

1.3.2 Outputs

- League standings
- League scheduling

- Commissioner announcements

1.4   Stakeholders

- The supervisor of the project, Dr. Jake Nease
- Commissioners of the league
- Captains/Players/Umpires of the softball league

1.5   Environment

Software Windows, Linux or Mac OS

Hardware Computers with access to the internet

2   Goals

Accomplish everything the existing league website does The current website allows captains to log in and record their matches and scores. It allows scheduling and rescheduling, and provides a place to see the league rules, parking information and other information. The current website often breaks, requiring the current website admin to fix issues as they arise. First and foremost we need to recreate the original league website functionality.

User interface should be intuitive to all users. The current interface is unintuiative and awkward to use. Users should understand how to log in and how to view their schedule just by looking at their homepage. No external information should be required.

Allow players to make accounts Currently, only captains have accounts in the system. Player accounts should only be able to view the contact information of their team captain, captains should only be able to view the contact of their players and other captains, and commisioners should be able to see everything.

Matches should be able to be scheduled and rescheduled. Team captains should be able to give their team's availablity and the software will algorithmically schedule the season's matches. If a team isn't available for a match after it has been scheduled, captains can send a reschedule request with a selection of possible alternative times that the opposition team's captain can agree to.

Commisioners should be able to notify captains with information Commisioner level accounts should be able to easily send out a notification to specific users or entire groups of users, such as all captains or all players. The information in the notification should be customizable by the commisioner.

3 Stretch Goals

Commisioners should be able to "rain out" matches After a match has been scheduled, commisioner level accounts should be able to force a reschedule if the weather makes the game unreasonable to play. This will send a notification to the two team captains so they can choose a date that works.

League template saving A season's teams and players should be able to be saved as a template that can be loaded the next season. This is useful as many teams remain the same or similar between seasons, and it would be convienient for all returning teams to avoid reinviting all returning players.

A mobile application companion Users would be able to perform some actions they can on the website, like viewing schedules and standings from their mobile device.

4 Challenge Level and Extras

4.1 Challenge Level

Challenge level: General

Rationale: Does not involve any extensive research and it is an improvement of an already existing solution.

4.2 Extras

- Code walkthroughs

- User documentation

Appendix — Reflection

The purpose of reflection questions is to give you a chance to assess your own learning and that of your group as a whole, and to find ways to improve in the future. Reflection is an important part of the learning process. Reflection is also an essential component of a successful software development process.

Reflections are most interesting and useful when they're honest, even if the stories they tell are imperfect. You will be marked based on your depth of thought and analysis, and not based on the content of the reflections themselves. Thus, for full marks we encourage you to answer openly and honestly and to avoid simply writing "what you think the evaluator wants to hear."

Please answer the following questions. Some questions can be answered on the team level, but where appropriate, each team member should write their own response:

1. What went well while writing this deliverable?

2. What pain points did you experience during this deliverable, and how did you resolve them?

3. How did you and your team adjust the scope of your goals to ensure they are suitable for a Capstone project (not overly ambitious but also of appropriate complexity for a senior design project)?

Reflection – Nicholas Fabugais-Inaba

Majority of the deliverable went well resulting from the information the team had received in our initial meeting with the supervisor of the project, Dr. Jake Nease. He was able to detail many of the expectations he had relating to the information required for the deliverable such as the inputs, outputs, stakeholders, and goals. Only minimal brainstorming was required from the team to fill in the rest of the information for the deliverable.

Certain pain points the team did experience, while writing this deliverable, related to the problem the project would be addressing. Although some of the information was gathered from the project description, which was listed in the potential project document, provided to students, the team still needed to address other crucial information that may not have initially come to mind. This was resolved from the collective effort of the team, brainstorming further resolutions as to why this problem needs our specific solution.

The team was able to adjust the scope of the goals, based on complexity, by separating the primary goals of the project with the stretch goals. Goals such as replicating the current features the exisiting website possesses, having an easy-to-use interface, and a login system, make sure the Capstone project isn't too overly ambitious and definitely achievable. The stretch goals help to

add complexity to create a senior design project as developing a mobile version of the system and other additional features are extra add-ons that add to the bulk of the work needed to be completed.

4.3   Reflection – Alex Verity

Writing the goals went smoothly, as we were able to use the notes taken during the initial supervisor meeting directly when making the goals. We also easily decided on extras for section four, as the supervisor requested for the code to be explained thorougly.

A particular pain point was finalizing the problem statement, as it needed to