

CS482/495/496 Software Project Proposal: add your tentative project title here

your name(s) here

2025-10-10

1 Client Information

By sharing this client information and the rest of this document, you are stating that this client has provided this project as something they want (not something you created and asked if they wanted), and that they are interested in having you complete this project for your capstone.

- Client name: Dr. Isaacman
- Client title: Department Chair, Associate Professor
- Client email address: snisaacman@loyola.edu
- Client employer: Loyola University Maryland
- How you know the client: CS department

2 Project Description

2.1 Overview

The League of United Minors (LUM) youth football league website will provide a space for community interaction, assist coaches and players in roster management and team sign-up, and display real time data including live games, standings, and league-approved social media posts.

2.2 Key Features

[At this point you should have a basic understanding of your client's needs. List out the key features of the software system the client wants you to build.]

2.3 Why this Project is Interesting

[Why did you decide this project was interesting enough to you to be a capstone project? What about this project is enticing? Why should anyone care?]

2.4 Areas of CS required

[What subfields of computer science seem most likely to be relevant to your project? A capstone must involve multiple.]

2.5 Potential Concerns and Questions

[Is there any aspect of this project that makes you unsure if it will work, either due to your own interests/background, or that you aren't sure if it fits the requirements? Are there questions you have about this project that you want instructor feedback about?]

2.6 Summary of Efforts to Find a Project

(Not necessary for 482) [Briefly list out when/how you’ve discussed with this client, and if you’ve discussed with other clients who either didn’t work out or didn’t respond. If you considered a different project and it didn’t work out, why didn’t it work out?]

[Most CS495 projects end here. The sections below are for CS482 and CS496 software projects].

2.7 Comparison to Draft

[For CS496 only, focus on highlighting the major differences between the draft proposal in CS495 and this one here. If there are no major differences, you can remove this subsection.]

3 Requirements

3.1 Non-Functional Requirements

[Non-functional requirements are just as important as functional requirements. Dont forget to specify them.]

ID	NFR Title	Category	Description
NFR1	NFR Example 1	Usability	Description of the NFR (it does not follow a user story template)
NFR2	NFR Example 2	Security	Description of the NFR (it does not follow a user story template)

Table 1: Non-Functional requirements

3.2 Functional Requirements (User Stories)

[In CS482, all functional requirements are written as User Stories. In CS496, some projects may use a different template to write the requirements. The table below is an example of writing the Stories. Adapt accordingly to different templates or if you want to display more info.]

ID	Story Title	Points	Description
S1	Story Example 1	5	As a user, I want to write a user story example, so that people will understand them.
S2	Story Example 2	2	As a user, I want to write a user story example, so that people will understand them.

Table 2: Functional requirements as User Stories.

4 System Design

4.1 Architecture

We are using the Web MVC architecture. The main modules for our software are the view, model, and controller. The view will be the several html files for each page on our website. When the client goes to our website in their browser, it will send a request to our backend. The controller will be responsible for selecting the appropriate HTML file which will then be sent back to the client. The model will handle all the CRUD operations for our database where we will have collections for all our required entities for our application such as users, teams, and posts. The controller is also responsible for being in the middle of the client’s interaction. To show how the three main modules fully interact with each other, here is an example flow of an admin creating a match. The admin interacts with the view on the front end to create a new match. This then sends a request to the backend, and the controller handles this request. The controller

will communicate with the model that the match needs to be added, and the model will add the match to the database.

4.2 Diagrams

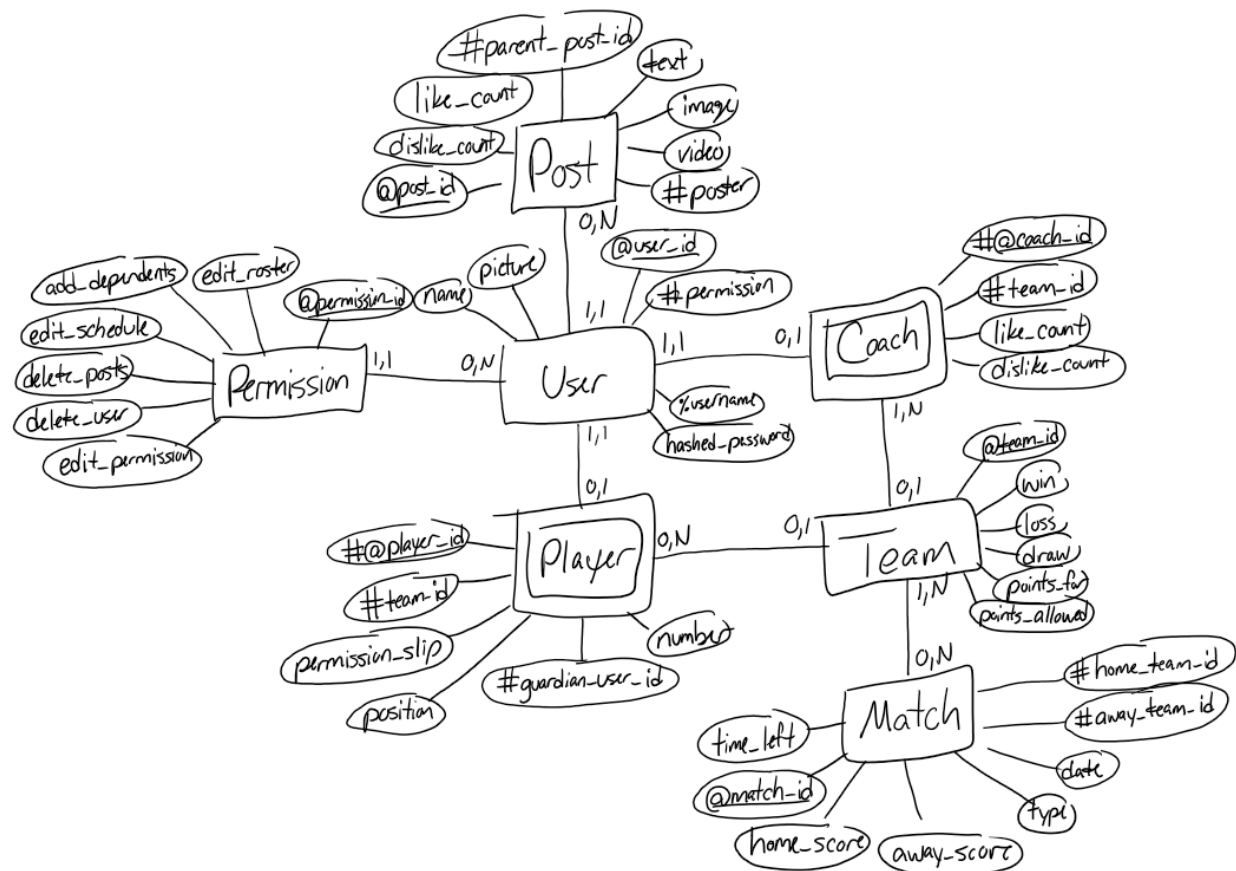
4.3 Technology

We will be using the Java programming language on the backend. The main framework we will be using to make our web application is Jakarta. We will also be using JUnit 5 as our unit testing framework. We will use jsp for embedding Java into HTML files. For the database, we will be using a relational database Postgres SQL.

4.4 Coding Standards

We will use the typical naming conventions in java, with class names being Pascal case and variable and method names being camel case. In the database, collection names will be Pascal Case and attribute names snake case.

4.5 Data



4.6 UI Mocks

User

Login/
Profile

League of United Miners

Username

Password

Login Sign up

set profile image

Name

Email

Phone

Your dependents Add

Timmy 8/18/12 Remove

This is a
minimizeable
side bar.

Dashboard/
Post

League

Home

Teams

Schedule

See what's new

I'm posting! Hello, this is a post! 50%

My post is better... That other guy's post isn't as good as mine. 25%

Birds highlight Check this out! 100%

I'm posting! Hello, this is a post! 50%

I think your post is bad. 10%

His post is great! 90%

Team view

Teams

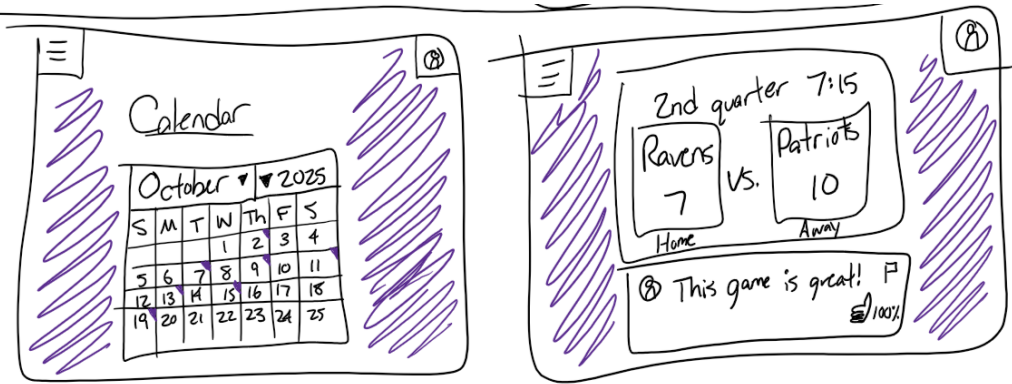
Rank	Team	W	L	D
1	Ravens	3	0	0
2	Eagles	1	1	1
3	Giants	1	2	0
4	Patriots	0	2	1

Ravens

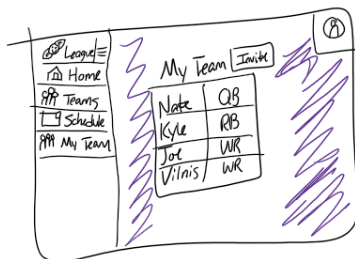
Coach Gary 100%

Name	QB
Kyle	RB
Joe	WR
Vilnis	WR

Event view

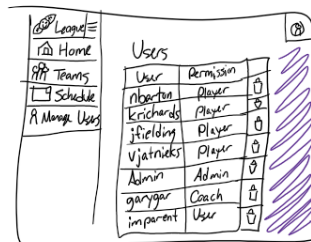


Coach

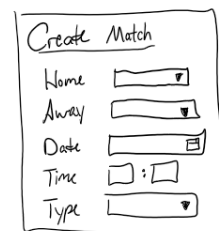


Players also have the "My Team" tab, but are unable to invite players.

Admin



Match creation modal



The admin has "Create" on Schedule page
The admin also has an "Edit" button on Teams page
Also, every comment has 🗑️ (delete).

5 Iterations

5.1 Iteration Planning

[In CS496, you plan all iterations beforehand. In CS482, you update the planning here at each iteration.]

Iteration	Dates	Stories	Points
1	01/01 - 02/01	S1 Story Example, S2 Story Example 2	07
2	02/01 - 03/01	S3 Story Title, S4 Story Title, S5 Story Title, S6 Story Title	17
3	03/01 - 04/01	S7 Story Title, S8 Story Title, S9 Story Title, S10 Story Title, S11 Story Title	21
4	04/01 - 05/01	S12 Story Title, S13 Story Title, S14 Story Title, S15 Story Title	19
5	05/01 - 06/01	S16 Story Title, S17 Story Title	06
Total:			70

Table 3: Iteration Planning for Incremental Deliveries

5.2 Iteration/Sprint 1

5.2.1 Planning

[Which stories did you plan for this iteration/sprint. Add the total points for this plan. You can also explain the reason behind your planning, and what major feature(s) your team is focusing on delivering by completing these stories. You may use a table for a summary display of the planning, but elaborate in text more detail in your focus and feature plan.]

5.2.2 Work Done

[Which stories did you complete in this iteration/sprint. Which ones did you partially complete? Who worked on which story? You may elaborate in paragraph(s) to add more detail about the work done.]

5.2.3 Testing Coverage

[Testing is very important. Show your coverage here. Is this coverage good enough? Explain why you think so. Is it not good enough? Explain a plan to increase the coverage. You may also elaborate on why some artifacts do not undergo much testing. If the testing changed from the last iteration, explain the reasons.]

5.2.4 Retroerspective & Reflection

[What were the pitfalls, challenges, and issues you had in this iteration? How can you address them to improve the process in the next iteration? Did anything not go according to plan? Why so and how to avoid the same mistake? Write a personal reflection on what you learned in this iteration (even if a small technical thing like Database storage).]

5.3 Iteration/Sprint 2

5.3.1 Planning

[Which stories did you plan for this iteration/sprint. Add the total points for this plan. You can also explain the reason behind your planning, and what major feature(s) your team is focusing on delivering by completing these stories. You may use a table for a summary display of the planning, but elaborate in text more detail in your focus and feature plan.]

5.3.2 Work Done

[Which stories did you complete in this iteration/sprint. Which ones did you partially complete? Who worked on which story? You may elaborate in paragraph(s) to add more detail about the work done.]

5.3.3 Testing Coverage

[Testing is very important. Show your coverage here. Is this coverage good enough? Explain why you think so. Is it not good enough? Explain a plan to increase the coverage. You may also elaborate on why some artifacts do not undergo much testing. If the testing changed from the last iteration, explain the reasons.]

5.3.4 Retroerspective & Reflection

[What were the pitfalls, challenges, and issues you had in this iteration? How can you address them to improve the process in the next iteration? Did anything not go according to plan? Why so and how to avoid the same mistake? Write a personal reflection on what you learned in this iteration (even if a small technical thing like Database storage).]

5.4 Iteration/Sprint 3

5.4.1 Planning

[Which stories did you plan for this iteration/sprint. Add the total points for this plan. You can also explain the reason behind your planning, and what major feature(s) your team is focusing on delivering by completing these stories. You may use a table for a summary display of the planning, but elaborate in text more detail in your focus and feature plan.]

5.4.2 Work Done

[Which stories did you complete in this iteration/sprint. Which ones did you partially complete? Who worked on which story? You may elaborate in paragraph(s) to add more detail about the work done.]

5.4.3 Testing Coverage

[Testing is very important. Show your coverage here. Is this coverage good enough? Explain why you think so. Is it not good enough? Explain a plan to increase the coverage. You may also elaborate on why some artifacts do not undergo much testing. If the testing changed from the last iteration, explain the reasons.]

5.4.4 Retroerspective & Reflection

[What were the pitfalls, challenges, and issues you had in this iteration? How can you address them to improve the process in the next iteration? Did anything not go according to plan? Why so and how to avoid the same mistake? Write a personal reflection on what you learned in this iteration (even if a small technical thing like Database storage).]

5.5 Iteration/Sprint 4

[CS496 has 5 sprints. CS482 only has only 3 sprints (remove Iterations 4 and 5 from this doc if you are writing a doc for 482)]

5.5.1 Planning

[Which stories did you plan for this iteration/sprint. Add the total points for this plan. You can also explain the reason behind your planning, and what major feature(s) your team is focusing on delivering by completing these stories. You may use a table for a summary display of the planning, but elaborate in text more detail in your focus and feature plan.]

5.5.2 Work Done

[Which stories did you complete in this iteration/sprint. Which ones did you partially complete? Who worked on which story? You may elaborate in paragraph(s) to add more detail about the work done.]

5.5.3 Testing Coverage

[Testing is very important. Show your coverage here. Is this coverage good enough? Explain why you think so. Is it not good enough? Explain a plan to increase the coverage. You may also elaborate on why some artifacts do not undergo much testing. If the testing changed from the last iteration, explain the reasons.]

5.5.4 Retropective & Reflection

[What were the pitfalls, challenges, and issues you had in this iteration? How can you address them to improve the process in the next iteration? Did anything not go according to plan? Why so and how to avoid the same mistake? Write a personal reflection on what you learned in this iteration (even if a small technical thing like Database storage).]

5.6 Iteration/Sprint 5

5.6.1 Planning

[Which stories did you plan for this iteration/sprint. Add the total points for this plan. You can also explain the reason behind your planning, and what major feature(s) your team is focusing on delivering by completing these stories. You may use a table for a summary display of the planning, but elaborate in text more detail in your focus and feature plan.]

5.6.2 Work Done

[Which stories did you complete in this iteration/sprint. Which ones did you partially complete? Who worked on which story? You may elaborate in paragraph(s) to add more detail about the work done.]

5.6.3 Testing Coverage

[Testing is very important. Show your coverage here. Is this coverage good enough? Explain why you think so. Is it not good enough? Explain a plan to increase the coverage. You may also elaborate on why some artifacts do not undergo much testing. If the testing changed from the last iteration, explain the reasons.]

5.6.4 Retropective & Reflection

[What were the pitfalls, challenges, and issues you had in this iteration? How can you address them to improve the process in the next iteration? Did anything not go according to plan? Why so and how to avoid the same mistake? Write a personal reflection on what you learned in this iteration (even if a small technical thing like Database storage).]

6 Final Remarks

6.1 Overall Progress

[Have you completed everything? If so, present evidence on how you brought value to your client, and the overall client satisfaction. Otherwise, estimate how much progress you done and how long it would take to finish this project.]

6.2 Project Reflection

[Your personal reflection on the project. What lessons did you learned. What would you have done differently. How can you do better work in future projects? You may write this as a team or per person (or both)]

Appendix

[Appendix section if needed]