

# YourSports

Dynamic Debugger (Team 02)

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## Team & Backend Lead

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## Milestone 1

Milestone	Date
M1V2	June 30th, 2022
M1V1	June 9th, 2022

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## Executive Summary

The product that we are trying to build is called YourSports. Today, many sports applications are focused on providing news and real-time updates to live games, however, most of these products don't focus on the information that a particular user is looking for, but instead provide information as a whole, leaving the user to scrape through all the data, to find any information that is relevant to their interests. This leaves the user unsatisfied, hence they stop using these products. Our product is a one-stop solution for all the sports fans, as our application focuses on personalizing information for the users, by providing data that is focused on their favorite teams and players.

YourSports is a web application that offers countless services to its customers, from real-time trends to fantasy betting, that will keep users engaged and updated with real-time information. Our product will allow users to access live Twitter feeds that relate to their favorite teams and players, provide information on any games that they would like to watch, allow users to easily access player statistics, provide real-time updates of live games, and have group chats where users can interact with fans of similar interests. Our product will also keep users engaged through fantasy betting. The sports industry involves a lot of betting, where fans have lost enormous amounts of money. Our product will allow fans to bet with the same amount of energy, and also not waste any money through fantasy betting. Instead of betting with money, users can bet through points, and they will win or lose according to the outcome of the games they have betted on. These points can be used to win prizes. This is one of our application's unique services that will help users by disrupting the betting industry.

Our product is designed to cover wider aspects of contents without overflowing users with unnecessary information, and we believe that this attracts more consumers. Since it is very interactive, it can generate revenue by providing enormous amounts of data to different companies that can use this data to advertise their products on our platform. This application can also be expanded to a talent acquisition company, that will help new and talented players enter the industry. Our product is the solution to all the problems that existing products in the sports industry face, and it has a lot of potential for growth.

## Use Cases

### Actors

#### Steward (Student):

Characteristics, skills, and pain points:

- Likes to keep track of sports
- Very busy with his studies
- Very impatient
- Very straightforward
- Gets irritated easily
- He does not like browsing through many websites to be updated with sports news.

Goals:

- He wants to be updated with sports news without browsing multiple websites.
- He would only like news that caters to sports

#### Mathew (Gambler):

Characteristics, skills, and pain points:

- He loves to take risks
- He loves to travel a lot
- He is addicted to gambling
- He has lost a lot of money from gambling

Goals:

- He wants real-time updates on the bets he places while traveling so that he is not anxious about whether he has won or lost money
- He wants to continue gambling, without losing actual money
- He wants a platform that can help him practice betting with virtual money, instead of real money, so that he is better prepared when placing bets with real money.

#### Wendy (Cashier):

Characteristics, skills, and pain points:

- Wendy has a child who she needs to take care of.
- She is a big fan of the warriors.

- She is very busy with her family.
- She cannot watch games due to time constraints.

Goals:

- She wants real-time updates of games in which the lakers play through text broadcast and commentary as she cannot watch live games.
- She also wants notifications instead of checking through multiple platforms for information.
- She would also like to be involved in the game by sharing her opinion on live games.

John (Engineer):

- Characteristics, skills, and pain points:
- John has no interest in sports.
- John's friends are interested in sports, and he feels left out because he cannot have a conversation with them when they talk about sports.
- He is very social.
- He likes to make new friends.
- He is very busy with his work

Goals:

- He wants easy access to sports information so that he can learn more about sports.
- He wants to make new friends who are into sports and have conversations with them.
- He wants to follow basketball and he does not want to watch live games, however, he wants notifications of any updates in a game.

Jane :

- Characteristics, skills, and pain points:
- Jane is a big fan of basketball.
- She is a big fan of the Lakers.
- She is a big fan of LeBron James.
- She has no interest in reading news that is not related to Lakers or LeBron James.
- She gets distracted easily.
- She uses Twitter a lot.

Goals:

- She wants news that is only related to the Lakers or LeBron James.
- She does not want to miss any tweets related to LeBron James or the Lakers.
- She does not want to open Twitter because she gets distracted by tweets from other users and topics.
- She also wants updated stats of the players in a season.

#### Maxey (Student):

- Characteristics, skills, and pain points:
- Maxey loves basketball.
- Maxey loves going out with his friends to watch basketball games.
- He is really busy with studies and work.
- He works in low-income jobs and cannot afford to watch games that fit his budget.
- He is impatient.
- He does not like checking through multiple websites to find nearby games, where his favorite teams are playing, and they fit his budget.

#### Goals:

- He wants information on games that are not far away, have his favorite teams playing, and fit his budget.
- He wants notifications of any games that fit his criteria.
- He wants real-time updates of any games through text that he is not able to attend.

#### Julia (Sports Journalist):

##### Characteristics, skills, and pain points:

- Julia creates news articles about sports.
- She creates articles that cater to users of specific interests.
- She does not like publishing her articles on every sports website.
- Her articles don't get many views because they are not available to users that the article is intended for.

#### Goals:

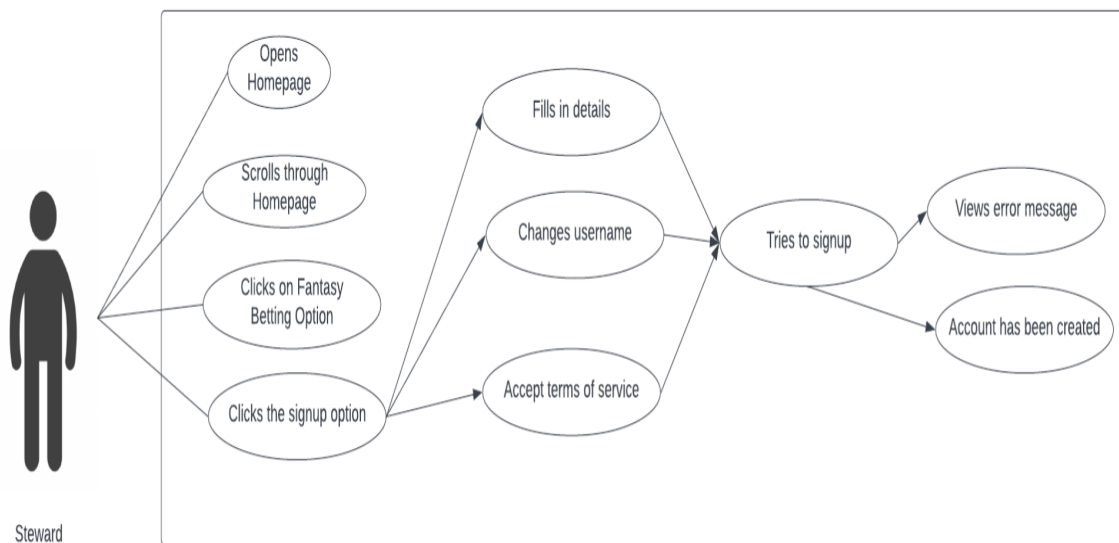
- She wants to publish her articles on websites that cater to the specific interests of users.
- She wants her articles to be read by users who have the same interest in the information presented in her article.

## Cases

### Signing up

#### Actors: Steward

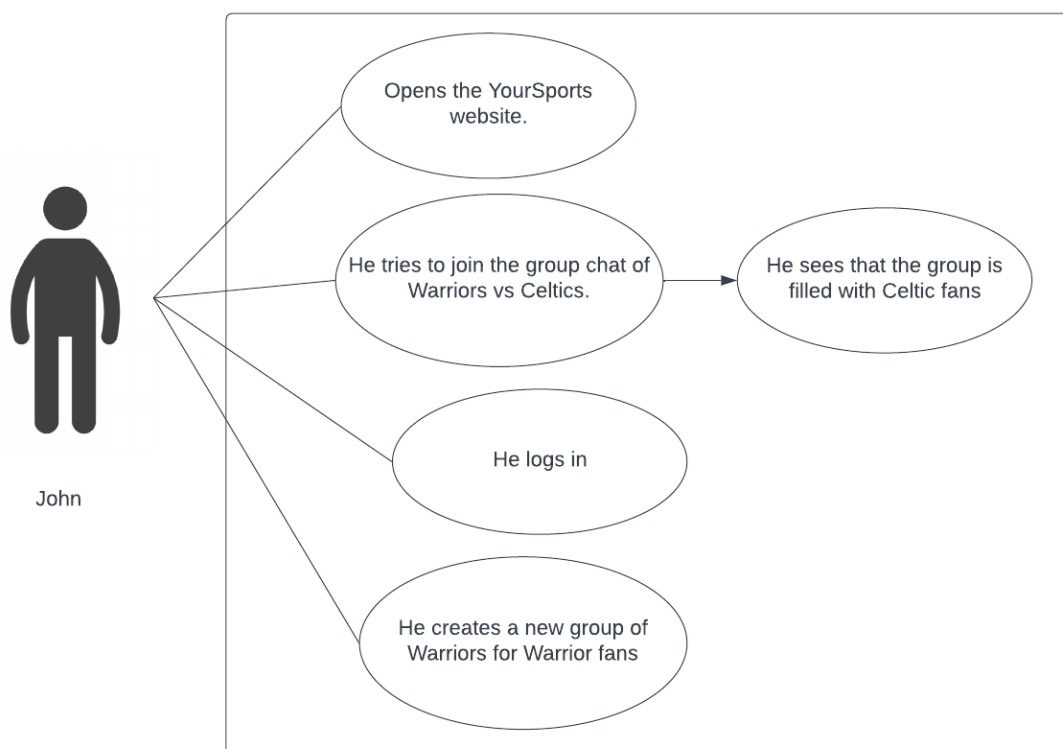
Steward makes a Google search on the latest sports news. The third search result shows him the YourSports website. He opens the website and scrolls through the homepage. The homepage has all the latest news and it shows a lot of features like searching games, and fantasy betting. He clicks on fantasy betting however it states that he must be signed up to use this feature. He is intrigued by fantasy betting and he wants to sign up. He clicks the sign up option, where he is prompted to fill in details like first name, last name, username, email, password and date of birth. He fills in all the details and clicks sign up. An error message popped up stating that a user with the same username already exists. He changes the username and tries to sign up again. It fails again because he has not yet agreed to the terms of service. After agreeing to the terms of service, he tries again and this time the sign up is successful.



## Creating Group Chat

Actors: John

John wants to follow the game of Warriors vs Celtics. Unfortunately, he is traveling, and he has no one to watch the game with. He does not want to watch the game alone. He opens the YourSports website to follow the game. He notices he can join group chat to discuss with others. He logs in his account and joins the chat named Warriors vs Celtics. But he finds that they are all fans of the Celtics. He creates a new group chat named Warrior and invites some of his friends who are fans of Warrior to this chat.

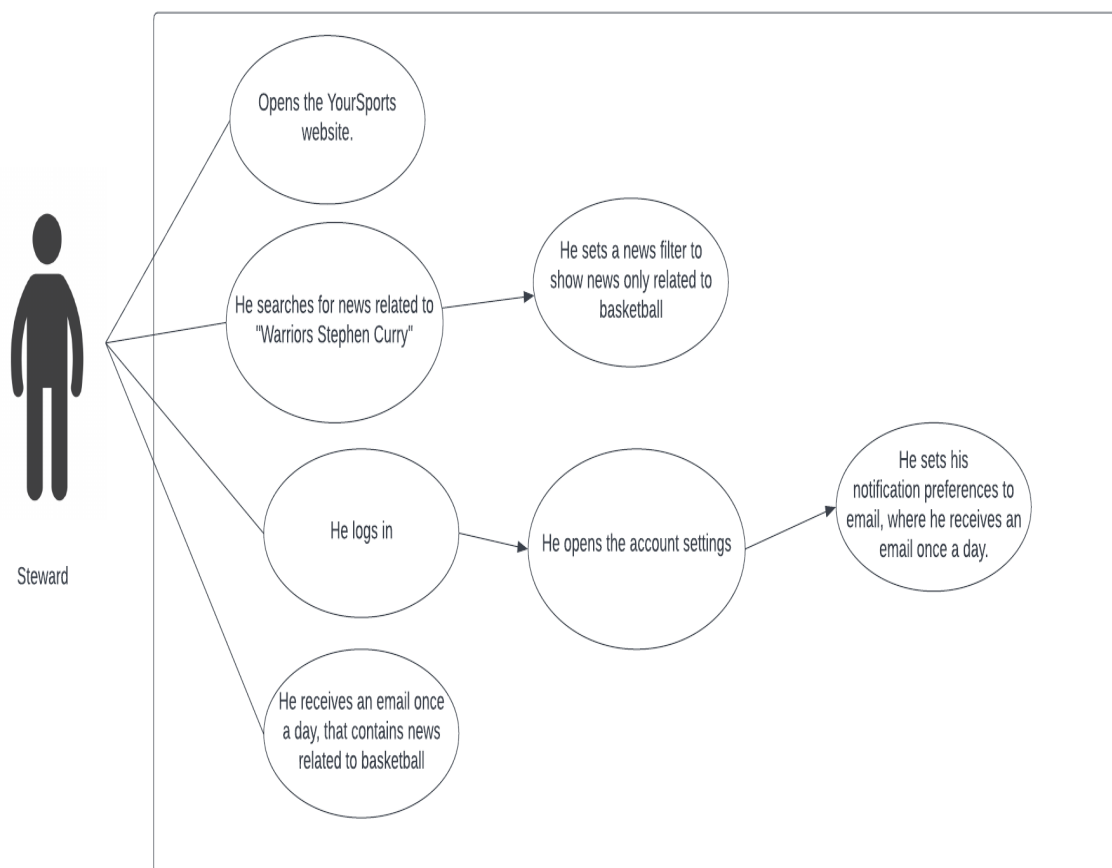




## Checking Sports news

### Actors: Steward

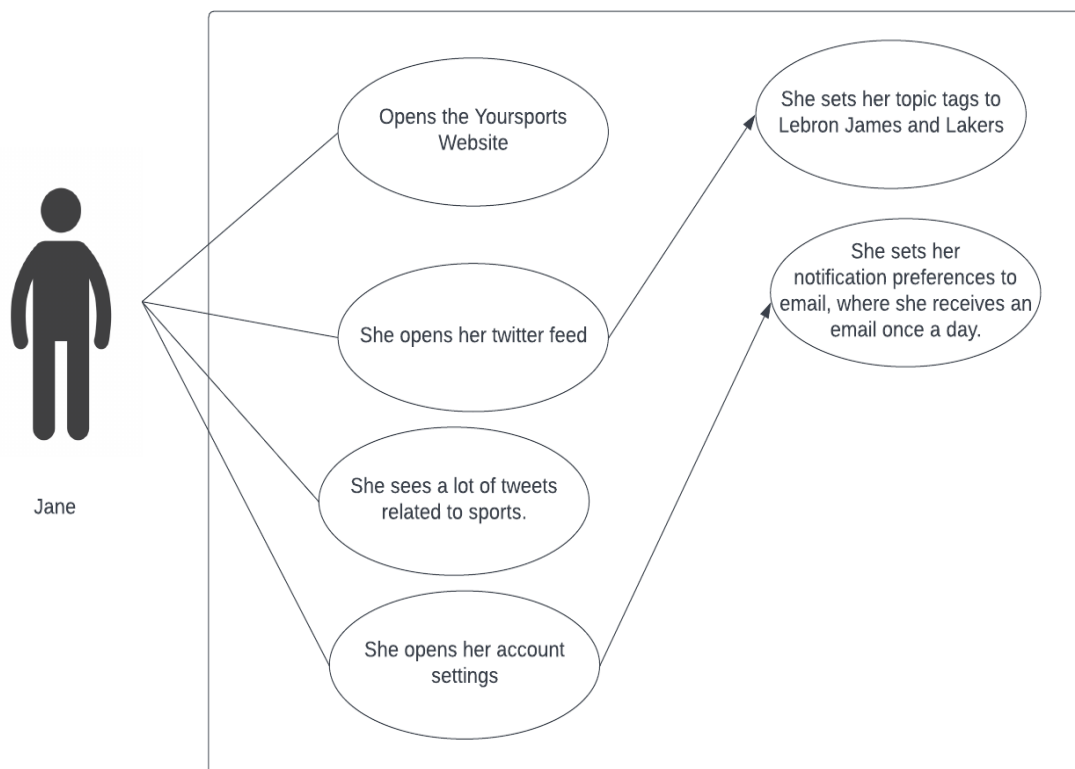
Steward likes to keep track of sports. His favorite sport is basketball. He has subscribed to many sports websites and mobile apps that send him updates on sports news via email and notifications. But he only wants to read news that is related to basketball. He goes to YourSports and searches by teams and players e.g. "Warriors Stephen Curry" then reviews the results. He finds that the information provided by YourSports is detailed and latest. He decides to use this site to follow his favorite sport. He logs in, and from the account settings, he chooses notification news to only be related to basketball, sets his preferences of receiving emails on basketball news only once a day.



## Checking Twitter Feeds

### Actors: Jane

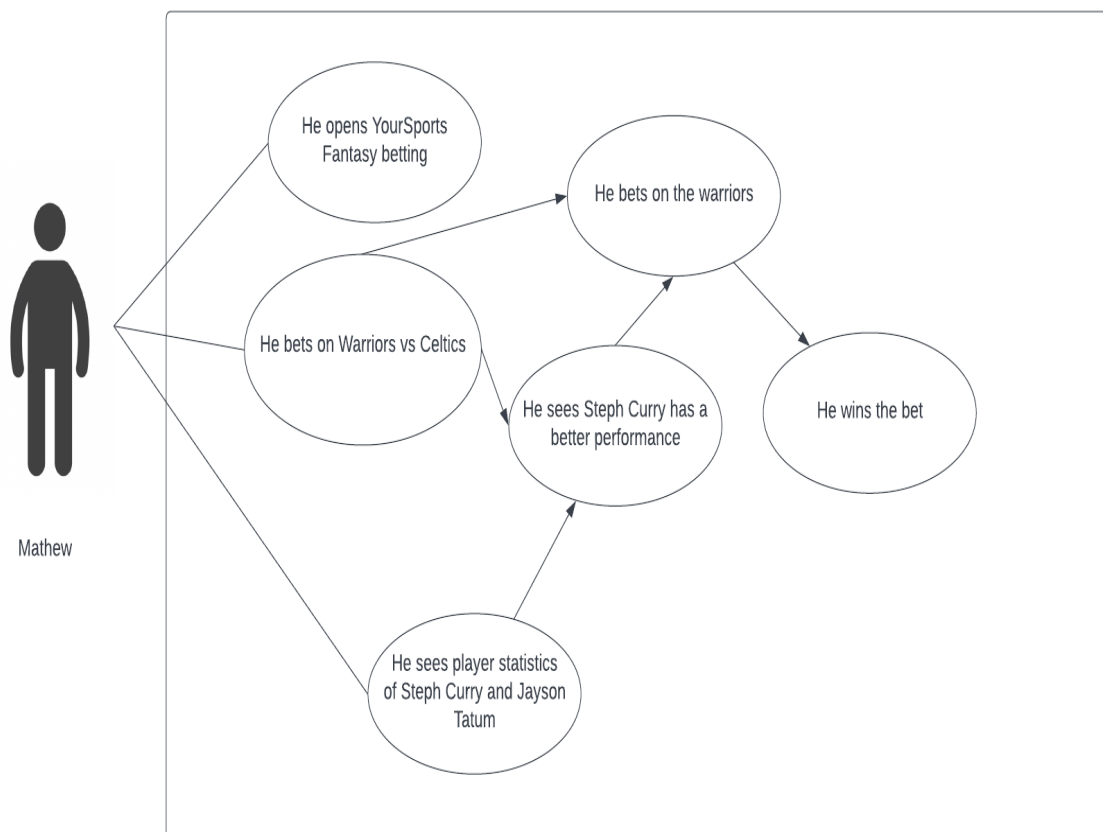
Jane is a big fan of LeBron James and the Lakers, and she regularly tweets about them. She likes to know what other people are tweeting about LeBron James and the Lakers. She does not want to miss a single tweet, but she does not want to open twitter to avoid distraction. She opens the YourSports website to see live Twitter feeds on sports. She chooses her target topics as LeBron James and the Lakers to only see twitter feeds related to these two teams. She also enables the option from her account settings, to receiving emails once a day from YourSports regarding any new tweets that are related to the topics she follows.



## Fantasy Betting

### Actors: Mathew

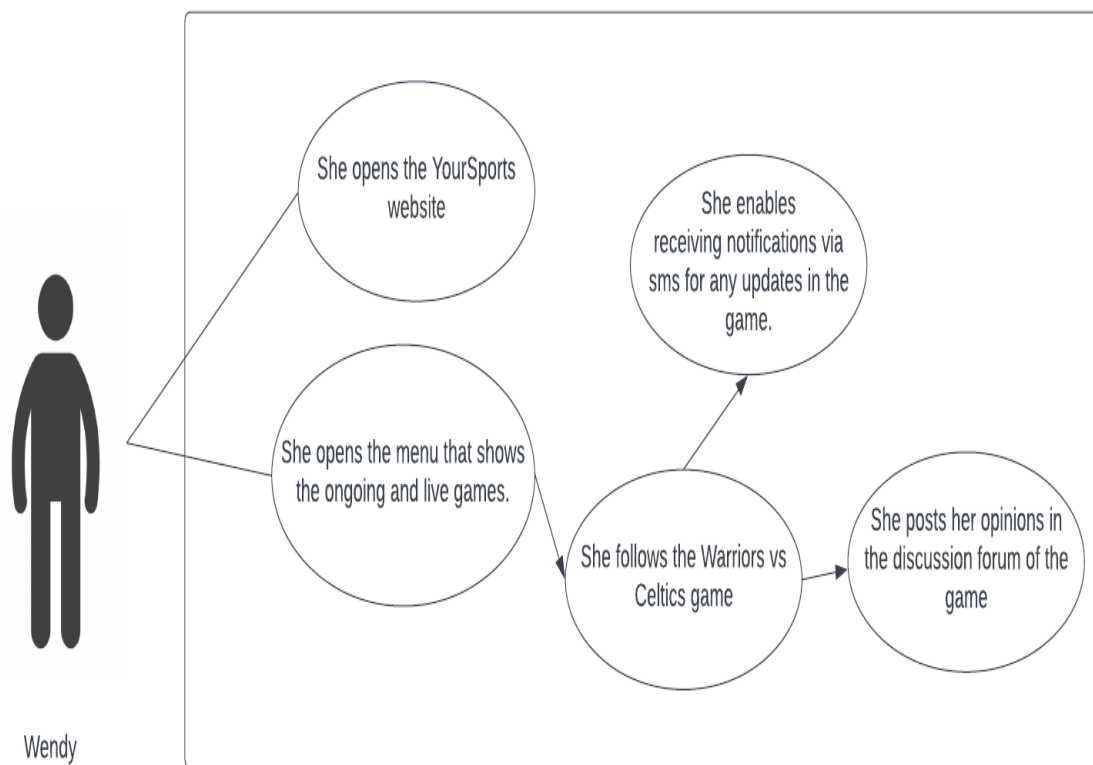
Mathew is very addicted to gambling and sports betting. He has lost a lot of games previously and is in a lot of debt. He is trying to find a platform where he can practice sports betting without using real money. His friend tells him about YourSports where he can bet on any live and upcoming games, with YourSports coins instead of real money. He decides to bet on the game of the Warriors vs Celtics. He sees the player statistics of Steph Curry and Jayson Tatum. He sees that Steph Curry has a better performance, and therefore Warriors have a higher chance of winning. The updated statistics of Steph Curry helped Mathew make a more calculated decision on who to bet on. His decision was fruitful as Warriors won the tournament. He realized he enjoyed fantasy betting as much as betting with real money, and he does not wish to bet with real money anymore.



## Following Sports Games

### Actors: Wendy

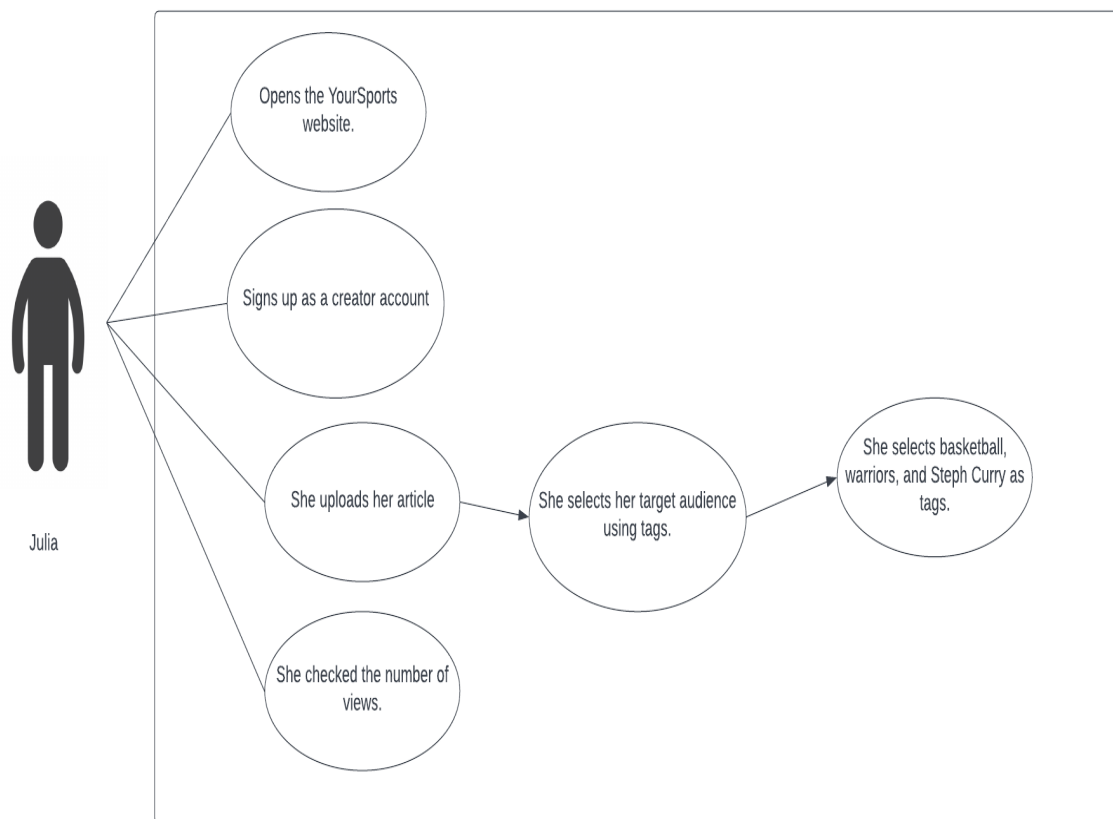
Wendy is very busy with her work and she also has a child to take care of. Due to her busy schedule, she cannot watch the games of the Warriors vs Celtics. She cannot watch the videos and would like to read text commentary about the game. She opens YourSports website, and chooses to follow the Warriors vs Celtics game, and set receiving notifications via SMS on her phone, for any update in the game. From time to time, she also opens the YourSports website and posts her views on the current game in the discussions forum of the game.



## Posting news articles

### Actors: Julia

Julia is new in the sports journalism industry, and a lot of her articles are not being read by her target audience. She opens YourSports website, and signs up as a creator account. She uploads her article on how the Warriors won the NBA championship, and how all of San Francisco rejoiced their win. While uploading her article, she selects her target audience from the tags. She selects basketball, Steph Curry, and the Warriors as tags. She checked the number of views few days later, which were over 5000. This is the highest number of views she has ever gotten on her articles.



## Main Data Items and Entities

**Users** : Users will be referring to the set of people who will use our application. Users will be given wide access to features like searching news, access to live Twitter feeds, following live games, posting opinions in the discussion forum of a game, and viewing player statistics. Users will be characterized in two ways : Registered and Unregistered.

**Account** : Each registered user will have an account that contains all the details and keys that are required to identify a user.

**News** : Since our website involves collecting and giving information to users, we will refer to this information as news.

**Games** : Most of the information in our website will be related to games, and most of our features deal with sport's games.

**Backend Service** : The backend service will relate to all the services that perform operations from an external source.

**Website** : Since our product is a web application, we will refer to it as a website.

**Group** : Group will refer to all the private group chats and discussion forums that allow users to interact with other users.

**Message** : Message will refer to the content a user provides to other users in a group.

**Database** : Database will refer to the system that stores all the information our website requires.

## Functional Requirements

### Registered Users


1. Registered users shall be able to log in to the website.
2. Registered users shall be able to access the homepage.
3. Registered users shall be able to filter the news they would like to follow according to teams.
4. Registered users shall be able to filter the news they would like to follow according to players.
5. Registered users shall be able to filter the news they would like to follow according to different types of sports.
6. Registered users shall be able to choose whether they want to enable receiving emails that contain sports news.
7. Registered users shall be able to choose at what rate they want to receive emails that contain sports news.
8. Registered users shall be able to see live Twitter feeds.
9. Registered users shall be able to type the topics they would like to follow on Twitter.
10. Registered users shall be able to remove topics they are currently following.
11. Registered users shall be able to receive emails of any new tweets.
12. Registered users shall be able to view updated statistics of players.
13. Registered users shall be able to follow sports games.
14. Registered users shall be able to enable receiving notifications by email.
15. Registered users shall be able to post text in the discussion forum of the game.
16. Registered users shall be able to unfollow games they are currently following.
17. Registered users shall be able to search for specific comments in the discussion forum.
18. Registered users shall be able to mark posts to be read so that they don't receive notifications.
19. Registered users shall be able to see the live scores of a game.
20. Registered users shall be able to receive responses to their posts in the discussion forum.
21. Registered users shall be able to see the duration of a game..
22. Registered users shall be able to comment on articles.
23. Registered users shall be able to mark as read on articles.

24. Registered users shall be able to search for articles through a search bar.
25. Registered users shall be able to reset their password.
26. Registered users shall be able to change their profile pic.
27. Registered users shall be able to delete their account.
28. Registered users shall be able to view profiles of other users.
29. Registered users shall be able to choose if they want to enable receiving sms that contain sports news.
30. Registered users shall be able to invite their friends to use the YourSports website.
31. Registered users shall be able to be redirected to a live broadcast of the game.
32. Registered users shall be able to delete their posts in the discussion forum.
33. Registered users shall be able to switch between light and dark mode.
34. Registered users shall be able to subscribe to a premium version of YourSports website.
35. Registered users shall be able to enable receiving notifications by messages on phone.
36. Registered users shall be able to red flag other registered users for any posts in the discussion forum.
37. Registered users shall be able to send messages in the group chat.
38. Registered users shall be able to receive messages in the group chat.
39. Registered users shall be able to view messages in the group chat.
40. Registered users shall be able to create a group chat.
41. Registered users shall be able to see other online users in the group chat.
42. Registered users shall be able to delete messages they previously sent.
43. Registered users shall be able to edit messages they previously sent.
44. Registered users shall be able to bet on live and upcoming games.
45. Registered users shall be able to get YourSports coins by signing up.
46. Registered users shall receive 100 YourSports coins when signing up.
47. Registered users shall get cash by selling their YourSports coins.
48. Registered users shall win YourSports coins if they win a bet.
49. Registered users shall lose YourSports coins if they lose a bet.
50. Registered users shall be able to buy YourSports coin using actual money.
51. Registered users shall be able to view their current number of YourSports coins in their account.

## Unregistered Users

52. Unregistered Users shall be able to create an account in our application.
53. Unregistered Users shall be able to access the homepage.




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- 54. Unregistered Users shall be able to search games without signing up.
  - 55. Unregistered users shall be able to see live twitter feeds.
  - 56. Unregistered users shall be able to search for specific comments in the discussion forum.
  - 57. Unregistered users shall be able to see the live scores of a game.
  - 58. Unregistered users shall be able to see the duration of a game.
  - 59. Unregistered users can sign up as a creator.
  - 60. Unregistered users shall be able to be redirected to a live broadcast of the game.
  - 61. Unregistered users shall be able to switch between light and dark mode.

## Backend Service

- 62. The backend service shall be able to validate the user email by checking if it is unique when they try to sign up.
- 63. The backend service shall be able to check accounts with the same username when the unregistered user tries to sign up.
- 64. The backend service shall be able to create an account in the database.
- 65. The backend service shall be able to store messages sent by a user.
- 66. The backend service shall be able to filter news according to the filters specified by the user.
- 67. The backend service shall be able to filter tweets according to the topics a user follows.
- 68. The backend service shall be able to create a new forum for every upcoming game.
- 69. The backend service shall be able to fetch updates from a game every 5 seconds.
- 70. The backend service shall be able to send a verification email to the user's email so that the user can verify their account.

## Website

- 71. The website shall be able to check if the first name is at least one character before the Unregistered user tries to sign up.
- 72. The website shall be able to check if the last name is at least one character before the Unregistered user tries to sign up.
- 73. The website shall be able to check if the email is at least one character before the Unregistered user tries to sign up.
- 74. The website shall be able to check if the password is at least 8 characters before the Unregistered user tries to sign up.

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75. The website shall be able to check if the difference between present day and date of birth is at least 13 years before the Unregistered user tries to sign up.
  76. The website shall be able to check if the terms of service has been accepted before the Unregistered user tries to sign up.

## Creators

77. Creators shall have the same privileges as the Registered users.
78. Creators shall be able to upload articles to the website..
79. Creators shall be able to select their target audience.
80. Creators shall be able to view Dashboard.

## Dashboard

81. Dashboard shall be able to show the number of views of the selected article.
82. Dashboard shall be able to show the comments on the article.
83. Dashboard shall be able to show the redflags of an article.

## Group Owner

84. The Group's Owner shall be able to change the group chat name.
85. The Group's Owner shall be able to invite other users to the group chat.
86. The Group's Owner shall be able to block any users in the group chat.

## Non-functional Requirements

### System Requirements

1. The system shall be hosted on a Google Cloud Compute Engine instance of 1 cpu core, 1gb RAM and 10GB storage size.
2. A MySQL relational database shall be hosted in Google Cloud to store the data.
3. NodeJS and express shall be used to build the backend server.
4. React shall be used to host the front-end server.
5. The front-end service shall run on port 3000.
6. The back-end service shall run on port 8080.
7. The Google Cloud compute engine shall use an Ubuntu 18.04.6 LTS.
8. The code repository shall be hosted in Github.
9. The front-end and backend service shall accept traffic from all ip-addresses.
10. The Virtual Machine hosted in Google Cloud shall allow both HTTP and HTTPS traffic.
11. The website shall be resizable and compatible across different screen sizes and operating systems.

### Performance Requirements

12. If a registered user enters the wrong password, the system shall respond within 3 seconds of submitting their details for signup.
13. All inserts to the database should happen within 5 seconds.
14. The homepage shall open within 10 seconds.
15. Search Results should be displayed within 5 seconds.
16. The website shall show updates in a game every 5 seconds.

### Storage, Security and Environmental Requirements

17. Unregistered Users shall only be able to register if their username is unique.
18. Unregistered Users shall only be able to register if their email is unique.
19. The statistics of the player will be updated every 24 hours.
20. The YourSports API shall not accept more than 10 requests per 10 seconds from the same IP address.
21. Passwords of registered users shall be encrypted with MD5 hash function.

## Marketing and Legal Requirements

- 22. Unregistered Users shall be able to accept the terms of service before signing up.
- 23. Articles uploaded by a creator user, shall need to follow community guidelines provided by the website.

## Content

- 24. The password shall be hidden when typed when trying to sign up.
- 25. The password shall be a minimum of 8 characters when trying to sign up.
- 26. The registered user shall be redirected to the homepage if the user has logged in.
- 27. Registered Users shall be prompted to log in if an account with the same email already exists.
- 28. Unregistered users shall have to fill in the name with at least one character while signing up.
- 29. Unregistered users shall have to fill in the username with at least one character while signing up.
- 30. Unregistered users shall have to fill in the email with at least one character while signing up.
- 31. Unregistered users shall have to fill in the password with at least one character while signing up.
- 32. If a Registered User has not put any filters in the news articles they are searching for, they shall receive all the news articles in the database.
- 33. Posts in the discussion forum shall have a minimum 1 character limit.
- 34. Comments in the Article view shall have at least one character.
- 35. The website logo shall be on the top left of every page.
- 36. Text inputs should have a minimum of 1 character and the input should be trimmed before processing.

## Privacy

- 37. The email, username and password shall be collected and only used for authentication.
- 38. Registered users shall have their log in details stored.

## Competitive Analysis

Feature	Yahoo! Sports	Thescore	Flashscore	ESPN Sport	BBC Sport
Strengths	Have a good and wide range of sports news, the site's visual presentation is precise and attractive. Navigation bars have most sports types as individual tabs and will extend into more detailed categories when the cursor hovers on it. Scoreboards located right below the Nav-bar, and the most attractive news and information are enlarged and grouped on the top of the site. Also changes quick access teams according to your location data.	News available on a variety of sports, Easy to use, Easy to access information on latest games	live scores and lineup updated in real time based on different categories, live commentary by text, detailed statistics, odds comparison, Less ads	One bus stop for multiple news platform including SEC network, Access to ESPN insider, Live update of different sports on home page, Video highlights of random sport games, Cable channels, Search bar, Can stream games	Has lots of news and blog post about different sports, It also uses social media to advertise its app.
Weaknesses	Advertisements are everywhere and distracting. Too much news that is not directly related to the sports or players like the comments of some politicians and celebrities. The site advertises their own betting system but with very technical terms which makes it hard to understand.	No personalization for users, A lot of advertisements on the website, Bad user interface, No Subscription feature	Favorite team limit 100, Small available date range, Some sports updates are not accurate	False advertisement of service, Bias commentary, one sided coverage, Hard to navigate and glitches, Poor service review by users	Is not organized, Some of the news and blog post are not updated, Has lots of adds
Pricing	Generally free, can add money to fantasy betting through Paypal	No subscription fees, All revenue generated is from advertisements	Free, bet using one of advertised sportsbook partners	Free for guest/unregistered users	No Subscription/ Free
Social Media	Facebook, Twitter	Facebook, Twitter, Instagram	Facebook, Twitter, Instagram	Facebook, snapchat, twitter, instagram	Twitter, Facebook, Instagram, Youtube
Onboarding Experience	Most information on site is very straightforward. Just have to follow the names on the navigation bar and you will be able to find information that you are looking for. However, there will be information that may be too technical for newcomers to understand. There is also no tutorial for the fantasy betting system, and the betting system is very confusing without any explanation.	No support from the website, A moderate number of steps are required to understand the website.	Easy to find info, Seamless onboarding	Overwhelming with multiple random sports updates, highlights. Not easy to navigate	Doesn't help you with your first step, Really hard to navigate, Takes a while to get used to.

Feature	Yahoo! Sports	TheScore	Flashscore	ESPN sport	BBC Sports	YourSport
Access to Live Twitter Feeds	+	-	-	-	-	+
Search by filter for news articles	++	-	-	+	+	+
Discussion Forum	-	-	-	-	-	++
Text Commentary	-	+	+	+	++	++
Access to Player Statistics	+	-	++	++	-	+
Fantasy Betting	+	-	+	++	+	+

Does not exist: -    Exist: +    Superior: ++

With the above table, we can see that a lot of competitors in the industry have text commentary, and information on player statistics. Most of them even offer news to their users. However, most of the competitors rely on journalists and news articles that are not intended for most of the users. Our focus is to use the same features, but with an emphasis for personalization of the user, where they can access all the information they want to read from Twitter, and news articles that cater to their interests. Lastly, we can see that a few competitors allow sports betting, however our betting system takes a more jovial approach, where users bet for fun and experience, without losing any money. The focus of our fantasy betting feature is to keep users engaged the same way they are engaged when betting with real money, and hence disrupt the betting industry. The lack of features and functionalities from our competitors like no discussion forums and no access to live Twitter feeds is where our product comes in, and serves as a competitor in the market.

## Technology Specifications

### Server Host

Google Compute Engine e2-micro (2vCPU)

#### Memory Limit

1GB Memory

#### Storage Size

10GB

### Operating System

Ubuntu 18.04.6 LTS

### Database Management

MySQL 8.0

### Server Environment

Node.js 14.0.0

### BackEnd Framework

express 4.18.1 (JavaScript)

### FrontEnd Framework

React

### IDE

Visual Studio Code

### Web Analytics

Google Analytics

## Checklist

Team found a time slot to meet outside of the class. **(Done)**

Github master chosen. **(Done)**

Team decided and agreed together on using the listed SW tools and deployment server. **(Done)**

Team ready and able to use the chosen back and front end frameworks and those who need to learn are working on learning and practicing. **(Done)**

Team lead ensured that all team members read the final M1 and agree/understand it before submission. **(Done)**

Github organized as discussed in class (e.g. master branch, development branch, folder for milestone documents etc.). **(Done)**



## List of Team Contributions

### Kshitiz Sareen (Team Lead, Backend Lead)

Installed and Hosted the MySQL database on Google Cloud.  
Installed the Node JS server on the Google Cloud Virtual Machine.  
Hosted the React front-end Application on the Google Cloud Virtual Machine.  
Did research on Thescore for the competitive analysis.

### Kevin Islas (Front-end Lead)

Contributed in team meetings by building use cases.  
Helped in finalizing the functional and non-functional requirements.  
Created the react environment for the front-end application.

### Shamar Ireland (Front-end Developer)

Helped develop the team website by creating the buttons that point to each team members about page.  
Created the template that other team member's used for their personal about page.  
Helped in building the functional and non-functional requirements.

### Wenye Guo (Database Administrator)

Helped with the use cases and requirements.  
Conducted research on Flashscore competitor for the competitive analysis.

### Sabur Saigani (Functional Lead)

Contributed in building the documentation.  
Helped in building the use cases.  
Helped in creating the functional and non-functional requirements.  
Did Research on BBC Sport for the competitive analysis.

### Mathew O Abiola (Github Master)

Contributed by building use cases in team meetings.  
Did research on ESPN for competitive analysis.

### Jonathan Ip (Functional Assistant)

Contributed by formatting and paging the documentation.  
Did research on Yahoo Sports for the competitive analysis.