SEG2105 Final Project Report
Design and Implementation of Keeper

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SEG2105 Section B
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University of Ottawa
Faculty of Engineering

Introduction

This document serves to formalize the work completed throughout the implementation of the *Keeper* app. The three previous deliverables have been modified based upon marker feedback and the relevant changes listed. The final implementation of these deliverables is listed below. As is common in software engineering, the non-essential requirements have been modified to more closely reflect the final implementation, without changing the intent.

Contributions and Corrections

Member	Deliverable			
	#1	#2	#3	#4
Chen, Qufei	25%	25%	25%	25%
Langlois, Matthew	25%	25%	25%	25%
Yang, Meng	25%	25%	25%	25%
Yaraskavitch, Matthew	25%	25%	25%	25%

Deliverable	Changes / Corrections
#1	• Functional requirements were updated to make specific reference to the "Tournament Maker System" as opposed to the general "system" • The user role "Coach" has been replaced with "Captain" to accurately reflect the final application • Non-functional requirements were updated to more closely reflect the tools used

#2	- Added 'Elimination', 'RoundRobin', and 'Combination' tournament type subclasses to the class 'Tournament' on class diagram - Updated role names and multiplicities on class diagrams - Removed instance 'Person', and changed 'teamList' and 'team' to be retrieved by the main 'TournamentMaker' class on sequence diagram 2
#3	Replaced the rough mockups from Deliverable 3 with actual snapshots of the UI from the app

Software Requirements (Deliverable 1)

Functional Requirements
1. The Tournament Maker System must allow a player to join only one team.
2. The Tournament Maker System must assure a player has joined a team before participating in a tournament.
3. The Tournament Maker System must inform the players when a goal is scored in one of their matches.
4. The Tournament Maker System must show the team's rank compared to the other teams participating in the tournament.
5. The Tournament Maker System must allow a player to change their player number.
6. The Tournament Maker System must allow a team to set their avatar.
7. The Tournament Maker System must allow the captain to set the team's name.
8. The Tournament Maker System must allow the captain to set the team's logo.
9. The Tournament Maker System must force a team to have a name before joining a tournament.
10. The Tournament Maker System must allow organizers to create new tournaments.
11. The Tournament Maker System must prompt the organizer to choose one format from Round Robin, Knockout, or Round Robin and Knockout combination.
12. The Tournament Maker System must allow the organizer to add, edit, or delete teams from a tournament if it has not started.
13. The Tournament Maker System must allow a player to review previous rounds of play.
14. The Tournament Maker System must display the current tournament standings.
15. The Tournament Maker System must randomize the team listings and order of play.
16. The Tournament Maker System must allow the user to access the instructions.
17. The Tournament Maker System must inform the user that teams cannot be edited once the tournament has started.
18. The Tournament Maker System must allow the user to customize the tournament settings.
19. The Tournament Maker System must store the number of wins and losses for each team.
20. The Tournament Maker System must allow organizers to keep track of a match's score.

Nonfunctional Requirements

1. The Tournament Maker System must not allow unauthorized access 99% of the time.
2. The Tournament Maker System must require no more than 5 minutes to be learned.
3. The Tournament Maker System must display changes from the user within 0.5 seconds.
4. The Tournament Maker System must be able to store information for at least 100 teams.
5. The Tournament Maker System back-end must be available 99% of the time.

Use Cases:

(1)　　Use Case Name: Create a Team
Actors: Captain
Goals: To create a team
Preconditions: Must be logged in as a captain
Summary: Create a team
Related Use Cases:
Steps:

Actor Actions	System Responses
1. Click on 'Add a Team'	2. 'New Team' page opens
3. Enter team name	
4. Select logo/display picture	
5. Press 'confirm'	6. 'New Team' page closes, 'Team Info' page opens.

Post-conditions: Team is created.

(2)　　Use Case Name: Change Team Display Picture
Actors: Captain
Goals: To change the display picture to a picture from your phone
Preconditions: Team is created, and must be logged in as a captain
Summary: Captain uploads a picture from their phone, and sets it as the display picture/logo of their team
Related Use Cases: 'Create a Team'
Steps:

Actor Actions	System Responses
1. Click on 'My Teams'	2. Dialog with list of teams that you belong to opens
3. Click on name of the team you want to edit	4. Team info page opens
5. Click on the display picture box	6. Display picture menu appears
7. Choose 'upload from phone'	8. Photo library of phone opens
9. Select picture	
10. Press 'confirm'	11. Photo library dialog closes, selected picture is displayed on display picture menu
12. Press 'update display picture'	13. display picture menu closes
	14. redirects back to team info page

Post-conditions: Profile picture is changed.

(3)   Use Case Name: Enter a Tournament
        Actors: Captain
        Goals: To enter the team into a tournament
        Preconditions: Team is created, and must be logged in as a captain
        Summary: To register the team into a tournament
        Related Use Cases: 'Create a Team'
        Steps:

| Actor Actions	System Responses
1. Click on 'Tournaments'	2. Dialog with list of active (open to registration) tournaments opens
3. Click on name of the tournament that you wish to enter	4. Tournament info page opens
5. Click on 'Register for the Tournament'	6. Registration page opens
7. Choose the team that you wish to enter into the tournament from the drop down list	
8. Select method of payment	

9. Check box agreeing to terms and conditions	
10. Press 'confirm'	11.Dialog with 'You have been successfully registered' pops up
12. Press 'Okay'	13. Dialog closes
	14. Redirects back to main menu

Post-conditions: Team is entered into tournament.
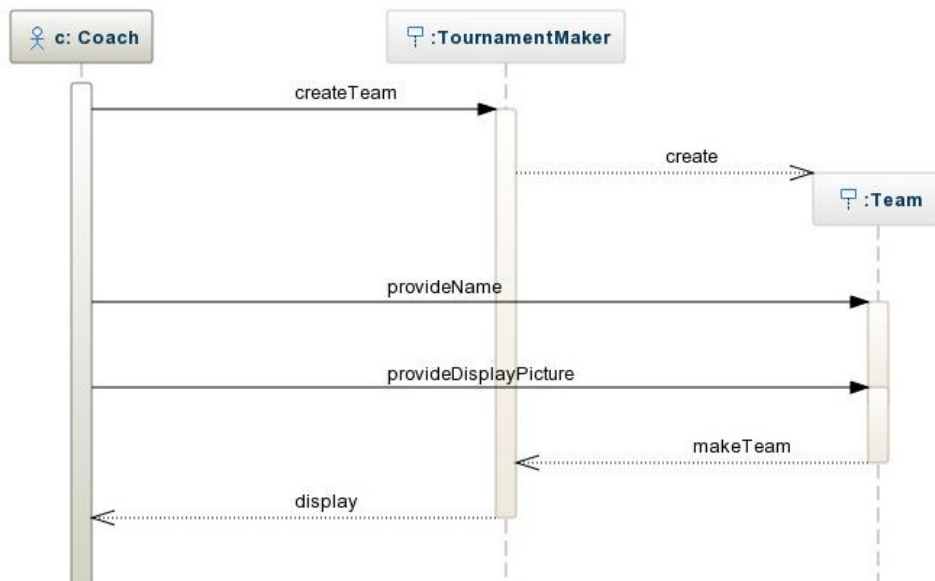
UML Design (Deliverable 2)

Class Diagram
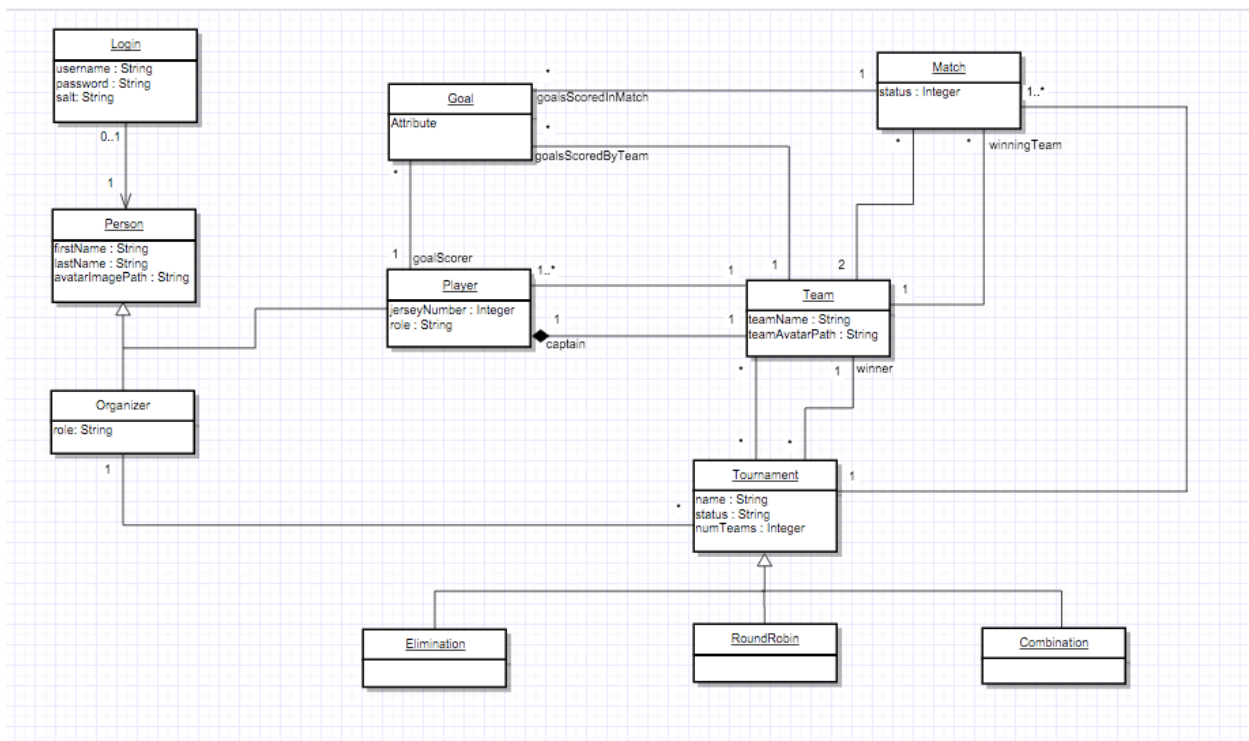
Sequence Diagrams

(1)   Use case: Create a Team

(2)   Use case: Change Team Display Picture
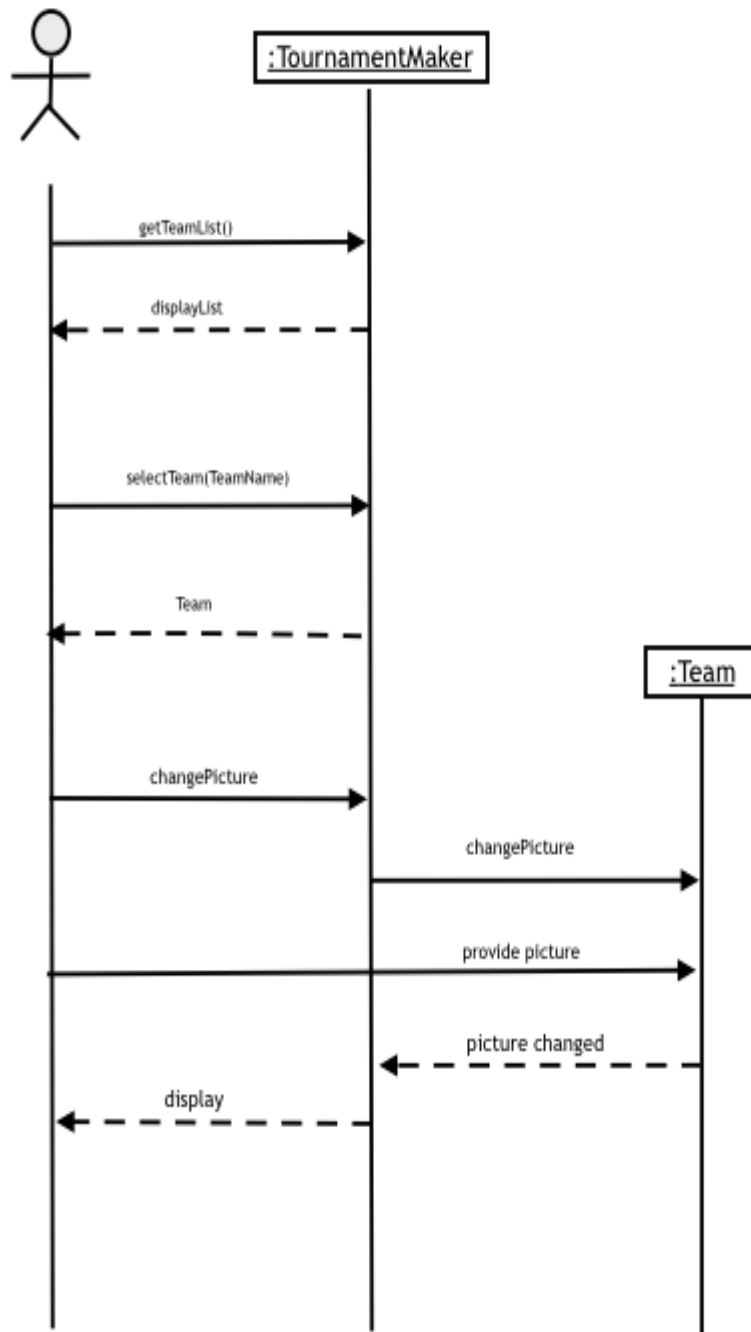
(3)   Use case: Enter a Tournament
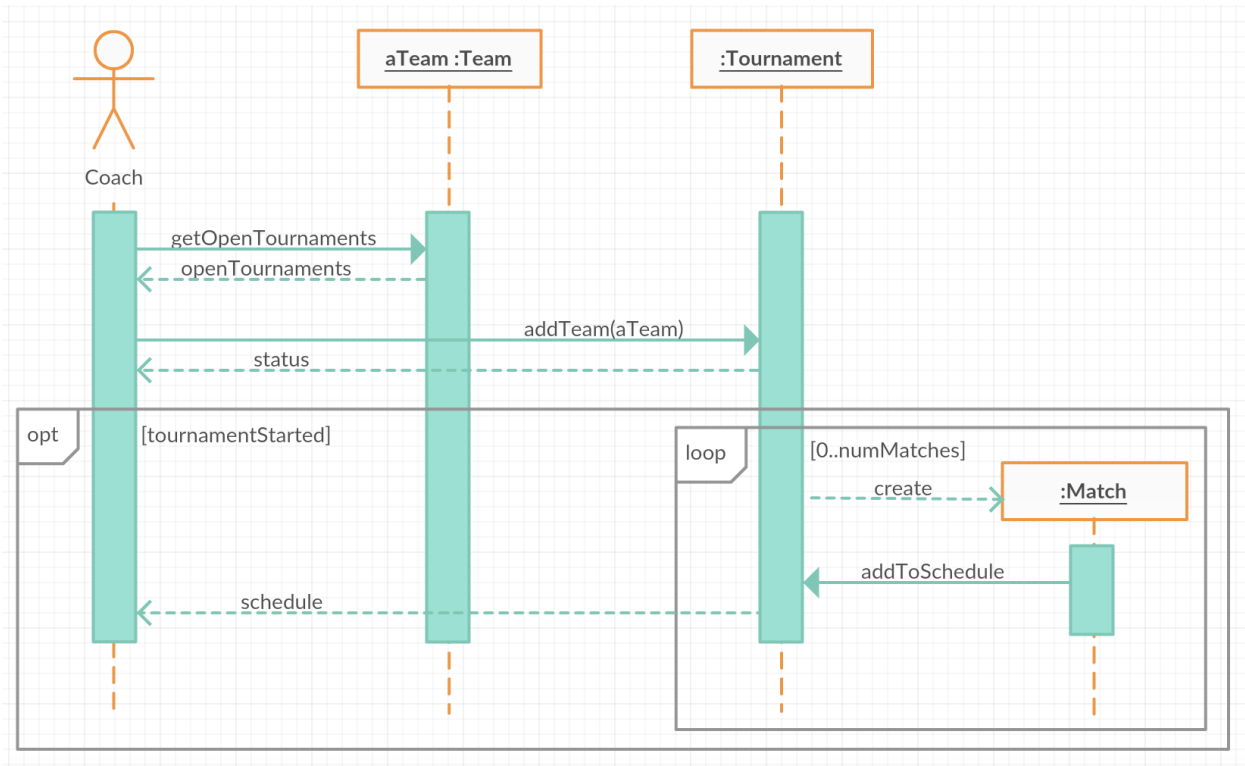
State Diagram
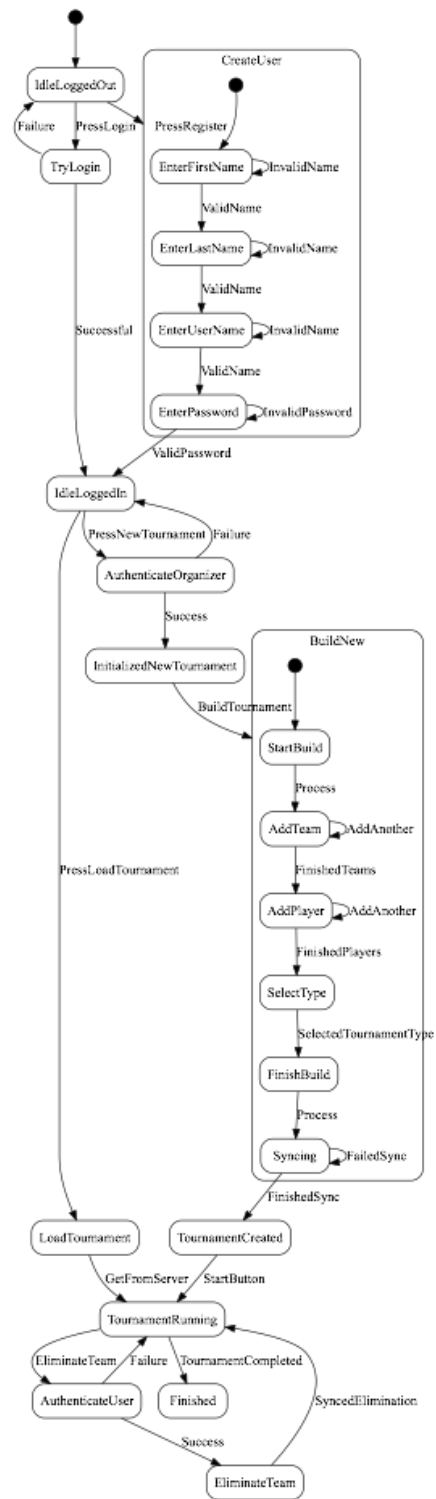
Welcome to Tournament Maker

Login

Create User

Create Account

Username

Password

First Name

Last Name

Close   Login

Login

Username

Password

Close   Login

⌂ Tournament Maker   Tournaments   Teams   Help   Logout

Welcome Matthew

Welcome to tournament maker, Matthew! This page will soon serve as your personal organizer portal.

Welcome to Tournament Maker Matthew   ×

Tournaments

Create Tournament

In-progress Tournaments

Tournament Name	Tournament Type	View Teams	View Standings	View Matches	End Tournament
Leauge style	Roundrobin	Teams	Standings	Matches	End

Post-game Tournaments

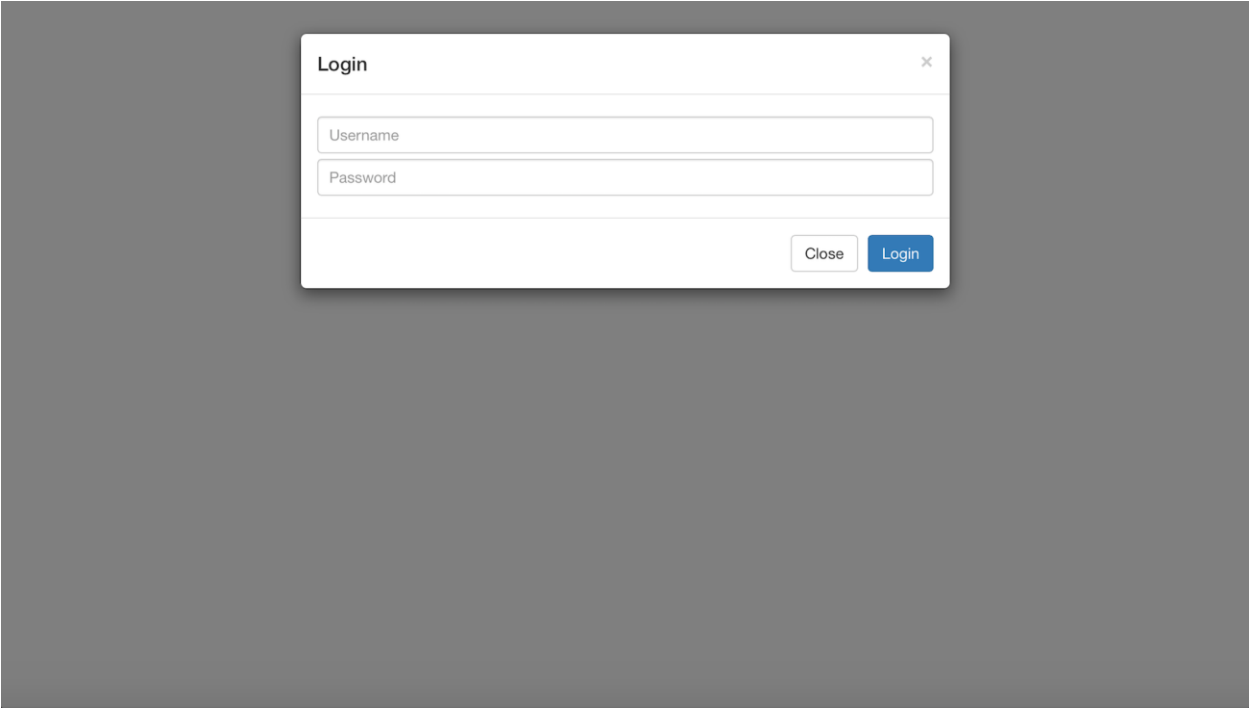| Tournament Name	Tournament Type	View Teams	View Matches	View Standings
NHL 2015 Season	Knockout Roundrobin	Teams	Matches	Standings
NHL 2016 Season (fix KRR)	Knockout Roundrobin	Teams	Matches	Standings
Stanley cup finals	Knockout	Teams	Matches	Standings
hello world tournament	Roundrobin	Teams	Matches	Standings

Tournament Maker   Tournaments   Teams   Help   Logout

Create Tournament   ×

Tournament Name

Select tournament type

Close   Create

Tournament Name					End Tournament
Leauge style	Roundrobin	Teams	Standings	Matches	End

Post-game Tournaments

Tournament Name	Tournament Type	View Teams	View Matches	View Standings
NHL 2015 Season	Knockout Roundrobin	Teams	Matches	Standings
NHL 2016 Season (fix KRR)	Knockout Roundrobin	Teams	Matches	Standings
Stanley cup finals	Knockout	Teams	Matches	Standings
hello world tournament	Roundrobin	Teams	Matches	Standings

Teams in NHL 2015 Season

Team Name	Team Captain	Team Statistics
Ottawa Senators	Milan Michalek	Statistics
Pittsburgh Penguins	Sidney Crosby	Statistics
Chicago Blackhawks	Jonathan Towes	Statistics
Montreal Canadiens	Max Pacioretty	Statistics
Detroit Redwings	Henrik Zetterberg	Statistics

Standings for team Ottawa Senators in tournament NHL 2015 Season

Position	Player	Number	Goals Scored
1	Chris Neil	25	3
2	Daniel Alfredsson	11	1
3	Milan Michalek	9	0

Matches in Stanley cup finals

Round	Winner	Team A	Team B
1	Ottawa Senators	Ottawa Senators	Pittsburgh Penguins
1	Chicago Blackhawks	Chicago Blackhawks	Montreal Canadiens
2	Ottawa Senators	Ottawa Senators	Chicago Blackhawks

Matches in Leauge style

Round	Team A	Team B	Begin Match
	Pittsburgh Penguins	Chicago Blackhawks	Begin
	Ottawa Senators	Chicago Blackhawks	Begin
	Montreal Canadiens	Pittsburgh Penguins	Begin
	Ottawa Senators	Pittsburgh Penguins	Begin
	Chicago Blackhawks	Montreal Canadiens	Begin

Round	Team A	Team B	Add Goal	End Match
	Ottawa Senators	Montreal Canadiens	Add Goal	End

Add Goal   ✕

| Select team | ▼ |

| Please choose a team to pick an assister... | ▼ |

| Please choose a team to pick a goal scorer... | ▼ |

Close   Add

Round	Team A	Team B		Begin Match
				Begin
				Begin
				Begin
	Ottawa Senators	Pittsburgh Penguins		Begin
	Chicago Blackhawks	Montreal Canadiens		Begin

Round	Team A	Team B	Add Goal	End Match
	Ottawa Senators	Montreal Canadiens	Add Goal	End

Standings for tournament: Leauge style

Position	Team	Matches Won	Matches Played
1	Montreal Canadiens	0	0
2	Chicago Blackhawks	0	0
3	Pittsburgh Penguins	0	0
4	Ottawa Senators	0	0

All Teams

[Create Player] [Create Team]

Team Name	Team Captain	Team Statistics	Add Player
Ottawa Senators	Milan Michalek	Statistics	Add Player
Pittsburgh Penguins	Sidney Crosby	Statistics	Add Player
Chicago Blackhawks	Jonathan Towes	Statistics	Add Player
Montreal Canadiens	Max Pacioretty	Statistics	Add Player
Detroit Redwings	Henrik Zetterberg	Statistics	Add Player
hello world team	hello world	Statistics	Add Player

Create Player   ×

First Name

Last Name

Jersey Number

[Close] [Create]

Team Nam			Add Player
Ottawa Senat			Add Player
Pittsburgh Pen			Add Player
Chicago Blackhawks	Jonathan Towes	Statistics	Add Player
Montreal Canadiens	Max Pacioretty	Statistics	Add Player
Detroit Redwings	Henrik Zetterberg	Statistics	Add Player
hello world team	hello world	Statistics	Add Player

Tournaments   Teams   Help   Logout

Create Team

Team Name

Select team captain

Close   Create

| Team Nam			Add Player
Ottawa Senat			Add Player
Pittsburgh Penguins	Sidney Crosby	Statistics	Add Player
Chicago Blackhawks	Jonathan Towes	Statistics	Add Player
Montreal Canadiens	Max Pacioretty	Statistics	Add Player
Detroit Redwings	Henrik Zetterberg	Statistics	Add Player
hello world team	hello world	Statistics	Add Player

Tournaments   Teams   Help   Logout

Standings for team: Ottawa Senators

Position	Player	Number	Goals Scored
1	Chris Neil	25	4
2	Daniel Alfredsson	11	9
3	Milan Michalek	9	1

Add Player to Ottawa Senators   ✕

Select player...   ⬍

                                                        Close   Add

Team Nam				Add Player
Ottawa Senators	Milan Michalek	Statistics		Add Player
Pittsburgh Penguins	Sidney Crosby	Statistics		Add Player
Chicago Blackhawks	Jonathan Towes	Statistics		Add Player
Montreal Canadiens	Max Pacioretty	Statistics		Add Player
Detroit Redwings	Henrik Zetterberg	Statistics		Add Player
hello world team	hello world	Statistics		Add Player
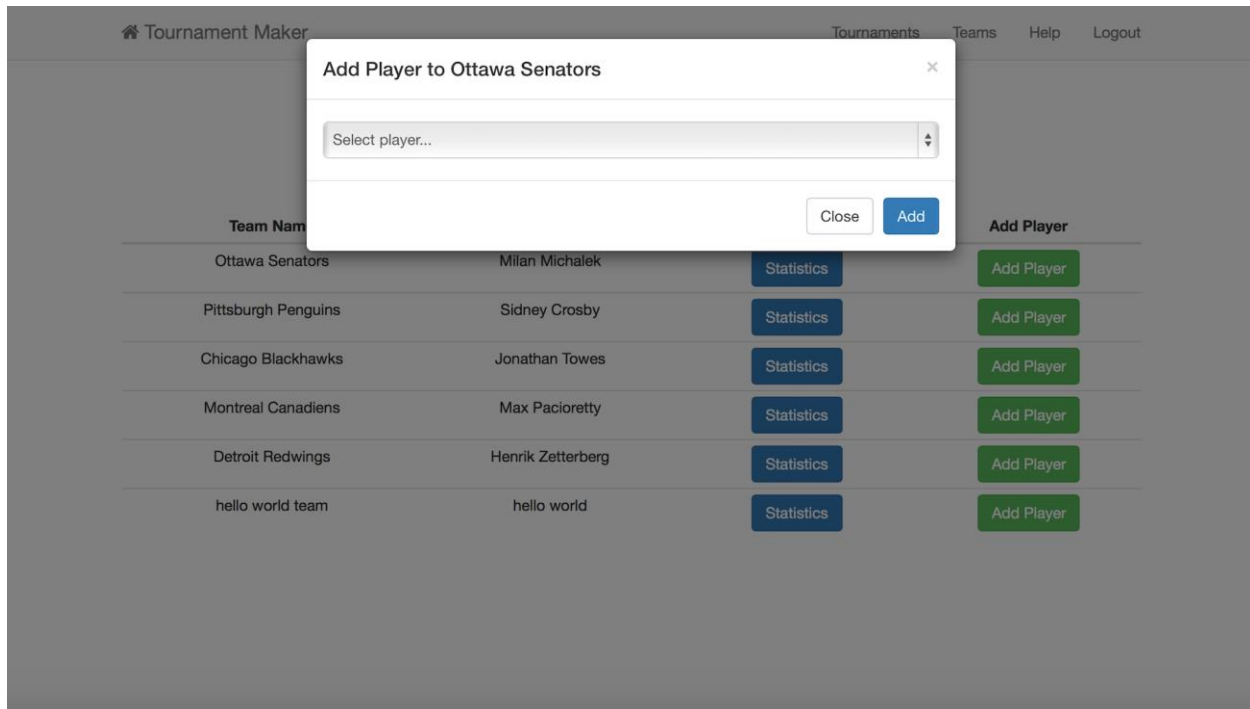
Welcome to Keeper, your personalized Tournament Maker!

Create a Player

As an organizer, you have the ability to create new players. Simply navigate to "Teams" from the navigation bar, and press "Create player".Enter the name and jersey number of the player, and press "Create".

Teams

Click on the link "Teams" in the navigation bar to display the team list.Click on the "Join Team" button beside your chosen team to join it.You can also click on "Statistics" button of a given team to view the players in the team, their goals scored, and their team ranking (based on total goals scored). You can also add a player to a team by chosing "Add a player" button of the chosen team, and then chosing the player to add from the drop down list.

Create a Team

As an organizer, you have the ability to create new teams. In order to create a team, there must exist atleast one free player (a player unattached to a team).This is beacause every team needs a unique team captain.

View Tournaments

To view all tournaments (Pre-game, In-progress, or Post-game), click on the "Tournament" button in the navigation bar. You can view the teams entered in each tournament by pressing the "Teams" button beside a specific team. For Post-game tournaments, you can also view the completed matches with results, and final team standings.

Create a Tournaments

To create a tournament, simply navigate to the Tournament page from the navigation bar, then press "Create Tournament". Enter a tournament name, and choose from Round Robin, Knock-out, or Combination formats. A Knock-out style tournament requires 2^n teams, and both Combination and Roundrobin require 2 or more teams. You can also being a Pre-game tournament by pressing the "Begin" button next to the tournament name.