SEG2105 FINAL REPORT

University of Ottawa

Team FALCAO

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Introduction

Our group of highly skilled individuals have designed an efficient mobile application to aid the International Office at uOttawa to cope with the various challenges that are faced when organizing their annual fundraising FIFA soccer tournaments. The tournament maker will enable stakeholders to better cope with the organization and planning of the tournament and ease the process of hosting the tournament year after year. The tool we have provided will enable the following tedious tasks be done efficiently:

- Add, edit or delete teams from a (not started) tournament
- Customize your tournament settings and create a tailor made tournaments.
- Choose from a Round Robin (League), Knockout or Round Robin & Knockout Combination format.
- Review previous round of play and check out league positions.
- Completely randomize the team listings and the order of play.
- Access a comprehensive set of easy to follow instructions.

This document will provide an overview of the various deliverables for the mobile application and screenshots from the UI to depict images of the application's interface.

Contributions and Corrections

Contributions

	DELIVERABLE 1	DELIVERABLE 2	DELIVERABLE 3	DELIVERABLE 4
KRISHA ARANHA	20%	20%	20%	12.5%
MOHAMMAD AL DAHOUDI	20%	0%	15%	5%
SHADMAN RASHID	20%	20%	5%	5%
HISHAM NAJEM	20%	40%	40%	65%
KHALIL SAYEH	20%	20%	20%	12.5%

Corrections

DELIVERABLE 1	
CORRECTIONS CHANGED:	- Functional Requirements: Changed the subject to highlight tournament maker system and changed subject name to the specified name. - Non-functional requirements: Changed the meaning of the requirement - Use case 2 & 3: updated the precondition and highlighted who the actual user is in bold (Tournament Organizer)

Software Requirements

Functional Requirements

1. The tournament maker system will be able to accept entry of a team name.
2. The tournament maker system will be able to accept entry of a tournament name.
3. The tournament maker system will be able to create a Round Robin, Knockout, or Round Robin & Knockout tournament.
4. The tournament maker system will accept input of scores.
5. The tournament maker system will be able to accept specification of number of teams.
6. The tournament maker system will be able to edit the tournament name.
7. The tournament maker system will be able to edit the team name.
8. The tournament maker system will be able to remove teams.
9. The tournament maker system will be able to cancel tournaments.
10. The tournament maker system shall determine number of matches per round.
11. The tournament maker system shall display the statistics of each team.
12. The tournament maker system shall display the statistics of each game.
13. The tournament maker system shall display tournament schedules.
14. The tournament maker system shall display the tournament type.
15. The tournament maker system shall modify and update results.
16. The tournament maker system shall display top three contenders.
17. The tournament maker system shall display a help log.
18. The tournament maker system shall randomly create team listings.
19. The tournament maker system shall randomly create the order of play for a tournament.
20. The tournament maker system shall display next match to be played in a Round Robin Tournament.

Non-functional Requirements:

1. The tournament maker system shall be designed to run on Android platforms.
2. The system will update and modify tournament statistics in less than 1 second.
3. The system shall be fully developed in Android Studio.
4. The system should be completed by week 30 of November.
5. The app shall not be over 6 Mb of storage.

UML Design

Use Case 1:

Name: *Create tournament.*
Actors: *User (**Tournament organizer**)*
Preconditions: *none*
Post-conditions: *tournament is created.*

USER ACTION	SYSTEM RESPONSE
1. The user runs the app.	Loading screen pops up for 3 seconds (splash screen)
2. The user clicks new tournament.	User is prompted to choose a type of tournament from Knockout, Round Robin, or Round Robin and Knockout, choose a tournament name(within 5-20 characters), and enter the number of teams (3 – 32)
4. The user enters tournament name, type and number of teams	Prompt closes and new screen shows up with slots for X (based on selection) amount of teams. User can still modify his/her information by clicking back button.
5. User enters teams and clicks ready create tournament!	Saves teams for the tournament and creates the tournament schedule. Displays the schedule.

Use Case 2:

Name: *user updates score of a match.*
Actors: *User (**Tournament organizer**)*
Preconditions: *active round robin tournament, at least one or more teams created in an active tournament, at least one non played match*
Post-conditions: *match, team scores, and statistic sheet are updated.*

USER ACTION	SYSTEM RESPONSE
1. The user clicks tournament schedule	Displays all matches in tabs categorized by day
2. The user clicks play match	Displays the two teams facing off
3. User clicks increment or decrement scores for each team	The scores of each team are updated live
4. The user clicks end match	Statistics table is shown with the updates, match is played and set with score above, and team scores are updated.

Use Case 3:

Name: *user adds teams*
**Actors:** *User* **(Tournament organizer)**
Preconditions: *none*
Post-conditions: *teams are added to the list*

USER ACTION	SYSTEM RESPONSE
2. The user runs the app.	Loading screen pops up for 3 seconds (splash screen)
3. The user clicks new tournament.	User is prompted to choose a type of tournament from Knockout, Round Robin, or Round Robin and Knockout, choose a tournament name(within 5-20 characters), and enter the number of teams (3 – 32)
4. The user enters tournament name, type and number of teams	Prompt closes and new screen shows up with slots for X (based on selection) amount of teams. User can still modify his/her information by clicking back button.
5. USER CLICKS ADD TEAM	Adds a team if tournament is round robin and team list is less than 32 or adds twice the teams if tournament is knockout and round robin or knockout if team list is less than 32

As the semester progressed and we began to code, we noticed that we were constantly updating our ideology on how to develop the system. Many use cases changed and functional requirements changed.

Class Diagram

➢ We are constraining the maximum number of teams possible in a tournament to be 32. However, based on your recommendation, we can increase it.
➢ Tournament is an abstract class, it is never to be instantiated since a tournament is always one of the three siblings.
➢ Team and Match objects should not exist if a tournament is not created. These get created as a result of a tournament creation.
➢ Note here, the MainGUI class acts as the Façade class. It is not shown in the class diagram since it's not a part of the domain analysis.
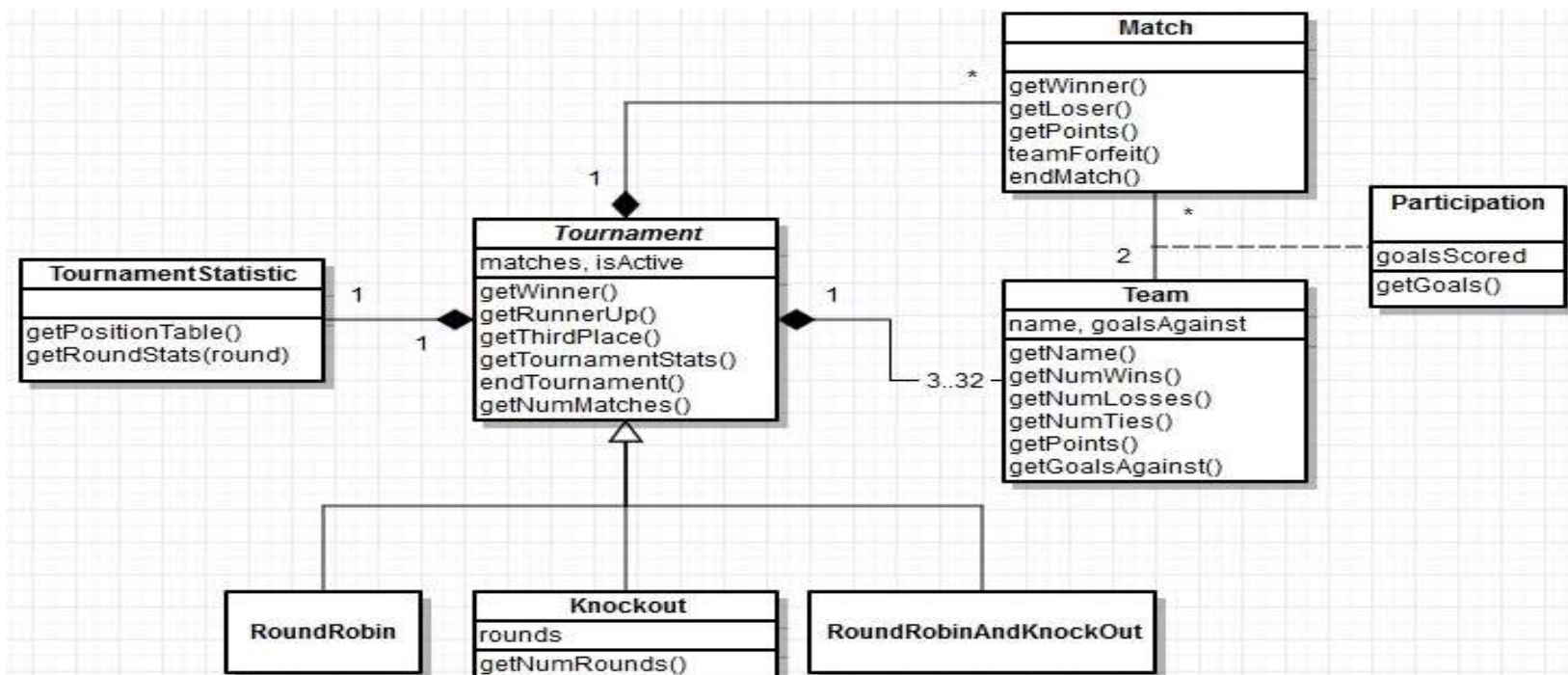
Sequence Diagram #1

This sequence diagram demonstrates the creation of a tournament.
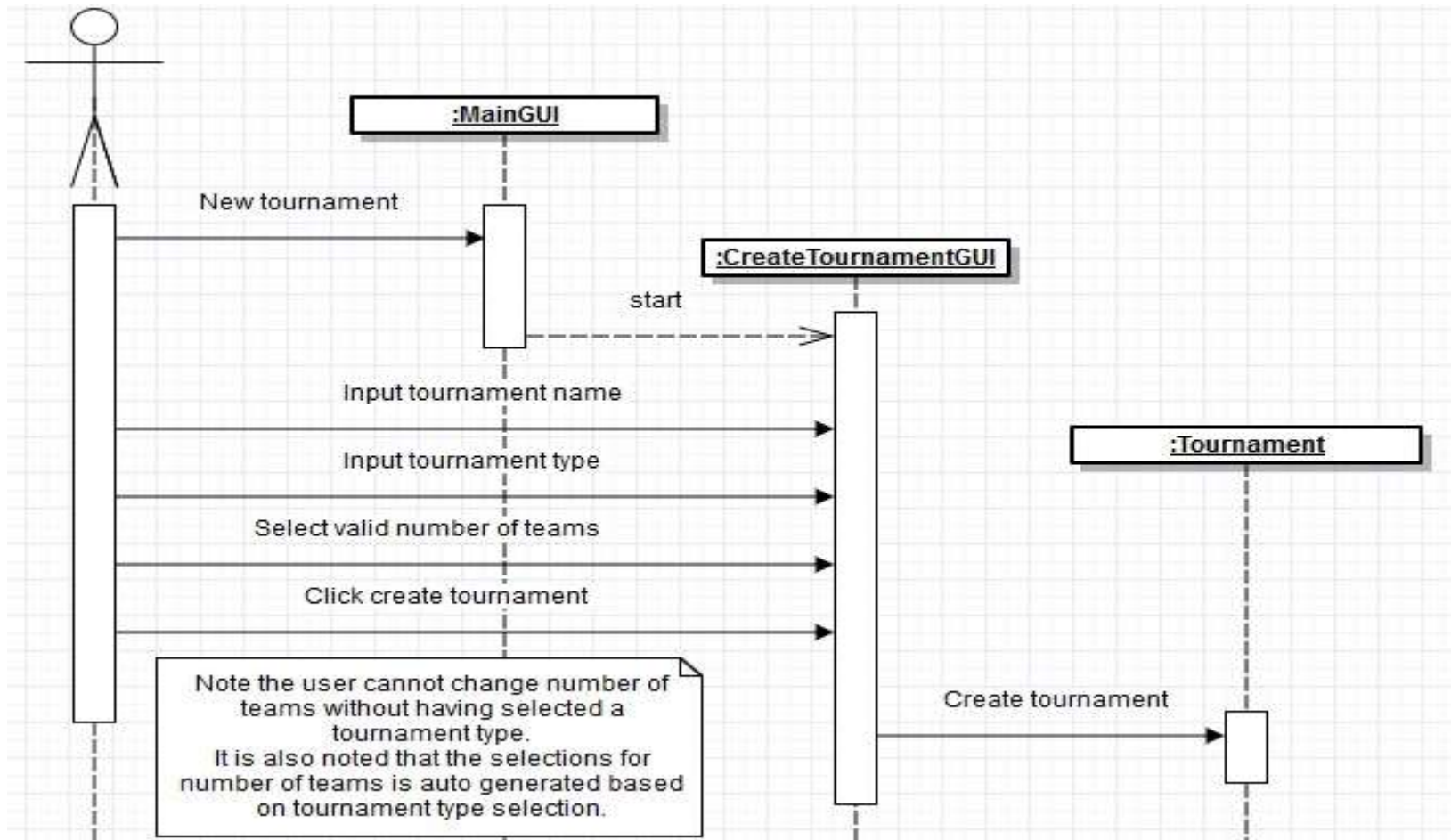
Sequence Diagram #2

This sequence diagram demonstrates the user clicking help.
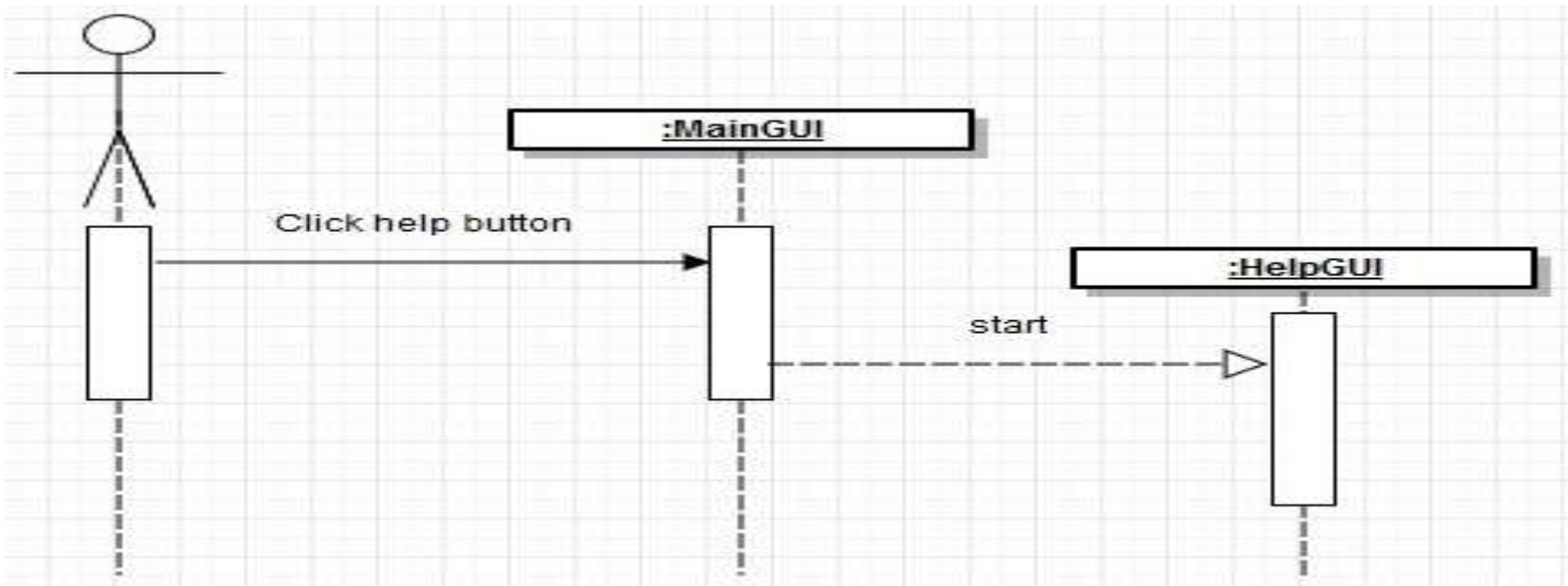
Sequence Diagram #3

This sequence diagram demonstrates viewing tournament statistics.

This one changed the most. We no longer hold instances of tournaments as we realized we do not have to store them. The app was intended to be a single run through. However, should several instances have been needed to be stored, it would have been important to keep a page specifically for viewing previously created tournaments. In this page, we would list all tournaments and allow the user to view their statistics.

Since the app was a single run through, statistics appear after the user creates the tournament. Statistics are updated live based on match outcomes.
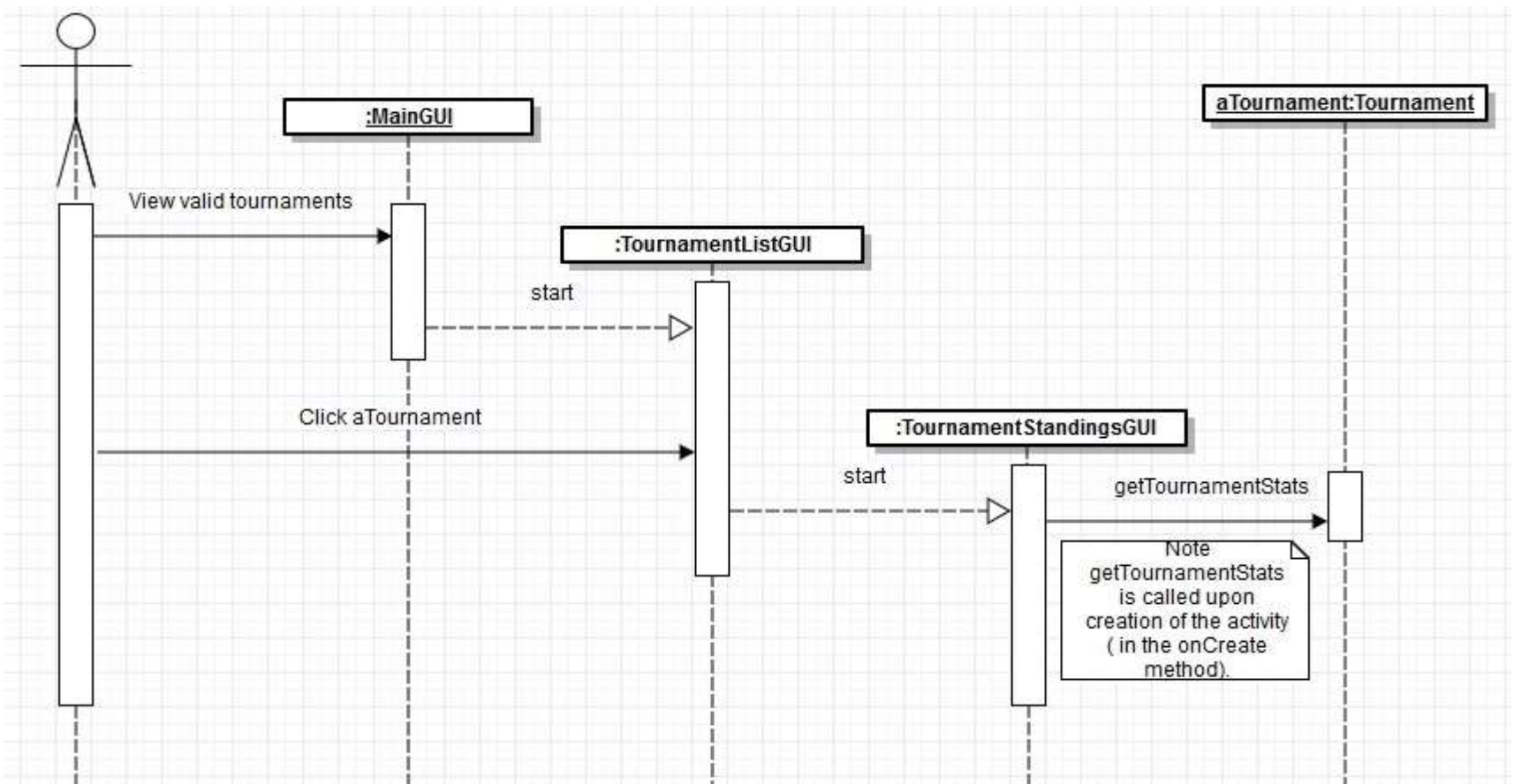
State Machine Diagram

This state diagram is for a Match class, note that state "forfeit" doesn't exist in our implementation. However, if it was to be implemented, a standard way to handle it is to allow either team to forfeit. This rewards the winning team with 3 points and possibly 2 goals (default).
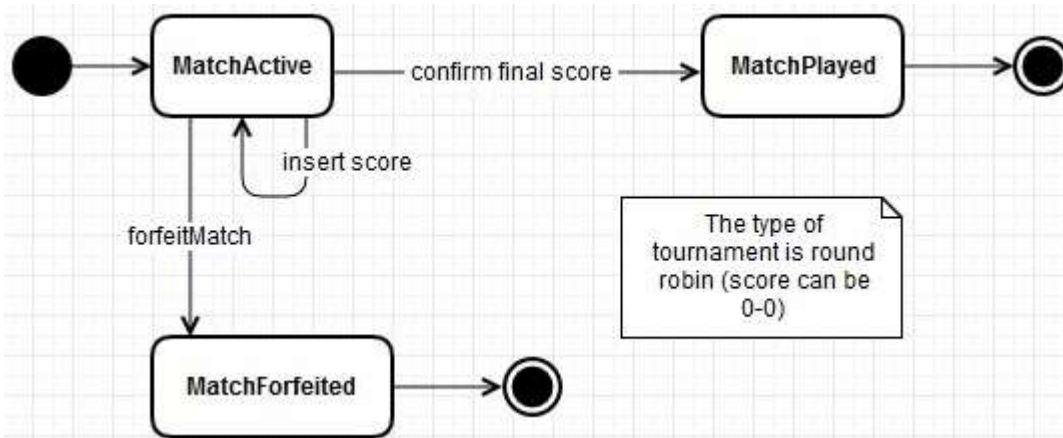
Screenshots of UI

Splash Activity (loading page)

Main Page
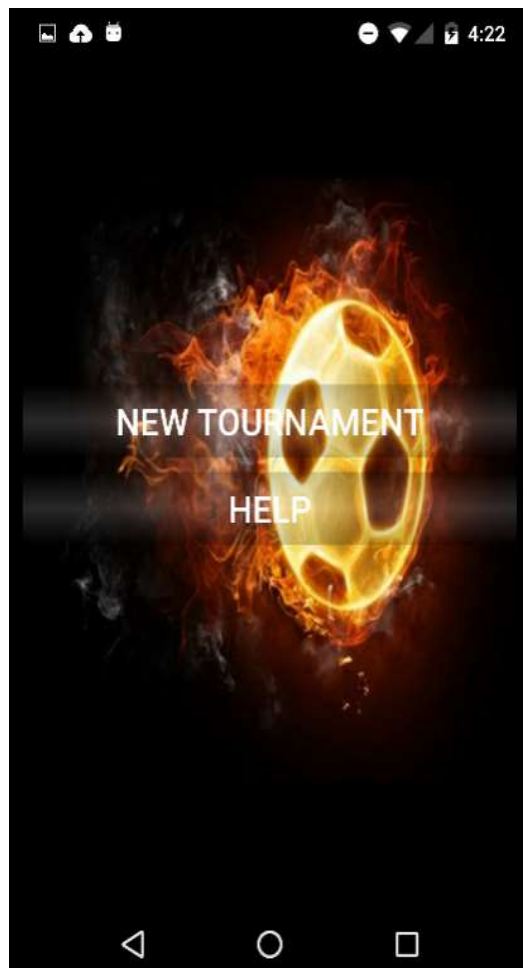
New Tournament Page
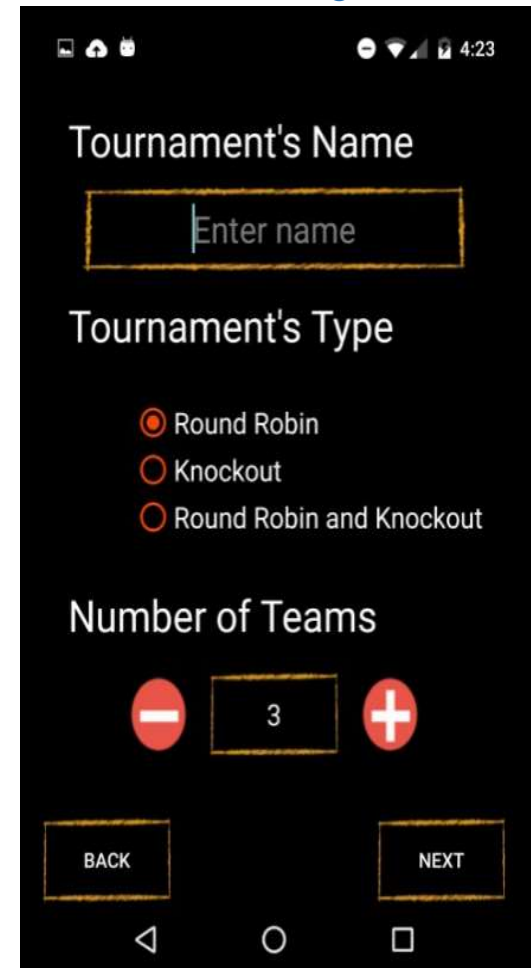
Team List Activity

RoundRobin Statistics & NextMatch

Round Robin Schedule Activity

Knockout Schedule Activity

Help Activity