



Ryder Cup Scoring System

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1. Ryder Cup Project

1.1. Properties

| | | |
|-------------|------------------|-----------------|
| Author | Emma Raaff | |
| Company | | |
| Description | Version | Submission Date |
| | 1 | 02/03/2020 |
| | 2 | 16/03/2020 |
| | 3 | 24/04/2020 |
| | 4 | 01/05/2020 |
| | 5 | 08/05/2020 |
| | 6 | 15/05/2020 |
| | Final Submission | 05/06/2020 |
| UML Version | 2.x | |

2. Project Background

The system under development will include multiple components that will contribute to the functioning of the main system, which is a Scoring System for the Ryder Cup. These components include: The System Administration, Roster Management and Scoring Management.

The Scoring System will be used as the official scoring system of the Ryder Cup Tournament and will distribute score information to other outlets including the media. The system is required to be updated at all times with the latest scores of the tournament.

There will be multiple actors and workers interacting with the system to ensure its effective functioning. Firstly, the Scoring System Administrator (SSA) who interacts solely with the system administration is responsible for ensuring that all player and course data have been loaded on the system, as well as the system users. The PGA system will be used to gather all the player information. The SSA is a worker in the system and is unable to load information related to Scoring Management.

The Tournament Referee is also a worker at the tournament and they interact with both system administration and scoring management. This individual is responsible for the assignment of match referees for each session played. This individual also reviews the match results submitted by the match referees, if the tournament referee is satisfied with the scores given he then finalizes the results on the scoring system. Another important role for the tournament referee is to ensure that the captains meet their submission deadlines for their line-ups for each session.

The Team Captain of both teams are the actors in the system and they use the Roster Management to enter their line-up of players before their specified deadline of a particular session. If however, they fail to meet the deadline, the system will assign random players from the relevant team to the given session.

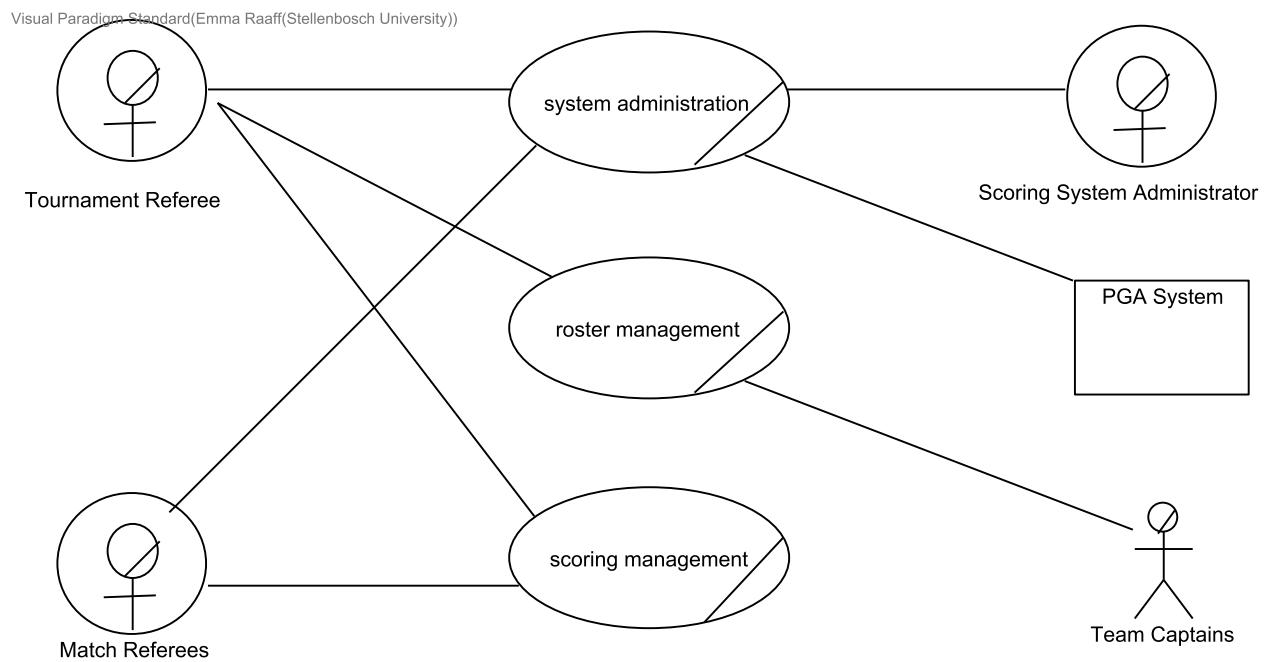
The match referees are responsible for following each match on foot and entering the score information for each hole on a hand held device within the scoring management for review by the tournament referee. The match referee is responsible for keeping track of only the team that won a particular hole and not the number of shots taken by a player.

For each worker and actor within the system certain credentials are assigned, which determine their access to certain functionalities. The SSA is responsible for assigning these credentials. Emails are sent to each individual to allow them to register on the system, which is done by creating a unique password. Any difficulties with this process will be dealt with by the SSA within the system administration.

This system needs to be simple enough to guarantee that each actor and worker can use it effectively and efficiently. The system aims to function in a way that allows constant and efficient collection and distribution of accurate and updated scores. The system should not be susceptible to any occurrences that could cause incorrect or delayed scoring information.

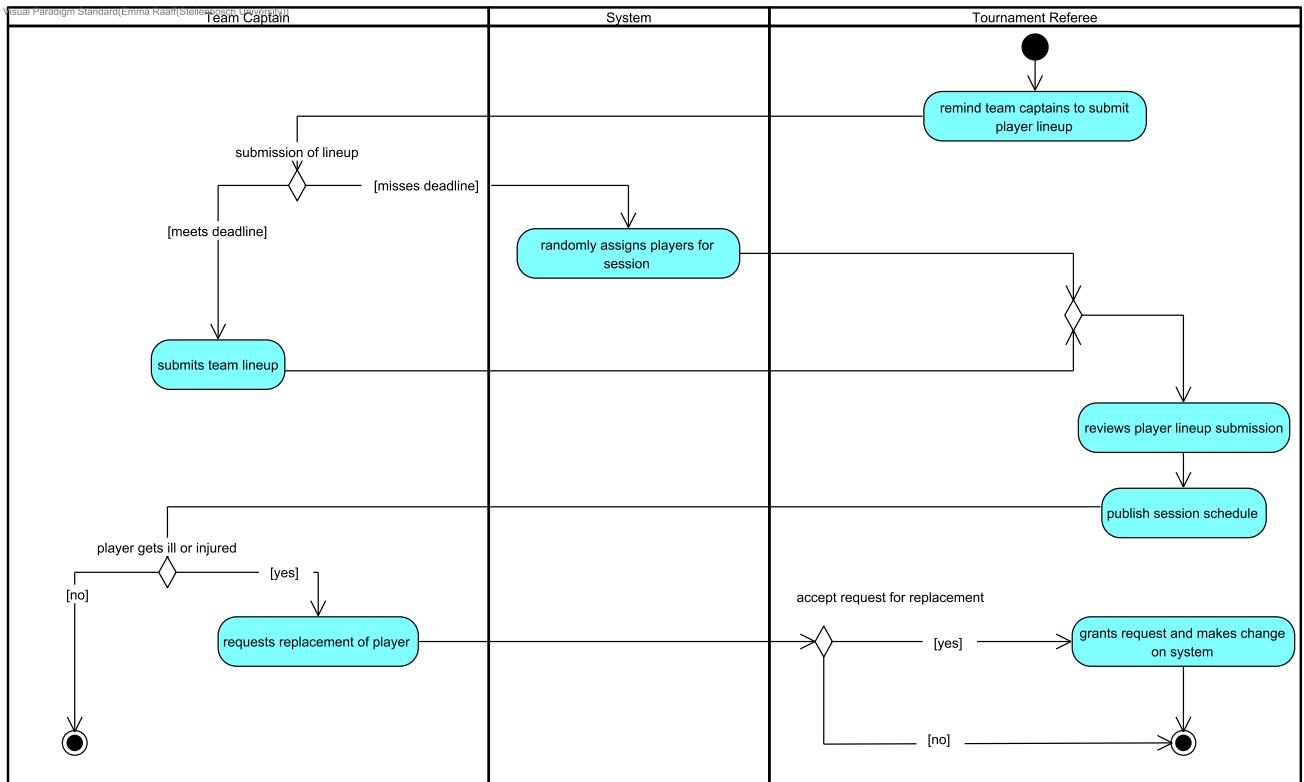
3. Business Use Case diagram

3.1. Ryder Cup Business Use Case Diagram

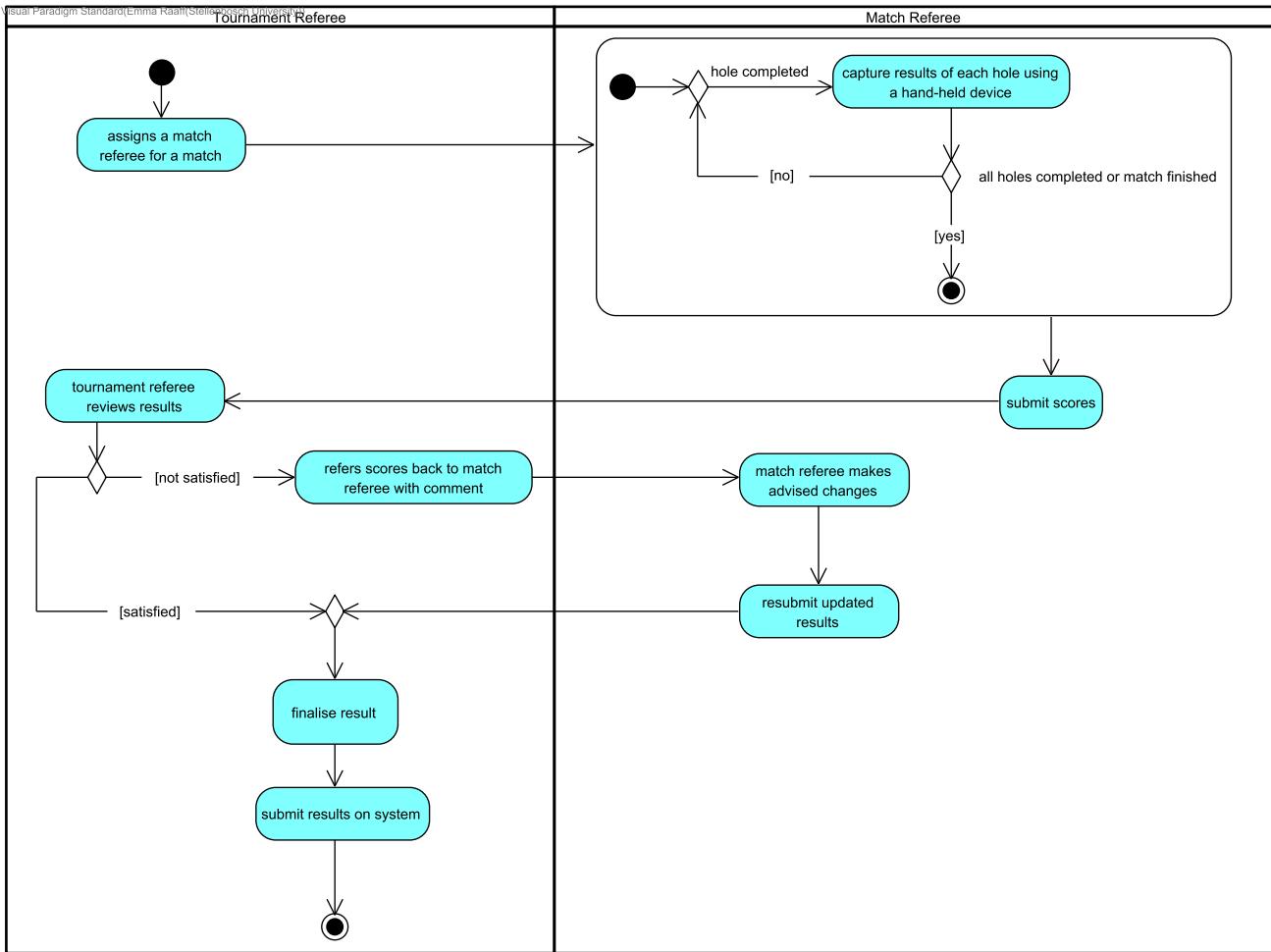


4. Scoping Business Use Cases

4.1. BUC: Roster Management

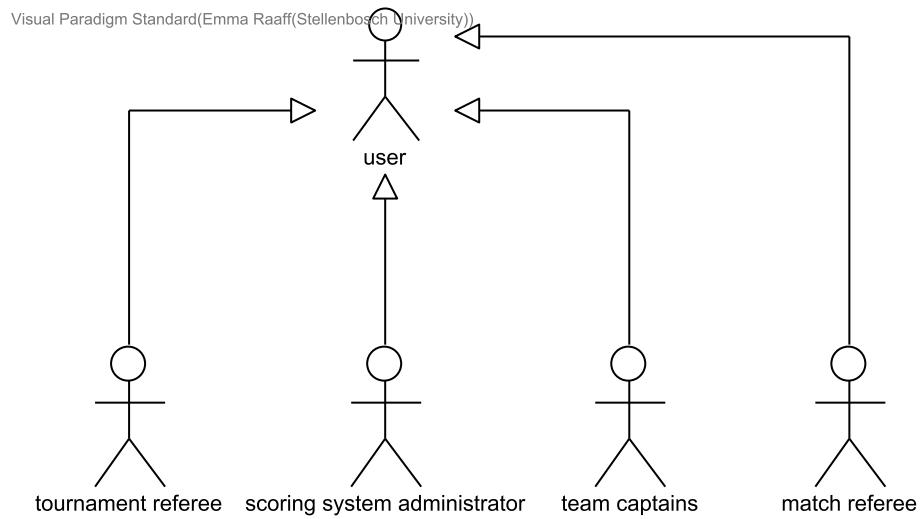


4.2. BUC: Scoring Management



5. Role Map

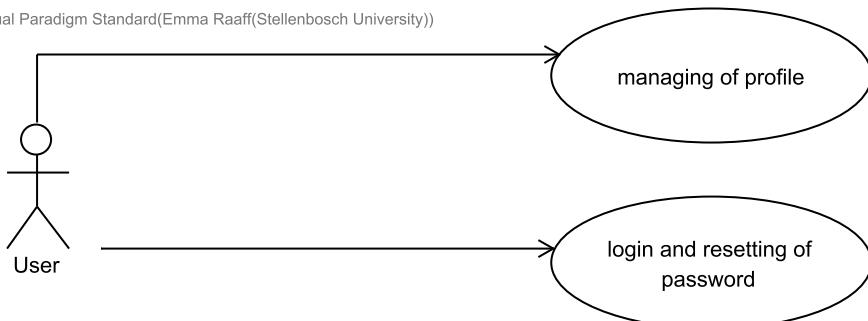
5.1. Ryder Cup Role Map



6. Systems Use Case Diagrams

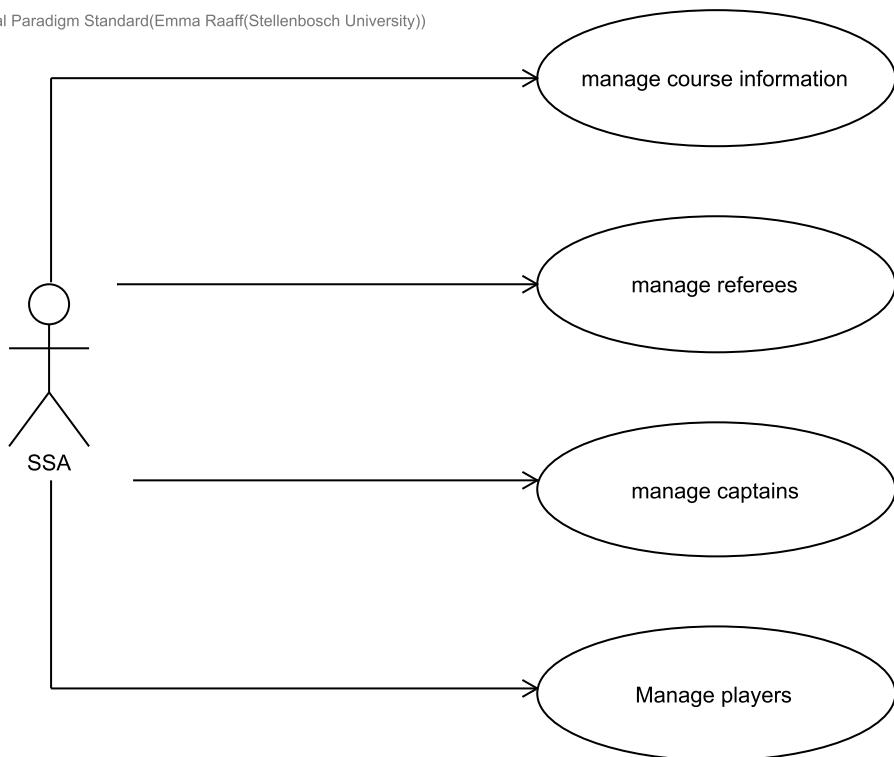
6.1. SUC - User

Visual Paradigm Standard(Emma Raaff(Stellenbosch University))



6.2. SUC - Scoring Systems Administrator

Visual Paradigm Standard(Emma Raaff(Stellenbosch University))



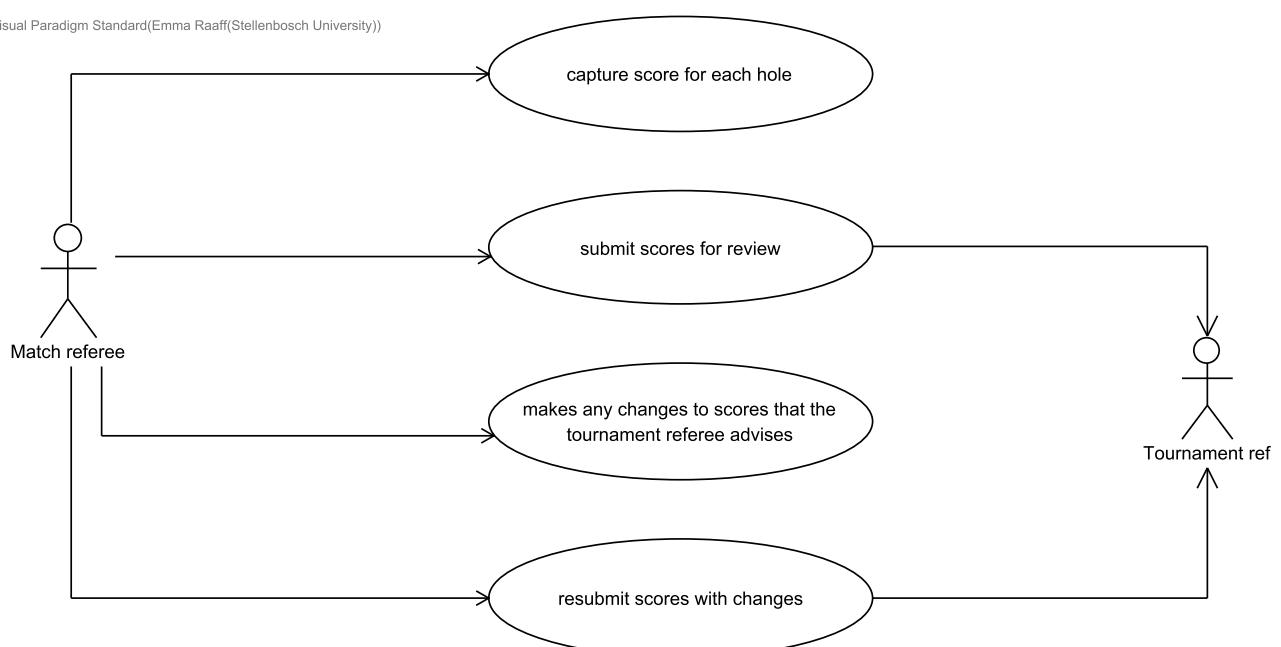
6.3. SUC - Tournament Referee

Visual Paradigm Standard(Emma Raaff(Stellenbosch University))



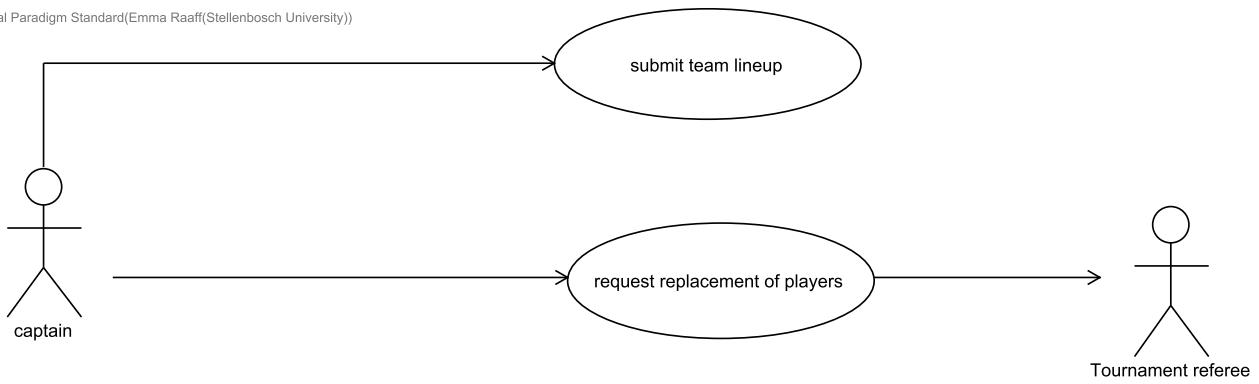
6.4. SUC - Match Referee

Visual Paradigm Standard(Emma Raaff(Stellenbosch University))



6.5. SUC - Captains

Visual Paradigm Standard(Emma Raaff(Stellenbosch University))



7. Describing System Use Cases

7.1. Wireframe: User Login



Ryder Cup Scoring System

LOGIN

USERNAME:

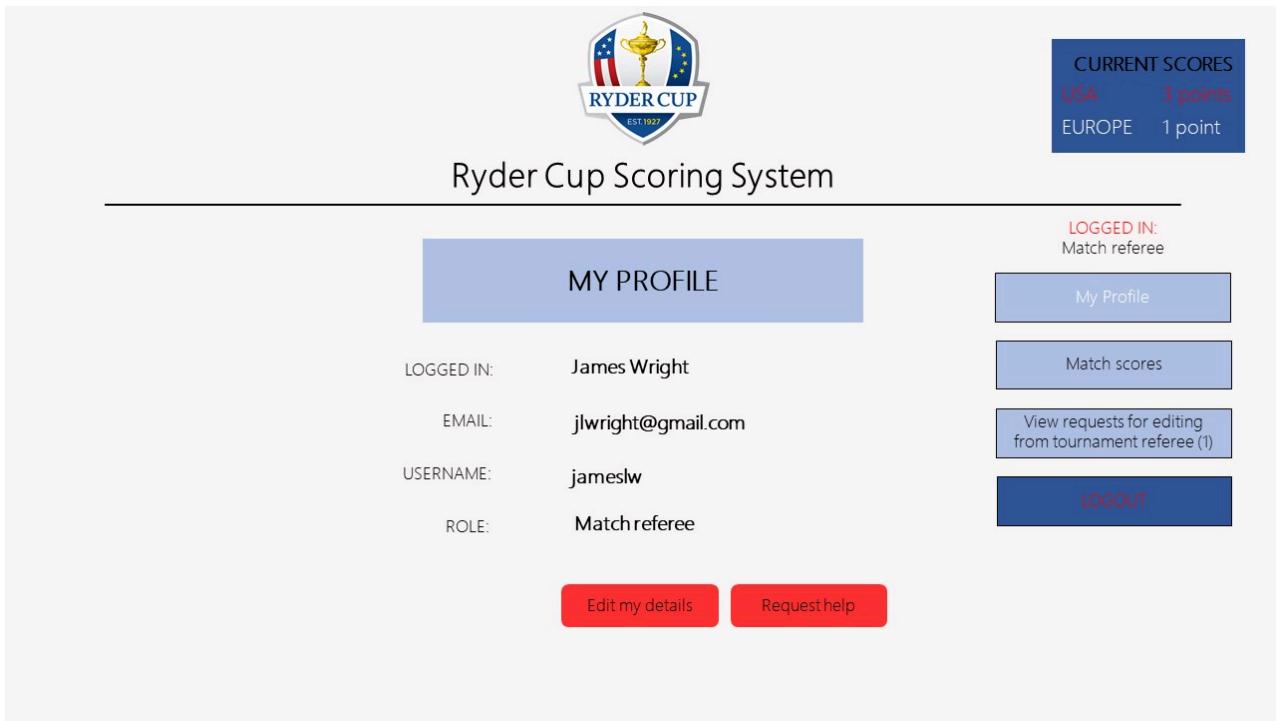
PASSWORD:

Log in

Reset my password

Each user will login with their unique credentials, which they access in the email sent to them after the Administrator has loaded their details onto the system. After logging in, each user will be able to carry out their respective actions using the system.

7.2. Wireframe: My Profile



Each user can access their "My Profile" section, which enables them to change their username and password by clicking on a link that is emailed to them upon their request to change their password. Each user can also request help from the SSA at any time during the tournament should they have any issues with the scoring system. When a user clicks the "Request help" button, they can send an email to the SSA detailing their problem.

The wireframe for "My Profile" provided above is the same for the Tournament Referee, the Match Referees and the Captains. For the SSA, the only variation is that there is no option to "Request help", as will be shown in the wireframes for the Administrator. The score box in the top right of the screen reflects the current scores and must be continually updated with the scores submitted by the tournament referee after each match. On the right-hand side of the screen, there is a menu of the actions for which each user will use the system. The user can navigate through the system using this menu.

7.3. Wireframes: Scoring System Administrator

7.3.1. My Profile

The wireframe shows the 'My Profile' section of the Ryder Cup Scoring System. At the top center is the Ryder Cup logo. Below it is the text 'Ryder Cup Scoring System'. A horizontal line separates this from the main content area. The main content area has a blue header bar with the text 'MY PROFILE' in white. To the right of this bar, the text 'LOGGED IN:' is followed by 'Administrator'. Below this are several data fields: 'LOGGED IN:' with the value 'William Knightley', 'EMAIL:' with the value 'knightleywill@gmail.com', 'USERNAME:' with the value 'willknight', and 'ROLE:' with the value 'Scoring system administrator'. To the right of these fields is a red button labeled 'Edit my details'. To the right of the main content area is a vertical column of blue buttons: 'My Profile', 'Course information', 'Referees', 'Captains', 'Players', and 'LOGOUT'. The 'LOGOUT' button is in a dark blue box.

The SSA is the first user to interact with the system, loading all relevant information about the course and the teams before the tournament commences. In the "My Profile" section, the administrator can edit their details.

7.3.2. Course Information



Ryder Cup Scoring System

MANAGE COURSE INFORMATION

General course details

Hole information

COURSE NAME:

Whistling Straits

[edit](#)

COURSE LOCATION:

Kohler, Wisconsin



[edit](#)

LOGGED IN:
Administrator

[My Profile](#)

[Course information](#)

[Referees](#)

[Captains](#)

[Players](#)

[LOGOUT](#)

The "Course Information" tab for the SSA is divided into "General course details" and "Hole information". The SSA enters the general course information by entering the course name and selecting the course location.



Ryder Cup Scoring System

MANAGE COURSE INFORMATION

General course details

Hole information

HOLE NUMBER

1 ▾

PAR

5 ▾

DISTANCE

yards

LOGGED IN:
Administrator

[My Profile](#)

[Course information](#)

[Referees](#)

[Captains](#)

[Players](#)

[LOGOUT](#)

The SSA enters the information for each of the 18 holes. The SSA selects the hole from the drop-down menu, and then selects the par and distance for that hole.

7.3.3. Manage Referee Profiles



Ryder Cup Scoring System

MANAGE REFEREE PROFILES

TOURNAMENT REFEREE

NAME: George Wright
EMAIL: g.wright@gmail.com

edit

MATCH REFEREES

1. NAME: Sam Downing
EMAIL: downing.sam@gmail.com
2. NAME: Henry Mayer
EMAIL: henry.m@gmail.com
...
20.

edit

LOGGED IN:
Administrator

My Profile

Course information

Referees

Captains

Players

LOGOUT

In this screen, the SSA loads the information for the tournament referee and the 20 match referees. After doing this, the system sends an email to each referee allowing them to create a profile on the system. The names included are just an example.

7.3.4. Manage Captains



Ryder Cup Scoring System

MANAGE CAPTAINS

TEAM USA

PGA ID: 19028462

load captain

Name: Steve Stricker
Email: steve.stricker@usagolf.com

delete

TEAM EUROPE

PGA ID: 64581725

load captain

Name: Pádraig Harrington
Email: harrington.padraig@europegolf.com

delete

LOGGED IN:
Administrator

My Profile

Course information

Referees

Captains

Players

LOGOUT

The SSA also loads the profiles of the captains for Team USA and Team Europe using their PGA ID.

7.3.5. Manage Players

The screenshot shows the 'MANAGE PLAYERS' section of the Ryder Cup Scoring System. At the top center is the Ryder Cup logo. Below it, the title 'Ryder Cup Scoring System' is displayed. On the left, under 'TEAM USA', there is a PGA ID input field containing '58990094' with a red 'load player' button below it. To the right, under 'TEAM EUROPE', there is a PGA ID input field containing '78665550' with a red 'load player' button below it. In the center, there are two blue boxes: one for 'Name: Justin Thomas' and 'Email: thomasj@gmail.com' with a 'delete' button, and another for 'Name: Tommy Fleetwood' and 'Email: tomfleetwood@gmail.com' with a 'delete' button. On the right side, a vertical column of buttons includes 'LOGGED IN: Administrator', 'My Profile', 'Course information', 'Referees', 'Captains', 'Players', and a 'LOGOUT' button.

LOGGED IN:
Administrator

TEAM USA

PGA ID: 58990094

load player

Name: Justin Thomas
Email: thomasj@gmail.com

delete

TEAM EUROPE

PGA ID: 78665550

load player

Name: Tommy Fleetwood
Email: tomfleetwood@gmail.com

delete

My Profile

Course information

Referees

Captains

Players

LOGOUT

The SSA enters the data for each player by entering their PGA ID into the system. The system then pulls the player data from the PGA system.

7.4. Wireframes: Captains

7.4.1. Manage Team Line-up

The captains for each team use the system to submit their player line-ups for each session. As the wireframes below illustrate, the captain can navigate between the 5 sessions and submit their line-up for each match. In the tournament, there are foursome matches, fourballs matches, and singles matches. The following wireframes provide illustrations of the screens used by the captains to upload their line-up for each type of match. If they need to make changes after the submission deadline, they can request this from the tournament referee.

The wireframe shows the 'Ryder Cup Scoring System' interface. At the top right, it displays 'CURRENT SCORES' with USA at 3 points and EUROPE at 1 point. The top center features the Ryder Cup logo. On the left, there's a vertical menu with buttons for SESSION 1, SESSION 2, SESSION 3, SESSION 4, and SESSION 5. The main content area is titled 'TEAM LINE-UP' and shows 'SESSION 1'. It includes fields for 'DATE' (9 October, morning session), 'MATCH TYPE' (Fourballs), and 'SUBMISSION DEADLINE' (7 October, 20h00). Below these, there are two dropdown menus labeled '1.' and '2.', both with the word 'select' next to them. To the right of these dropdowns are three red rectangular buttons: 'save current line-up', 'submit final line-up', and 'request change of players after deadline'. A 'LOGGED IN' message indicates 'Captain - Europe'. Other buttons include 'My Profile' and 'Logout'.

In this screen, the European captain can load his two players for each of the four fourballs matches, selecting the match from the drop-down menu.

The selection process for each match occurs as shown above, with the captain being provided a list of available players from which to select his lineup.

In the above screen, the captain loads his two players for each of the four foursomes matches.



CURRENT SCORES
USA 3 points
EUROPE 1 points

Ryder Cup Scoring System

TEAM LINE-UP

LOGGED IN:
Captain - Europe

SESSION 5

SESSION 1

DATE: 11 October
MATCH TYPE: Singles
SUBMISSION DEADLINE: 9 October, 20h00

SESSION 2

SESSION 3

SESSION 4

SESSION 5

| | | | |
|----|--------|-----|--------|
| 1. | select | 7. | select |
| 2. | select | 8. | select |
| 3. | select | 9. | select |
| 4. | select | 10. | select |
| 5. | select | 11. | select |
| 6. | select | 12. | select |

My Profile

Team line-up

LOGOUT

save current line-up

submit final line-up

request change of
players after deadline

Here, the captain loads his 12 player line-up for the singles matches taking place on the final day of the tournament.

7.5. Wireframes: Tournament Referee

7.5.1. Review and Publish Session Schedule

The wireframe shows the 'SESSION SCHEDULE' section of the Ryder Cup Scoring System. At the top right, it displays 'CURRENT SCORES' with USA at 3 points and Europe at 1 point. On the left, there are tabs for SESSION 1, SESSION 2, SESSION 3, SESSION 4, and SESSION 5. The main area shows a table for SESSION 1 with four rows for Match 1 through Match 4. Each row has columns for Match, TEAM USA, TEAM EUROPE, and Match referee. Below the table are three buttons: 'Edit players', 'Assign match referee', and 'Publish schedule'. To the right, a sidebar shows 'LOGGED IN: Tournament referee' and links for 'My Profile', 'Review and publish session schedule', 'Review match scores', and 'LOGOUT'.

| Match | TEAM USA | TEAM EUROPE | Match referee |
|-------|----------|-------------|---------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

SESSION SCHEDULE

CURRENT SCORES
USA 3 points
EUROPE 1 point

LOGGED IN:
Tournament referee

SESSION 1 SESSION 1 Fourballs Date: 9 October

SESSION 2 SESSION 3 SESSION 4 SESSION 5

Edit players Assign match referee Publish schedule

My Profile Review and publish session schedule Review match scores LOGOUT

In this screen, the tournament referee enters the necessary information into the session schedule and then publishes it. He reviews the player line-ups for each match and makes changes requested by captains. He also assigns the match referee, as shown in the screen below.

This wireframe shows the same session schedule interface as above, but with a modal window titled 'ASSIGN MATCH REFEREE' overlaid. The modal lists three names: James Gordon, Alan Murphrey, and Steve Smith, each with a 'select' button next to it. The 'select' button for Steve Smith is highlighted with a blue arrow pointing to it. The rest of the interface remains the same, including the sidebar with 'LOGGED IN: Tournament referee' and the bottom navigation buttons.

ASSIGN MATCH REFEREE

James Gordon select
Alan Murphrey select
Steve Smith select

LOGGED IN:
Tournament referee

SESSION 1 SESSION 1 Fourballs Date: 9 October

SESSION 2 SESSION 3 SESSION 4 SESSION 5

Edit players Assign match referee Publish schedule

My Profile Review and publish session schedule Review match scores LOGOUT

7.5.2. Review Match Scores



CURRENT SCORES
 USA 3 points
 EUROPE 1 point

Ryder Cup Scoring System

REVIEW MATCH SCORES

SESSION: **1** ▾
MATCH: **1** ▾

| Hole | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|--------|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Winner | EUR | USA | USA | - | USA | EUR | EUR | EUR | USA | USA | USA | EUR | EUR | USA | EUR | EUR | EUR | USA |

FEEDBACK FOR MATCH REFEREE:Send feedback

Publish final scores

LOGGED IN:
Tournament referee

My Profile
Review and publish session schedule
Review match scores
LOGOUT

Here, the tournament referee reviews the match scores submitted by the match referee for a particular match. If any changes are necessary, the tournament referee can use the feedback function to send his comments to the match referee. Once the tournament referee is satisfied that all scores are accurate, he publishes the final result.

7.6. Wireframes: Match Referee

7.6.1. Match Scores



RYDER CUP
EST 1927

CURRENT SCORES

| | |
|--------|----------|
| USA | 3 points |
| EUROPE | 1 point |

Ryder Cup Scoring System

MATCH SCORES

SESSION: 1
MATCH: 1
FOURBALLS

PLAYERS:

| | |
|---------------------|--------------------------|
| Justin Thomas (USA) | Tommy Fleetwood (Europe) |
| Patrick Reed (USA) | Rory McIlroy (Europe) |

My Profile

Match scores

View requests for editing from tournament referee (1)

[LOGOUT](#)

| Hole | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|--------|-----|-----|-----|---|-----|---|---|---|---|----|----|----|----|----|----|----|----|----|
| Winner | EUR | USA | USA | - | USA | | | | | | | | | | | | | |

Enter winner for
hole 6

Submit results

Here, the match referee enters the winner of each hole on a hand-held device. As shown in the screen below, he will click on the button to enter the winner for the particular hole. A menu will come up allowing him to select USA, Europe or halved. After the match, he will submit the result to the tournament referee for approval.



CURRENT SCORES
USA 3 points
EUROPE 1 point

Ryder Cup Scoring System

MATCH SCORES

WINNER FOR HOLE 6

SESSION

USA

EUROPE

Halved

Justin Thomas
Patrick Reed

View requests for editing from tournament referee (1)

LOGGED IN:
Match referee

My Profile

Match scores

Logout

| Hole | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|--------|-----|-----|-----|---|-----|---|---|---|---|----|----|----|----|----|----|----|----|----|
| Winner | EUR | USA | USA | - | USA | | | | | | | | | | | | | |

Enter winner for hole 6

Submit results

7.6.2. View Requests for Editing from Tournament Referee

The screenshot shows the Ryder Cup Scoring System interface. At the top right, there is a "CURRENT SCORES" box displaying "USA 3 points" and "EUROPE 1 point". Below this is the Ryder Cup logo. The main title "Ryder Cup Scoring System" is centered above a blue header bar labeled "REQUESTS FOR EDITING". In the center, a message box contains the text: "Please change the scores for hole 5 to reflect that Team Europe won the hole." At the bottom of this message box are two red buttons: "Go to match scores" and "Reply". To the right of the message box is a vertical sidebar with a "LOGGED IN" section showing "Match referee". It also contains four blue buttons: "My Profile", "Match scores", "View requests for editing from tournament referee (1)", and "LOGOUT".

CURRENT SCORES

USA 3 points

EUROPE 1 point

LOGGED IN:
Match referee

My Profile

Match scores

View requests for editing from tournament referee (1)

LOGOUT

REQUESTS FOR EDITING

Please change the scores for hole 5 to reflect that Team Europe won the hole.

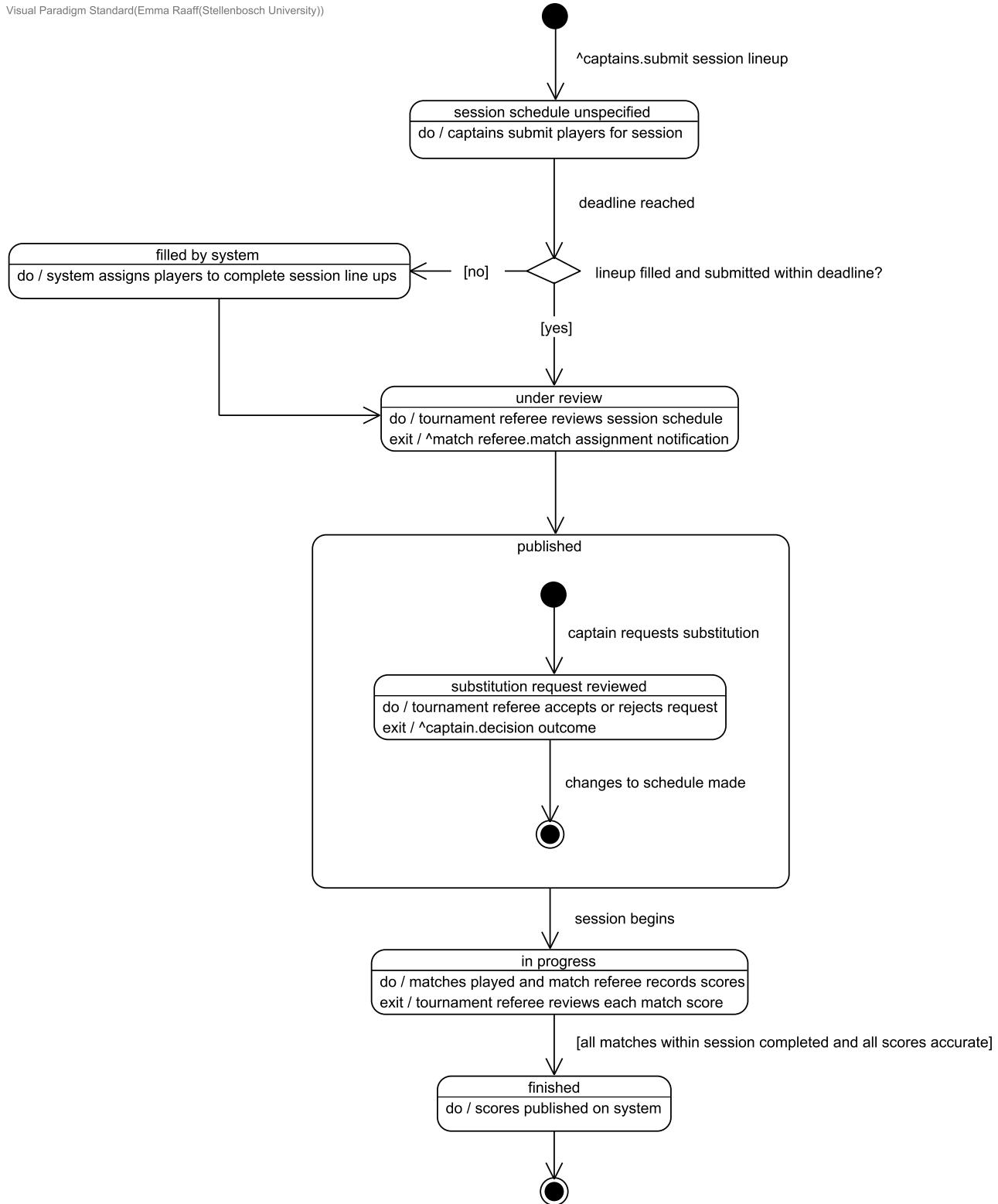
Go to match scores Reply

Here, the match referee can access requests from the tournament referee to edit match scores. After editing, the match referee will resubmit the scores.

8. Describing State Behaviour

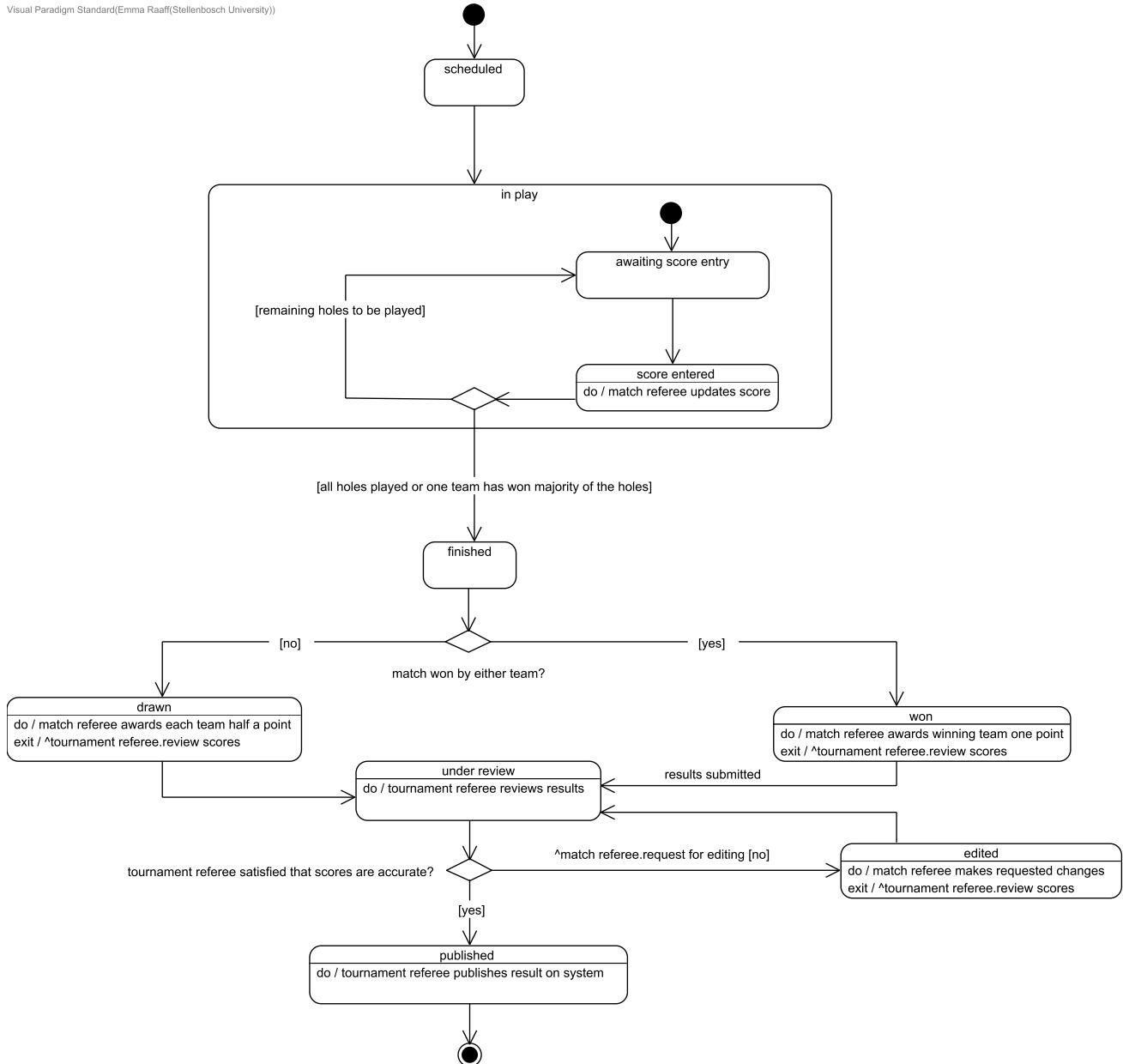
8.1. Session

Visual Paradigm Standard(Emma Raaff(Stellenbosch University))



8.2. Match

Visual Paradigm Standard(Emma Raaff(Stellenbosch University))



9. Structural Analysis

9.1. Ryder Cup class diagram

