

Group assignment 2: OO model

Próun hugbúnaðar Spring 2015

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1 Introduction

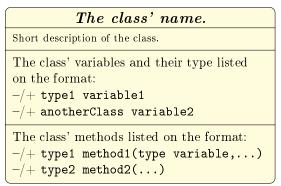
In this document there's the class diagram for group F2a. Group members are: Einar Helgi Prastarson (personal ID number: 110287-2919), Hannes Pétur Eggertsson (240889-2939) and Sigurður Birkir Sigurðsson (120589-2539). Our project is to build an user interface for a fantasy football game. In our class diagram we felt it made sense to split the classes into two categories, back-end classes and front-end classes. In the appendix we put our current idea how the UI will look like when the game is ready. The presenter on Wednesday, March 4th 2015, will be Hannes Pétur Eggertsson.

1.1 Notation

In our class diagrams we use the following notation:

- means a private variable or method (not directly accessable by other classed).
- + means a public variable or method (directly accessable by other classes).

Each class in the diagram has four sections shown below:



If the class wasn't created by us it is filled with red. Classes are then interconnected using 3 types of arrows:

$$\begin{array}{ccc} \text{Class A} & \xrightarrow{ases} & \text{Class B} \\ \\ \text{Class A} & \xrightarrow{extends} & \text{Class B} \\ \\ \text{Class A} & \xrightarrow{implements} & \text{Class B} \end{array}$$

In most cases we can tell how many classes 'Class A' and 'Class B' will be associated with, this is shown by placing an arrow at the beginning and end of an arrow, e.g.

Class A
$$\xrightarrow{1 \quad uses \quad 0-10}$$
 Class B

if each instance of 'Class A' will use 'Class B' in a range of 0 to 10 instances.

1.2 Terminologies and Concepts

User A (human) user actually playing the game.

Player A football player in the game, e.g. Gylfi Sigurðsson.

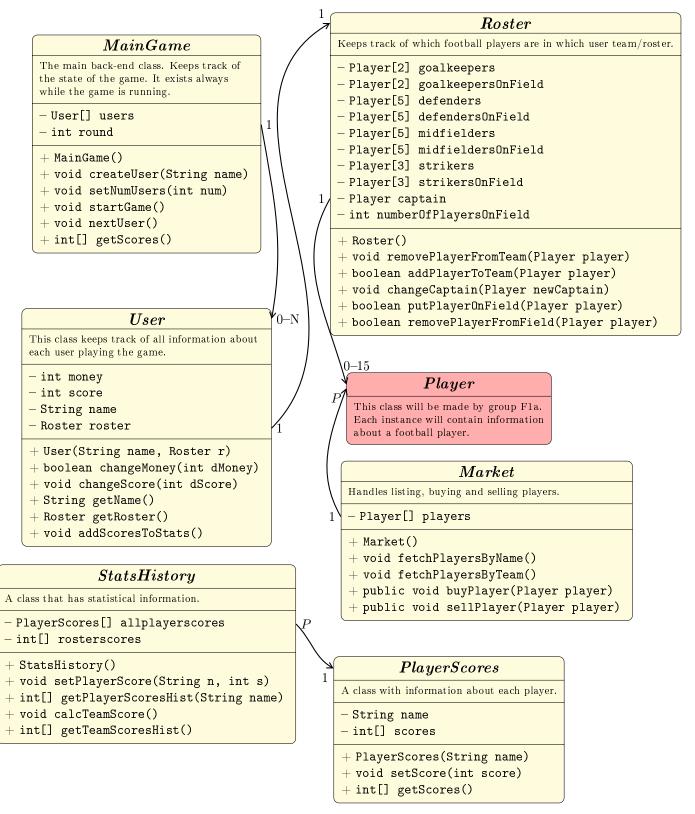
Team A football team in the game, e.g. Manchester United.

Roster The user's bought players. Note that the roster includes both players which the user has set on and off the field. A roster can have up to 15 players.

2 Class diagram

We decided to split our class diagram into two figures: **Back-end classes** and **Front-end classes**. The back-end classes take care of storing and keeping track of all information as the game is running. The front-end classes take care of displaying the information to the users playing the game as well as handling their input.

2.1 Back-end classes



Where N is er number of total users in the current game and P is the total amount of football players in the game.

2.2 Front-end classes

Main

The main front-end class. It is initialized at the start of the game and runs until the game is terminated.

- JFrame frame
- TopPanel topPanel
- RosterPanel rosterPanel
- FieldViewerPanel fieldViewerPanel
- + void startGame()
- + void setPanelAsRoster()
- + void setPanelAsMarket()
- + void setPanelAsScore()
- + void update()
- + void main(String[] args)

JPanel

This class is part of Java Swing.

$Field \ Viewer Panel$

Displays the current on field players.

- + BufferedImage field
- + JTextField[] playersOnField

JFrame

This class is part of Java Swing.

StartPanel

Panel that shows up that the start of the game. It displays a user creation area.

- + BufferedImage logo
- + JButton submit
- + JTextField enterName

MarketPanel

Panel that displays the market. Handles buying/selling inputs from the user.

+ JList playerlist

Uses:

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Market.fetchPlayersByName()

Market.fetchPlayersByTeam()

Market.buyPlayer(Player p)

Market.sellPlayer(Player p)

ScorePanel

Displays the current game score and stats.

- + JTable statsTable
- + void graphScores()

Uses the StatsHistory class.

Roster Panel

Displays the users' roster.

+ JList rosterlist

League Panel

Displays the teams and standings in the current league.

+ JTable standings

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Interface in Java Swing that handles actions/input.

Handle Buttons

Handles button presses.

+ void actionPerformed(ActionEvent arg0)

Uses:

Main.setPanelAsMarket()

Main.setPanelAsScore()

Main.setPanelAsRoster()

Appendix

User interface

The figure below illustrates how we currently imagine the UI will look like in the final product.

