Group assignment 4: Refined OO model

Þróun 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 Þrastarson (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. Then, in a third diagram there's another diagram that shows the connections between the back-end and We will all present this document on Wednesday, March ?th 2015.

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:

The class' name.
Short description of the class.
The class' variables and their type listed on the format: −/+ `type1 variable1` −/+ `anotherClass variable2`
The class' methods listed on the format: −/+ `type1 method1(type variable,...)` −/+ `type2 method2(...)`

If the class wasn't created by us it is filled with red. Back-end classes are green and front-end classes are yellow. Classes are interconnected using arrows:

Class A $\xrightarrow{\textit{uses}}$ Class B

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 $\overset{1}{\xrightarrow{\textit{uses}}}\overset{0\text{–}10}{}$ Class B

if each instance of 'Class A' will use 'Class B' in a range of 0 to 10 instances. If no numbers are shown it generally means the association is 1 uses 1.

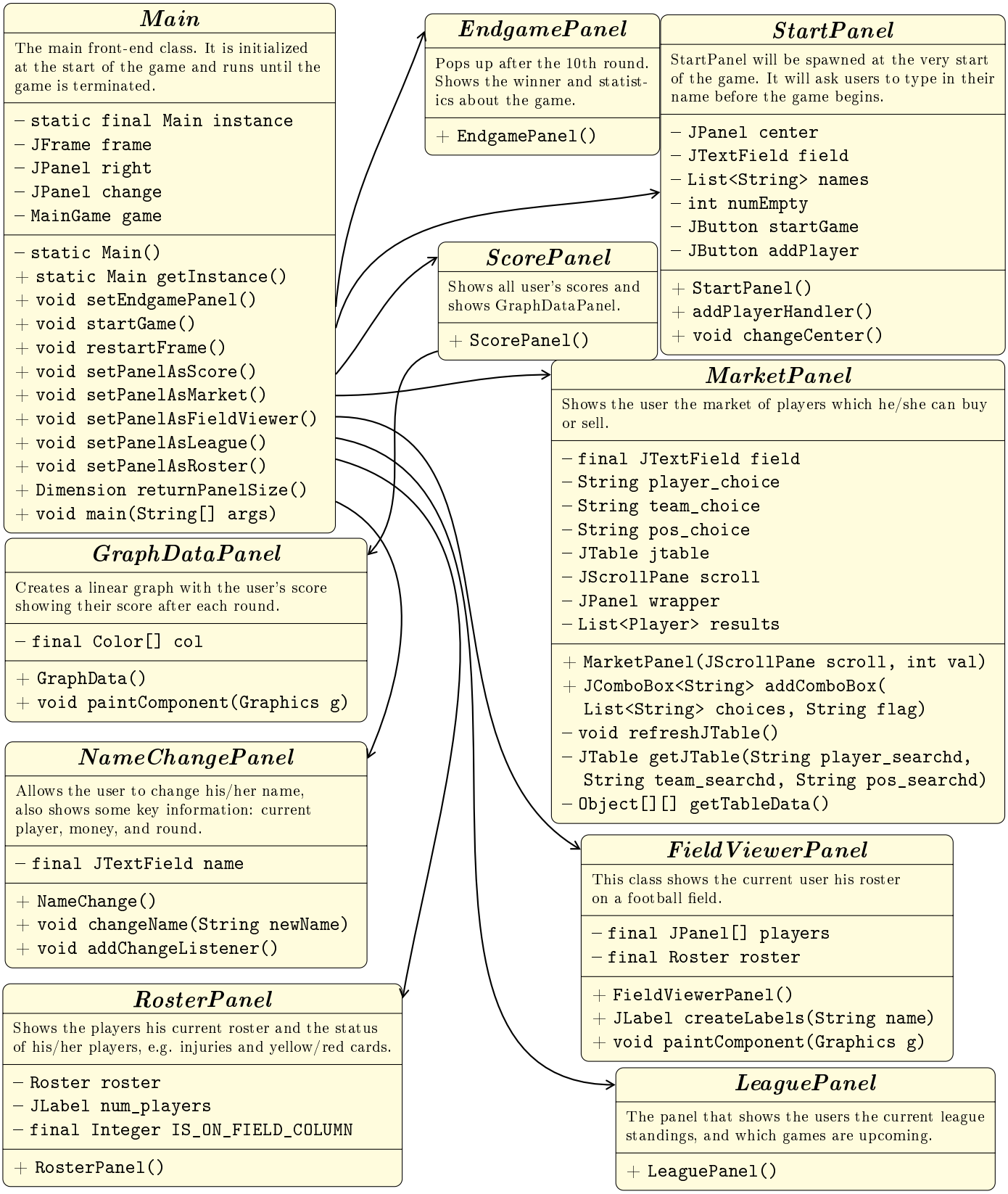
2 Class diagram

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

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



Multiplicities are all 1:1.

2.2.1 Component classes

We are also using the following two component classes

ButtonColumn
Changes a single column of a JTable to buttons.
− JTable table − Action action − int mnemonic − Border originalBorder − Border focusBorder − JButton renderButton − JButton editButton − Object editorValue − boolean isButtonColumnEditor
+ ButtonColumn(JTable table, Action action, int column) + Border getFocusBorder() + void setFocusBorder(Border focusBorder) + int getMnemonic + void setMnemonic(int mnemonic) + Component getTableCellEditorComponent(JTable t, Object val, boolean selected, int row, int col) + Object getCellEditorValue() + Component getTableCellRendererComponent(JTable t, Object val, boolean selected, boolean focus, int row, int col) + void actionPerformed(ActionEvent e) + void mousePressed(MouseEvent e) + void mouseReleased(MouseEvent e)

CustomButton
Our own custom button that implements JButton. Looks much nicer than the default Swing button.
− Color hoverBackgroundColor − Color pressedBackgroundColor − Color fontColor − Color hoverFontColor
+ CustomButton() + CustomButton(String text) + Color getHoverBackgroundColor() + Color getFontColor() + void setFontColor(Color color) + void setContentAreaFilled(boolean b) + void setHoverBGColor(Color color) + Color getHoverFontColor() + void setHoverFontColor(Color color) + Color getPressedBGColor() + void setPressedBGColor(Color color) + void paintComponent(Graphics g)

2.3 Connections between front-end and back-end classes

There are a number of connections between back-end and front-end classes that the previous diagrams could not show. These connections will be shown here.

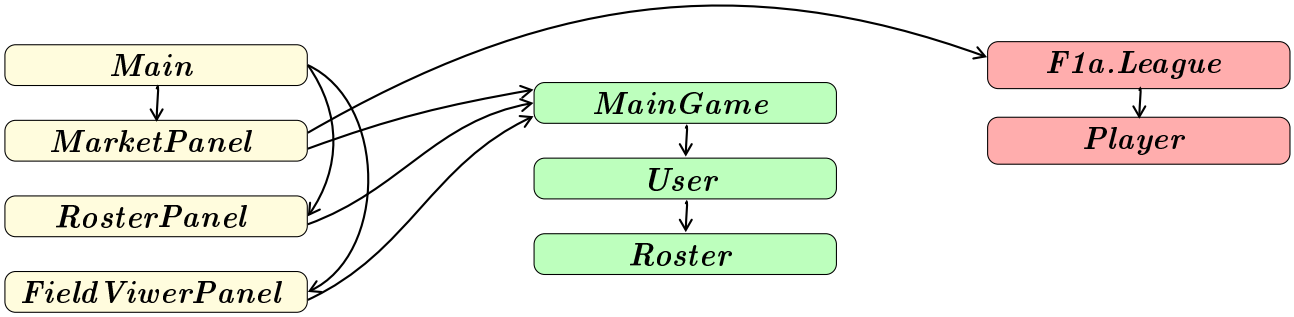
2.3.1 Main

When the game starts, MainGame creates a instance of MainGame.

2.3.2 MarketPanel, RosterPanel, and FieldViwerPanel

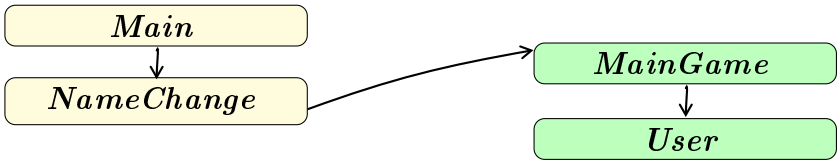
MarketPanel needs to get all teams from a class group F1a will create. That class will return to the MarketPanel all the Teams (and therefore all Player objects). MarketPanel will also need to get the current user roster to determine which player the user owns and which he does not own. It can do that through the MainGame class just as the diagram below shows. This connection will be shown more clearly in one of our sequence diagrams.

Similar to the MarketPanel, the RosterPanel and FieldViwerPanel also need to get the current roster.



2.3.3 NameChangePanel

The NameChangePanel is associated with the User class in case of the user changes his/her name. It also gets some information about the user's current money and the current game's current round.



3 Sequence diagrams

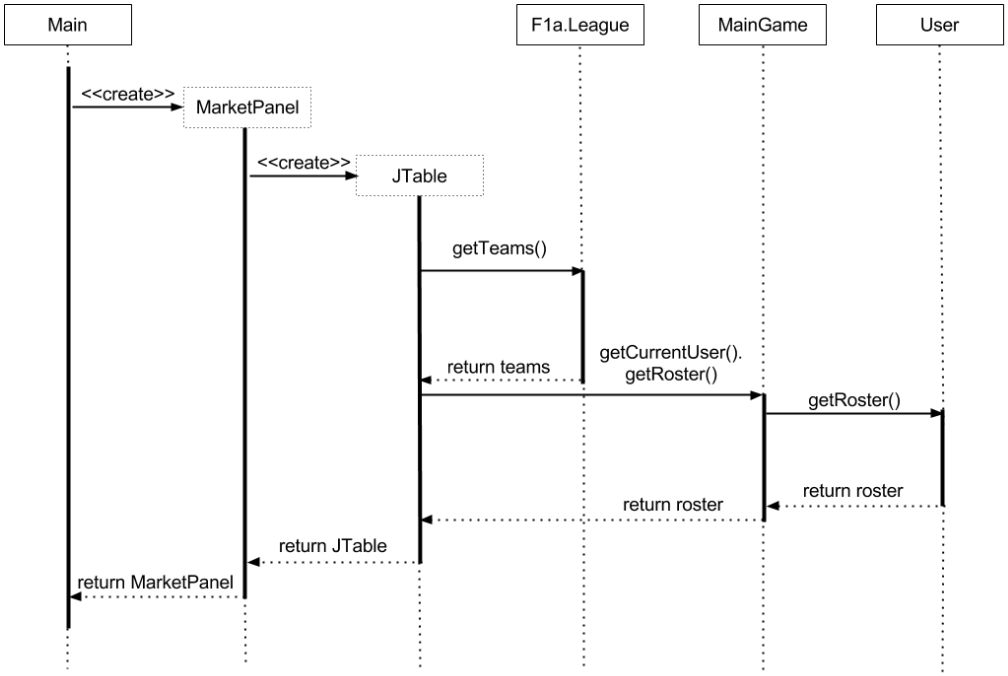


Figure 1: Sequence diagram 1.

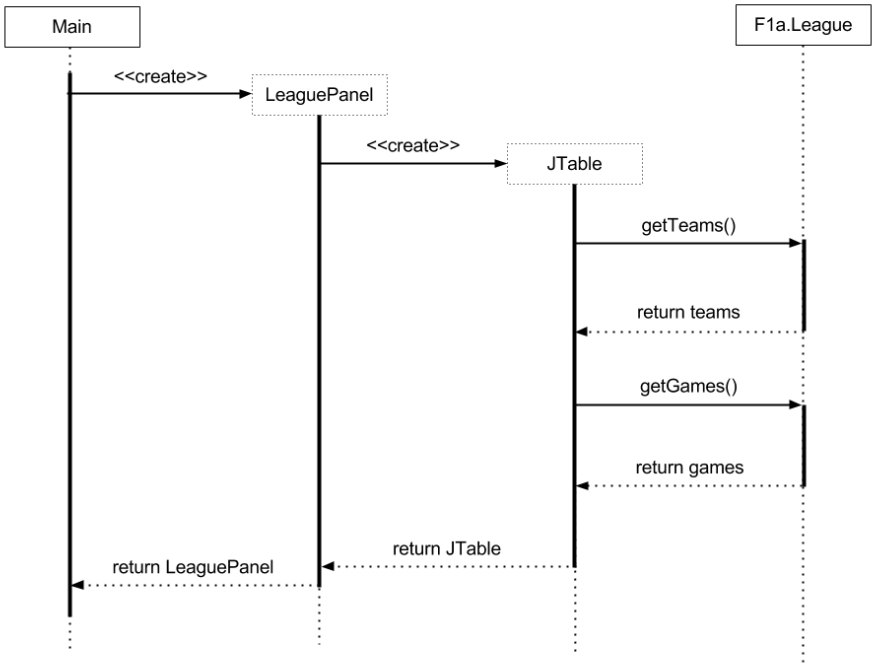


Figure 2: Sequence diagram 2.