Design Analysis

Group Project 3 - Group 2

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Contents

1 Introduction

This class diagram highlights the classes discovered during the analysis, and some additional classes discovered during the design of our application. You will notice that there are no methods in our classes related to the reading, the creation, the deletion nor the updating. There are no such methods because we assume that these features are handled from the roots by the Grails Framework.

2 Class diagram

2.1 Classes description

2.1.1 EstateAgent class

An estate agent inherits from a User. He can :

- List his properties

- List the buyers interested in his properties

- Search for a property

- Validate (or not) a property in order to make it available on the website.

- Edit the details of a property

- Set up an appointment

- Edit an appointment

- Remove a property

2.1.2 Buyer class

A buyer inherits from a User. He can :

- Add a property to his interested list

- Remove a property from this list

- Search for a property

- Make an offer for a property

2.1.3 Seller class

A seller inherits from a User. He can :

- Add his property to the website (which is going to be validated by an estate agent)

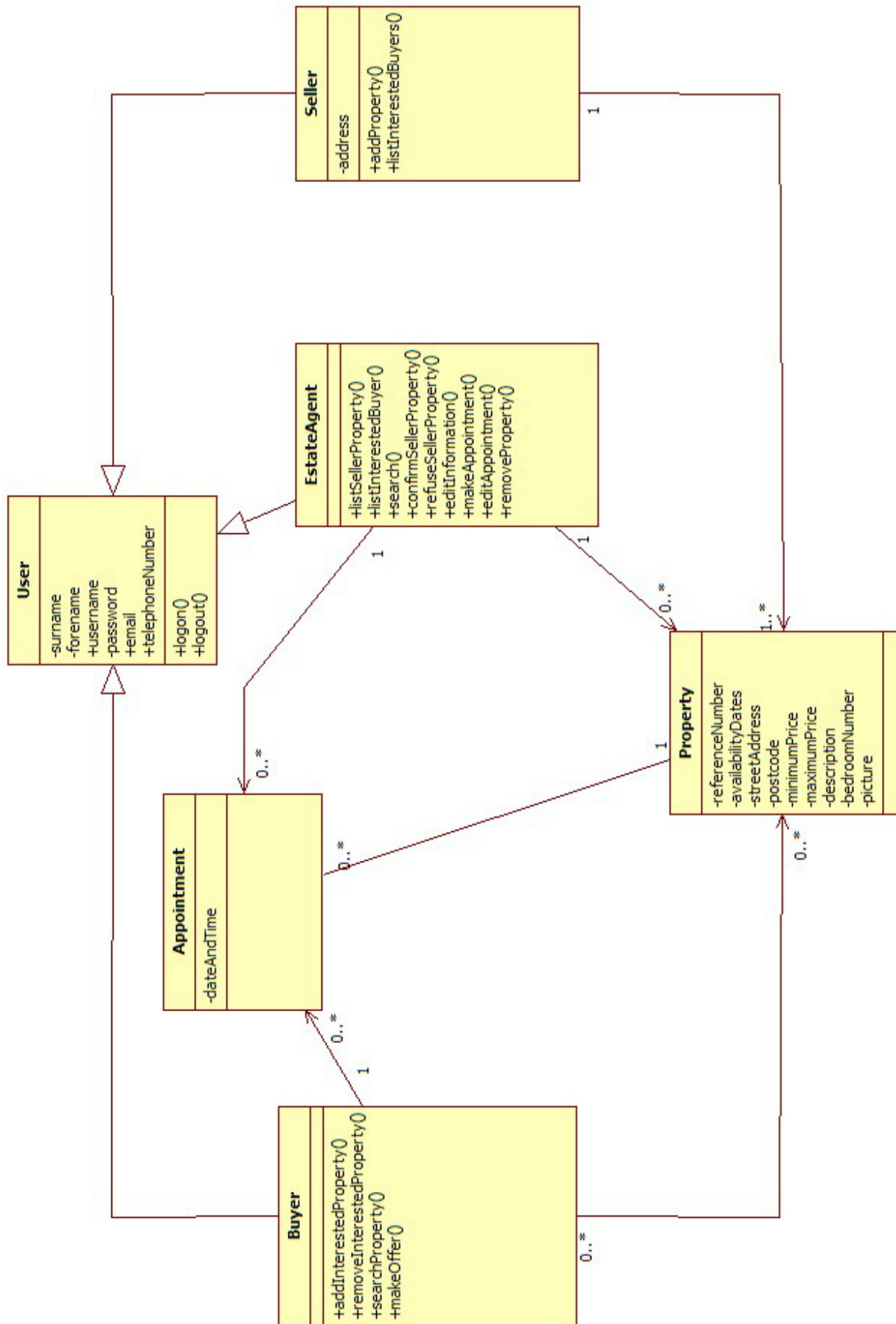- See the list of buyers interested in his properties

Figure 1: Class Diagram of Napier Estate Agency

2.1.4 User class

The Seller class, the Buyer class and the EstateAgent class have some common attributes and behaviours, that's why a parent class, User, has been created to generalise theses attributes and behaviours. A user is characterised by :

- His surname

- His forename

- A password

- An email

- His telephone number (should be formatted like a UK number)

This class also handles the login and the logout of a user.

2.1.5 Property class

This class describes a property. A property is characterised by:

- A reference number (unique identifier for a property)

- A set of availability dates

- A postcode (constrained by the UK Postcode format)

- A minimum price

- A maximum price

- A short description of the property

- The number of bedrooms

- A set of images

2.1.6 Appointment class

This class describes an appointment, which is created with a particular date and a particular time. Constraint: An estate agent or a buyer can't have more than one appointment on the same date.

3 Use-Case Diagram

3.1 Napier Estate Agency use case diagram

4 Use-Case Specification

4.1 Authenticate

The user logs on to the website in order to access the services the website provides to registered users.
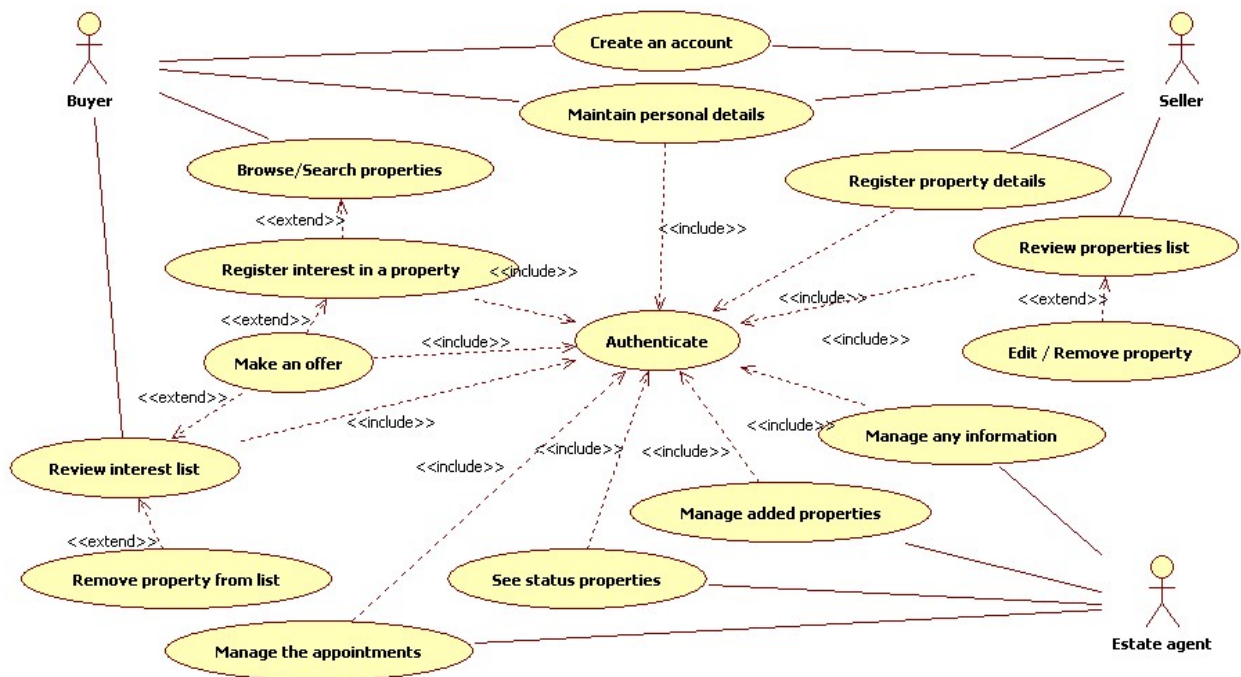
Figure 2: Use-Case Diagram of Napier Estate Agency

Basic Flow

1. The system prompts the user to log on.

2. The user enters his username and password.

3. The system verifies the logon information.

4. The system logs the user on to the system.

Alternative Flow

1. The system recognises cookie on user's machine.

2. Go to step 4 (Basic Flow).

3. The system does not recognise user's logon information.

4. Go to step 1 (Basic Flow).

Pre-Conditions   The user has to want to use a service other than "browse properties", "create an account".

Post-Conditions   The user will enjoy all the services which he is allowed to use.

4.2   Browse/Search properties

The buyer can search properties by location or postcode and then browse all the referenced properties in the website's database.

Basic Flow

1. The system shows the list of all properties available.

2. The buyer enters into the search engine some filters such as the postcode.

3. The system provides a reply to the request by displaying a new list.

Alternative Flow

1. The system shows the list of all properties available.

2. The user can sort the list of properties by clicking on directional arrows in each column.

Post-Conditions   The buyer finds properties which match his search criteria.

4.3   Create an account

To create a new account object with personal details including name, contact number and address.

Basic Flow

1. The system prompts the user for his forename, surname, his contact number, and his address.

2. If the user does not already exist in the database, and if the data is validated, the system adds the new record.

3. The user is logged-on directly to his new account.

4.4   Edit / Remove property

The seller can update his property information if he made any mistakes. He can also remove his property if the Napier Agency's contract allows him to do so.

Basic Flow

1. The seller changes any information about his property.

2. The system verifies that the data types entered are allowed.

3. The system processes the modifications on the database.

Pre-Conditions   The seller must be logged-on to the system.

Post-Conditions   The modifications wanted by the seller are carried out.

4.5   Maintain personal details

The seller and the buyer maintain their personal details online. They can either edit or remove information.

Basic Flow

1. The seller or the buyer modify their personal details.

2. The system verifies that the data types entered are allowed.

3. The system processes the modifications on the database.

Pre-Conditions   The seller and the buyer must be logged-on the system.

Post-Conditions   The personal information is modified and saved by the system.

4.6   Manage added properties

The estate agent checks, confirms or refuses properties added by the sellers. This way he keeps control over the site in order to obtain consistent and correct property data.

Basic Flow

1. The system prompts with a list of properties to be validated.

2. The estate agent chooses a property to validate.

3. The system prompts with the property details and asks for a confirmation.

4. The estate agent chooses to validate the property.

5. The system marks the property as validated.

Alternative Flow

1. The estate agent chooses to not validate the property.

2. The property is deleted.

Pre-Conditions   The estate agent must be logged-on the system.

4.7   Manage any user information

Any user can change his credentials, or delete his own account.

Basic Flow

1. The estate agent asks the system to administer the website.

2. The system asks the estate agent for identification.

3. The estate agent identifies himself to the system.

4. The system displays an interface which allows him to change any data.

5. The estate agent makes his modification and saves his work.

6. The system analyses the estate agent's request.

7. The system updates the database.

Alternative Flow

1. The system recognises cookie on estate agent's machine.

2. Go to step 4 (Basic Flow).

3. The system does not recognise estate agent's logon information.

4. Go to step 2 (Basic Flow).

Pre-Conditions   The estate agent must be logged-on to the system.

4.8   Manage the appointments

The estate agent sets up appointments for people who want to visit properties.

Basic Flow

1. The estate agent asks the system to process a new appointment.

2. The system asks the estate agent for identification.

3. The estate agent identifies himself to the system.

4. The system displays a list of buyers interested in properties to the estate agent.

5. The estate agent selects the buyer and his interested property into the system.

6. The system displays the diary with the date available for a visit to the sales assistant.

7. The estate agent chooses a date.

8. The system displays the appointment description created by the estate agent.

9. The estate agent validates the appointment.

10. The system records the appointment.

11. The system removes the chosen date for the appointment from available dates.

12. The system displays the main menu to the estate agent.

Alternative Flow

1. The system recognises cookie on estate agent's machine.

2. Go to step 4 (Basic Flow).

3. The system does not recognise estate agent's logon information.

4. Go to step 2 (Basic Flow).

Pre-Conditions   The system is displaying the estate agent main menu.

Post-Conditions   The system is displaying the estate agent main menu.

4.9 Register interest in a property

The buyer can be interested in a property and has to add the property into his basket. Then he will be contacted by an estate agent in order to arrange a viewing of the property.

Basic Flow

1. The buyer asks the system to register his interest in a property.

2. The system asks the buyer for identification.

3. The buyer identifies himself to the system.

4. The system displays all the details of the property and asks the buyer to confirm his interest.

5. The buyer confirms his choice.

6. The system displays the basket of the buyer.

Alternative Flow

1. The system recognises cookie on buyer's machine.

2. Go to step 4 (Basic Flow).

3. The system does not recognise buyer's logon information.

4. Go to step 2 (Basic Flow).

Pre-Conditions   The buyer must be logged-on to the system.

4.10 Make an offer

The buyer can make an offer for a property online.

Basic Flow

1. The buyer asks the system to make an offer for a property.

2. The system asks the buyer for identification.

3. The buyer identifies himself to the system.

4. The system displays all the details of the property and asks the buyer to make an offer.

5. The buyer types an offer and sends his request to the system.

6. The system records the offer and sends a message to the estate agent.

7. The system displays the basket of the buyer.

Alternative Flow

1. The system recognises cookie on buyer's machine.

2. Go to step 4 (Basic Flow).

3. The system does not recognise buyer's logon information.

4. Go to step 2 (Basic Flow).

Pre-Conditions   The buyer must be logged-on to the system.

4.11   Register property details

The seller adds a new property by gathering and entering its key features, full description, tenure and may upload images of the property.

Basic Flow

1. The seller asks the system to process a new add property request.

2. The system asks the seller for identification.

3. The seller identifies himself to the system.

4. The system displays a blank add property form to the seller.

5. The seller fills in all the required fields with the features of his property and uploads images of his property into the system.

6. The system displays the summary of the add property request to the seller.

7. The seller confirms his request.

8. The system records the property details.

9. The system signals to an estate agent that a property has been added and has to be validated.

10. The system displays the seller main menu to the seller.

Alternative Flow

1. The system recognises cookie on seller's computer.

2. Go to step 4 (Basic Flow).

3. The system does not recognise seller's logon information.

4. Go to step 2 (Basic Flow).

Pre-Conditions   The system is displaying the seller main menu.

Post-Conditions   The system is displaying the seller main menu.

4.12   Remove property from list

The buyer removes a property from the basket if he is no longer interested in it.

Basic Flow

1. The buyer asks the system to remove a property.

2. The system asks the buyer for identification.

3. The buyer identifies himself to the system.

4. The system checks if an appointment is arranged between the buyer and an estate agent.

5. The system removes the property from the buyer's basket.

6. The system prints the basket without the property which was just removed by the buyer.

Alternative Flow

1. The system recognises cookie on buyer's computer.

2. Go to step 4 (Basic Flow).

3. The system does not recognise buyer's logon information.

4. Go to step 2 (Basic Flow).

Post-Conditions   The system is displaying the buyers basket.

4.13   Review interest list

The buyer can manage a list of properties which he is interested in. (basket)

Basic Flow

1. The buyer asks the system to show his list of interested properties.

2. The system asks the buyer for identification.

3. The buyer identifies himself to the system.

4. The system prints the list of properties which were added to the basket by the buyer.

Alternative Flow

1. The system recognises cookie on buyer's computer.

2. Go to step 4 (Basic Flow).

3. The system does not recognise buyer's logon information.

4. Go to step 2 (Basic Flow).

Pre-Conditions   The buyer must be logged-on to the system.

4.14   Review properties list

The seller sees his added properties list.

Basic Flow

1. The seller asks the system to list the properties he is selling.

2. The system asks the seller for identification.

3. The seller identifies himself to the system.

4. The system displays the list of all properties belonging to the seller.

Alternative Flow

1. The system recognises cookie on seller's computer.

2. Go to step 4 (Basic Flow).

3. The system does not recognise seller's logon information.

4. Go to step 2 (Basic Flow).

Pre-Conditions   The seller must be logged-on to the system.

4.15   See status properties

The estate agent sees who is interested in each property and also the name of its owner.

Basic Flow

1. The system displays the list of all buyers who are interested in each property.

2. The estate agent gets more details by clicking on the properties.

3. The system displays all the details including interested buyers, property details and who the seller is.

Pre-Conditions   The estate agent must be logged-on to the system.