Component Design

For Online Real Estate System

Version 1.0

Submitted in partial fulfillment of the requirements of the degree of MSE

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1. **Introduction**

The purpose of this document is to provide a component design for the Online Real Estate System (ORES). The document will outline the internal design of each component in the system.

2. **Class Diagram and Descriptions**

![Class Diagram](image-url)
The class diagram captures the middle business specific layer which consists of eight classes: User, Manager, Employee, Customer, Property, House, Land, and Apartment.

2.1 USER

This class will handle all user actions. The User class is the abstract class of Manager and Employee.

<table>
<thead>
<tr>
<th>Components:USER</th>
</tr>
</thead>
<tbody>
<tr>
<td>- UserName : string</td>
</tr>
<tr>
<td>- Password : string</td>
</tr>
<tr>
<td>+ VerifyLogin()</td>
</tr>
<tr>
<td>+ Logout()</td>
</tr>
</tbody>
</table>

Attributes:

- UserName: User’s user name.
- Password: User’s password.

Methods:

- VerifyLogin(): it is responsible to authorize and authenticate the user to use secure sites.
- LogOut(): it is responsible to logout the user from the system.

2.2 Manager

This class will handle the Manager actions. It inherits User class responsibilities and its functions.

<table>
<thead>
<tr>
<th>Components:Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ CreateEmployee()</td>
</tr>
<tr>
<td>+ MaintainLocation()</td>
</tr>
</tbody>
</table>

Methods:

- CreateEmployee(): it creates an employee account that makes the employee a member of the ORES.
- MaintainLocation(): Responsible for Maintaining the real estate locations.
2.3 Employee

This class will handle the Employee actions. It inherits the User class tasks and its functions.

<table>
<thead>
<tr>
<th>Components:Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>+CreateNewRealEstate()</td>
</tr>
</tbody>
</table>

Methods:

- CreateNewRealEstate(): Responsible for creating a new real estate in the system.

2.4 Customer

This class will handle customer actions.

<table>
<thead>
<tr>
<th>Components:Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Full Name : string</td>
</tr>
<tr>
<td>-Email : string</td>
</tr>
<tr>
<td>-Phone : int</td>
</tr>
<tr>
<td>-Address : string</td>
</tr>
<tr>
<td>+Search()</td>
</tr>
<tr>
<td>+Request()</td>
</tr>
</tbody>
</table>

Attributes:

- FullName: Customer’s full name.
- Email: Customer’s email.
- Phone: Customer’s phone.
- Address: Customer’s address.

Methods:

- Search(): Responsible for searching a real estate.
- Request(): Responsible for the customer request of a real estate.
2.5 Property

This class represents the Property. The property class is an abstract class of House, Land, and Apartment.

**Components: Property**
- Price: double
- BPrice: double
- City: string
- Status: string
- ID: int
- District: string
- Region: string
- Street: string

+ UpdateProperty()
+ FindProperty()

**Attributes:**

- Price: Property’s price.
- BPrice: Property’s bidding price.
- City: Property’s City.
- Status: Property’s Status.
- ID: Property’s property id.
- District: Property’s district.
- Region: Property’s region.
- Street: Property’s street.

**Methods:**

- UpdateProperty(): Updates property properties in the database.
- FindProperty(): Finds property in a particular type, city, county, and street.

2.6 House

This House class inherits the Property class responsibilities.
2.7 Land

The Land class inherits the Property class responsibilities.

Attributes:

- Size: the Land’s size in meters.

2.8 Apartment

This class represents Apartment. It inherits the Property class responsibilities.

Attributes:

- AirCondition: Specifies whether the apartment has air condition.
- BathNo: Apartment’s bath number.
- Furniture: Specifies whether the apartment is furnished.
- BedRoomNo: Apartment’s bedroom number.