# **Introduction**

E-Apartment is an apartment leasing service company that provides apartments to local and foreign buyers. This company owns multi buildings with apartments in different locations of the Colombo. Currently, these apartments are located in the Colombo 01, Colombo 02, Colombo 03, and Colombo 04 locations. Each building contains several apartment classes. It has four types.

* Class 01 - In this class include one bedroom and one common bathroom
* Class 02 - In this class include two-bedroom, one attached bathroom and one common bathroom
* Class 03 - In this class include three-bedroom, two attached bathroom and one common bathroom
* Suite - In this class include four bedrooms, servant’s room, three attached bathroom, one common bathroom and servant’s toilet

These classes have some common facilities, such as living and dining area, self-contained kitchen/pantry unit, a laundry area balcony, telephone connection, broadband Internet connection and cable TV connection, gymnasium, and a swimming pool. For each apartment, a parking space for a single vehicle is provided by default. If available, additional parking spaces can be reserved for an apartment for a fee.

# **Instructions to run the program**

To implement this project, I have used Visual Studio 2019 and the SQL Management Studio 2019 versions. Firstly, the user needs to install these versions and download the project. Then the user can open this project and connect it with the database.

After run the system, firstly user is navigating into the login screen. This system has two portals. They are the management portal and the user portal.

User Portal

If user has already existing account, can input the correct username and password to the "Username" and "Password" fields and click on Login button. Then it will navigate into the User Dashboard. If user haven’t existing account, can click on the Sign-Up button on the Login screen. Then it will navigate into the User Registration screen.

On the User Registration screen, there are a few required fields. The user can fill out those fields and click on the "Sign Up" button to create a new account. If user need to login with already existing on there is a link to navigate into the Login screen. After creating a new account, user can enter that username and password and login to the system.

In the User Dashboard they can see the details of all the apartment locations and the classes. Using those details, the user can decide the location and class that they need. By selecting a location and a class, user can see the relevant apartment details in that category. In here user can see what are the current status of this apartments. It displayed which apartments were available, unavailable, requested, and reserved. The user can get back into the dashboard by clicking the "Home" button. If user need more details can contact the clerk assistant.

Using these details, if the user needs to buy an apartment, they can click on the "Lease Request" button. Then user will navigate into the Lease Request form. In that form, the user can enter the details of the chief occupant. If there are more occupants, user can enter those details by clicking on the "Add Details" button. When the user clicks on that button, it will navigate into the Other Occupants screen. In there, user need to fill those fields and click on the "Add" button to added that records. After that it will appear message. If the user needs to add more occupants, user can select the "Add New" button. Then user is able to add new record again. If not, the user can go back by selecting the "Back" button. It will be redirected to the Chief Occupant Details page. In this page user need to fill all the required field. After filling all those fields, the user is able to send the request by clicking on the "Send Request" button.

If existing user is need to extend their lease agreement, they also can request that from the ……..

There is a Logout button that user can click to logout from the system. Then it will be redirected to the Login screen. This is the way a user is able to use this system.

**Management Portal**

When run the program, it will navigate to the same Login page. If user need to log in to the management portal, they can get credentials from the Manager\_Login database. Using those credentials, the user is allowed to login to the portal. After login it will be redirected into the Manager Dashboard. In here displayed all the departments’ locations. And it also displayed the "Users", "Lease Requests", "Reports" and "Logout" buttons.

When user click on the location, it will navigate into the page that includes all the apartments details relevant to that selected location. In this screen, the manager is able to change the apartment's status. For that manager need to select the row that need to change the status. And then select the status from the Status dropdown and click on the update button. If record updated successfully, it will appear success message. If not, it will display an error message. The manager is able to go back into the dashboard by clicking on the "Home" button.

Manager also able to add and delete apartment details.

Manager is able to logout from the system by click on the Logout button. When the manager clicks on the Users button, it will navigate into the user details page. In here displayed all the user details that registered into the system. Manager is able to add new users into the system. When click on the "Add" button, it creates a new row to add data. Then fill the text fields and click on the save button to create user successfully. And also, the manager can delete the data on the user table. For that, the manager needs to select the relevant row and click on the "Remove" button.

Manager is able to generate and downloads reports from the Report module. For that manager needs to click on the Reports button on the dashboard. Then it will navigate into the Reports page.

When click on the “Lease Request” button on the dashboard it will navigate into the Lease Requests page. In that page displayed all the lease requests that sent by the users. Manger is able to approve or reject those requests.

This is the way that managers are allowed this system.

# **Architecture Of the Design**

Client-Server

# **Description Of the Classes’ Properties & Methods**

screenshots

# **Experience**

When implementing this project, I faced several challenges. One is database connectivity. It was not an easy task to connect to the database. It occurred many issues. Therefore, I have followed the documentation and the video tutorials to overcome those issues. Another one is creating all the pages at a fixed size. As an example, when creating an occupant page, the user has to add more occupants, but I cannot duplicate the same fields because of the fixed form size. Therefore, I have thought about the different ways that I can implement that and followed some tutorials. Finally, I have overcome that challenge as well.