# CHAPTER 4: SOFTWARE DESIGN DESCRIPTION

**4.1. Purpose**

The purpose of this chapter is to give the developer team a guidance of what the system’s architecture is, and how they should be implemented. This chapter consists of:

* Architecture overview.
* Sequence Diagram.
* Component Diagram.
* Class Diagram.
* Database design.

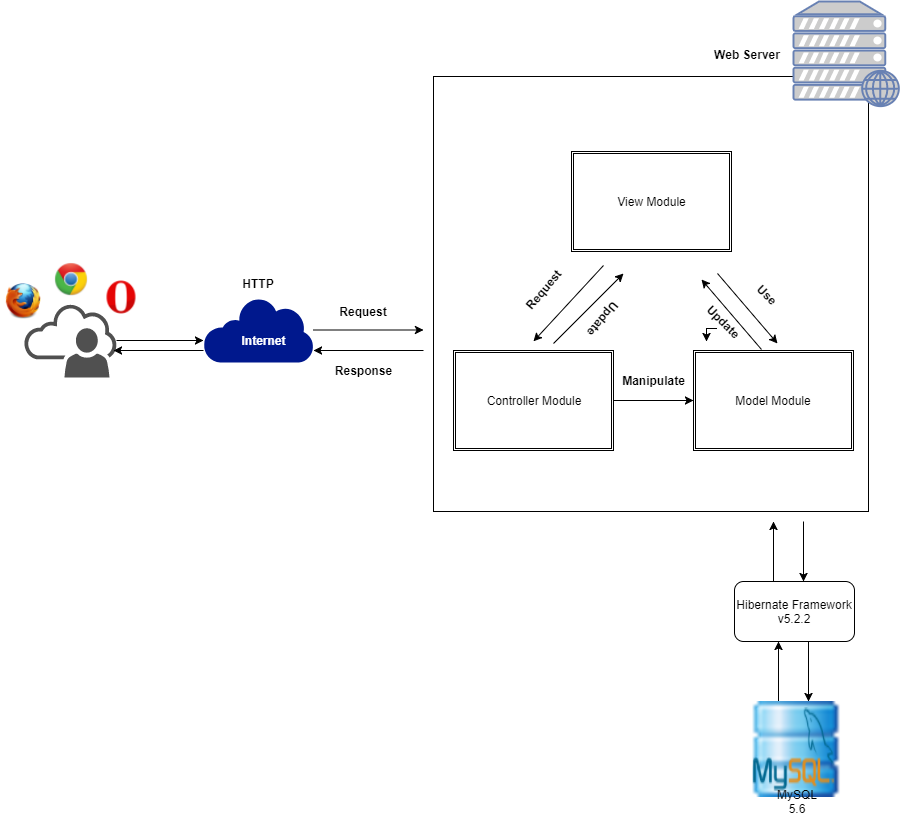
**4.2. Architecture Overview**

TripNET is developed base on MVC model. MVC model stands for Model-View-Control model is software architectural pattern for implementing user interfaces on computers. It divides a given application into three interconnected parts. This is done to separate internal representations of information from the ways information is presented to, and accepted from, the user. The MVC design pattern decouples these major components allowing for efficient code reuse and parallel development.

* **Model:** Model represents for data. Each model represents a table in database and each object of model represents a record of that table. The main tasks of the model is to manipulate data such as: add, edit, delete, select, validate,…
* **View:** View is user interface. View display data using model to the user and also enables them to modify the data.
* **Control:** Controller handles the user request. Typically, user interact with View, which in-tern raises appropriate URL request, this request will be handled by a controller. The controller renders the appropriate view with the model data as a response.

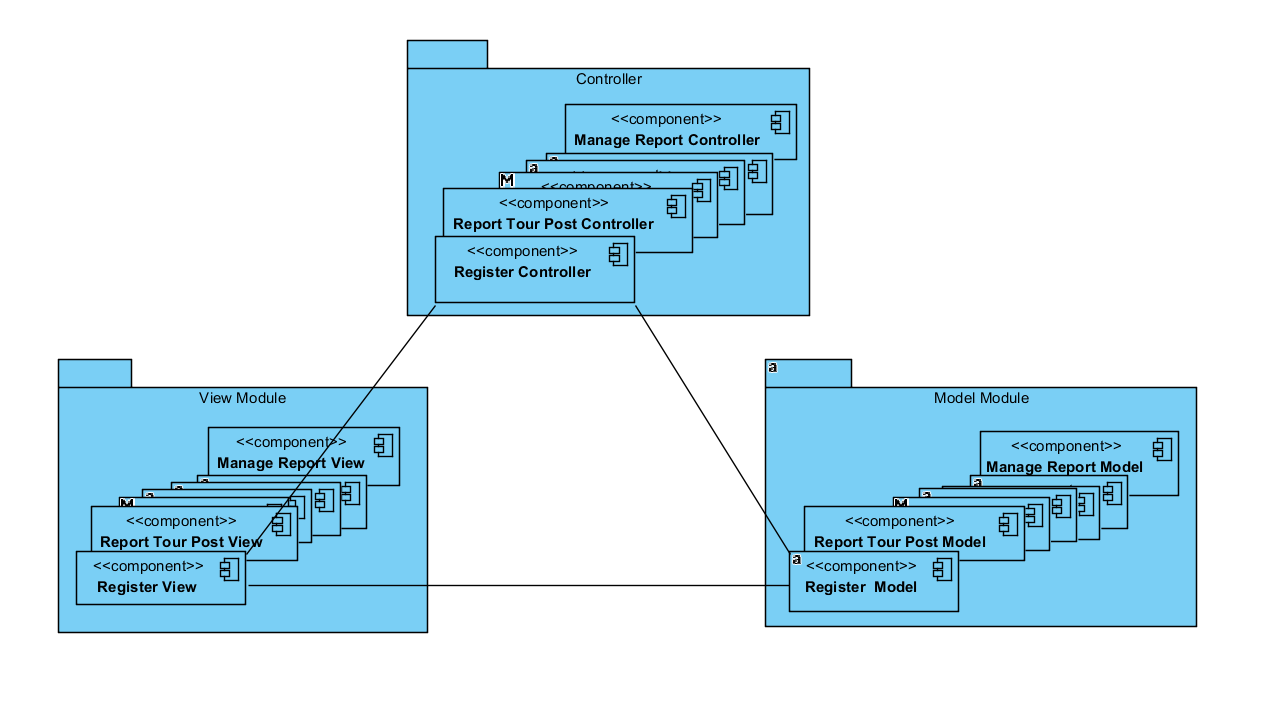


***Figure 4-1 MVC Model***

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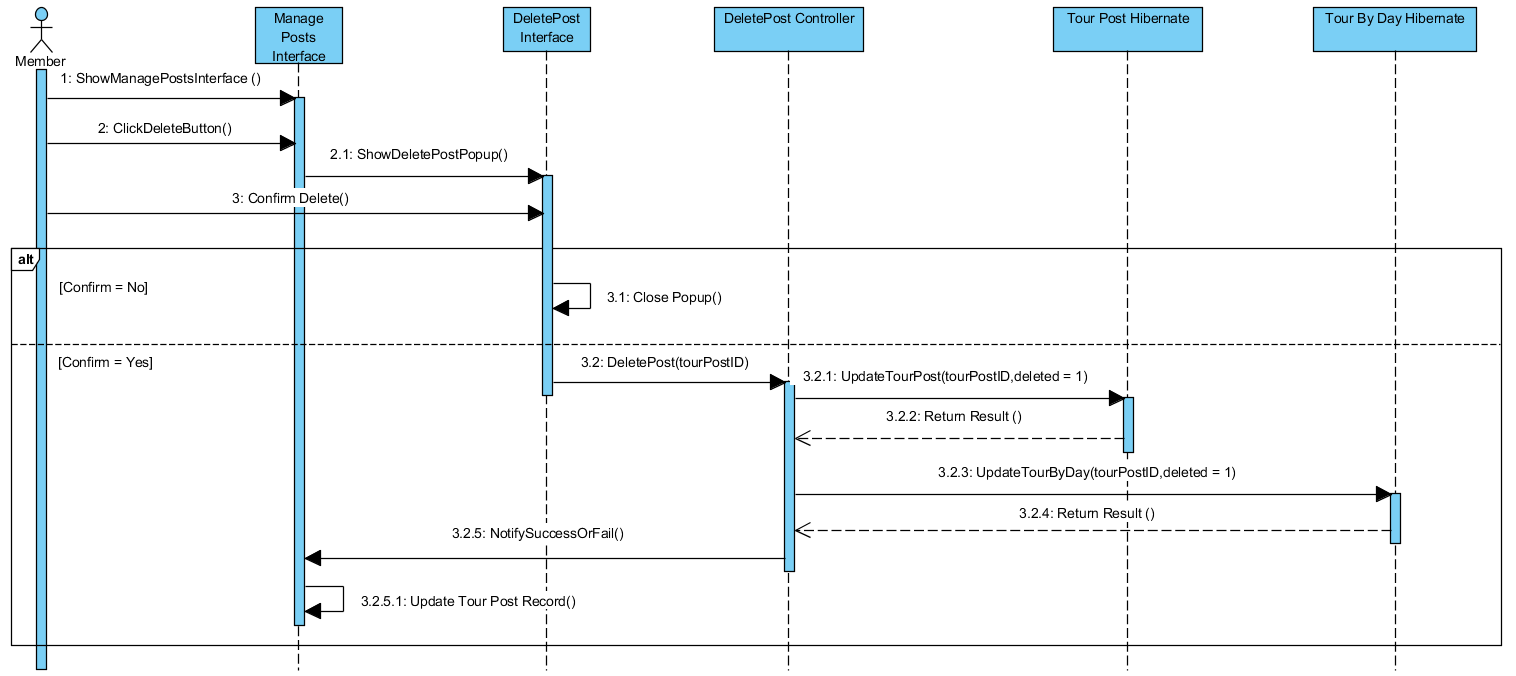
***Figure 4-2 TripNET System Architecture Overview***

**4.3. Component Diagram**

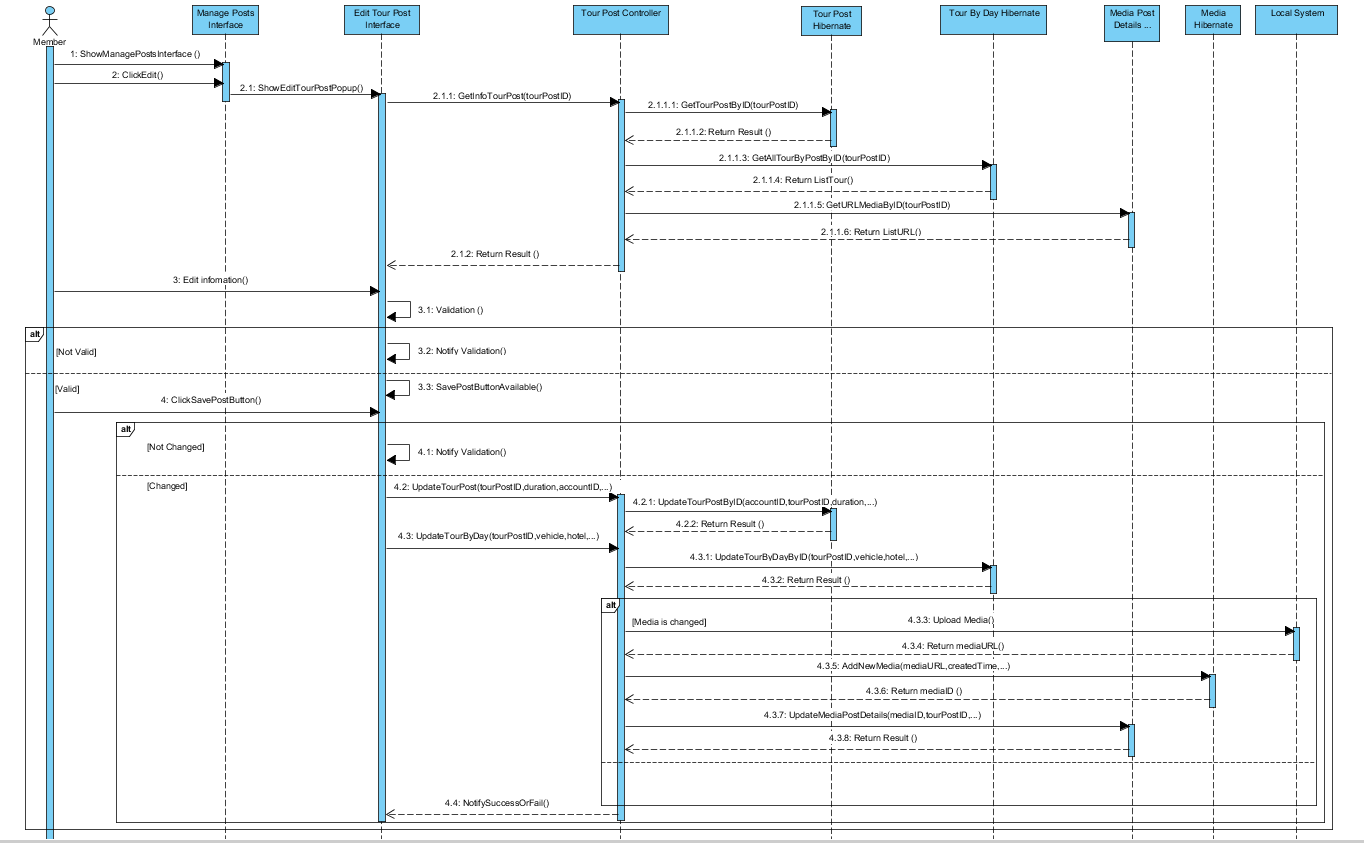


**4.4. Sequence Diagram**

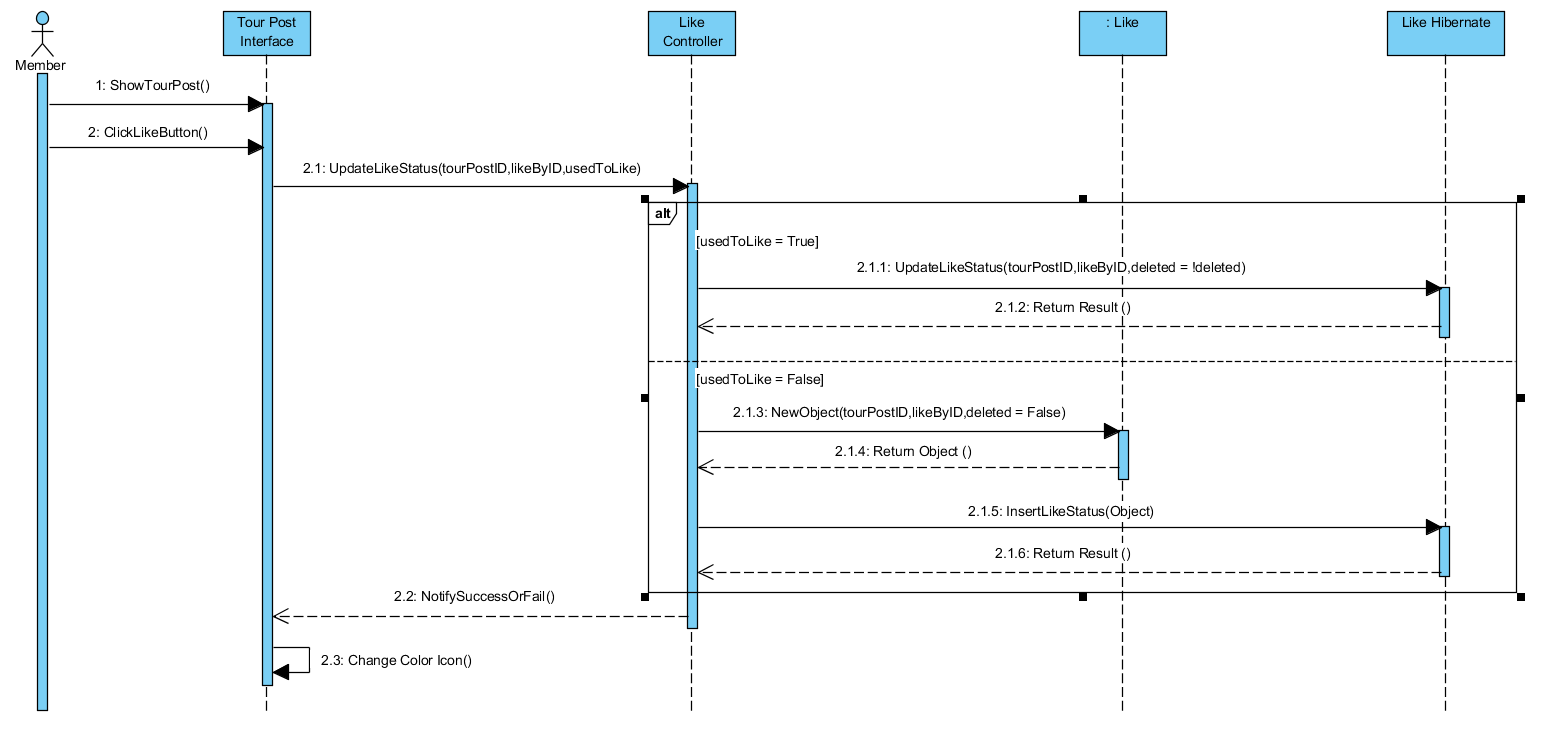
***1. Delete Tour Post Sequence Diagram***



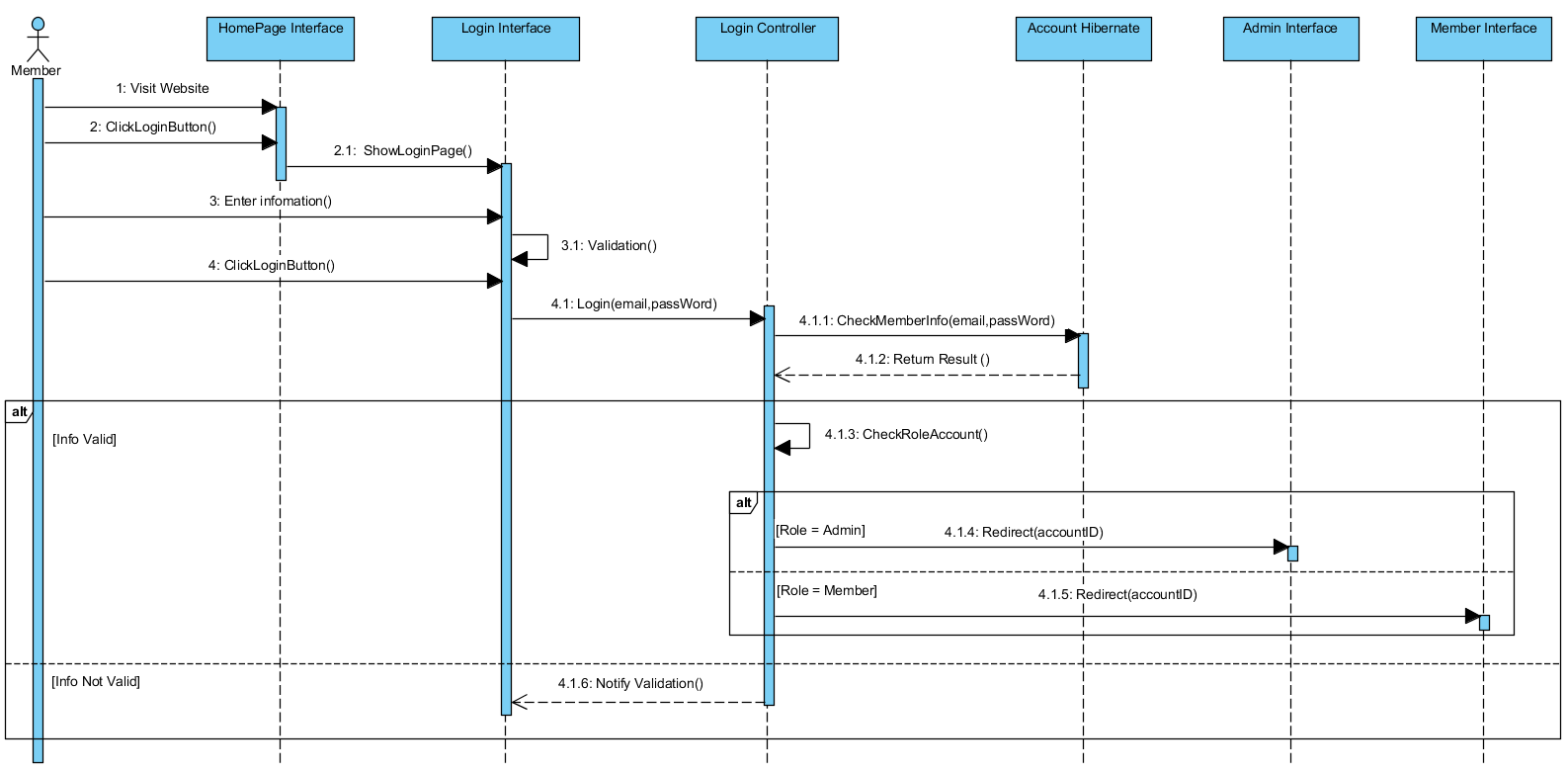
***2. Edit Tour Post Sequence Diagram***



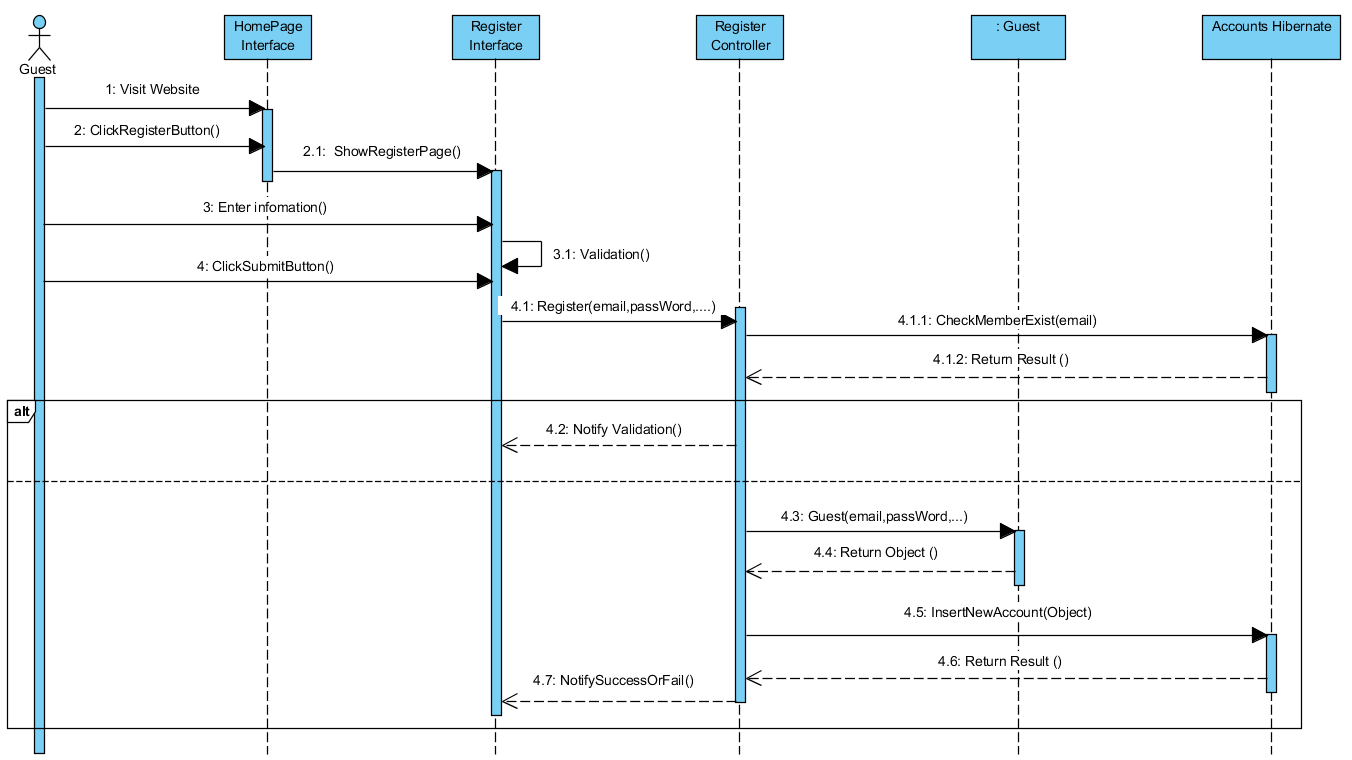
***3. Like Tour Post Sequence Diagram***



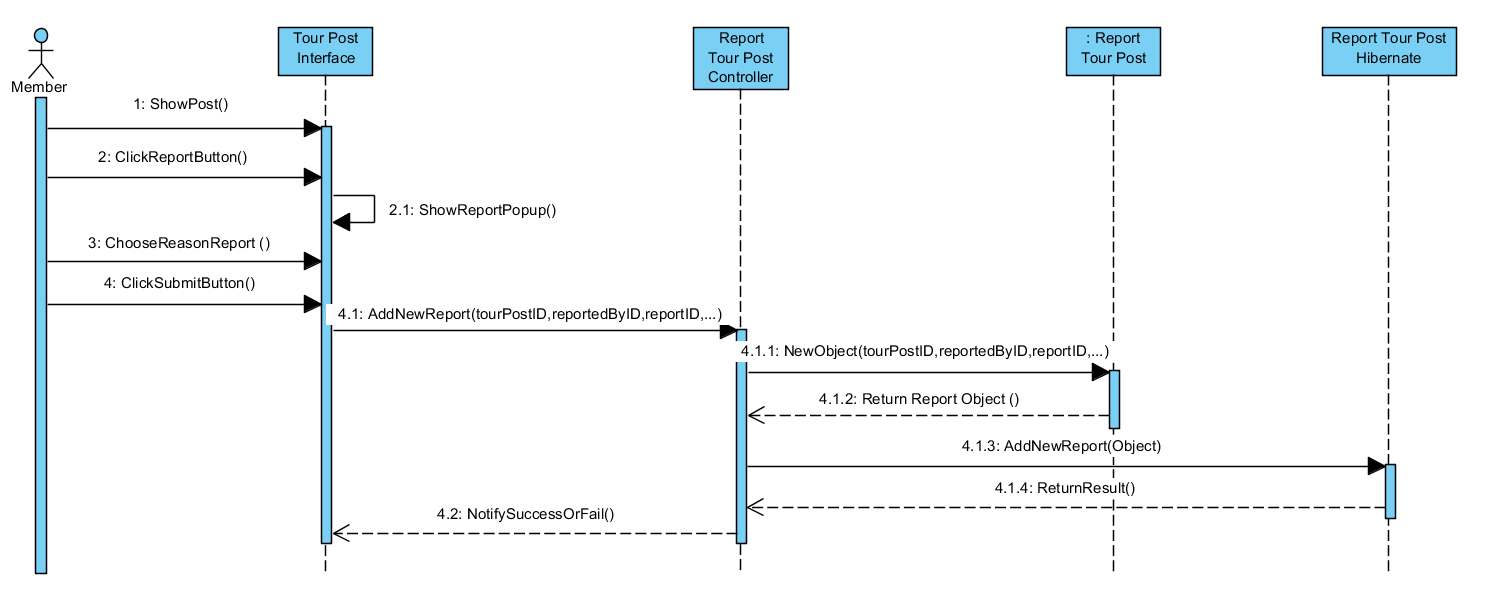
***4. Login Sequence Diagram***



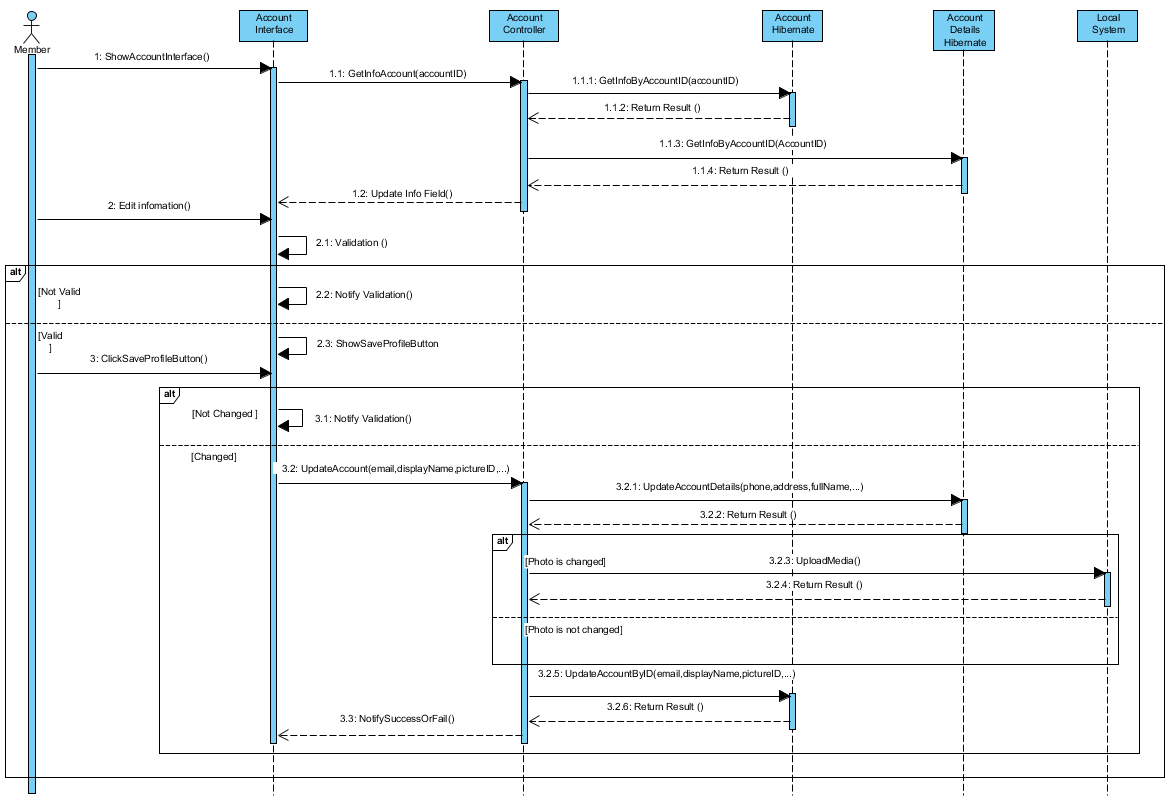
***5. Register Sequence Diagram***



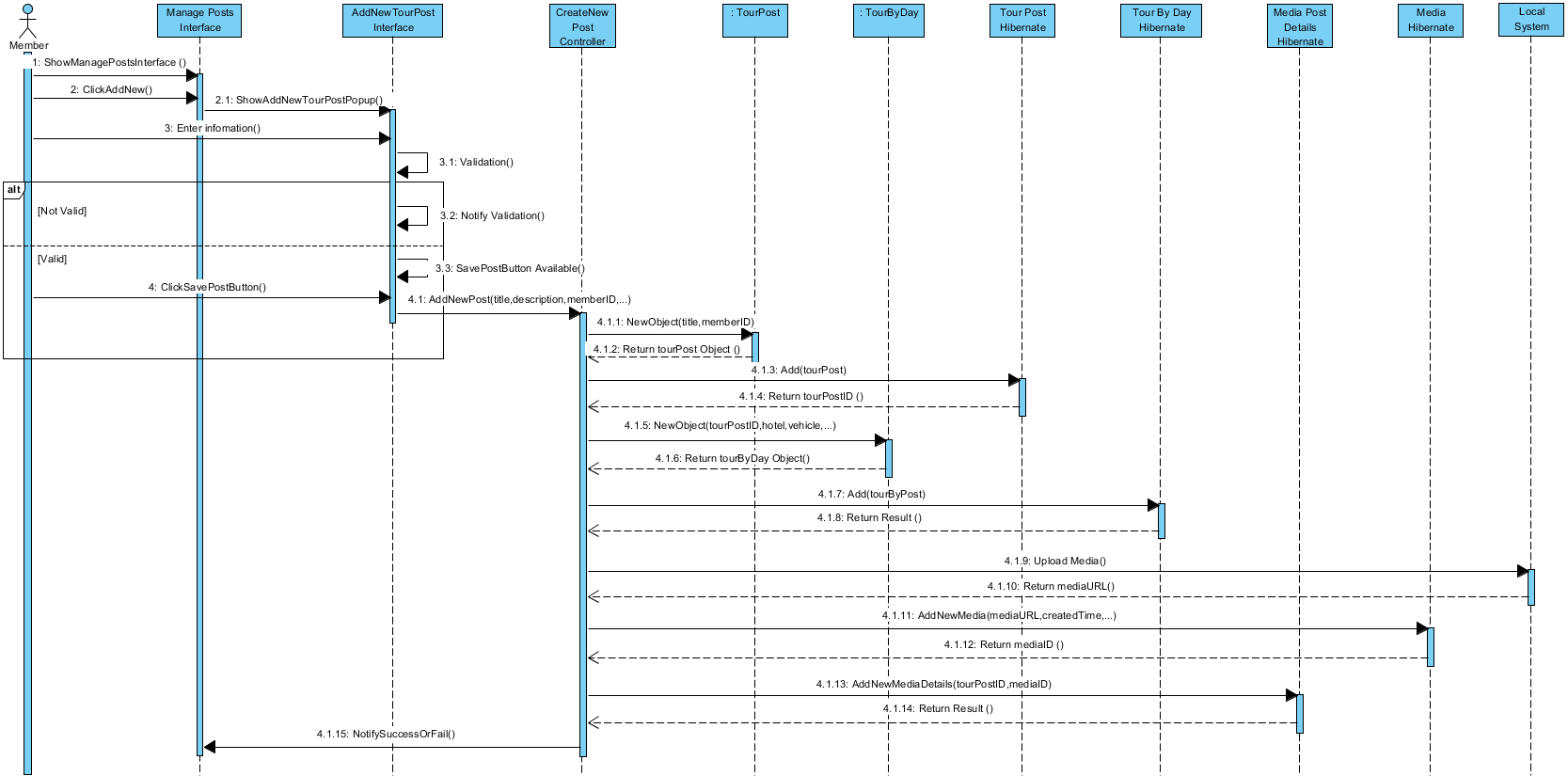
***6. Report Tour Post Sequence Diagram***



***7. Edit Profile Account Sequence Diagram***



***8. Create New Tour Post Sequence Diagram***



**4.5. CRC Cards**

|  |  |
| --- | --- |
| **HomeController** | |
| Responsibilities | Collaborators |
| Show Homepage | View |

|  |  |
| --- | --- |
| **LoginController** | |
| Responsibilities | Collaborators |
| Login | LoginService  Request  Response |
| Logout | LogoutService  Request  Response |

|  |  |
| --- | --- |
| **LoginService** | |
| Responsibilities | Collaborators |
| Authenticate user identity and authorize user privileges | PrivilegeIdentify |
| Validate request data |  |
| Login | Session  SessionStore  Cookie  CookieStore |
| Return response | ResponseCode  ResponseData |

|  |  |
| --- | --- |
| **LogoutService** | |
| Responsibilities | Collaborators |
| Validate request data |  |
| Logout | Session  SessionStore  Cookie  CookieStore |
| Return response | ResponseCode  ResponseData |

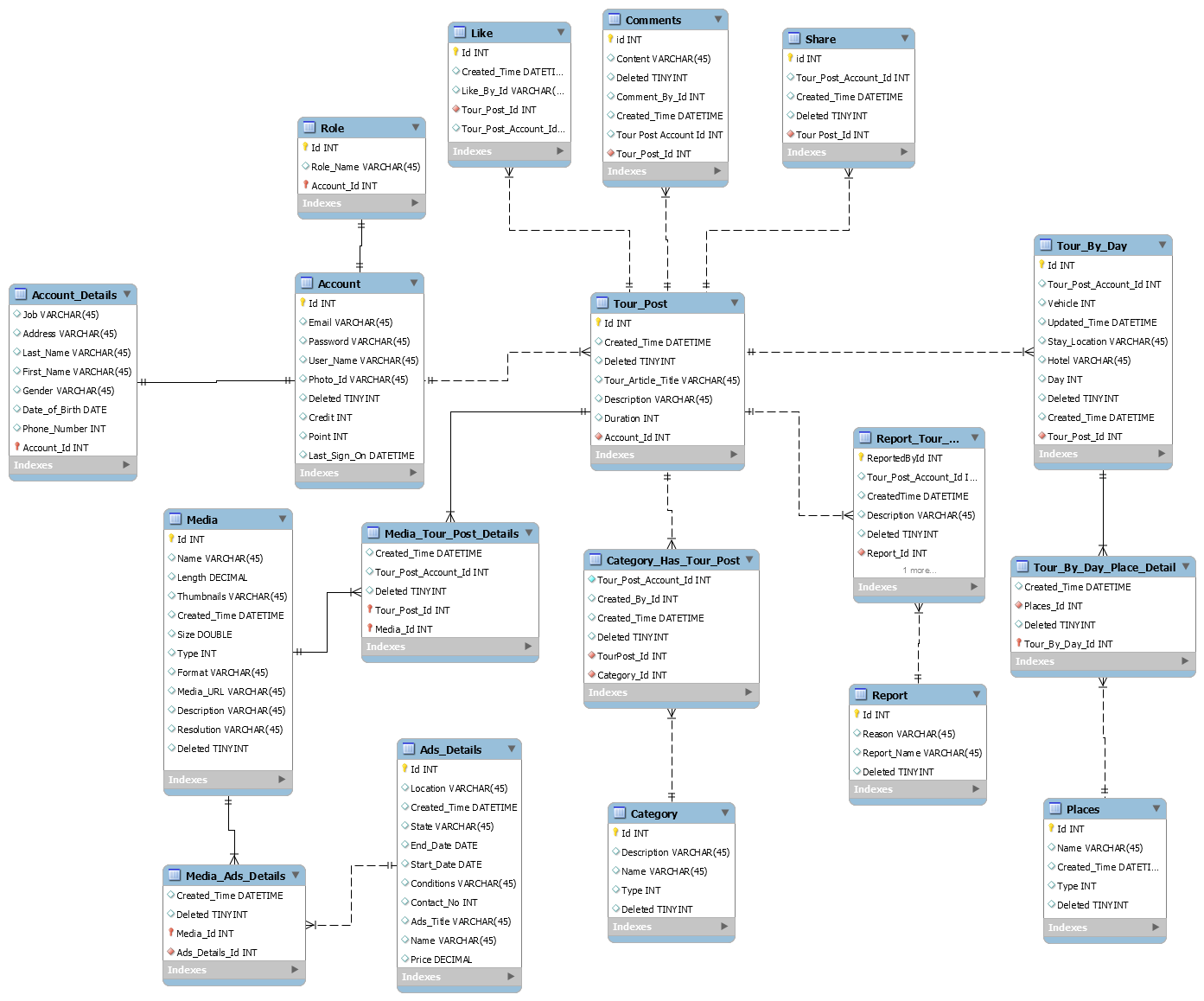
|  |  |
| --- | --- |
| **ProfileController** | |
| Responsibilities | Collaborators |
| LoginService | Session  SessionStore  Cookie  CookieStore  GetUserID |
| Update profile | firstName  lastName  address  gender  dob  phoneNumber  job  updateProfile |
| Change password | AuthenticationPassword  changPassword |

|  |  |
| --- | --- |
| **RegisterController** | |
| Responsibilities | Collaborators |
| Register | checkExistEmail  createAccount  Request |

|  |  |
| --- | --- |
| **AdminController** | |
| Responsibilities | Collaborators |
| Get list of users | getUserList  getUserListRequestData  View |
| Get list of users by id | getUserListById  Param  getUserByIdRequestData  View |
| Get list of tour posts | getTourList  getTourListRequestData  View |
|  |  |
|  |  |

**4.6. Class Diagram**

**4.7. Database Design**



**4.8. User Interface**

