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LEAD

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# Introduction

## Purpose of this Document

The purpose of this document is to help the user know how the system will be designed starting with classes then the interaction between classes, it’ll also help the user know how the database is designed, and sequence of each operation, the document also contains table of definitions for every abbreviation used in the document.

## Scope

At this iteration the project is mainly concerned with building a centralized database system, and building modules that allows many features which are:

1- Every user who has registered in our website can follow or, make comments on any post.

2- Every admin can update/delete any post that he/she has published.

3- Every user who has registered in our website can update his/her profile.

4- Every user who has followed any post receives notifications that concerned with this post.

## Table of Acronyms and Definitions

|  |  |
| --- | --- |
| **Term** | **Definitions, Acronyms, and Abbreviations** |
| LEAD | It is the website name and every letter has its meaning which are "Learn", "Explore", "Achieve", and "Develop". |
| Database | Collection of all the information monitored by this system. |
| SD | Sequence Diagram |
| UC | Use Case |
| SDS | Is a written description of a software product, that a software designer writes in order to give a software development team overall guidance to the architecture of the software project. An SDS usually accompanies an architecture diagram with pointers to detailed feature specifications of smaller pieces of the design. |
| SRS | A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. |
| MVC | Model - View – Controller (Design Pattern) |
| ERD | Entity Relationship Diagram |

## References

### SRS submitted before by our team.

1.4.2 SDS of iteration 1 submitted before by our team.

## Overview of Document

The rest of this document describes our system architectural design. It represents the subsystems, dependencies, and the interaction between them. It contains the description of the used design patterns.

It contains different design models that model our system which are Class, Activity, and Interaction diagrams. It also contains the ERD to model the relationships for the database maintained by our system.

It shows the component and the deployment diagrams to model how the system will be deployed. It also shows a matrix similar to the traceability matrix in the SRS document in order to map the requirements to design elements.

# System Architecture

The architecture of our system follows the MVC design pattern:

1. The interface which is the client side part (view)
2. The controller which connects between the client side and the database side
3. The model which communicates with the database

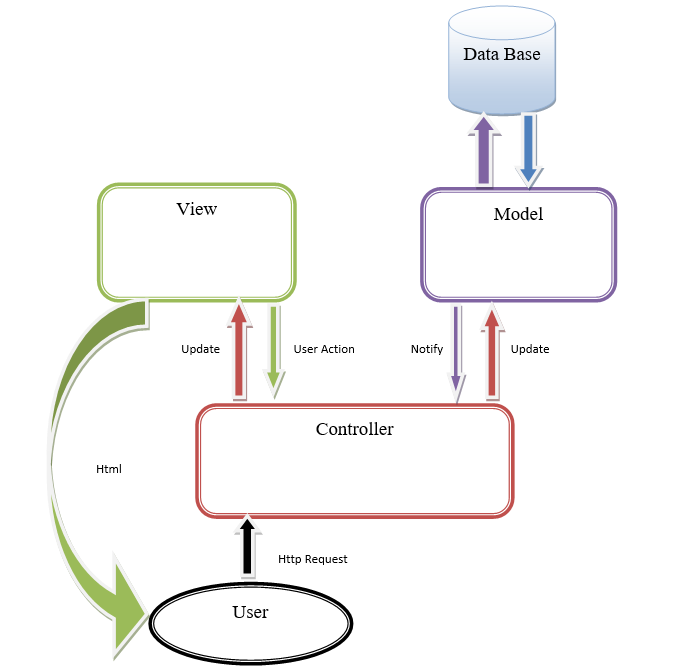


Figure1

# Design Models

## Design Patterns Description

### Singleton

First design pattern used is Singleton, it is used to make database connection as we need only one instance of it, and it’s made in class DATABASE.

### MVC

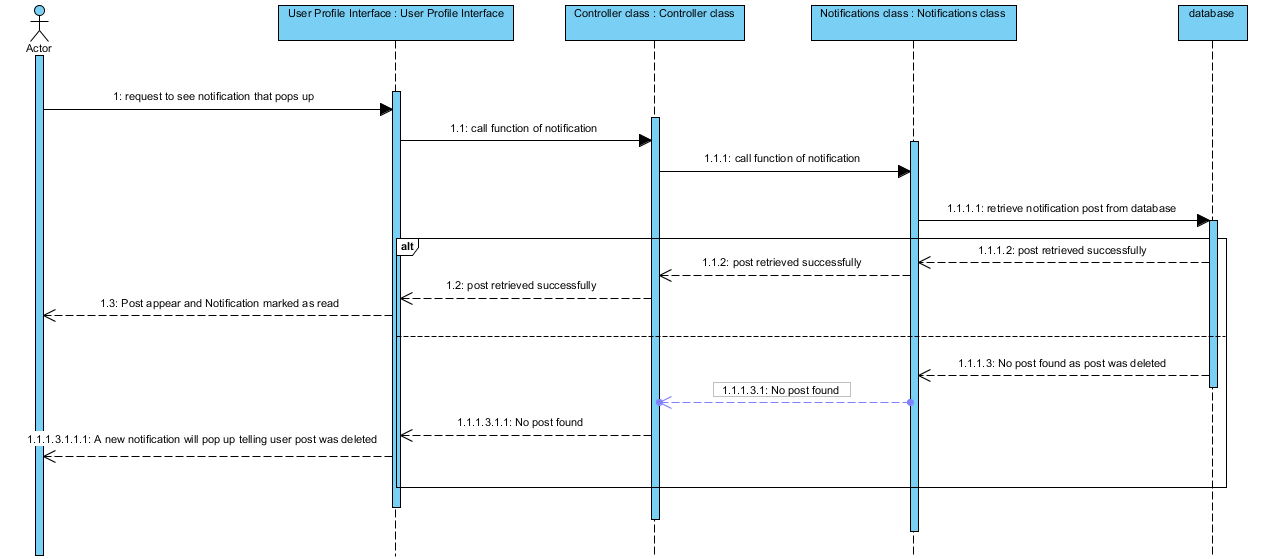
Second design pattern used is MVC it’s the base of our project, it’s used as it organizes the project into definite classes and subclasses and makes it easier to understand.

## Class Diagrams

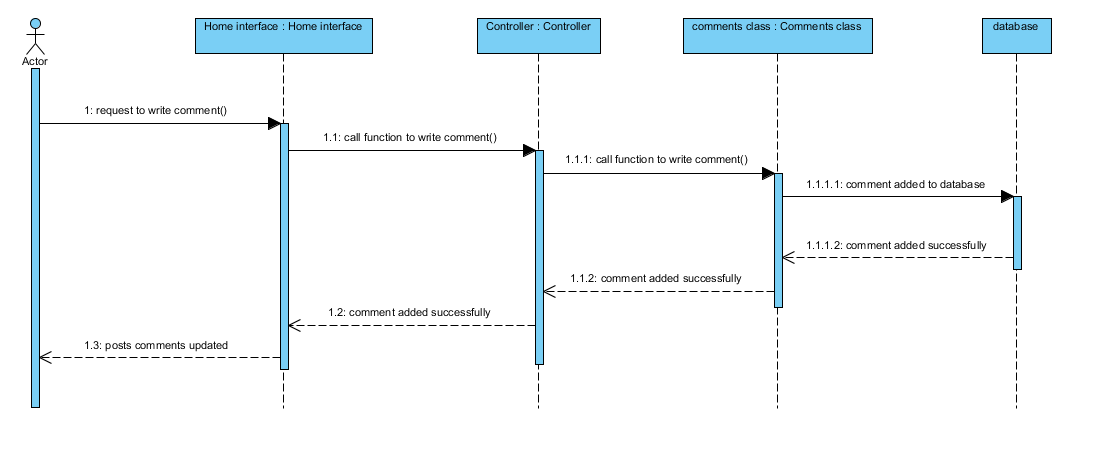
## Interaction Diagrams

## Interaction Diagrams

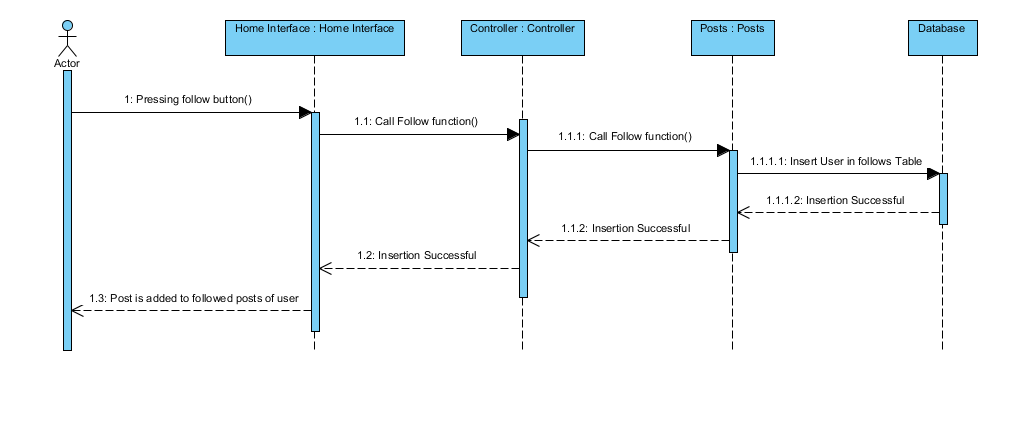
SD-04



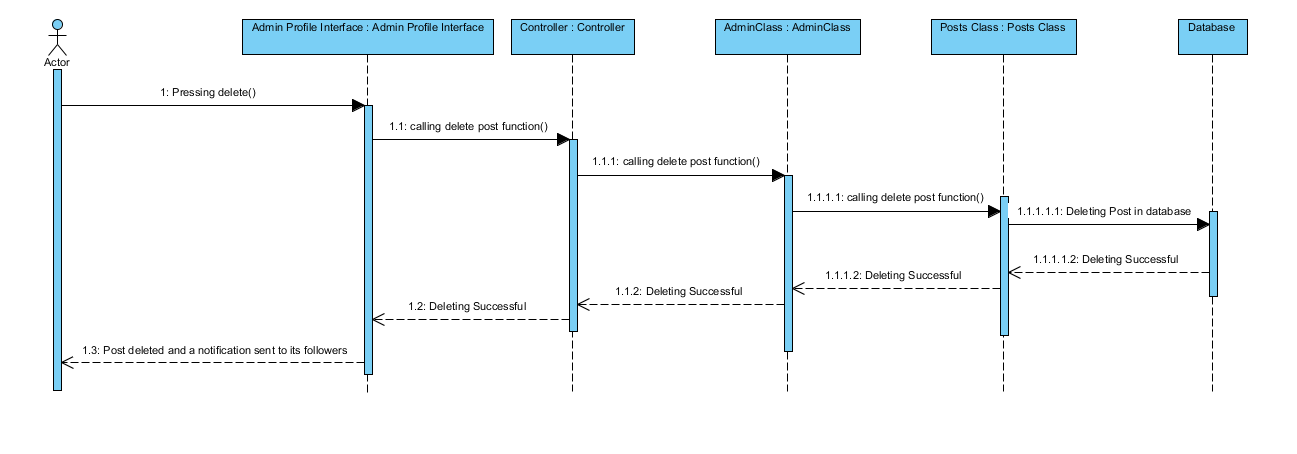
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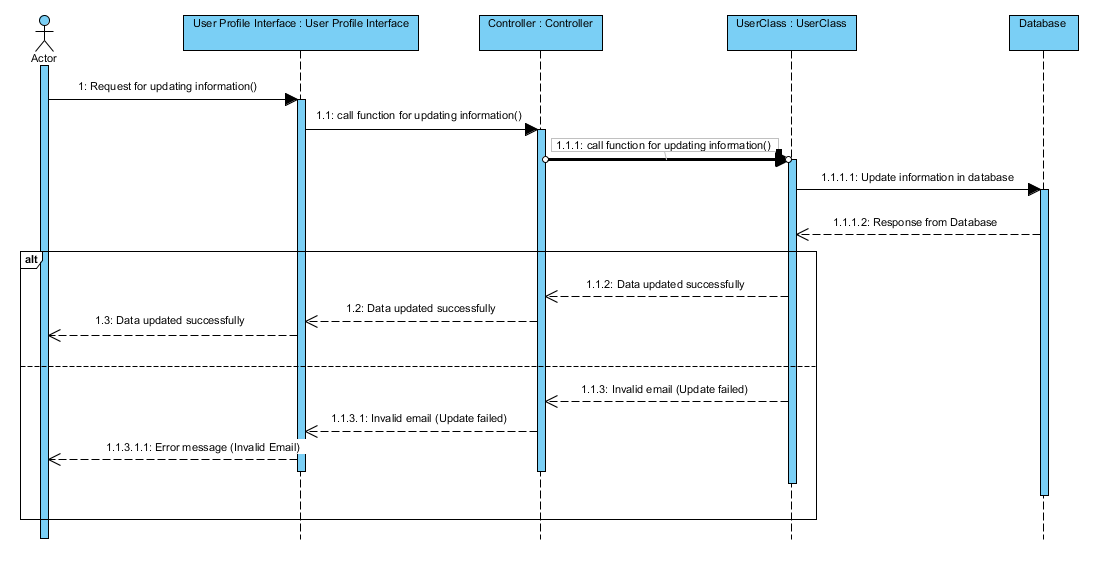
SD-06



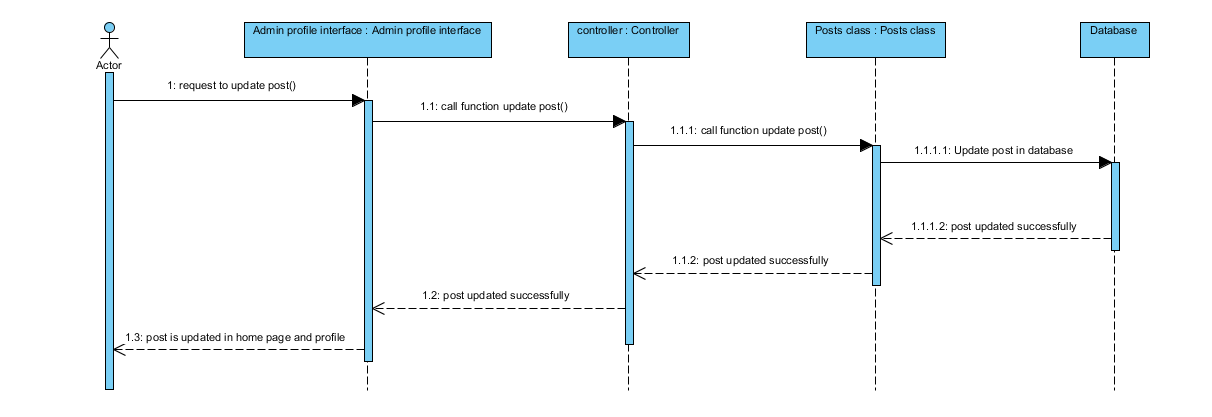
SD-07



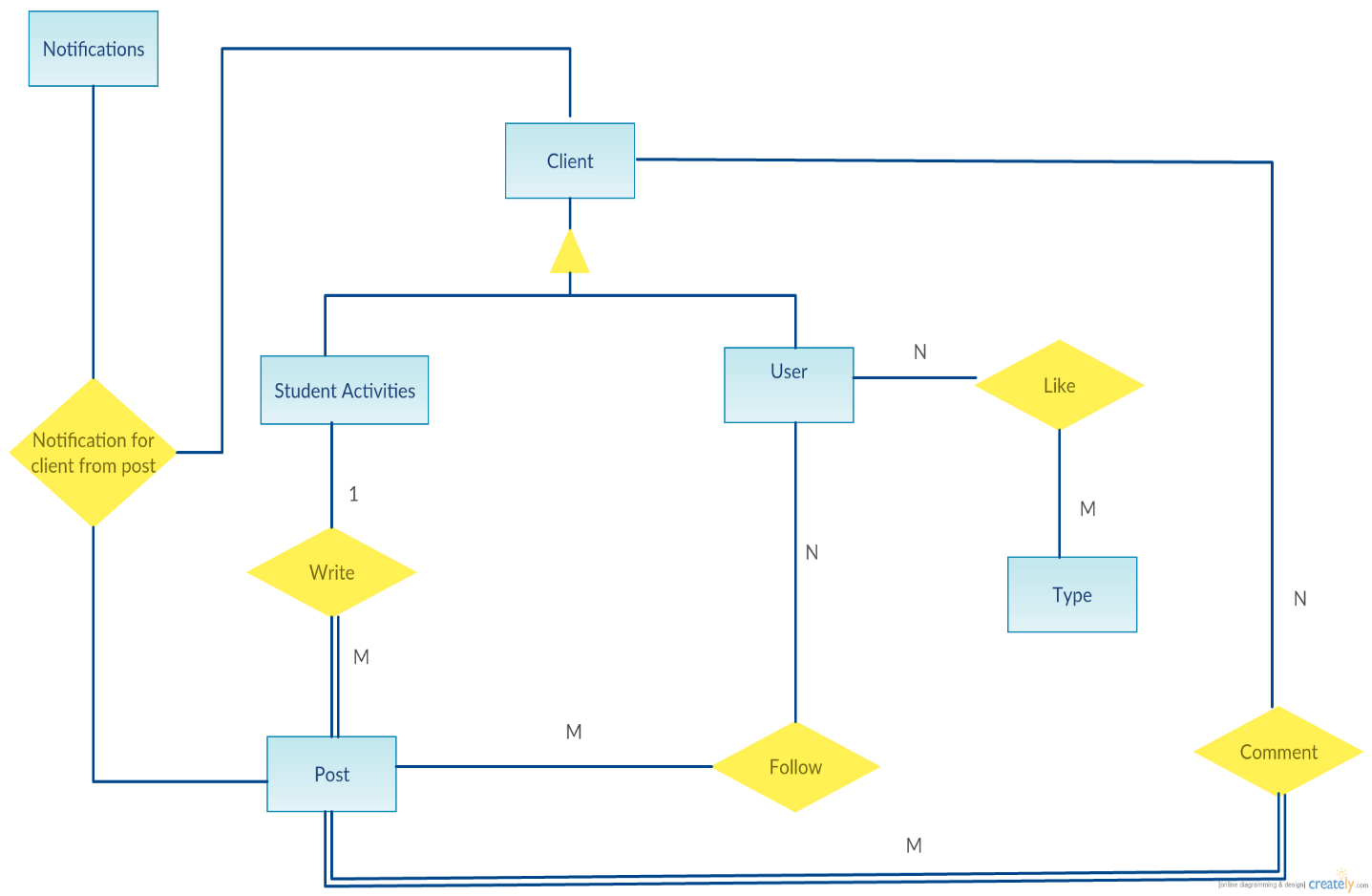
SD-09



SD-12



# Data Models



# System Deployment

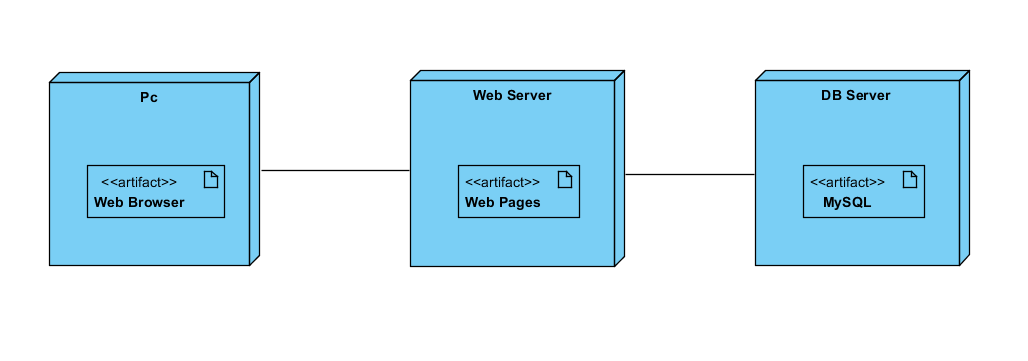


Figure9

**6 Traceability to Requirements**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | SD-04 | SD-05 | SD-06 | SD-07 | SD-09 | SD-12 |
| UC-04 | ✓ |  |  |  |  |  |
| UC-05 |  | ✓ |  |  |  |  |
| UC-06 |  |  | ✓ |  |  |  |
| UC-07 |  |  |  | ✓ |  |  |
| UC-09 |  |  |  |  | ✓ |  |
| UC-12 |  |  |  |  |  | ✓ |