Cairo University  
Faculty of Computers and Information



**CS251**

**Software Engineering I**

Project Name

Software Design

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# Team

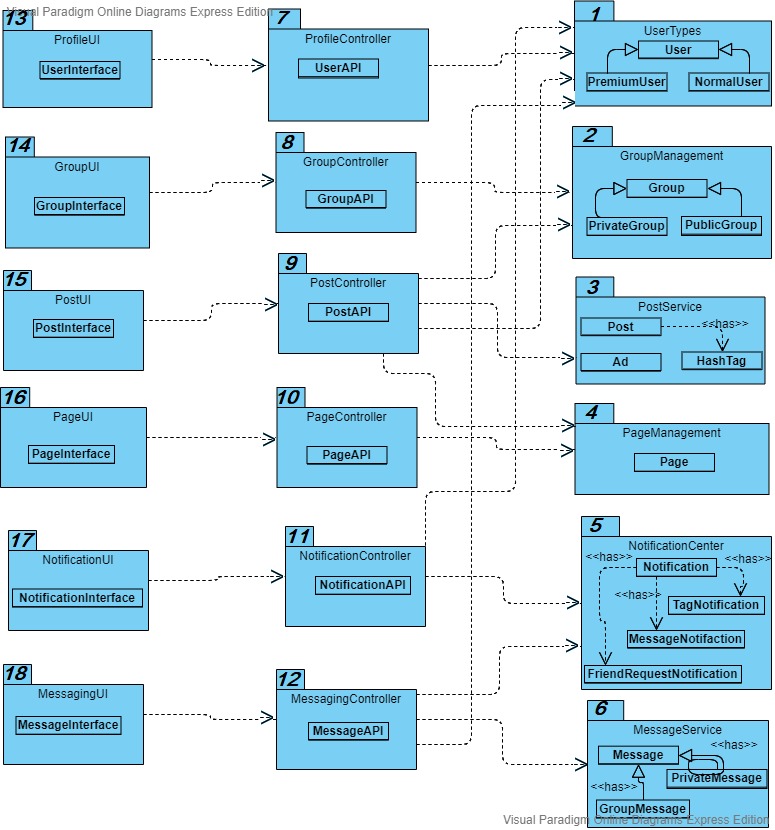
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# Document Purpose and Audience

What's this Document?  
- This document is to present a detailed description to the related readers of this document about "Social Network back-end API". It will explain the purpose and features of the system, its interfaces, all functionalities of the system, constraints and restrictions that's agreed among stakeholders and developers and how the system actors interact with the system, and it will be proposed to the product owner for its approval.  
Audience list:  
• Project owner  
• Project manager  
• System architect  
• Development team

# System Models

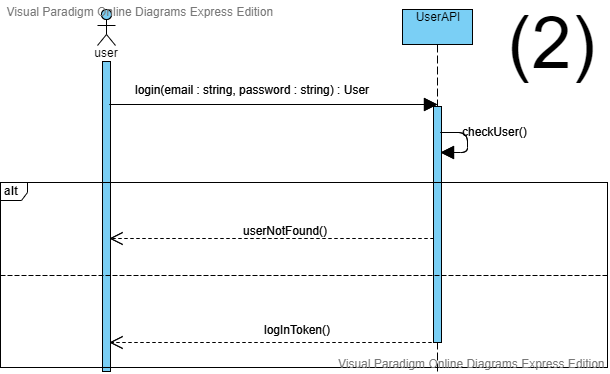
## I. System Decomposition

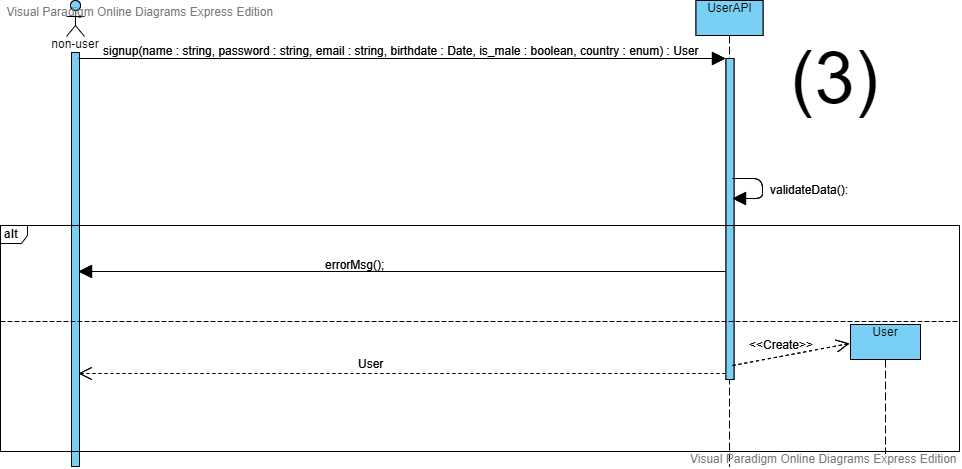
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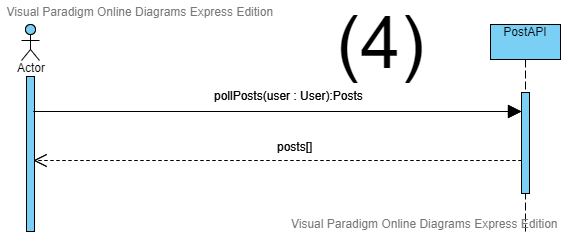
## II. Class diagrams

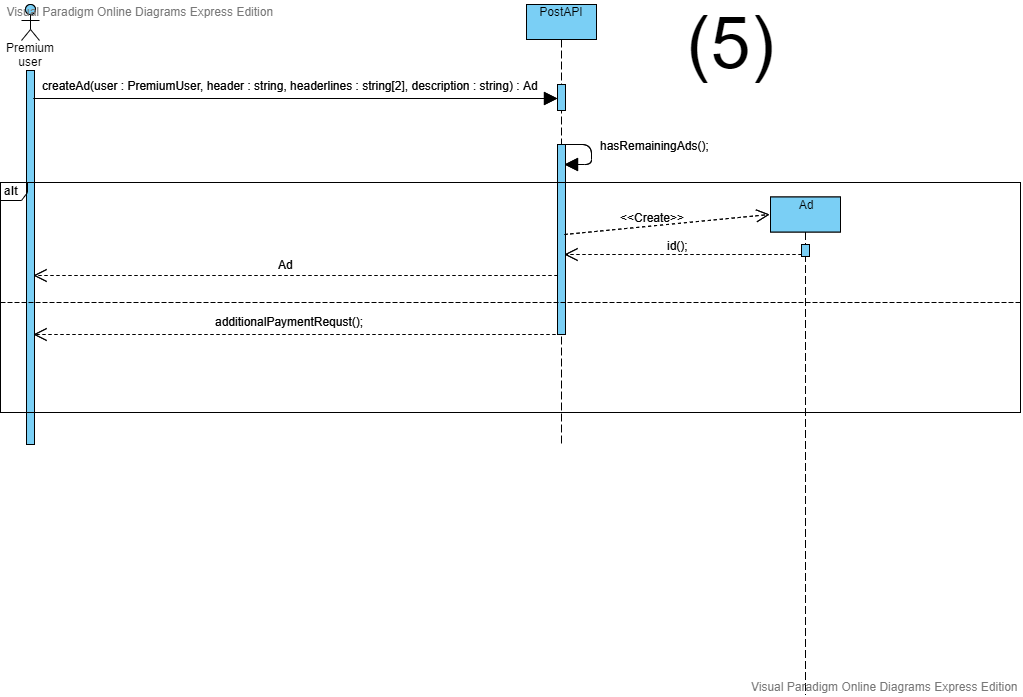
| **Class ID** | **Class Name** | **Subsystem ID** | **Description & Responsibility** |
| --- | --- | --- | --- |
| 1 | UserAPI | 7 | API acts as server and has the direct interaction  with the database  user API is used so the user can sign up and sign in in the system and to search for users by name or mail and it’s used form upgrading to premium user |
| 2 | PageAPI | 10 | Page API creates page on the server for the user also it can search for a page by name and follow a page |
| 3 | PostAPI | 9 | Post API is used to create page, group and normal posts  Also used for polling posts from database |
| 4 | NotificationAPI | 11 | Gets user notifications |
| 5 | MessageAPI | 12 | Gets user messages |
| 6 | GroupAPI | 8 | Creates group and is used to search for a group by name and to join a group |
| 7 | User | 1 | Uses API to reach posts and to send messages |
| 7.1 | FreeUSer | 1 | Can upgrade to become a premium user |
| 7.2 | PremiumUser | 1 | Acts as a normal user with privilege of posting ads and a high priority hashtag |
| 8 | Ad | 3 | A promotion to a service or a product that a  premium user offers |
| 9 | Page | 4 | A page for a product or a public figure only the page admins can post on it |
| 10 | Message | 6 | A written content in a private dialog |
| 10.1 | GroupMessage | 6 | A message between 2 or more users |
| 10.2 | PrivateMessage | 6 | A message between only 2 users |
| 11 | Notification | 5 | notifies user about an event in his account  that may or may not require further action |
| 11.1 | FriendRequest | 5 | The user can send a friend request to another user to view his posts |
| 11.2 | MessageNotification | 5 | Notifies the user about a message they  received |
| 11.3 | GroupInvitation | 5 | Notifies the user about a they were invited into a group |
| 11.4 | TagNotificaion | 5 | Notifies the user about a they were tagged in a post |
| 12 | Group | 2 | Groups the posts a number of users that they can view even if they are not in each other’s friend list |
| 12.1 | PublicGroup | 2 | A group were the non-members can see the group content |
| 12.2 | PrivateGroup | 2 | A group were the non-members cannot see the group content |
| 13 | HashTag | 3 | A (#) in a post to categorize it and to make it easy to search |
| 14 | Post | 3 | Hold the users written content that he wants to share with people in his fried list |

## III. Sequence diagrams









### Class - Sequence Usage Table

| **Class Name** | **Sequence Diagrams** | **Overall used methods** |
| --- | --- | --- |
| UserAPI | 1, 2 , 3 | UpgradeUser  logIn  signUp |
| PostAPI | 4, 5 | pollPosts  createAd |
|  |  |  |

# Ownership Report

|  |  |
| --- | --- |
| **Item** | **Owners** |
| System Decomposition | *Salma Essam* |
| Class Diagram | *Ahmed Wessam* |
| Sequence diagrams | *Sara Samer* |