Cairo University
Faculty of Computers and Information

CS251

Software Engineering I

SDS project 3

Software Design

December 6, 2019

CS251: Phase 2 – The Procrastinators
Project: SRS-3

Software Design Specification

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Project: SRS-3

Software Design Specification

Team

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Document Purpose and Audience

What's this Document?

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

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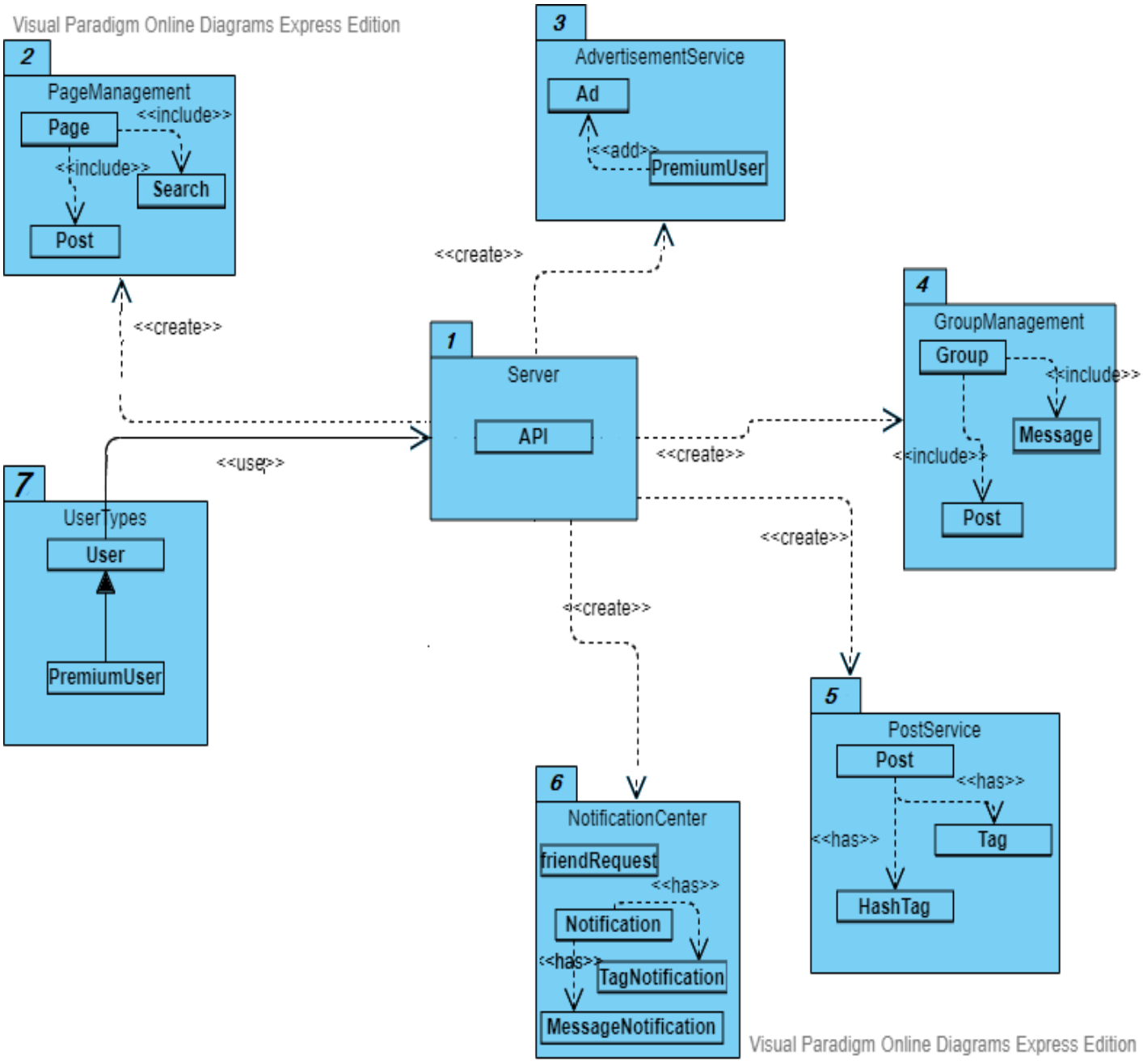
System Models

I. System Decomposition



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II. Class diagrams

API_1
processRequest(header : string, body : string) # signUp(name : string, password : string, email : string, date_of_birth : Date, is_male : boolean, country : string) : User # login(email : string, password : string) : User # getUserByToken(token : string) : User # searchUserByName(name : string) : User[] # searchUserByEmail(email : string) : User[] # sendMessage(sender : User, receiver : User, content : string) : boolean # sendFriendRequest(sender : User, receiver : User) : boolean # getNotifications(user : User) # acceptFriendRequest(request : Friend request) : bool # upgradeUser(user : User, payment : PaymentAccount) : boolean # createAd(user : PremiumUser, ad : Ad, payment : PaymentAcount = null) : boolean # createGroup(group : Group, user : User) : boolean # searchGroupsByName(name : string) # joinGroup(user : User, group : Group) : boolean + createPost(user : User, post : Post) : boolean # pollPosts(user : User) # searchPostsByHashtag(hashtag : HashTag) # validateGroupInfo(groupInfo : Group) : boolean # validatePageInfo(page : Page) # createPage(user : User, page : Page) # getUserById(userId : unsigned long) : User # hasRemainingAds(user : PremiumUser) : boolean # checkPaymentAccount(account : PaymentAccount) : boolean # verifyGroupID(id : unsigned long) # updateUserPassword(user : User, new_password : string) : boolean

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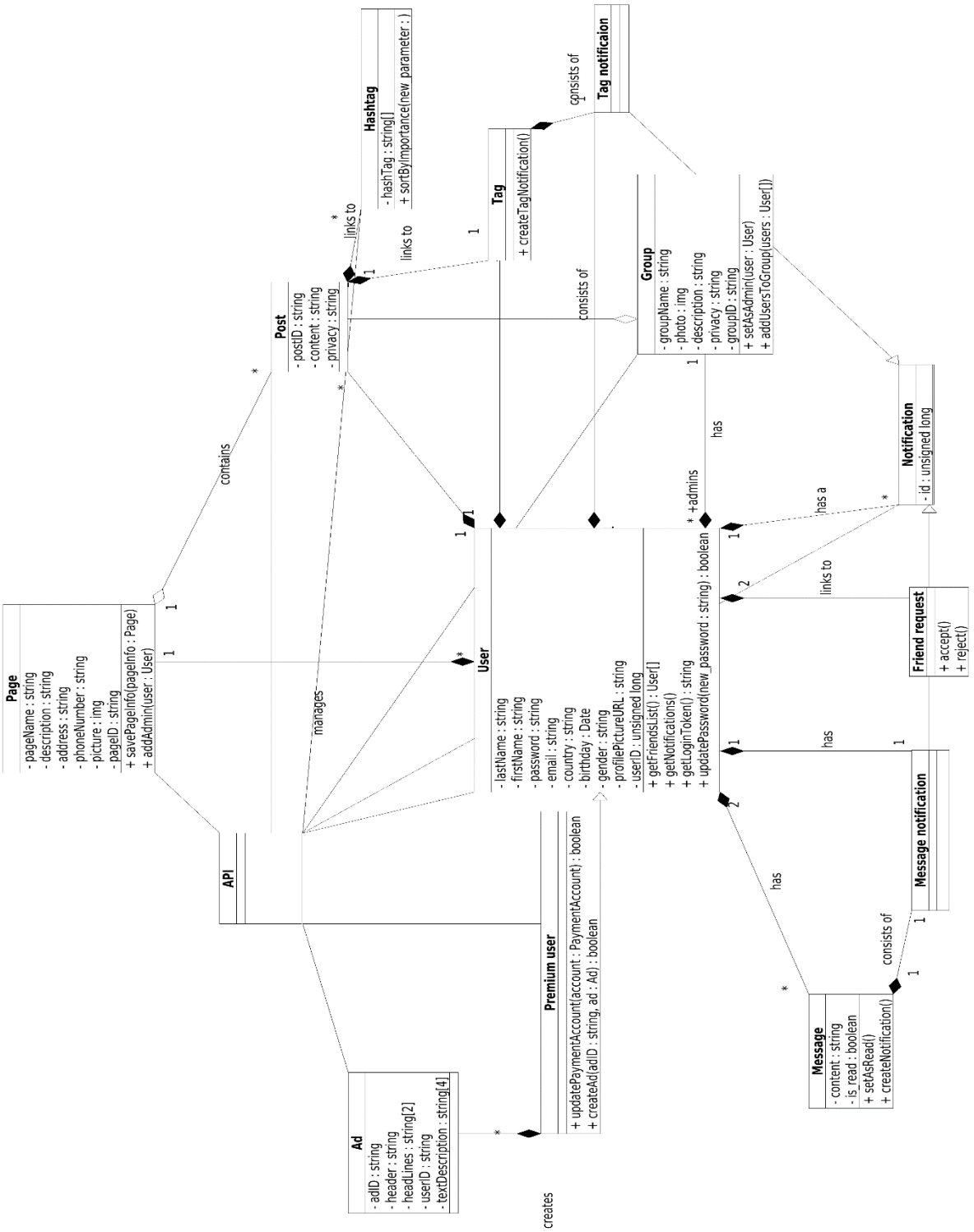

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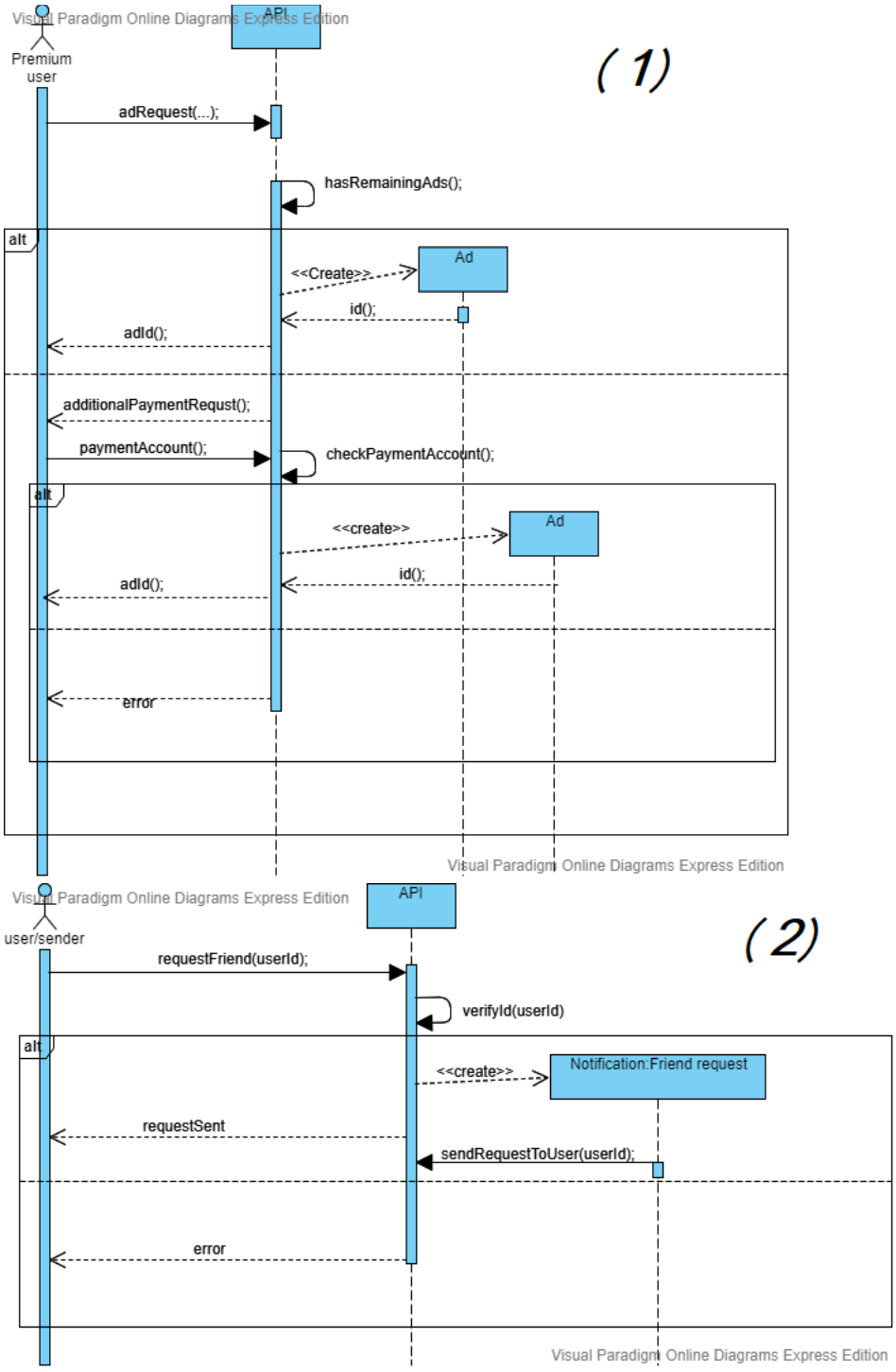
Class ID	Class Name	Subsystem ID	Description & Responsibility
1	API	1	Acts as server and has the direct interaction with the database User can use it to search for posts, users, groups and pages
2	User	8, 7	Uses API to reach posts and to send messages
2.1	Premium User	8, 3	Acts as a normal user with privilege of posting ads and a high priority hashtags
3	Notification	6	notifies user about an event in his account that may or may not require further action
3.1	Tag Notification	6	Notifies user they were tagged in a post
3.2	Message Notification	6	Notifies the user about a message they received
8	Friend Request	6	The user can send a fried request to another user to view his posts
9	tag	6, 5	A user can post a Post and add another user to it
10	message	6, 4	A chat between one or more users
11	Post	5, 2, 4, 7	Hold the users written thoughts to share them with people in his fried list
12	Hashtag	5	A (#) in a post to categorize it and to make it easy to search
13	Group	4	Groups the posts a number of users that they can view even if they are not in each other's friend list
14	Ad	3	A promotion to a service or a product that a premium user offers
15	Page	7, 2	A fa page for a product or a public figure only the page admins can post on it

III. Sequence diagrams

Software Design Specification



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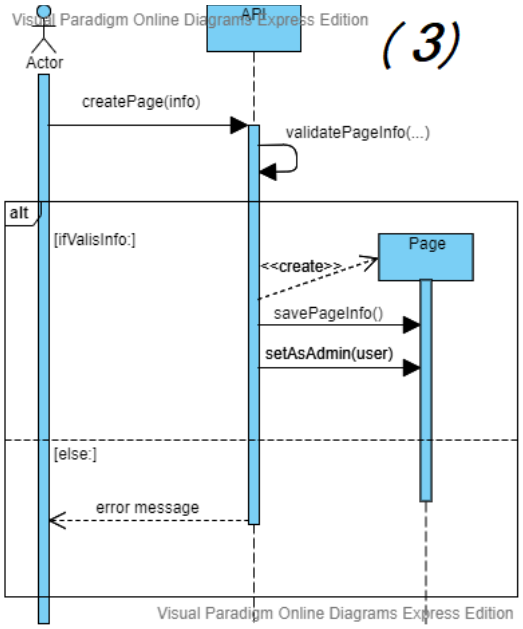

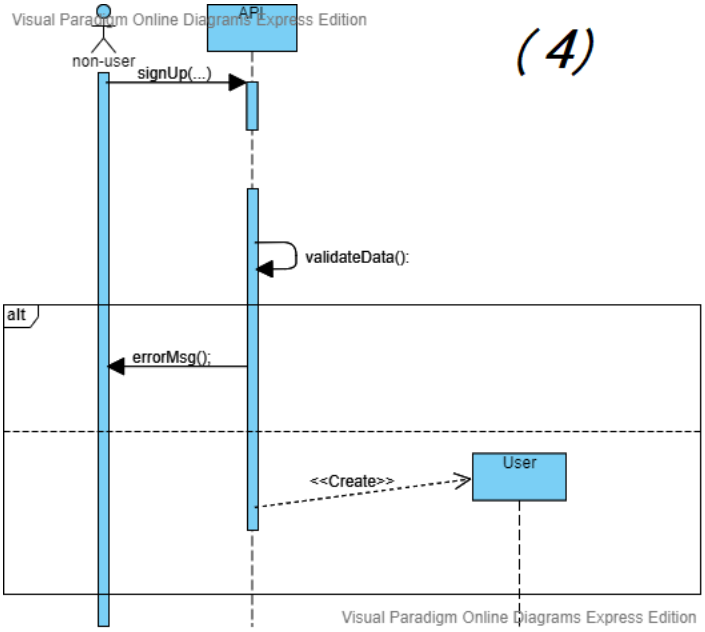

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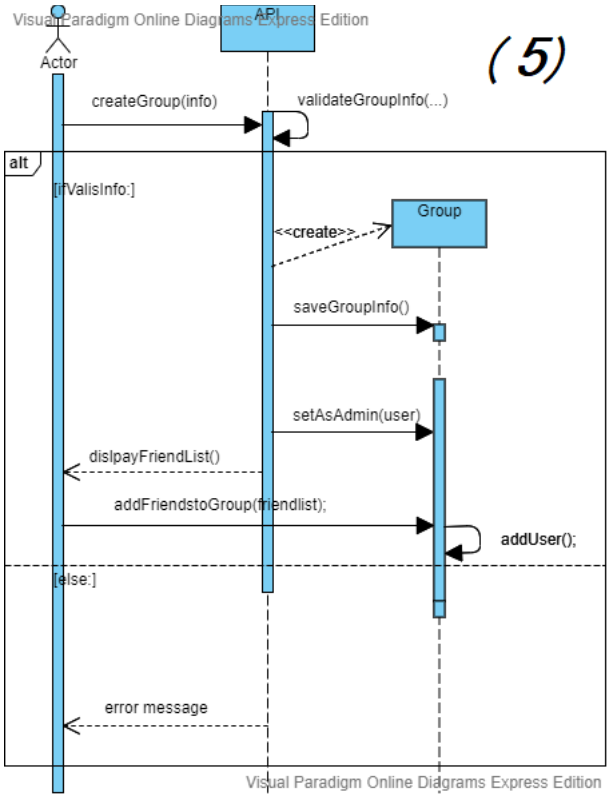

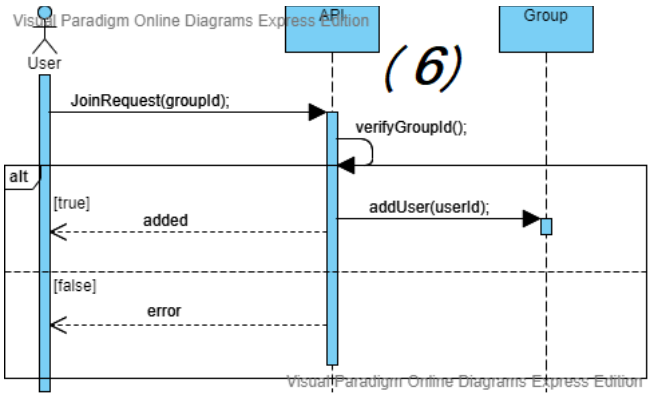

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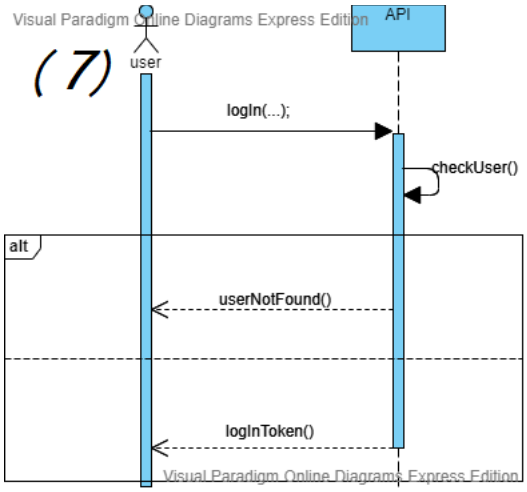

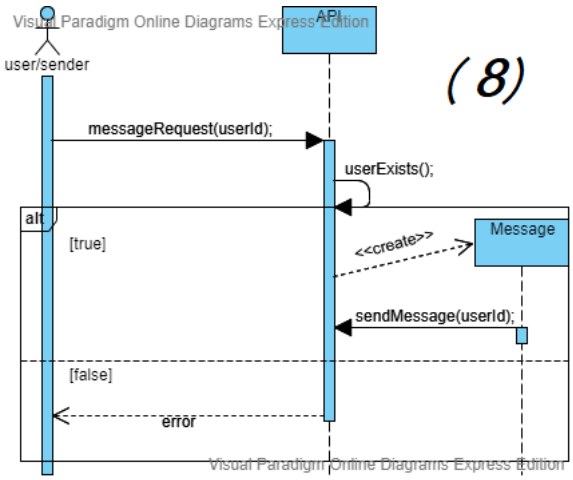

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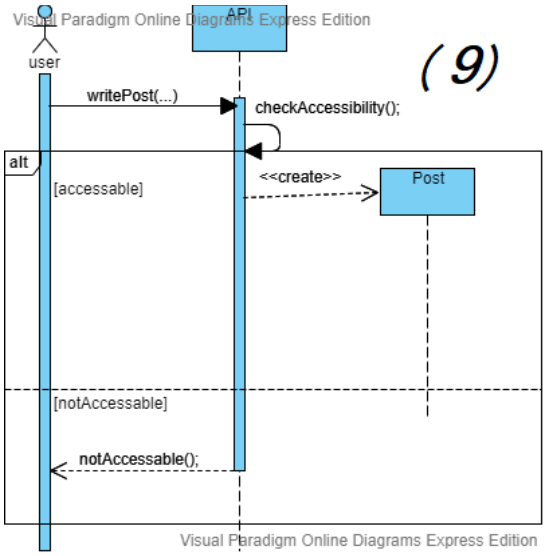

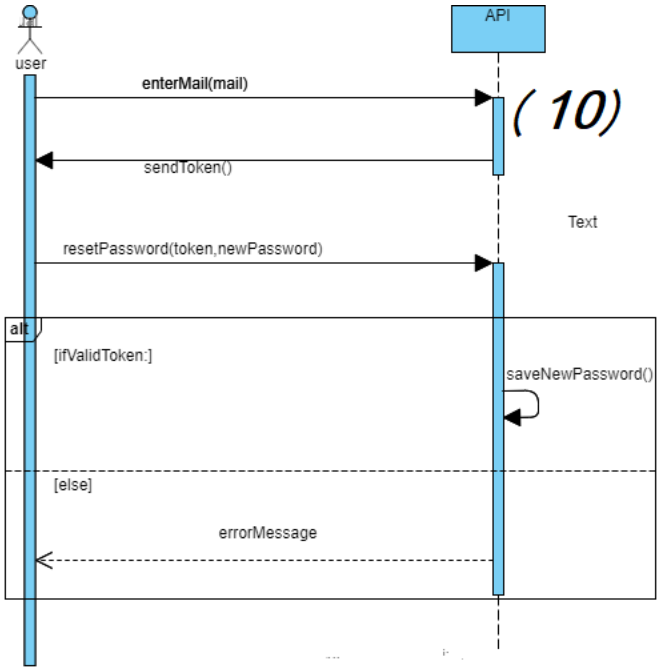

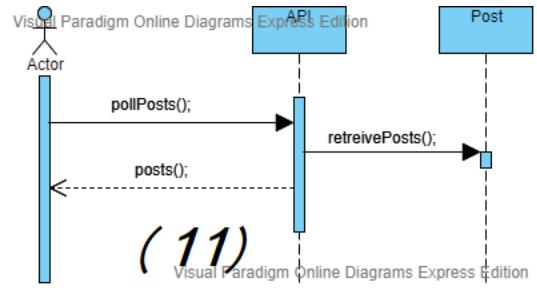

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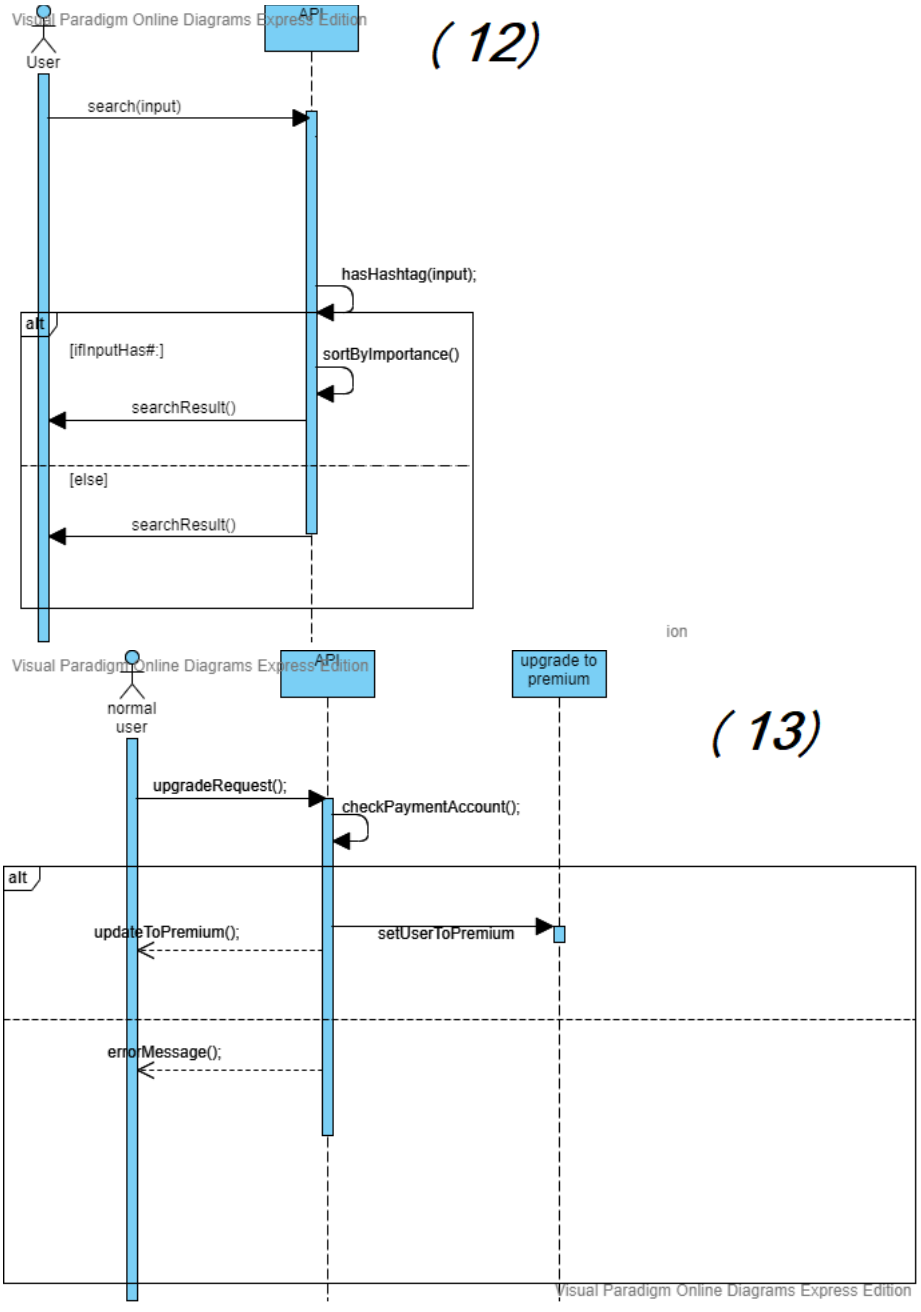

Software Design Specification

Class - Sequence Usage Table

Class Name	Sequence Diagrams	Overall used methods
ad	1	
Friend Request	2	
Page	3	savePageInfo(page info); setAsAdmin(userId);
User	4	
Group	5, 6	saveGroupInfo(page info); setAsAdmin(userId); addUser(userId); addFriendtoGroup(list userId);
Message	8	
Post	9, 11	retreivePosts(userId);
upgradeToPremium	13	setUserToPremium(userId);

API	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	adRequest(adInfo);
		hasRemainingAds(userId);
		checkPaymentAccount(data);
		PaymentAccount(data);
		RequestFriend(userId);
		verifyId(userId);
		sendRequestToUser(userId);
		validatePageInfo();
		createPage(pageInfo);
		signUp(data);
		validateData();
		createGrorp(info);
		validateGroupInfo();
		joinRequest(groupId);
		verifyGroupId();
		logIn(username, password);
		checkUser();
		messageRequest(userId);
		userExists(userId);
		sendMessage(userId);
		writePost();
		checkAccessability();
		enterMail();
		resetPassword();
		savePassword();
		pollPosts(userId);
		search(input);
		hasHashtag(input);
		sortByImportance();
		upgradeRequest(userId);

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BR# (business/functional requirement number)	Sequence Diagram ID	Package(es) Name(s)
Create Ad	**1**	**Advertisement Service**
Friend Request	**2**	**Notification Center**
Create Page	**3**	**Page Management**
Sign Up	**4**	**User**
Create Group	**5**	**Group Management**
Join Group Request	**6**	**Group Management , Notification Center**
login	**7**	**Server**
Send Message	**8**	**User ,Group**
Write Post	**9**	**Post Service**
Reset Password	**10**	**Server**
Retrieve Posts	**11**	**Post Service**
Search	**12**	**Server**
Upgrade To Premium	**13**	**Server**

Ownership Report

Item	Owners
Component diagram	*Salma essam*
Sequence diagram	*Sara samer*
Class diagram	*Ahmed wessam*