CodeGuide

SRS v2

Introduced By TeamG11

Introduction

Executive Summary

Code guide is a website service to everyone, especially people who Interested in programming. they face many problems while coding because they don't find the best function which executes Their target perfectly.

it should offer millions of questions and answers about actual problems facing some users as a large question bank will be formed and it will increase incrementally by users' interaction.

it should offer the best online courses related to certain languages they want to learn and online problem solving tests so users can improve their skills .

It should provide experts' answers for questions asked by users using service " Ask a specialist" .

It allows users to create groups where they can discuss certain problem or work on a certain project

Document Overview

This document introduce code guide study plan. It introduce general description, technical description, development plan, operation plan, cost analysis and marketing study.

Reference:

1. https://en.wikipedia.org/wiki/Stack_Overflow
2. https://stackoverflow.com/tour
3. https://askwonder.com/q/what-are-the-key-features-that-have-led-to-stack-overflows-success-in-crowd-sourcing-high-quality-57932bfd411caa2500ea4f78
4. https://en.wikipedia.org/wiki/Quora

System Description :

- ## Introduction :
  - ✓ Code guide is a website service to everyone, especially people who Interested in programming. they face many problems while coding because they don't find the best function which executes Their target perfectly.
  - ✓ it should offer millions of questions and answers about actual problems facing some users as a large question bank will be formed and it will increase incrementally by users' interaction.
  - ✓ it should offer the best online courses related to certain languages they want to learn and online problem solving tests so users can improve their skills .
  - ✓ It should provide experts' answers for questions asked by users using service " Ask a specialist" .
  - ✓ It allows users to create groups where they can discuss certain problem or work on a certain project.

In Order to simplify recognition of the system we divided it into many Modules as the following :

I. **Interior Modules** : that interact with system directly
   1. Posts Module
   2. Specialist Module
   3. Interactive Groups Module
   4. Users Module
   5. Programing languages module

I. **Exterior Module**: that is external to system and classified as its environment

1. Credit Agencies
2. StackOverFlow integration
3. Online Courses Sites (e.g.: Udemy,…)
4. Visitors (user with no accounts)

Modules :

1)Posts

User can interact with community by Posting his Question

A) Questions and Comments

can write his question or reply to others questions by commenting.

Some of its features are listed below:-

1. User can upload images & files related to his question.
2. User can include links.
3. Posts can be written in different fonts,styles,sizes & colors.
4. User can write the code that he wants to ask about in a specific area.
5. User can use tags to relate his question with specific topic.
6. Number of characters that user can type are limited to 600 characters.

B) Language

The user decide which language he want to ask the question in or if he asking a general question.

User can show Posts related to certain language by filtering

All questions are tagged with their subject areas. Each can have up to 5 tags, since a question might be related to several subjects.

Click any tag to see a list of questions with that tag, or go to the tag list to browse for topics that interest you.

A) Rates

The system enables evaluation for every post and question. The evaluation based on the quality of the generated questions.

System trust the user's ability to do evaluation. Users may rate the question and the answers.

By time the rating helps other user to find most high rated question and high rated answers. That helps users to find their answers easily.

Its features:

1. There are only postive rating.
2. The comments are rated by others and the answer that has the best rating will be marked as the best solution.
3. And the mark is a blue tick beside the comment.
4. Best rated comment will be put below the question so that other users searching for the same question can reach the best answer easily.

2) Specialist

This module provides specialist to sign up on site and answer the question asked by users for money and users can join in group with him and be in continuous contact with him.

User's questions appear on the home page for the specialist after signing in and he can show all users' questions.

Specialists can create groups with users to make a specific project where users can benefit from this group.

A)Technical profile

On the specialist profile there will be:-

- His rating which the users gave to him.

-The number of questions he had answered.

-It has his technical skills and languages that he domains it.

-His gmail account so User's questions will be directed to the gmail of the specialists if they didn't open the website.

B)Income:

Each Specialist according to his rates will be assigned to level of specialist and each level has it profit for answering the questions .

3) Groups

Groups module is a section in the website where users can learn , communicate and work on project together so that users can learn how to work in a team by the interactions between them .

Every group should have a main theme, idea or project. The users can add questions and set the expected answer through polls system. The admin user can control the group and who will enter that group.

The group specifications as follows

- System provide any number of questions in the group.
- System supports polls for users to help discussion.
- The polls are created by any users.
- Users can rate the questions and answers.

- Users can’t access the group project question or posts unless they apply for it.

Groups can be created for multiple purposes such as Arranging and following projects and discussing certain ideas in specific field of coding.

A) Members

The members of group either be instructors or students,it could have one or more specialist.

B) Posts

The posts created in this group will be exclusive to this group .

Nobody outside this group can access this posts

C) Polls

Admin of each group can make a poll for his students about the incoming events.

Students or members of the group could vote to this polls.

4) Users

A. Profile

Profile page includes basic information of the user:

1. Username (should be unique).
2. Password (should not be less than 12 characters and include at least one letter).
3. Profile Picture
4. It contains his posts.
5. A tab including all the website questions.
6. A dropdown box for notifications.

A. User Should

1. Login first in order to post his question or reply to others questions.
2. Make his question specific & clear as much as possible.
3. Help people with their problems so that others can help you with your problems.
4. Consider that the number of characters does not exceed the limit.

5) Programing language:

Posts in code guide can be filtered by language as all questions of a certain language grouped together

Once user choose a certain language of programming the following must be shown:

i. All questions related to it.
ii. Links takes you to Online courses of this language in another supported sites.

6) Credit Agencies:

This module external to system. It can be in the environment of Code Guide.

This Module responsible of money transfer in site:

From users to site and from site to specialist and so.

7) Stack Over Flow

This module connects between Our sites “Code Guide” and Stack Over Flow such that:

Users Can access Stack Over Flow Site if there inquires not match any results on CodeGuide and they cannot afford Ask Specialist Option and

really need fast response, at that case CodeGuide will provides link to connect Stack Over Flow and see if your inquiries found there or not.

8)Other Sites Extensions:

This section of Code Guide is also in its environment as it provides only the link of online courses for a certain (chosen) language from other sites (after there agreement off course) e.g.: udemy-coursera …,etc

The purpose of this section to make complete environment for developer or software students and provides all there needs in same site And enhance there understandability of certain courses

Also this section provides links for exams from other sites in order to test the developers or software students their levels and how much they proceeded.

In brief this section is made in order to provide a complete environment for developers or software students so they can : learn , Ask and test their skills.

9) Visitors

Finally, this is the last module in environment of Code Guide System.

Those visitors who interact with code guide system without having their own database on site (as they have no account).

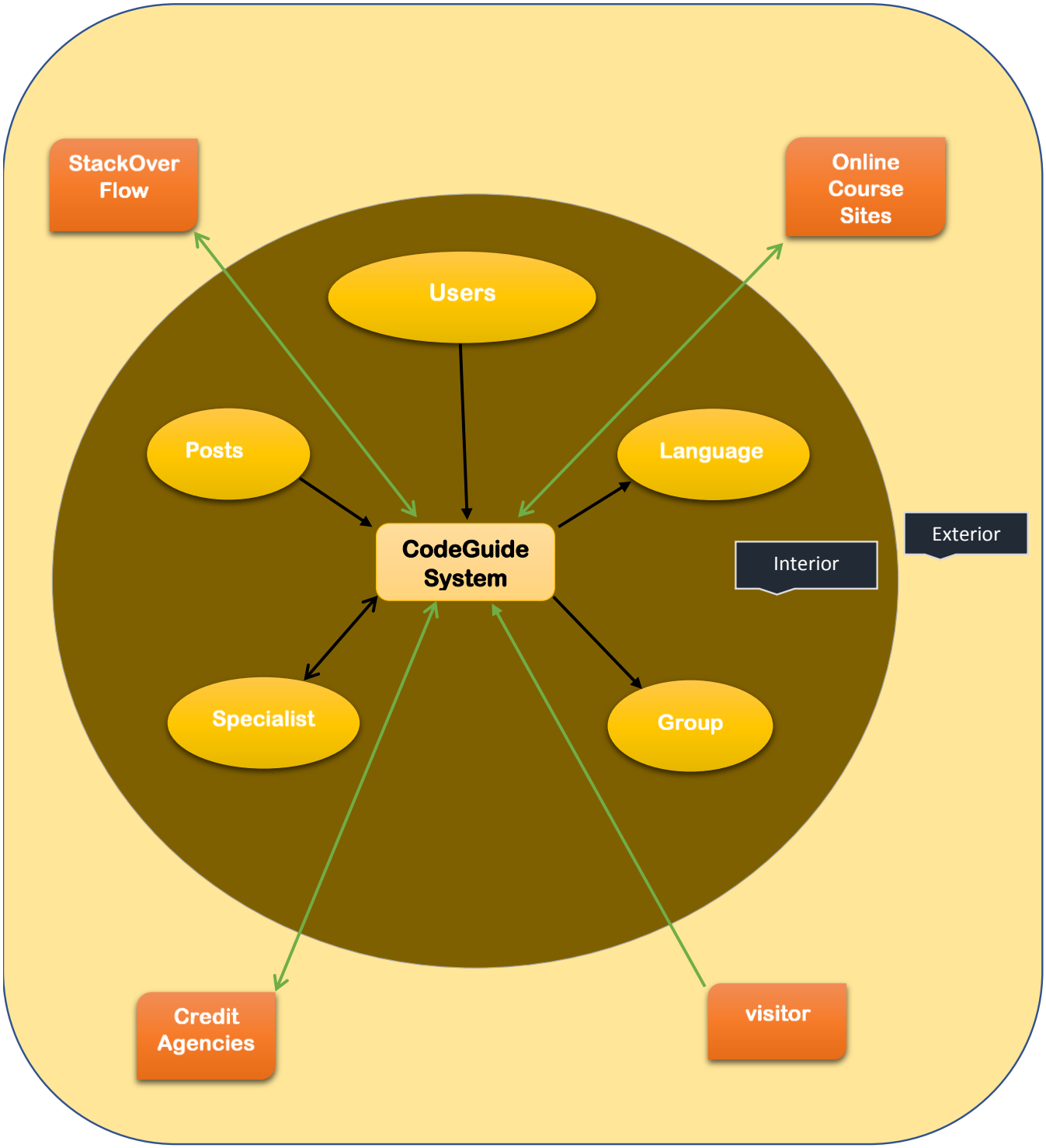
They can access limited features on Code Guide which is :

i. Search for a problem facing him using search engine.
ii. Get links for online courses in certain programming language
iii. Get links for exams in certain programming language

They couldn’t access making posts or putting comment on them.

They of course couldn’t get specialist.

Context Diagram for Code Guide:



- **Modules**

Posts	• Posts in Code Guide is simply questions asked by users about the problem faced them in programing • To create Post you must have any account on code guide • Also in making post you must determine which language this post related • These posts can be filtered by language where all questions about this language are grouped together • Each question will have answers answered by other users or specialist, these answers will get rate by users and most helpful answer will have highest rate and so will be put first, after the questions directly.
Interactive groups	• These groups are a tighter area for a group of users where they can communicate privately and easier than in public. • Group will have its admin whom organizes it “instructors most often” & members • Posts and material in the group will be exclusive to that group nobody outside group could access these information
Users	• Each registered user should have his/her profile that contain all information about him/her. • All registered user could make posts and answers to posts of others • They could make group and add other members to it • Only unregistered users wont be able to create or comment on posts.
Specialist	• This is very special module.

- **Users**

Specialist	• This is very special module. • Each specialist should have a professional account • This account should reflect specialist skills and language he experts in. • Specialist will get paid according to its rates (more requests he gets more money he gains).
Administrator	• They are one of the system users, They are actually the site managers and supervisors • They supervise system update and maintenance. • They decide which applicant as specialist will be approved to be one of Code Guide Specialist
Users	• They are either REGULAR users or PREMIUM users. • Both types of users could access link of exams and online course, also they can create a posts and answers to other posts, they can also create a private group • Premium users only get specialists to answer their inquires and help them to solve the problem facing them.
visitors	• They can access all the above features except: • They couldn’t create posts or groups • They couldn’t answer any questions • They couldn’t get help from specialist
specialists	• They are very special users that have professional account. • They get paid for helping system users with their problems

System user

1) Administrator

The admin is the coordinator who manages the content of website and maintains its design.

Activities:

1. He is responsible for updating the design of website
2. He keeps website backed up and fully function
3. He is responsible for maintenance of the website
4. He can ban users who break website policies
5. He can approve users that sign up with specialist accounts according to their technical skills and programming languages they are expert in.

2) Visitor

The visitor is the user that does not have an account in the website but he still can access some features when he opens the codeguide.

Activities:

1. He can search for his questions in the search engine.
2. He can see links of online courses
3. He can’t write posts or comments

3) User

The user has an account on the website and sign in with it in codeguide, he get benefit of more features than visitor.

Activities:

1. Register as “member or specialist”.
2. Post a question and write comments.
3. Show his questions or all questions on the site.
4. Show notifications icon on navigation bar –where he can follow his questions updates & any updates in groups-.
5. Create & join groups to share knowledge with others and gain the experience of teamwork.
6. User can connect to the online courses.
7. User can use a paid service to ask a specialist about his problem.
8. Achievements section where the user can earn points by answering some questions.
9. Users can give rating for the comments on the posts
10. Users can bookmark the important questions

4) Specialist

He signed up in codeguide by creating a specialist account.

He must provide in his account his technical skills and programming languages which he is expert in it.

This account must be approved by admins first.

Once his account has been approved the premium users can get him.

Activities:

1. Register as “specialist”.
2. Answer questions that are assigned to him by premium users.
3. He Reply to questions of normal user by comments to get points, these point if exceed certain level he will take money for it.
4. He should attract premium user to assign him question to answer it, so He can put his CV in website and also his answers are rated by premium users and according to his rates the premium users chooses him for another questions.

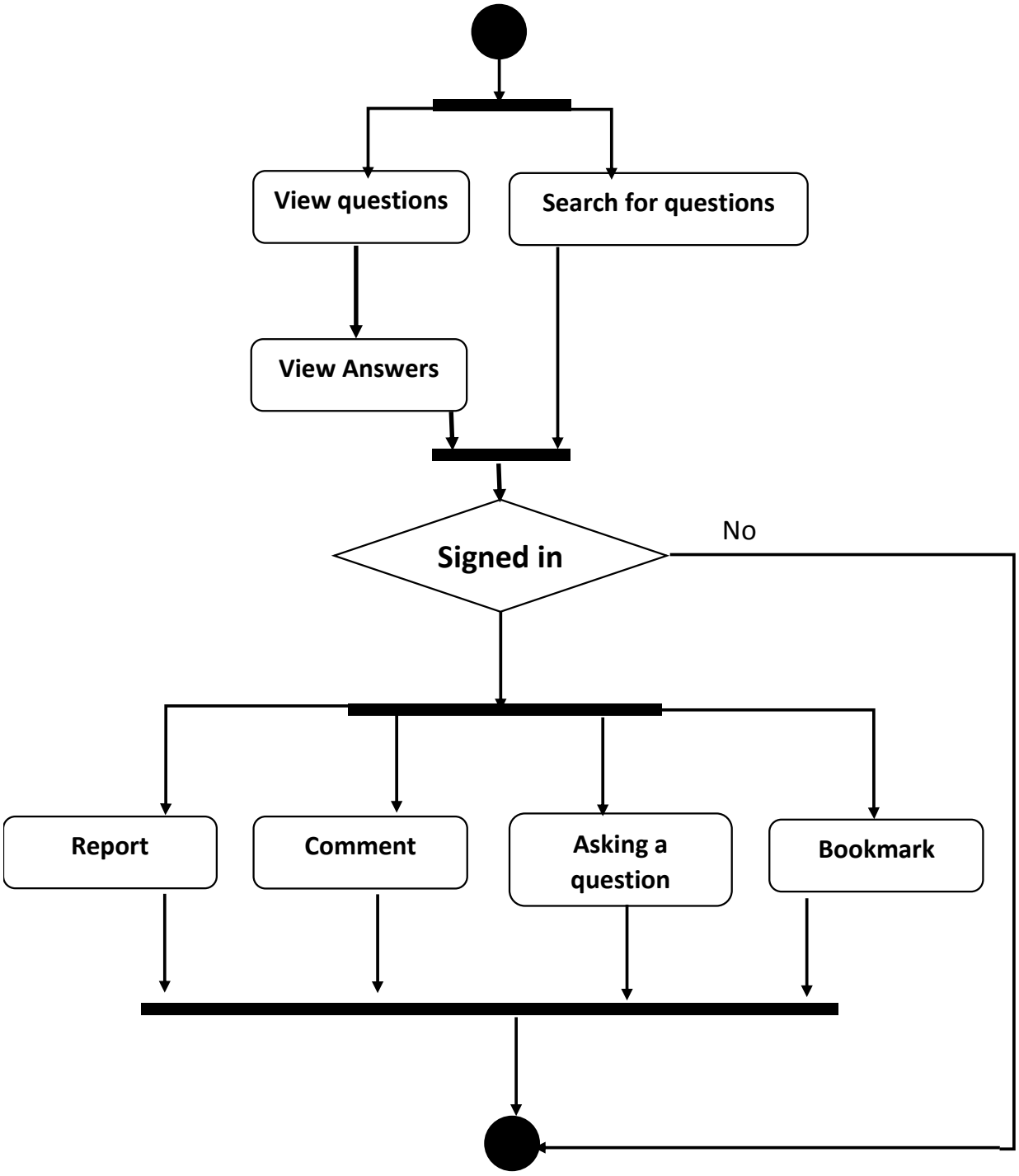
System modules

1. Posts

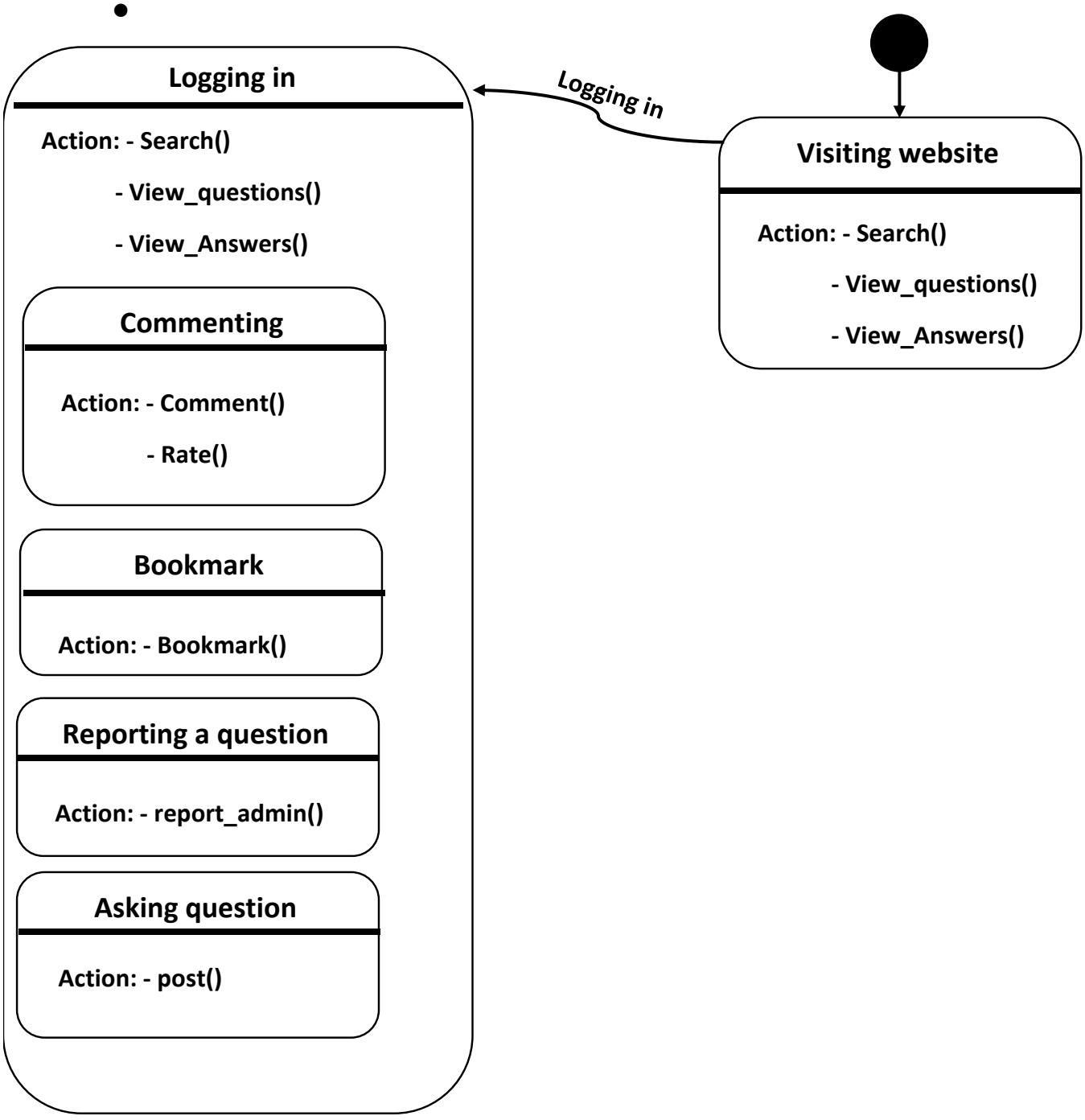
- Posts in Code Guide is simply questions asked by users about the problem faced them in programing
- To create Post you must have any account on code guide
- Also in making post you must determine which language this post related
- These posts can be filtered by language where all questions about this language are grouped together
- Each question will have answers answered by other users or specialist, these answers will get rate by users and most helpful answer will have highest rate and so will be put first, after the questions directly.

- Context diagram:

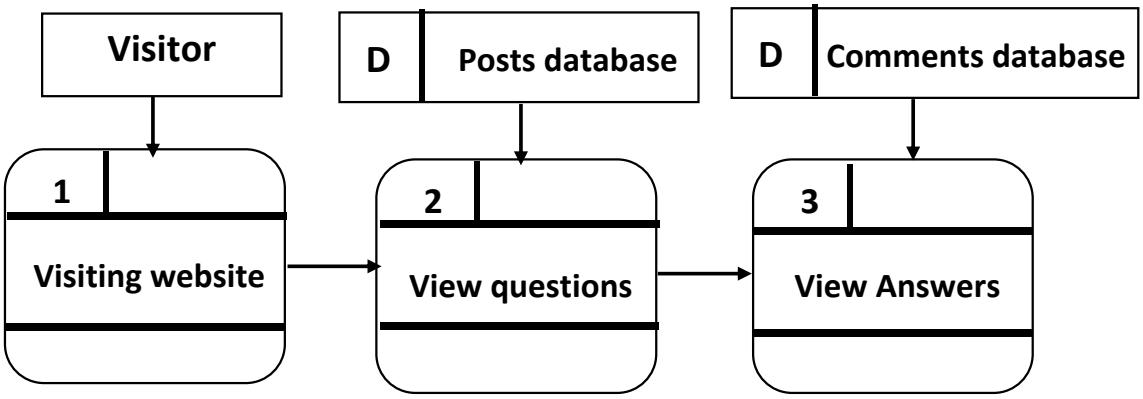
- Activity diagram:



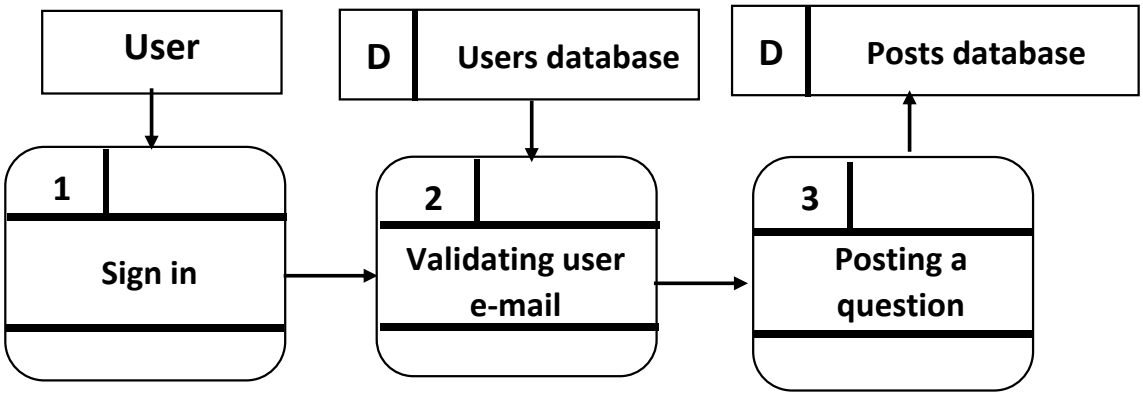
- State machine diagram
  -



- Data flow diagram (Viewing posts)



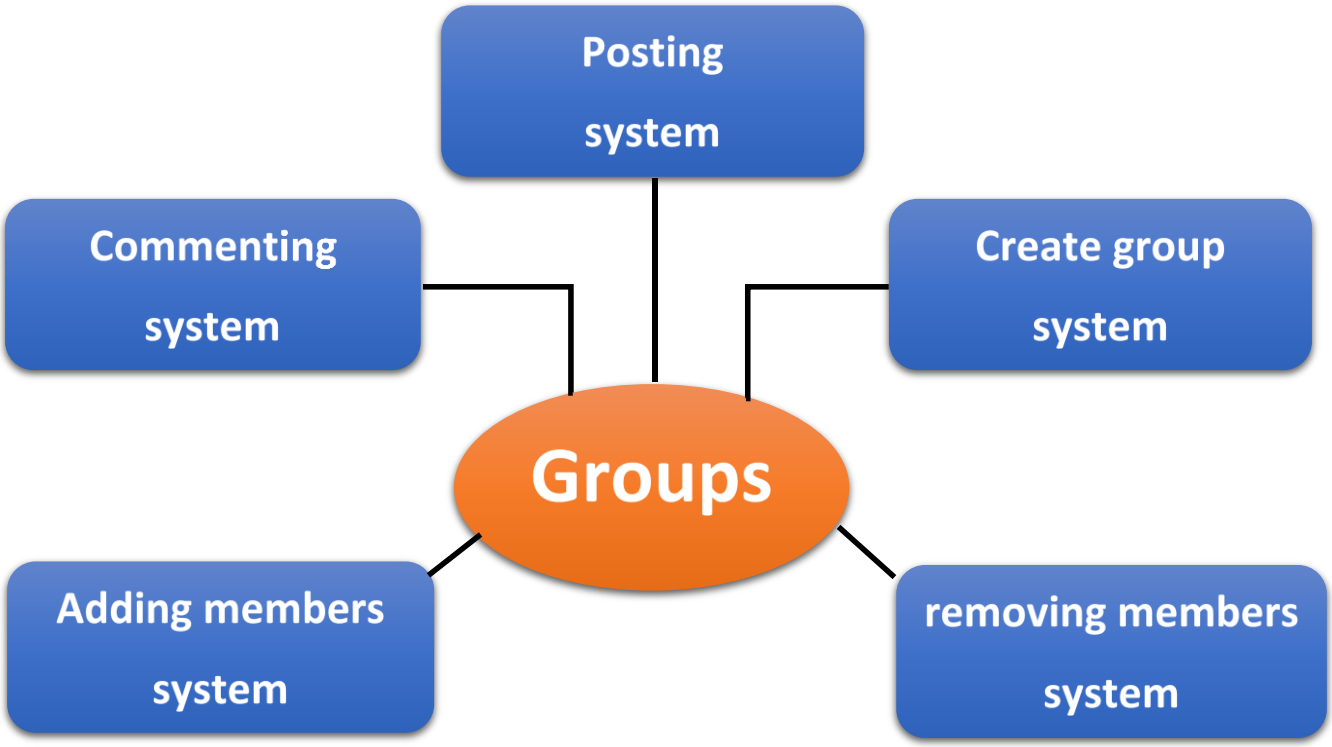
- Data flow diagram (Posting)



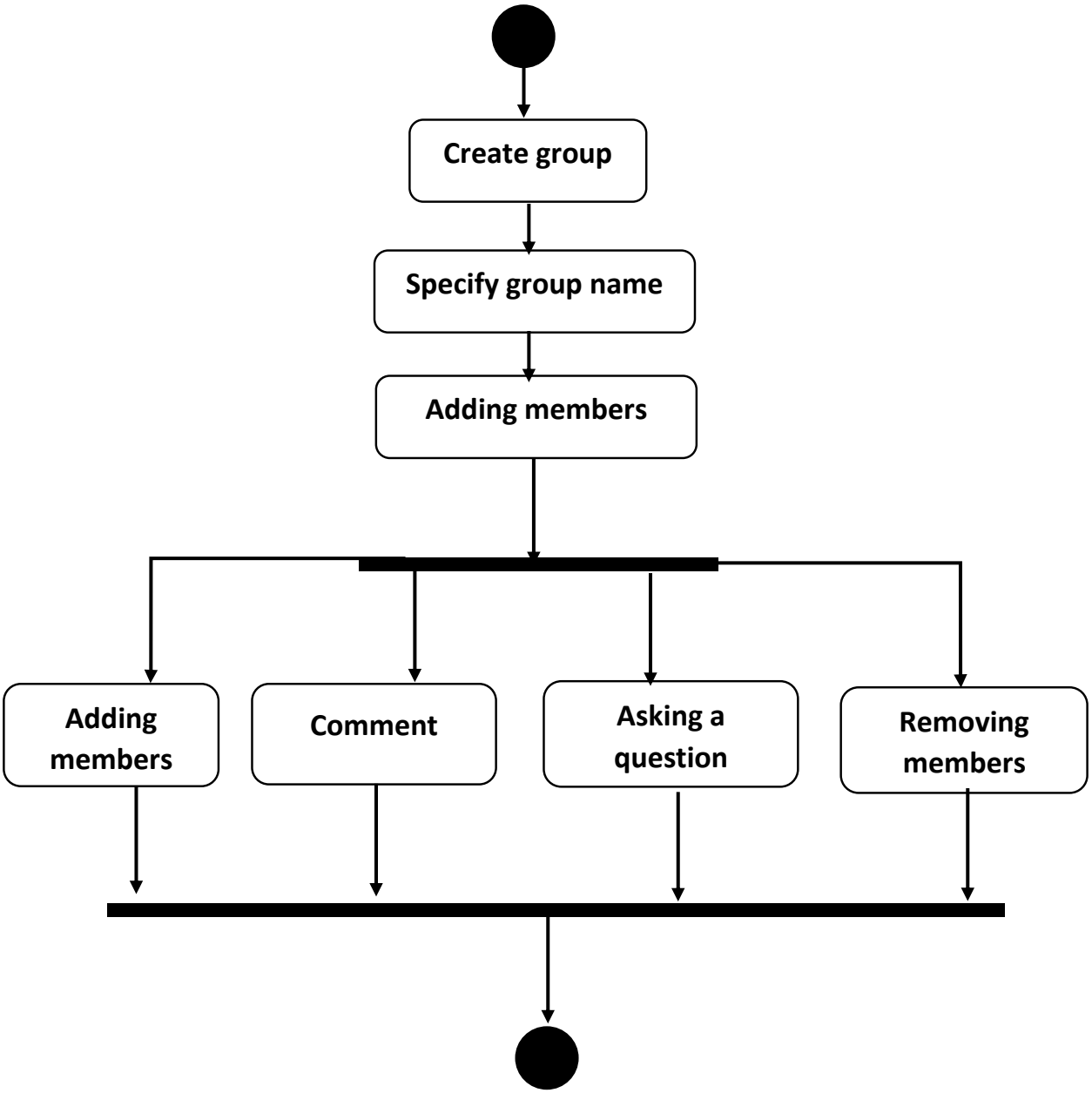
1. Groups

- These groups are a tighter area for a group of users where they can communicate privately and easier than in public.
- Group will have its admin whom organizes it “instructors most often” & members
- Posts and material in the group will be exclusive to that group nobody outside group could access this information.

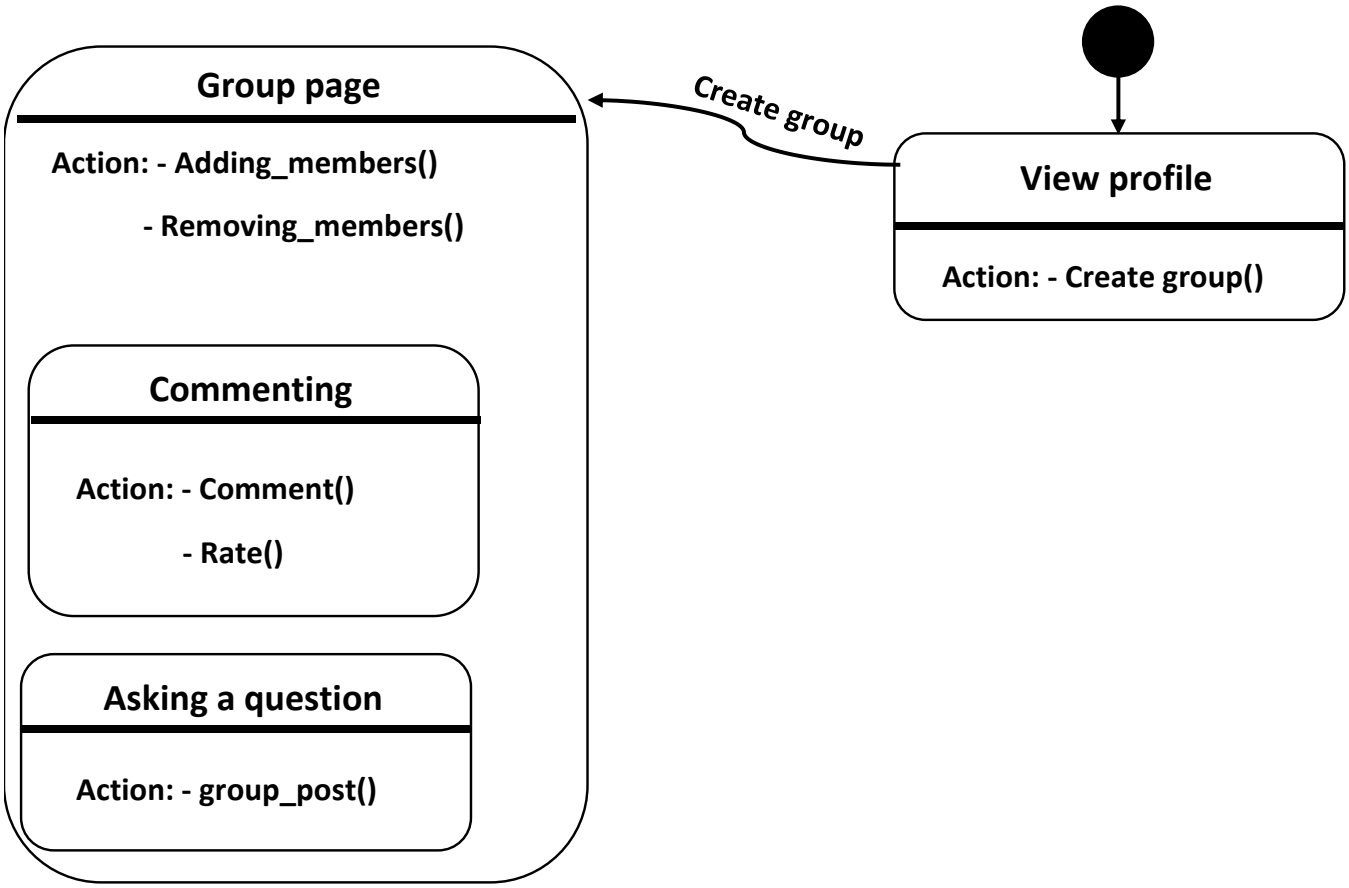
- Context diagram:



- Activity diagram:



- State machine diagram



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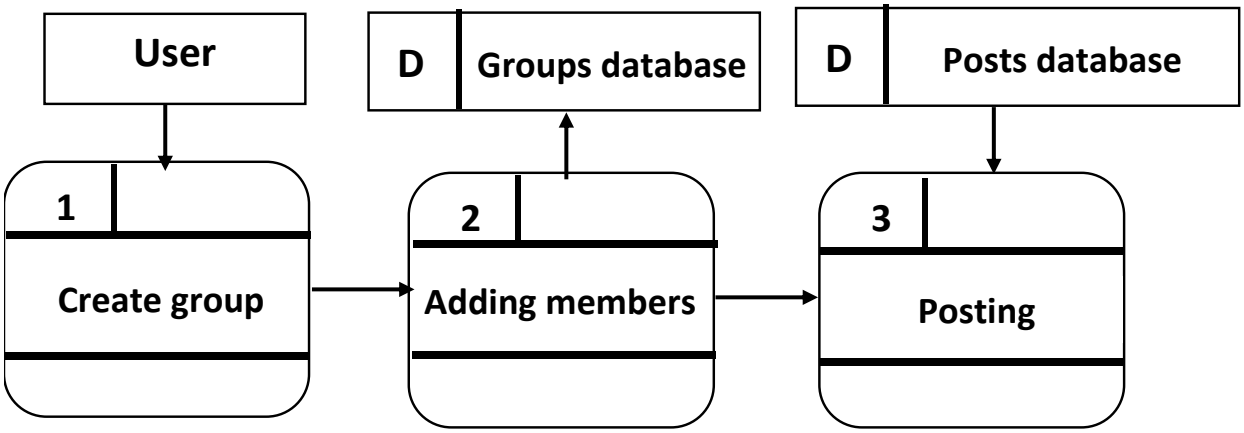
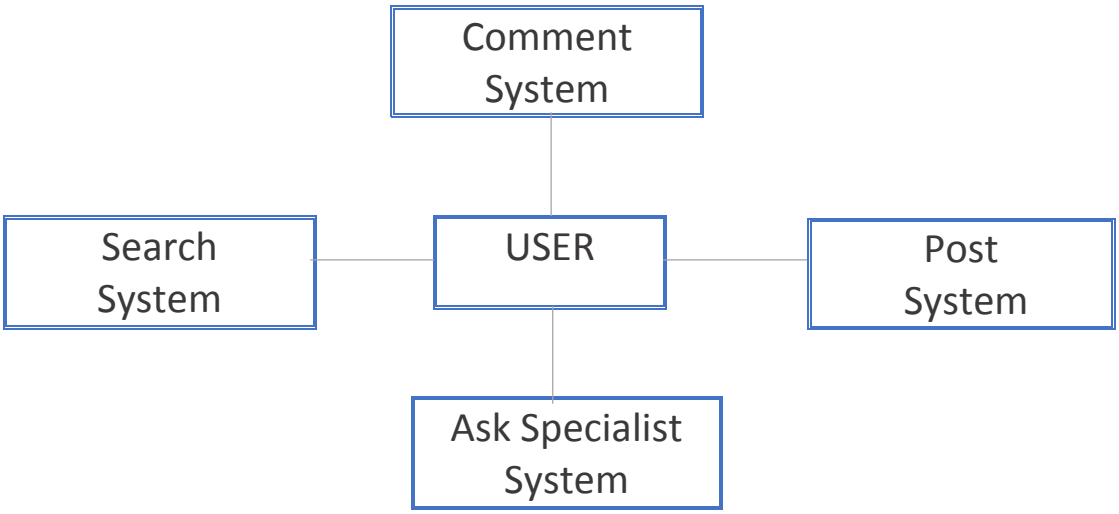


User Module

The user has an account on the website and sign in with it in CodeGuide, he get benefit of more features than visitor.

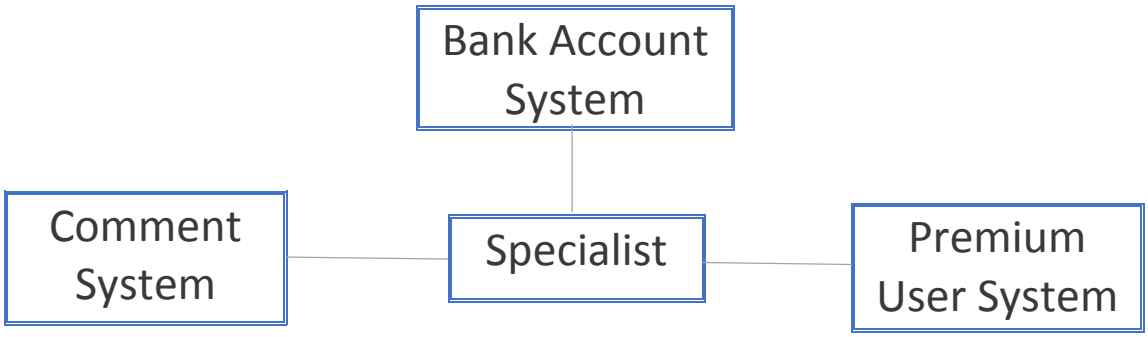
User interacts with CodeGuide through different systems

- Comment system
- Search system
- Post system
- Ask specialist system

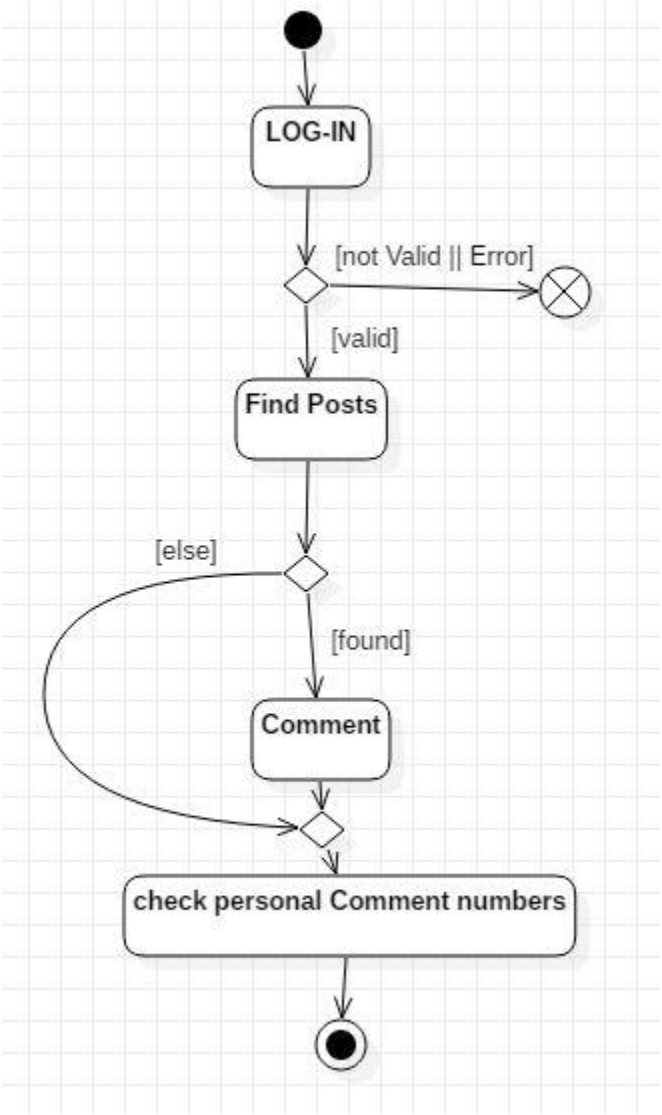


Specialist Module

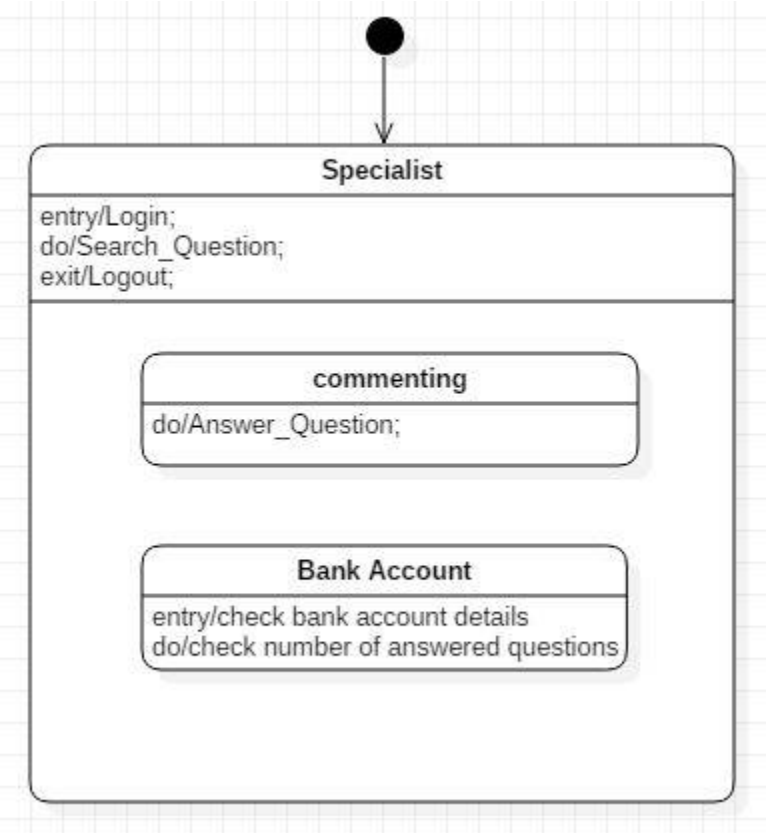
- Signed up in CodeGuide by creating a specialist account.
- Answer questions that are assigned to him by premium users.
- Must provide in his account his technical skills and programming languages which he is expert in it.
- His answers are recorded to inform him of his rate.



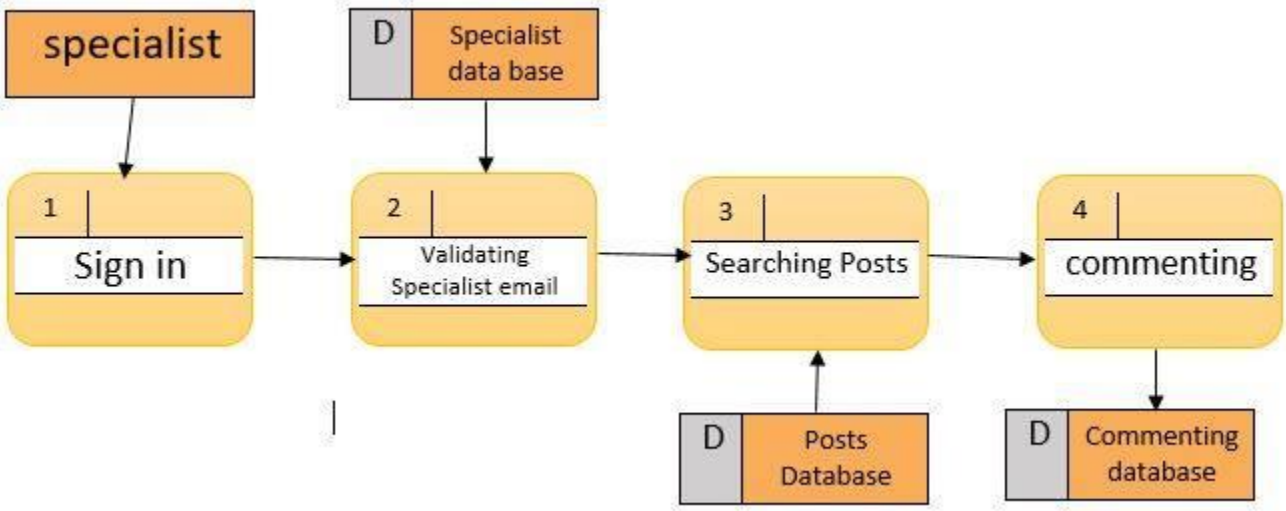
Specialist Activity Diagram:



State machine diagram:



Data flow diagram :



System functions:

Module functions:

1. Sign up

Code	FR-M1
Description	- Allows user to sign up to the system to access its features - e.g.: ask, answer, creating groups
Input	• First name • Last name • E-mail • password
Output	- Be logged in
Pre-conditions	- Valid e-mail
Post-conditions	- e-mail must match password of the user to use it to log in to the system later - e-mails shouldn't be duplicated

2. Log in

Code	FR-M2
Description	- Logging to the system to access its features - e.g.: ask, answer, creating groups
Input	• E-mail • password
Output	- Be logged into home page
Pre-conditions	- e-mail matches the password entered by the user

Post-conditions	- No post conditions

3. Ask a question

Code	FR-M3
Description	- Posts in Code Guide is simply questions asked by users about the problem faced them in programming.
Input	• Programming language • Question text • Files • Choose between asking community or specialist
Output	- Your question will appear on home page and stored in the database
Pre-conditions	- User must be signed in - Asking specialist recommends that you have premium account. - number of characters of the question shouldn't exceed 600 characters.
Post-conditions	- Your post must be ethical in order not to be removed by the admin.

4. Answer

Code	FR-M4
Description	- Whole community can comment on any post and specialists can comment on premium users' questions

Input	• Comment text • Files
Output	- Your answer will appear beyond the post and stored in the database
Pre-conditions	- User must be signed in - number of characters of the question shouldn't exceed 600 characters.
Post-conditions	- Your answer must be ethical in order not to be removed by the admin.

5. View all questions

Code	FR-M5
Description	- View all questions on home page
Input	• No input
Output	- Questions will appear giving you functionality to comment on them, view community answers, bookmark them.
Pre-conditions	- User must be signed in to comment or bookmark a question
Post-conditions	- No post conditions

6. View all answers

Code	FR-M6
Description	- View all answers of certain post on clicking of answers button on the post.
Input	• No input
Output	- Answers will appear giving you functionality to rate them, view community answers.
Pre-conditions	- User must be signed in to rate a specific answer.
Post-conditions	- No post conditions

7. Search

Code	FR-M7
Description	- Search all questions on database
Input	• Enter your query in search bar in navigation bar
Output	- All questions related to your query will appear in on home page
Pre-conditions	- No pre-conditions
Post-conditions	- No post-conditions

8. Bookmark

Code	FR-M8
Description	- this functionality enables you to save a post asked by the others to be able to view it later
Input	• Clicking on bookmark button on the post
Output	- The post will be saved in bookmarks list.
Pre-conditions	- You must be signed in
Post-conditions	- No post-conditions

9. Rate

Code	FR-M9
Description	- this functionality enables you to rate a specific answer on certain post with helpful, so that the answer with high rating will appear at the top of the answers on that post
Input	• Clicking on helpful button on the answer
Output	- The answer will appear at the top.
Pre-conditions	- You must be signed in
Post-conditions	- No post-conditions

10. Report a question

Code	FR-M10
Description	- User can report a question to the admin, so that the admin will remove it from the database directly.
Input	• Clicking on report button on the post.
Output	- The post will be reported to the admin.
Pre-conditions	- You must be signed in.
Post-conditions	- No post-conditions

11. Create group

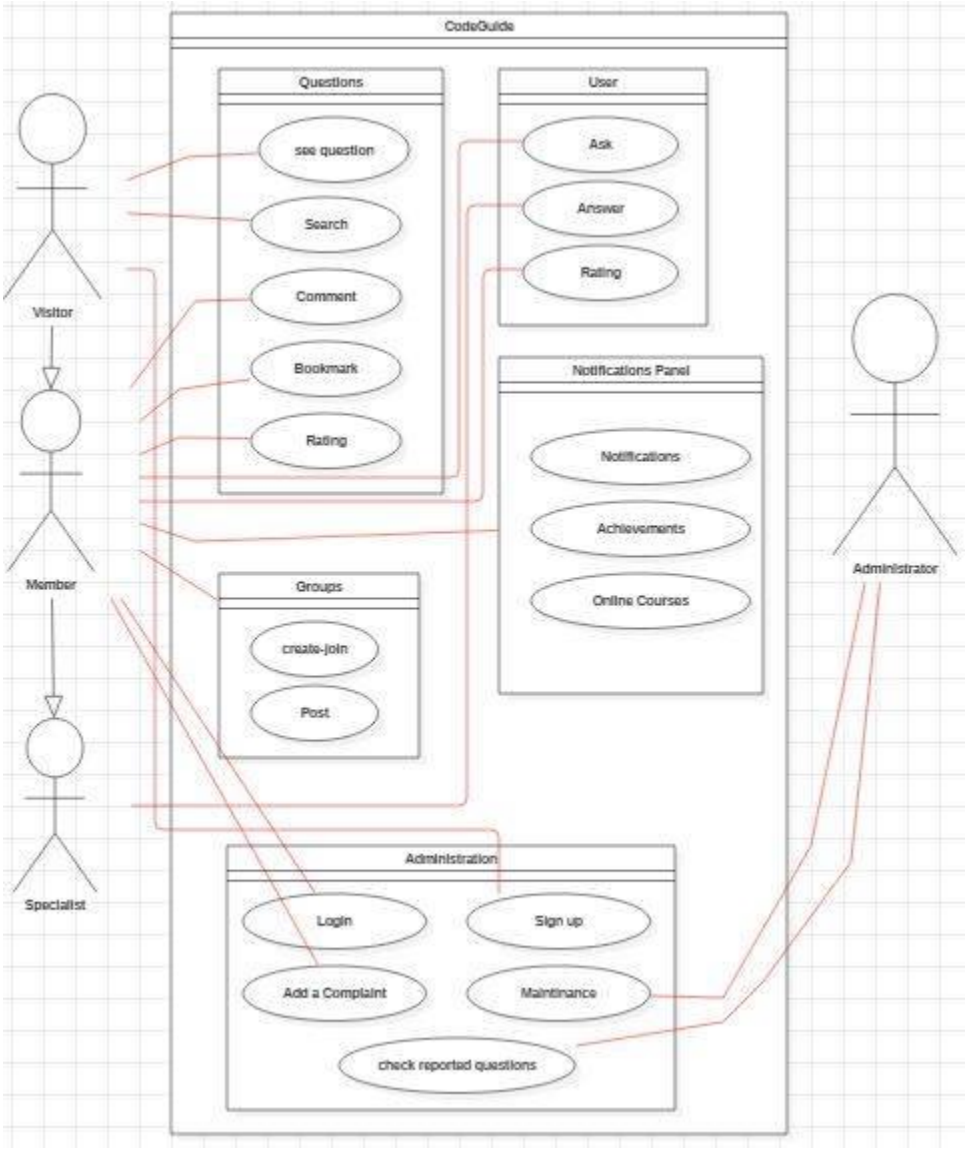
Code	FR-M11
Description	- User can create groups with other colleagues in order to share their ideas or questions with each other. -The admin of the group will give the group a name and add members to it.
Input	• Click on create group button on your profile page and search for members.
Output	- New group will be created and will appear on users' group list.
Pre-conditions	- You must be signed in.
Post-conditions	- Groups must be accessed by its members only.

12. View profile page

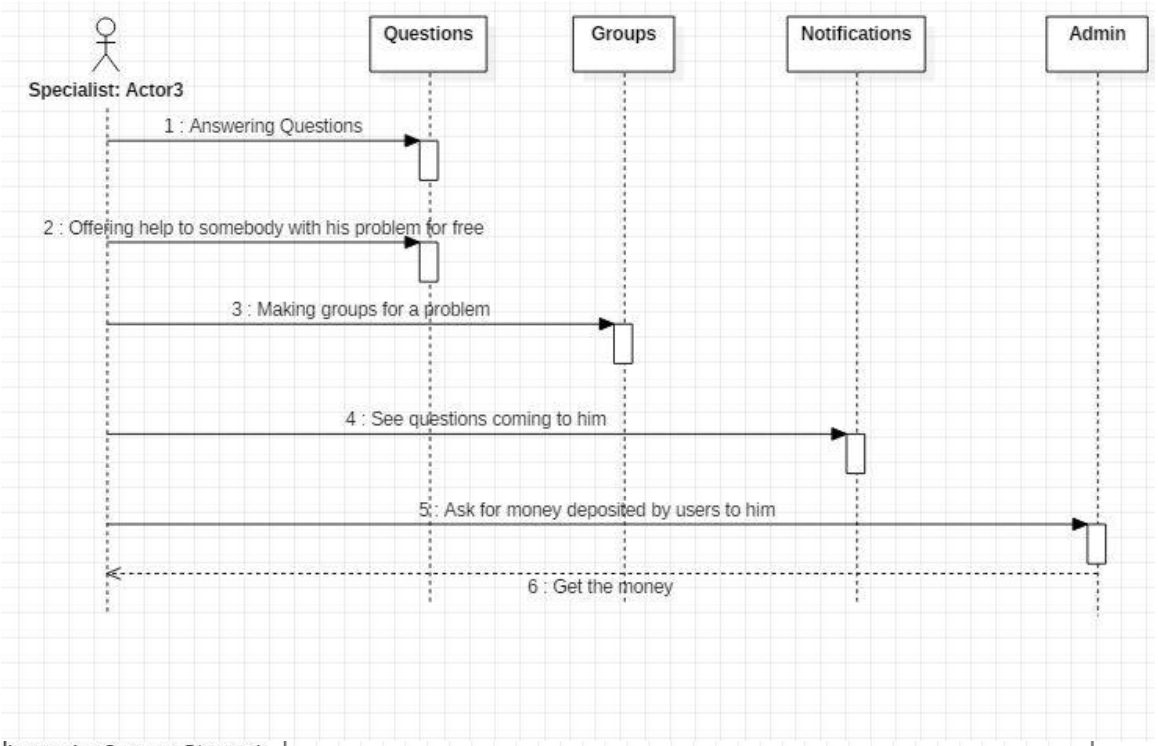
Code	FR-M12
Description	- User can view his/her profile, containing all posts asked by him or her , viewing all the groups created by him or her, bookmarks of others' posts.
Input	• Click on view profile icon on the nav bar.
Output	- Viewing user's posts , groups , bookmarks.
Pre-conditions	- You must be signed in.
Post-conditions	- No post-conditions

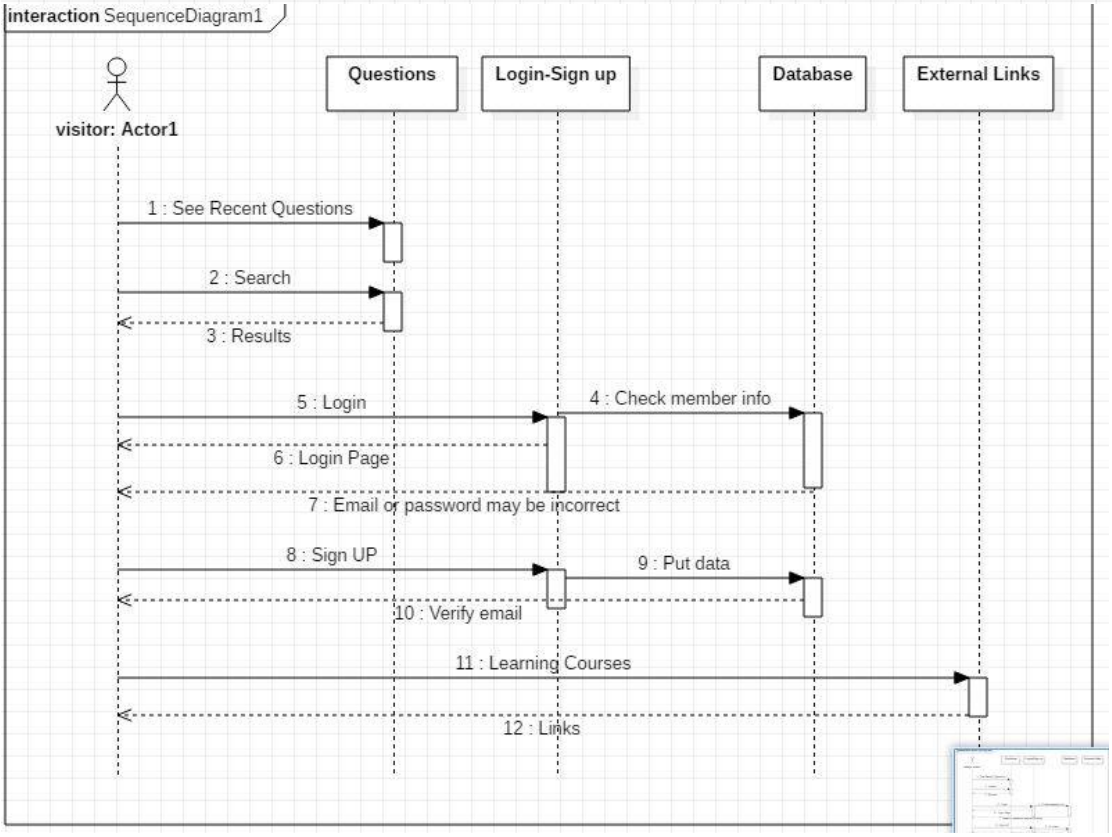
System Models

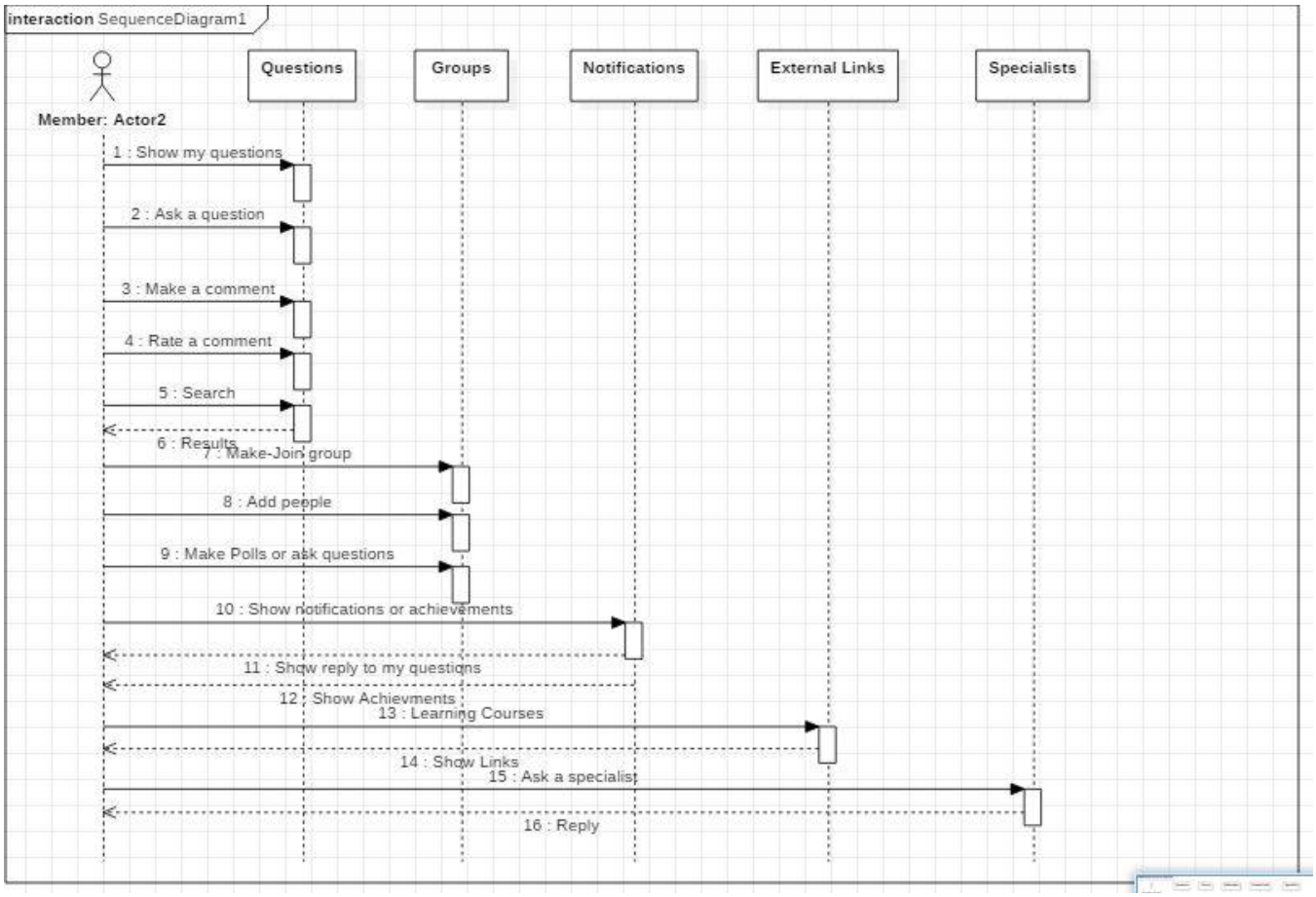
Use Case Diagram



Sequence Diagrams:






interaction SequenceDiagram1
Questions
Groups
Notifications
External Links
Specialists
Member: Actor2
1 : Show my questions
2 : Ask a question
3 : Make a comment
4 : Rate a comment
5 : Search
6 : Results
7 : Make-Join group
8 : Add people
9 : Make Polls or ask questions
10 : Show notifications or achievements
11 : Show reply to my questions
12 : Show Achievments
13 : Learning Courses
14 : Show Links
15 : Ask a specialist
16 : Reply

Non-Functional Requirements

Security

Systems provides security through various levels. Keeping privacy and contents safe as possible.

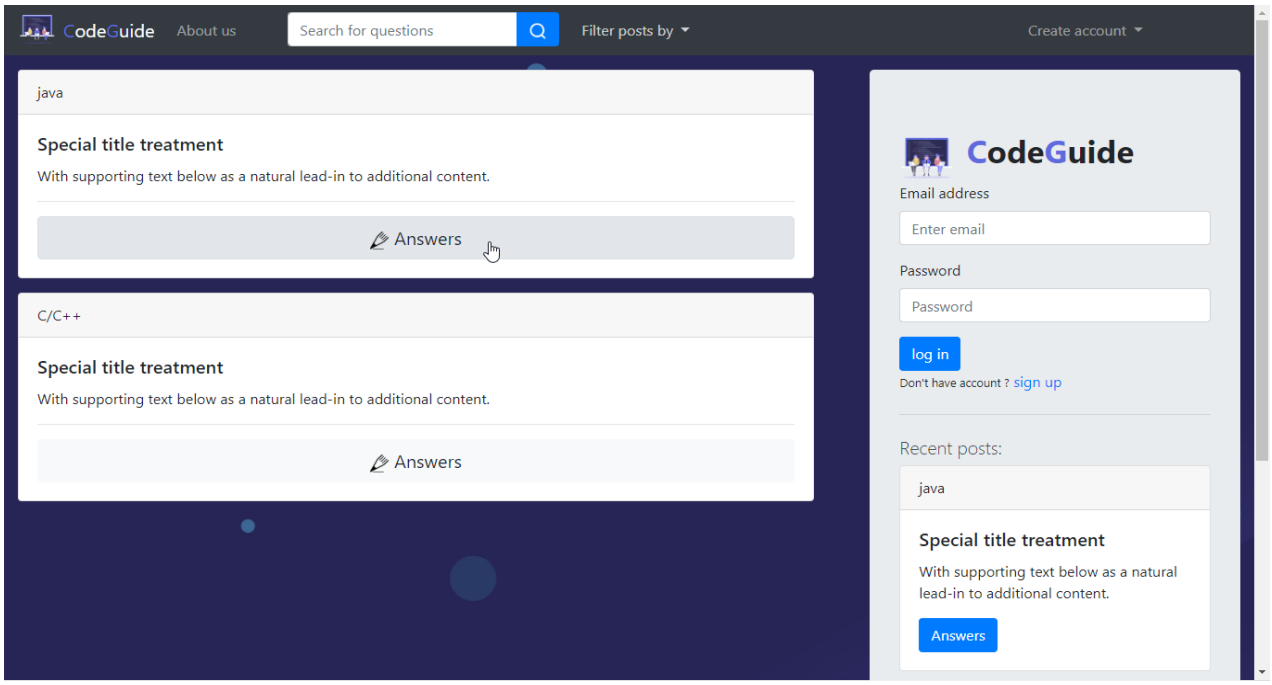
- User's password encryption
- Only user can view his profile and edit it
- Users need to ask permission to join a group and see its content
- Encryption for banking related to "ask specialist"

Ethical

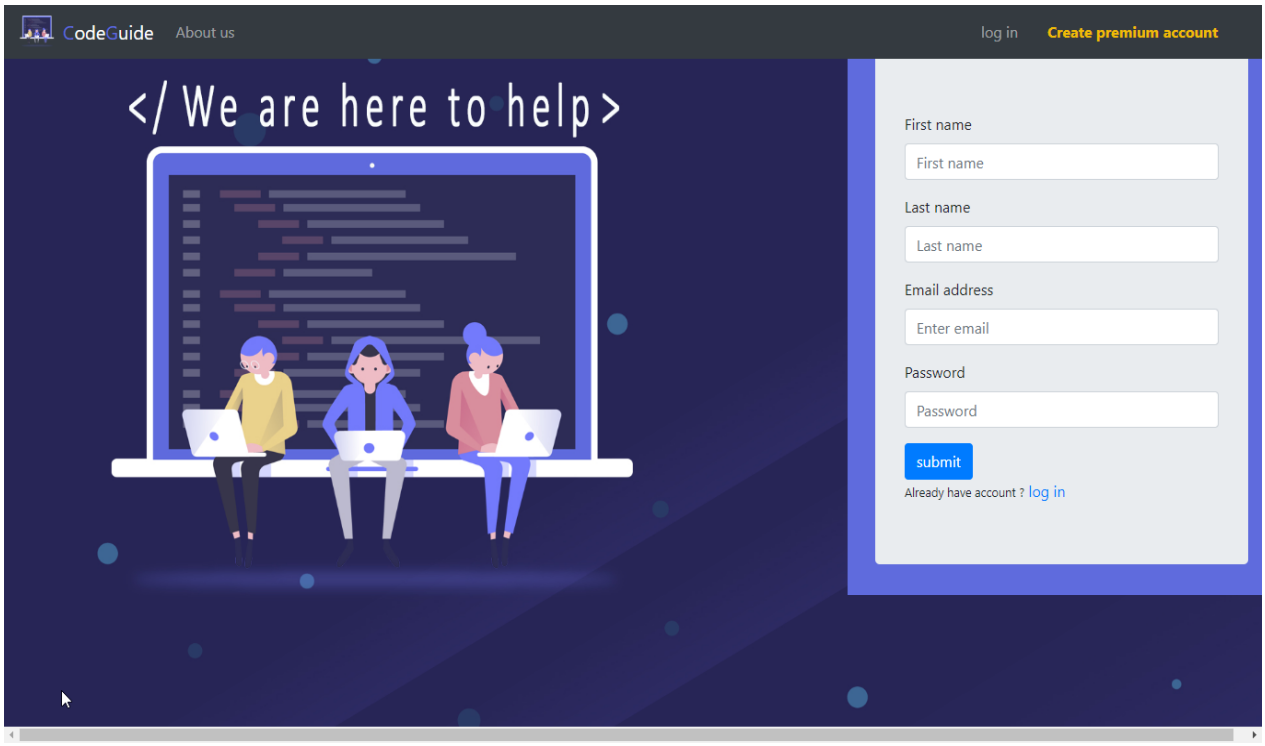
- System removes inappropriate Posts.
- System removes Post that violent the copyright.

System Interfaces

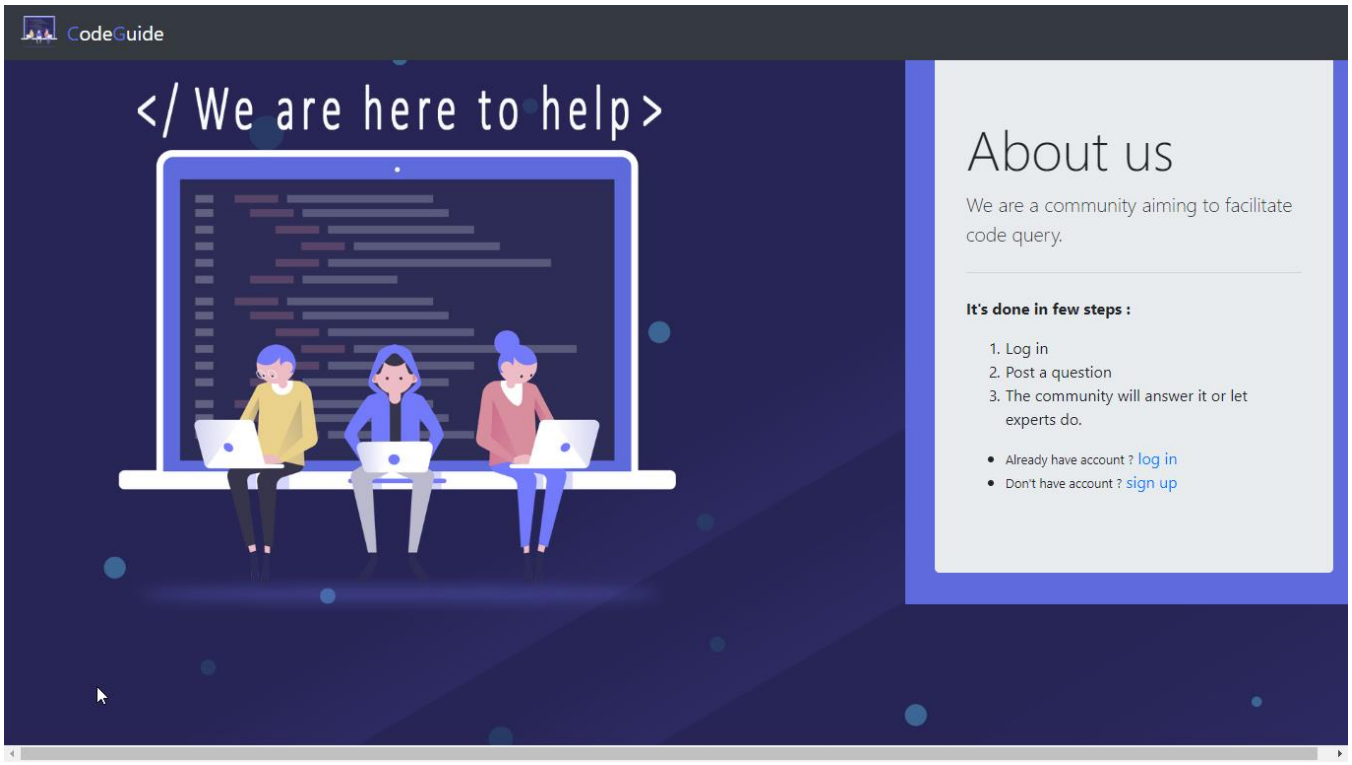
Home Page:



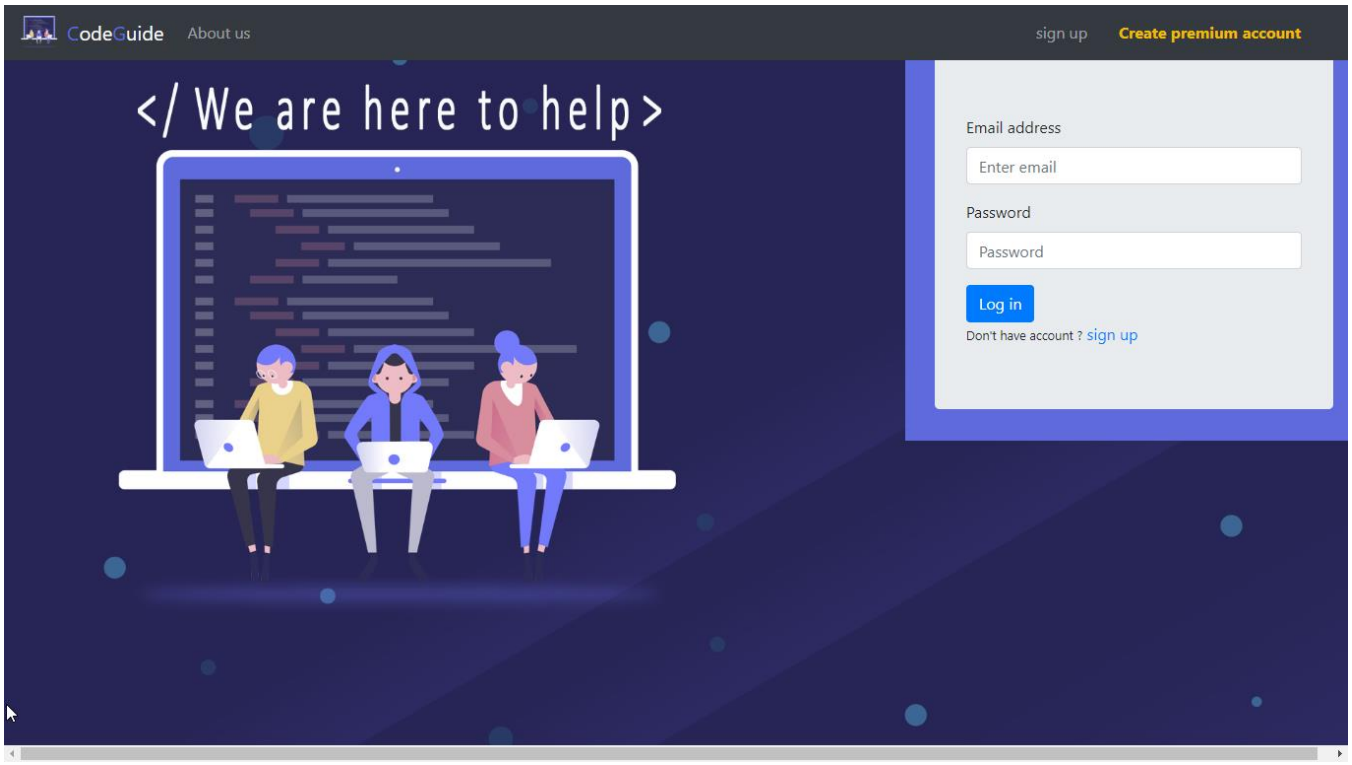
Sign-up Page:



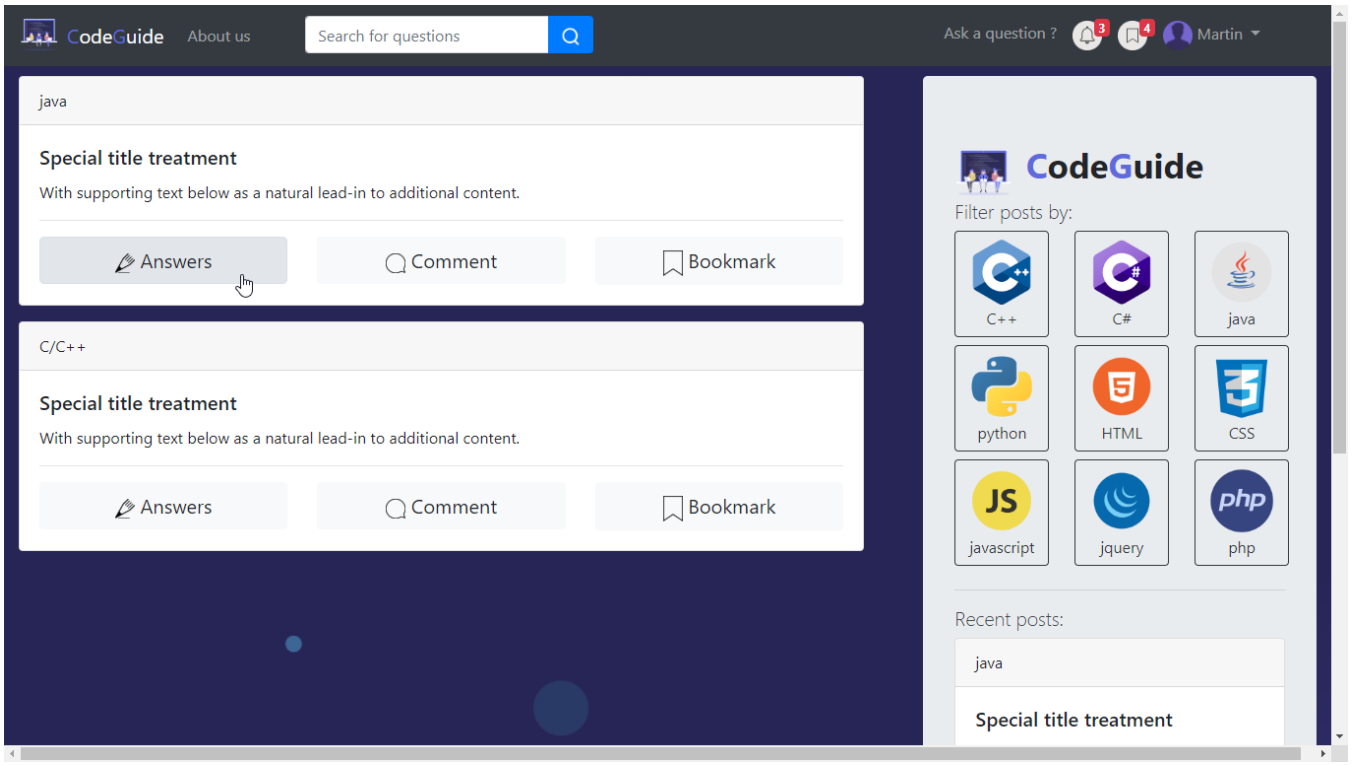
About-us Page:



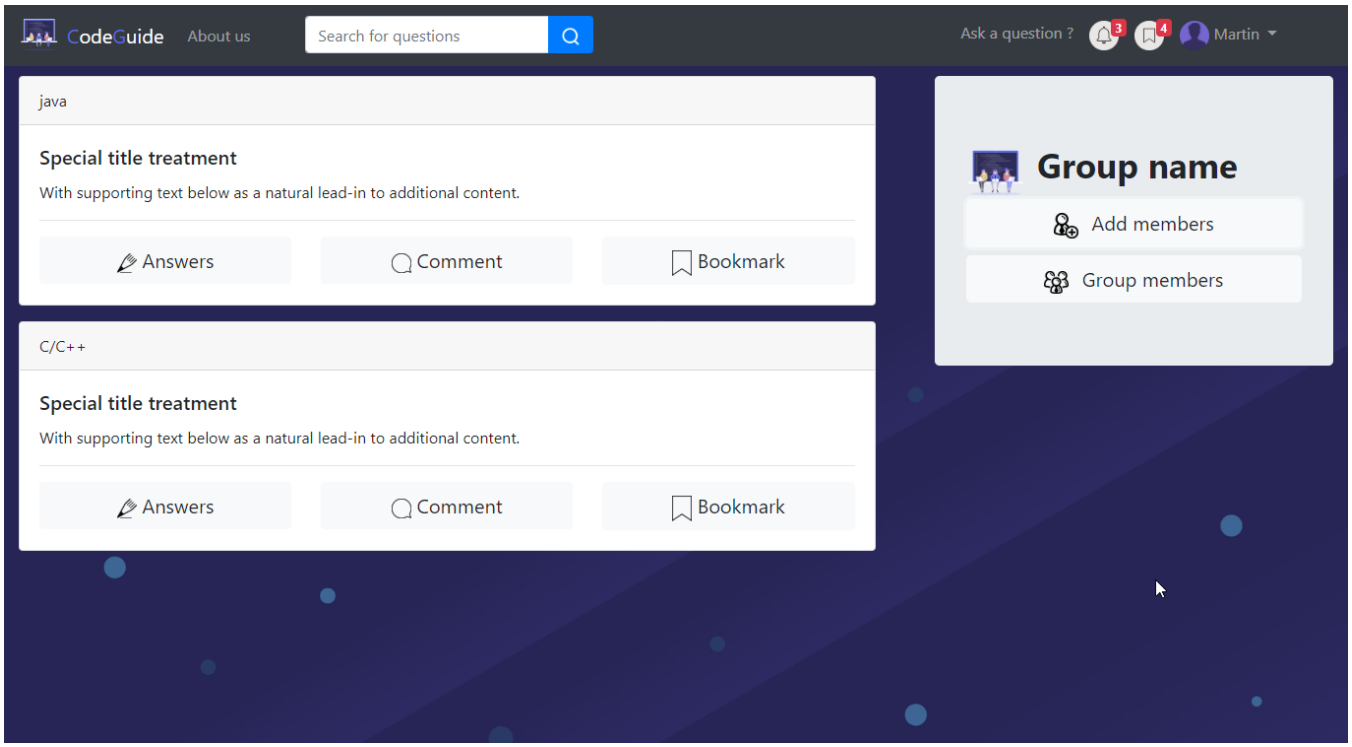
Log-in page:



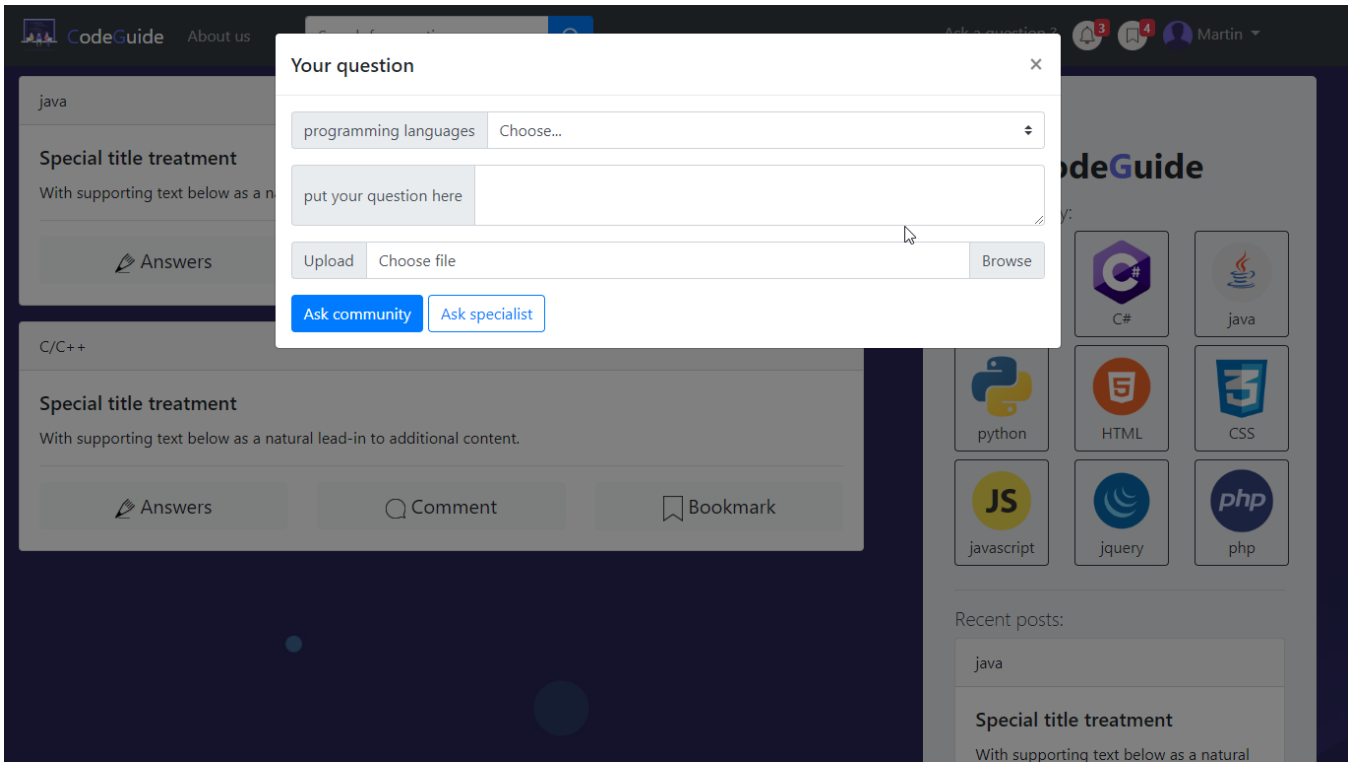
After login page (view questions):



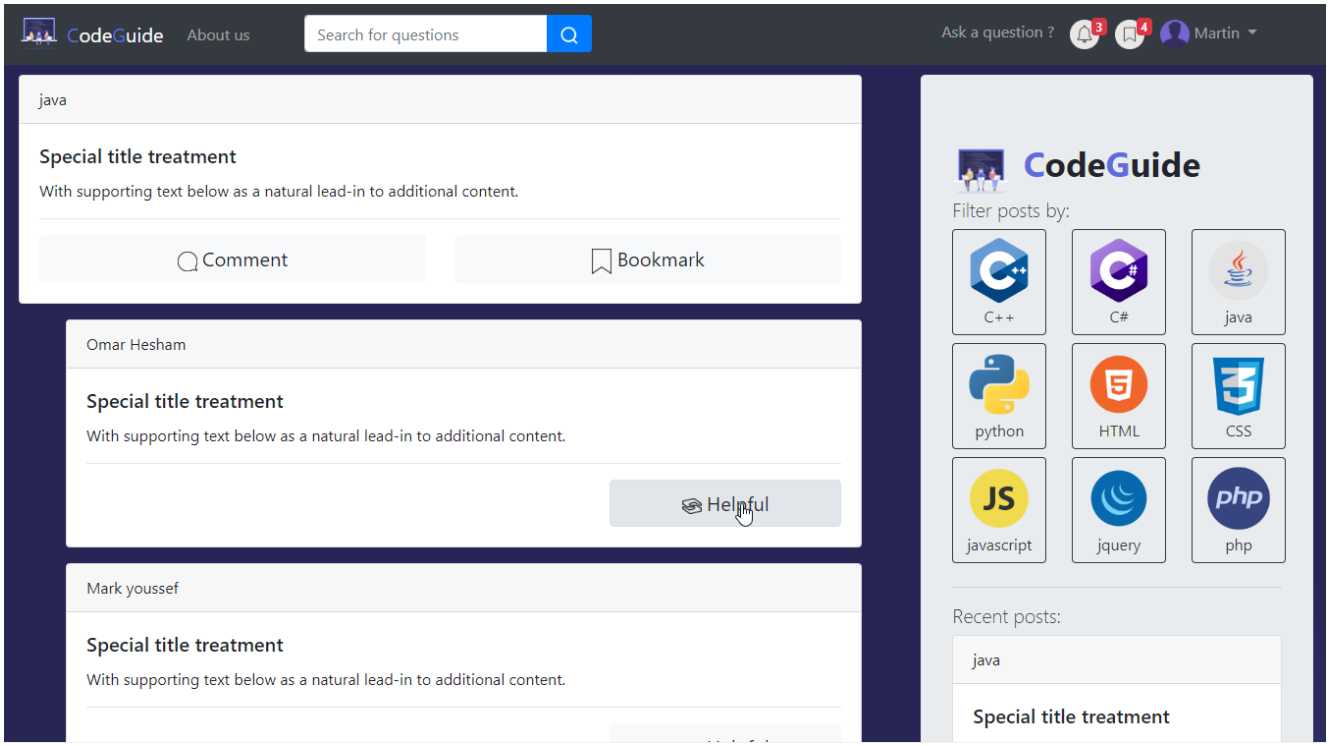
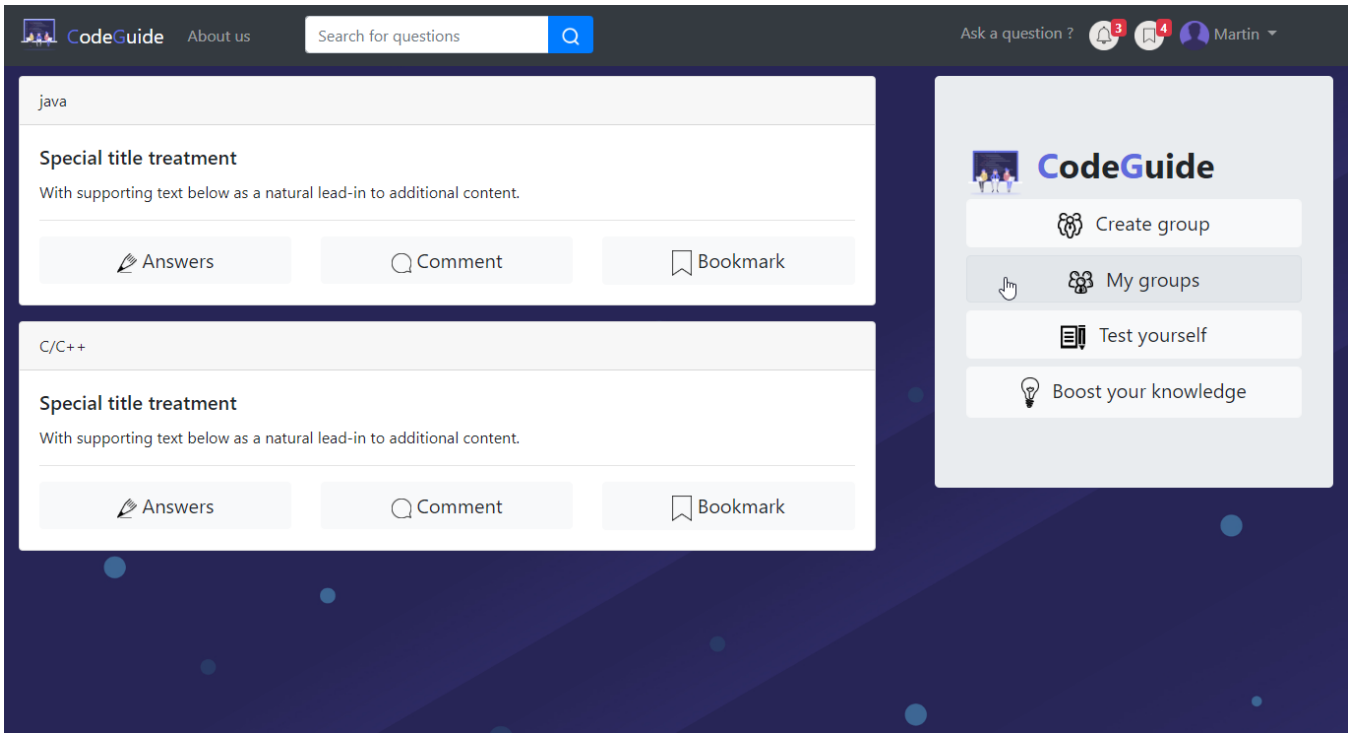
Group page:



Ask a question :



Question page(with commenting):



Profile page :