A PROJECT REPORT

ON

“Stack Overflow Clone”

SUBMITTED BY

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UNDER THE GUIDANCE OF

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(Approved by All India Council for Technical Education & Recognized by the Savitribai Phule Pune University)

CERTIFICATE

This is to certify that **Ms. Kusum Pareek** has successfully completed the project on **"Stack Overflow Clone"** as partial fulfilment of her **Master of Computer Applications (MCA)** under the curriculum of **Savitribai Phule Pune University, Pune** for the academic year 2021-22.

Dr. Shraddha Dudhani	Dr. Shikha Dubey	Dr. Meghana Bhilare
Internal Guide	**H.O.D. MCA**	**Director**

Signature	Signature
Name	Name
Internal Examiner	**External Examiner**
Date :	Date :

Acknowledgement

The success and final outcome of this project required a lot of guidance and assistance from many people. We are extremely privileged to have gotten this all along with the completion of our project. All that we have done is only due to such supervision and assistance and we will not forget to thank them.

We sincerely thank to the Director Dr. Meghana Bhilare, Associate Director Dr. Vishal Wadajkar, HOD Dr. Shikha Dubey, Mrs. Swati Jadhav and to my project guide Mrs. Swati Bhat, for providing us with an opportunity to do the project work and give us all support and guidance which made us completes the project duty. We are extremely thankful to them for providing such a nice support and guidance, although they had a busy schedule managing the corporate affairs.

We owe deep gratitude to our project guides for taking a keen interest in our project work and guiding us all along, till the completion of our project work by providing all the necessary information for developing a good system.

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Table of Contents

Introduction

Stack Overflow is a question and answer website for professional and enthusiast programmers. The Stack Overflow website helps people find the answers they need when they need them. It is best known for its public Q&A platform which over 100 million people visit every month to ask questions, learn, and share technical knowledge.

Any non-member (guest) can search and view questions and tags. However, to add a question, they have to become a member. Members are able to post new questions. Members are able to add an answer to an open question. Members can add comments to any question or answer.
Members have to add tags to their questions. A tag is a word or phrase that describes the topic of the question. The system is able to identify the most frequently used tags in the questions. The system also has a dashboard feature which shows the top 5 trending topics.

The dashboard is a feature added which is not in the existing system. On this page, the top five trending topics of technology are visualized in the form of a linear chart. This linear chart shows the trends regarding what is more popular.

1.1 System Overview

Stack Overflow is a question-and-answer website for professional and enthusiast programmers. The Stack Overflow website helps people find the answers they need when they need them. It is best known for its public Q&A platform which over 100 million people visit every month to ask questions, learn, and share technical knowledge.

The dashboard is a feature added which is not in the existing system. On this page, the top five trending topics of technology are visualized in the form of a linear chart. This linear chart shows the trends regarding what is more popular.

1.2 Definitions, acronyms, and abbreviations

Admin	Person who is responsible for all the data and management of the system.
OS	Operating System
CPU	Central Processing Unit
UI	User Interface
IDE	Integrated Development Environment
RAM	Random Access Memory

1.3 Project Functionalities

- **Home Page**

  This page is the first page that opens whether the user is a member or non-member of the website. It displays all the questions, descriptions and image if any. Through this page, users can navigate to other pages like Tags and Dashboard. If a user is a member then he can also post a question or answer any question(s).

- **Tags**

  This page contains a list of all the tags which are keywords given by the user while posting a question. The user can click on a tag and he will be redirected to the questions based on that tag.

- **Dashboard**

  On this page the top five trending topics of technology are visualized in the form of a linear chart. This linear chart shows the trends regarding what is more popular.

- **Login Modal**

  Registered users can log in to the StackOverflow website through the login form.

- **Sign Up Modal**

  Users can register to the StackOverflow website through the sign-up form.

- **Logout**

  After clicking on this button, the recruiter and Job Seeker can exit from their respective system.

1.5 Operating Environment:

1. Client-Side Requirements:

Hardware	Software
Processor: x86 or x64	Operating System: Windows 7 and above, Linux
Speed: 1.1 GHz and above	Web Browser: Google Chrome, Mozilla Firefox, IE 11, etc.
RAM: 1 GB and above	
Hard Disk: 3GB and above	

2. Server Side Requirements:

Hardware	Software
Processor: Core i3 and above	Operating System: Windows, Linux
Speed: 2GHz and above	Server: Node.js v16.15.1
RAM: 2GB and above	Database: MySQL 8.X
Hard Disk: 500 GB and above	

Proposed System

2.1 Scope of the Proposed System

- Any non-member (guest) can search and view questions and tags. However, to add a question, they have to become a member.
- Members are able to post new questions.
- Members are able to add an answer to a question.
- Members can add the answer to any question.
- Members have to add tags to their questions. A tag is a word or phrase that describes the topic of the question.
- The system is able to identify the most frequently used tags in the questions.
- The system also has a dashboard feature which shows the top 5 trending topics.

2.2 Objectives of the System

- Along with some of the existing features of the Stack Overflow website, a new dashboard menu where the top 5 trending technologies will be visualized through a chart so as to know which technology developers/programmers/users are facing problems.

2.3 Feasibility Study

A feasibility study is carried out to select the best system that meets performance requirements.

Feasibility is the determination of whether or not a project is worth doing. The process followed in making this determination is called a feasibility study. This type of study determines if a project can and should be implemented or not.

Since the feasibility study may lead to the commitment of large resources, it becomes necessary that it should be conducted competently and that fundamental errors of judgment are made.

Feasibility analysis involves the study of the economic, technical and behavioural factors in the system.

1. **Technical Feasibility**: - Checks for the existing hardware and software and to what extent it can support a proposed addition. Since the system is mainly for jobs in the IT sector, every applicant is assumed to have computer and internet access. So, the proposed system is technically feasible.

2. **Economic Feasibility**: - Checks for the cost-benefit analysis of the candidate system. The procedure is to determine the benefits and savings that are expected from a TraPlaCa system and compare them with the cost. The system may have ads and paid training and career guidance resources.

3. **Behavioral Feasibility**: - Considers the reaction of the users to interface and easy navigation.Thus, the proposed system is technically, economically as well as behaviorally feasible to be developed and implemented.

Thus, the proposed system is technically, economically as well as behaviorally feasible to be developed and implemented.

2.4 User Requirement Specification:

According to a survey, the following are some Client Requirements:

- System should store all the information about registered users for the login and registration process.
- The Graphical User Interface of the system should be creative and easy to use.
- System should allow non-members to view questions and answers.
- User should fill out true information in order to get good search results.
- The registration page should be accessible to all users.
- User should enter valid question details and keywords.

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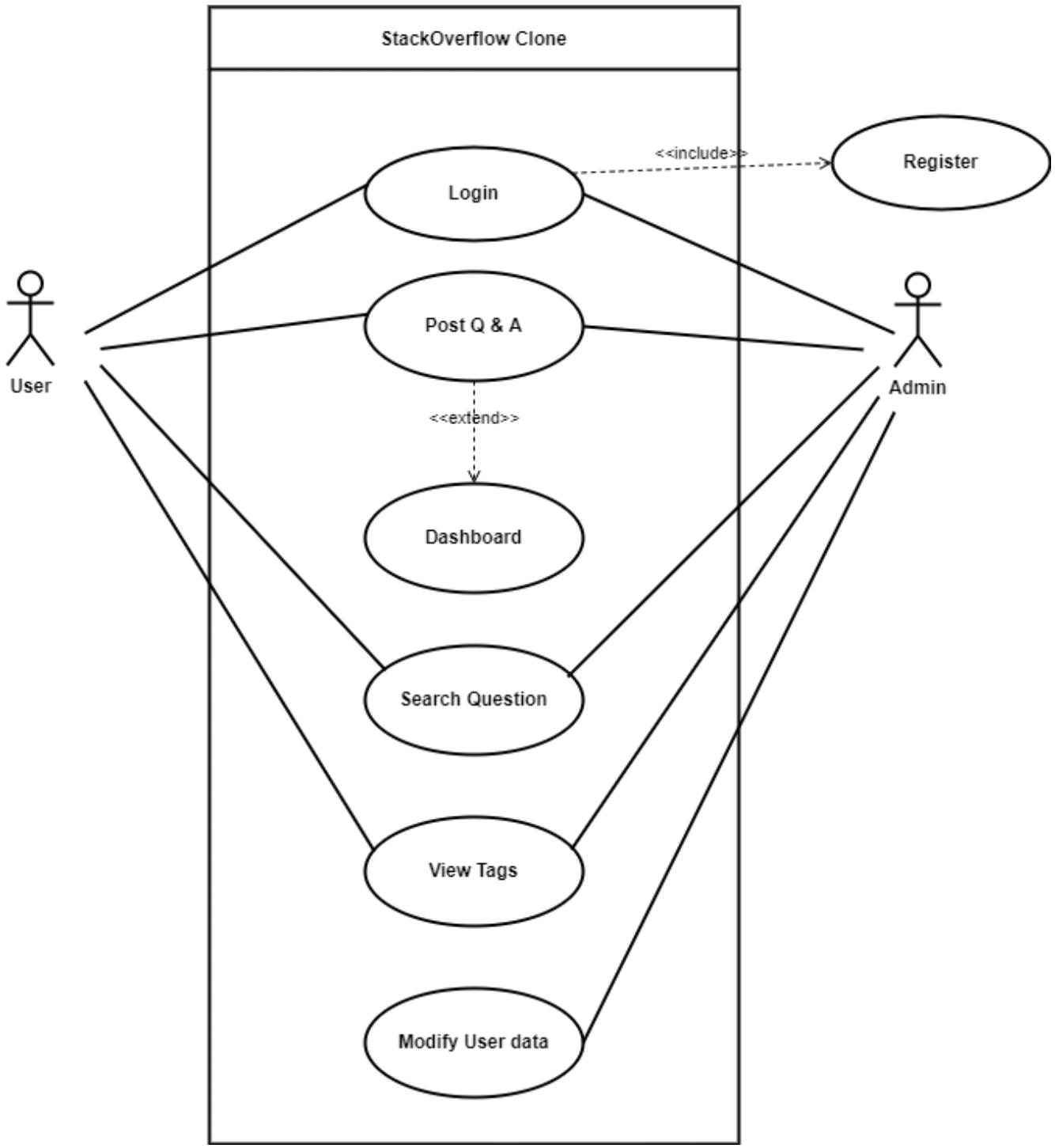
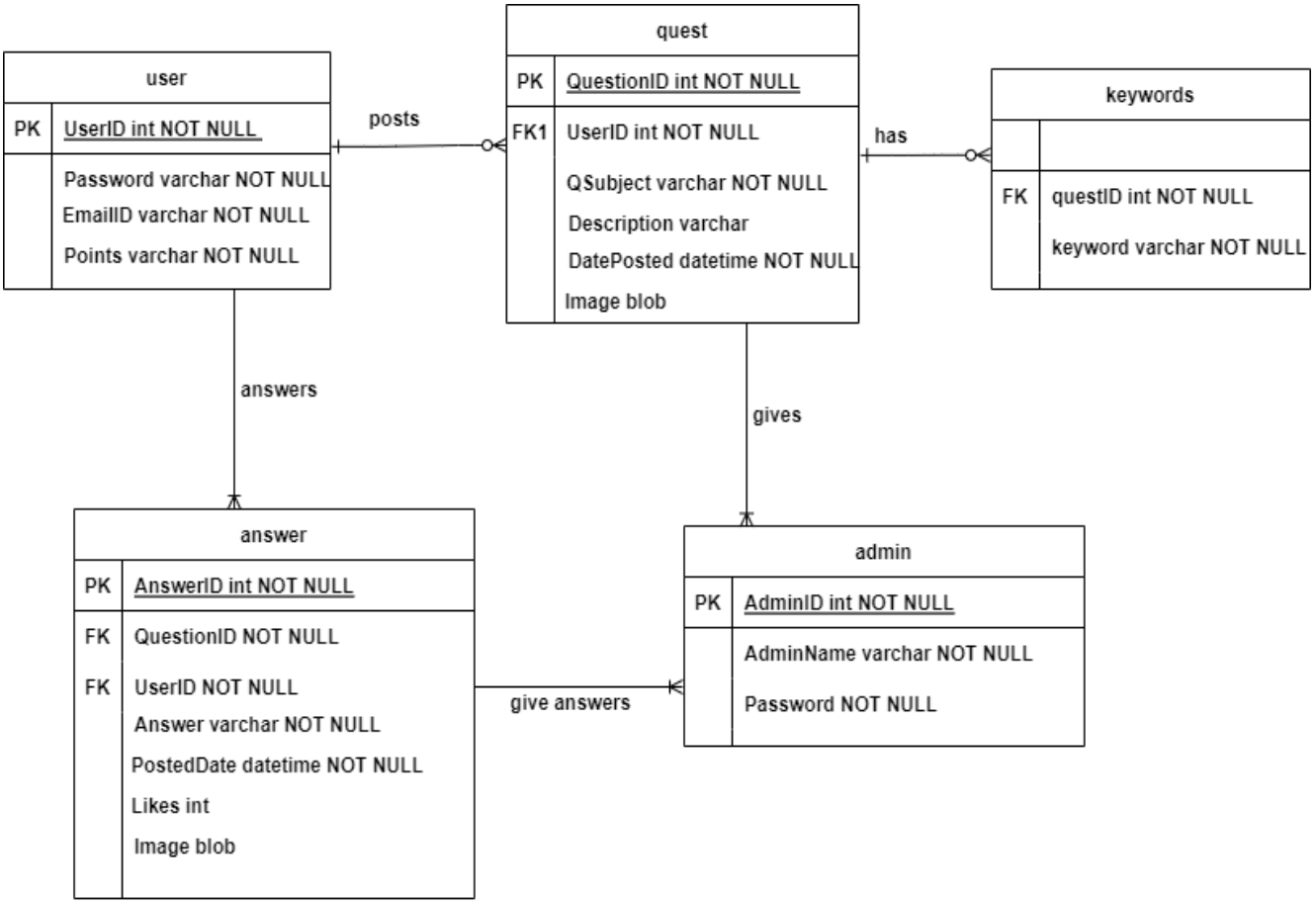
System Analysis & Design

System Analysis is the process of gathering and interpreting facts, diagnosing problems and the information about the Stack Overflow Clone System to recommend improvements to the system. It is a problem-solving activity that requires intensive communication between the system users and system developers. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variables, analyzing and synthesizing the various factors and determining an optimal or at least satisfactory solution to a problem.

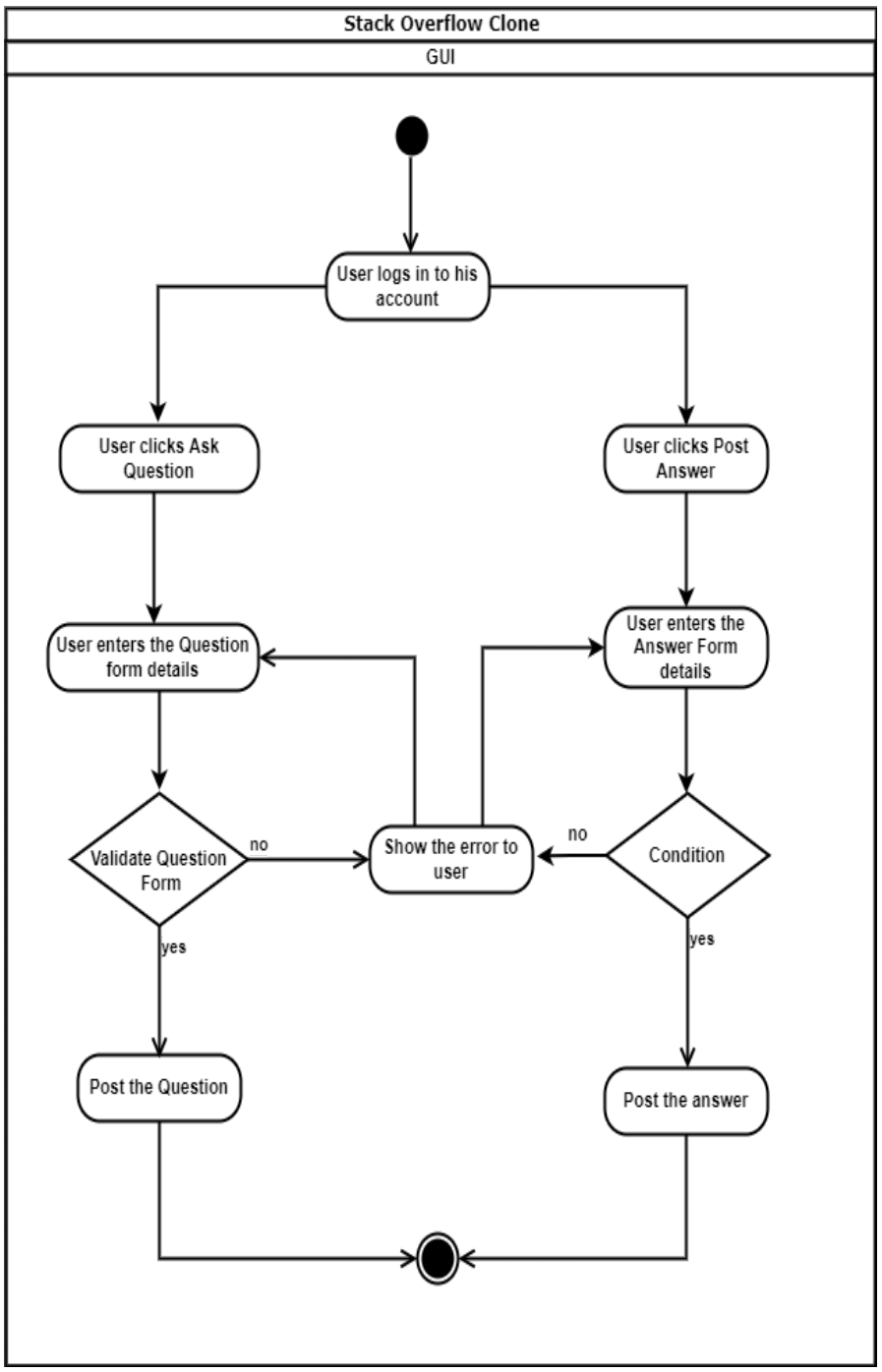
3.1 Use Case Diagram



3.2 E-R Diagram

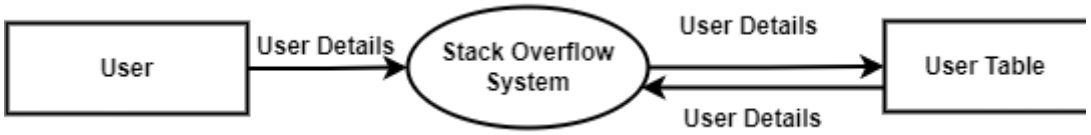


3.3 Activity Diagram

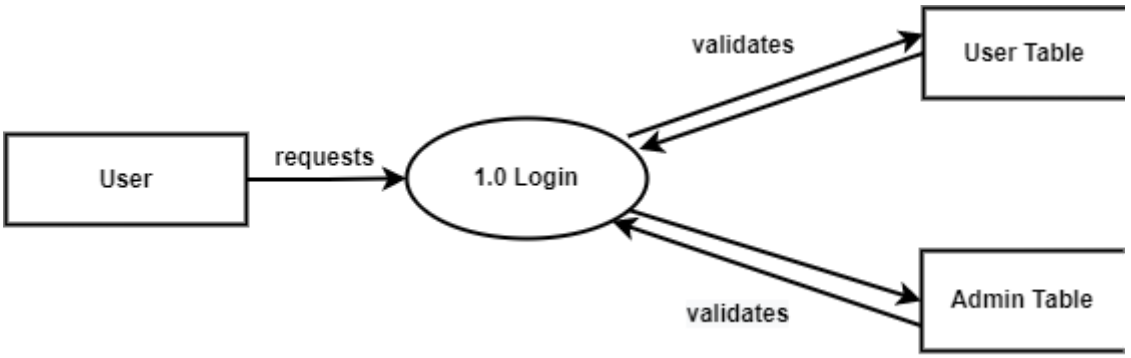


3.4 Data Flow Diagram

1. **StackOverflow System:**



2. **Login Process:**



3. **Registration Process:**

4. Post Questions

5. Post Answer

3.5 Data Dictionary

1. Admin Table:

No.	Field Name	Datatype	Constraints	Description
1	AdminID	INT	primary key	Stores unique Admin id
2	AdminEmail	varchar(45)	not null	email of the admin
3	Password	varchar(45)	not null	Stores the password of the admin.

2. User Table:

No.	Field Name	Datatype	Constraints	Description
1	UserID	INT	primary key	Stores unique user id
2	Password	varchar(45)	not null	Stores password
3	EmailID	varchar(45)	not null	Stores user email
4	Points	varchar(45)	not null	Stores points

3. Question Table:

No.	Field Name	Datatype	Constraints	Description
1	QuestionID	INT	primary key	Stores unique question id
2	Qsubject	varchar(45)	not null	Stores the subject of the question
3	Description	varchar(45)	not null	Stores the description
4	DatePosted	DATETIME	not null	Stores the date and time
5	Image	BLOB	not null	Stores image relevant to the question
6	UserID	INT	foriegn key, not null	Stores the user id
7	AdminID	INT	foreign key, not null	Stores the admin id

4. Answer Table:

No.	Field Name	Datatype	Constraints	Description
1	AnsID	INT	primary key	Stores unique answer id
2	Answer	varchar(500)	not null	Stores answer
3	PostedDated	DateTime	not null	Stores date and time
4	Likes	INT	-	Stores likes on a users question
5	Image	BLOB	-	Stores image for an answer
6	QuestionID	INT	not null	Stores question id of a question
7	UserID	INT	not null	Stores user id
8	AdminID	INT	not null	Stores admin id

5. Keywords Table:

No.	Field Name	Datatype	Constraints	Description
1	questID	int	not null	Stores question id
2	keyword	varchar(45)	not null	Stores keyword

User Manual

Operational Instructions:

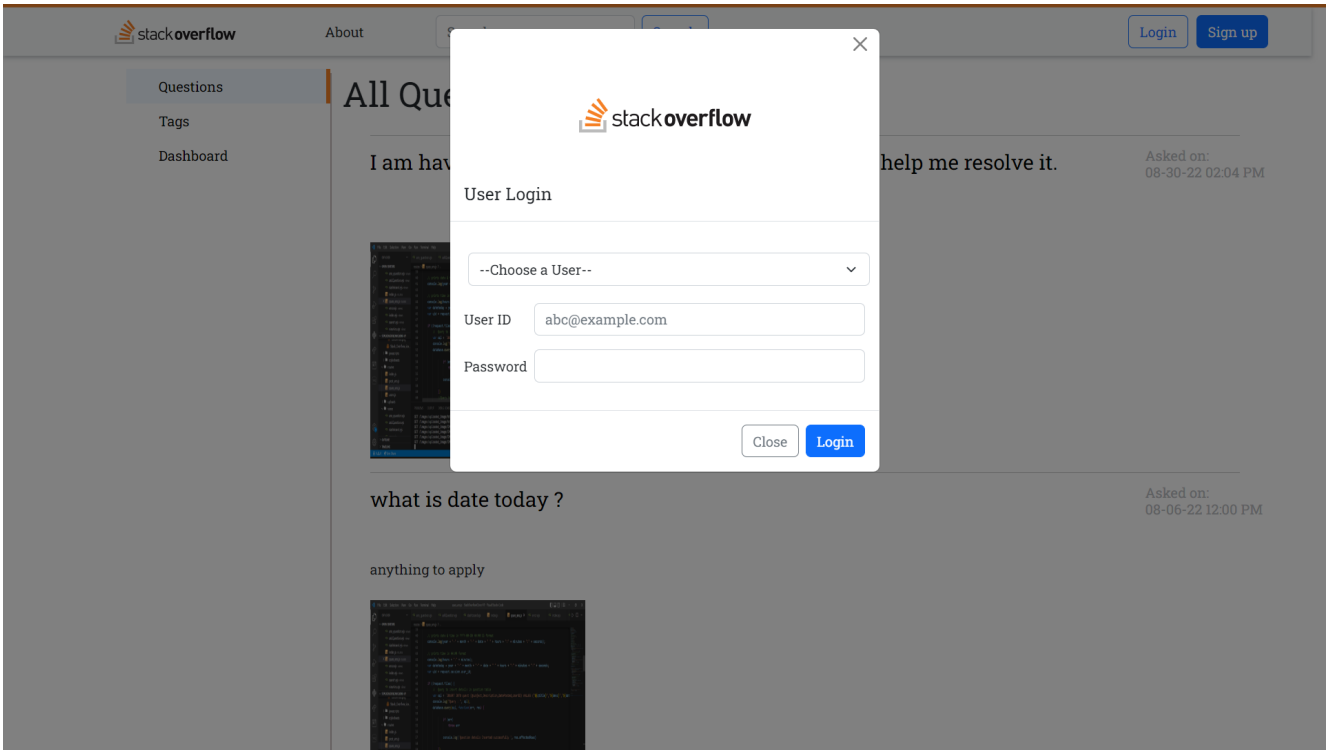
1. The system requires a stable internet connection to use features of the Stack Overflow Clone system.

2. Types of users:
    a. Admin:
        i. Admin of the system is responsible for the operations in Stack Overflow Clone.
        ii. Admin can navigate to tabs such as Questions, Tags, Dashboard and About Us.
        iii. Admin can log out by the button on the right corner.
        iv. Only members can post and answer questions with images.
        v. Admin can view tags that show the keyword of what technologies other users are facing issues.
        vi. Admin can also search questions based on the keyword of questions.

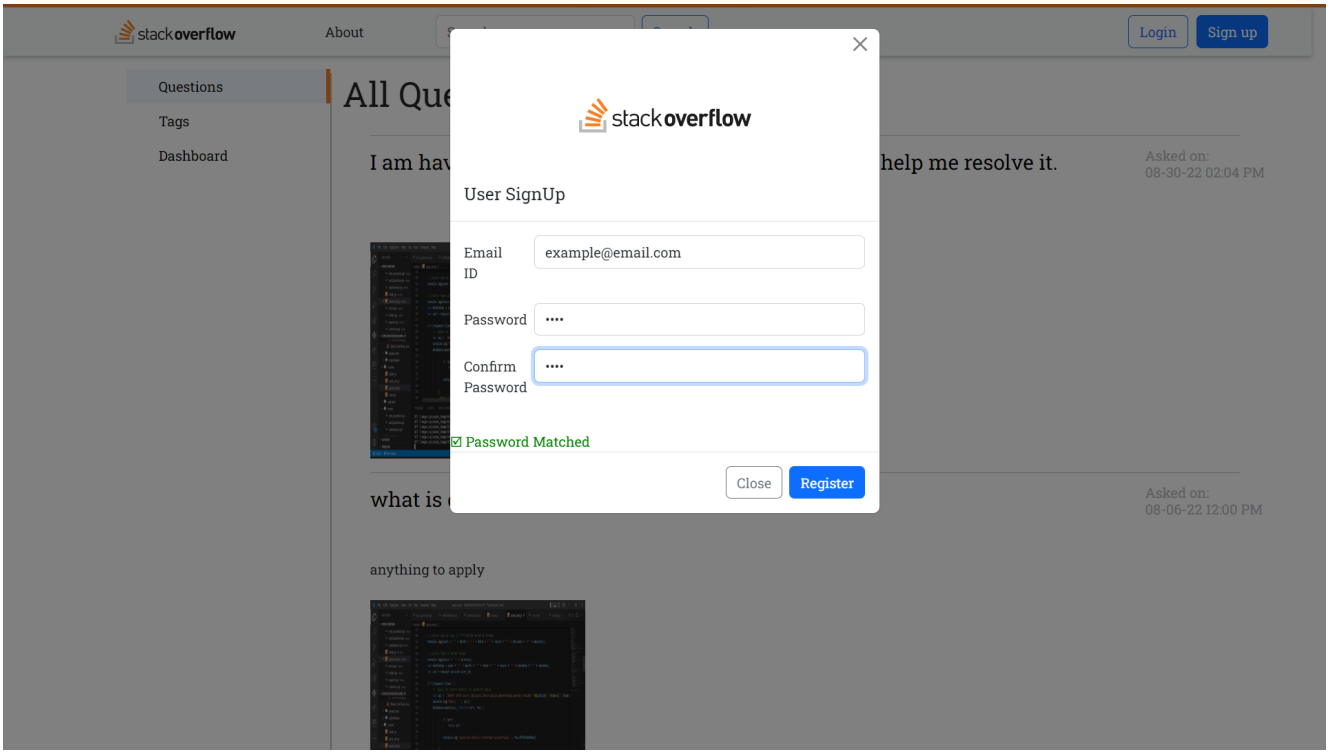
    b. User:
        i. Users can navigate to tabs such as Questions, Tags, Dashboard and About Us.
        ii. Users can log out by the button on the right corner.
        iii. Only members can post and answer questions with images.
        iv. Users can view tags that show the keyword of what technologies other users are facing issues with.
        v. Users can also search questions based on the keyword of questions.

USER INTERFACE SCREENS

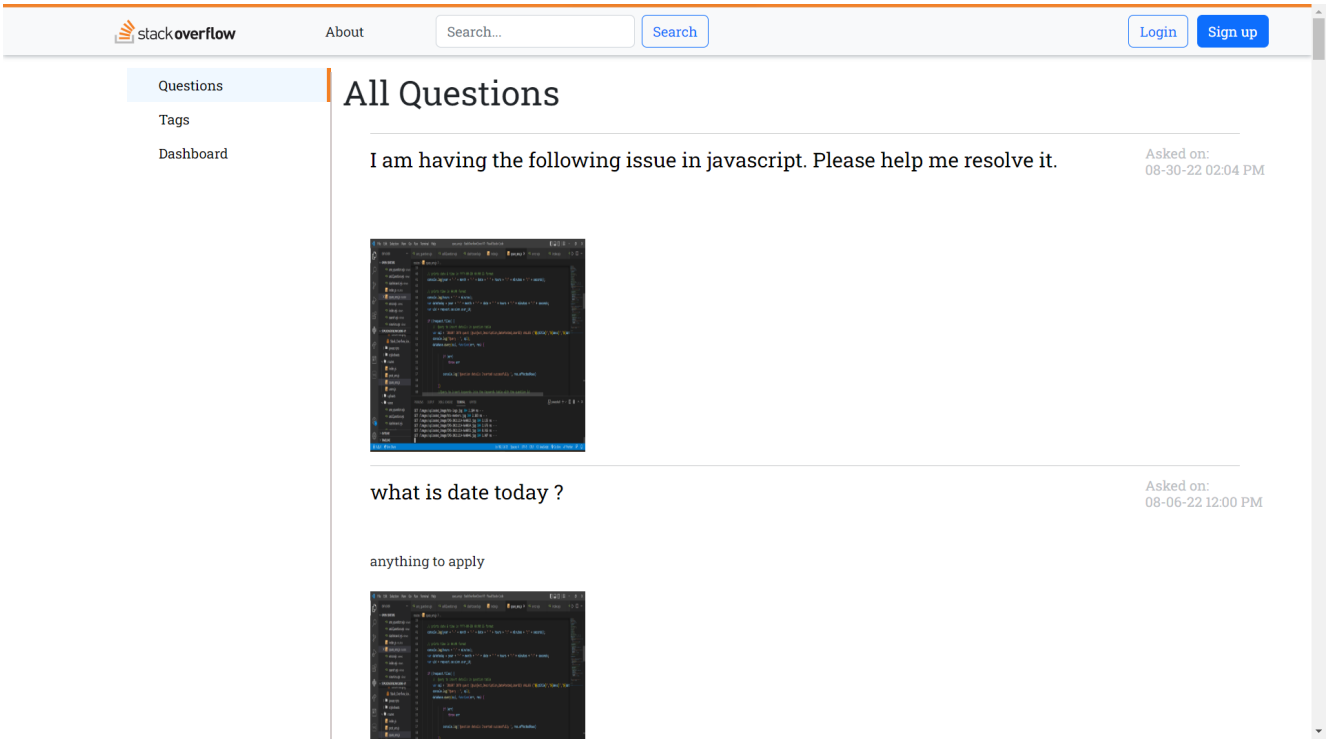
1. Login Page:



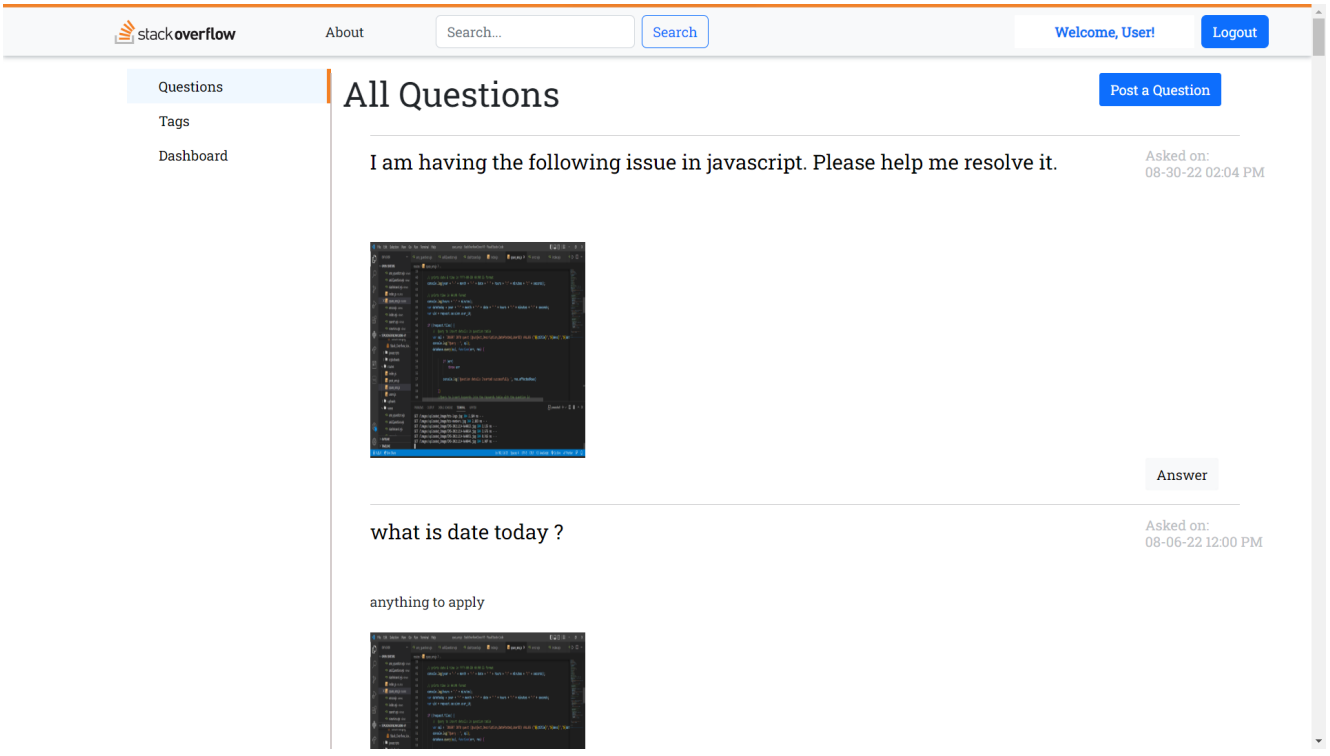
2. SignUp:



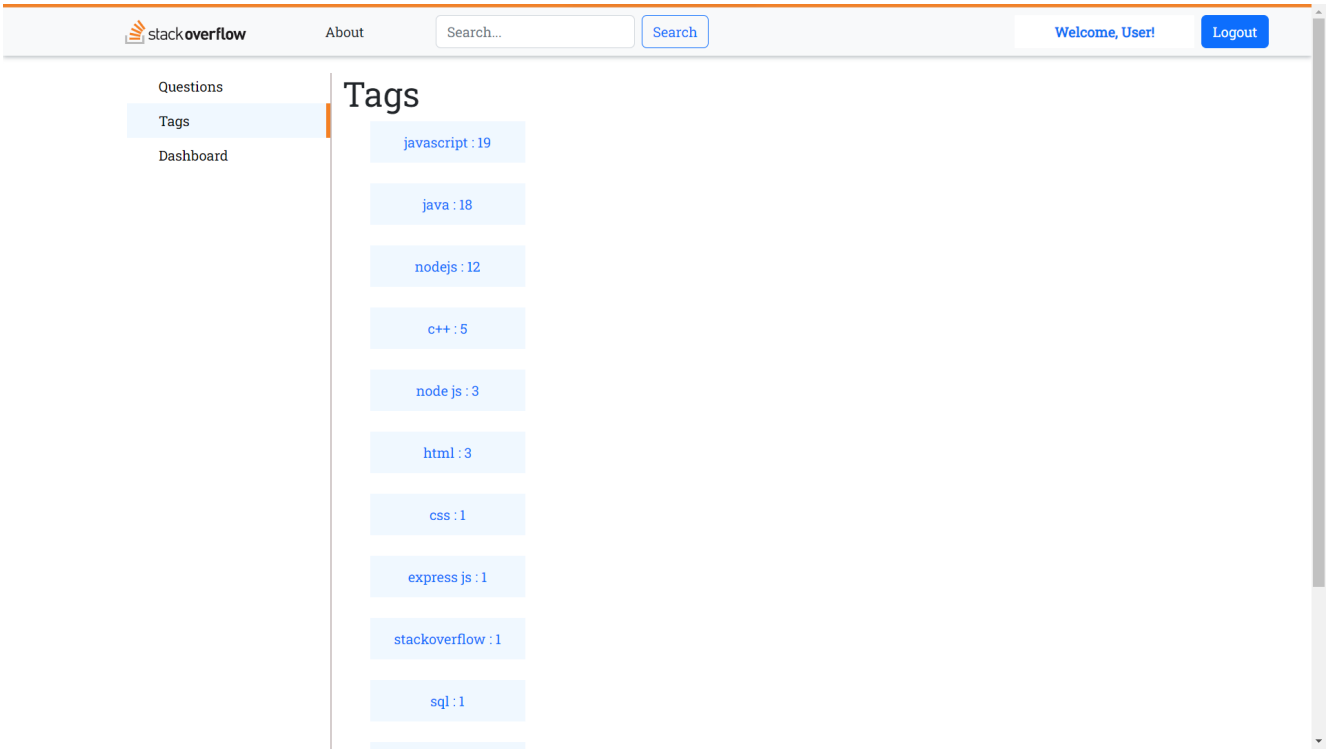
3. Questions(Home):



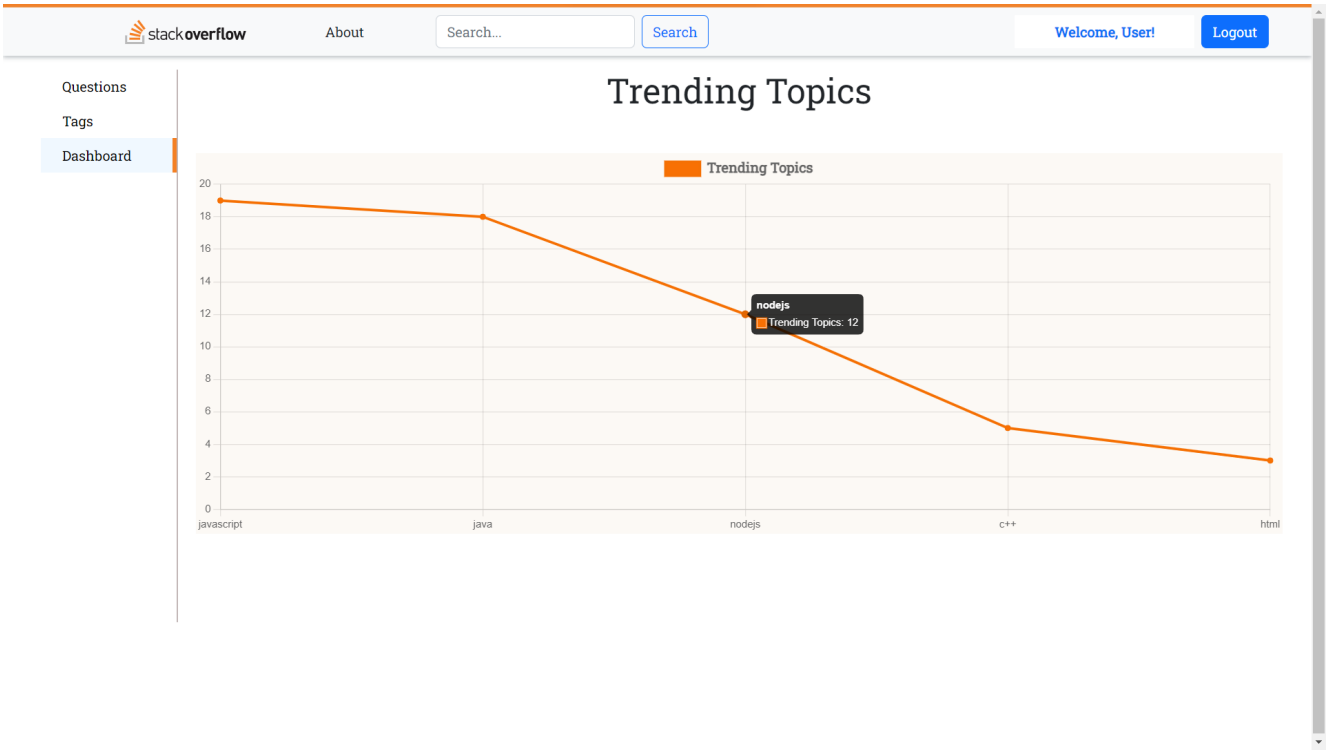
4. Home after Login:



5. Dashboard:



6. Dashboard:



System Limitation

During the course of all project work, certain boundaries were identified. The following points are briefly expressed so that the person who may be involved in future improvement will have an overview of the process of this project.

- Multiple keyword search is not allowed,i.e., filtering questions based on a single keyword tag is allowed.
- Login through social media accounts is not allowed.
- Forget Password feature is not available.

Future Enhancement

- Upvoting/Downvoting a question can be added.
- More functionalities related to handling questions, answers and users can be added to Admin's functional capacity.
- Points can be given to the user based on likes his answer gets which can be used for in-app purchases if introduced in future.

Conclusion

- The system developed is able to meet all the basic requirements.
- The development and implementation of this system have been carried out successfully.
- Advancing features of the present system are added, considering the present system design has been developed.
- It is very simple and comfortable to understand at all levels.
- The system was tested, validated and found to be a working prototype.
- The system is flexible and all the modules can be integrated and modified easily.

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