DOUBTS CLARIFY SYSTEM

Professional Seminar SP17 CS699B

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1.0 Abstract

Now a days number of students using world-wide-web for clarifying their doubts. But it is limited to some. And so many students are unable to understand some topics in the subjects and frightened to discuss with faculty directly. So doubts clarify system provide the solution to it.

It is designed based on Java script and html. In this system student can login and post their doubts to the corresponding faculty in the interface provided to them. So faculty can reply the clarification and students can feel free to ask doubts. The most important thing is that as the development of technology students should learn new methods to improve their skills and improve the quality of education.

2.0 Introduction

This project assists different kinds of persons like students, faculties of college and the project is useful until the education on the earth will be taken by students. It is limited to higher education but can be extended to all categories of education and the main disadvantage of this system is it needs to be update whenever there is change in course structure of academic year of education. The main services are: -

Student: As a student in this system provided to them he can perform actions like Registration, Login into system, Post a doubt to corresponding faculty and View replay to doubt posted.

Faculty: As a faculty in this system there are four functionalities that he can perform which are Registration, Login into the system, view doubts posted to him by students and give replay to doubts posted to him by students.

So in this system we are providing an interface between students and faculty such that they can easily express doubts in this system. It also provides all the links to subject tutorials.

1. It is good platform to interact with professors.

2. It provides various Tutorial links.

3. Easy to use GUI that does not requires specific training.

3.0 JAVASCRIPT

JavaScript is a script-based programming language that was developed by Netscape Communication Corporation. JavaScript was originally called Live Script and renamed as JavaScript to indicate its relationship with Java. JavaScript supports the development of both client and server components of Web-based applications. On the client side, it can be used to write programs that are executed by a Web browser within the context of a Web page. On the server side, it can be used to write Web server programs that can process information submitted by a Web browser and then update the browser's display accordingly.

Even though JavaScript supports both client and server Web programming, we prefer JavaScript at Client side programming since most of the browsers supports it. JavaScript is almost as easy to learn as HTML, and JavaScript statements can be included in HTML documents by enclosing the statements between a pair of scripting tags

<SCRIPTS>..</SCRIPT>.

```
<SCRIPT LANGUAGE = "JavaScript">
JavaScript statements
</SCRIPT>
```

Here are a few things we can do with JavaScript:

- Validate the contents of a form and make calculations.
- Add scrolling or changing messages to the Browser's status line.
- Animate images or rotate images that change when we move the mouse over them.
- Detect the browser in use and display different content for different browsers.
- Detect installed plug-ins and notify the user if a plug-in is required.

We can do much more with JavaScript, including creating entire application.

ADVANTAGES

- JavaScript can be used for Sever-side and Client-side scripting.
- It is more flexible than VBScript.
- JavaScript is the default scripting languages at Client-side since all the browsers supports it.

JAVA DATABASE CONNECTIVITY (JDBC):

JDBC is a Java API for executing SQL statements. (As a point of interest, JDBC is a trademarked name and is not an acronym; nevertheless, JDBC is often thought of as standing for Java Database

Connectivity. It consists of a set of classes and interfaces written in the Java programming language. JDBC provides a standard API for tool/database developers and makes it possible to write database applications using a pure Java API.

Using JDBC, it is easy to send SQL statements to virtually any relational database. One can write a single program using the JDBC API, and the program will be able to send SQL statements to the appropriate database. The combinations of Java and JDBC lets a programmer write it once and run it anywhere.

PROCEDURE FOR ESTABLISHING CONNECTION

To establish a connection with database, it follows the following steps

- Establish a connection with a database
- Create a SQL statements
- Execute the SQL statement
- Process the result
- Close the connection

JDBC VERSUS ODBC AND OTHER APIs

At this point, Microsoft's ODBC (Open Database Connectivity) API is that probably the most widely used programming interface for accessing relational databases. It offers the ability to connect to almost all databases on almost all platforms.

So why not just use ODBC from Java? The answer is that you can use ODBC from Java, but this is best done with the help of JDBC in the form of the JDBC-ODBC Bridge, which we will cover shortly. The question now becomes "Why do you need JDBC?" There are several answers to this question:

1. ODBC is not appropriate for direct use from Java because it uses a C interface. Calls from Java to native C code have a number of drawbacks in the security, implementation, robustness, and automatic portability of applications.
2. A literal translation of the ODBC C API into a Java API would not be desirable. For example, Java has no pointers, and ODBC makes copious use of them, including the notoriously error-prone generic pointer "void *". You can think of JDBC as ODBC translated into an object-oriented interface that is natural for Java programmers.
3. ODBC is hard to learn. It mixes simple and advanced features together, and it has complex options even for simple queries. JDBC, on the other hand, was designed to keep simple things simple while allowing more advanced capabilities where required.
4. A Java API like JDBC is needed in order to enable a "pure Java" solution. When ODBC is used, the ODBC driver manager and drivers must be manually installed on every client machine.

When the JDBC driver is written completely in Java, however, JDBC code is automatically installable, portable, and secure on all Java platforms from network computers to mainframes.

Java Server Pages (JSP)

Java server Pages is a simple, yet powerful technology for creating and maintaining dynamic-content web pages. Based on the Java programming language, Java Server Pages offers proven portability, open standards, and mature re-usable component model .The Java Server Pages architecture enables the separation of content generation from content presentation. This separation not eases maintenance headaches; it also allows web team members to focus on their areas of expertise. Now, web page designer can concentrate on layout, and web application designers on programming, with minimal concern about impacting each other's work.

FEATURES OF JSP

Portability

Java Server Pages files can be run on any web server or web-enabled application server that provides support for them. Dubbed the JSP engine, this support involves recognition, translation, and management of the Java Server Page lifecycle and its interaction components.

Components

It was mentioned earlier that the Java Server Pages architecture can include reusable Java components. The architecture also allows for the embedding of a scripting language directly into the Java Server Pages file. The components current supported include Java Beans, and Servlets.

Processing

A Java Server Pages file is essentially an HTML document with JSP scripting or tags. The Java Server Pages file has a JSP extension to the server as a Java Server Pages file. Before the page is served, the Java Server Pages syntax is parsed and processed into a Servlet on the server side. The Servlet that is generated outputs real content in straight HTML for responding to the client.

ACCESS MODELS

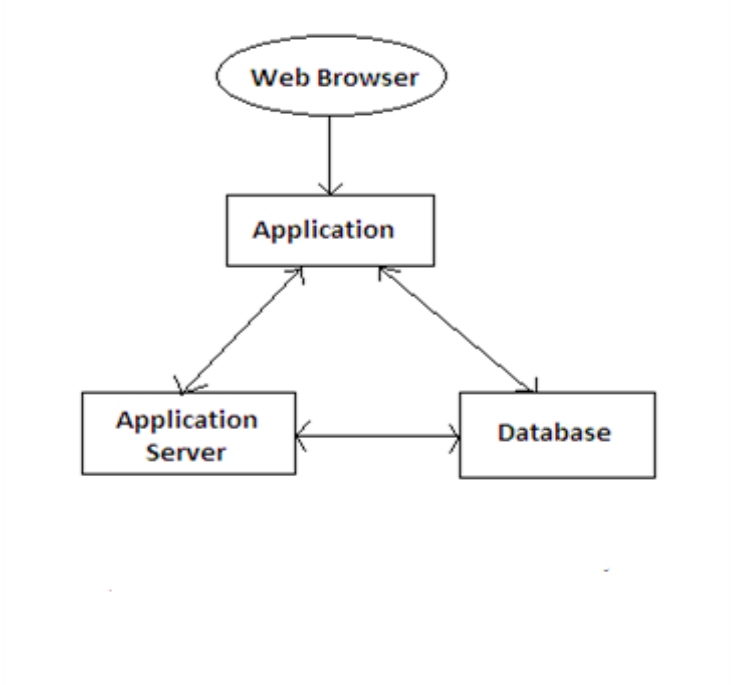
A Java Server Pages file may be accessed in at least two different ways. A client's request comes directly into a Java Server Page. In this scenario, suppose the page accesses reusable Java Bean components that perform particular well-defined computations like accessing a database. The result of the Beans computations, called result sets is stored within the Bean as properties. The page uses such Beans to generate dynamic content and present it back to the client.

In both of the above cases, the page could also contain any valid Java code. Java Server Pages architecture encourages separation of content from presentation.

STEPS IN EXECUTION OF JSP APPLICATION:

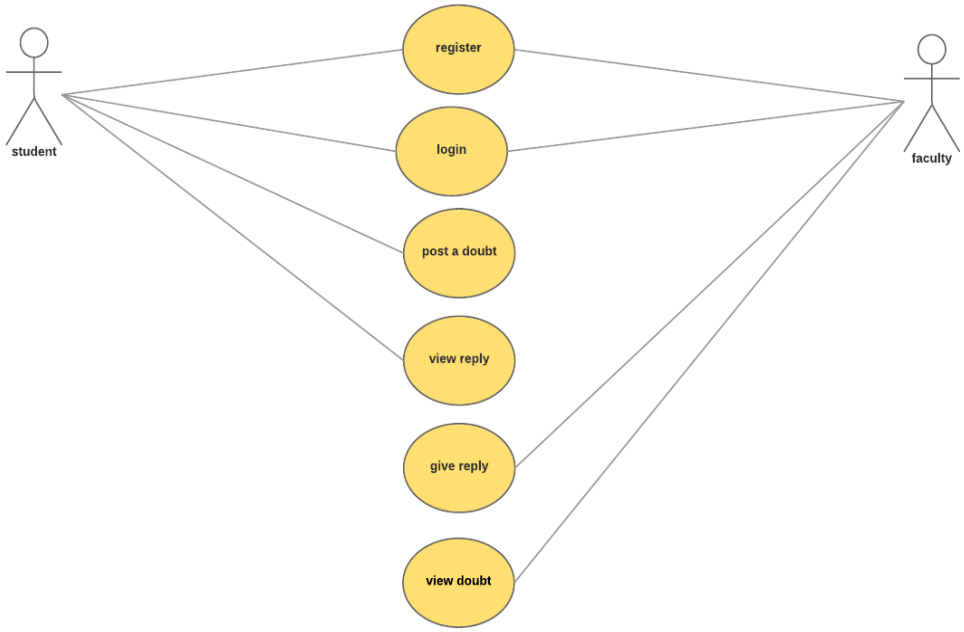
1. The client sends a request to the web server for a JSP file by giving the name of the JSP file within the form tag of a HTML page.
2. This request is transferred to the Java Webserver. At the server side Java Webserver receives the request and if it is a request for a jsp file server gives this request to the JSP engine.
3. JSP engine is program which can understand the tags of the jsp and then it converts those tags into a Servlet program and it is stored at the server side. This Servlet is loaded in the memory and then it is executed and the result is given back to the Java Webserver and then it is transferred back to the result is given back to the Java Webserver and then it is transferred back to the client.

4.0 High Level Architecture Diagram



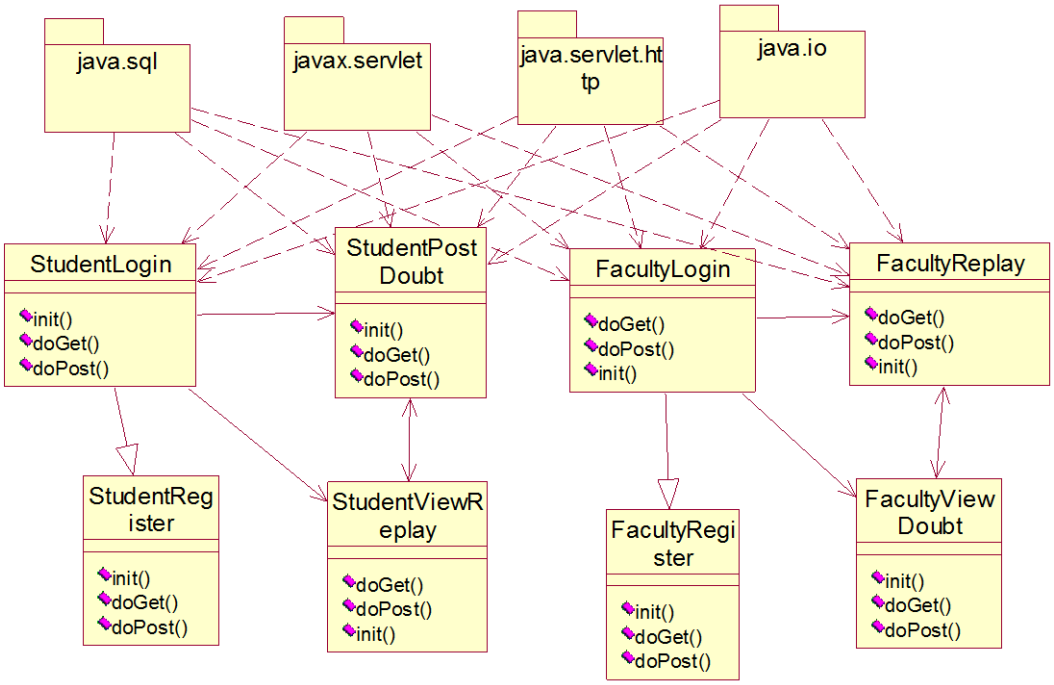
I have used Apache Tomcat server in order to execute the database queries and Net beans for creating java script. At first select Apache Tomcat server for handling database queries in Net beans for handling java script and then it goes to application in web browser which is my home page of Doubts Clarify system.

5.0 Use Case Diagram

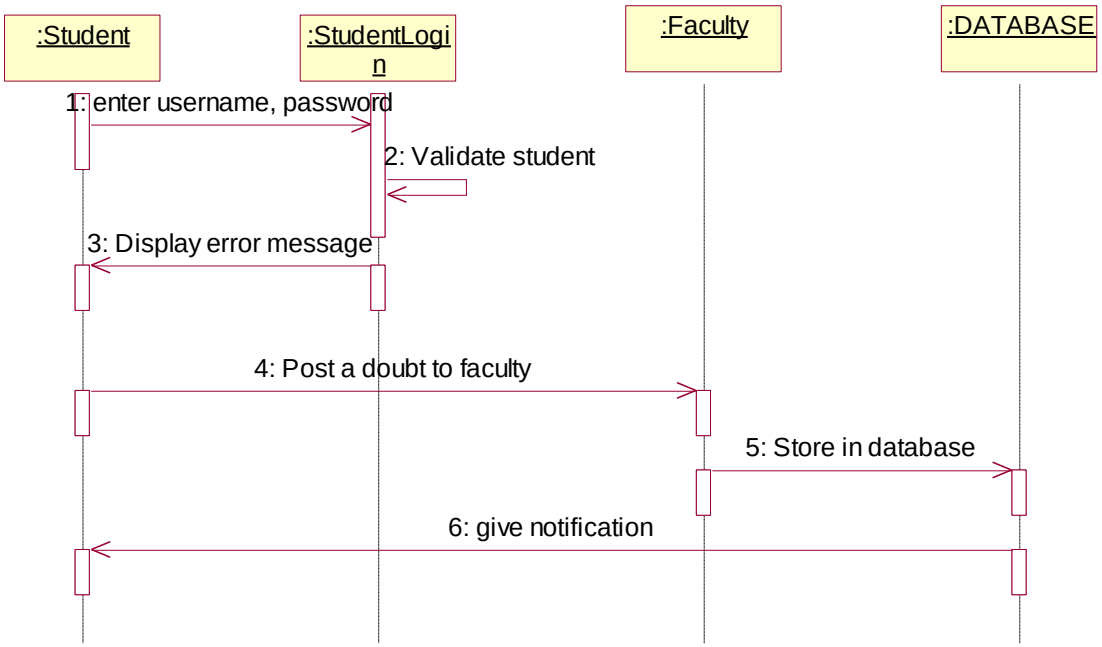


In this system student and faculty are actors and student has use cases like register, login, post a doubt and view reply. Faculty have use cases like register, login, give a reply and view doubt.

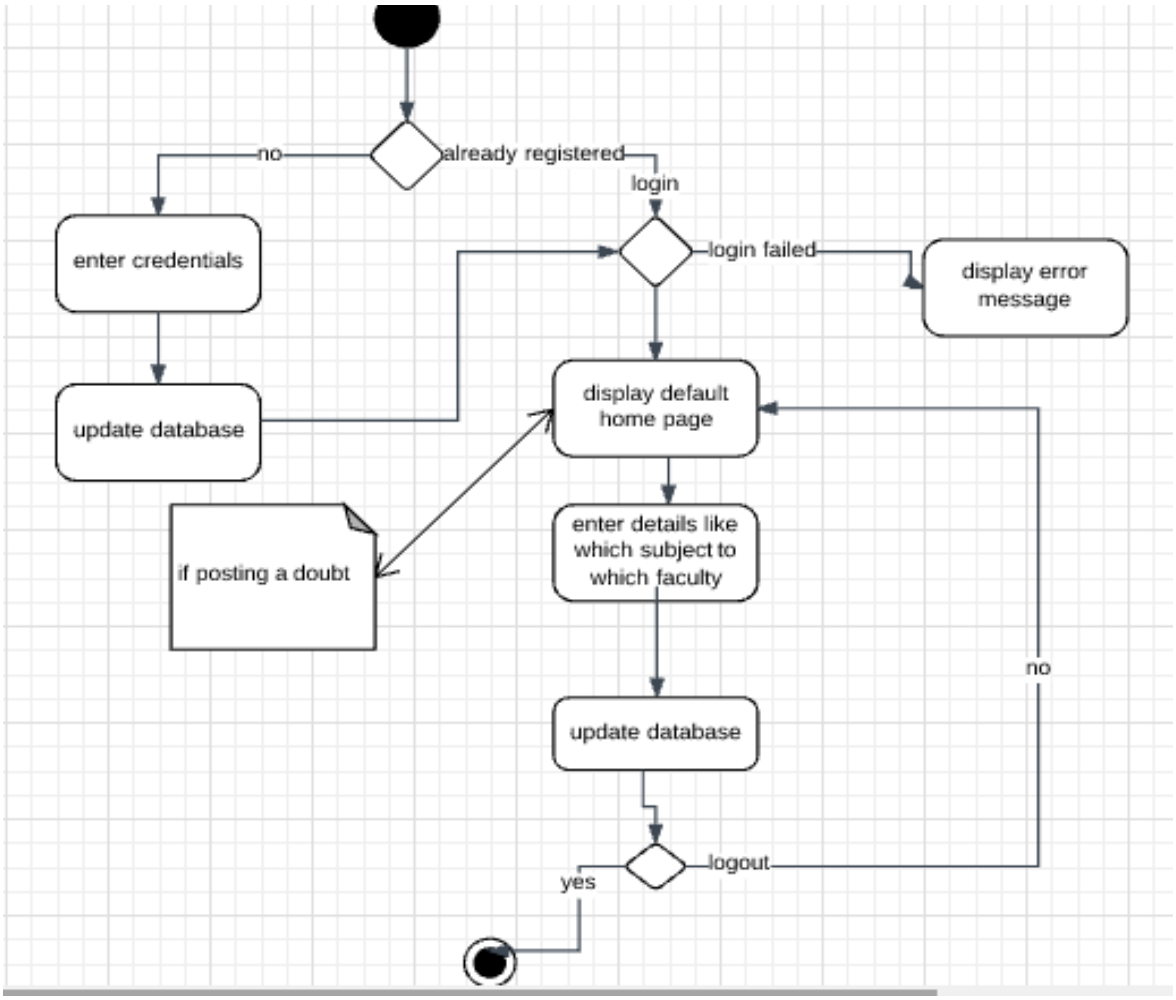
6.0 Class Diagram



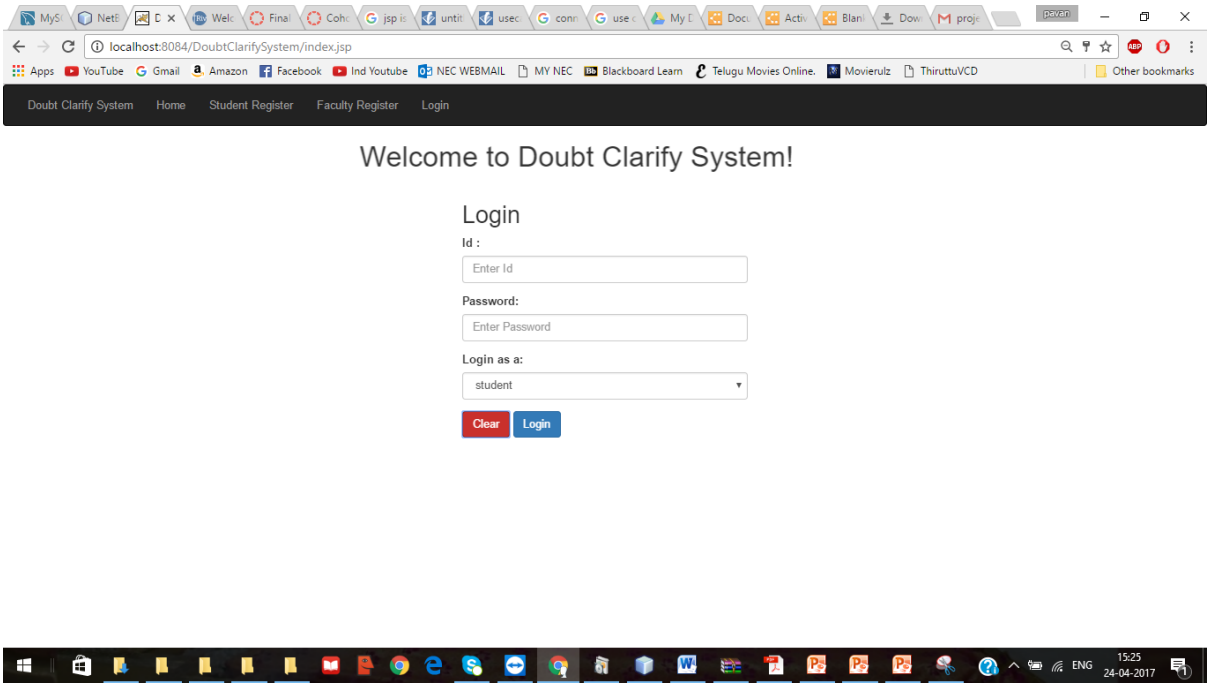
7.0 Sequence Diagram

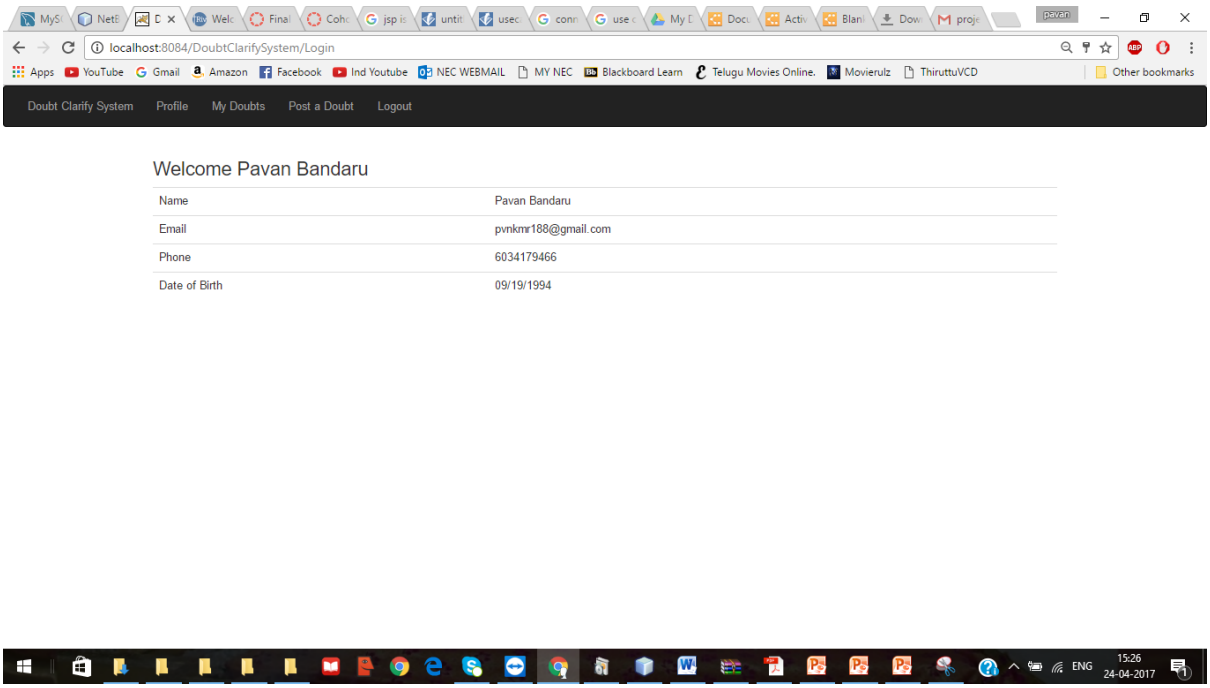


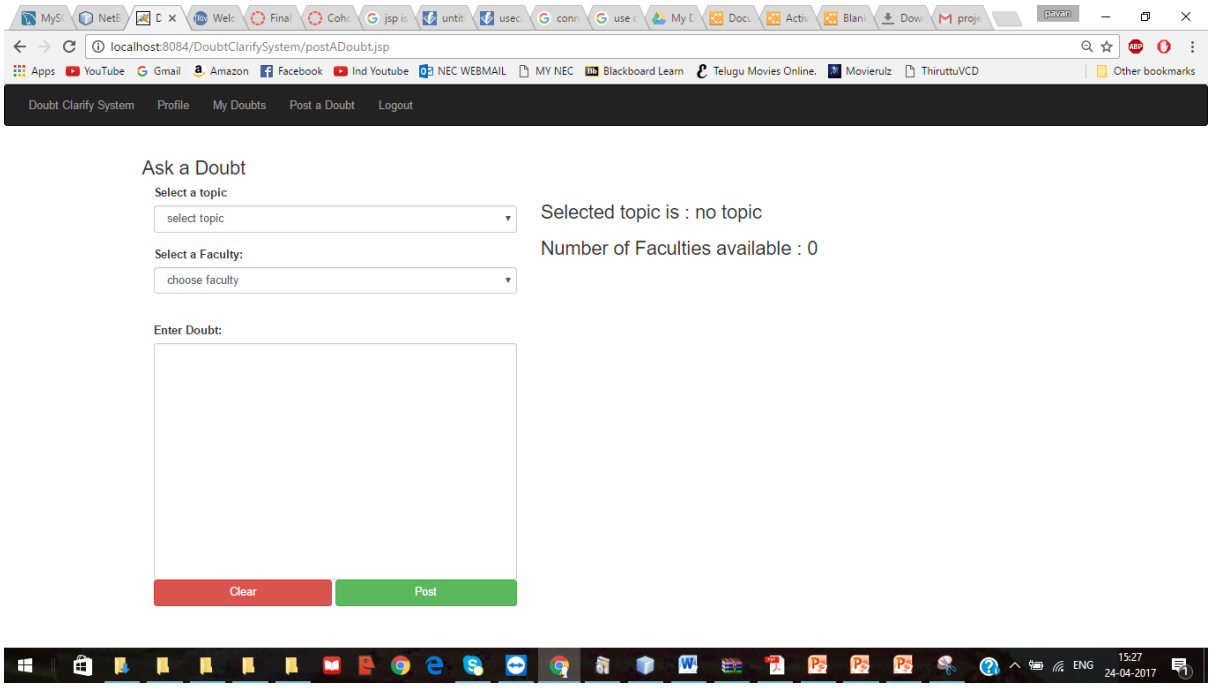
8.0 Activity Diagram

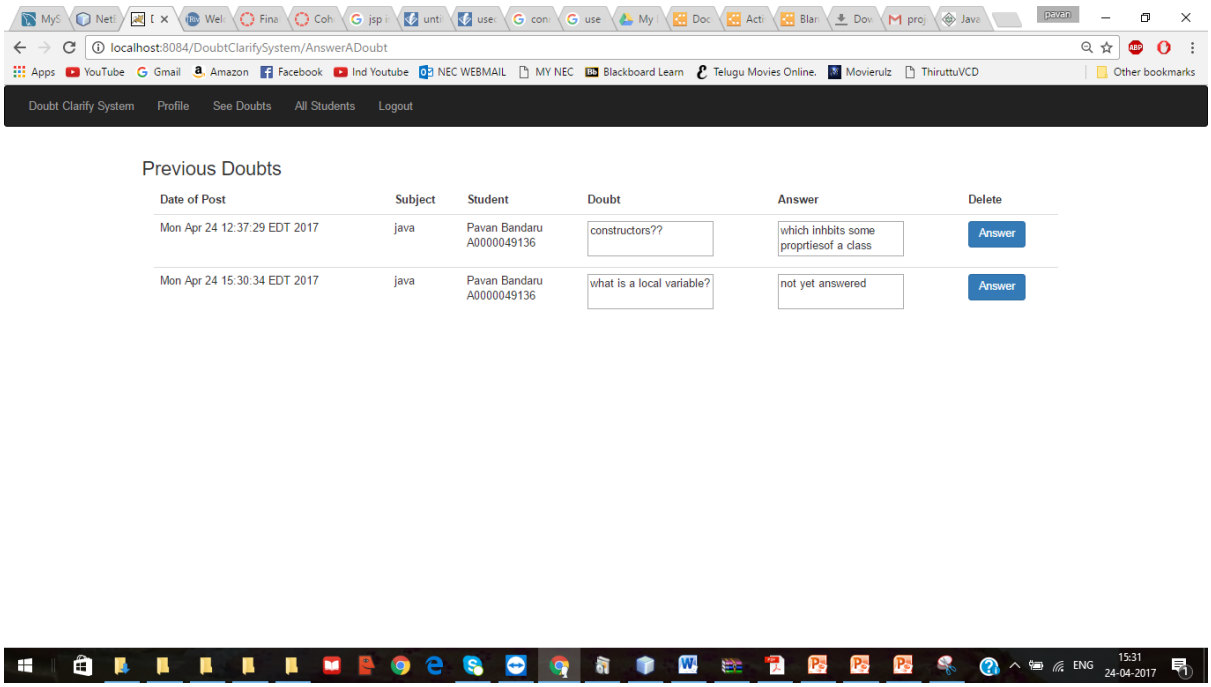


9.0 User Interface






localhost:8084/DoubtClarifySystem/postADoubt.jsp
Doubt Clarify System
Profile
My Doubts
Post a Doubt
Logout
Ask a Doubt
Select a topic
select topic
Select a Faculty:
choose faculty
Enter Doubt:
Clear
Post
Selected topic is : no topic
Number of Faculties available : 0


localhost:8084/DoubtClarifySystem/AnswerADoubt
Doubt Clarify System
Profile
See Doubts
All Students
Logout
Previous Doubts
Date of Post
Subject
Student
Doubt
Answer
Delete
Mon Apr 24 12:37:29 EDT 2017
java
Pavan Bandaru A0000049136
constructors??
which inhbits some proprtiesof a class
Answer
Mon Apr 24 15:30:34 EDT 2017
java
Pavan Bandaru A0000049136
what is a local variable?
not yet answered
Answer

10.0 Test plan

Test ID	Test case	Result	Steps
1.	Login	Passed	Login with proper credentials in login page
2.	Home page after login	Passed	If homepage loads successfully after login
3.	UI verification	Passed	To check whether pages like posting and viewing a doubt
4.	Doubt raising	Passed	It checks whether the doubt posted to particular faculty
5.	Invalid login details	Passed	It displays an error message for incorrect login credentials

11.0 Future considerations

- Planning to add admin module in future in order to avoid some security considerations. So that admin can review all the individual credentials like login and to add new courses.
- This system is limited to only Engineering colleges and in future it can be extended to all educational institutions.

12.0 Conclusion

The Doubts clearance system is the one which may be useful in bringing the teachers and students much closer so that the total or final productivity of the student in terms of performance may be improved. Using this system student also learn and try to investigate new methods of learning which help to enrich the capabilities of student.

13.0 References

- www.apachesoftwarefoundation.org
- www.wikipedia.org
- www.w3schools.com
- www.google.com