CHAPTER 1

INTRODUCTION

In today students life where everything is going online and faster, it is bit difficult for a student to create a healthy relation with their classmates, senior and faculties. Many student hesitate to start a conversation and be a part of any discussion and this hesitation will be barrier in his communicational and professional growth.

*"**AllenForum**"* try to remove this barrier and utilize their time with its functionalities and help them to their communicational and professional growth.

"***AllenForum***" is basically a web portal and android application which is contain all the aspect of student life and it also help college management to monitor student activities.

"***AllenForum***" is design to upgrade and simplify the student's college life, it project provide its functionality in five different type of user namely first is **STUDENT**, second is **FACULTY,** third is **ADMIN** (admin is also part of faculties with some additional functionalities),fourth is **LIBRARIAN** and fifth one is **RECEPTIONIST**. ***AllenForum*** is mainly focuses on student's senior and junior relationship and try to build a healthy communication between them, main service is student can post their problems & doubts and he will get no. of solutions given by their senior or classmates, In general students can discuss their doubt and which will give them a fruitful solution, student can save their time via checking the status of library books in ***AllenForum***, profile of student is save student **curriculum vitae(CV)** which will help student to grow professionally, profile of student will viewed publically or privately according to student setting, faculties is also there for answering, reviewing & block inappropriate activity as well and admin have all the rights in his hand he can "*add"* student, faculties and admin and can do any important change to someone post, Receptionist gives "*important notice"* to students related to college activities and send it to specific no of student, group or department wise. ***AllenForum*** is highly equipped with all the security and safety tool & techniques, so no one can hack or misbehave in it.

1.1 OBJECTIVE

The objective of making this project is to simplify and upgrade the student life and help student to utilize their time and get maximum from their academics. We mainly focus on discussion of forum and try improving relation between junior & senior, remove hesitation of start conversation with the additional services of the application and trying to make it as simple and easy to use as we can.

1.2 PROBLEM STATEMENT

In today's modern life the student lifestyle is also changing very rapidly and competition is tough day by day and the student's junior-senior relationship is takes some time build a healthy relation. Suppose student have a doubt and he is at his home then with the help of ***AllenForum*** he can clear his doubt with the support of Faculties, Senior and classmates through **posting** his doubt in social platform.

Suppose student want to issue a book from library and he didn't know that book is available in library or not, here we help student to find his book, we provide a **status record** of every book to student so that he don't need to waste his valuable time for going to library when he will not get desired result.

The college **notice board** is very important place of college but very few student notice on that and some time they missed some important stuff, we help them via give them **notification** on their mobile phone for all important stuff of college.

Every student face difficulty in making **CV** first time, here we use **Student CV** as his profile which will help students to make CV in an efficient manner.

In college life some time students are pretty confuse in taking decision of going for higher education (**GATE**, **CAT** or **CIVIL** Services etc.) or going for **JOB**, we provide a place where student can get these information related to these topics.

To make academics activities interesting and competitive we add a **Trending** functionality in ***AllenForum***, in which student who earn most **clap** and rated **high** by other students in ***AllenForum*** will reach top of the trending table.

CHAPTER 2
REVIEW OF LITERATURE

In the field of online discussion forums there are many forums already exist some of the popular one are "*Quora", "Geekforgeeks", "Tutorialpoints", "Stackoverflow"* and many more all these forums work similarly in their respected field on the other hand *AllenForum*is completely focusing on the discussion and conversation of college students with their classmates, seniors & faculties and target to overall development of student.

AllenForum is not working similarly as traditional forum works, In *AllenForum* we introducing new functionalities which was never implemented in any forum before, it contain a *Trending functionality* in which the student who is actively using *AllenForum* and solve user problem effectively is automatically see in the top of the "*Trending table"* and every week awarded with a *"Golden badge"* and student who collect most *"Golden badges"* in a year get a fame of "***Allenits of the Year".***

After researching many forums and portal, we collect their positive points and merge them and implement it into *AllenForum* to give its user a better experience in all the aspects, User Interface (UI) of *AllenForum* is very attractive and simple so it helps student to understand things better. It is an open source forum where student can share their notes and access other notes which will create a friendly and competitive environment among them, "*GATE"*, "*CAT"* and "*Job functionalities"* is a very useful part of this forum, which improve student's knowledge in two different aspect one is competitive exam information and second one is information related to Jobs company, all the data in *AllenForum* is face a security check so that student can use these information without any doubt.

Overall *AllenForum is* combination of useful functionalities of other working forums and implementation of new innovative functionalities and tools which will help student to improve their knowledge & personality and help college management to monitor student activities and communicate them in a better and efficient way.

CHAPTER 3
METHODOLOGY

Project plan, methodologies and security issues are kept in mind before working on the project like its purpose, target users and which technology or programming will be used to development this project. If we talk about security issue then a mail alert is done if somebody tries to access other users' account by knowing his half login credentials, all the passwords of the users are stored in encrypted form. The algorithm used to encrypt this **SHA1** stands for **Secure Hash Algorithm 1 a**nd for password, if any user request to reset his password a reset link is sent to his registered email will be valid for first time only after that link will be expired.

For the development of the project **PHP** in **Object Oriented Style** is used, used special factions to prevent from security attacks like **SQL Injections** and others all the accounts are secured; no user can enter fear to other users' account or his personal data.

3.1 PROJECT PLAN

AllenForum project plan is divided into different steps and these steps are also divided into different modules, all the necessary steps and modules are listed below:-

- Firstly we have checked the feasibility of the project, then we have done research work about the project and decide the basic modules of the project.
- After the feasibility check we designed all the aspect of ***AllenForum*** in Paper, with fundamental tools like Activity diagram, Flowcharts, Use case diagram and E-R diagram. First we designed the basic relational database of ***AllenForum***. Second designed the Frontend of ***AllenForum***. Third improvements in design and database is partially done throughout the development phase.
- Development phase of ***AllenForum*** is divided into 5 modules:-
    1. Student dashboard module.
    2. Faculty dashboard module.
    3. Admin dashboard module.
    4. Librarian dashboard module.
    5. Receptionist dashboard module.

- After the development phase, testing of the each modules, security & safety of ***AllenForum*** is done.
- Maintenance of ***AllenForum*** is done by our development team.

3.2 TASK SHEET

Sr. No.	Task
1.	Requirement Gathering and analysis(Feasibility test)
2.	Web and App Designing(Frontend designing)
3.	Database Design and division of modules of the ***AllenForum*** (backend designing)
4.	Development and coding
5.	Testing of ***AllenForum***
6.	Maintenance
7.	Project File, help document and presentations
8.	Further Enhancement and Future Work

Table 3.1: Task Sheet

CHAPTER 4
PROJECT FLOW

Project flow of *AllenForum* can be understood via activity diagram, use-case diagram and most import thing ER-Diagram. The **Activity diagram** shows user enters his login credential after that *AllenForum* server verifies and gives status success or fail. If the status is success the user is redirected to his dashboard page where he can perform his activity given according to his role (Student / Faculty / Librarian / Receptionist).

Use-case shows the simple flowchart representation of the project and shows the relation and its activity associated with self/other user.

ER-diagram stands for **Entity Relationship** shows the complete relationship of entities with other entities and their cardinality relationship and its ratio (one-to-one, one-to-many, many-to-one and many-to-many).

4.1 ACTIVITY DIAGRAM

Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system.The control flow is drawn from one operation to another. This flow can be sequential, branched, or concurrent. Activity diagrams deal with all type of flow control by using different elements such as fork, join, etc.

The basic purposes of activity diagrams are similar to other four diagrams. It captures the dynamic behavior of the system. Other four diagrams are used to show the message flow from one object to another but activity diagram is used to show message flow from one activity to another.

Activity is a particular operation of the system. Activity diagrams are not only used for visualizing the dynamic nature of a system, but they are also used to construct the executable system by using forward and reverse engineering techniques. The only missing thing in the activity diagram is the message part.

It does not show any message flow from one activity to another. Activity diagram is sometimes considered as the flowchart. Although the diagrams look like a flowchart, they are not. It shows different flows such as parallel, branched, concurrent, and single.

The purpose of an activity diagram can be described as −

- Draw the activity flow of a system.
- Describe the sequence from one activity to another.
- Describe the parallel, branched and concurrent flow of the system.

Activity diagram of *AllenForum* is given below in Figure 2.1

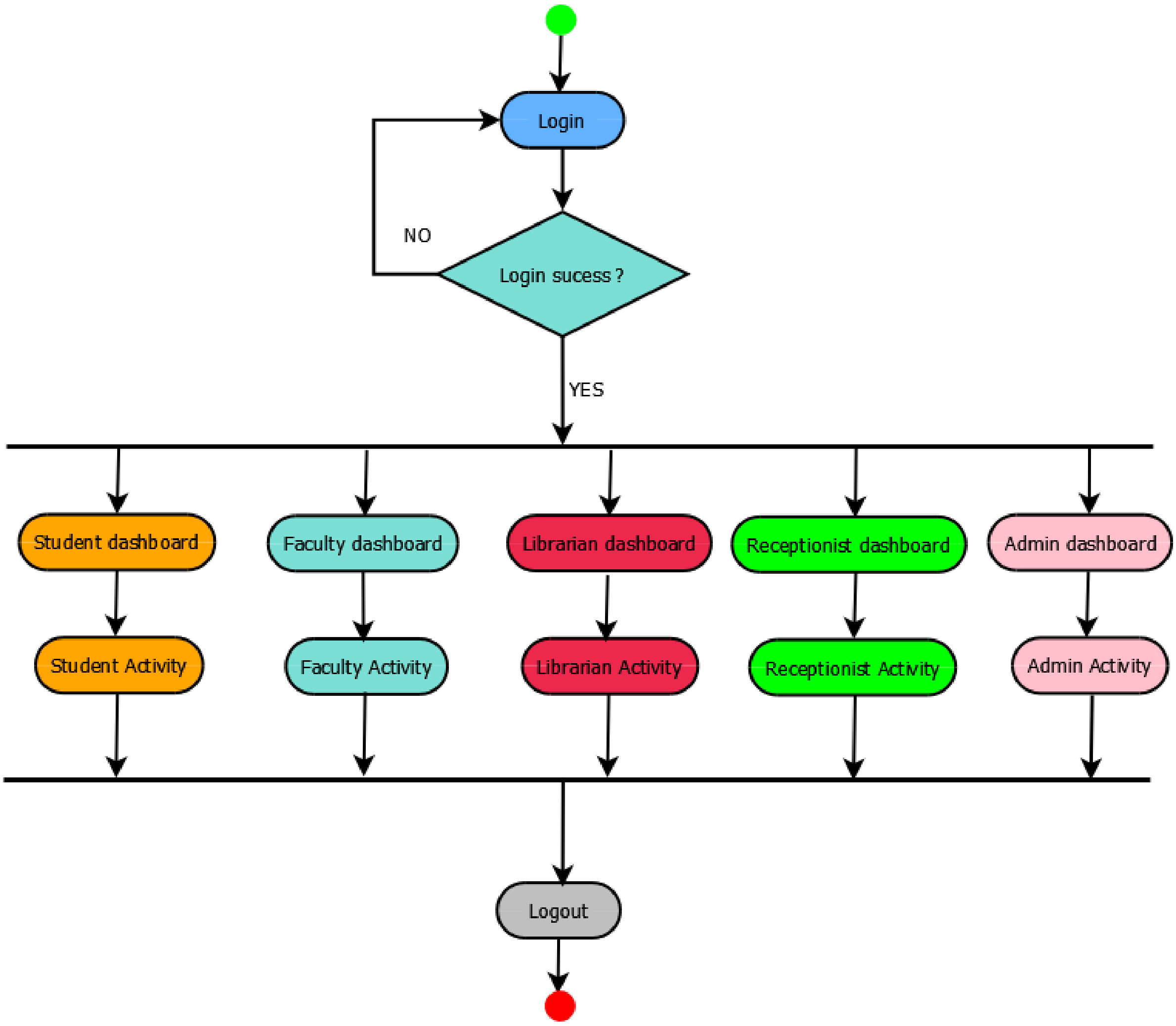


Figure 4.1: Login Activity Diagram

4.2 USECASE DIAGRAM

A use case diagram is a graphic depiction of the interactions among the elements of a system. A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. In this context, the term "system" refers to something being developed or operated, such as a mail-order product sales and service Website. Use case diagrams are employed in UML (Unified Modeling Language), a standard notation for the modeling of real-world objects and systems.

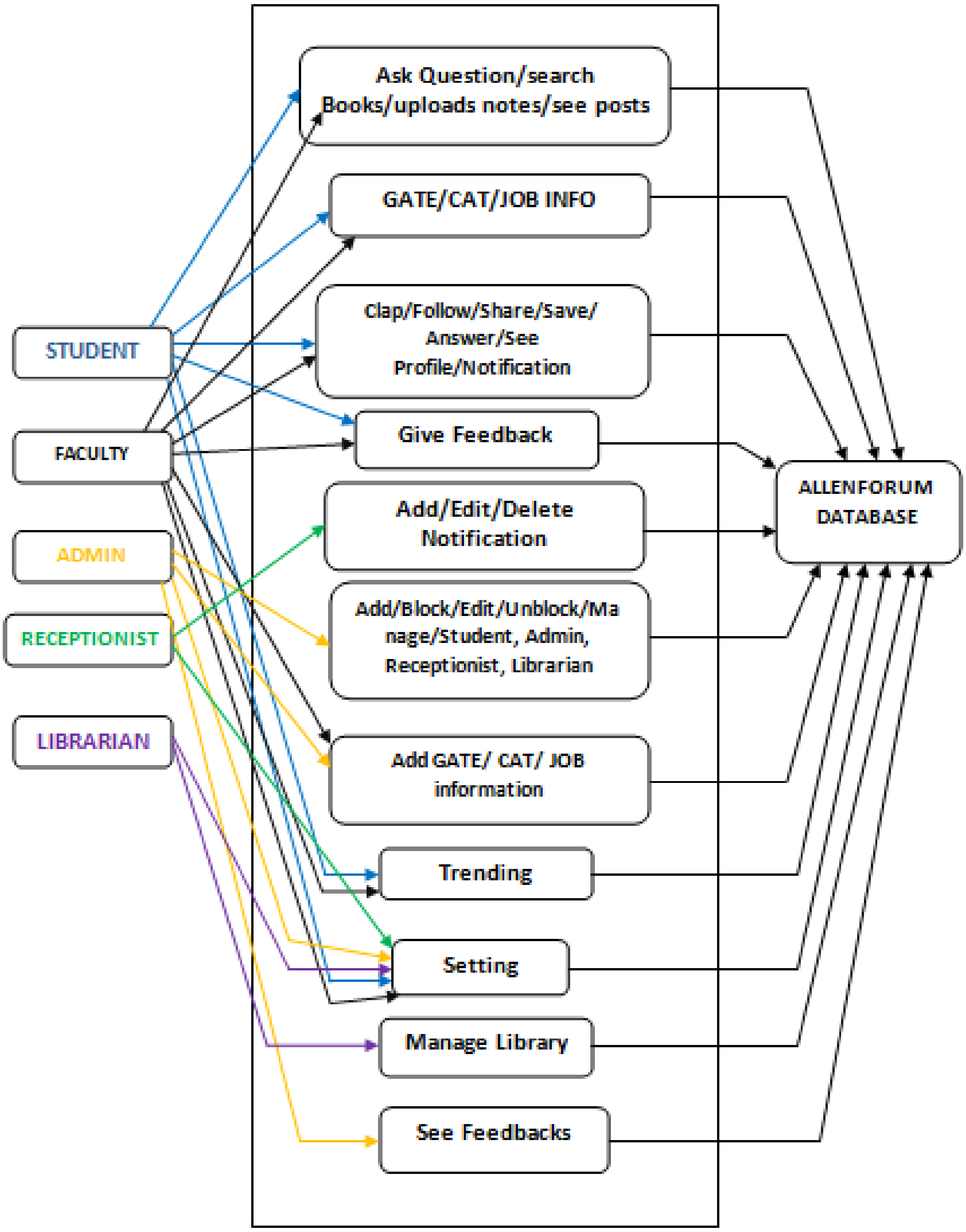

STUDENT
FACULTY
ADMIN
RECEPTIONIST
LIBRARIAN
Ask Question/search Books/uploads notes/see posts
GATE/CAT/JOB INFO
Clap/Follow/Share/Save/ Answer/See Profile/Notification
Give Feedback
Add/Edit/Delete Notification
Add/Block/Edit/Unblock/Manage/Student, Admin, Receptionist, Librarian
Add GATE/ CAT/ JOB information
Trending
Setting
Manage Library
See Feedbacks
ALLENFORUM DATABASE

Figure 4.2: Use-case Diagram

4.3 ER- DIAGRAM

We present the modeling concepts of the Entity-Relationship (ER) model, which is a popular high-level conceptual data model. This model and its variations are frequently used for the conceptual design of database applications, and many database design tools employ its concepts. We describe the basic data-structuring concepts and constraints of the ER model and discuss their use in the design of conceptual schemas for database applications. We also present the diagrammatic notation associated with the ER model, known as ER diagrams[x].

The E-R diagram given below is of **starting** phase of ***AllenForum***

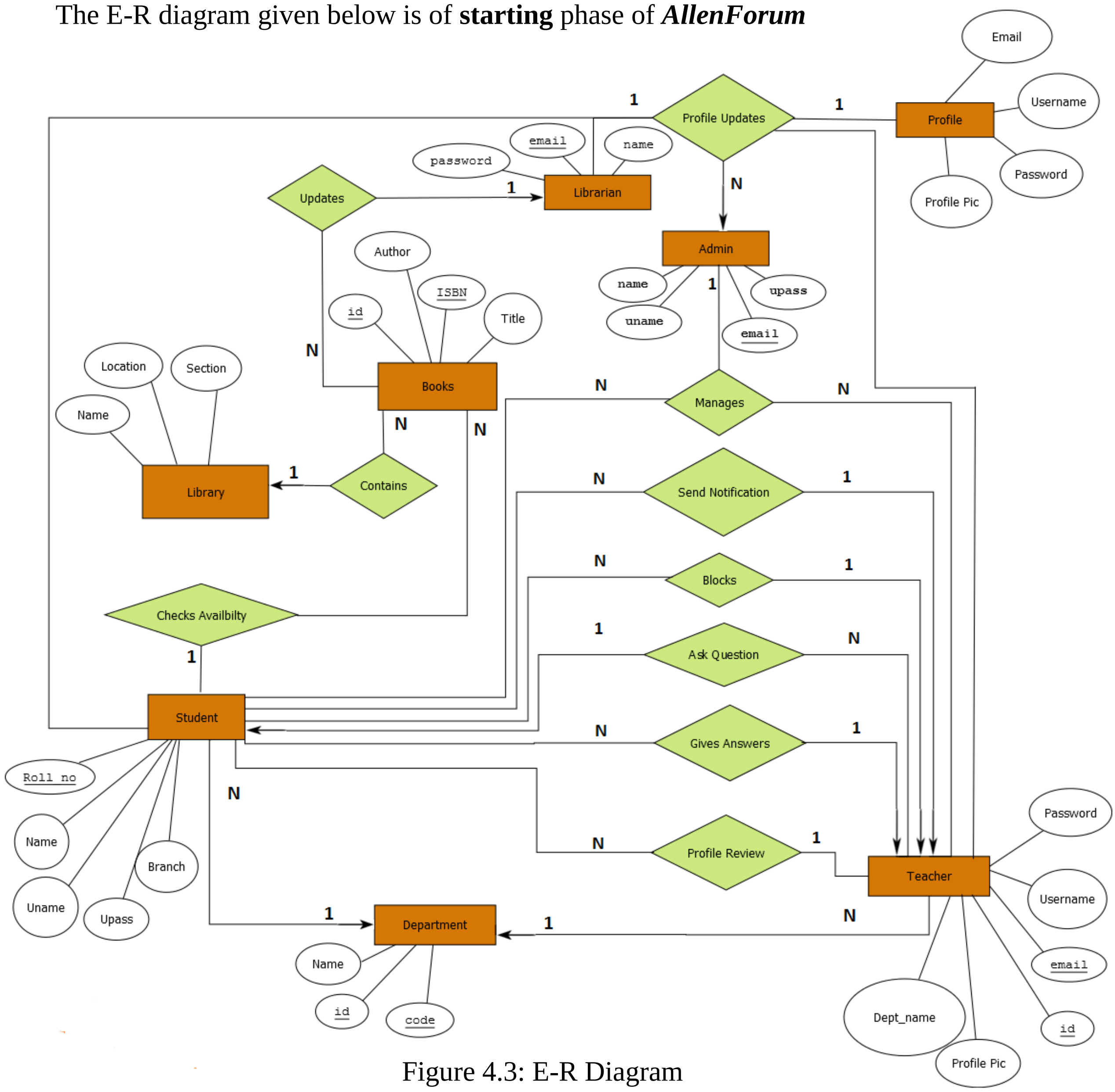


Figure 4.3: E-R Diagram

The complete E-R Diagram of ***AllenForum*** is **enclose** with a file in **chart**

CHAPTER 5

REQUIRMENT & SPECIFICATIONS

The primary requirements of ***AllenForum*** are domain name and hosting server with some considerable storage and other requirement is the data of all the student and faculties in order to perform discussion and library books data for search library books functionality, for making this more interesting Trending section will be added. Requirement and specification of the project done carefully so that most of the things are covered and there is less bug fixing in future.

5.1 FUNCTIONALREQUIMENTS

There are several functional requirements which are needed for ***AllenForum***. The different functional requirements of this forum are-

- A **hosting server** and **domain name.**
- Students and Faculties **data** to make secure login of students.
- An **admin** who can manage ***AllenForum***.
- **Library data** to make books database.
- A **computer setup** at **library** to update book availability.
- A **computer setup** at **reception** so receptionist can upload notifications.

5.1 NON-FUNCTIONALREQUIMENTS

There are several other non-functional requirements which are needed in ***AllenForum*** are written below:

5.1.1 COLLEGE DATA:

For the user account of the ***AllenForum***, we needed college data of students and faculty so that we can make their credentials, data of college which we have used are as follows -

1. **Data of Students**: There are data of students such as their roll no, their email id, their parent’s name, mobile no, address etc. which is needed for creating ***AllenForum*** personal database and use these information make their secure accounts and login credentials, Also these students are having their academic data, all these data is needed to store in the database of ***AllenForum*** because forum also connects ERP directly from its home page.
2. **Data of Faculty:** Faculties data such as their faculty id, email id, name, mobile no, address etc. which is needed for creating

AllenForum personal database and use these information make their secure accounts and login credentials, Faculties also have some academics records, all these data is needed to store in the database of ***AllenForum*** because forum also connects ERP directly from its home page.

3. **Data of Library:** Librarian such as their faculty id, email id, name, mobile no, address etc. which is needed for creating ***AllenForum*** personal database and use these information make their secure accounts and login credentials, librarian also have some library records, all these data is needed to store in the database of ***AllenForum*** because of we use books data in library books availability checking functionalities.
4. ***AllenForum* Admin:** In ***AllenForum*** we need an admin person who will manage this forum, and only admin will able to create new login of students, faculty, receptionists, librarian and sub-admin.
5. ***AllenForum* Receptionist:** Receptionist is responsible for adding and updating all the latest notification of college.
6. ***AllenForum* Librarian:** Receptionist is responsible for manage and updating all the books in college library.

CHAPTER 6

BASIC MODULES OF PROJECT

AllenForum is an online discussion forum in built with library book status checking and other functionalities which we will discuss below:

There are five modules/roles in ***AllenForum***, every module have different types of functionalities according to their roles; five modules are

- Student module
- Faculty module.
- Admin module.
- Librarian module.
- Receptionist module.

6.1 STUDENT MODULE

The role of ***student*** is to post or share his problem publicly or only with his respective teachers. Since students are related to their departments so the students can do same thing with his concerned departmental faculty and students only. Student will not be authorized to interfere to others.

6.2FACULTY MODULE

The role of ***teachers*** is to give answers of question posted by their departmental students. There may be more than one teacher can give answer of same question. And similarly the teacher will not be having authority to interfere to other department.

6.3ADMIN MODULE

And the ***admin*** role comes to manage all the things like if any student using this discussions forum for a fun or posting inappropriate questions or make use of such words then his account will automatically blocked and his identity will be detected to strict action against that student and if student post his question and nobody has given answer of that question then after a certain period of time. Then will posted and answer automatically related to that question.

6.4LIBRARIAN MODULE

The role of ***Librarian*** is to add books in library and if any student come to return the book then he checks in the system by entering the book ID and clicks on accept button to return this book in the library and vice versa.

Librarian can also upload books via Excel sheet which must be .CSV extension.

6.4RECEPTIONIST MODULE

The role of ***Receptionist*** is to post academic notice in the forum. He has option of sending notice for all students only or all faculties only or both, and an email will be sent to their registered email Id.

6.1.1 FRONTEND

Project starts from login, before login all the data (students, Faculty, Librarian, and Receptionist) by Admin of the ***AllenForum***.

a. **LOGIN**

All the users will login with their registered email and password, the login is in figure

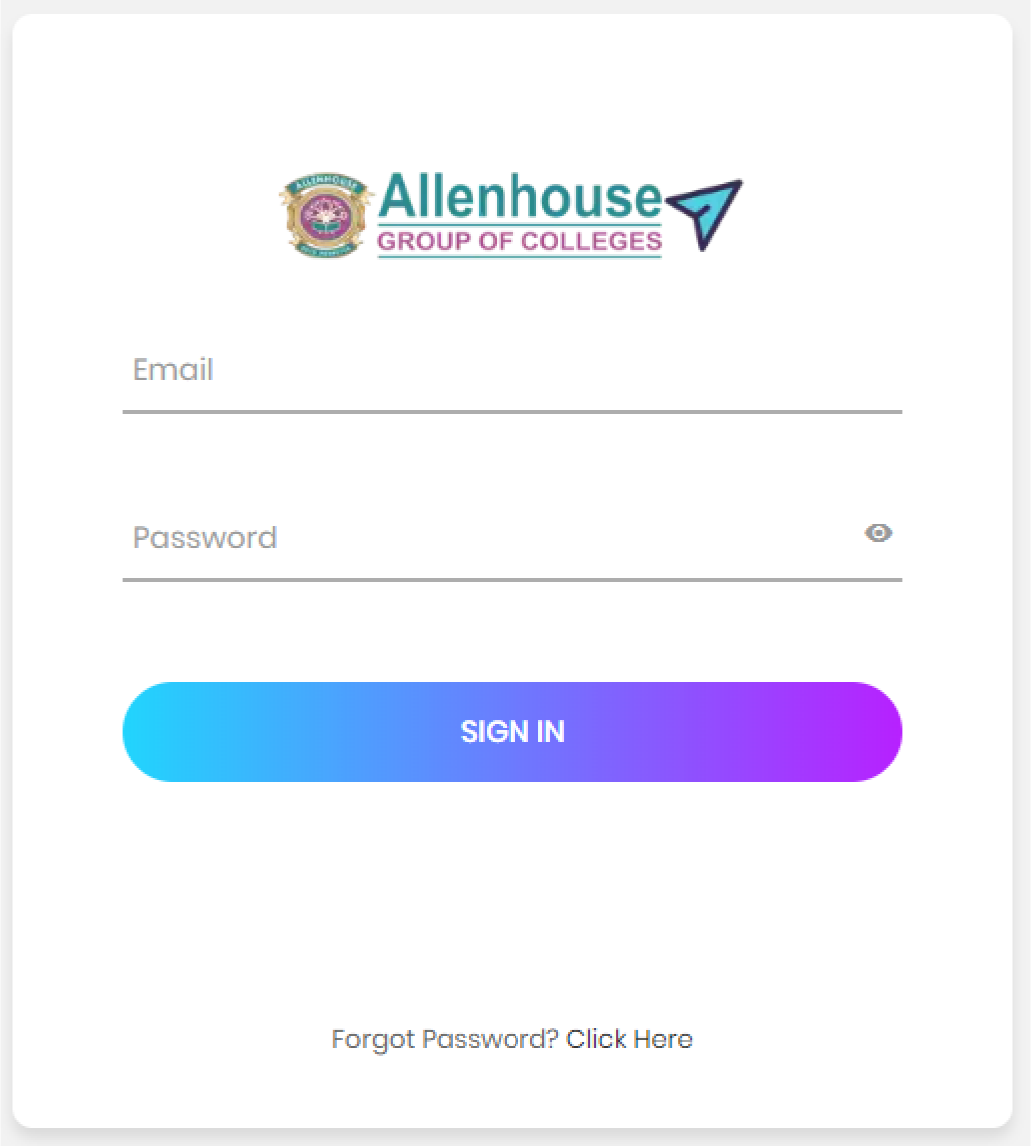


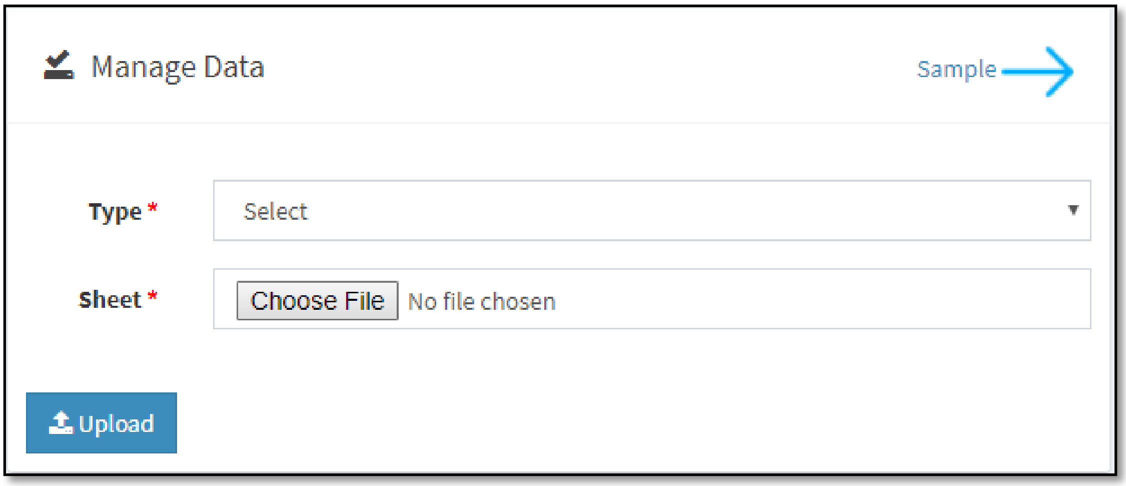
Figure 6.1: User Login

6.1.2 ADMIN ADDS USERS

Initially only admin is in the system. Student, faculty, librarian and receptionist don't have any place. Admin adds students, faculty, librarian, and receptionist. Admin can add them manually or he can manage the data users by excel sheet.

Admin can upload the hole sheet of student, faculty and users will be get added in the system now the users added first time a confirmation mail and its login detail is sent to the resisted user's mail id.

Following is the Figure 6.2 to manage data with sheet.

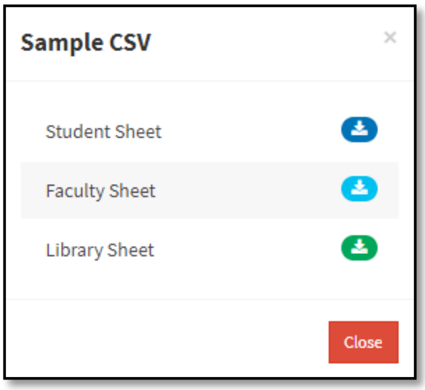


Type * Select

Sheet * No file chosen

Figure 6.2: Upload Sheet

In the caption **'Select'** admin has to select the type of sheet being uploaded like student/faculty and in the caption **'Sheet'** admin has to choose a excel file of .CSV extension only. After clicking on upload it will take some time depending on the connection of internet, clicking on sample → there is popup contains sample format of CSV file



Student Sheet

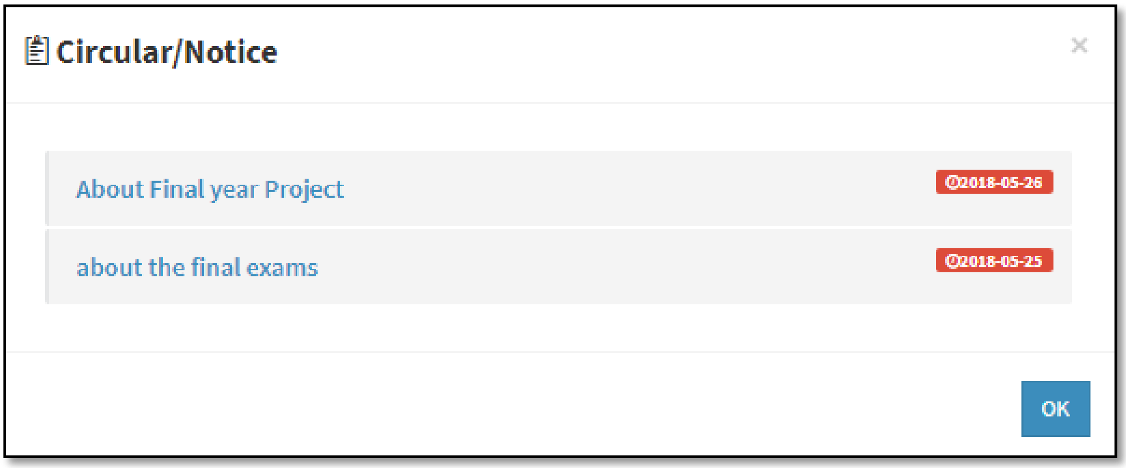
Faculty Sheet

Library Sheet

Figure 6.3: sample CSV

6.1.3 STUDENT/FACULTY ACTIVITY

After successful login the user (if student or faculty) will be redirected to the this **dashboard** page [Figure 4.2 Student, Faculty Dashboard] as shown, and a popup also shown just after login as [Figure 4.1, Circular/Notice Popup]

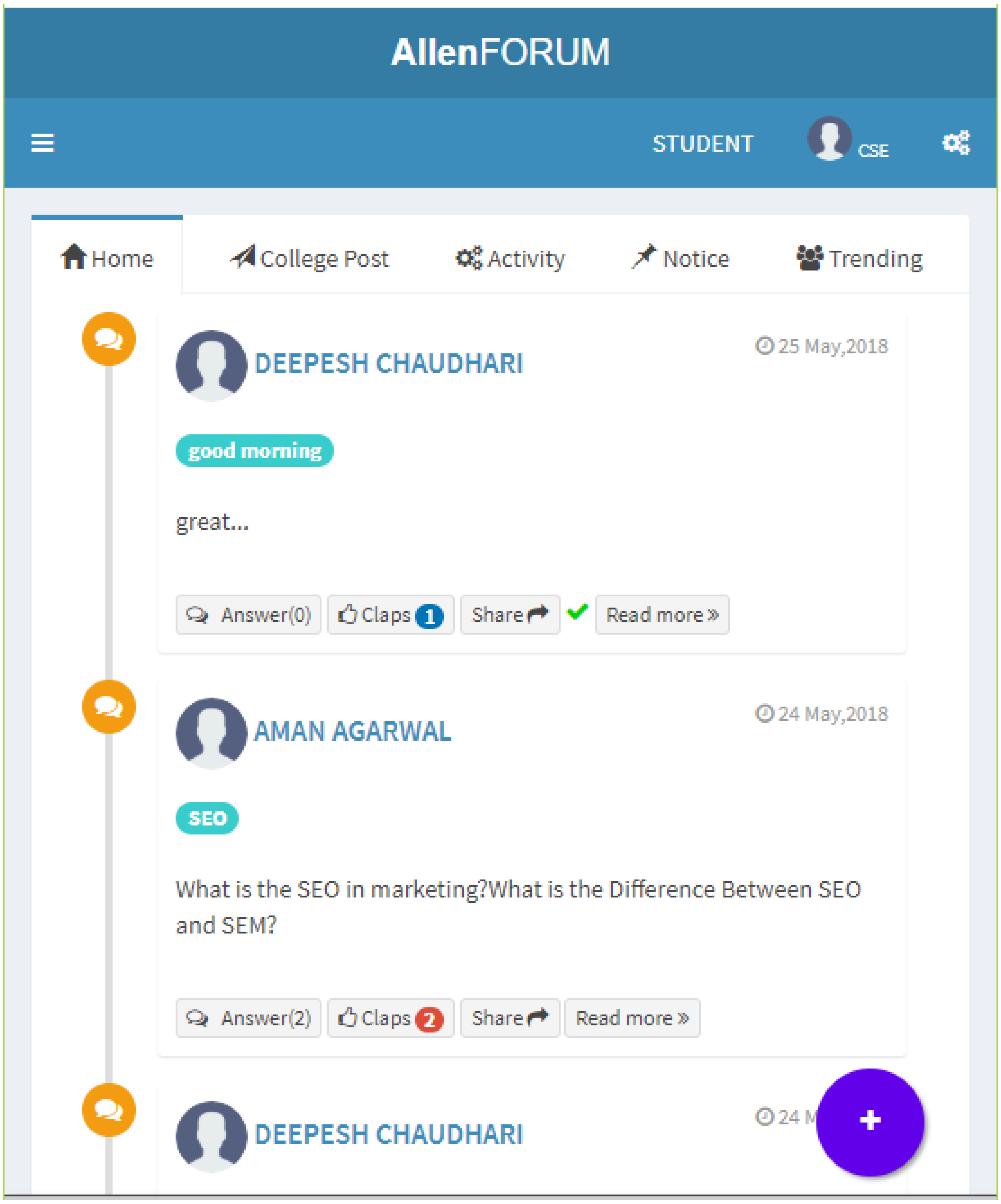


Circular/Notice

About Final year Project 2018-05-26

about the final exams 2018-05-25

Figure 6.4: Circular/Notice



DEEPESH CHAUDHARI

25 May,2018

good morning

great...

AMAN AGARWAL

24 May,2018

SEO

What is the SEO in marketing?What is the Difference Between SEO and SEM?

DEEPESH CHAUDHARI

24 M

Figure 6.5:Student, Faculty Dashboard

If in left menu

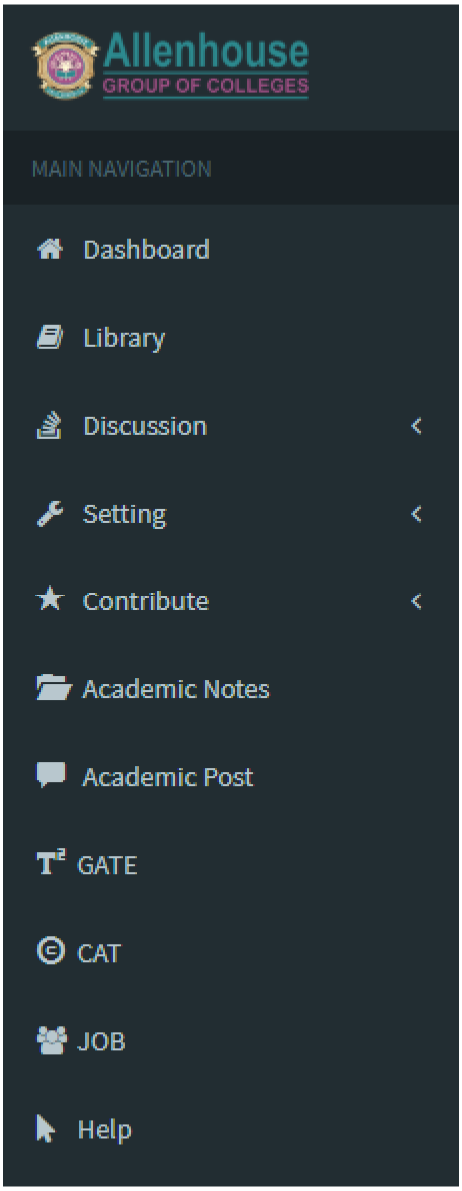


Figure 6.6: Student Navigation

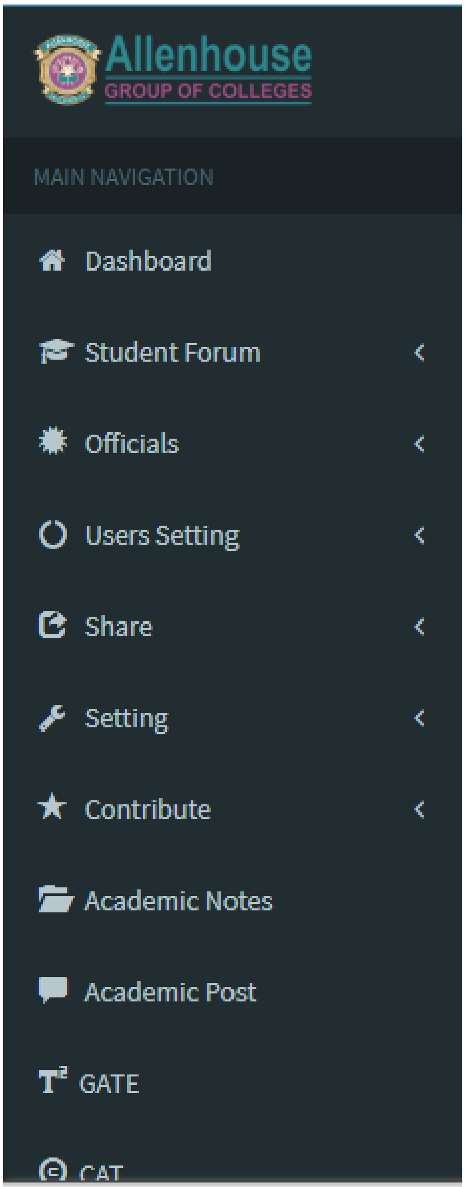


Figure 6.7: Faculty Navigation

6.1.4 ADD DISCUSSION

Students can post their **doubt, query, thoughts or** “+” floating button in bottom right, after clicking the discuss or plus(+) a **popup**[Figure 4.3]occurwhere you can write your post and select your desire group of students or faculties via dropdown, you can attach any picture or links in your post and write your post in different fonts available

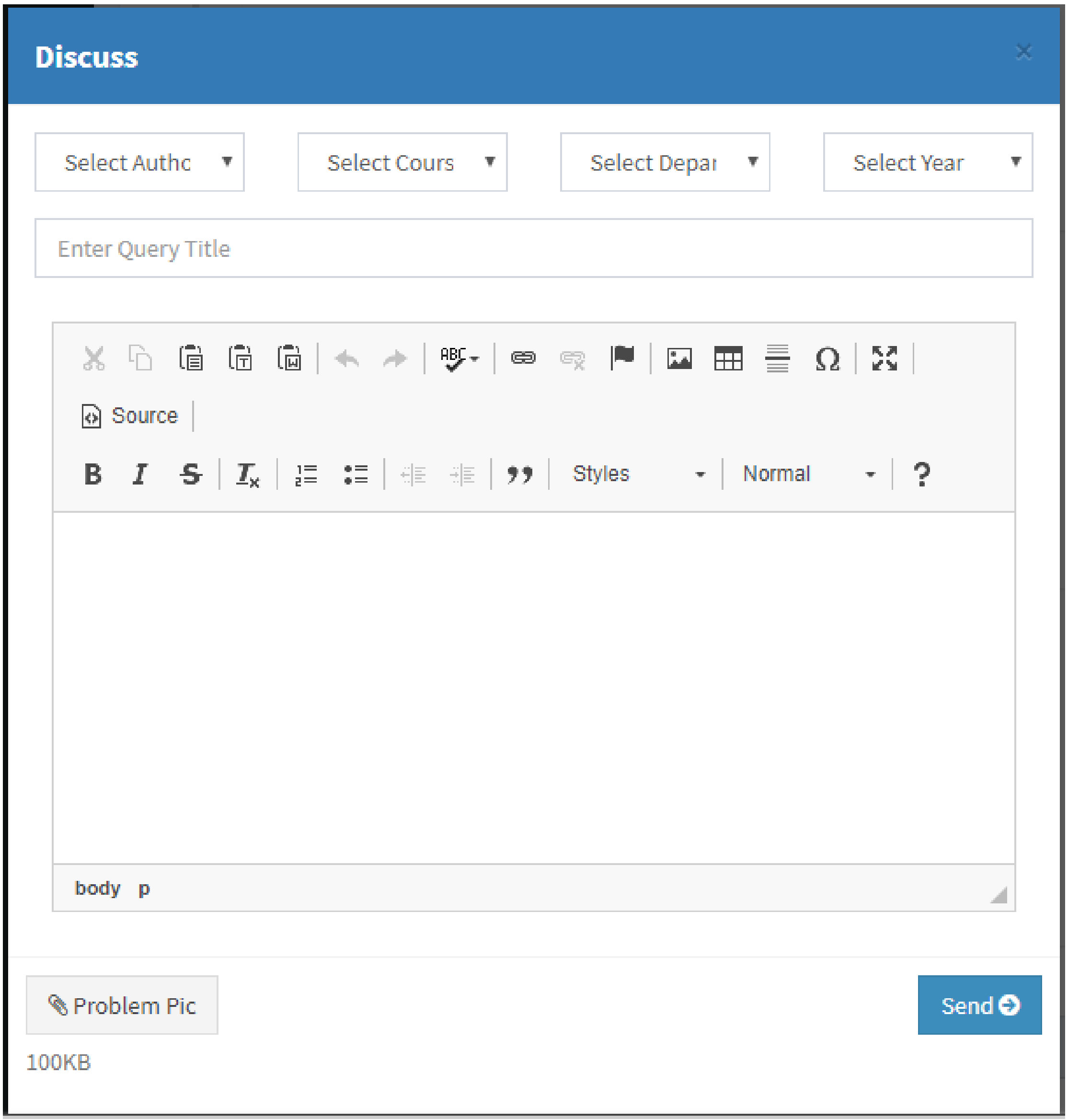
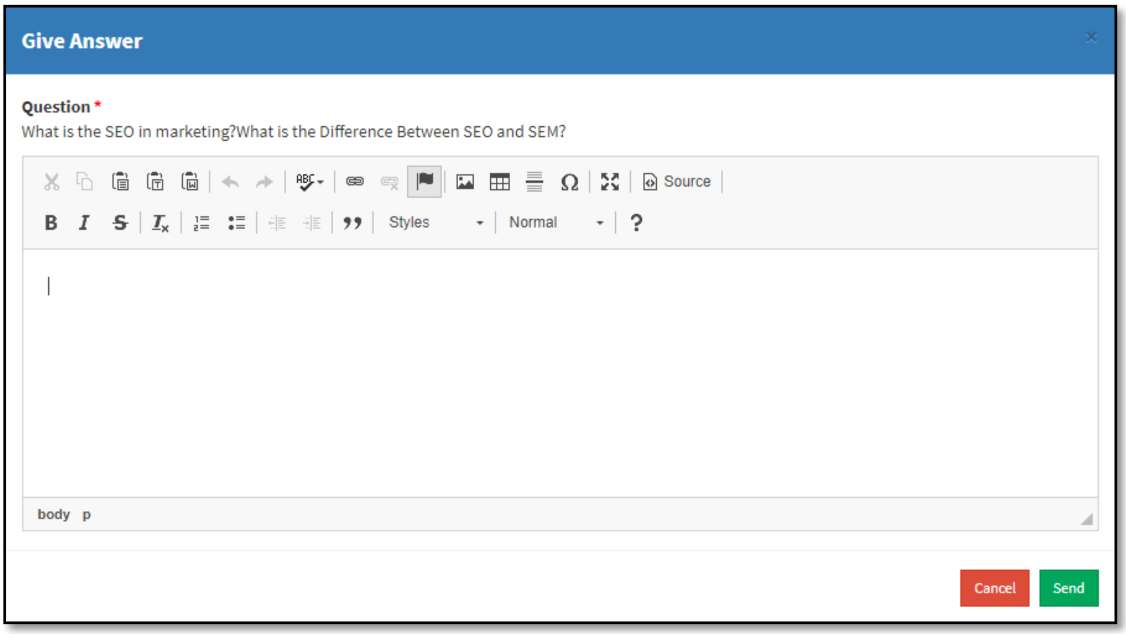


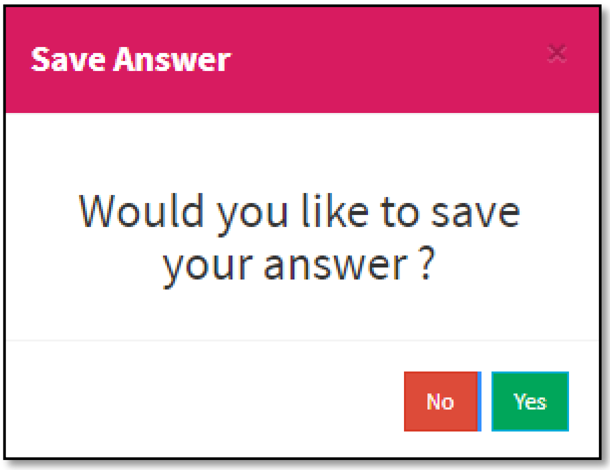
Figure 6.8: Ask Question

User can reply or give the answer to the question by clicking **Answer** in list of post shown in figure 6.9



What is the SEO in marketing?What is the Difference Between SEO and SEM?

Figure 6.9: Give answer



Would you like to save your answer ?

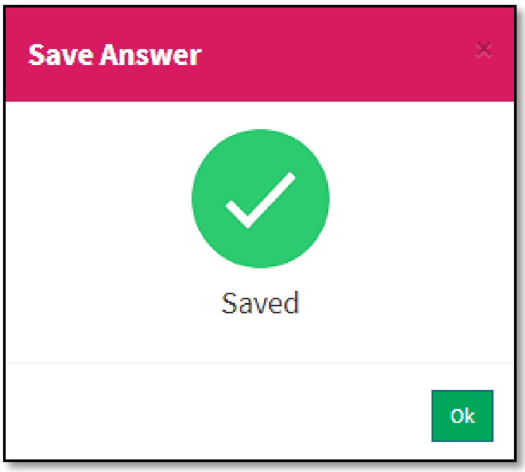


Figure 6.10: Saving confirmation

Figure 6.11 Saved answer

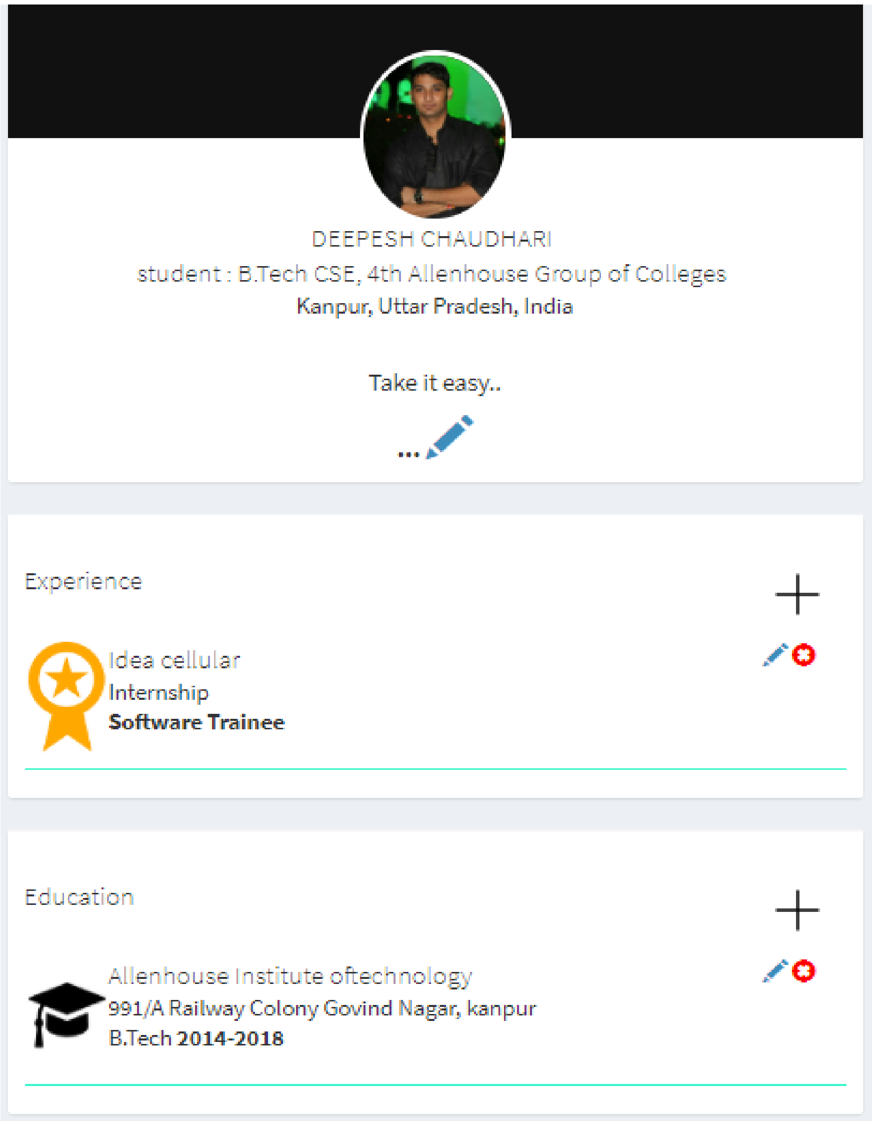
6.1.5 PROFILE

All the users can see their profile and edit by clicking on user icon shown below in Figure 6.12. A profile page student is shown in figure

Profile page contains an edit icon by clicking it can be edited his basic details like name, password, contact, and profile picture.

And just below that two options are given Experience & Education both have + icon corresponding in line. Clicking on it modal popup opens to add the related details corresponding to the headings.

Faculty, Librarian and Admin profile as some different with student profile



DEEPESH CHAUDHARI

student : B.Tech CSE, 4th Allenhouse Group of Colleges

Kanpur, Uttar Pradesh, India

Take it easy..

...

Experience

Idea cellular

Internship

Software Trainee

Education

Allenhouse Institute oftechnology

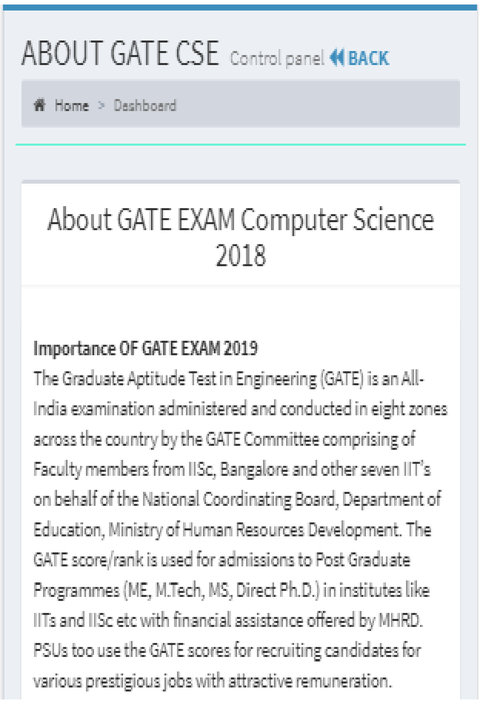
991/A Railway Colony Govind Nagar, kanpur

B.Tech **2014-2018**

Figure 6.12: Student Profile

6.1.6 GATE & CAT SECTION

GATE” and **“CAT”** section is design to give all the GATE(Graduate Aptitude Test Engineering) & CAT (Common Admission Test) exam related information to student of all **branch(CSE,ME,CE,ECE, EE or BBA**) in this section student can **select** its stream and further **explore** the use full information; as shown in the image.

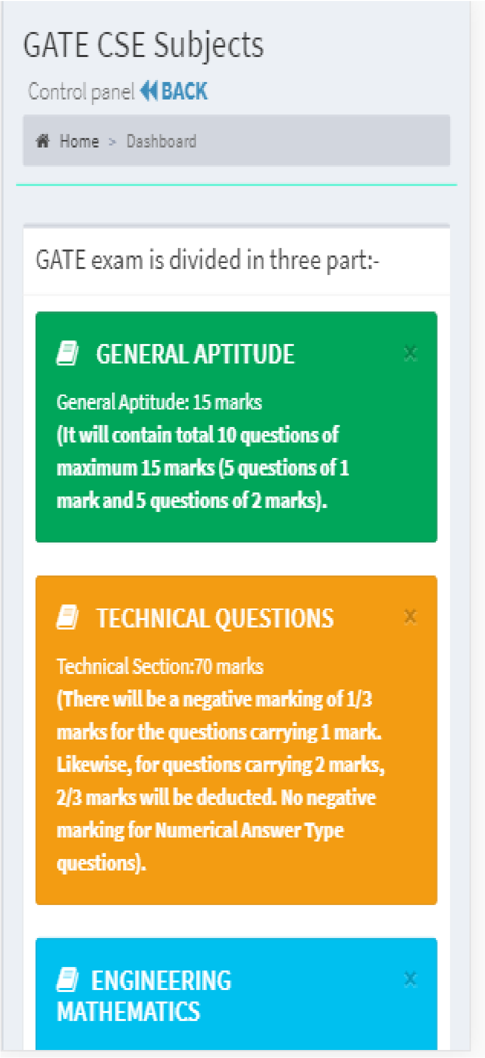


ABOUT GATE CSE

About GATE EXAM Computer Science 2018

Importance OF GATE EXAM 2019

The Graduate Aptitude Test in Engineering (GATE) is an All-India examination administered and conducted in eight zones across the country by the GATE Committee comprising of Faculty members from IISc, Bangalore and other seven IIT's on behalf of the National Coordinating Board, Department of Education, Ministry of Human Resources Development. The GATE score/rank is used for admissions to Post Graduate Programmes (ME, M.Tech, MS, Direct Ph.D.) in institutes like IITs and IISc etc with financial assistance offered by MHRD. PSUs too use the GATE scores for recruiting candidates for various prestigious jobs with attractive remuneration.



GATE CSE Subjects

GATE exam is divided in three part:-

GENERAL APTITUDE

General Aptitude: 15 marks
(It will contain total 10 questions of maximum 15 marks (5 questions of 1 mark and 5 questions of 2 marks).

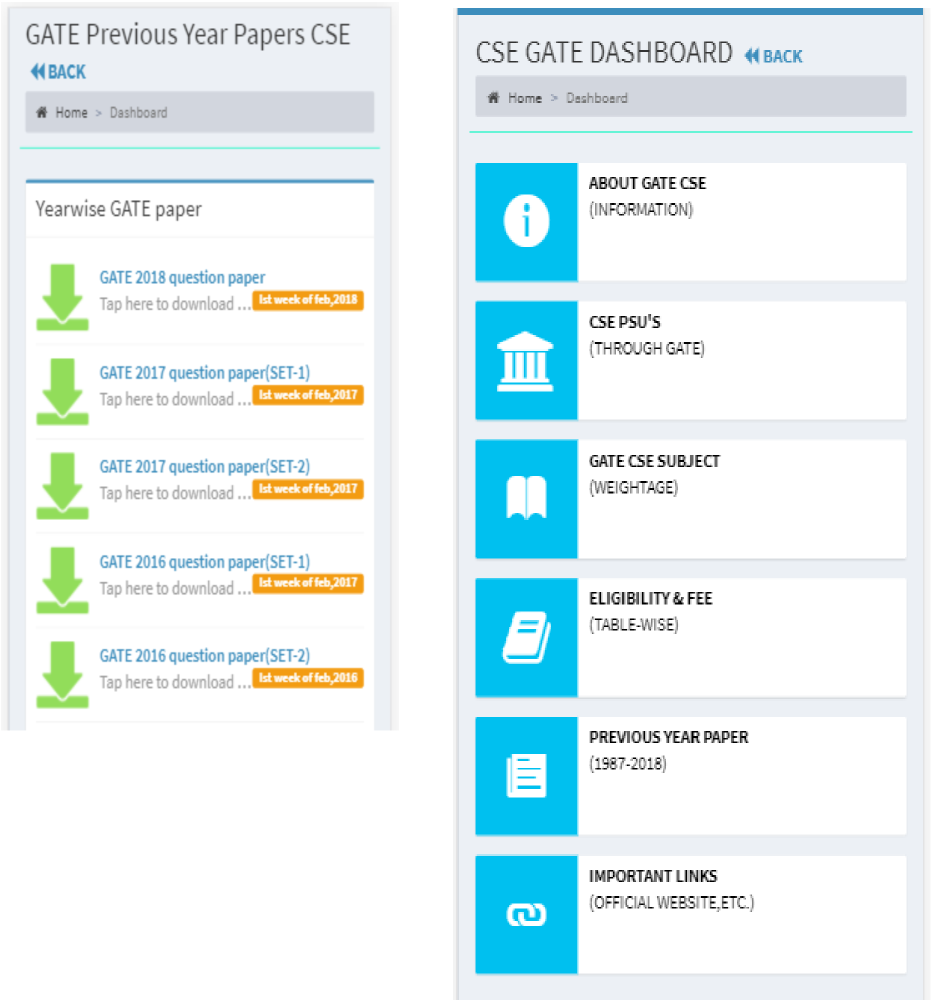
TECHNICAL QUESTIONS

Technical Section:70 marks
(There will be a negative marking of 1/3 marks for the questions carrying 1 mark. Likewise, for questions carrying 2 marks, 2/3 marks will be deducted. No negative marking for Numerical Answer Type questions).

ENGINEERING MATHEMATICS

Figure 6.13: Gate functionality 1

when student explore the stream it find the different options related to GATE and CAT exam like, Previous year **GATE or CAT paper**, Exam **Syllabus**, Exam pattern, About **Gate/CAT Exam** and **important links**; as shown in the snap given below…



GATE Previous Year Papers CSE

BACK

Home > Dashboard

Yearwise GATE paper

GATE 2018 question paper
Tap here to download ... Ist week of feb,2018

GATE 2017 question paper(SET-1)
Tap here to download ... Ist week of feb,2017

GATE 2017 question paper(SET-2)
Tap here to download ... Ist week of feb,2017

GATE 2016 question paper(SET-1)
Tap here to download ... Ist week of feb,2017

GATE 2016 question paper(SET-2)
Tap here to download ... Ist week of feb,2016

CSE GATE DASHBOARD BACK

Home > Dashboard

ABOUT GATE CSE
(INFORMATION)

CSE PSU'S
(THROUGH GATE)

GATE CSE SUBJECT
(WEIGHTAGE)

ELIGIBILITY & FEE
(TABLE-WISE)

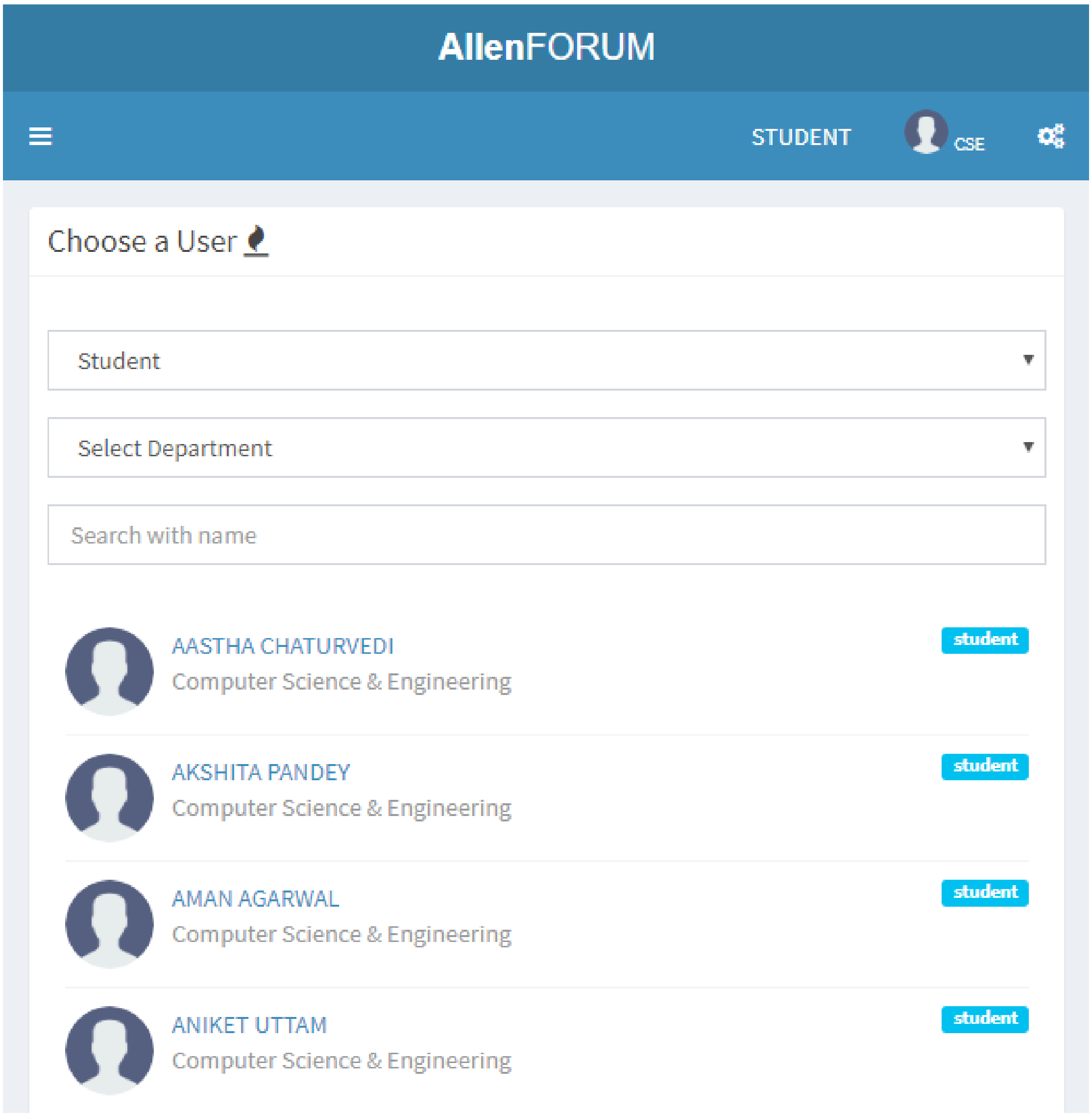
PREVIOUS YEAR PAPER
(1987-2018)

IMPORTANT LINKS
(OFFICIAL WEBSITE,ETC.)

Figure 6.14: Gate functionality 2

6.1.7 PERSONAL CHAT

Student and Faculty can have a personal discussion by clicking on the chat option in their side navigation menu



Choose a User

Student ▾

Select Department ▾

Search with name

AASTHA CHATURVEDI
Computer Science & Engineering
student

AKSHITA PANDEY
Computer Science & Engineering
student

AMAN AGARWAL
Computer Science & Engineering
student

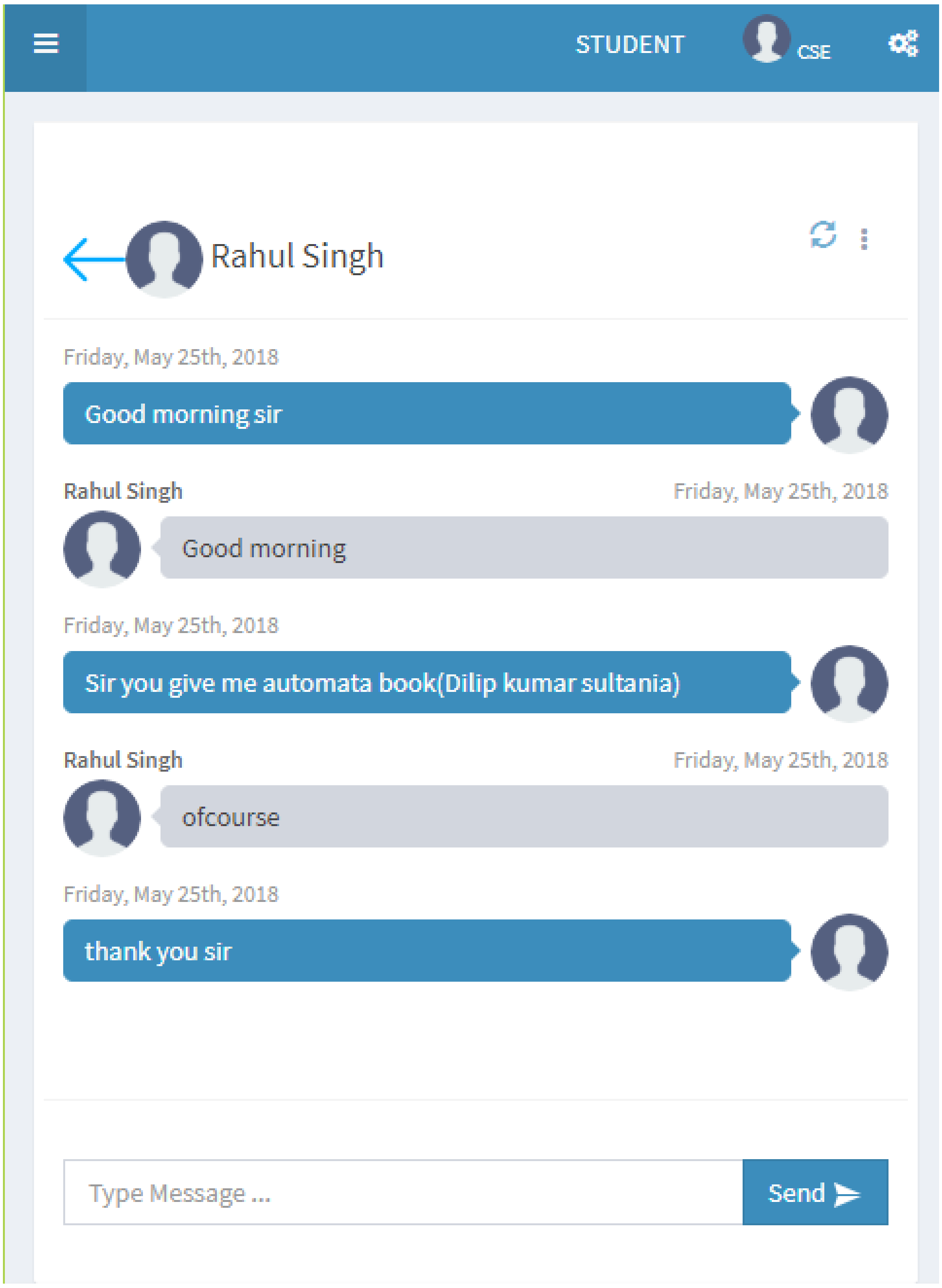
ANIKET UTTAM
Computer Science & Engineering
student

Figure 6.15: Select user for chat

After clicking on the menu student/faculty can search and click the user with whom the discussion is to be carried out and a new chat window opened

This is the chat personal chat window, It has name of person and profile picture right of ← arrow. The chat messages are displayed left of the person with whom the logged in user is doing chat.

There is refresh button also in left of ⋮ (vertical 3 dots). Below is the message box where you can type the message and click on send. It will be displayed in the same window of other user.



Rahul Singh

Friday, May 25th, 2018

Good morning sir

Rahul Singh Friday, May 25th, 2018

Good morning

Friday, May 25th, 2018

Sir you give me automata book(Dilip kumar sultania)

Rahul Singh Friday, May 25th, 2018

ofcourse

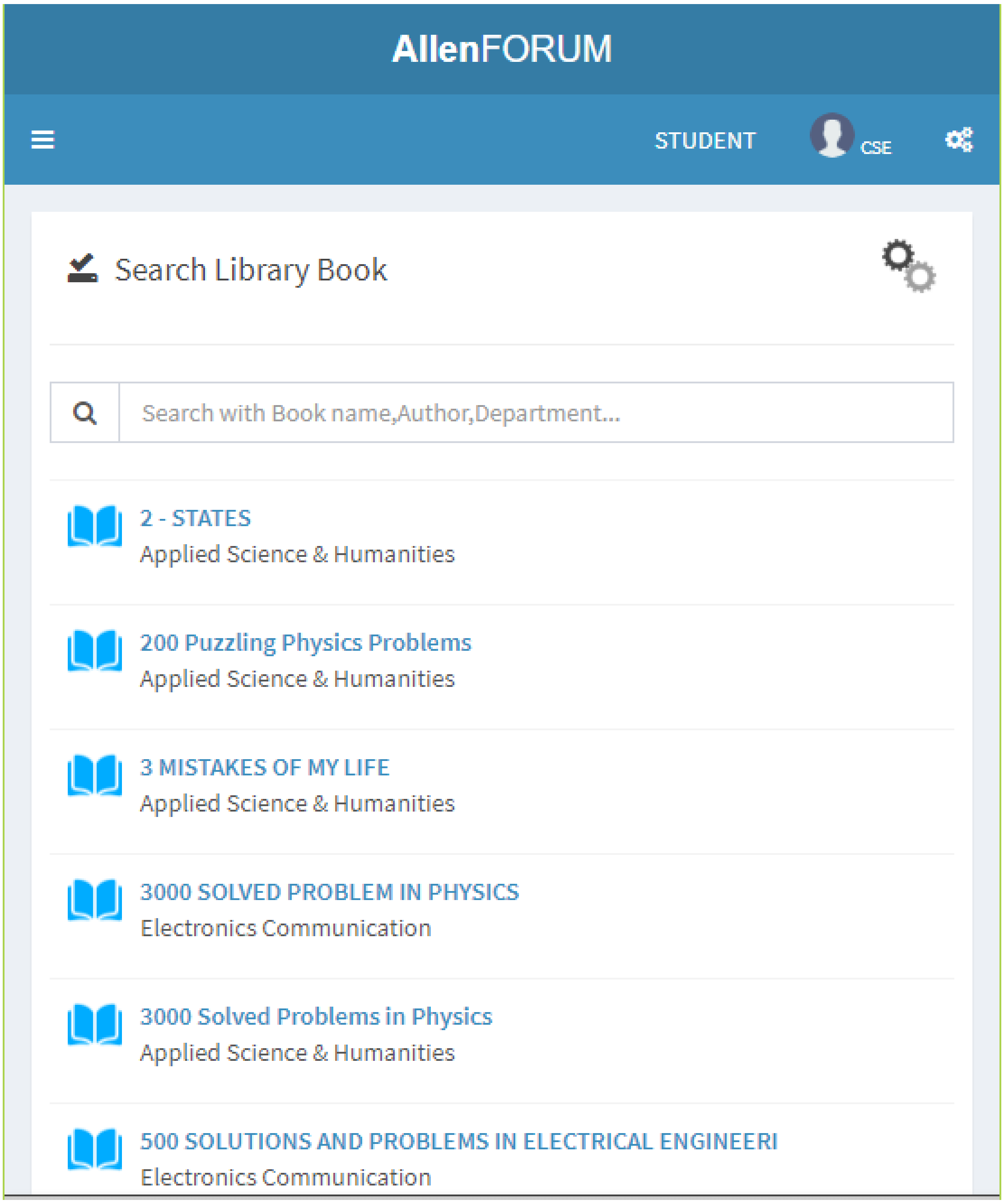
Friday, May 25th, 2018

thank you sir

Figure 6.16: Chat messages

6.1.8 BOOK SEARCH

Search Book tab is used for check status and details of library books. You can search your desire books and see details via click on book, as shown in the snapshot given below



AllenFORUM

STUDENT CSE

Search Library Book

Search with Book name,Author,Department...

2 - STATES
Applied Science & Humanities

200 Puzzling Physics Problems
Applied Science & Humanities

3 MISTAKES OF MY LIFE
Applied Science & Humanities

3000 SOLVED PROBLEM IN PHYSICS
Electronics Communication

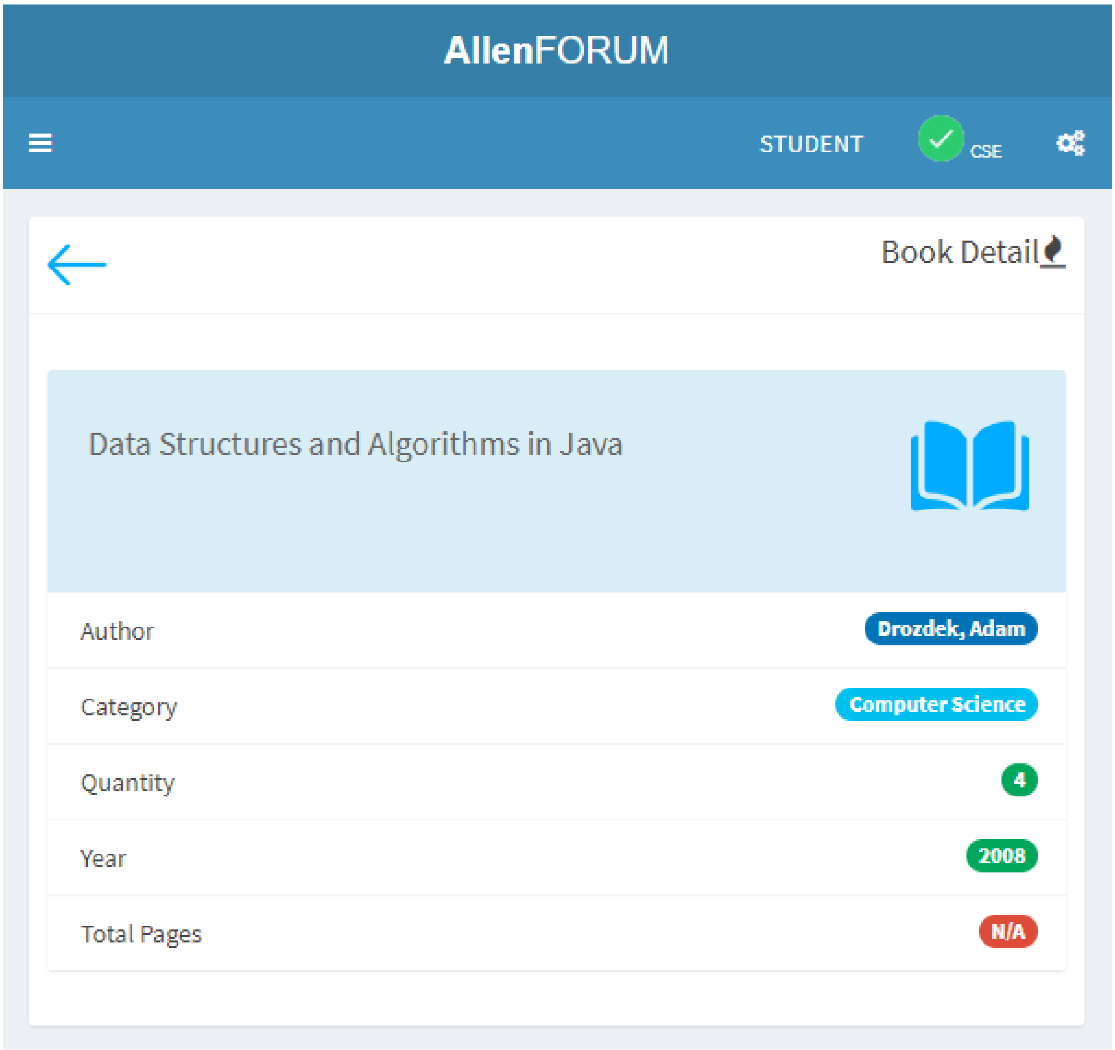
3000 Solved Problems in Physics
Applied Science & Humanities

500 SOLUTIONS AND PROBLEMS IN ELECTRICAL ENGINEERI
Electronics Communication

Figure 6.17: Search library books

If the student wants to see more detail about book the click on it and book detail page shown, contains the complete detail of the book as shown in the figure.

In this figure the user can see details of the book like author name, book category, quantity (left), book year etc.



Book Detail

Data Structures and Algorithms in Java

Author	Drozdek, Adam
Category	Computer Science
Quantity	4
Year	2008
Total Pages	N/A

Figure 6.18: Books details

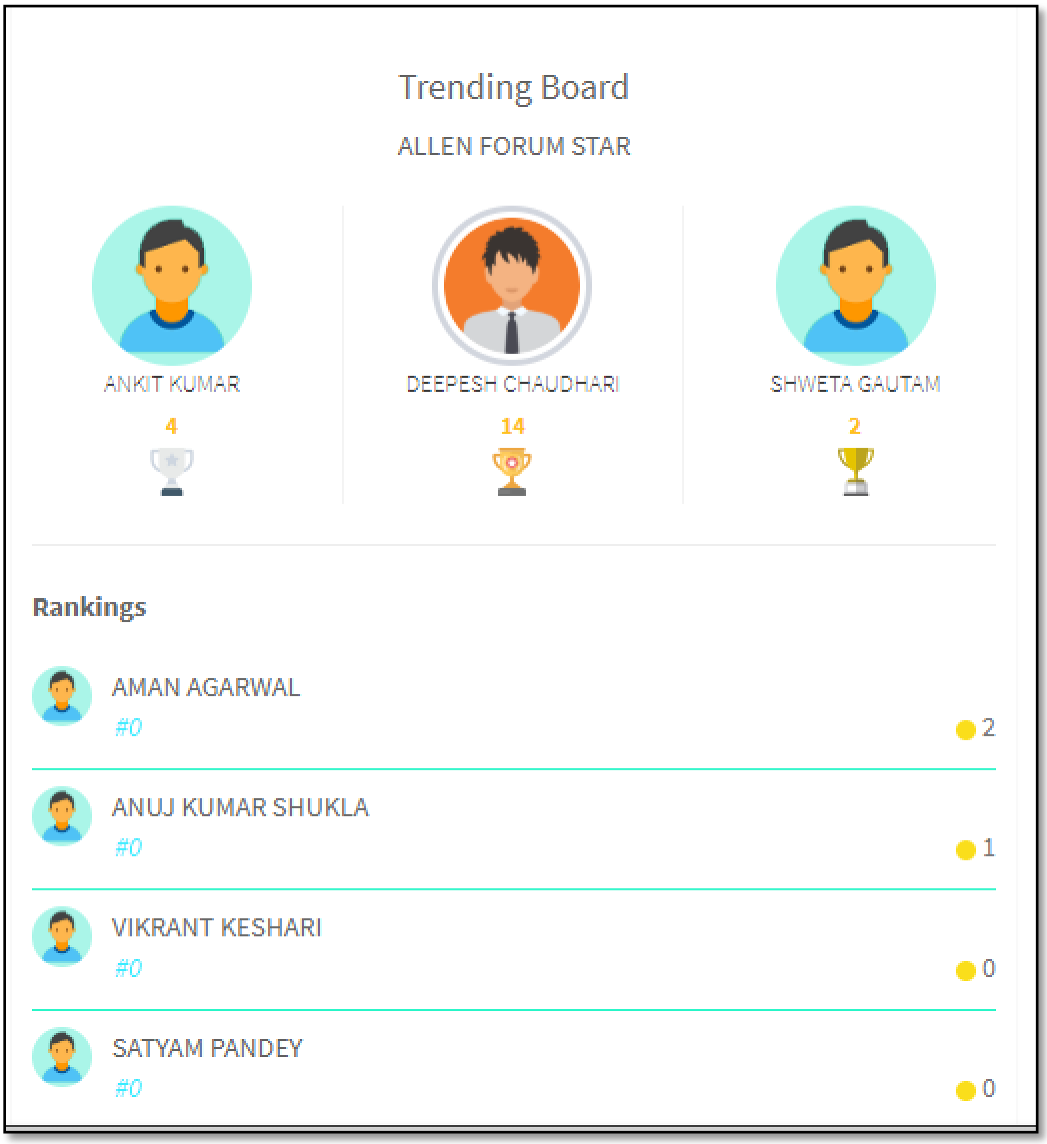
6.1.9 TRENDING

“Trending” tab is one of the most exciting part of ***AllenForum***. In trending tab student who will give best answers to the questions gains **likes**, gains maximum **followers**, **higher rating** in his given answers by other users. The System ***AllenForum*** pikes 10 top students who are in trending and 3 most top trending students, remaining 7 and their rank will be listed below as show in the figure. Student who is top of the table get a “*Golden badge*” every week and student who have highest *“Golden badges”* in a year known as **“*Allenits of the Year*”.**

The middle user is first, left user is second and last is third.

The Trending calculation is done by the formula is

$$T_c = 10 * T_f + 1 * T_l + 1 * T_r + 5 * C_{cp}.$$



Trending Board

ALLEN FORUM STAR

ANKIT KUMAR	DEEPESH CHAUDHARI	SHWETA GAUTAM
4	14	2

Rankings

AMAN AGARWAL #0	● 2
ANUJ KUMAR SHUKLA #0	● 1
VIKRANT KESHARI #0	● 0
SATYAM PANDEY #0	● 0

Figure 6.19: Trending Board

Where the symbols meaning is defined as:

T_c = Total coins

T_f = Total followers

T_l = Total likes

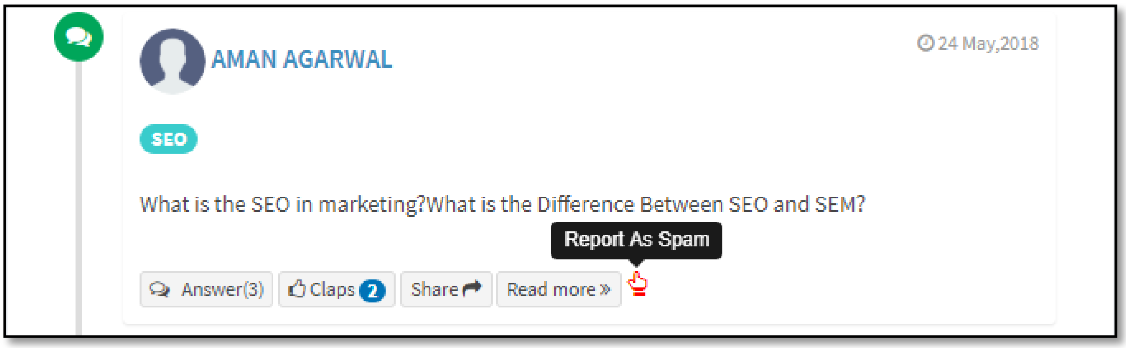
T_r = Total ratings in given answers

T_{cp} =Total contribution post done by user

6.2.1 REPORT AS SPAM

This permission is only for faculty and admin only, if faculty founds any unexpected content in the post of discussion the he can click on **'report as spam'** button, after clicking it will ask for a confirmation if user says 'yes' the post will be deleted and user who has posted this will be blocked and will not able to login again until admin again approves him.

Following is the figure shows the process.



AMAN AGARWAL

24 May,2018

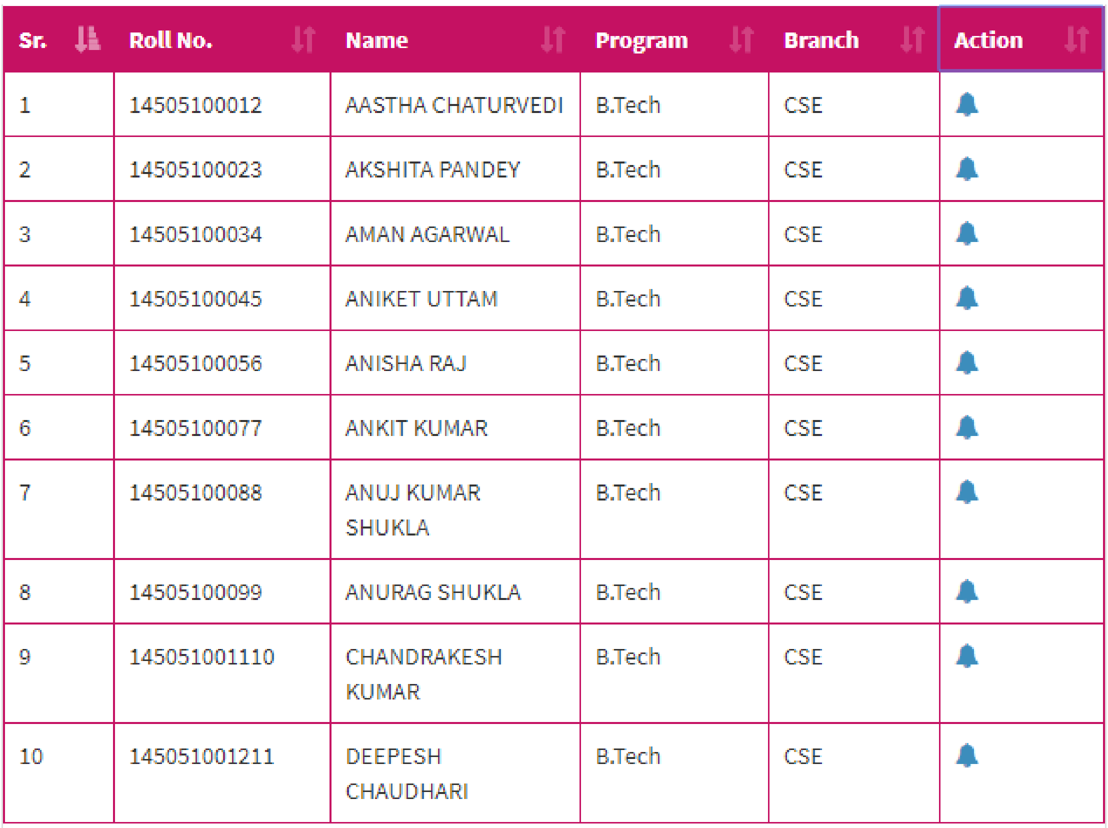
SEO

What is the SEO in marketing?What is the Difference Between SEO and SEM?

Figure 6.20: Report as Spam

6.2.2 USER BLOCK

This permission is only for faculty and admin, if faculty/admin found any user doing some unexpected activities in the ***AllenForum*** then that user(student) will be blocked by clicking on the **bell icon**, before this a confirmation popup will appear if you click yes the user will be blocked. For doing unblock again click on that icon corresponding to the user.

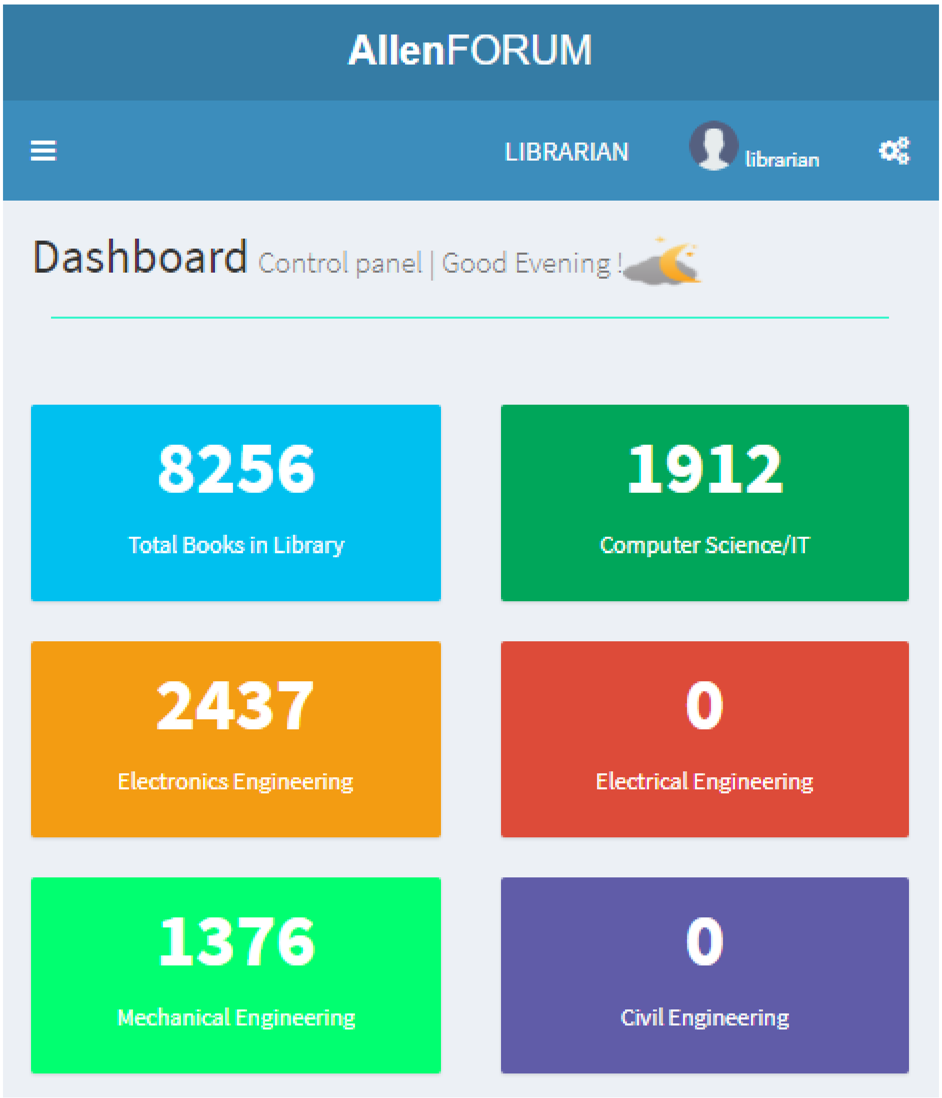


Sr.	Roll No.	Name	Program	Branch	Action
1	14505100012	AASTHA CHATURVEDI	B.Tech	CSE	🔔
2	14505100023	AKSHITA PANDEY	B.Tech	CSE	🔔
3	14505100034	AMAN AGARWAL	B.Tech	CSE	🔔
4	14505100045	ANIKET UTTAM	B.Tech	CSE	🔔
5	14505100056	ANISHA RAJ	B.Tech	CSE	🔔
6	14505100077	ANKIT KUMAR	B.Tech	CSE	🔔
7	14505100088	ANUJ KUMAR SHUKLA	B.Tech	CSE	🔔
8	14505100099	ANURAG SHUKLA	B.Tech	CSE	🔔
9	145051001110	CHANDRAKESH KUMAR	B.Tech	CSE	🔔
10	145051001211	DEEPESH CHAUDHARI	B.Tech	CSE	🔔

Figure 6.21: Block user

6.3.1 LIBRARIAN ACTIVITY

After successful login librarian redirected to his dashboard, contains the following things as shown in the figure.



Dashboard Control panel | Good Evening !

8256
Total Books in Library

1912
Computer Science/IT

2437
Electronics Engineering

0
Electrical Engineering

1376
Mechanical Engineering

0
Civil Engineering

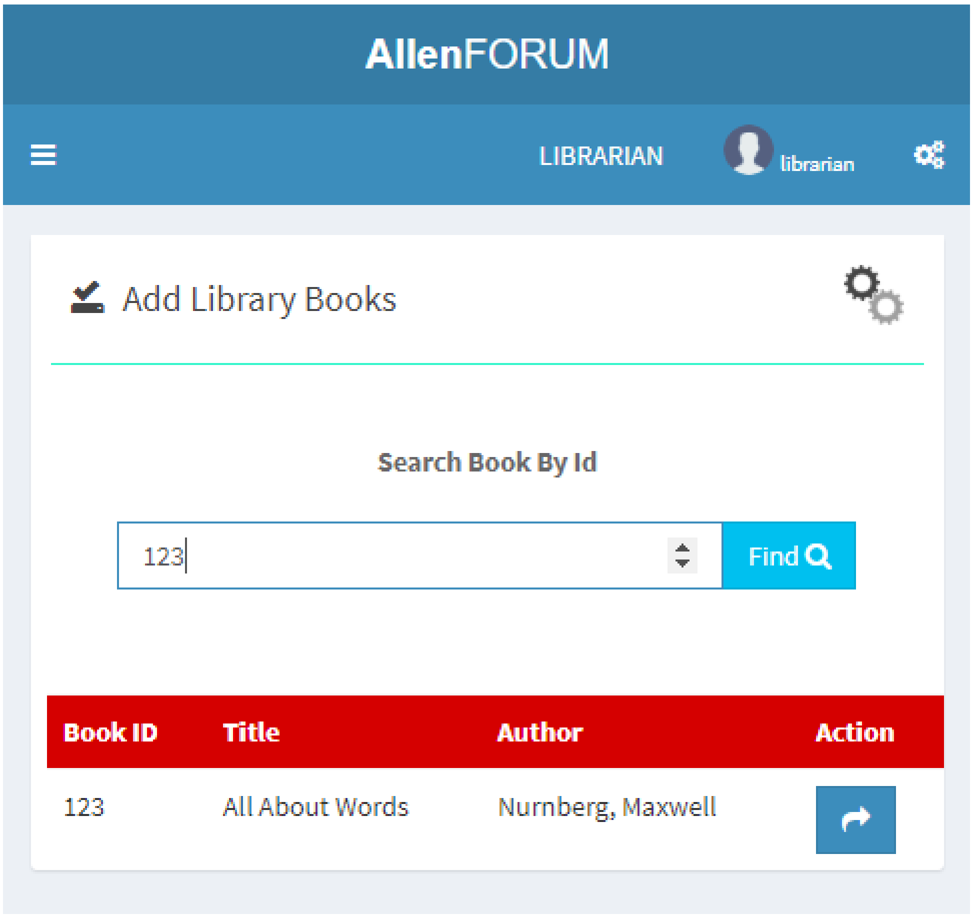
Figure 6.22: Librarian dashboard

These are the boxes shows the quantity of the books by their category or department. Clicking on **'Total Books in Library'** librarian can see all the books in the library if he has maintained the book record.

Librarian can also add the books manually but book id will be automatically written in the textbox and can't be editable and librarian will be redirected to book list page.

6.3.2 BOOK ISSUE/RETURN

Librarian can also accept the book or issue the book clicking on the icon, before that librarian will type the ID of the book which is to be issues or returned as shown in the figure.



Search Book By Id

123

Book ID	Title	Author	Action
123	All About Words	Nurnberg, Maxwell	↪

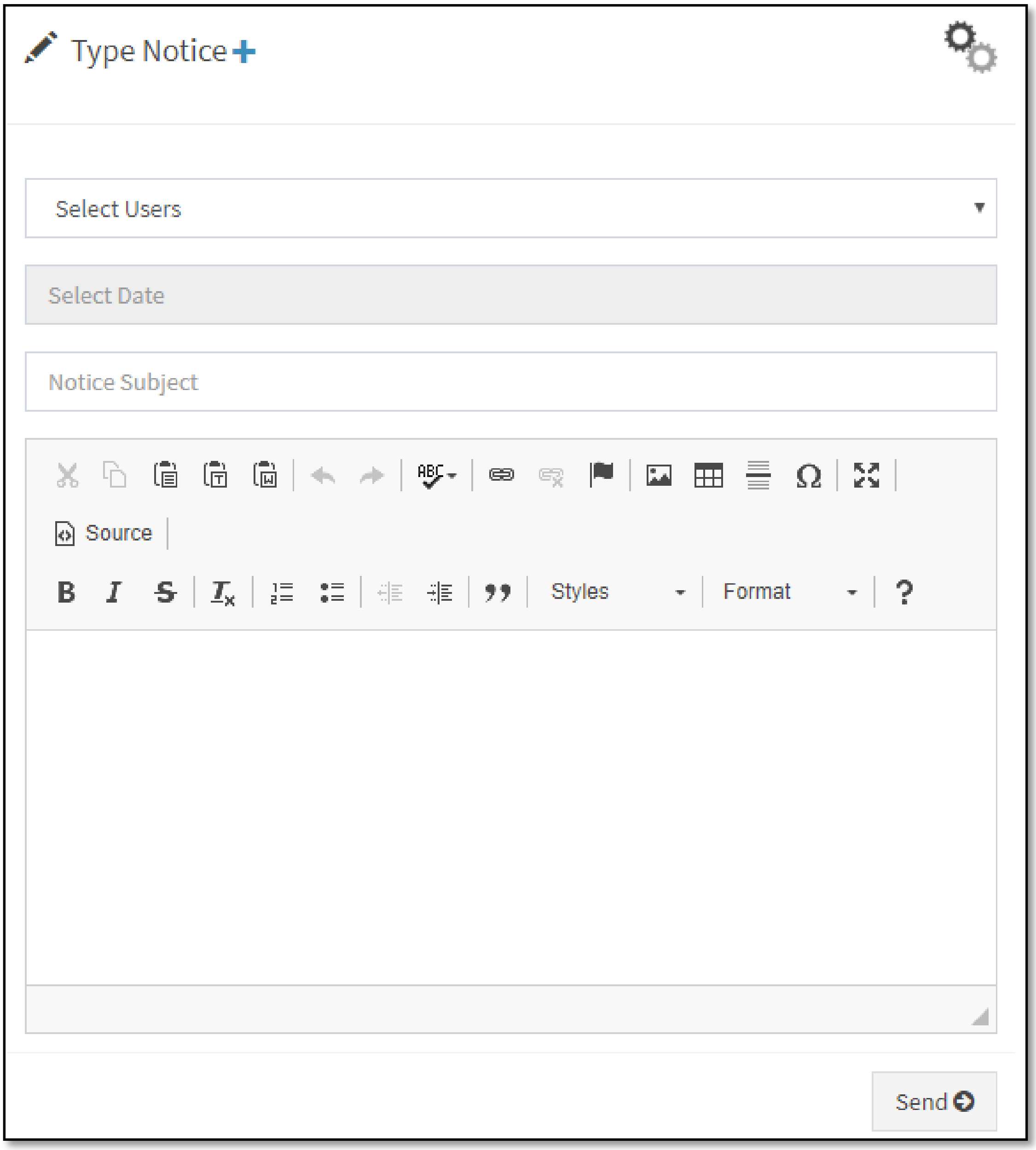
Figure 6.23: Issue library book

This icon currently show above is for book issue, in case of book return the icon will be reverted and click that.

6.4.1 RECEPTIONIST ACTIVITY

After successfully login of receptionist he will come in his dashboard page has a box of notices as in library dashboard, clicking on that list of posted notices will be displayed.

Receptionist has the option to compose notice as shown in the figure



Type Notice +

Select Users

Select Date

Notice Subject

Figure 6.24: Type notice

On selection of user (Student/Faculty/All) a mail with subject as in the notice will be sent to their resisted email id depending on the selection

CHAPTER 7

DEVELOPMENT PHASE

Development tools allow developers to test and debug their code. They are different from website builders and integrated development environments (IDEs) in that they do not assist in the direct creation of a webpage, rather they are tools used for testing the user interface of a website or web application.

Development tools and technologies are responsible for the security and its look and feel, that’s why keeping same thing in mind following are programming and development tools are used in the project.

7.1 FRONTEND

Our project will be a web application and it should be responsive for each accessible device. Hence we are using these Technologies for making attractive front-end.

- **HTML 5.0:** Since it is a web application that has to be displayed in a browser and we know that browser display everything in the form of markup.HTML is a markup language that provides the structure of a website so that web browsers know what to show. That’s why we are using Hyper Text Markup Language(HTML).
- **CSS:** Cascading Style Sheets, commonly known as CSS, is an integral part of the modern web development process. It is a highly effective HTML tool that provides easy control over layout and presentation of website pages by separating content from design. Although CSS was introduced in 1996, it gained mainstream popularity by the early 2000s when popular browsers started supporting its advanced features. The latest version, CSS3, has been available since 1998 and was last updated in September 2008.
- **Bootstrap:** Bootstrap is a free and open-source front-end web framework for designing websites and web applications. It contains HTML- and CSS-based design templates for typography, forms, buttons, navigation and other interface components, as well as optional JavaScript extensions. Unlike many web frameworks, it concerns itself with front-end development only.
- **JavaScript:** JavaScript is most commonly used as a client side scripting language. Here we are using for making good look and feel and mainly for validation purpose.

7.2 BACKEND

- **PHP:** Stands for **Hypertext Pre-processor**. For connecting our web application with database needs a server side scripting language. For simplicity and easiness we are using PHP as core and we will also be using **AJAX & jQuery** combing with PHP for making fast response and making much better look and feel.
- **Database:** We are using **MySQL** database the reason is Opens source and more compatible with our base server side scripting language that is PHP.
- **Server :**Apache Tomcat Server
- **Editor :** PHP Storm, Sublime Text 3.0
- Photoshop, PicsArt and Paint for logo designing
- WonderShareFilmora for video editing

Since no application can be perfect, there may be some issues so we continuously updating our application with new feature and trying to touch perfection.

CHAPTER 8
DATABASE DETAILS

Database is the most important part of any software where we can store all required data and manipulate it according to our requirement, it is necessary to maintain a proper schema structure to create a normalized database. Database of any system should not contain any redundant data to prevent database from anomalies in future.

We have tried to keep our ***Allenforum*** database as normalized as possible. We have used multiple join conditions on multiple tables while querying database to fetch the records and **SHA1** to encrypt the passwords.

8.1 DATABASE SCHEMA

The **database schema** of a **database** system is its structure described in a formal language supported by the **database** management system (DBMS). The term "**schema**" refers to the organization of data as a blueprint of how the **database** is constructed (divided into **database** tables in the case of relational **databases**)[x].

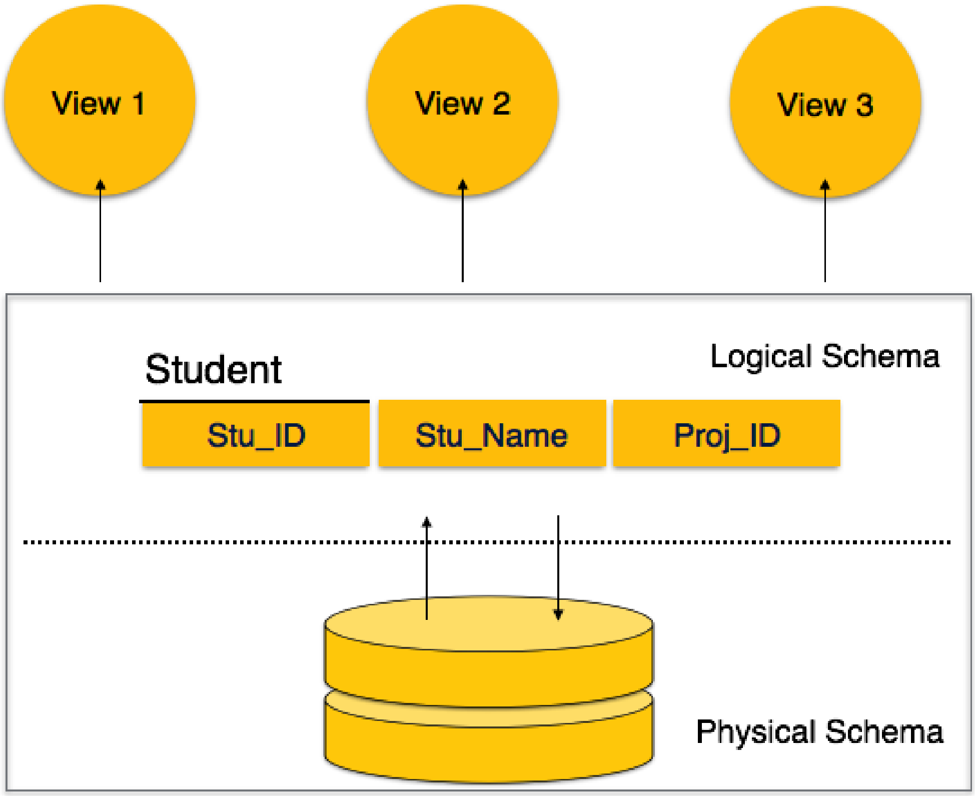


Figure : 1x

8.2 NORMILIZATION

All the effort has been made to keep the schema of ***Allenforum*** database as normalized as possible. There are very less sub queries executing in the system. All the queries mostly using **JOIN** to avoid to the data from database.

A JOIN clause is used to combine rows from two or more tables, based on a related column between them[x]

Following are JOIN conditions used depending upon the need described as follows

Following are JOIN conditions used depending upon the need described as follows

Example: there are two tables forum_users and forum_student

id	user_email	user_pass
1	astha@gmail.com	145051
4	ankit@gmail.com	526633
5	deepesh@gmail.com	584525

Table 1: join table

id	user_id	name	roll_no	contact
1	1	Astha Chaturvedi	1550510007	9936546197
2	4	Ankit kumar	1550510008	7905266028
3	5	Deepesh Chaudhari	1550510006	8601480783

Table 1: join table 2

INNER JOIN

The INNER JOIN keyword selects records that have matching values in both tables[x].

```
SELECT name,user_email FROM forum_users fu INNER JOIN
forum_student fs ON fu.id = fs.user_id;
```

LEFT JOIN

The LEFT JOIN keyword returns all records from the left table (forum_users), and the matched records from the right table (forum_student). The result is NULL from the right side, if there is no match[x].

```
SELECT name,user_email FROM forum_users fu LEFT JOIN
forum_student fs ON fu.id = fs.user_id ORDER BY fu.id;
```

RIGHT JOIN

The RIGHT JOIN keyword returns all records from the right table (forum_student), and the matched records from the left table (forum_users). The result is NULL from the left side, when there is no match[x].

```
SELECT name,user_email FROM forum_users fu RIGHT JOIN
forum_student fs ON fu.id = fs.user_id ORDER BY fu.id;
```

FULL JOIN

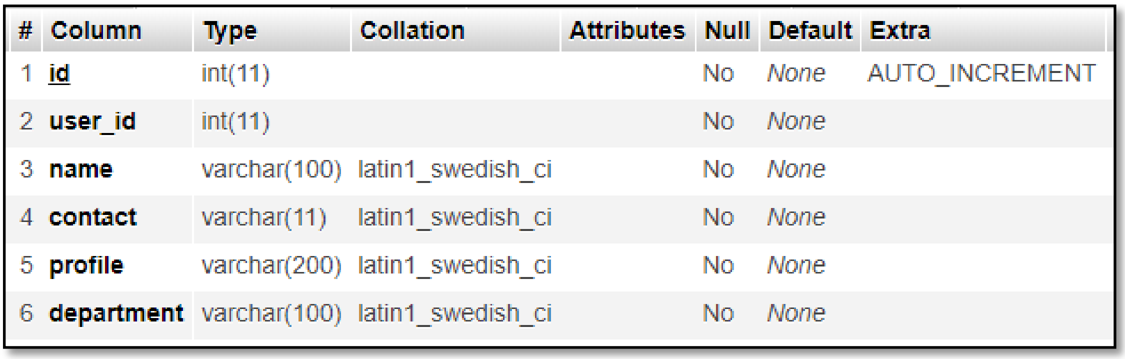
The FULL OUTER JOIN keyword return all records when there is a match in either left (forum_users) or right (forum_student) table records[x].

https://www.w3schools.com/sql/sql_join_full.asp

```
SELECT name,user_email FROM forum_users fu FULL OUTER JOIN
forum_student fs ON fu.id = fs.user_id ORDER BY fu.id;
```

8.3 DATABASE TABLES & STRUCTURE

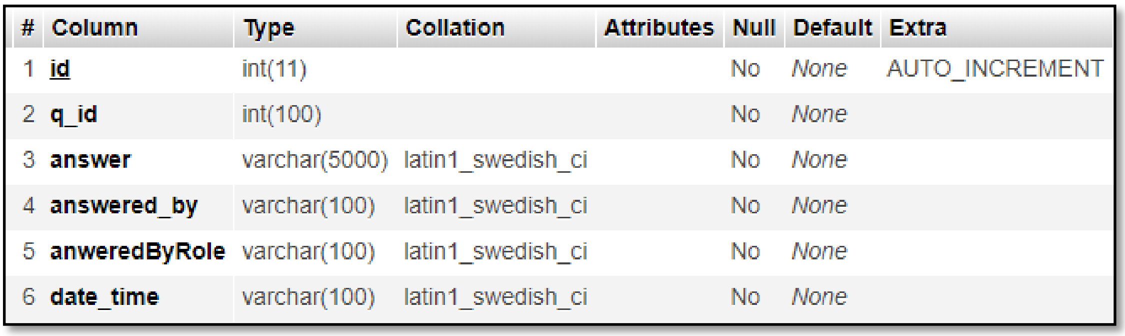
1. forum_admin



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	user_id	int(11)			No	*None*	
3	name	varchar(100)	latin1_swedish_ci		No	*None*	
4	contact	varchar(11)	latin1_swedish_ci		No	*None*	
5	profile	varchar(200)	latin1_swedish_ci		No	*None*	
6	department	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.1: Forum Admin Table

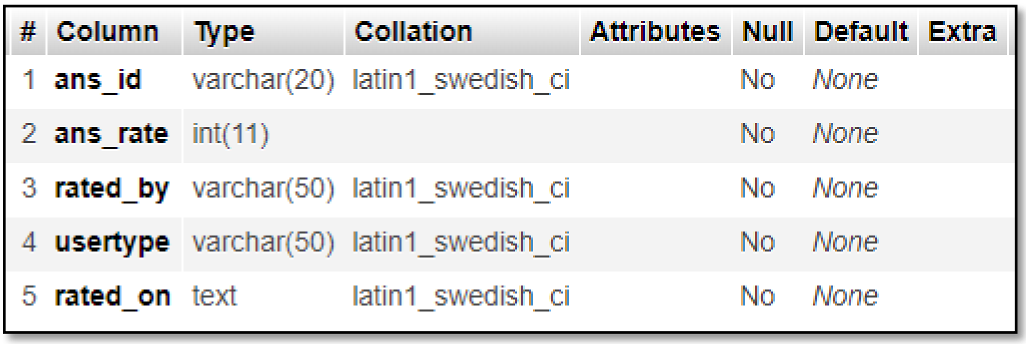
2. forum_answer



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	q_id	int(100)			No	*None*	
3	answer	varchar(5000)	latin1_swedish_ci		No	*None*	
4	answered_by	varchar(100)	latin1_swedish_ci		No	*None*	
5	anweredByRole	varchar(100)	latin1_swedish_ci		No	*None*	
6	date_time	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.2: Forum Answer Table

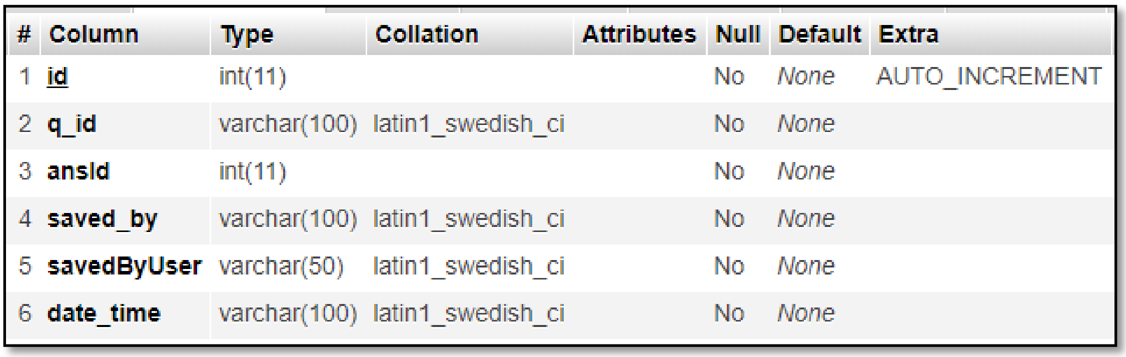
3. forum_answer_rating



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	ans_id	varchar(20)	latin1_swedish_ci		No	*None*	
2	ans_rate	int(11)			No	*None*	
3	rated_by	varchar(50)	latin1_swedish_ci		No	*None*	
4	usertype	varchar(50)	latin1_swedish_ci		No	*None*	
5	rated_on	text	latin1_swedish_ci		No	*None*	

Figure 8.3: Forum Answer Rating

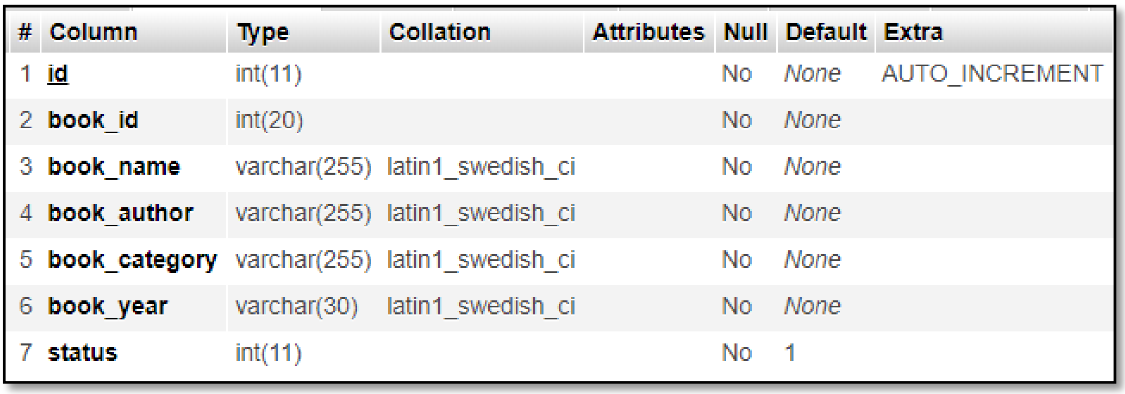
4. forum_answer_saves



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	q_id	varchar(100)	latin1_swedish_ci		No	*None*	
3	ansId	int(11)			No	*None*	
4	saved_by	varchar(100)	latin1_swedish_ci		No	*None*	
5	savedByUser	varchar(50)	latin1_swedish_ci		No	*None*	
6	date_time	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.4: Forum Answer Saves

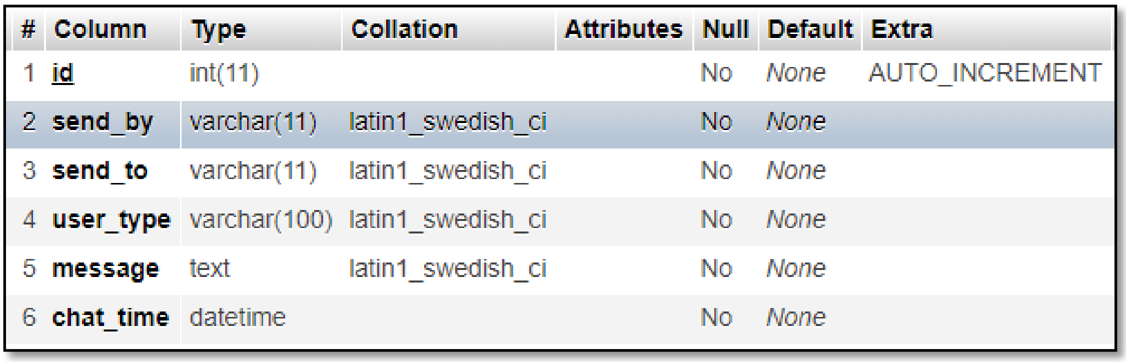
5. forum_bookss



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	book_id	int(20)			No	*None*	
3	book_name	varchar(255)	latin1_swedish_ci		No	*None*	
4	book_author	varchar(255)	latin1_swedish_ci		No	*None*	
5	book_category	varchar(255)	latin1_swedish_ci		No	*None*	
6	book_year	varchar(30)	latin1_swedish_ci		No	*None*	
7	status	int(11)			No	1	

Figure 8.5: Forum Books

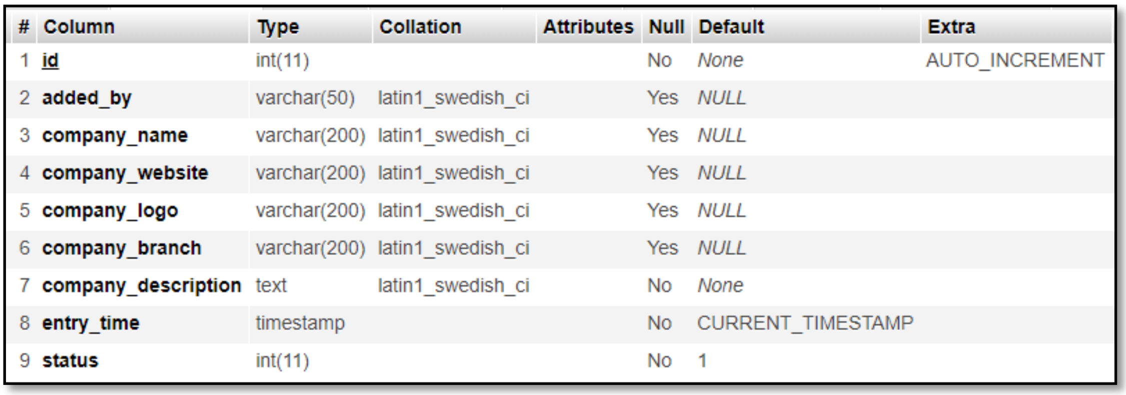
6. forum_chat



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	send_by	varchar(11)	latin1_swedish_ci		No	*None*	
3	send_to	varchar(11)	latin1_swedish_ci		No	*None*	
4	user_type	varchar(100)	latin1_swedish_ci		No	*None*	
5	message	text	latin1_swedish_ci		No	*None*	
6	chat_time	datetime			No	*None*	

Figure 8.6: Forum Chat

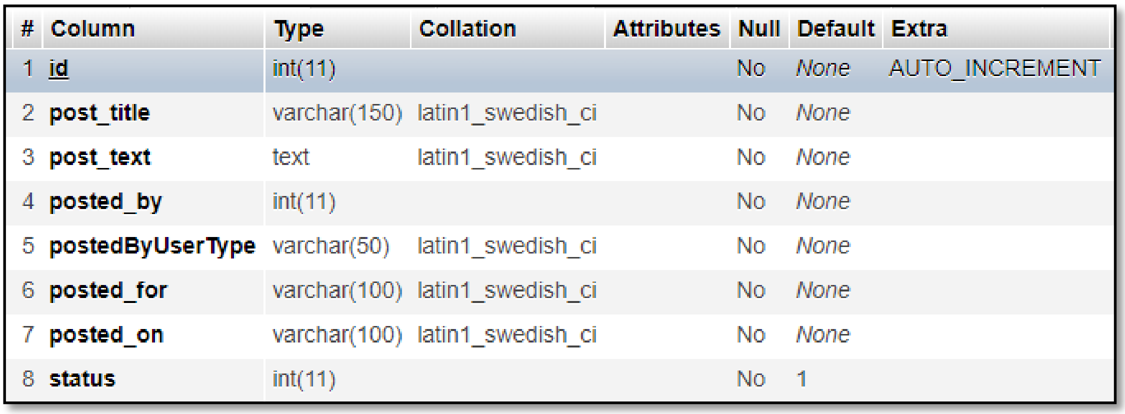
7. forum_company



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	added_by	varchar(50)	latin1_swedish_ci		Yes	*NULL*	
3	company_name	varchar(200)	latin1_swedish_ci		Yes	*NULL*	
4	company_website	varchar(200)	latin1_swedish_ci		Yes	*NULL*	
5	company_logo	varchar(200)	latin1_swedish_ci		Yes	*NULL*	
6	company_branch	varchar(200)	latin1_swedish_ci		Yes	*NULL*	
7	company_description	text	latin1_swedish_ci		No	*None*	
8	entry_time	timestamp			No	CURRENT_TIMESTAMP	
9	status	int(11)			No	1	

Figure 8.7: Forum Company

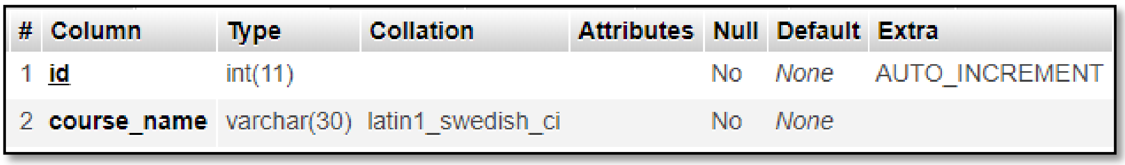
8. forum_contribution_post



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	post_title	varchar(150)	latin1_swedish_ci		No	*None*	
3	post_text	text	latin1_swedish_ci		No	*None*	
4	posted_by	int(11)			No	*None*	
5	postedByUserType	varchar(50)	latin1_swedish_ci		No	*None*	
6	posted_for	varchar(100)	latin1_swedish_ci		No	*None*	
7	posted_on	varchar(100)	latin1_swedish_ci		No	*None*	
8	status	int(11)			No	1	

Figure 8.8: Forum Contribution Table

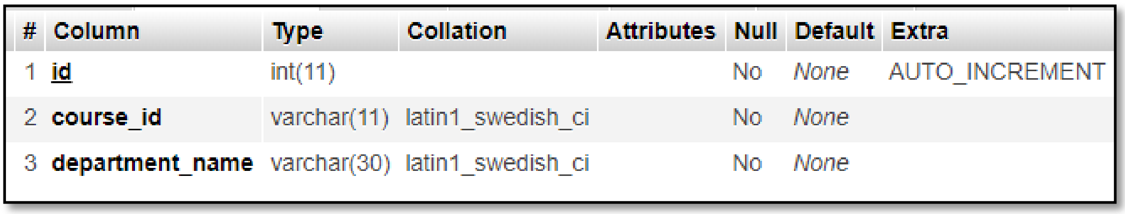
9. forum_courses



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	course_name	varchar(30)	latin1_swedish_ci		No	*None*	

Figure 8.9: Forum Courses Table

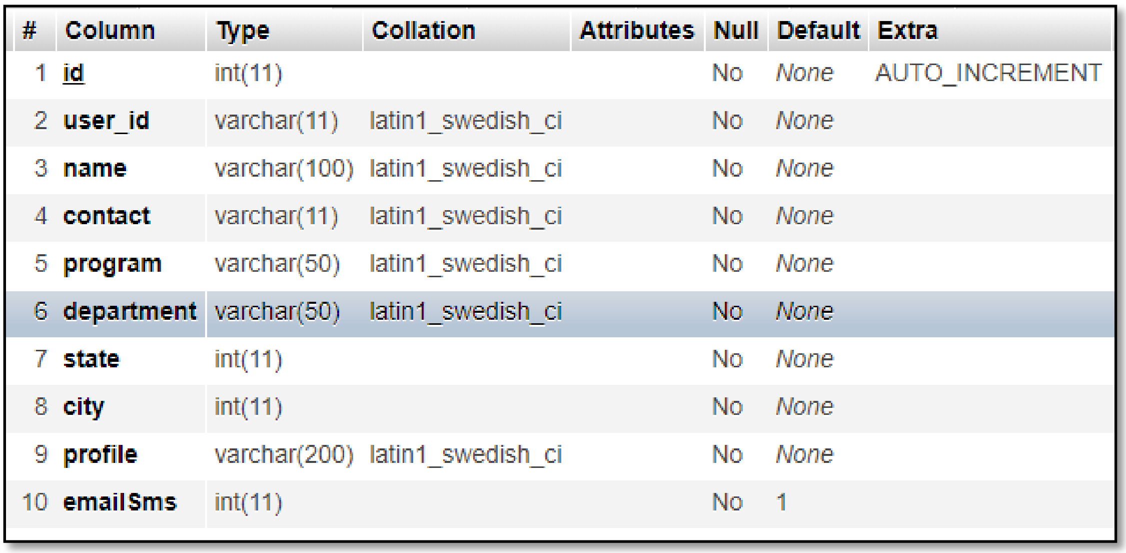
10. forum_departments



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	course_id	varchar(11)	latin1_swedish_ci		No	*None*	
3	department_name	varchar(30)	latin1_swedish_ci		No	*None*	

Figure 8.10: Forum Department Table

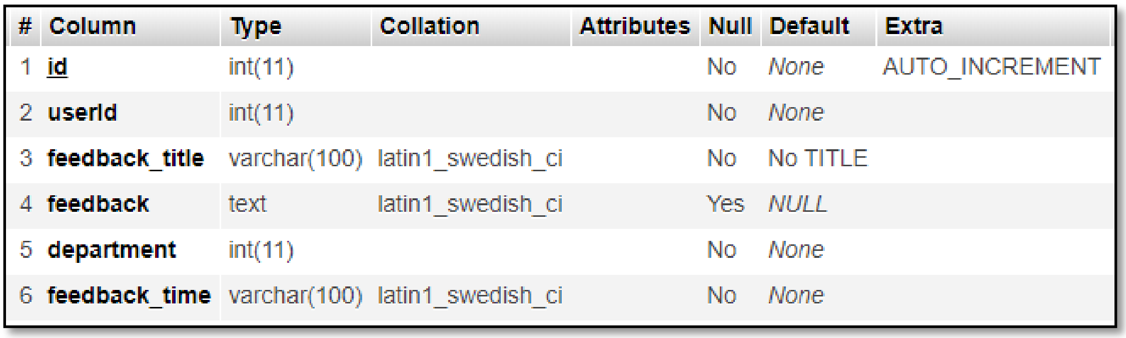
11. forum_faculty



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	user_id	varchar(11)	latin1_swedish_ci		No	*None*	
3	name	varchar(100)	latin1_swedish_ci		No	*None*	
4	contact	varchar(11)	latin1_swedish_ci		No	*None*	
5	program	varchar(50)	latin1_swedish_ci		No	*None*	
6	department	varchar(50)	latin1_swedish_ci		No	*None*	
7	state	int(11)			No	*None*	
8	city	int(11)			No	*None*	
9	profile	varchar(200)	latin1_swedish_ci		No	*None*	
10	emailSms	int(11)			No	1	

Figure 8.11: Forum Faculty Table

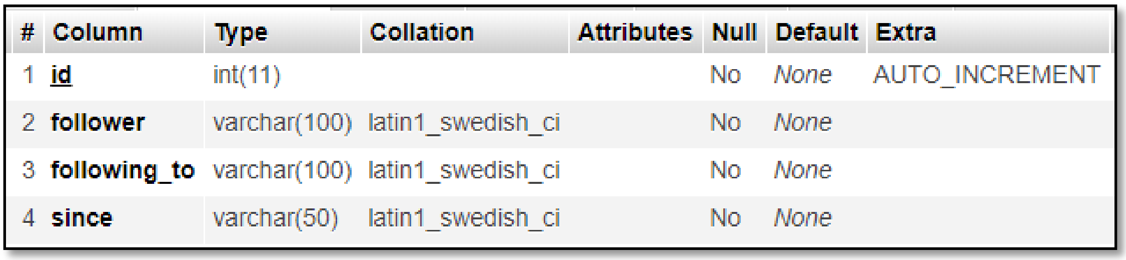
12. forum_feedback



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	userId	int(11)			No	*None*	
3	feedback_title	varchar(100)	latin1_swedish_ci		No	No TITLE	
4	feedback	text	latin1_swedish_ci		Yes	*NULL*	
5	department	int(11)			No	*None*	
6	feedback_time	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.12: Forum Feedback Table

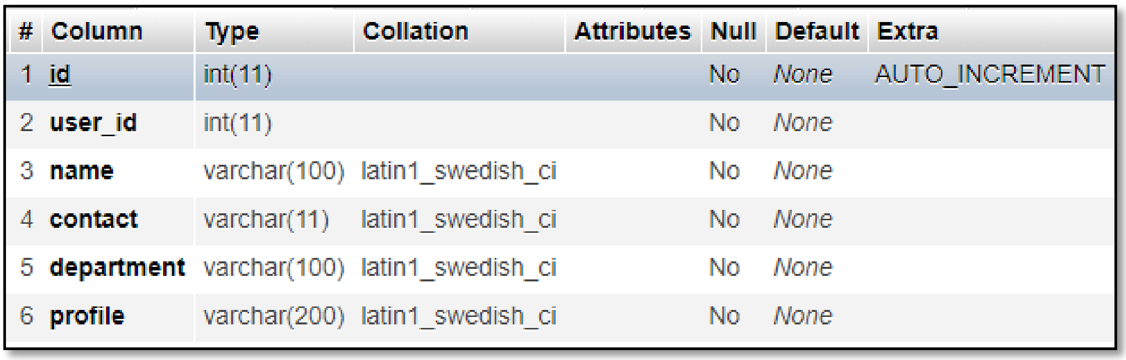
13. forum_follow



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	follower	varchar(100)	latin1_swedish_ci		No	*None*	
3	following_to	varchar(100)	latin1_swedish_ci		No	*None*	
4	since	varchar(50)	latin1_swedish_ci		No	*None*	

Figure 8.13: Forum Follow Table

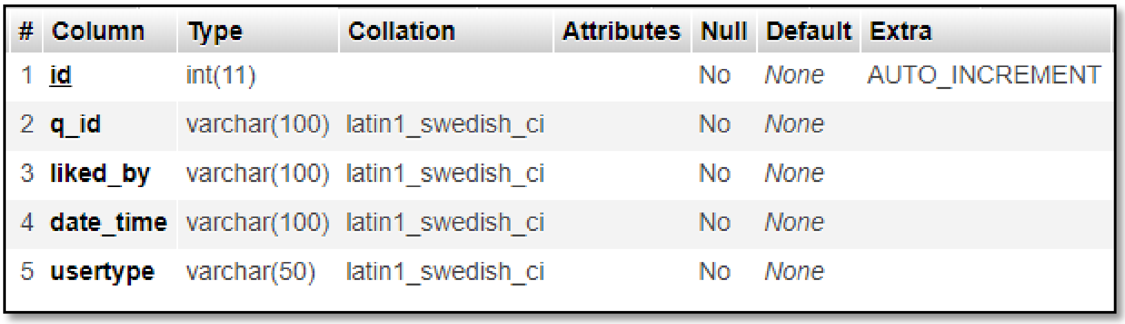
14. forum_librarian



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	user_id	int(11)			No	*None*	
3	name	varchar(100)	latin1_swedish_ci		No	*None*	
4	contact	varchar(11)	latin1_swedish_ci		No	*None*	
5	department	varchar(100)	latin1_swedish_ci		No	*None*	
6	profile	varchar(200)	latin1_swedish_ci		No	*None*	

Figure 8.14: Forum Librarian Table

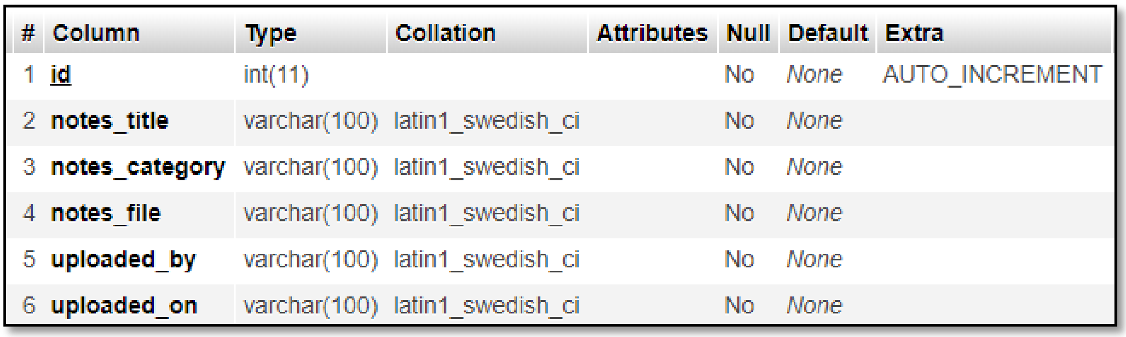
15. forum_like_details



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	q_id	varchar(100)	latin1_swedish_ci		No	*None*	
3	liked_by	varchar(100)	latin1_swedish_ci		No	*None*	
4	date_time	varchar(100)	latin1_swedish_ci		No	*None*	
5	usertype	varchar(50)	latin1_swedish_ci		No	*None*	

Figure 8.15: Forum like detail Table

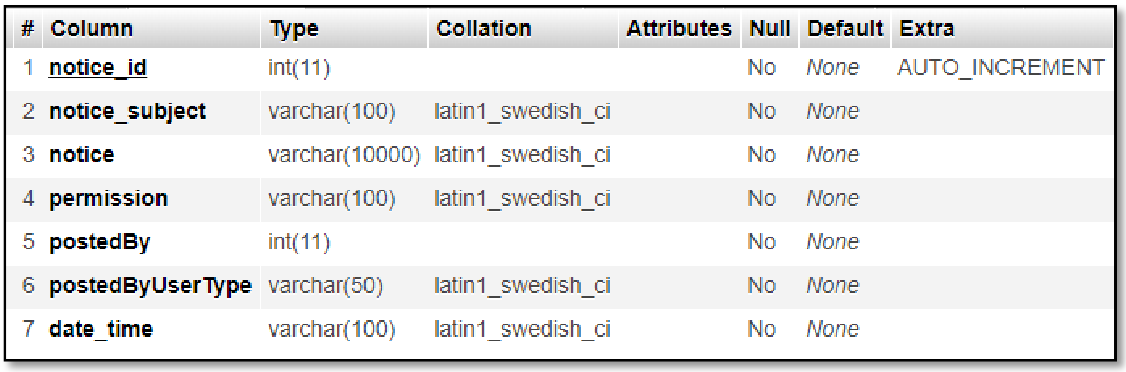
16. forum_notes_upload



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	notes_title	varchar(100)	latin1_swedish_ci		No	*None*	
3	notes_category	varchar(100)	latin1_swedish_ci		No	*None*	
4	notes_file	varchar(100)	latin1_swedish_ci		No	*None*	
5	uploaded_by	varchar(100)	latin1_swedish_ci		No	*None*	
6	uploaded_on	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.16: Forum Notes Upload

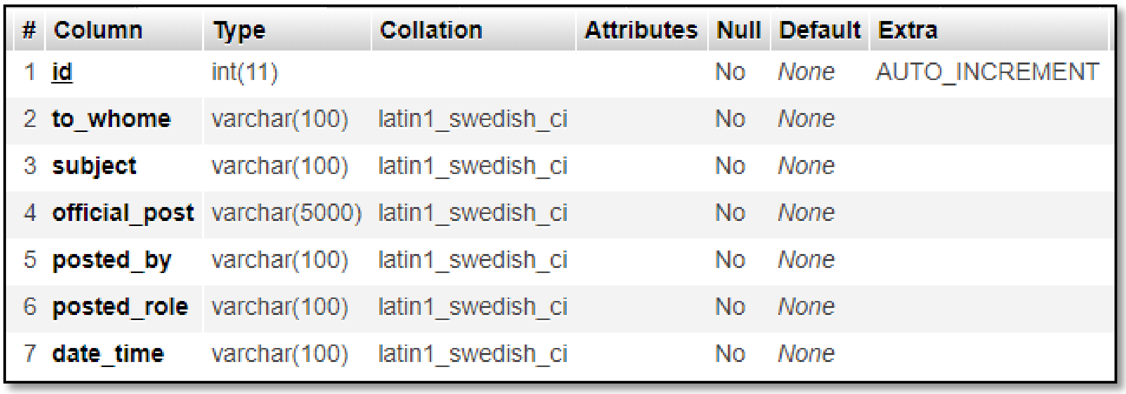
17. forum_notices



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	notice_id	int(11)			No	*None*	AUTO_INCREMENT
2	notice_subject	varchar(100)	latin1_swedish_ci		No	*None*	
3	notice	varchar(10000)	latin1_swedish_ci		No	*None*	
4	permission	varchar(100)	latin1_swedish_ci		No	*None*	
5	postedBy	int(11)			No	*None*	
6	postedByUserType	varchar(50)	latin1_swedish_ci		No	*None*	
7	date_time	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.17 Forum Notices Table

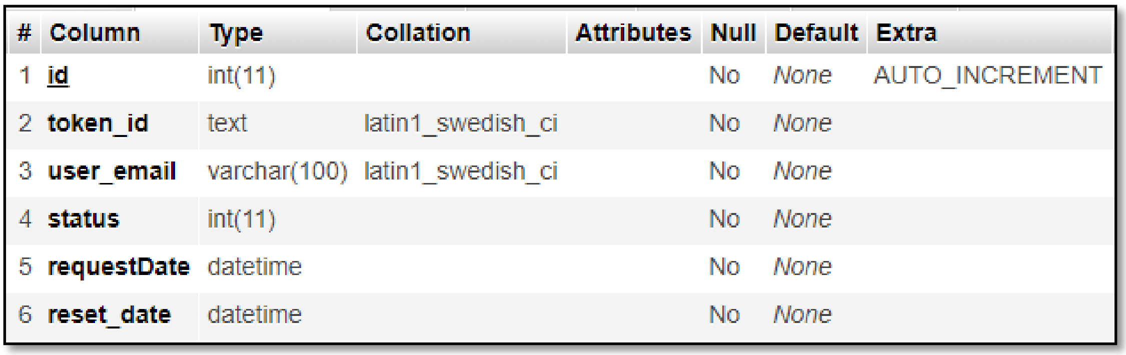
18. forum_officials_post



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	to_whome	varchar(100)	latin1_swedish_ci		No	*None*	
3	subject	varchar(100)	latin1_swedish_ci		No	*None*	
4	official_post	varchar(5000)	latin1_swedish_ci		No	*None*	
5	posted_by	varchar(100)	latin1_swedish_ci		No	*None*	
6	posted_role	varchar(100)	latin1_swedish_ci		No	*None*	
7	date_time	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.18: Forum Official Post Table

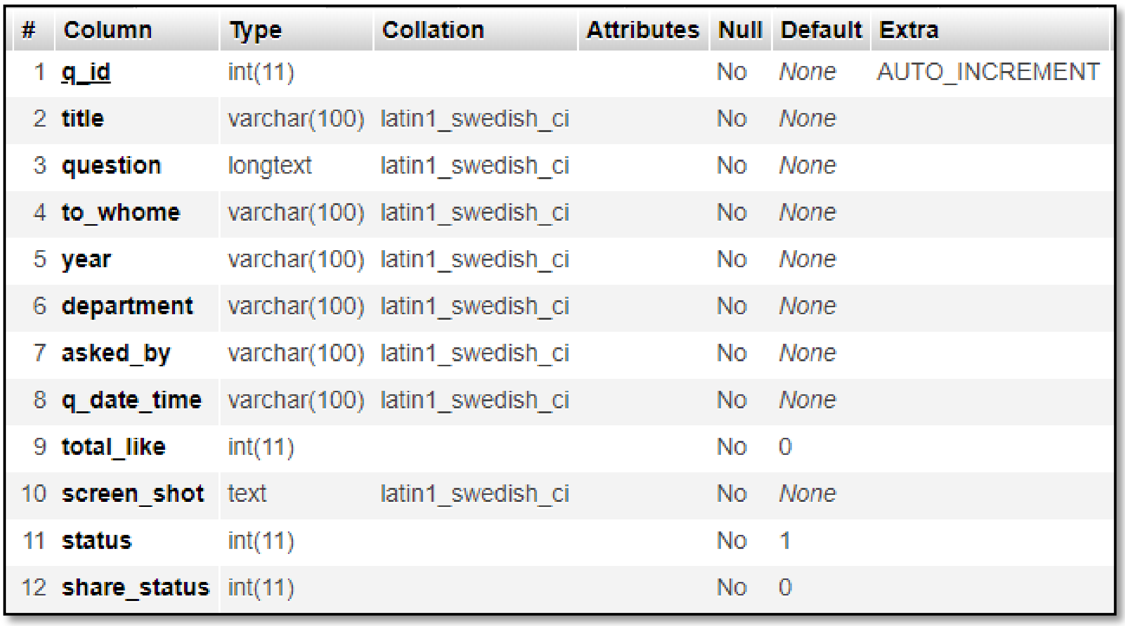
19. forum_password_rest



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	token_id	text	latin1_swedish_ci		No	*None*	
3	user_email	varchar(100)	latin1_swedish_ci		No	*None*	
4	status	int(11)			No	*None*	
5	requestDate	datetime			No	*None*	
6	reset_date	datetime			No	*None*	

Figure 8.19: Forum Password Reset

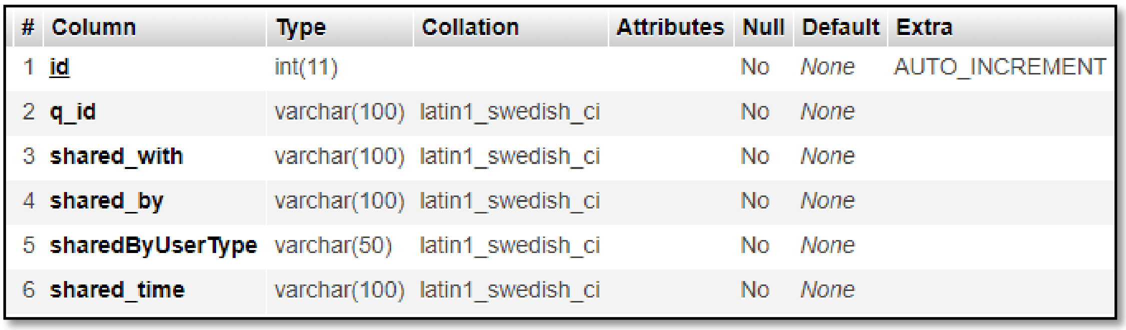
20. forum_questions



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	q_id	int(11)			No	*None*	AUTO_INCREMENT
2	title	varchar(100)	latin1_swedish_ci		No	*None*	
3	question	longtext	latin1_swedish_ci		No	*None*	
4	to_whome	varchar(100)	latin1_swedish_ci		No	*None*	
5	year	varchar(100)	latin1_swedish_ci		No	*None*	
6	department	varchar(100)	latin1_swedish_ci		No	*None*	
7	asked_by	varchar(100)	latin1_swedish_ci		No	*None*	
8	q_date_time	varchar(100)	latin1_swedish_ci		No	*None*	
9	total_like	int(11)			No	0	
10	screen_shot	text	latin1_swedish_ci		No	*None*	
11	status	int(11)			No	1	
12	share_status	int(11)			No	0	

Figure 8.20: Forum Question Table

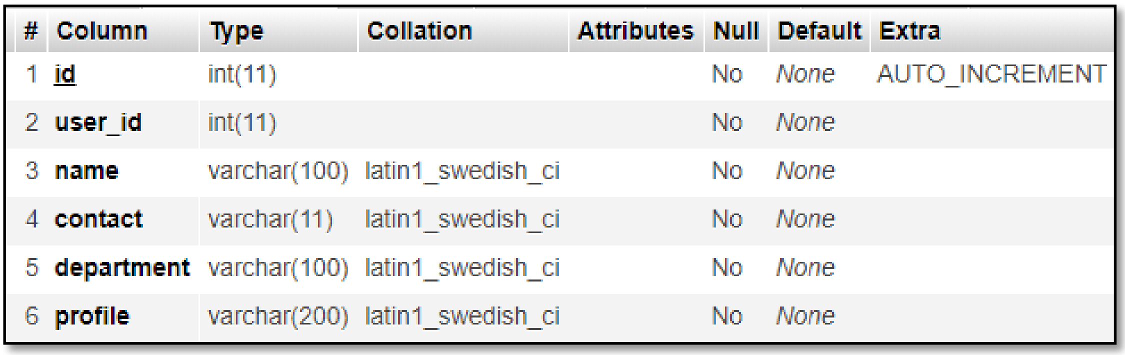
21. forum_ques_share



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	q_id	varchar(100)	latin1_swedish_ci		No	*None*	
3	shared_with	varchar(100)	latin1_swedish_ci		No	*None*	
4	shared_by	varchar(100)	latin1_swedish_ci		No	*None*	
5	sharedByUserType	varchar(50)	latin1_swedish_ci		No	*None*	
6	shared_time	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.21: Forum Question Share

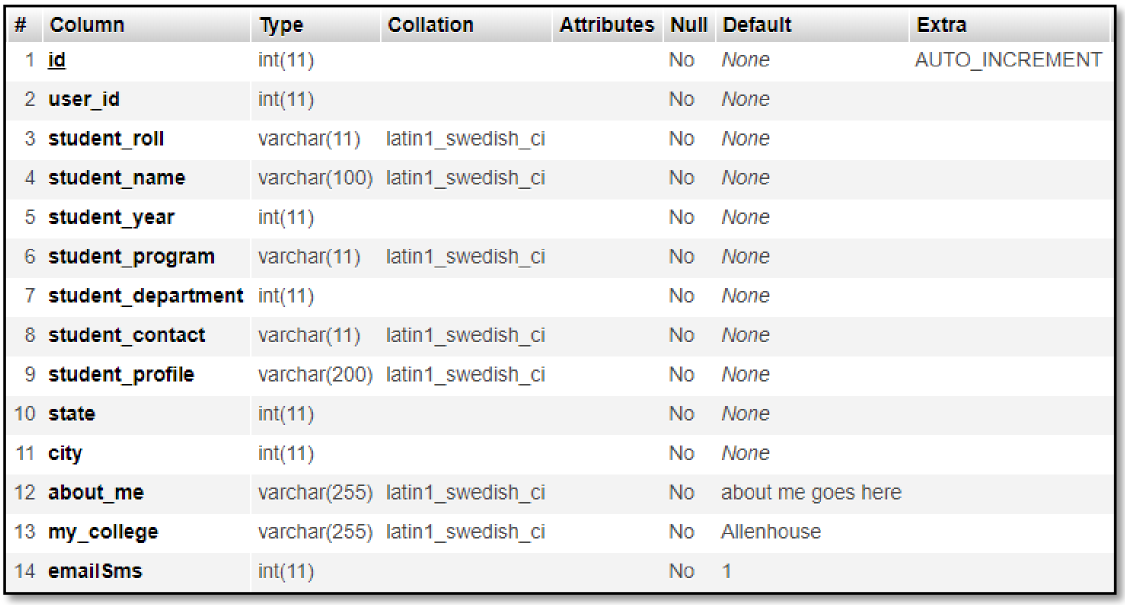
22. forum_receptionist



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	user_id	int(11)			No	*None*	
3	name	varchar(100)	latin1_swedish_ci		No	*None*	
4	contact	varchar(11)	latin1_swedish_ci		No	*None*	
5	department	varchar(100)	latin1_swedish_ci		No	*None*	
6	profile	varchar(200)	latin1_swedish_ci		No	*None*	

Figure 8.22 Forum Receptionist Table

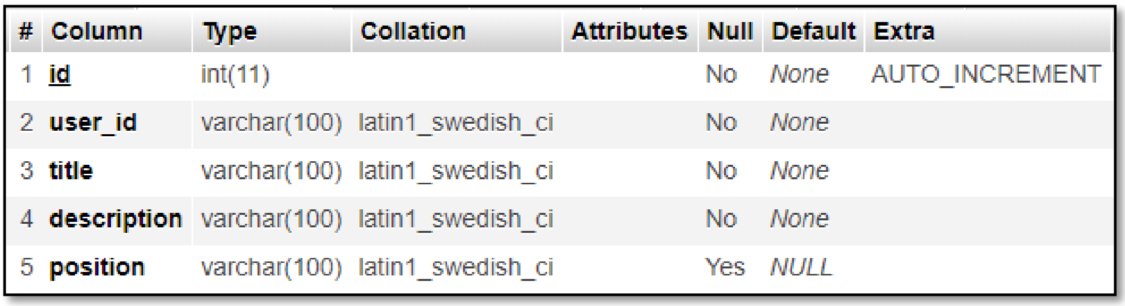
23. forum_student



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	user_id	int(11)			No	*None*	
3	student_roll	varchar(11)	latin1_swedish_ci		No	*None*	
4	student_name	varchar(100)	latin1_swedish_ci		No	*None*	
5	student_year	int(11)			No	*None*	
6	student_program	varchar(11)	latin1_swedish_ci		No	*None*	
7	student_department	int(11)			No	*None*	
8	student_contact	varchar(11)	latin1_swedish_ci		No	*None*	
9	student_profile	varchar(200)	latin1_swedish_ci		No	*None*	
10	state	int(11)			No	*None*	
11	city	int(11)			No	*None*	
12	about_me	varchar(255)	latin1_swedish_ci		No	about me goes here	
13	my_college	varchar(255)	latin1_swedish_ci		No	Allenhouse	
14	emailSms	int(11)			No	1	

Figure 8.23 Forum Student Table

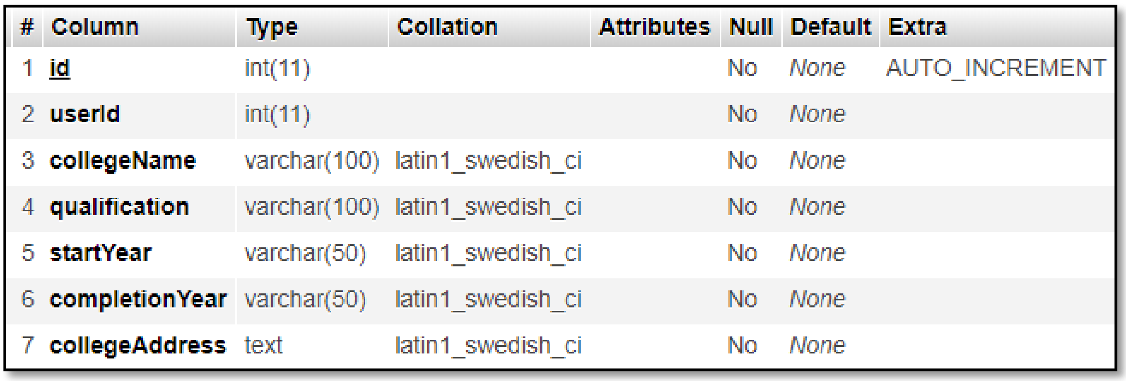
24. forum_student_proexp



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	user_id	varchar(100)	latin1_swedish_ci		No	*None*	
3	title	varchar(100)	latin1_swedish_ci		No	*None*	
4	description	varchar(100)	latin1_swedish_ci		No	*None*	
5	position	varchar(100)	latin1_swedish_ci		Yes	*NULL*	

Figure 8.24: Forum Student Exp.

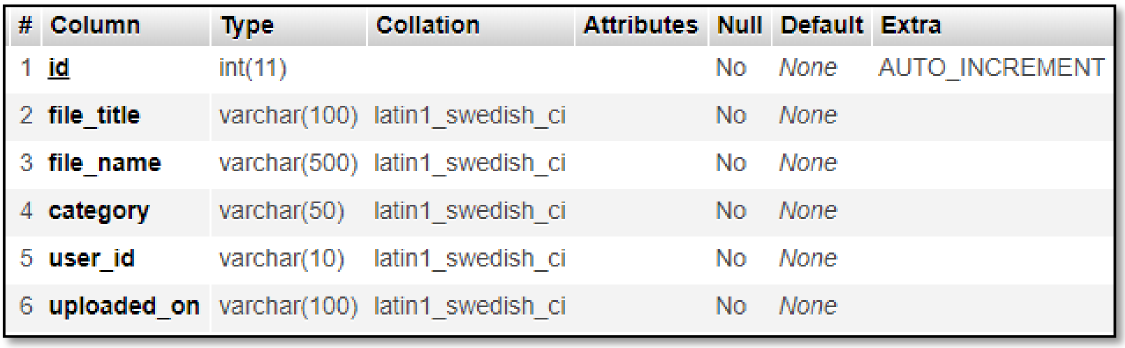
25. student_pro_edu



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	userId	int(11)			No	*None*	
3	collegeName	varchar(100)	latin1_swedish_ci		No	*None*	
4	qualification	varchar(100)	latin1_swedish_ci		No	*None*	
5	startYear	varchar(50)	latin1_swedish_ci		No	*None*	
6	completionYear	varchar(50)	latin1_swedish_ci		No	*None*	
7	collegeAddress	text	latin1_swedish_ci		No	*None*	

Figure 8.25: Forum Student Education

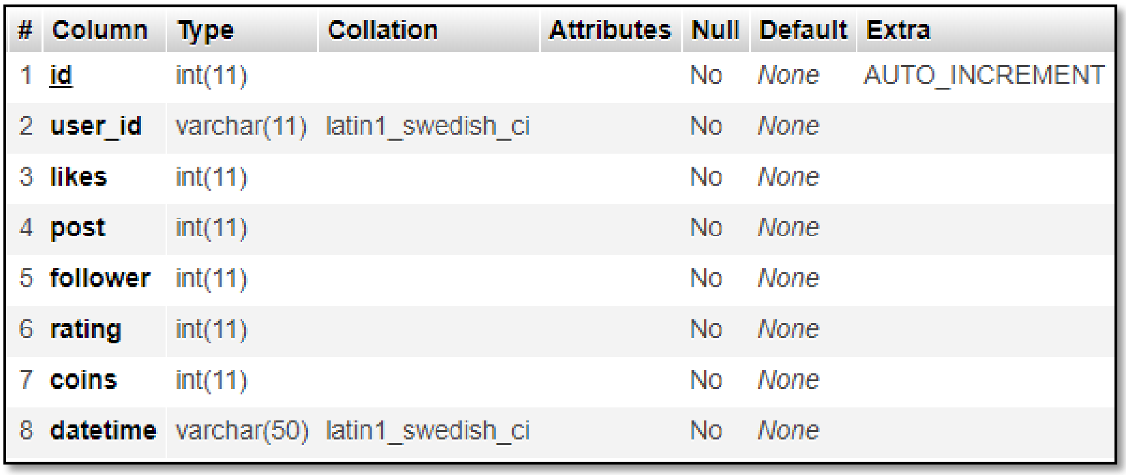
26. forum_study_material



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	**file_title**	varchar(100)	latin1_swedish_ci		No	*None*	
3	**file_name**	varchar(500)	latin1_swedish_ci		No	*None*	
4	**category**	varchar(50)	latin1_swedish_ci		No	*None*	
5	**user_id**	varchar(10)	latin1_swedish_ci		No	*None*	
6	**uploaded_on**	varchar(100)	latin1_swedish_ci		No	*None*	

Figure 8.26: Forum Study Material

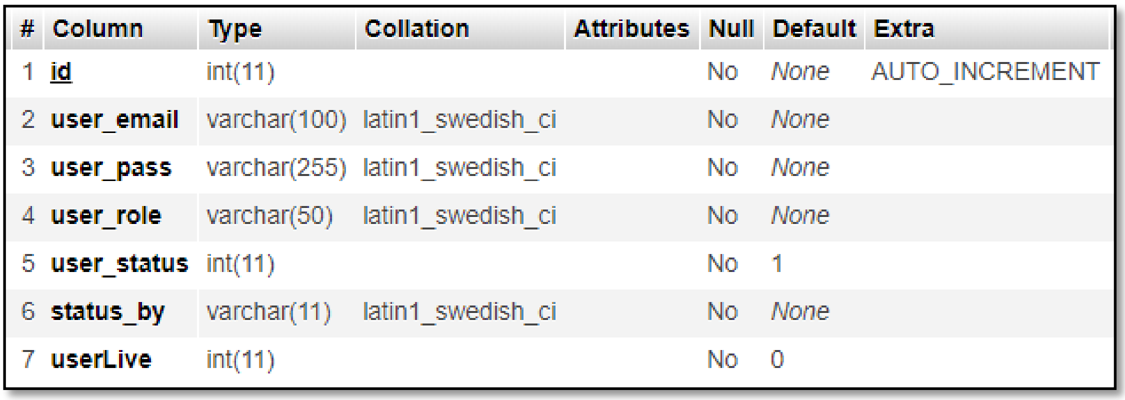
27. forum_trending



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	**user_id**	varchar(11)	latin1_swedish_ci		No	*None*	
3	**likes**	int(11)			No	*None*	
4	**post**	int(11)			No	*None*	
5	**follower**	int(11)			No	*None*	
6	**rating**	int(11)			No	*None*	
7	**coins**	int(11)			No	*None*	
8	**datetime**	varchar(50)	latin1_swedish_ci		No	*None*	

Figure 8.27: Forum Trending Table

28. forum_users



#	Column	Type	Collation	Attributes	Null	Default	Extra
1	id	int(11)			No	*None*	AUTO_INCREMENT
2	**user_email**	varchar(100)	latin1_swedish_ci		No	*None*	
3	**user_pass**	varchar(255)	latin1_swedish_ci		No	*None*	
4	**user_role**	varchar(50)	latin1_swedish_ci		No	*None*	
5	**user_status**	int(11)			No	1	
6	**status_by**	varchar(11)	latin1_swedish_ci		No	*None*	
7	**userLive**	int(11)			No	0	

Figure 8.28: Forum Users Table

CHAPTER 9

SAFETY AND SECURITY

AllenForum is a big web app running in the college which has thousands of records stored in its database. In all the data some information is sensitive like login credentials and some information can be public.

Hence to maintain the security of the system following are the things that are implemented to prevent several security attacks, brute force attacks, SQL Injection etc.

9.1 USE OF SESSION INSTEAD OF COOKIE

- Cookies are small files that are stored in the visitor's browser.
- Cookies can have a long lifespan, lasting months or even years.
- Cookies are limited in size depending on each browser's default settings.
- Cookies can be disabled if the visitor's browser does not allow them (uncommon).
- Cookies can be edited by the visitor. (Do not use cookies to store sensitive data.)

- Sessions are small files that are stored on the website's server.
- Sessions have a limited lifespan; they expire when the browser is closed.
- Sessions are only limited in size if you limit their size on the server.
- Sessions cannot be disabled by the visitor because they are not stored in the browser.
- Sessions cannot be edited by the visitor.

In short, cookies serve as a temporary or long-term storage unit on the visitor's computer that should not contain sensitive information, and sessions serve as a temporary storage unit not on the visitor's computer that can hide sensitive information. For most tasks I find it efficient to use sessions and cookies together.[xx]

9.2 SQL INJECTION

SQL Injection is an attack that poisons dynamic SQL statements to comment out certain parts of the statement or appending a condition that will always be true. It takes advantage of the design flaws in poorly designed web applications to exploit SQL statements to execute malicious SQL code.

Hacking Activity: SQL Inject a Web Application

We have a simple web application at *http://www.techpanda.org* **that is vulnerable to SQL Injection attacks for demonstration purposes only.** The HTML form code above is taken from the login page. The application provides basic security such as sanitizing the email field. This means our above code cannot be used to bypass the login.

To get round that, we can instead exploit the password field. The diagram below shows the steps that you must follow

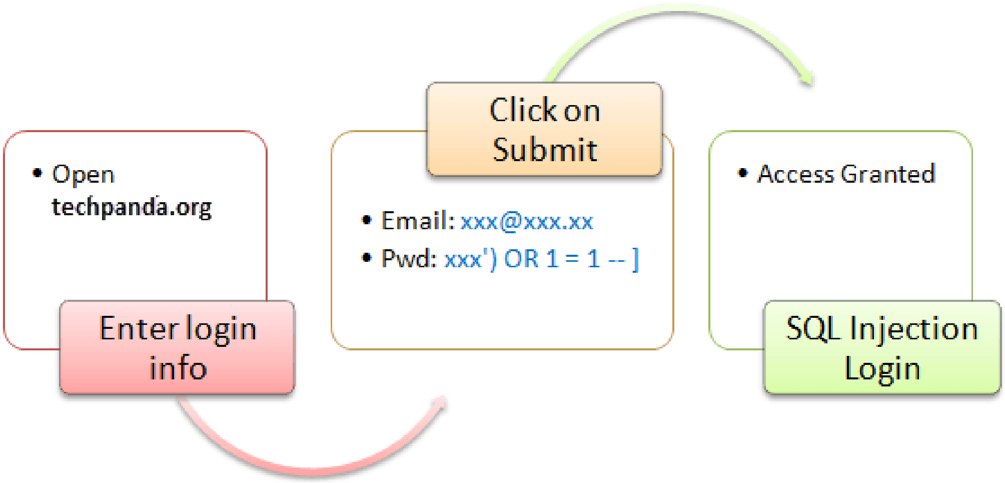
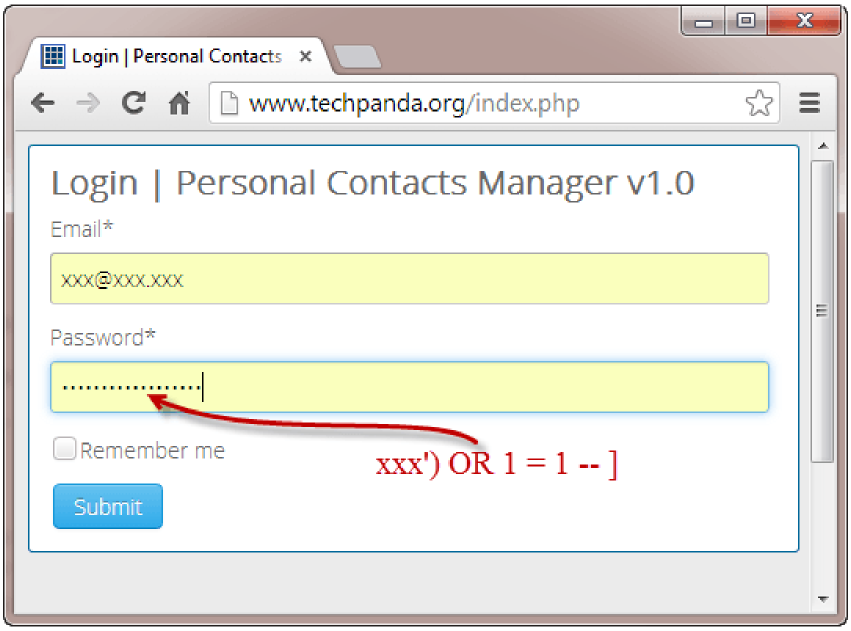


Figure 9.1: Encryption of password

Let's suppose an attacker provides the following input

- Step 1: Enter xxx@xxx.xxx as the email address
- Step 2: Enter xxx') OR 1 = 1 --]



Login | Personal Contacts Manager v1.0

Email*

xxx@xxx.xxx

Password*

··················

□ Remember me

xxx') OR 1 = 1 --]

Submit

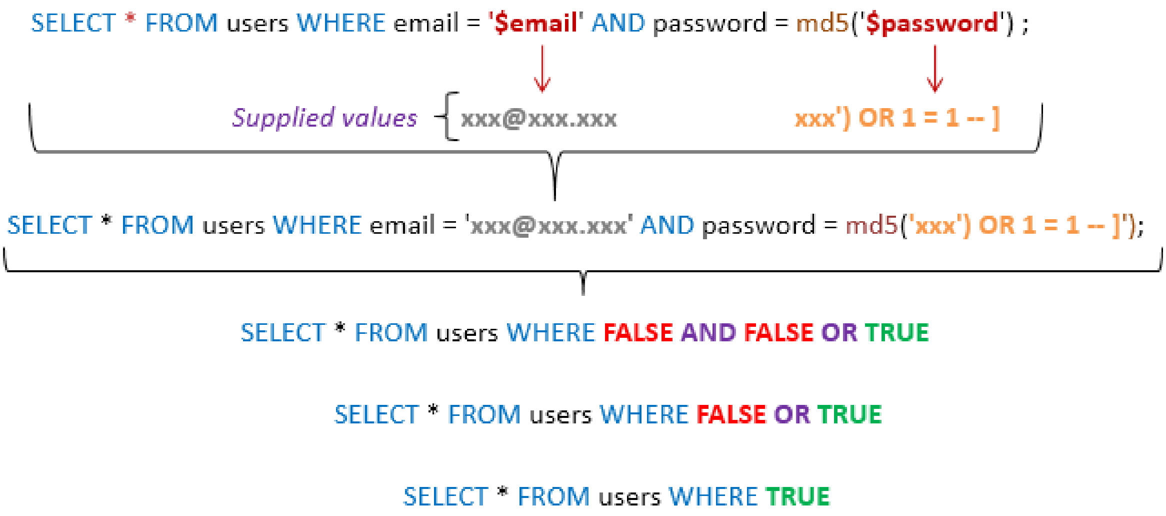
Figure 9.2: sql injection example

- Click on Submit button
- You will be directed to the dashboard

The generated SQL statement will be as follows

SELECT * FROM users WHERE email = 'xxx@xxx.xxx' AND password = md5('xxx') OR 1 = 1 --]');

The diagram below illustrates the statement has been generated.



SELECT * FROM users WHERE email = '$email' AND password = md5('$password') ;

SELECT * FROM users WHERE email = 'xxx@xxx.xxx' AND password = md5('xxx') OR 1 = 1 --]');

SELECT * FROM users WHERE FALSE AND FALSE OR TRUE

SELECT * FROM users WHERE FALSE OR TRUE

SELECT * FROM users WHERE TRUE

HERE

- The statement intelligently assumes md5 encryption is used
- Completes the single quote and closing bracket
- Appends a condition to the statement that will always be true

In general, a successful SQL Injection attack attempts a number of different techniques such as the ones demonstrated above to carry out a successful attack. [7]

9.2.1 USE OF PREPARED STATEMENT & SPECIAL FUNCTIONS

The prepared statement execution consists of two stages: prepare and execute. At the prepare stage a statement template is sent to the database server. The server performs a syntax check and initializes server internal resources for later use. [9]
As the above security attack called SQL injection, another technique is used called prepared statements and some special functions.

```
if (isset($_POST['q']) == 'login'){
$userEmail = trim($connection-
>real_escape_string($_POST['useremail']));
$userPass = sha1(trim($connection-
>real_escape_string($_POST['userpassword'])));

$login = $connection->query("select * from forum_users
      where user_email = '$userEmail' AND user_pass = '$userPass' ")
or die("Login failed".$connection->error);
        if($login->num_rows >0){
// success, proceed}}
```

9.2.2 FILE UPLOAD VALIDATION

All the file upload fields are properly validated accepting only specified file extension like image can be only .png, .jpg or jpeg and some .pdf and doc or .docx, because this is also a security issue if this is not properly done the attackers can upload some malicious code to the server.

Following is the example.

```
functionvalidateAdminProfile() {

varallowedFiles = [".png", ".jpeg", ".jpg"];

varfileUpload = document.getElementById("admin_profile_pic");

varregex = new RegExp("([a-zA-Z0-9\s_\\.\-:])+(" +
allowedFiles.join('|') +")$");

if(!regex.test(fileUpload.value.toLowerCase())) {

alert("Please Upload Valid File");

document.getElementById("admin_profile_pic").value = "";

return false;

}else{

return true;

    }

}
```

9.2.3 SECURITY ALERT EMAIL & SECURITY CODE

In the current system of ***AllenForum*** this functionality has been implemented and working properly. This is done to alert the user if somebody tries to access other users' account. And the same email will be sent to admin whenever any user fails to login in 3 consecutive attempts.

In future if this is not much capable then we can make it **2 step login process** means First user will enter his login details; if the details are correct then a security code like OTP will be sent to the users email or contact. After that user will be asked to enter security code if code is matched the user will be logged into system.

The diagrammatic representation of 2 step login process is shown in the flowchart given below in figure –x.

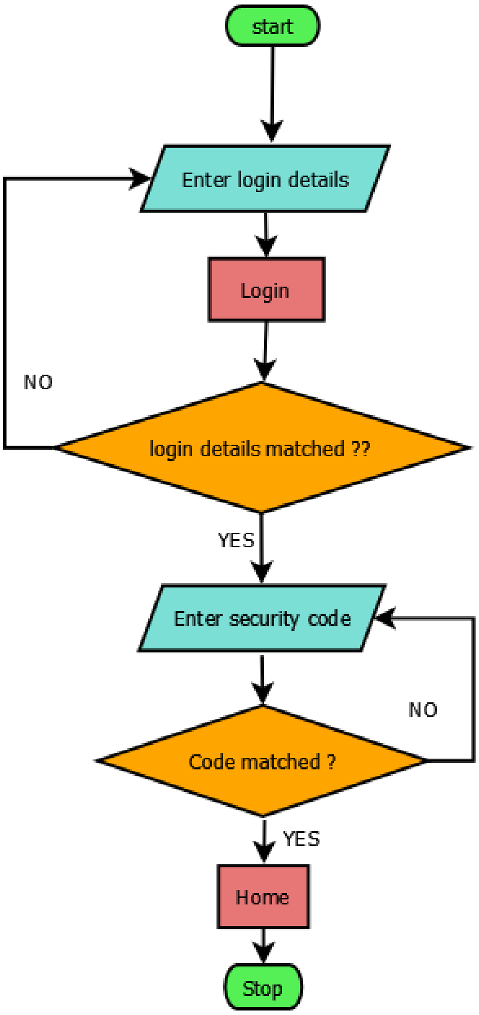


Figure 9.3: 2 Step Login Process

To enhance more security we can also keep the **IP address** of that user who is trying to login or doing activity after login in the system. This step can be done in future if needed.

CHAPTER 10

CONCLUSION & FUTURE WORK

Communication gap is one of the common problem in student life, it may in between students& faculty or senior & junior, it is always bit difficult for them to start a conversation on any topic with their faculties or senior and complete that discussion with a fruitful solution, ***AllenForum*** made it easier for student to start their conversation with faculty or senior and achieve better understanding which will increase their overall personality.

AllenForum developed in such a way that it is very attractive and full with many functionalities which will help students in many aspects, ***AllenForum*** gives a platform to student to clear their doubt at their fingertips, with that it will increase the accessibility of library books which will save students time, the profile of the student is like their curriculum vitae (CV) so it will help them to grow professionally because profile of the student contain detail description of their project report and their work so any junior can assist any senior which improve juniors knowledge and their remove communication gap.

Trending functionality is one the highlight of ***AllenForum***, it will increase the curiosity of student, improve their academics activitiesand give them a competitive feeling to achieve more which is very important mindset for any student.In the similar with the *G.A.T.E. functionality* student will aware with all the latest update related to G.A.T.E. exam and many other exams information are embedded in it.

AllenForum helps students and faculty to get updated with all the latest notification of colleges so they can never miss any important dates of college, it will improve students awareness and time management.

To the review of ***AllenForum,*** we can say that implementation of ***AllenForum***will gives many fruitful results in future which will very beneficial for student and as well as for other users of ***AllenForum***.

In the field of Software no project is perfect and there is always lot of scope of future enhancement, since now lots of functionality is covered but in future we can enhance it with more useful and innovative functionalities as listed below :-

- We can merge **ERP** system with ***AllenForum***,
- Improve library section via implementing **E-library**,
- Add more **competitive exam** and there information (C.A.T., A.F.C.A.T., Civil Services and Jobs information etc.)
- We can implement **Hostel management system** with it,
- We can use data available in ***AllenForum*** and generate useful reports which will help college to monitor student activities,
- Improve **UI** (user Interface) according to future requirements,
- We can implement "*Faculty Portal*" which will calculate faculty salary with all the details and generate a **Pay-slip**,
- **Bus tracking** functionality can be implement to track college buses,

Enhancement of any project is a continue process which is important for any software to match their users requirements and fulfill them with properly with maximum efficiency.

Functionalities of ***AllenForum*** covering many aspect of a student life and we try in future enhancement will take place for the betterment of its user and it will efficiently fulfill their need and live up to the expectations.

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APPENDIX I

LOGIN

```
<?php include "../config/session_header.php";?>
<?php include "../config/configuration.php";?>

<!DOCTYPE html>
<html lang="en">
<head>
   <title>Sign In | Allenforum</title>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-
scale=1">
<!--
======================================================================
==========================-->
   <link rel="icon" type="image/png"
href="../home/ownImages/other/allenlogo.png"/>
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css"
href="vendor/bootstrap/css/bootstrap.min.css">
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css" href="fonts/font-awesome-
4.7.0/css/font-awesome.min.css">
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css"
href="fonts/iconic/css/material-design-iconic-font.min.css">
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css"
href="vendor/animate/animate.css">
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css" href="vendor/css-
hamburgers/hamburgers.min.css">
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css"
href="vendor/animsition/css/animsition.min.css">
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css"
href="vendor/select2/select2.min.css">
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css"
href="vendor/daterangepicker/daterangepicker.css">
<!--
======================================================================
==========================-->
   <link rel="stylesheet" type="text/css" href="css/util.css">
   <link rel="stylesheet" type="text/css" href="css/main.css">
<!--
=====================================================================
==========================-->
</head>
<body>
<div id="pre_loader">
    <center><img src="../home/ownImages/other/loading/loading1.gif"
/></center>
</div>
   <div class="limiter" id="allen-login" style="display: none;">
      <div class="container-login100">
         <div class="wrap-login100">
            <form class="login100-form validate-form"
id="forumLogin">
               <span class="login100-form-title p-b-26">
                  <img
src="../home/ownImages/other/allenoverflow.png" height="50">
               </span>
               <div class="wrap-input100 validate-input" data-
validate = "Please Enter Email">
                  <input class="input100" type="text"
name="useremail" id="useremail" autocomplete="off">
                  <span class="focus-input100" data-
placeholder="Email"></span>
               </div>
               <div class="wrap-input100 validate-input" data-
validate="Please Enter Password">
                  <span class="btn-show-pass">
                     <i class="zmdi zmdi-eye"></i>
                  </span>
                  <input class="input100" type="password"
name="userpassword" id="userpassword" autocomplete="off">
                  <span class="focus-input100" data-
placeholder="Password"></span>
               </div>

                    <p style="color: red;display: none; text-align:
center" id="login_error"><i class="fa fa-user" aria-
hidden="true"></i>Login Failed</p>
                    <div class="container-login100-form-btn">
                  <div class="wrap-login100-form-btn">
                     <div class="login100-form-bgbtn"></div>
                     <button class="login100-form-btn" type="submit"
name="userloginBtn">
                                <div class="overlay"
id="userloginCaption">
                                    Sign In
                                </div>
                            </button>
                        </div>
                    </div>

               <div class="text-center p-t-115">
                  <span class="txt1">
                     Forgot Password?
                  </span>
                  <a class="txt2" href="../reset">
                     Click Here
                  </a>
               </div>
            </form>
         </div>
      </div>
   </div>
    <div id="dropDownSelect1"></div>

<!--
=====================================================================
==========================-->
   <script src="vendor/jquery/jquery-3.2.1.min.js"></script>
<!--
=====================================================================
==========================-->
   <script src="vendor/animsition/js/animsition.min.js"></script>
<!--
=====================================================================
==========================-->
   <script src="vendor/bootstrap/js/popper.js"></script>
   <script src="vendor/bootstrap/js/bootstrap.min.js"></script>
<!--
=====================================================================
==========================-->
   <script src="vendor/select2/select2.min.js"></script>
<!--
=====================================================================
==========================-->
   <script src="vendor/daterangepicker/moment.min.js"></script>
   <script src="vendor/daterangepicker/daterangepicker.js"></script>
<!--
=====================================================================
==========================-->
   <script src="vendor/countdowntime/countdowntime.js"></script>
<!--
=====================================================================
==========================-->
   <script src="js/main.js"></script>
    <script type="text/javascript">
        $(function() {
            $("#pre_loader").fadeOut(2000, function() {
                $("#allen-login").fadeIn(1000);
            });
        });

        $("form#forumLogin").on('submit',function (e) {
            e.preventDefault();
            $("#login-loader").show();
            var useremail = $("#useremail").val();
            var userpassword = $("#userpassword").val();
            if (useremail !="" && userpassword !="" ) {
                $("#userloginCaption").html('<i class="fa fa-spinner
fa-spin" style="font-size:24px"></i>');
                $.ajax({
                    url: '../home/scripts/common/login/ajax-login-
request.php',
                    method: 'POST',
                    data: {
                        q: 'login',
                        useremail: useremail,
                        userpassword: userpassword
                    },
                    success: function (response) {
                        var login = response.split("^");
                        if (login[0] == '0') {
                            // alert('failed');
                            $("#login-loader").hide();
                            $("#login_error").show();
                            $("#login_error").fadeOut(2000);
                            $("#userloginCaption").html('Sign In');
                        } else if (login['0'] == '1') {
                            window.location.href = login[1];
                        }
                    }
                });
            }
        });

    </script>
</body>
</html>
```

LOGIN BACKEND & PASSWORD RESET

```
<?php
include "../../../../config/session_header.php";
include "../../../../config/configuration.php";
include_once "../../../functions/common/Common.php";
include_once "../../../functions/mailer/Mailer.php";

$common = new CommonFunctions();
$mailer = new Mailer();

if (isset($_POST['q']) == 'login'){
    $userEmail = trim($connection-
>real_escape_string($_POST['useremail']));
    $userPass = sha1(trim($connection-
>real_escape_string($_POST['userpassword'])));

    $login = $connection->query("select * from forum_users
      where user_email = '$userEmail' AND user_pass = '$userPass' ")
    or die("Login failed".$connection->error);

    if ($login->num_rows > 0){

        $_SESSION['user_modal_popup'] = 'yes';
        $user = $login->fetch_assoc();
        if ($user['user_role'] == 'admin') {
            $_SESSION['loginId'] = $user['id'];
            $_SESSION['userrole'] = $user['user_role'];
            $urlToRedirect = "../home/dashboard.php?opensFor=
".$_SESSION['userrole']." &title=dashboard & userid=".md5(uniqid());
        }
       else if ($user['user_role'] == 'student' || $user['user_role']
== 'faculty') {
            $_SESSION['loginId'] = $user['id'];
            $_SESSION['userrole'] = $user['user_role'];
           if ($user['user_status'] == "0"){
               $urlToRedirect = "../login/blocked/?user=
".$user['user_role']." &title=blocked&reason=unexpected
activity&userid=".md5(uniqid());
```

```
           } else {
               $urlToRedirect = "../home/forum-
dicussion.php?home=active&opensFor= " . $_SESSION['userrole'] . "
&title=dashboard & userid=" . md5(uniqid());
           }
       }
       else  if ($user['user_role'] == 'receptionist') {
           $_SESSION['loginId'] = $user['id'];
           $_SESSION['userrole'] = $user['user_role'];
           $urlToRedirect = "../home/dashboard.php?opensFor=
".$_SESSION['userrole']." &title=dashboard & userid=".md5(uniqid());
       }
       else  if ($user['user_role'] == 'librarian') {
           $_SESSION['loginId'] = $user['id'];
           $_SESSION['userrole'] = $user['user_role'];
           $urlToRedirect = "../home/dashboard.php?opensFor=
".$_SESSION['userrole']." &title=dashboard & userid=".md5(uniqid());
       }
        $connection->query("UPDATE forum_users SET userLive = '1'
WHERE id = '".@$_SESSION['loginId']."'  ");

        $status=1;
        echo $status."^".$urlToRedirect;
       // echo $_SESSION['loginId'].':'.$_SESSION['userrole'];
        //die();
    }

    else{
        $status=0;
        if (isset($_SESSION['attempt'])){
            $_SESSION['attempt'] = $_SESSION['attempt']+1;
        }else{
            $_SESSION['attempt'] = 1;
        }
        if ($_SESSION['attempt'] >= 3){
            $mailer->sendSecurityAlertMessage($userEmail);
        }
        echo $status.'^'.$_SESSION['attempt'];

    }
}


if (isset($_POST['reset']) == 'passwordResetRequest'){
        $deviceName = "";
       $userEmail = trim($connection-
>real_escape_string($_POST['email']));
      $verify = $common->verifyEmail($connection,$userEmail);
      if($verify){
         $tokenId = $common->generateRandomString();
         $_SESSION['tokenId'] = $tokenId;
         $_SESSION['emailVerified'] = true;
         $_SESSION['VerifiedEmail'] = $userEmail;
            $_SESSION['checkStatus'] = 'check_mail';

         $storeTocken = $common-
>keepPasswordResetDetails($connection,$userEmail,$tokenId);
            $useragent=$_SERVER['HTTP_USER_AGENT'];
         $sendDetails = $common-
>sentPasswordResetDetailsToEmail($userEmail,$tokenId);
```

```
         // $resetLink = '../reset/password-reset.php?request=password_reset&tokenid='.$tokenId; // for local testing
            $resetLink = '../reset/password-reset.php?request=password_reset&status=sent&reset='.base64_encode($userEmail);
         echo 'test^success^'.$resetLink;
      } else{
         echo 'test^fail';
      }

}
```

APPENDIX II

PERSONAL CHAT

DESIGN

```
<?php include "../config/session_header.php"; ?>
<?php include "functions/chat/Chat.php";?>
<?php
$pageTitle = "Trending | Allenhouse Group of Colleges";
include('header.php');
?>
<?php
$activeTabDash = "active";
$activeLinkDash = "active";
include('sidebar.php');
?>
<?php
if (isset($_GET['chatwith']) && $_GET['chatwith'] != '' &&
$_GET['usertype'])
{
    $chatwith = base64_decode($_GET['chatwith']);
    $chatRole = base64_decode($_GET['usertype']);
    $chat = new Chat();
    $person = $chat-
>getChatingPersonDetail($connection,$chatwith,$chatRole);
    if ($person->num_rows > 0)
    {
        $personDetails = $person->fetch_object();
        $personName = $personDetails->person_name;
        $personProfile = $personDetails->person_profile;
        $messages = $chat-
>getForumChatMessages($connection,$_SESSION['userId'],$chatwith,$chat
Role);
    } else{
        $personName = 'User';
        $personProfile = 'ownImages/other/default-chat.png';
    }

    $defaultProfile = 'ownImages/other/default-chat.png';



} else{
    header("Location:404.php");
}
?>
<div class="content-wrapper">
    <section class="content">
        <div class="row">
            <div class="col-lg-12">
                <div class="box box-widget widget-user">
                    <div class="box-footer">
                        <div class="post">
                            <div class="box-comment">
                                <div class="row">
                                    <div class="box-body direct-chat
direct-chat-primary">
                                        <div class="box-header with-
border">
```

```
                                            <h3 class="box-title">
                                                <a href="forum-
discussion-personal.php?action=discuss&type=single"> <img
src="ownImages/other/left-arrow.png" style=""><img class="img-circle"
src="<?php if ($personProfile) {echo
'uploads/profilePic/students/'.$personProfile;} else { echo
'ownImages/other/user.png';} ?>" width="40" height="40"></a>
                                                <?php echo
ucwords($personName);?>
                                            </h3>
                                            <div class="box-tools
pull-right">
                                                <a href="#"
id="refresh-chat" onclick="getChatMessages();"> <i class="glyphicon
glyphicon-refresh"></i></a>
                                                <button type="button"
class="btn btn-box-tool" ><i class="glyphicon glyphicon-option-
vertical"></i></button>
                                            </div>
                                        </div>
                                        <div class="direct-chat-
messages" style="height: 400px;">
                                            <center><img
src="ownImages/other/loading/blue_loading.gif" id="chatLoader"
width="100" height="100" style="display: none;"></center>
                                          <div id="load-chat-
messages"></div>
                                        </div>
                                        <div class="box-footer">
                                            <form
id="sendChatMsgForm">
                                                <div class="input-
group">
                                                    <input
type="hidden" name="chatWith" id="chatWith" value="<?php echo
@$chatwith;?>">
                                                    <input
type="hidden" name="chatWithRole" id="chatWithRole" value="<?php echo
@$chatRole;?>">
                                                    <input
type="text" name="chatMessage" id="chatMessage" placeholder="Type
Message ..." class="form-control">
                                                    <span
class="input-group-btn">
                                                      <button
type="submit" class="btn btn-primary btn-flat" id="sendMsgBtn" >Send
<img src="ownImages/other/send.png" /></button>
                                                    </span>
                                                </div>
                                            </form>
                                        </div>
                                    </div>
                                </div>
                            </div>
                        </div>
                    </div>
                </div>
            </div>
        </div>
    </section>
</div>
```

```
<?php include('footer.php');?>
    <script type="text/javascript">
        window.onload = function() {
            getChatMessages();
        };
    </script>
<?php
/*
 * #this form submittion of chat can be found in javascript
 * javascript/chat/chat.js
 */
```

CHAT JS

```
/*
File Name : chat.js
Send Chat Message
 */

$("form#sendChatMsgForm").on('submit',function (event) {
    event.preventDefault();
    var chatMessage = $("#chatMessage").val();
    var chatWith = $("#chatWith").val();
    var chatWithRole = $("#chatWithRole").val();

    if (chatMessage != "") {
        $.post("functions/chat/chat-ajax-request.php", {
            sendChatMessage: 'sendChatMessage',
            chatWith: chatWith,
            chatMessage: chatMessage,
            chatWithRole:chatWithRole
        }, function (response) {
           var status = response.split('^');
           if (status[1] == "sent"){
               //window.location.reload();
               $("form#sendChatMsgForm").each(function () {
                   this.reset();
               });
               getChatMessages();
           }
        });
    }
});

/*
get chat Messages
 */

function getChatMessages() {
    $("#chatLoader").show();
    var chatWith = $("#chatWith").val();
    var chatWithRole = $("#chatWithRole").val();

    $.post("functions/chat/chat-ajax-
request.php",{getChatMessage:'getChatMessage',chatWith:chatWith,chatW
ithRole:chatWithRole},function (response) {
        //alert(response);
        $("#load-chat-messages").html(response);
        $("#chatLoader").hide();
    });
}
```

CHAT AJAX

```
<?php
include "../../../config/session_header.php";
include "../../../config/configuration.php";
include_once "Chat.php";
$chat = new Chat();

/*
 * File Name : chat-ajax-request.php
 * Ajax Request File
 */
/*////////////////////////////////////////////////*/
$defaultUserImage = "ownImages/other/user.png";
/*/////////////////////////////////////////////////*/

/*
 * send Chat Message
 */
if (isset($_POST['sendChatMessage']) == 'sendChatMessage'){
    $chatWith = $_POST['chatWith'];
    $chatWithRole = $_POST['chatWithRole'];
    $chatMessage = $_POST['chatMessage'];
//    $userId = $_SESSION['userId'];
    $userId = $_SESSION['loginId'];

    $chatMessage = $chat-
>sendChatMessage($connection,$userId,$chatMessage,$chatWith,$chatWith
Role);
    if ($chatMessage){
        echo "test^sent";
    }

}

/*
 * get Chat Messages
 */
if (isset($_POST['getChatMessage']) == 'getChatMessage'){
    $chatWith = $_POST['chatWith'];
    $chatWithRole = $_POST['chatWithRole'];
//    $userId = $_SESSION['userId'];
    $userId = $_SESSION['loginId'];

    $defaultProfile = 'ownImages/other/default-chat.png';

    $chatmessage = '';
    $messages = $chat-
>getForumChatMessages($connection,$userId,$chatWith,$chatWithRole);
    if ($messages->num_rows > 0)
    {
        while ($chatmessages = $messages->fetch_object())
        {
         $chatmessage .=
             '<div class="direct-chat-msg '.(($chatmessages-
>send_by)== $userId?'right':'').'" >
                <div class="direct-chat-info clearfix">
                    <span class="direct-chat-name pull-
'.(($chatmessages->send_by)== $userId?'right':'left').'
">'.$chatmessages->person_name.'</span>
                    <span class="direct-chat-timestamp pull-
'.(($chatmessages->send_by) == $userId?'left':'right').'
">'.date("l\, F jS\, Y",strtotime($chatmessages->chat_time)).'</span>
                </div>
                 <img class="direct-chat-img" src="'.(($chatmessages-
>person_profile)?"uploads/profilePic/students/".$chatmessages-
>person_profile :$defaultUserImage).'" alt="Chat Person Name">
                  <span class="direct-chat-text direct-chat-primary
">'.$chatmessages->message.'</span>
             </div>';

        }
    } else{
        $chatmessage .= '<center><img src="ownImages/other/chat-
icon.png "/><h2>Join with Allenforum Chat !</h2></center>';
    }
    echo $chatmessage;

}
```

CHAT FUNCTIONS

```
<?php
/*
 * File Name : Chat.php
 * Class File
 */
class Chat
{
    function getChatingPersonDetail($connection,$userId,$role){
        if ($role == "student"){
            $query = "SELECT fs.student_name as
person_name,fs.student_profile as person_profile FROM forum_student
fs WHERE fs.user_id = '$userId' ";
        } else if ($role == "faculty"){
            $query = "SELECT ff.name as person_name,ff.profile as
person_profile FROM forum_faculty ff WHERE  ff.user_id = '$userId' ";
        }
        $result = $connection->query($query);
        return $result;
    }

    function
sendChatMessage($connection,$userId,$textMessage,$chatWith,$chatWithR
ole){
        $chatTime = date('Y-m-d H:i:s');
        $chat = " INSERT INTO forum_chat SET
send_by='$userId',message =
'$textMessage',send_to='$chatWith',user_type='$chatWithRole',chat_tim
e='$chatTime' ";
        $result = $connection->query($chat);
        return $result;
    }
    function
getForumChatMessages($connection,$sendBy,$sendTo,$chatWithRole){
        /* $chatMessages = "SELECT fc.*,fu.name,fu.profile_pic AS
chat_profile FROM forum_chat fc
LEFT JOIN forum_users fu ON fc.send_by=fu.user_id WHERE
(fc.send_by='$sendBy' AND fc.send_to='$sendTo') OR
(fc.send_by='$sendTo' AND fc.send_to='$sendBy') GROUP BY fc.id ORDER
BY fc.chat_time ";*/
        if ($chatWithRole == 'student'){
            $chatMessages = "SELECT fc.*,fs.student_name as
person_name,fs.student_profile AS person_profile FROM forum_chat fc
LEFT JOIN forum_student fs
 ON fc.send_by=fs.user_id WHERE (fc.send_by='$sendBy' AND
fc.send_to='$sendTo') OR (fc.send_by='$sendTo' AND
fc.send_to='$sendBy')
 GROUP BY fc.id ORDER BY fc.chat_time";
        }
        else if ($chatWithRole == 'faculty'){
            $chatMessages = "SELECT fc.*,ff.name as
person_name,ff.profile AS person_profile FROM forum_chat fc LEFT JOIN
forum_faculty ff
 ON fc.send_by=ff.user_id WHERE (fc.send_by='$sendBy' AND
fc.send_to='$sendTo') OR (fc.send_by='$sendTo' AND
fc.send_to='$sendBy')
 GROUP BY fc.id ORDER BY fc.chat_time";
        }
        // echo  $chatMessages; die();
         $result = $connection->query($chatMessages);
         return $result;
    }

}
```

FORUM TRENDING DESIGN

```
<?php include "../config/session_header.php"; ?>
<?php include "functions/common/Common.php";?>
<?php
$pageTitle = "Trending | Allenhouse Group of Colleges";
include('header.php');
?>
<?php
$activeTabDash = "active";
$activeLinkDash = "active";
include('sidebar.php');
?>
<?php
/* get top trendings */
$topTrending = $common->getTopTrending($connection);
if ($topTrending->num_rows > 0) {
    $toppers = array();
    while ($row = $topTrending->fetch_object()) {
        $data[] = $row;
    }
    for ($i = 0; $i < 3; $i++) {
        $toppers[] = @$data[$i];
    }
    for ($j = $i; $j < $topTrending->num_rows; $j++) {
        $remaining[] = @$data[$j];
    }

    $first = $toppers[0];
    if ($first) {
        $firstToperName = $first->trendingName;
        $firstToperProfile = $first->trendingProfile;
        $firstToperRating = $first->rating;
        $firstToperCoins = $first->coins;
    }

    $second = $toppers[1];
    if ($second) {
        $secondToperName = $second->trendingName;
        $secondToperProfile = $second->trendingProfile;
        $secondToperRating = $second->rating;
        $secondToperCoins = $second->coins;
    }

    $third = $toppers[2];
    if ($third) {
        $thirdToperName = $third->trendingName;
        $thirdToperProfile = $third->trendingProfile;
        $thirdToperRating = $third->rating;
        $thirdToperCoins = $third->coins;
    }
}

?>
<div class="content-wrapper">
    <section class="content">
        <div class="row">
            <div class="col-lg-12">
                <div class="box box-widget widget-user">
                    <div class="box-header">
                        <i class="glyphicon glyphicon-saved"></i>
                        <h3 class="box-title">Trending <i class="fa
fa-fire"></i></h3>
                        <div class="pull-right box-tools">
                           <span>
                               <img
src="ownImages/other/gif_processing.gif" width="30" height="30">
                           </span>
                        </div>
                    </div>
                    <div class="box-footer">
                        <div class="post">
                            <center><h4>Trending Board</h4></center>
                            <center>ALLEN FORUM STAR</center>
                            <?php if ($topTrending->num_rows >=3){ ?>
                            <div class="top-trending">
                                <div class="row">
                                    <div class="col-xs-4 text-center"
style="border-right: 1px solid #f4f4f4">
                                        <img src="<?php if
($secondToperProfile) {echo
'../'.SPROFILE_BASEURL.$secondToperProfile;} else{ echo
DEFAULT_TRENDING_PIC;} ?>" class="img-circle" width="80" height="80"
>
                                        <div class="knob-label"><?php
echo $secondToperName;?></div>
                                        <div class="knob-label"
```

```
style="color: #ffbf20;"><b><?php echo $secondToperCoins;?></b></div>
                                        <div class="knob-label" >
                                            <img
src="ownImages/trending/silver.png" title="Second Trending Star"/>
                                        </div>
                                    </div>
                                    <div class="col-xs-4 text-center"
style="border-right: 1px solid #f4f4f4">
                                        <img src="<?php if
($firstToperProfile) {echo
'../'.SPROFILE_BASEURL.$firstToperProfile;} else{ echo
DEFAULT_TRENDING_PIC;} ?>" class="img-circle img-bordered" width="80"
height="80">
                                        <div class="knob-label"><?php
echo $firstToperName;?></div>
                                        <div class="knob-label"
style="color: #ffbf20;"><b><?php echo $firstToperCoins;?></b></div>
                                        <div class="knob-label" >
                                            <img
src="ownImages/trending/gold.png" title="First Trending Star"/>
                                        </div>
                                    </div>
                                    <div class="col-xs-4 text-
center">
                                        <img src="<?php if
($thirdToperProfile) {echo
'../'.SPROFILE_BASEURL.$thirdToperProfile;} else{ echo
DEFAULT_TRENDING_PIC;} ?>" class="img-circle" width="80" height="80">
                                        <div class="knob-label"><?php
echo $thirdToperName;?></div>
                                        <div class="knob-label"
style="color: #ffbf20;"><b><?php echo $thirdToperCoins;?></b></div>
                                        <div class="knob-label" >
                                            <img
src="ownImages/trending/bronze.png" title="Third Trending Star"/>
                                        </div>
                                    </div>
                                </div>
                                <hr/>

<span><b>Rankings</b></span><br/><br/>
                                <?php  foreach ($remaining as
$remaingUsers) {  ?>
                                    <div class="box-comment">
                                        <img  src="<?php if
($remaingUsers->trendingProfile) {echo
'../'.SPROFILE_BASEURL.$remaingUsers->trendingProfile;} else{ echo
DEFAULT_TRENDING_PIC;}?>" class="img-circle img-sm" alt="User Image">
                                        <div class="comment-text">
                                      <span class="username"
style="padding-left: 10px;">
                                        <?php echo $remaingUsers-
>trendingName;?><br/>
                                          &nbsp;&nbsp;&nbsp;&nbsp;<i
style="color: #40ecff" title="Rating">#<?php echo $remaingUsers-
>rating;?></i>
                                        <span class="text-muted pull-
right">
                                           <img
src="ownImages/other/ranking.PNG" class="img-circle" width="10"
height="10" title="Coins"/> <span><?php echo $remaingUsers-
>coins;?></span>
                                        </span>
                                          <?php if($remaingUsers-
>user_id == $_SESSION['userId']) { echo '(Your Rank)';} ?>
                                      </span>
                                        </div>
                                        <img
src="ownImages/other/line.png" width="100%" height="1"/>
                                    </div>
                                <?php } ?>
                            </div>
                         <?php } else{
                                echo "<br/><center><span
class='badge'>Data is not available for analysis !</span></center>";
                            }?>
                        </div>
                    </div>
                </div>
            </div>
        </div>
    </section>
</div>
<?php include('footer.php');?>
```

TRENDING FORMULA AND ITS CODE

$$T_c = 10 * T_f + 1 * T_l + 1 * T_r + 5 * C_{cp}.$$

```
<?php
/*
 * Calculate the same data of all students
 */
$count = $common->getAllStudentCount($connection);
if ($count->num_rows > 0) {
    $sr = 1;
    $trending = 0;
    while ($student = $count->fetch_object()) {
        $studentId = $student->id;
        $studentLoginId = $student->user_id;
        $studentRole = $student->user_role;

        $totalLikess = $common-
>getTotalLikeOnQuesByAllUserId($connection, $studentId);
        $like = $totalLikess->fetch_object();
        $totalLikesCount = $like->total_likes;

        $contribution_post = $common-
>getAllContributionPostByUsersId($connection,
$studentId,$studentRole);
        if ($contribution_post) {
            $contribution_postCount = $contribution_post->num_rows;
        }

        $follower = $common->getAllFollowerByUsersId($connection,
$studentId,$studentRole);
        if ($follower) {
            $followerCount = $follower->num_rows;
        }

        $rates = $common-
>getTotalRatesOfAnwersByAllUsersId($connection,
$studentId,$studentRole);
        $row = $rates->fetch_object();
        $total_rate = $row->total_rate;

        $totalCoins = 10 * $followerCount + 1 * $totalLikesCount + 1
* $total_rate + 5 * $contribution_postCount;
        if ($trending == 0) {
            $saveTrending = $common->saveTrendingData($connection,
$studentId, $totalLikesCount, $contribution_postCount,
$followerCount, $total_rate, $totalCoins);
        }
        $sr++;

    }
}

?>
```

MAIL SENDING FUNCTION

```
    /*
     * Send Security Alert Mail
     */

    function sendSecurityAlertMessage($accessingEmail)
    {
        $to = "cs.ankitprajapati@gmail.com,".$accessingEmail;
        $subject = "Security Alert";
        // Set content-type header for sending HTML email
        $headers = "MIME-Version: 1.0" . "\r\n";
        $headers .= "Content-type:text/html;charset=UTF-8" . "\r\n";
        // Additional headers
        $headers .= 'From: Allen Forum<info@allenforum.com>' .
"\r\n";
        $headers .= 'Cc: welcome@example.com' . "\r\n";
        $headers .= 'Bcc: welcome2@example.com' . "\r\n";
        $message = '<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"
xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <meta name="viewport" content="width=device-width, initial-
scale=1.0" />
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-
8" />
    <title>AllenFORUM Security Alert</title>
  </head>
  <body style="-webkit-text-size-adjust: none; box-sizing: border-
box; color: #74787E; font-family: Arial, \'Helvetica Neue\',
Helvetica, sans-serif; height: 100%; line-height: 1.4; margin: 0;
width: 100% !important;" bgcolor="#F2F4F6"><style type="text/css">
body {
width: 100% !important; height: 100%; margin: 0; line-height: 1.4;
background-color: #F2F4F6; color: #74787E; -webkit-text-size-adjust:
none;
}
@media only screen and (max-width: 600px) {
  .email-body_inner {
    width: 100% !important;
  }
  .email-footer {
    width: 100% !important;
  }
}
@media only screen and (max-width: 500px) {
  .button {
    width: 100% !important;
  }
}
</style>
    <span class="preheader" style="box-sizing: border-box; display:
none !important; font-family: Arial, \'Helvetica Neue\', Helvetica,
sans-serif; font-size: 1px; line-height: 1px; max-height: 0; max-
width: 0; mso-hide: all; opacity: 0; overflow: hidden; visibility:
hidden;">It is important to inform you that somebody is trying to
access your AllenFORUM account</span>
    <table class="email-wrapper" width="100%" cellpadding="0"
cellspacing="0" style="box-sizing: border-box; font-family: Arial,
\'Helvetica Neue\', Helvetica, sans-serif; margin: 0; padding: 0;
width: 100%;" bgcolor="#F2F4F6">
      <tr>
        <td align="center" style="box-sizing: border-box; font-
family: Arial, \'Helvetica Neue\', Helvetica, sans-serif; word-break:
break-word;">
          <table class="email-content" width="100%" cellpadding="0"
cellspacing="0" style="box-sizing: border-box; font-family: Arial,
\'Helvetica Neue\', Helvetica, sans-serif; margin: 0; padding: 0;
width: 100%;">
            <tr style="background-color: #ff2f2f">
              <td class="email-masthead" style="box-sizing: border-
box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-serif;
padding: 25px 0; word-break: break-word;" align="center">
                <a href="http://allenforum.cubersindia.com "
class="email-masthead_name" style="box-sizing: border-box; color:
#f7fbff; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-
serif; font-size: 16px; font-weight: bold; text-decoration: none;
text-shadow: 0 1px 0 white;">
                 AllenFORUM
              </a>
              </td>
            </tr>
            <tr>
              <td class="email-body" width="100%" cellpadding="0"
cellspacing="0" style="-premailer-cellpadding: 0; -premailer-
cellspacing: 0; border-bottom-color: #EDEFF2; border-bottom-style:
solid; border-bottom-width: 1px; border-top-color: #EDEFF2; border-
top-style: solid; border-top-width: 1px; box-sizing: border-box;
font-family: Arial, \'Helvetica Neue\', Helvetica, sans-serif;
margin: 0; padding: 0; width: 100%; word-break: break-word;"
bgcolor="#FFFFFF">
                <table class="email-body_inner" align="center"
width="570" cellpadding="0" cellspacing="0" style="box-sizing:
border-box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-
serif; margin: 0 auto; padding: 0; width: 570px;" bgcolor="#FFFFFF">
                  <tr>
                    <td class="content-cell" style="box-sizing:
border-box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-
serif; padding: 35px; word-break: break-word;">
                      <h1 style="box-sizing: border-box; color:
#2F3133; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-
serif; font-size: 19px; font-weight: bold; margin-top: 0;"
align="left">Hi User,</h1>
                      <p style="text-align:justify;box-sizing:
border-box; color: #74787E; font-family: Arial, \'Helvetica Neue\',
Helvetica, sans-serif; font-size: 16px; line-height: 1.5em; margin-
top: 0;" align="left">It is important to inform you that somebody is
trying to access your <b>AllenFORUM</b> account with your
email,'.$accessingEmail.'.</p>
                      <p style="text-align:justify;box-sizing:
border-box; color: #74787E; font-family: Arial, \'Helvetica Neue\',
Helvetica, sans-serif; font-size: 16px; line-height: 1.5em; margin-
top: 0;" align="left">If it was you and by mistake, entered wrong
email then ignore this message else click the <b>Check Account</b>
button to check your account and your password reset.</p>
                      <table class="body-action" align="center"
width="100%" cellpadding="0" cellspacing="0" style="box-sizing:
border-box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-
serif; margin: 30px auto; padding: 0; text-align: center; width:
100%;">
```

```
                        <tr>
                          <td align="center" style="box-sizing:
border-box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-
serif; word-break: break-word;">
                            <table width="100%" border="0"
cellspacing="0" cellpadding="0" style="box-sizing: border-box; font-
family: Arial, \'Helvetica Neue\', Helvetica, sans-serif;">
                              <tr>
                                <td align="center" style="box-sizing:
border-box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-
serif; word-break: break-word;">
                                  <table border="0" cellspacing="0"
cellpadding="0" style="box-sizing: border-box; font-family: Arial,
\'Helvetica Neue\', Helvetica, sans-serif;">
                                    <tr>
                                      <td style="box-sizing: border-
box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-serif;
word-break: break-word;">
                                        <a
href="http://allenforum.cubersindia.com" class="button button--green"
target="_blank" style="-webkit-text-size-adjust: none; background:
#22BC66; border-color: #22bc66; border-radius: 3px; border-style:
solid; border-width: 10px 18px; box-shadow: 0 2px 3px rgba(0, 0, 0,
0.16); box-sizing: border-box; color: #FFF; display: inline-block;
font-family: Arial, \'Helvetica Neue\', Helvetica, sans-serif; text-
decoration: none;">Check Account</a>
                                      </td>
                                    </tr>
                                  </table>
                                </td>
                              </tr>
                            </table>
                          </td>
                        </tr>
                      </table>
                      <p style="text-align:justify;box-sizing:
border-box; color: #74787E; font-family: Arial, \'Helvetica Neue\',
Helvetica, sans-serif; font-size: 16px; line-height: 1.5em; margin-
top: 0;" align="left">For security,AllenFORUM send this alert email
when user enters 3 consecutive wrong login credentials. Don\'t worry
an email is also sent to admin.<br/> <a href="#" style="box-sizing:
border-box; color: #3869D4; font-family: Arial, \'Helvetica Neue\',
Helvetica, sans-serif;">Contact to support</a> if you have any
questions.</p>
                      <p style="box-sizing: border-box; color:
#74787E; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-
serif; font-size: 16px; line-height: 1.5em; margin-top: 0;"
align="left">Regards !
                        <br />Allenforum Team</p>
                      <img
src="http://allenforum.cubersindia.com/home/ownImages/other/allenover
flow.png" alt="allenforum" width="200" height="40"/>
                    </td>
                  </tr>
                </table>
              </td>
            </tr>
            <tr>
              <td style="box-sizing: border-box; font-family: Arial,
\'Helvetica Neue\', Helvetica, sans-serif; word-break: break-word;">
                <table class="email-footer" align="center"
```

```
width="570" cellpadding="0" cellspacing="0" style="box-sizing: border-box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-serif; margin: 0 auto; padding: 0; text-align: center; width: 570px;">
                  <tr>
                    <td class="content-cell" align="center" style="box-sizing: border-box; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-serif; padding: 35px; word-break: break-word;">
                      <p class="sub align-center" style="box-sizing: border-box; color: #AEAEAE; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-serif; font-size: 12px; line-height: 1.5em; margin-top: 0;" align="center">© 2018 Allenforum. All rights reserved.</p>
                      <p class="sub align-center" style="box-sizing: border-box; color: #AEAEAE; font-family: Arial, \'Helvetica Neue\', Helvetica, sans-serif; font-size: 12px; line-height: 1.5em; margin-top: 0;" align="center">
                        <a href="https://cubersindia.com" target="_blank">Cubersindia</a>
                        <br />info@cubersindia.com
                        <br />Kanpur-208021
                      </p>
                    </td>
                  </tr>
                </table>
              </td>
            </tr>
          </table>
        </td>
      </tr>
    </table>
  </body>
</html>
';


        // Send email
        @mail($to,$subject,$message,$headers);
    }
```