Coursework: COMP1640

Enterprise Web Software Development

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Submitted To:

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Course Leader

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Submitted By:

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Team Name: The Ultimate

Team Member					
No	Name	Role			
1	Irina Alam	System Analyst			
2	Md. Arman Hossain	Database Designer			
3	Mosharrf Hossain	Programmer			
4	Mahadi Hasan	UI Designer & Tester			

Application Live URL: http://lmhs8tez-site.ftempurl.com

Screen Cast URL: https://youtu.be/XH4jPI8ZM2A

Repository URL:

Credential:

Role	Email Address	Password	
Administrator	onlinebdforum@gmail.com	forum@admin	
QA Manager	mohon.diit33@gmail.com	forum@qam	
QA Coordinator	mohon.diit65@gmail.com	forum@qac	
Other Staff	arman.shatu@gmail.com	mail.com forum@staff	
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Introduction

An online discussion forum is an environment where participants are allowed to post on any discussion topics and other's will post their opinion on those topics. It can be beneficial for student to learn new things and encourages them for deep thinking. A large university wants to develop a secure web-based system to collect ideas from student for better advancement. The **UOG forum** is a secure role-based system that is designed for that university to collect ideas from student. This system is developed by our team called **The Ultimate.** This team has four members, and everyone has played different roles for this system development and together we have successfully developed this system and fulfill all the requirements. I have played the programmer role on this team, so I have demonstrated all the functionalities of the system in this document.

Evaluation of product and process

Assumption

While developing the proposed system, some things are needed to assume. A list of assumptions are given below:

- All users are pre-registered in the system with some assume information.
- All the departments are pre-defined in the system.
- Administrator can add new department and update existing department information.
- QA coordinator of each departments are pre-defined.
- Any user role can be changed by administrator.

Key features of the system

All the given requirements have been successfully deployed in the new system. Below is a list of the main features of the new system:

- Administrator and QA manager can add and manage topic.
- Student can submit new ideas with uploading multiple documents on the topic.
- Administrator will get a notification when a new idea is submitted
- The new idea will be published when reviewed and approved by system administrator.
- An email notification systems for both QA coordinator and students.
- QA manager can view all the ideas from every department.
- All student and staff can post comments and edit their own comment on any idea.
- Anonymously idea and comment can be post.
- Student can view their recent ideas and comments in dashboard.
- Administrator can view and update staff and student information
- The system can manage access level of users.
- Idea and comment option will automatically disable after a final closure date.
- Administrator or QA manager can download any idea.
- Any user can recover their own forgot password.
- The system can generate a number of statistics and exception reports.
- The interface of the system is responsive and can use on any device.

Strength of the system

The developed system has some powerful features to improve the strength of the system.

A list of strong features of the system are given below:

- Prevent unauthorized user to access into the system.
- Using bcrypt encryption for storing user password.
- Well validation are implement in both front end and server side of the system.
- Any SQL injection can't performed in this system.
- Properly maintained the way of storing data into the system.
- Automatically disable Idea and comment option after a final closure date.
- Prevent any script editing from the outside.
- User can't reset another user's password.
- Idea will be download in a zip file.
- Generate reports with graphical charts.
- The user interface of the system is suitable for multiple devices.

Demonstration of some strong features are given below:

Number 1: Using bcrypt encryption for password security.

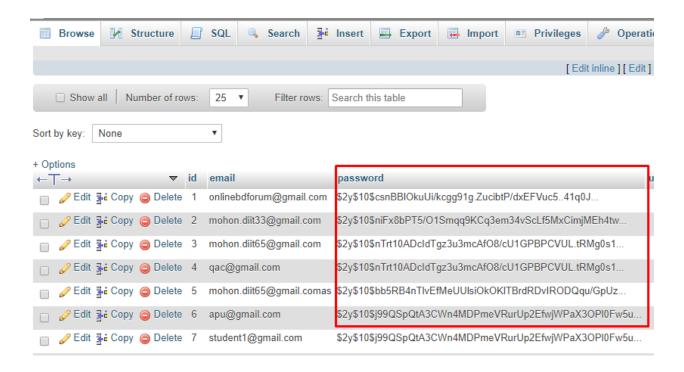


Figure 1: Use bcrypt encryption

Number 2: Secure login system to prevent unauthorized user to access to the system.

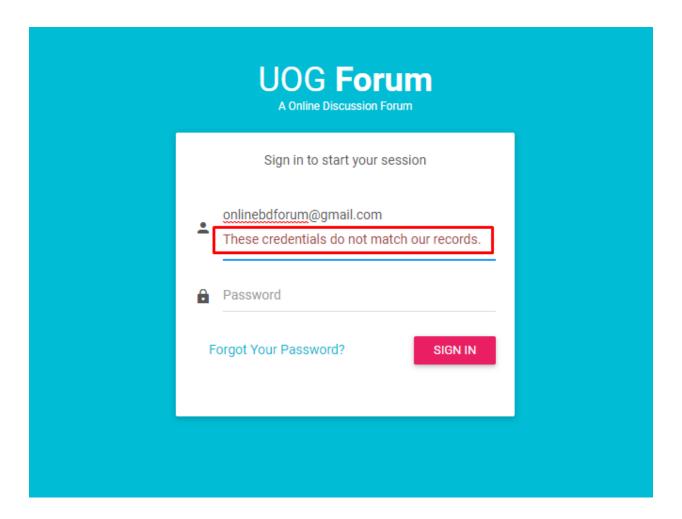


Figure 2: Login attempt by unauthorized user



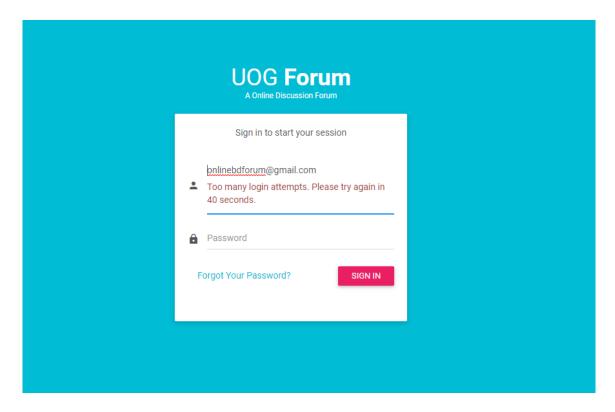


Figure 3: Too may login attempts feature

Number 4: Disabling idea and comment option after a final closure date.

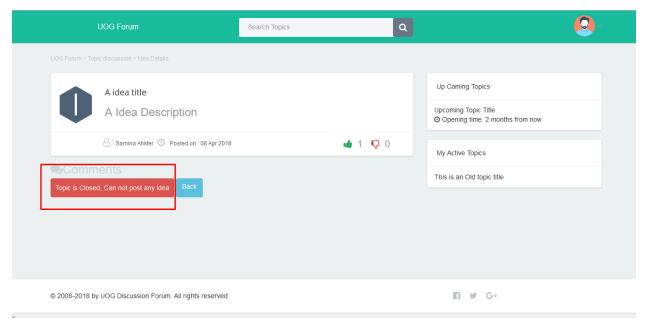


Figure 4: Disable idea and comment option

Number 5: Prevent user to reset another user's password.

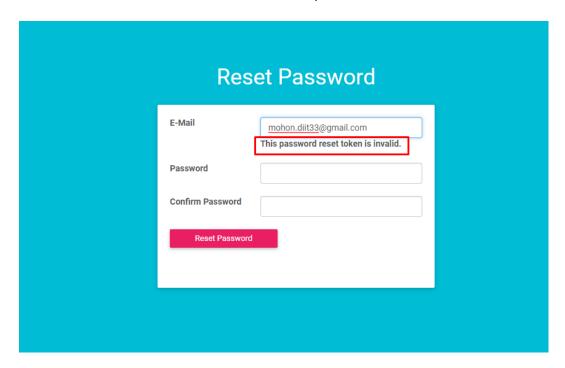


Figure 5: Unable to reset another user's password

Number 6: The system UI is suitable for multiple devices

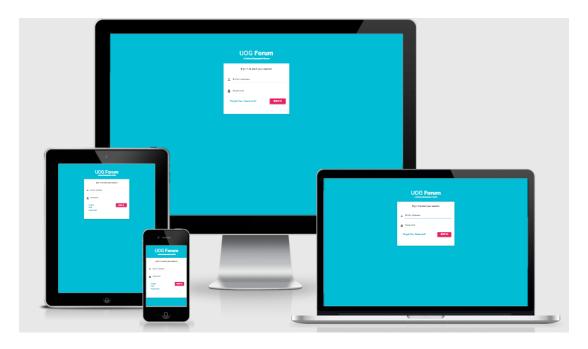


Figure 6: Checking system UI in multiple device

Number 7: Generate different types of graphical reports.

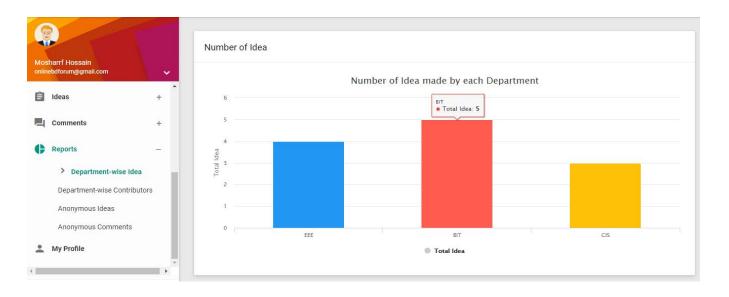


Figure 7: Bar charts report

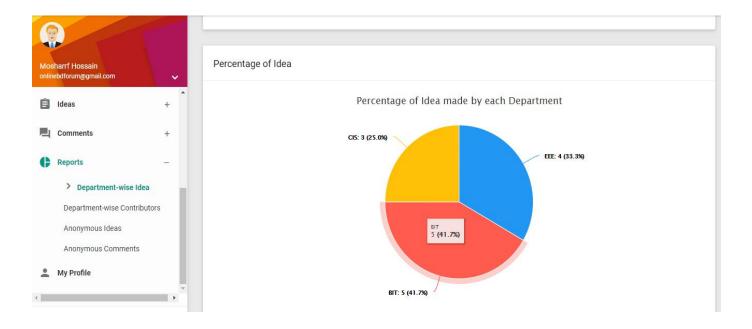


Figure 8: Pie charts report

Weakness of the system

Each system has some vulnerabilities, so as there are also some weakness in the developed system.

- An author can give thumbs up or thumbs down on their own posts.
- The system interface can be well-designed.
- There is no option to change the text of terms and conditions.
- Only one person can approve new idea.

Further development

There are some few things which could be developed further to make the system more efficient.

- Live notification system for the users.
- Provide a facility to QA coordinator for approve pending ideas of their own departments.
- Student can update their own information.
- Add multi language support to the system.
- Multiple idea can be selected and download in one click.

Evaluation of team

The proposed project has been developed by a team, which has four members and each one has performed different role to develop this project. At the beginning, we arrange a meeting and takes everyone opinion to split the roles. There one of our team member were assigned as system analyst, one as database designer, one as programmer and last one as web designer and tester. We have also named our team as "The Ultimate". After distribution of the role, each team member has started their work according to their role.

The proposed system has been successfully developed because of each team member provide their best effort in their areas and collaborate with each other. Without this effort and collaboration, the system will not deliver on time. First of all, the system analyst had to find all functional and non-functional requirements of the proposed system by analyzing the scenario. After that, database designer had to normalize the requirements to design a database also he had to draw some diagrams related to dataset design. Then the system interface is designed by the UI designer and the programmer had to write code to develop all the functionality of the system. Lastly, the tester had tested the whole application and ensure all the functionality of the system work perfectly. In each stage, every team members have successfully done their jobs.

Marking

Although each team member work very hard to develop this project, but the effort of each team member was not similar. So I have evaluate each team member efforts against some criteria which is given below:

Skills	Md. Arman Hossain (Database Designer)	Irina Alam (System Analyst)	Mahadi Hasan (UI Designer & Tester)
Performance	10	10	10
Team collaboration	10	9	10
Availability	10	8	9
Skill in his areas	9	9	8
Communication	8	9	9
Punctuality	9	8	9
Overall (out of 60)	56	53	55

Self-evaluation

Individual Effort

I have followed the role of programmer in this group project. In each project, programmer has to work harder than other members of the team. So I had to work very harder and provide my best effort to build up this project. I attended every team meeting and collaborate with each team members to ensure the robustness of the system.

In order to develop this project, I had to collaborate with our system analyst to find out all the essential requirements. Then to design the database, I had to work with our database designer. After that, I and our web designer had to work together to design the system interface. Then I started to develop the system and in the end, along with our tester I had to test my whole system to find any systematic errors.

At the development part, I have to work harder to make the system more secure and robust. I have to ensure all functional requirement of the system developed accurately and work properly.

Lesson Learnt

Though it was my first team project I have learned a lot of things. First of all, I have learned about team collaboration and how to work as a team to successfully develop a project. Before doing this project I have no idea about scrum methodology. By developing this project in scrum methodology now I have gained knowledge about this methodology and its process.

To develop this project, I have used PHP programming language within the Laravel framework I have learned some new things and enhance my knowledge in this areas. To making the percentage report generating I have used jQuery. Also, I have used some Laravel package to make my system more efficient. Thus I have gained more knowledge about jQuery and know how to use Laravel package.

In the appendix section, I described all my coursework and demonstrate all the functionality of the developed system.

Conclusion

The **UOG Forum** is a secure web-based system and the main aspect of this system is to collect ideas from the students and maintain them. With my team members, we have developed this system and meets all the requirements successfully. But along with its strength, it also has some weakness in some development parts which can overcome by further development. During the development time, each member of the team provides their best efforts and worked harder till the completing the system development. Besides, we have also learned some new things and gain knowledge about team collaboration and scrum methodology. This knowledge will help the each team members in any kind of future project.

Appendices

APPENDIX A: Technology Usage

Language

- HTML5
- CSS3
- PHP
- JavaScript

Framework

- Laravel
- Bootstrap

Libraries

- jQuery
- DataTables

Database

• MySQL

Appendix B: Roles and their activities

A role based system is implement in the developed system and each of them has different activity and permissions in this system. The system will manage the access level of user by their role. Mainly there are four types of users Administrator, QA manager, QA coordinator, Student. The actives of administrator and QA manager is similar. Activities of each users are described below:

Administrator:

- Create, view and update any topics details.
- View the idea list.
- Only he can approve new ideas.
- Change status of any idea.
- View and update any student and staff information.
- Download any idea details.
- Generate different kind of reports.

Functionality of administrator and their screenshots are given below:

Administrator needs to login first to access into the system. In the login form administrator need to input valid credential for login.

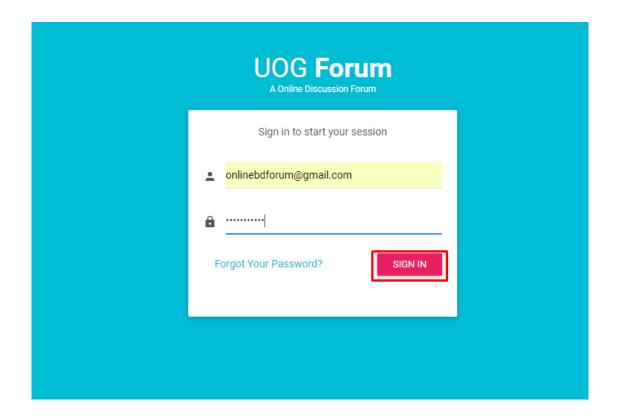


Figure 9: Login page

After successfully login into the system, administrator dashboard will appear.

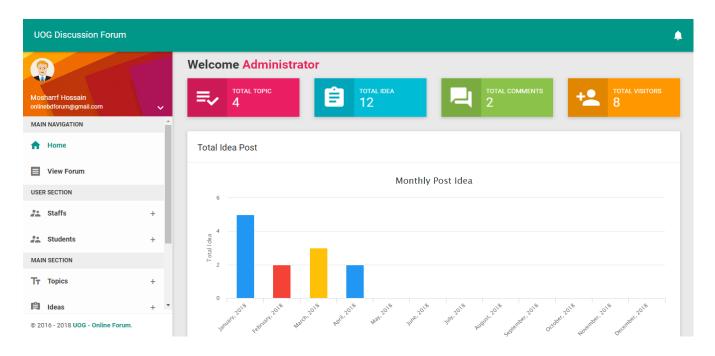


Figure 10: Administrator dashboard

Create Topics: In this page, administrator can create new topic. For that admin need to insert valid information.

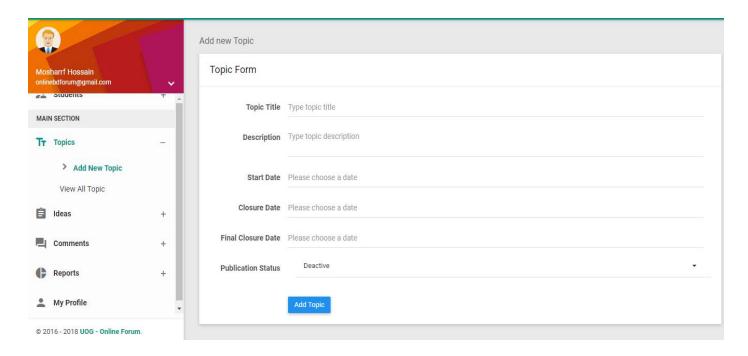


Figure 11: Add topic page

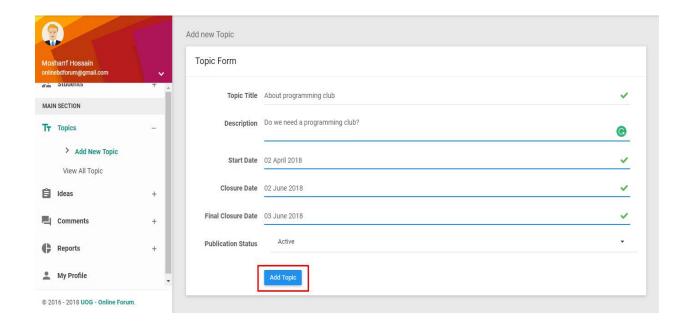


Figure 12: Provide valid information

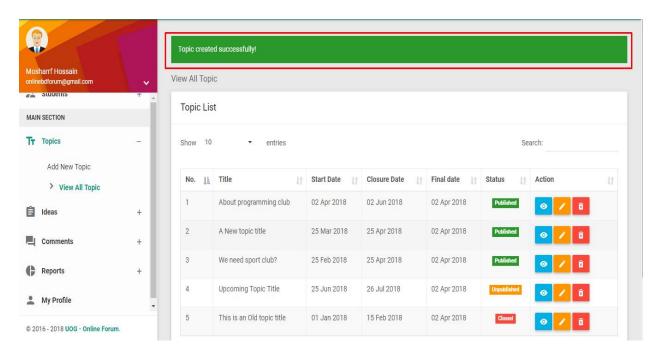


Figure 13: Topic created successfully

View topics: In this page, administrator can view all topics. From here admin can update or delete any topic.

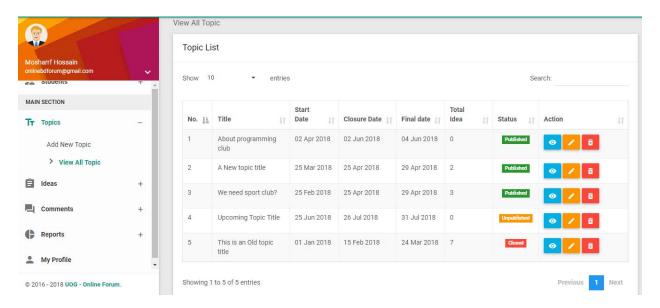


Figure 14: View all topics

Update topics: By clicking on edit button in view page, administrator will appear in this topic update page. Where admin can change any topic information.

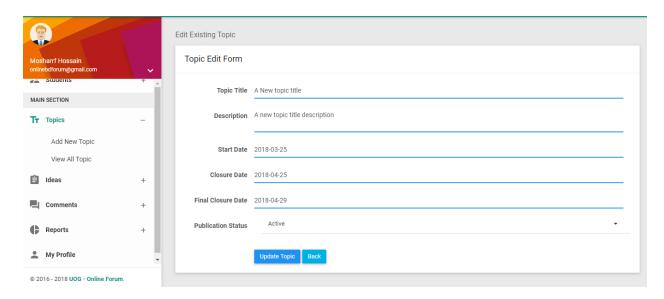


Figure 15: Topic update page

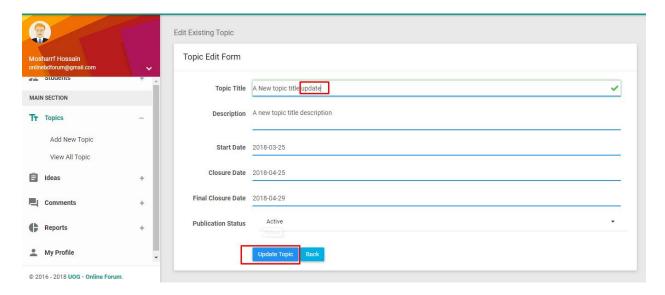


Figure 16: Update topic

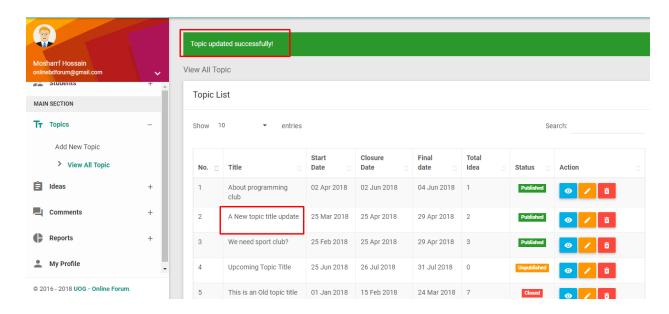


Figure 17: Successfully update the topic

Show Idea: Administrator can view all the idea list in this page.

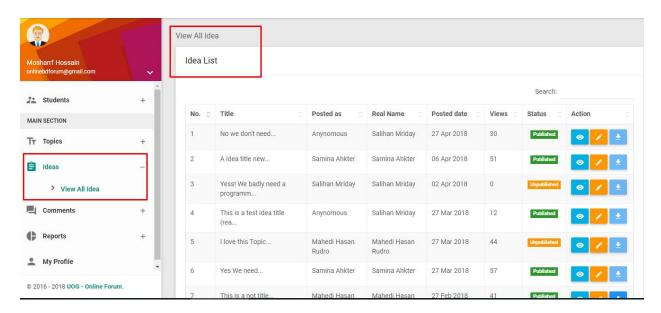


Figure 18: Idea list

Approve Idea: By clicking on edit button in view page, administrator will appear in this topic update page. Where admin can change any idea status.

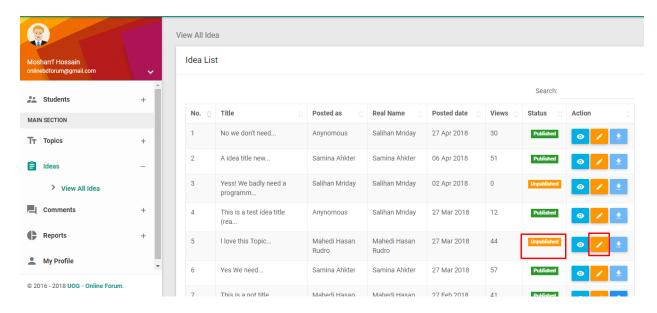


Figure 19: Clicking edit button

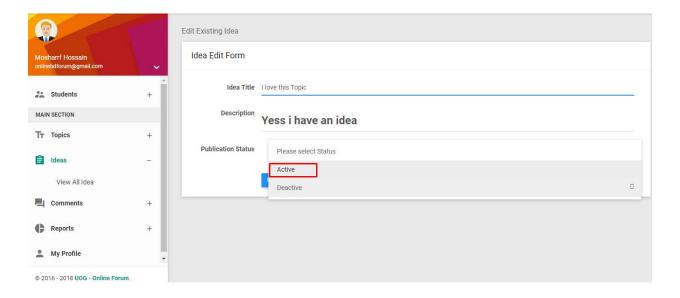


Figure 20: Change status

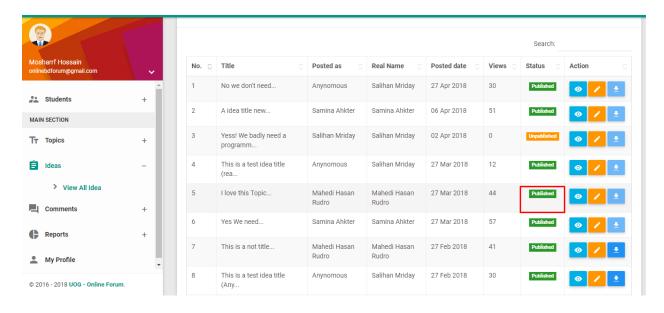


Figure 21: Successfully approve idea

Download idea details: Administrator can download idea by clicking this download button from this page.

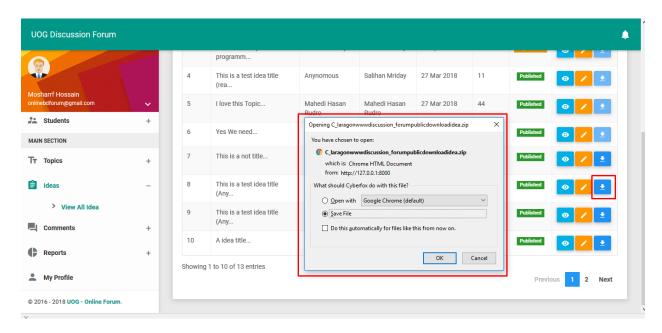


Figure 22: Downloading ideas

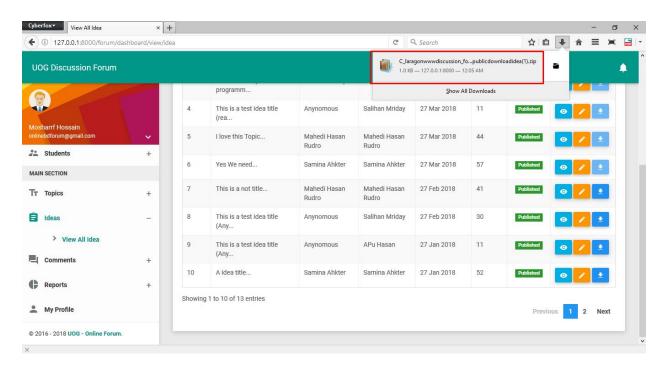


Figure 23: Successfully idea download

Report view: Administrator can view different types of reports with graphical in this page.

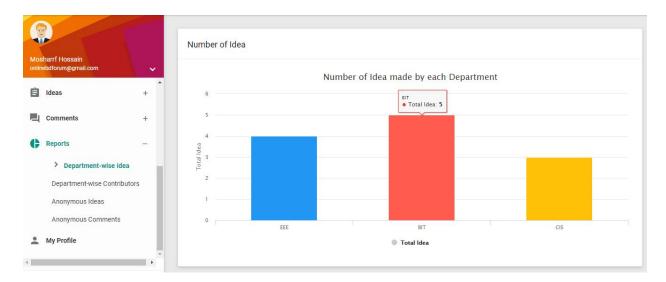


Figure 24: Report of number of idea

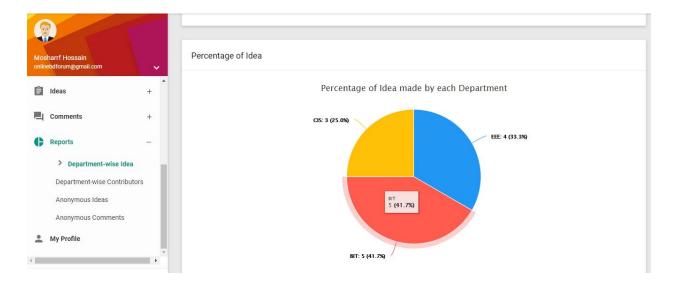


Figure 25: Report of percentage of idea

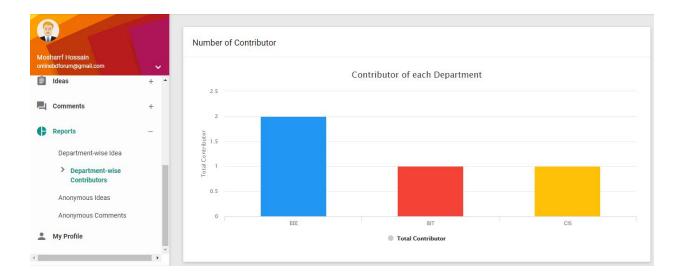


Figure 26: Report of number of contributor

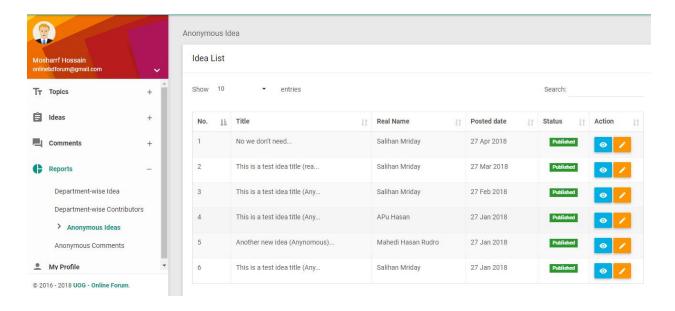


Figure 27: Report of list of anonymous idea

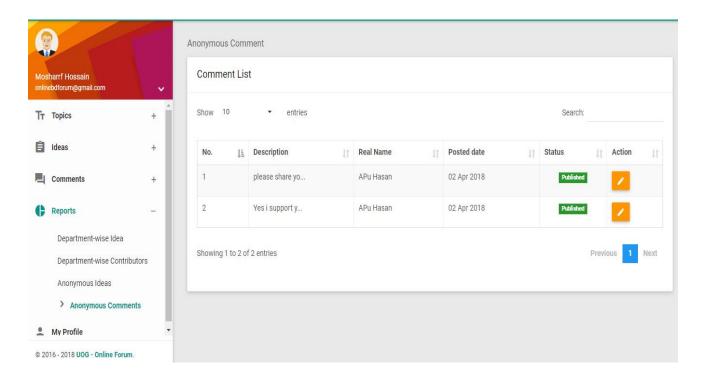


Figure 28: Report of list of anonymous comment

Student:

- Submit new ideas with uploading multiple documents on the topic.
- Post a comment on any idea.
- Anonymously can post any idea and comment.
- Only update their own ideas and comment information.
- Give thumbs up or thumbs down on any idea.
- Recover own forgot password.
- View their recent ideas and comments in a dashboard.

Functionality of student and their screenshots are given below:

Student needs to login first to access into the system. In the login form student need to input valid credential for login.

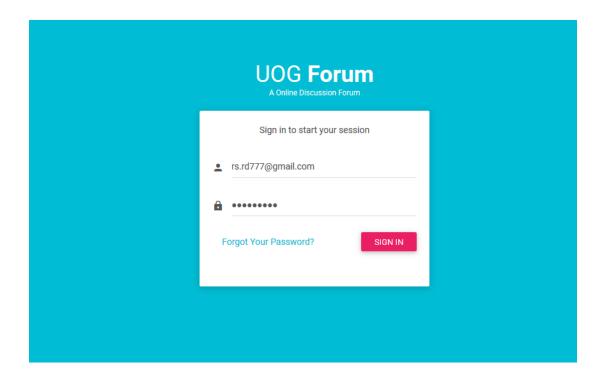


Figure 29: login page

Submit Idea: Student need to click to a specific topic title. An idea page will appear he needs to click on '**Post an Idea**' button. Another page will appear, here he will provide the valid information and click on '**Post Idea**' button to post the idea.

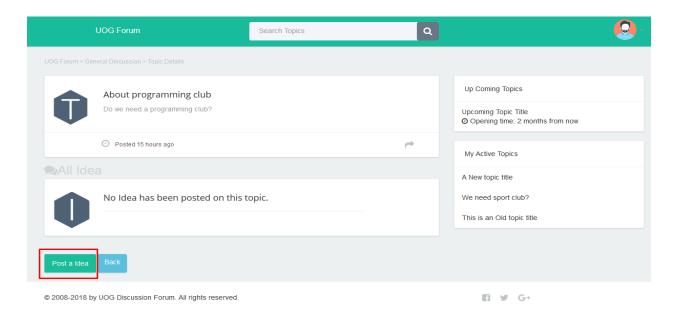


Figure 30: Click on post an idea button

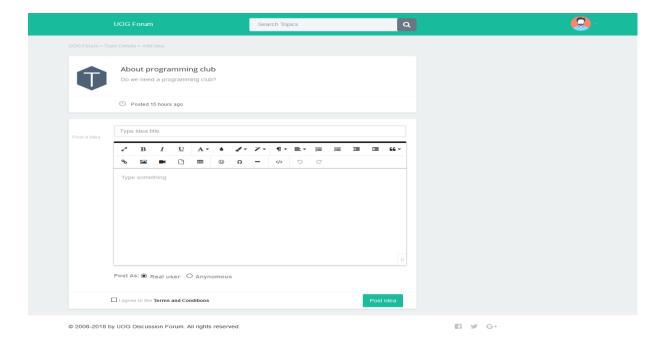


Figure 31: Post idea page

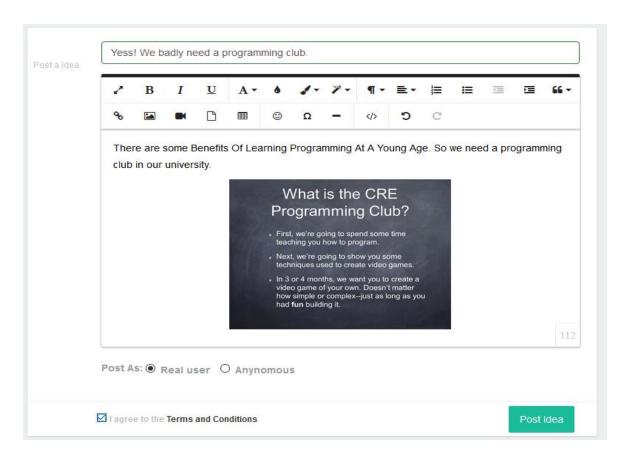


Figure 32: Insert information

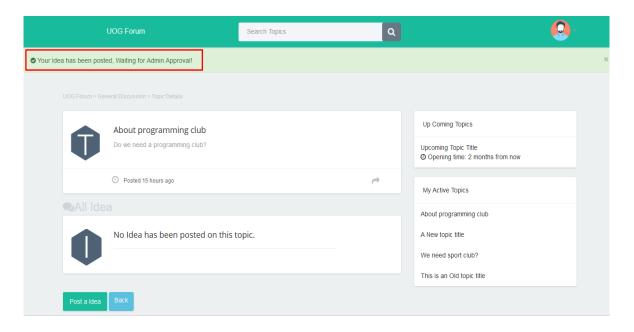


Figure 33: Idea posted successfully

Post a comment: Student need to click to a specific idea title. An idea page will appear in comment textbox he will insert comment information and click on 'Add Comment' button to post the comment.

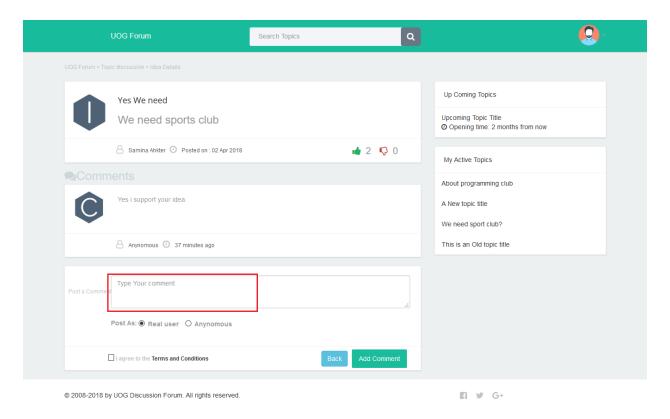


Figure 34: Add comment page

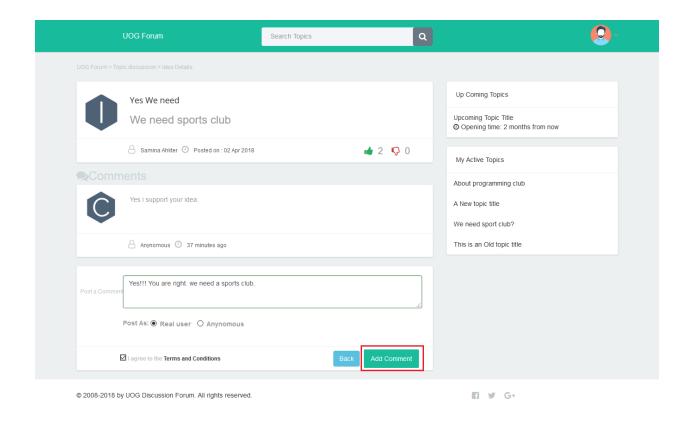


Figure 35: Insert comment information

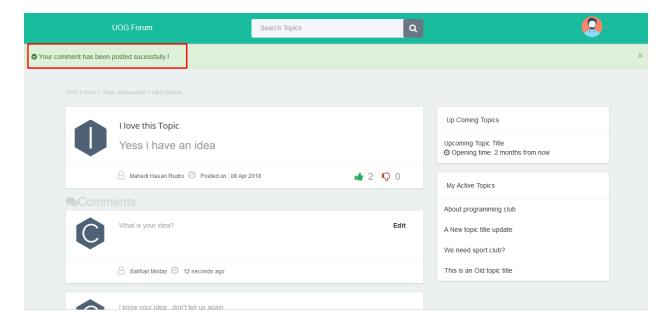


Figure 36: Successfully post a comment

Update and post comment as anonymous: Student can update their comment information. To edit student have to click on 'edit' button a page will appear with existing comment information, change any details and click on 'update comment' button. Student can post comment as anonymous for that student have to check 'Anonymous' radio button.

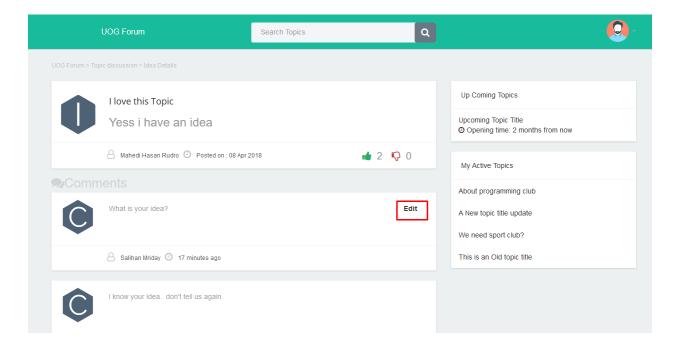


Figure 37: Click on edit button

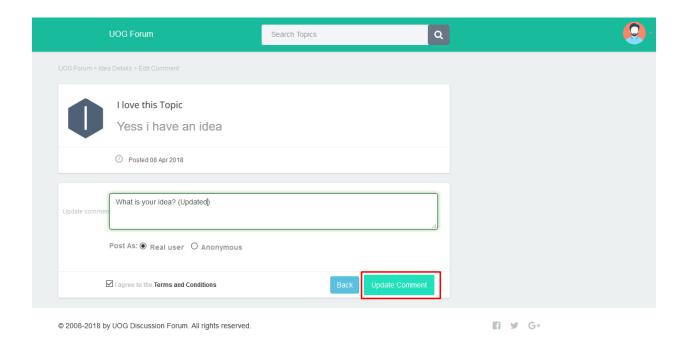


Figure 38: Change in comment information

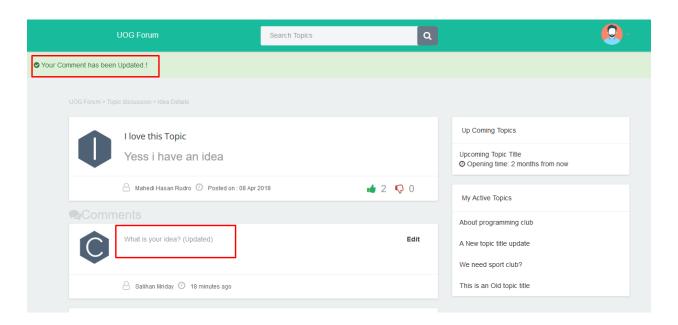
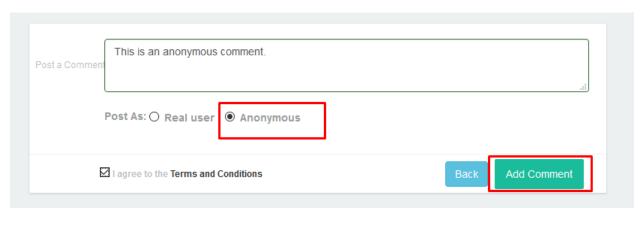


Figure 39: Comment updated successfully



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Figure 40: Check anonymous radio button

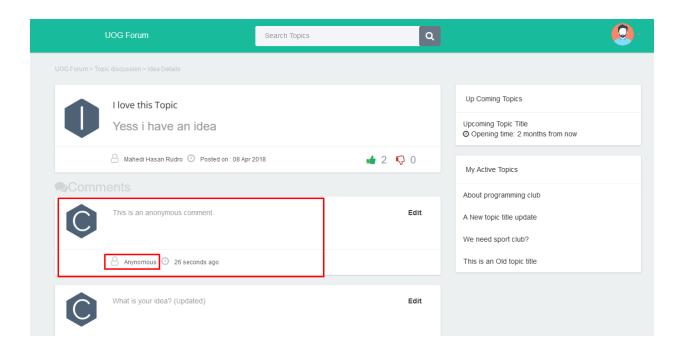


Figure 41: Successfully add an anonymous comment

React on idea: Student can give a thumbs up or thumbs down in any idea. He/she need to click on 'Thumbs up' or 'Thumbs down' icon in this page.

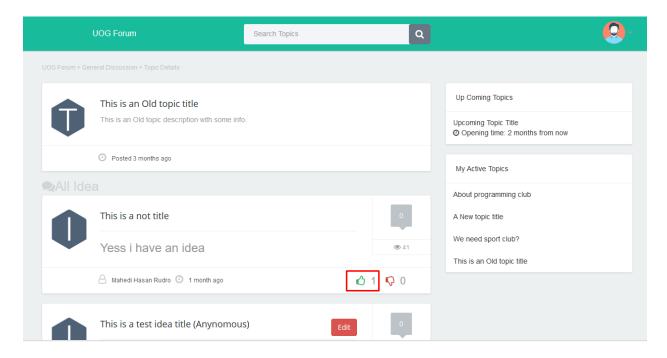


Figure 42: Click on thumbs up icon

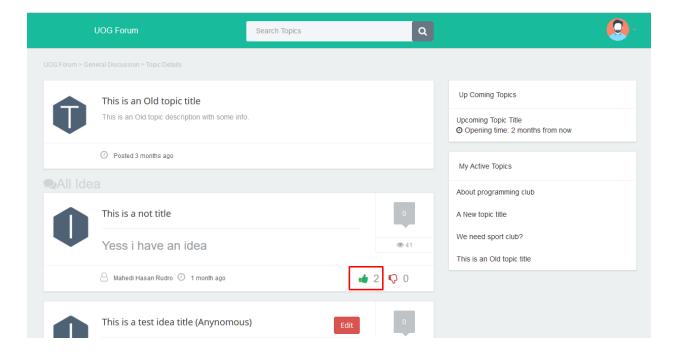


Figure 43: Successfully like this idea

Dashboard: In this page, student will view their recent posted idea and comment.

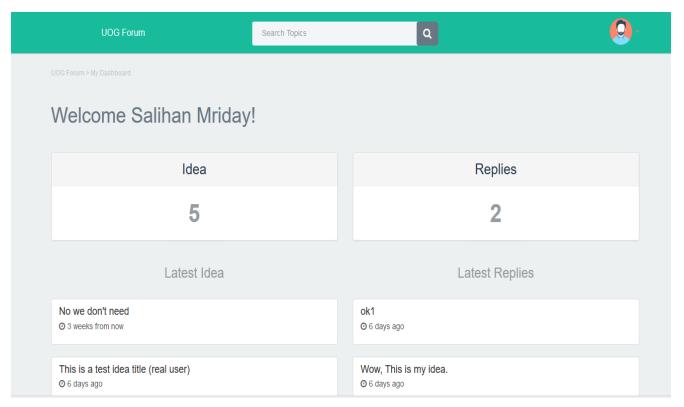


Figure 44: Student dashboard

Appendix C: User Notifications

After successfully posted an idea a notification will send to the administrator for approval.

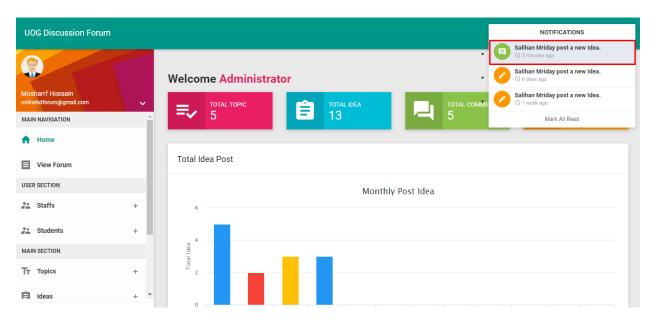


Figure 45: Notification to admin

When admin approve an idea, an email notification will send to the author of that idea.

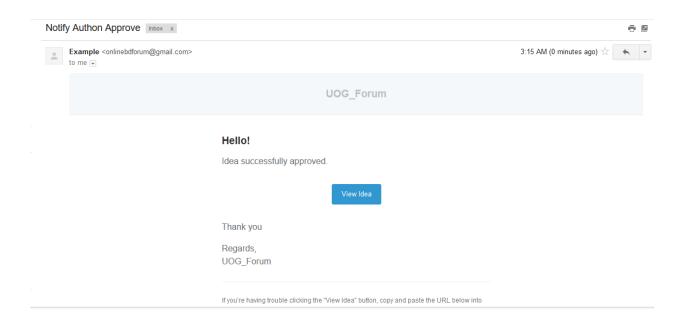


Figure 46: Email to author of the idea

When any department student successfully post a new idea, an email will send to the QA coordinator of that department.

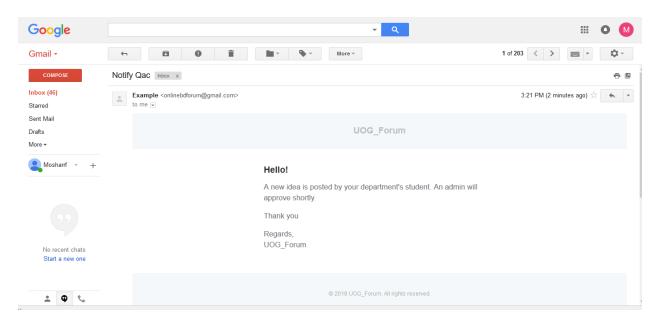


Figure 47: Email to QAC

Whenever other's student have comment on any idea, an email notification will send to the author of that idea.

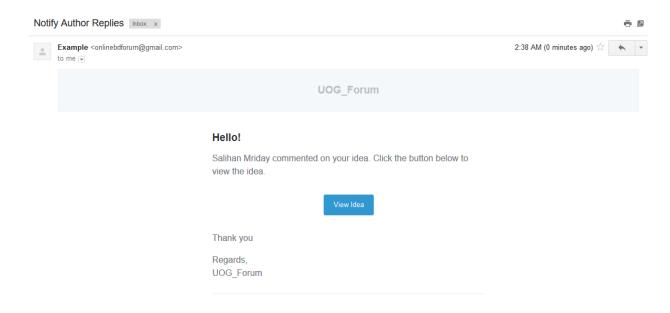


Figure 48: Notify author for a new comment

Appendix D: Validation

To secure the system and prevent any accidental work some validation rules are applied in both client and server side of the system.

To create a new topic all the field in this page must be mandatory fulfill.

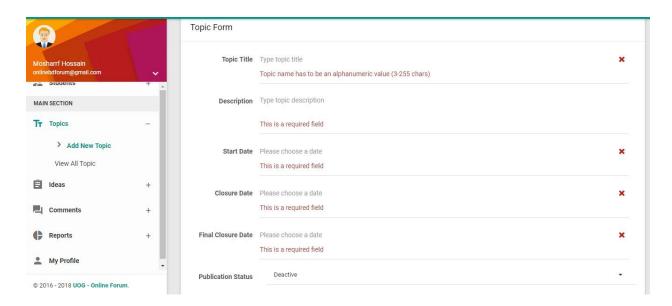


Figure 49: Validation in add topic page

If any topic is used then the topic can't delete form the system.

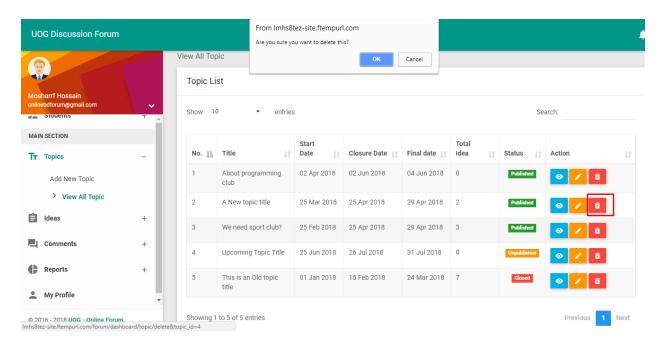


Figure 50: Click on delete button

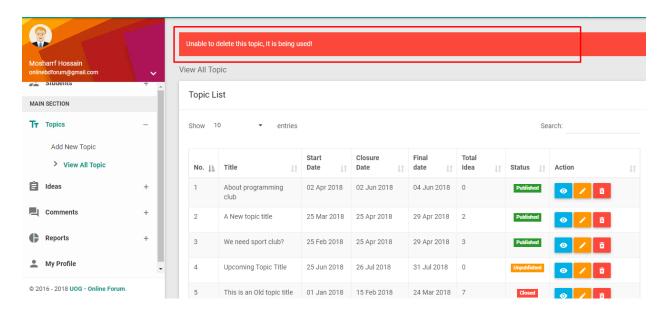


Figure 51: Show error message

User must check 'I agree to the Terms and Conditions' checkbox before submitting new idea or comment.

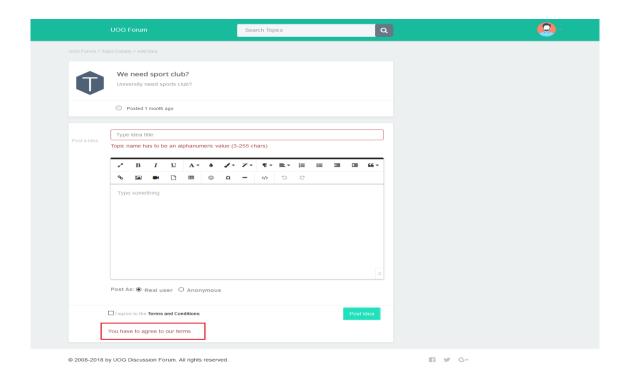


Figure 52: Validation on idea submit page

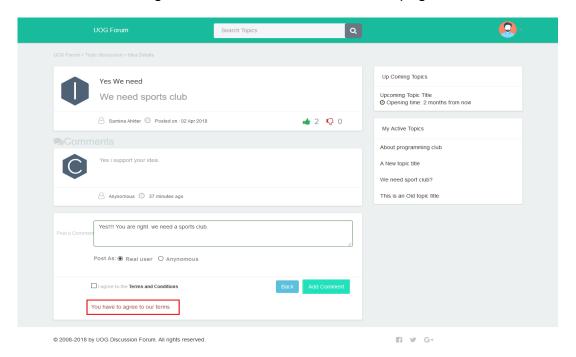


Figure 53: Validation on comment submit page