

Coursework: COMP1640

Enterprise Web Software Development

Date of Submission: **12th April 2018**

Submitted To:

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Team Name: *The Ultimate*

Team Member			
No	Name	Banner ID	Role
1			
2			
3			Programmer
4			

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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

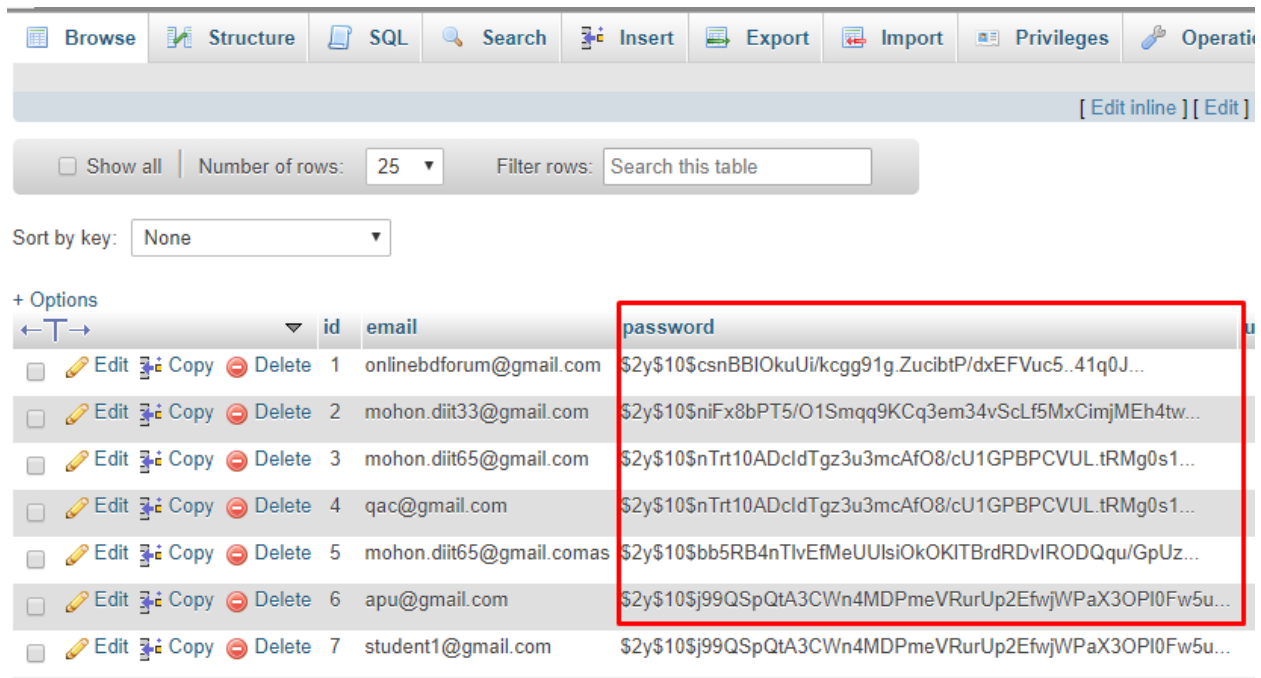
The developed system has some powerful features to improve the strength of the system.

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.



The screenshot shows a database management tool interface. At the top, there is a toolbar with buttons for Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, and Operations. Below the toolbar, there are options to show all rows, set the number of rows to 25, and a search filter. The table is sorted by key: None. The table has three columns: id, email, and password. The password column is highlighted with a red box, showing bcrypt-encrypted strings. Each row has an Edit, Copy, and Delete icon next to it.

		id	email	password
<input type="checkbox"/>	Edit Copy Delete	1	onlinebdforum@gmail.com	\$2y\$10\$csnBBIokuUi/kcgg91g.ZucibtP/dxEfVuc5..41q0J...
<input type="checkbox"/>	Edit Copy Delete	2	mohon.diit33@gmail.com	\$2y\$10\$niFx8bPT5/O1Smqq9KCq3em34vScLf5MxCimjMEh4tw...
<input type="checkbox"/>	Edit Copy Delete	3	mohon.diit65@gmail.com	\$2y\$10\$Trt10ADcldTgz3u3mcAf08/cU1GPBPCVUL.tRMg0s1...
<input type="checkbox"/>	Edit Copy Delete	4	qac@gmail.com	\$2y\$10\$Trt10ADcldTgz3u3mcAf08/cU1GPBPCVUL.tRMg0s1...
<input type="checkbox"/>	Edit Copy Delete	5	mohon.diit65@gmail.com	\$2y\$10\$bb5RB4nTlvEfMeUUsiOkOKITBrdRDvIRODQqu/GpUz...
<input type="checkbox"/>	Edit Copy Delete	6	apu@gmail.com	\$2y\$10\$j99QSpQtA3CWn4MDPmeVRurUp2EfWjWPaX3OPI0Fw5u...
<input type="checkbox"/>	Edit Copy Delete	7	student1@gmail.com	\$2y\$10\$j99QSpQtA3CWn4MDPmeVRurUp2EfWjWPaX3OPI0Fw5u...

Figure 1: Using bcrypt encryption

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

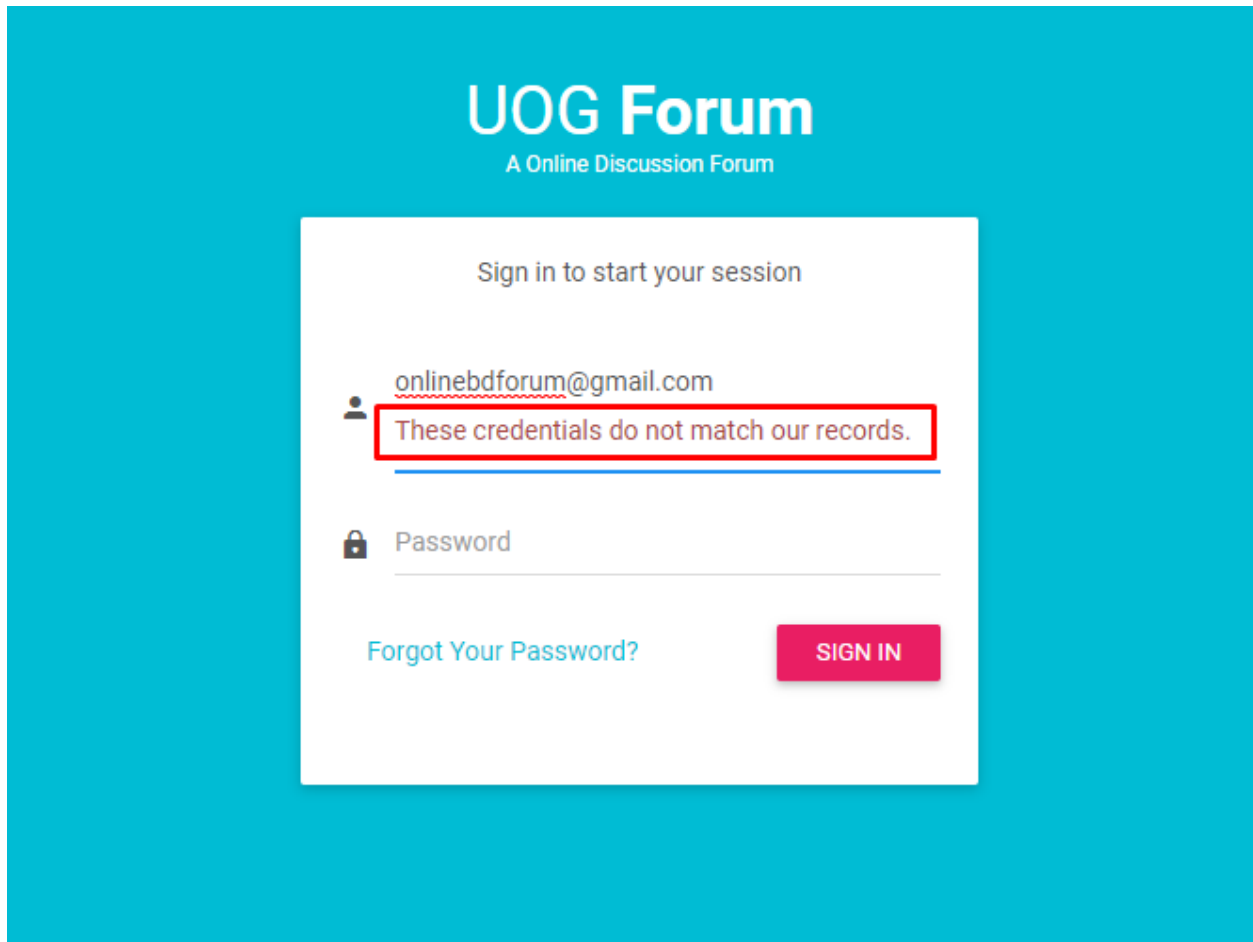


Figure 2: Login attempt by unauthorized user

Number 3: Use too many login attempts features to prevent any attacks from hackers.

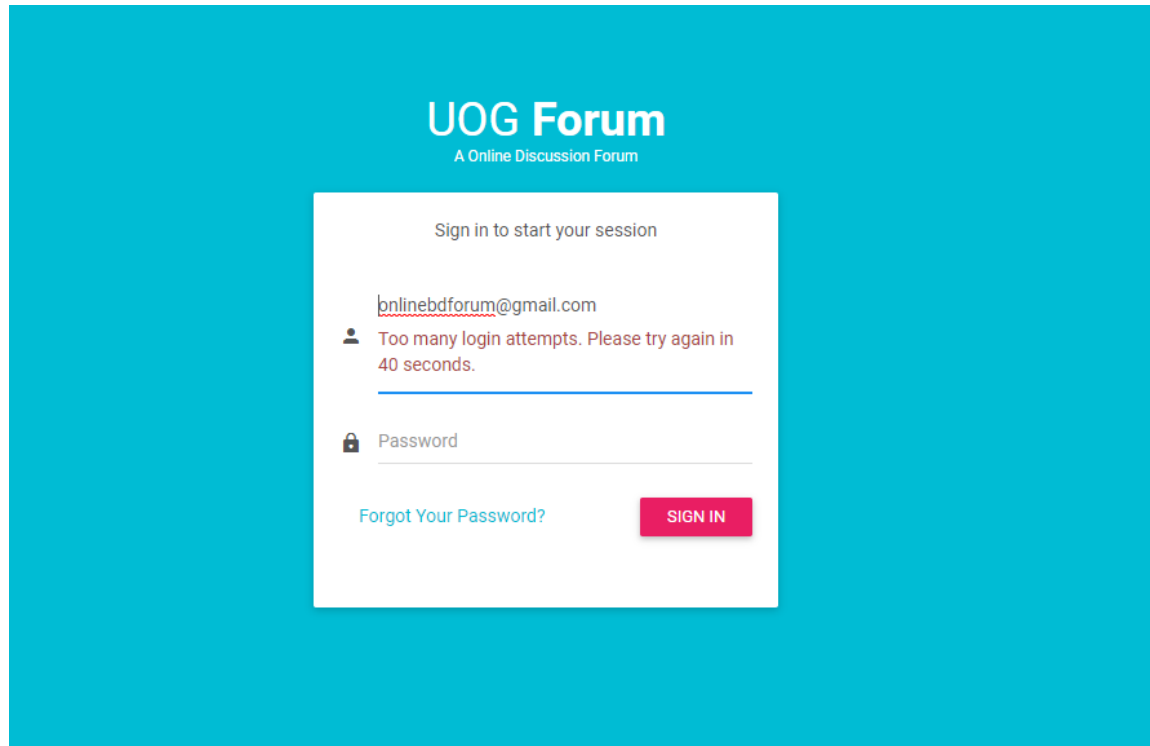


Figure 3: Too may login attempts feature

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

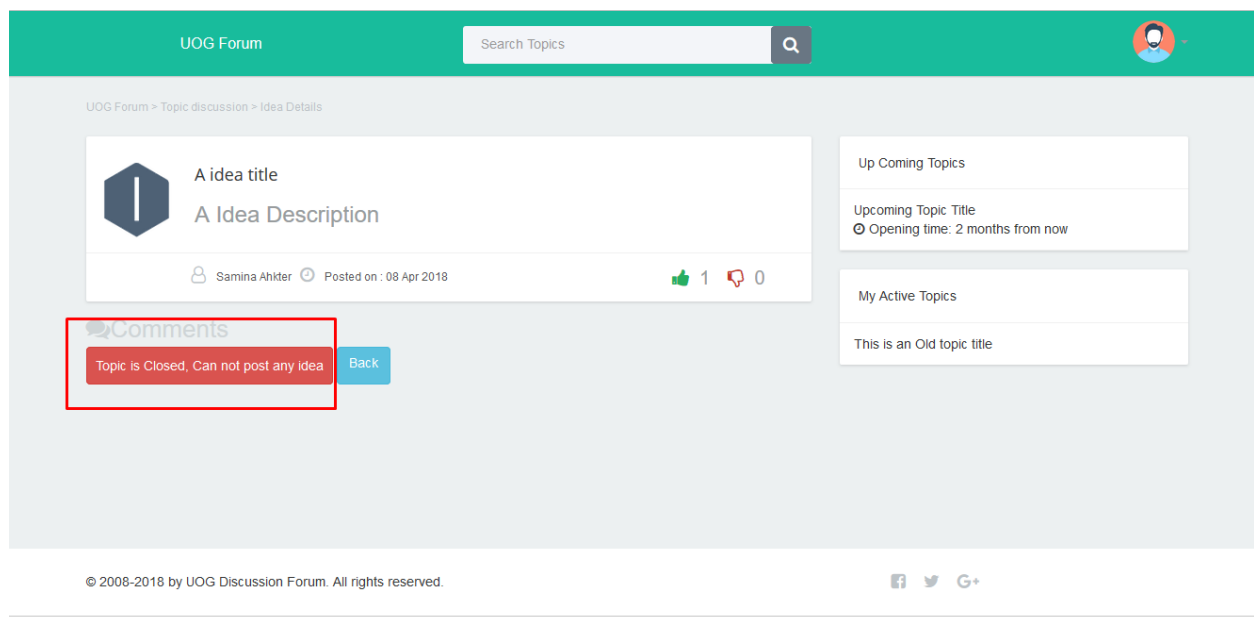


Figure 4: Disable idea and comment option

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

Reset Password

E-Mail

This password reset token is invalid.

Password

Confirm Password

Reset Password

Figure 5: Unable to reset another user's password

Number 6: The system UI is suitable for multiple devices

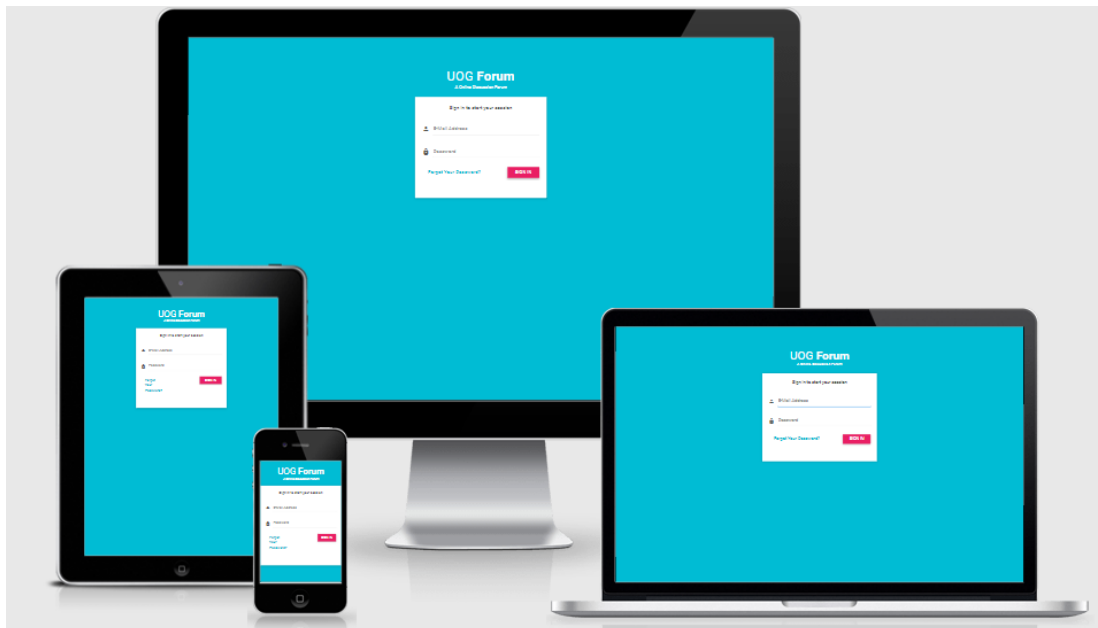


Figure 6: Checking system UI in multiple device

Number 7: Generate different types of graphical reports.

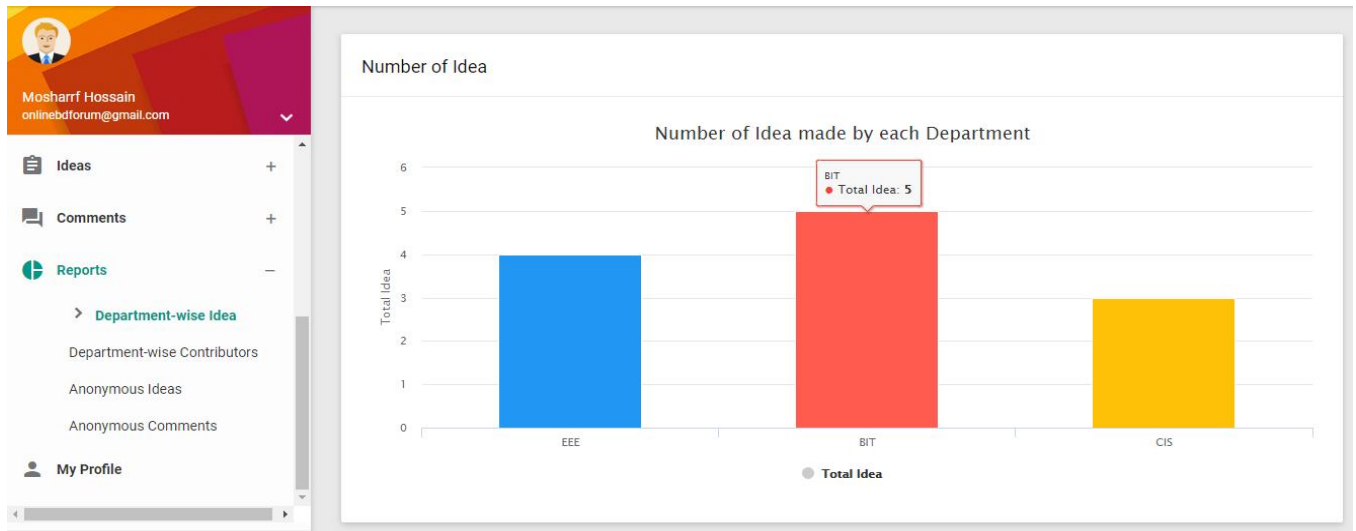


Figure 7: Bar charts report

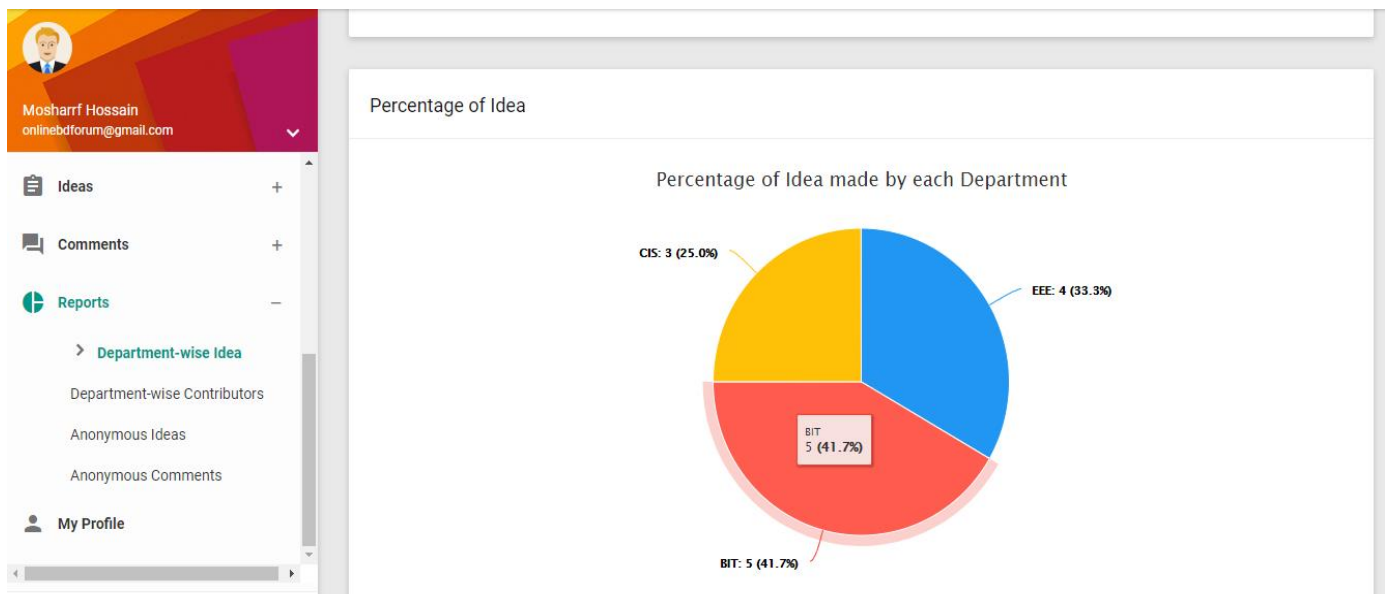


Figure 8: Pie charts report

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)	Mosharrf Hossain (Programmer)	Mahadi Hasan (UI Designer & Tester)
Performance	10	10	10	10
Collaboration	10	10	10	10
Availability	10	8	9	9
Skill in his areas	9	9	9	9
Communication	9	9	10	9
Punctuality	9	9	8	9
Overall (out of 60)	57	55	56	56

Figure 9: Overall marking performance of the team members

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
- PHP7
- JavaScript

Framework

- Laravel
- Bootstrap

Libraries

- jQuery
- DataTables

Database

- MySQL

Appendix B: Roles and their activities

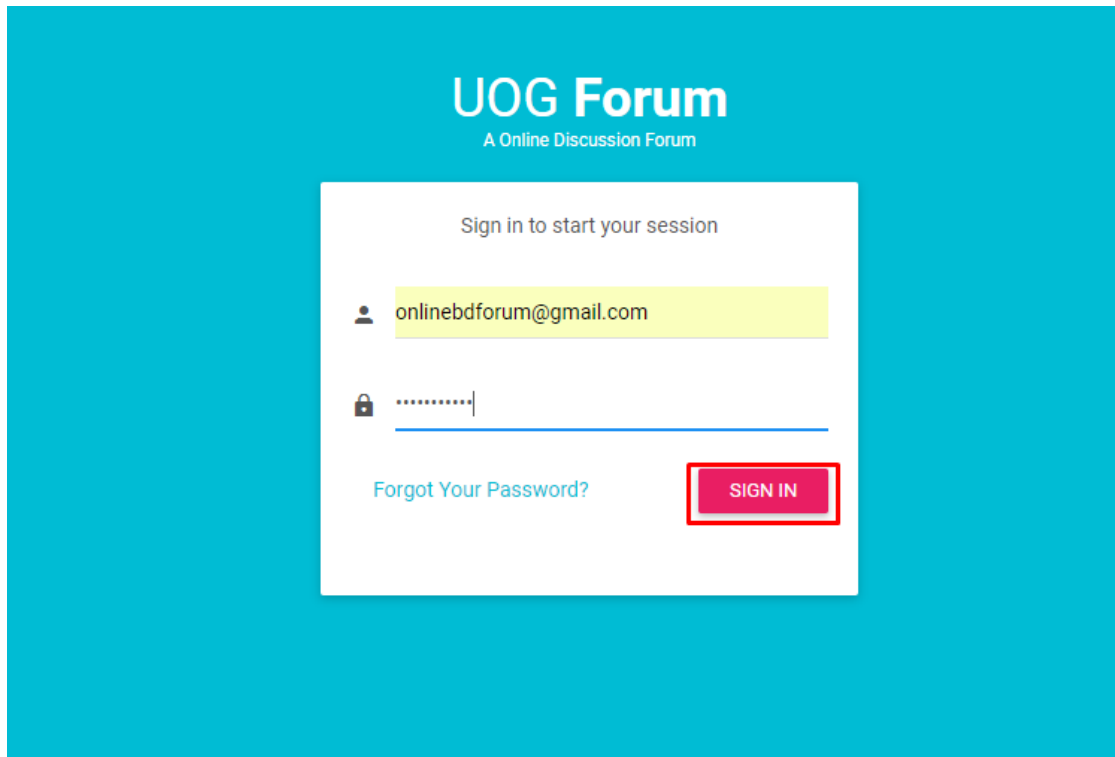
A role based system is implement in the developed system and each of them has different activity and permissions in this system. The system will manage the access level of user by their role. Mainly there are four types of users Administrator, QA manager, QA coordinator, Student. The actives of administrator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



The image shows a login page for 'UOG Forum', which is described as 'A Online Discussion Forum'. The page has a solid blue background. In the center, there is a white rectangular login form. At the top of the form, it says 'Sign in to start your session'. Below this, there are two input fields. The first field is for the email address, with a person icon to its left and the text 'onlinebdforum@gmail.com' entered. The second field is for the password, with a lock icon to its left and a series of dots representing the password. Below the password field, there is a link that says 'Forgot Your Password?'. To the right of this link is a red rectangular button with the text 'SIGN IN' in white capital letters. The button is highlighted with a red border.

Figure 10: Login page

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

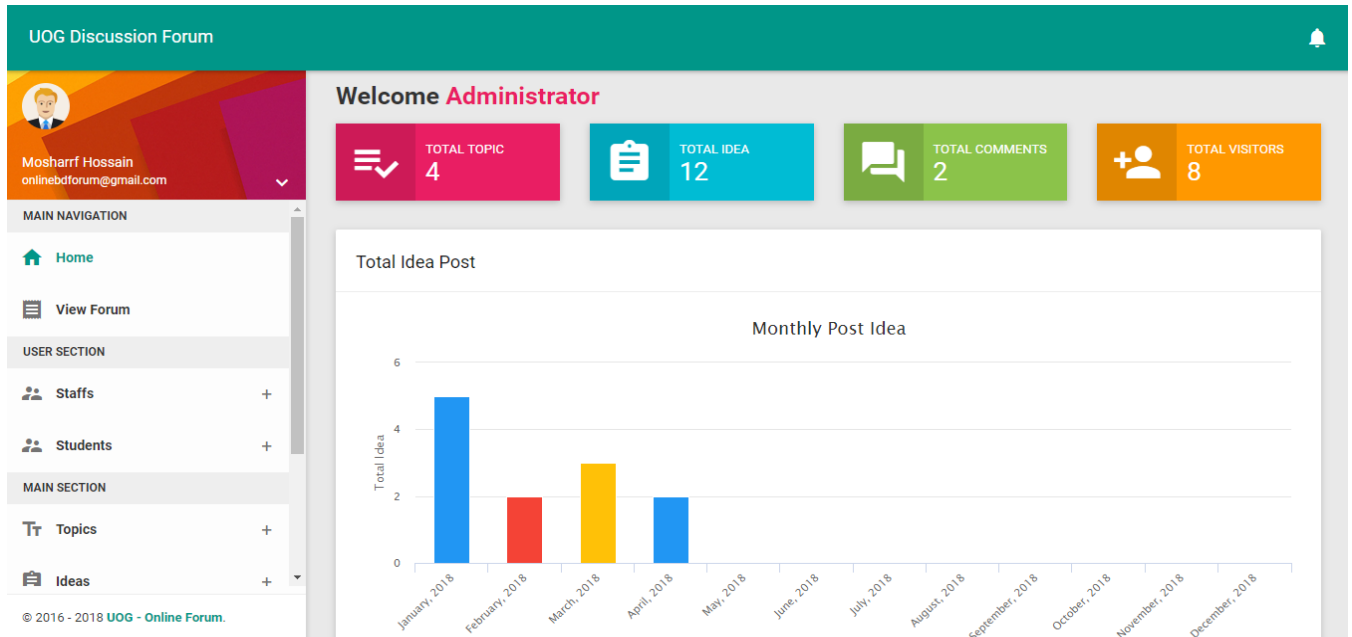


Figure 11: Administrator dashboard

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

Add new Topic

Topic Form

Topic Title Type topic title

Description Type topic description

Start Date Please choose a date

Closure Date Please choose a date

Final Closure Date Please choose a date

Publication Status Deactive

Add Topic

Mosharrf Hossain
onlinebdforum@gmail.com

MAIN SECTION

- Topics
- Add New Topic
- View All Topic
- Ideas
- Comments
- Reports
- My Profile

© 2016 - 2018 UOG - Online Forum.

Figure 12: Add topic page

Students

MAIN SECTION

- Topics
 - Add New Topic
 - View All Topic
- Ideas
- Comments
- Reports
- My Profile

© 2016 - 2018 UOG - Online Forum.

Add new Topic

Topic Form

Topic Title

About programming club

✓

Description

Do we need a programming club?

Ⓢ

Start Date

02 April 2018

✓

Closure Date

02 June 2018

✓

Final Closure Date

03 June 2018

✓

Publication Status

Active

▼

Add Topic

Figure 13: Provide valid information

Students

MAIN SECTION

- Topics
 - Add New Topic
 - View All Topic
- Ideas
- Comments
- Reports
- My Profile

© 2016 - 2018 UOG - Online Forum.

Topic created successfully!

View All Topic

Topic List

Show 10 entries Search:

No.	Title	Start Date	Closure Date	Final date	Status	Action
1	About programming club	02 Apr 2018	02 Jun 2018	02 Apr 2018	Published	
2	A New topic title	25 Mar 2018	25 Apr 2018	02 Apr 2018	Published	
3	We need sport club?	25 Feb 2018	25 Apr 2018	02 Apr 2018	Published	
4	Upcoming Topic Title	25 Jun 2018	26 Jul 2018	02 Apr 2018	Unpublished	
5	This is an Old topic title	01 Jan 2018	15 Feb 2018	02 Apr 2018	Closed	

Figure 14: Topic created successfully

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.

Students

MAIN SECTION

Topics

Ideas

View All Idea

Comments

Reports

My Profile

View All Idea

Idea List

Search:

No.	Title	Posted as	Real Name	Posted date	Views	Status	Action
1	No we don't need...	Anonymous	Salihan Mriday	27 Apr 2018	30	Published	
2	A idea title new...	Samina Ahkter	Samina Ahkter	06 Apr 2018	51	Published	
3	Yes! We badly need a programm...	Salihan Mriday	Salihan Mriday	02 Apr 2018	0	Unpublished	
4	This is a test idea title (rea...	Anonymous	Salihan Mriday	27 Mar 2018	12	Published	
5	I love this Topic...	Mahedi Hasan Rudro	Mahedi Hasan Rudro	27 Mar 2018	44	Unpublished	
6	Yes We need...	Samina Ahkter	Samina Ahkter	27 Mar 2018	57	Published	
7	This is a not title	Mahedi Hasan	Mahedi Hasan	27 Feb 2018	41	Published	

Figure 15: Clicking edit button

Page | 23

- Students
- MAIN SECTION
- Topics
- Ideas
- View All Idea
- Comments
- Reports
- My Profile

Edit Existing Idea

Idea Edit Form

Idea Title I love this Topic

Description Yess i have an idea

Publication Status

Please select Status

- Active
- Deactive

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Figure 16: Change status

- Students
- MAIN SECTION
- Topics
- Ideas
- View All Idea
- Comments
- Reports
- My Profile

No.	Title	Posted as	Real Name	Posted date	Views	Status	Action
1	No we don't need...	Anonymous	Salihan Mriday	27 Apr 2018	30	Published	
2	A idea title new...	Samina Ahkter	Samina Ahkter	06 Apr 2018	51	Published	
3	Yess! We badly need a programm...	Salihan Mriday	Salihan Mriday	02 Apr 2018	0	Unpublished	
4	This is a test idea title (rea...	Anonymous	Salihan Mriday	27 Mar 2018	12	Published	
5	I love this Topic...	Mahedi Hasan Rudro	Mahedi Hasan Rudro	27 Mar 2018	44	Published	
6	Yes We need...	Samina Ahkter	Samina Ahkter	27 Mar 2018	57	Published	
7	This is a not title...	Mahedi Hasan Rudro	Mahedi Hasan Rudro	27 Feb 2018	41	Published	
8	This is a test idea title (Any...	Anonymous	Salihan Mriday	27 Feb 2018	30	Published	

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Figure 17: Successfully approve idea

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

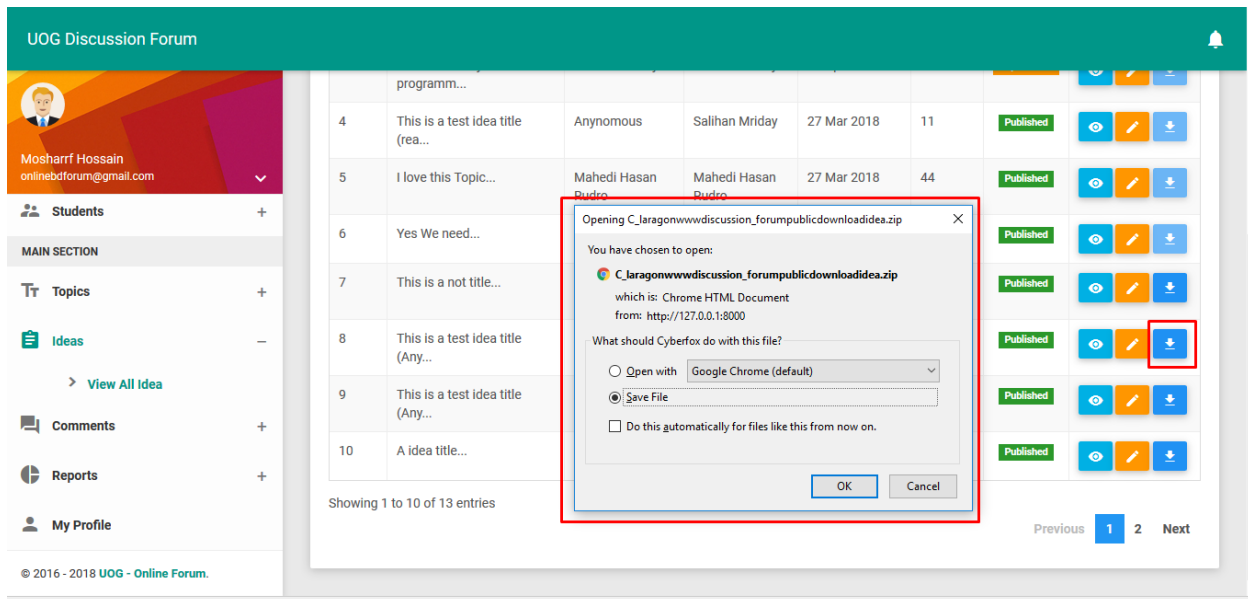


Figure 18: Downloading ideas

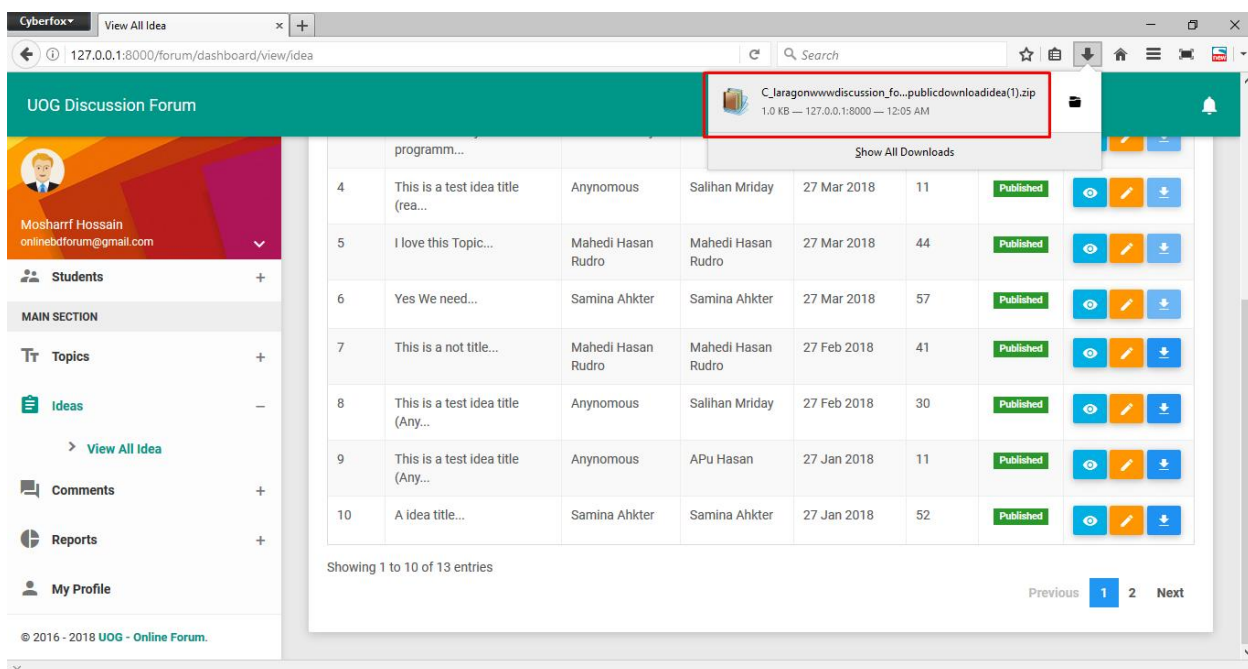


Figure 19: Successfully idea download

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

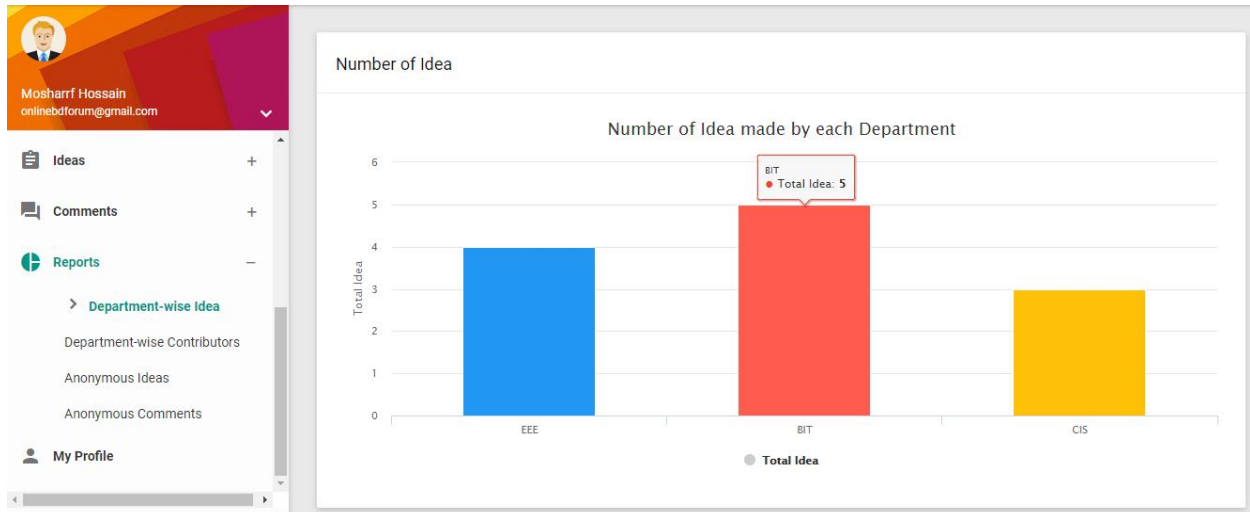


Figure 20: Report of number of idea

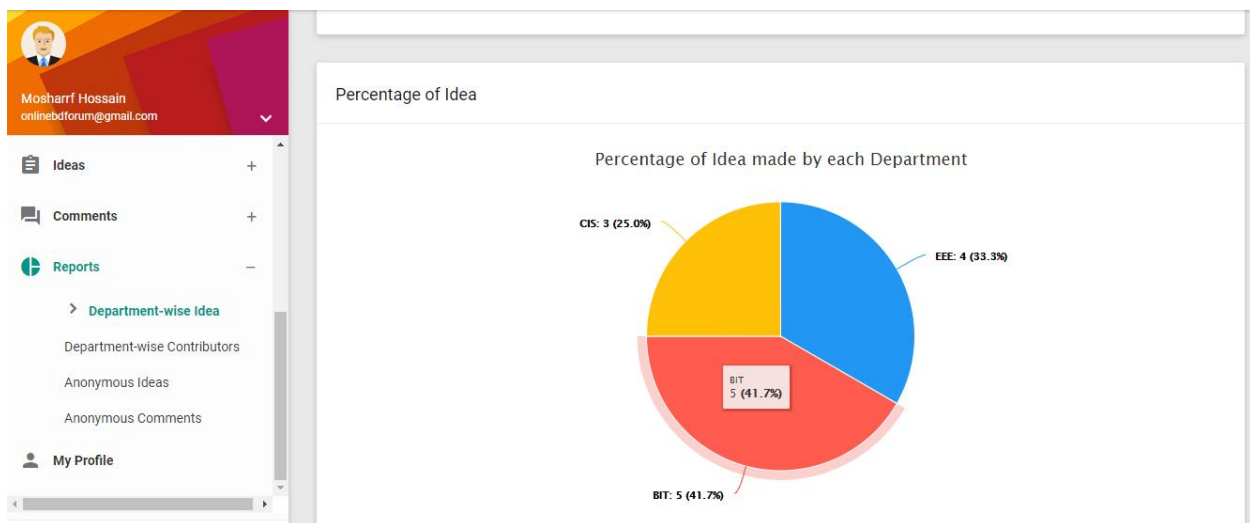


Figure 21: Report of percentage of idea

Other reports screenshots have been provided in the repository.

Repository URL: <https://goo.gl/M8Wz49>

Other screenshots of administrator activities are provided in the repository.

Repository URL: <https://goo.gl/kW1cyi>

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.

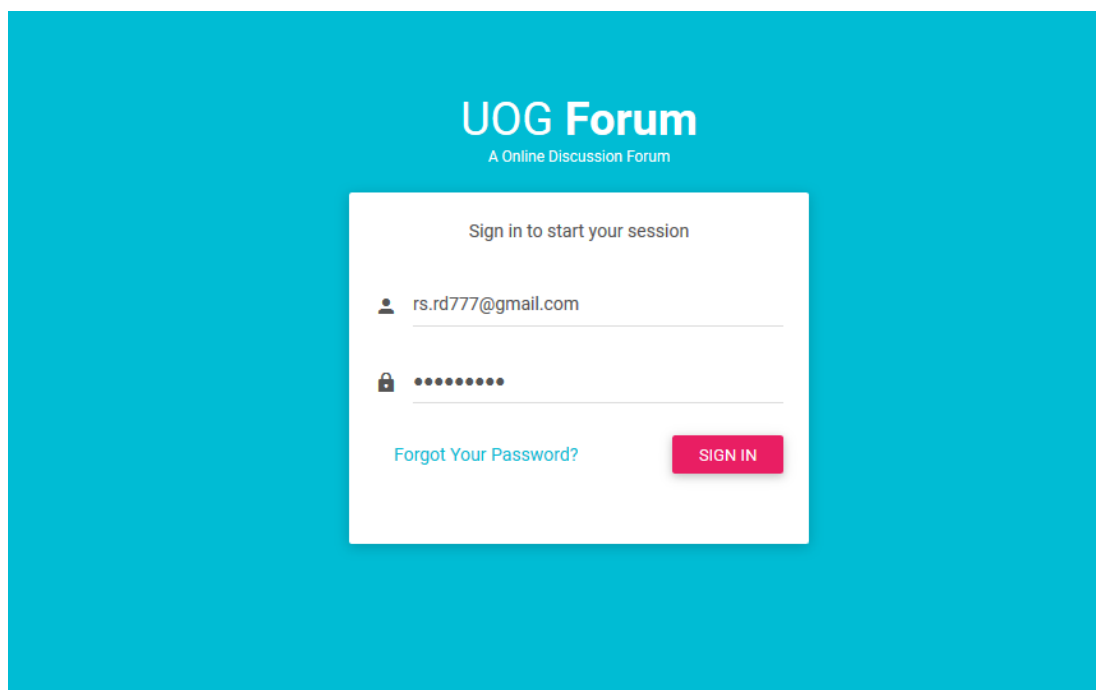


Figure 22: Login Page

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.

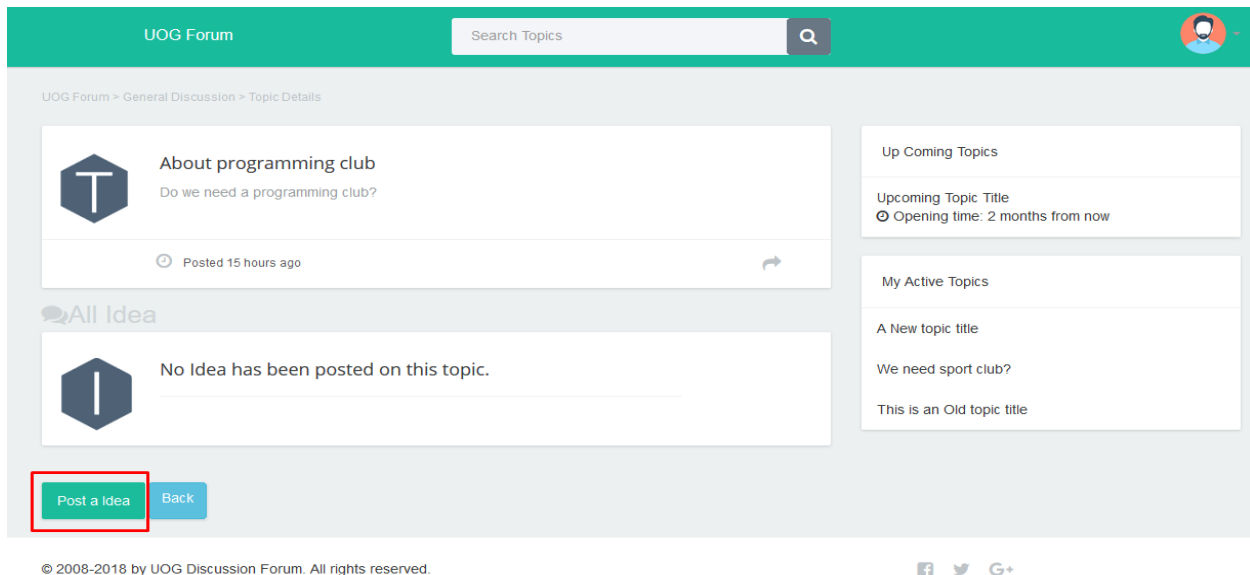


Figure 23: Click on post an idea button

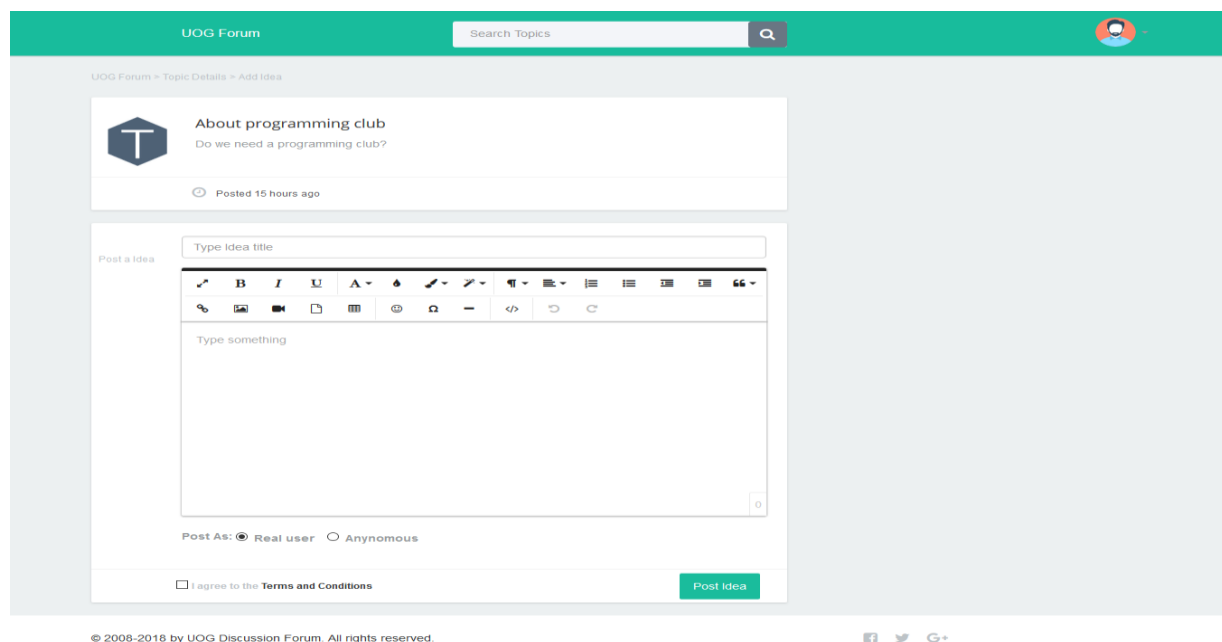


Figure 24: Post idea page

Post a Idea

Yess! We badly need a programming club.

There are some Benefits Of Learning Programming At A Young Age. So we need a programming club in our university.

What is the CRE Programming Club?

- First, we're going to spend some time teaching you how to program.
- Next, we're going to show you some techniques used to create video games.
- In 3 or 4 months, we want you to create a video game of your own. Doesn't matter how simple or complex--just as long as you had fun building it.

112

Post As: ☒ Real user ☐ Anonymous

☒ I agree to the Terms and Conditions

Post Idea

Figure 25: Insert information

UOG Forum

Search Topics

✓ Your Idea has been posted, Waiting for Admin Approval!

UOG Forum > General Discussion > Topic Details

About programming club

Do we need a programming club?

Posted 15 hours ago

All Idea

No Idea has been posted on this topic.

Post a Idea Back

Up Coming Topics

Upcoming Topic Title

Opening time: 2 months from now

My Active Topics

About programming club

A New topic title

We need sport club?

This is an Old topic title

Figure 26: 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.

The screenshot shows the 'UOG Forum' interface. At the top, there is a teal header with the forum name, a search bar, and a user profile icon. Below the header, the breadcrumb trail reads 'UOG Forum > Topic discussion > Idea Details'. The main content area is divided into three sections. The top section displays the topic 'Yes We need' with the title 'We need sports club', posted by 'Samina Ahkter' on '02 Apr 2018', and has 2 likes and 0 dislikes. The middle section, titled 'Comments', shows a comment from 'Anonymous' stating 'Yes I support your idea.' posted '37 minutes ago'. The bottom section is for adding a comment, featuring a text input field with the placeholder 'Type Your comment', a 'Post As' dropdown set to 'Real user', a checkbox for 'I agree to the Terms and Conditions', and 'Back' and 'Add Comment' buttons. The right sidebar contains two panels: 'Up Coming Topics' with an upcoming topic 'About programming club' and 'My Active Topics' listing 'A New topic title', 'We need sport club?', and 'This is an Old topic title'. The footer includes copyright information '© 2008-2018 by UOG Discussion Forum. All rights reserved.' and social media icons for Facebook, Twitter, and Google+.

UOG Forum

Search Topics

UOG Forum > Topic discussion > Idea Details

I Yes We need
We need sports club

Samina Ahkter Posted on : 02 Apr 2018 2 0

C Comments
Yes I support your idea.
Anonymous 37 minutes ago

Post a Comment

Type Your comment

Post As: ☒ Real user ☐ Anonymous

☐ I agree to the Terms and Conditions

Back Add Comment

Up Coming Topics

Upcoming Topic Title
Opening time: 2 months from now

My Active Topics

About programming club

A New topic title

We need sport club?

This is an Old topic title

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Facebook Twitter Google+

Figure 27: Add comment page

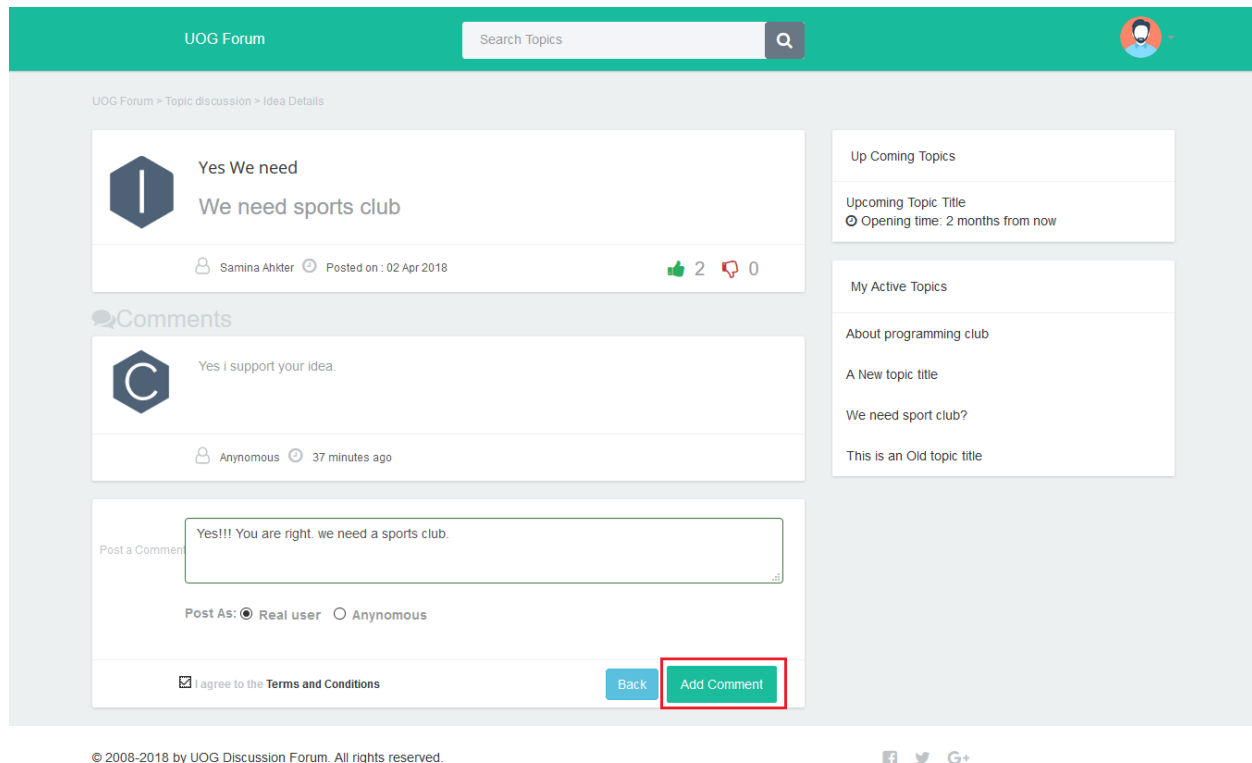


Figure 28: Insert comment information

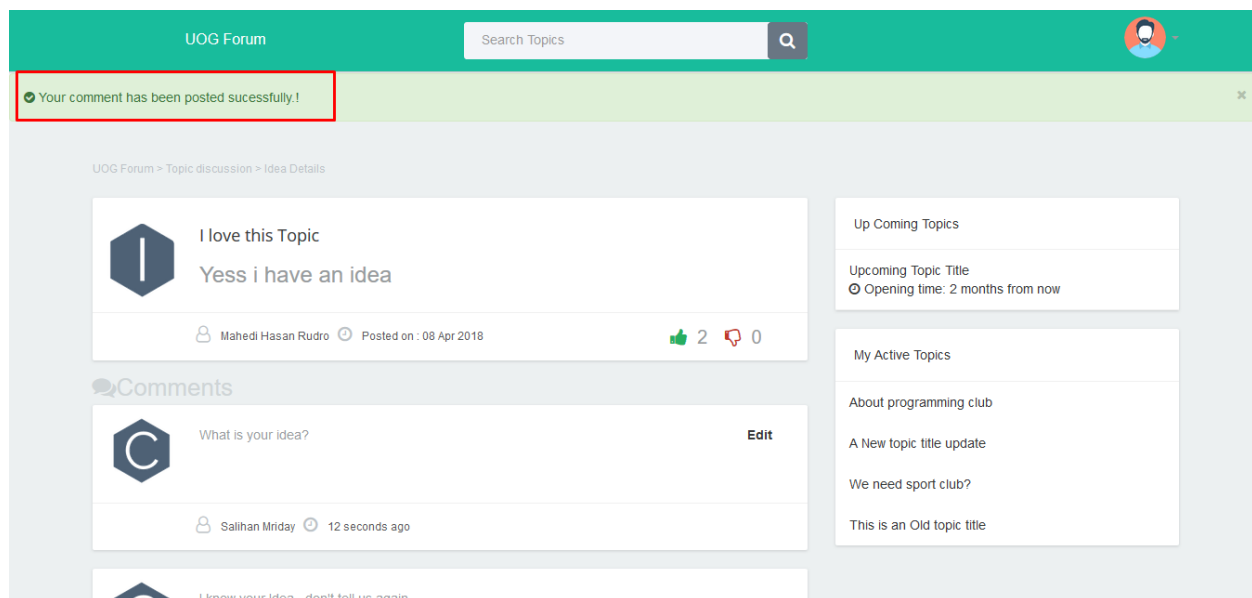


Figure 29: Successfully post a comment

Post idea and comment anonymously: Student can post any idea and comment anonymously for that when student submit any idea or comment they have to check 'Anonymous' radio button.

Post a Comment

This is an anonymous comment.

Post As: ☐ Real user ☒ Anonymous

☒ I agree to the Terms and Conditions

Back Add Comment

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Figure 30: Check anonymous radio button

UOG Forum

Search Topics

UOG Forum > Topic discussion > Idea Details

I love this Topic

Yess i have an idea

Mahedi Hasan Rudro Posted on : 08 Apr 2018

2 0

Comments

This is an anonymous comment.

Anonymous 26 seconds ago

Edit

What is your idea? (Updated)

Edit

Up Coming Topics

Upcoming Topic Title

Opening time: 2 months from now

My Active Topics

About programming club

A New topic title update

We need sport club?

This is an Old topic title

Figure 31: Successfully add an anonymous comment

React on idea: Student can give a reaction on any idea. He/she need to click on ‘Thumbs up’ or ‘Thumbs down’ icon of a specific idea.

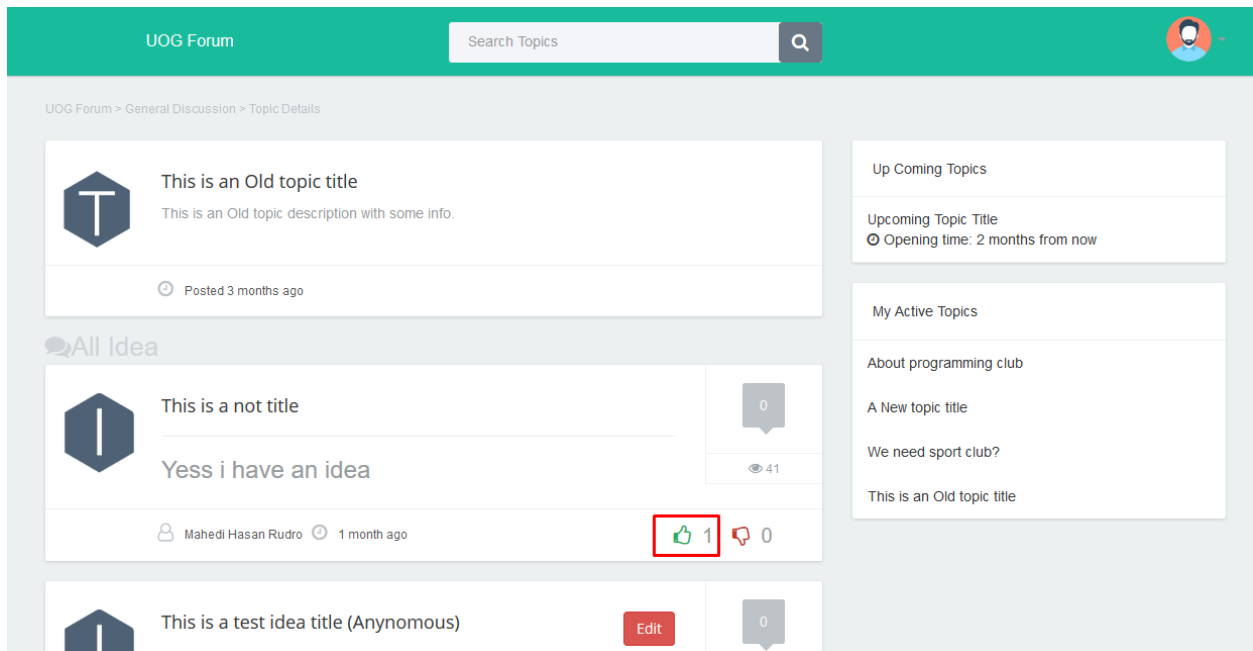


Figure 32: Click on thumbs up icon

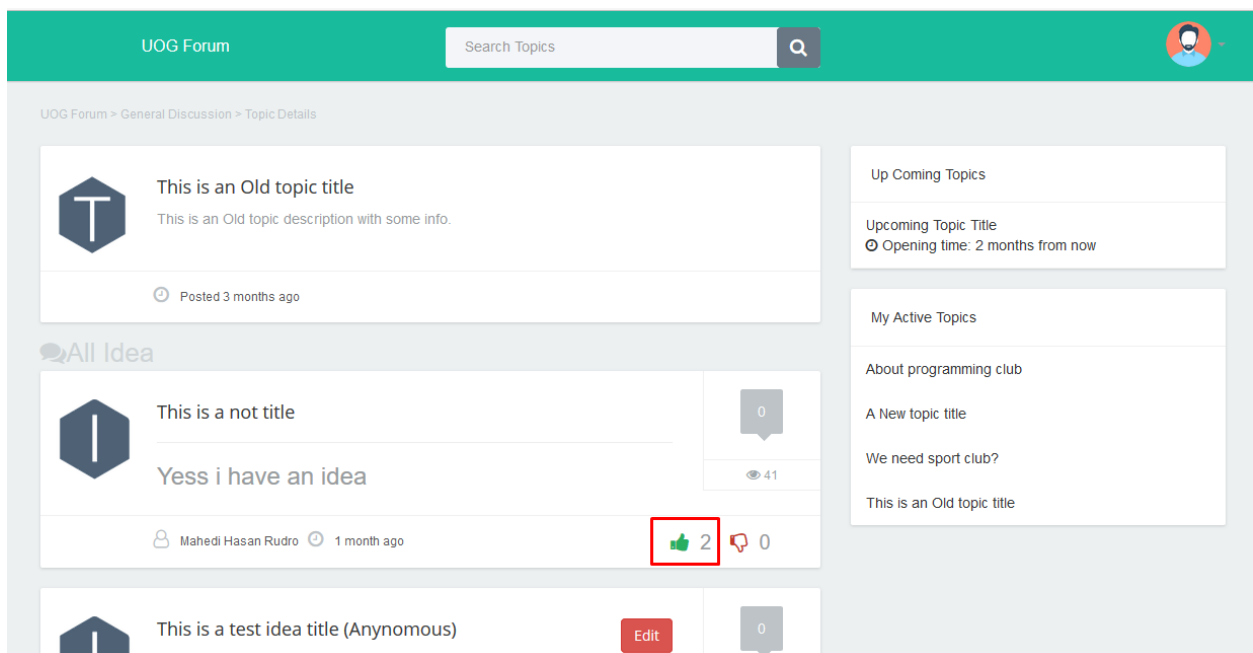


Figure 33: Successfully like this idea

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

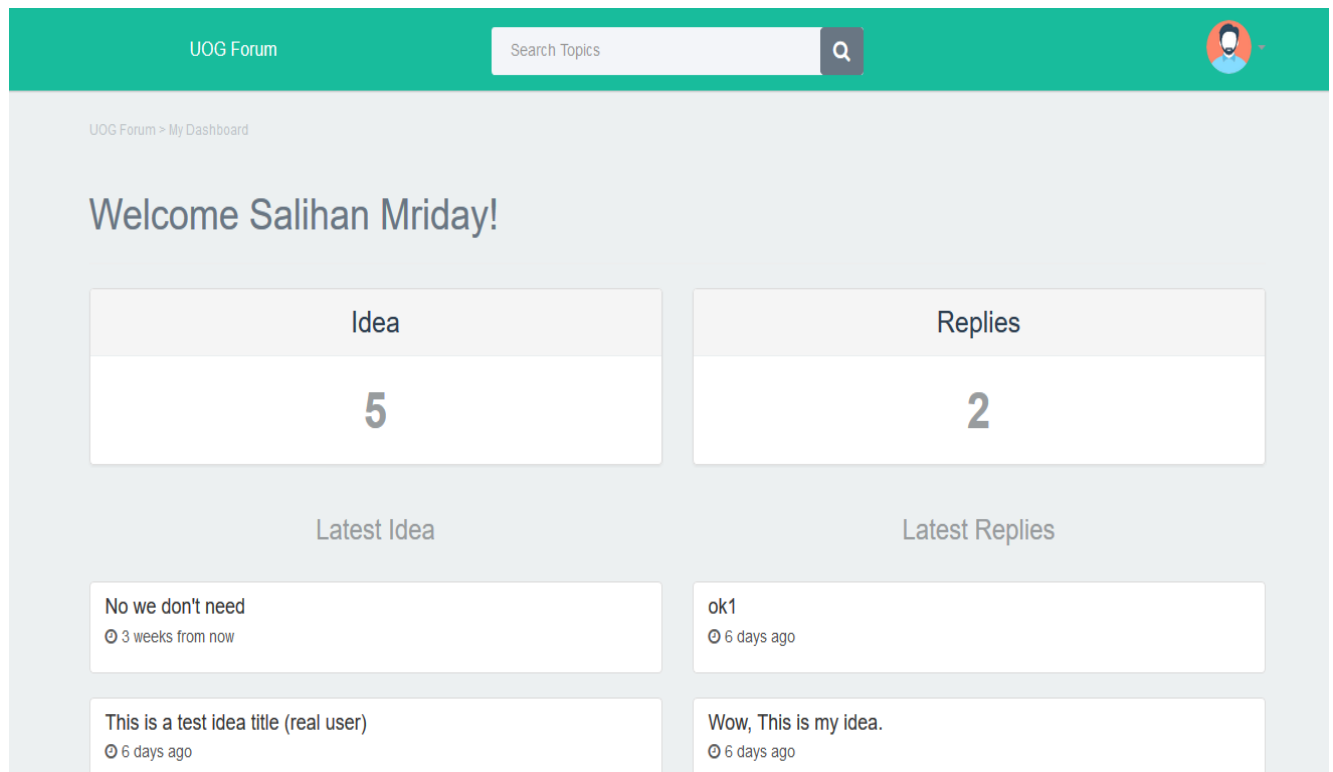


Figure 34: Student dashboard

Other screenshots of student activities are provided in the repository.

Repository URL: <https://goo.gl/aN5nGD>

Appendix C: User Notifications

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

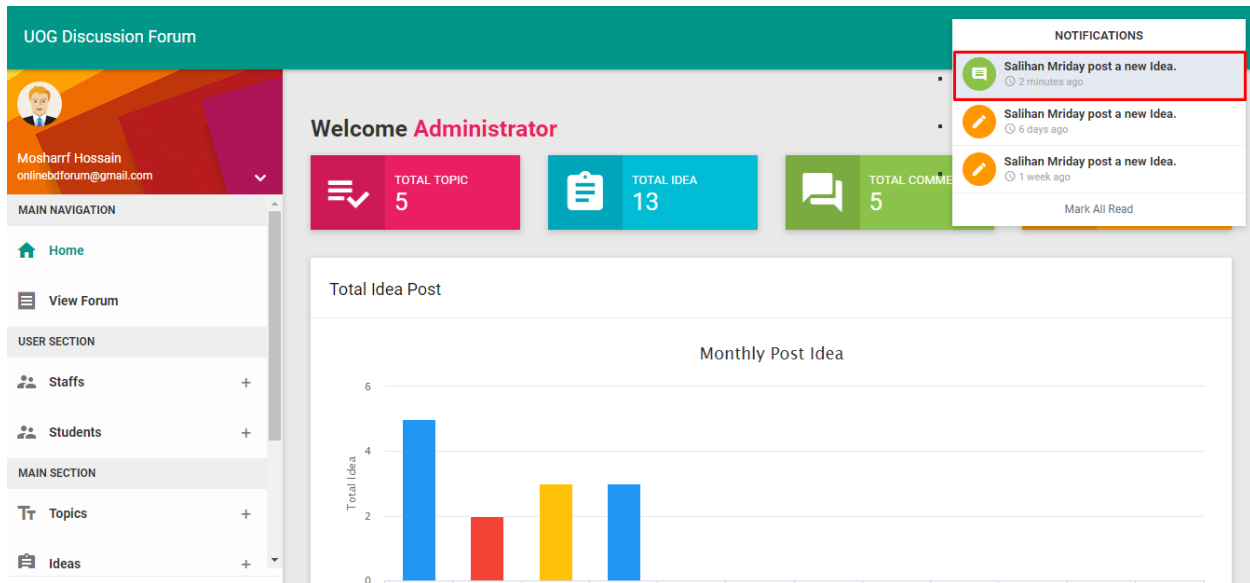


Figure 35: Notification to admin

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

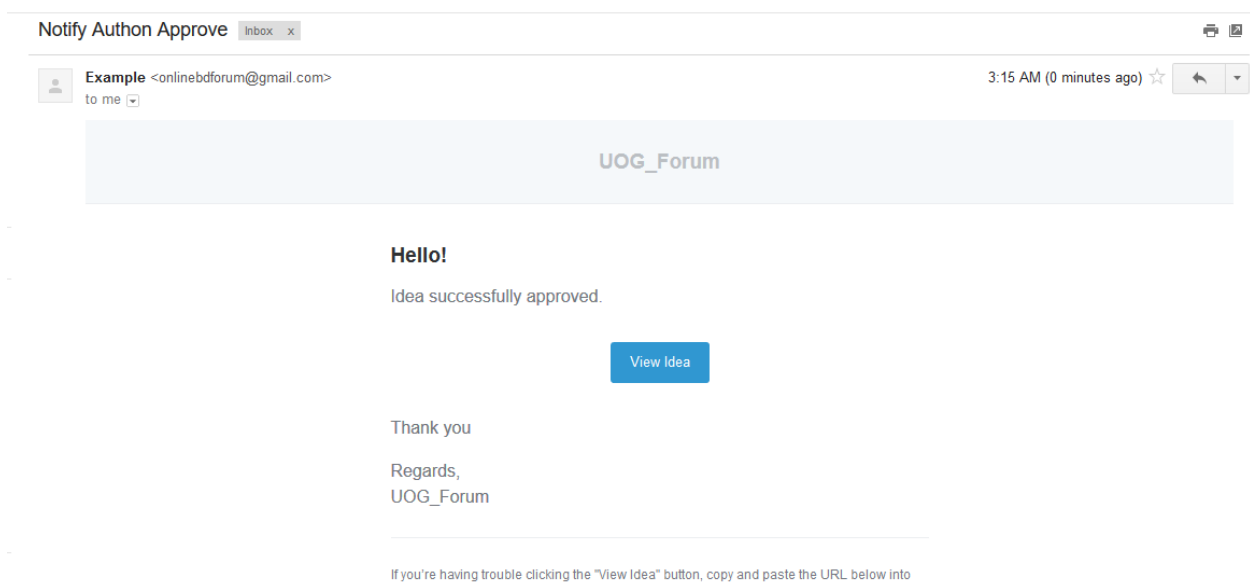


Figure 36: Email to author of the idea

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

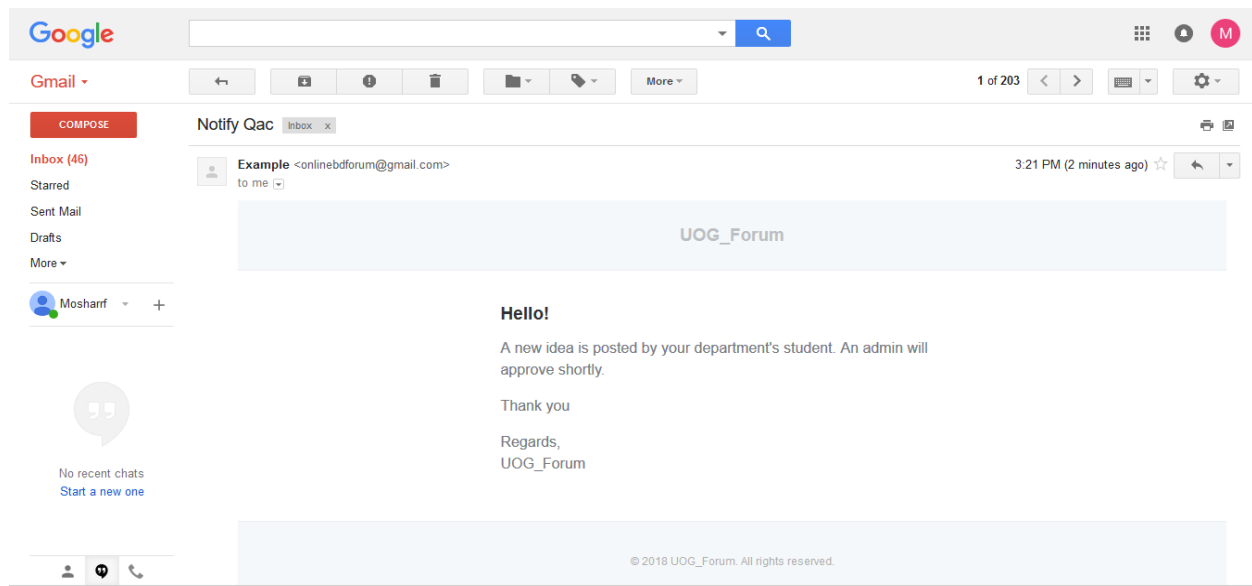


Figure 37: Email to QAC

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

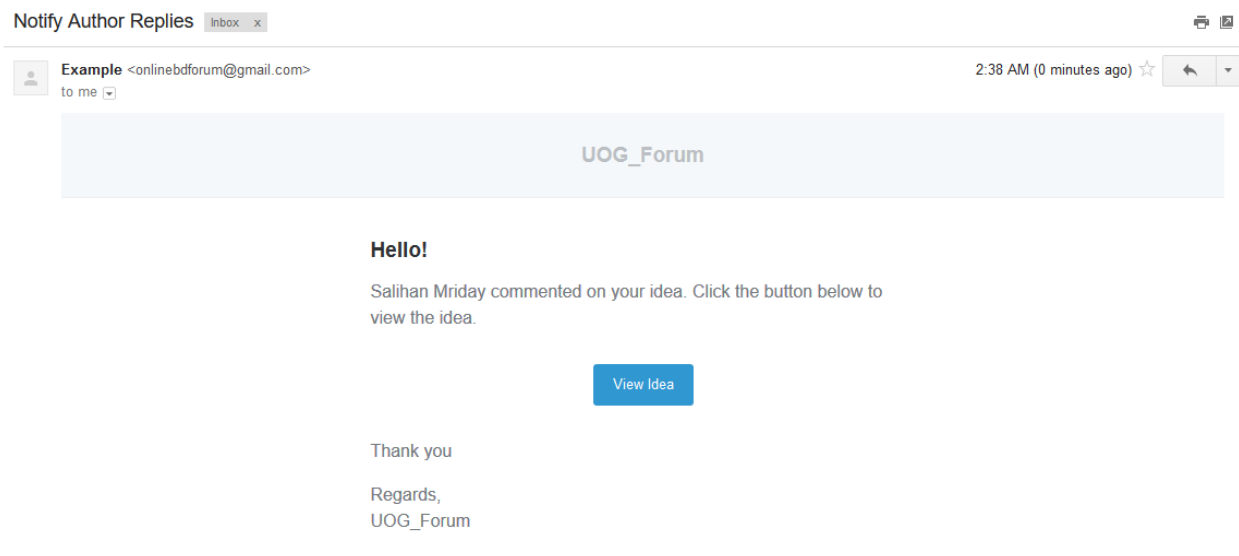
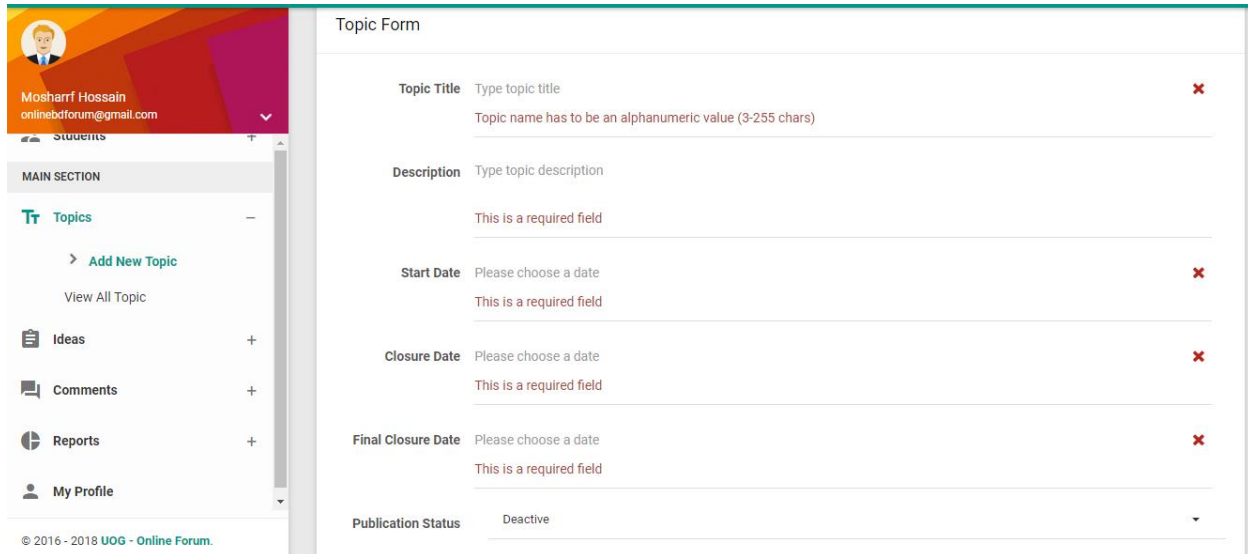


Figure 38: Notify author for a new comment

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.



The screenshot displays the 'Topic Form' interface. On the left is a sidebar with a user profile for 'Mosharrf Hossain' and a 'MAIN SECTION' containing links for 'Topics', 'Add New Topic', 'View All Topic', 'Ideas', 'Comments', 'Reports', and 'My Profile'. The main content area is titled 'Topic Form' and contains the following fields with their respective validation messages and error indicators:

Field	Validation Message	Error Indicator
Topic Title	Topic name has to be an alphanumeric value (3-255 chars)	✗
Description	This is a required field	
Start Date	This is a required field	✗
Closure Date	This is a required field	✗
Final Closure Date	This is a required field	✗
Publication Status		

The 'Publication Status' field is currently set to 'Deactive'.

Figure 39: Validation in add topic page

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

UOG Forum

Search Topics

UOG Forum > Topic Details > Add Idea

T We need sport club?
University need sports club?

Posted 1 month ago

Post a Idea

Type idea title

Topic name has to be an alphanumeric value (3-255 chars)

Type something

Post As: ☒ Real user ☐ Anonymous

☐ I agree to the Terms and Conditions

You have to agree to our terms

Post idea

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Figure 40: Validation on idea submit page

UOG Forum

Search Topics

UOG Forum > Topic discussion > Idea Details

I Yes We need
We need sports club

Samina Ahlter Posted on : 02 Apr 2018

2 0

Comments

C Yes i support your idea.

Anonymous 37 minutes ago

Post a Comment

Yes!!! You are right. we need a sports club.

Post As: ☒ Real user ☐ Anonymous

☐ I agree to the Terms and Conditions

You have to agree to our terms

Back Add Comment

Up Coming Topics

Upcoming Topic Title
Opening time: 2 months from now

My Active Topics

About programming club

A New topic title

We need sport club?

This is an Old topic title

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Figure 41: Validation on comment submit page

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

The screenshot shows the UOG Discussion Forum interface. A confirmation dialog is displayed at the top, asking "Are you sure you want to delete this?" with "OK" and "Cancel" buttons. Below the dialog, the "Topic List" is visible, showing a table of topics. The table has columns: No., Title, Start Date, Closure Date, Final date, Total Idea, Status, and Action. The first five topics are listed. The "Action" column for the second topic, "A New topic title", has a red box around the delete button (trash icon).

No.	Title	Start Date	Closure Date	Final date	Total Idea	Status	Action
1	About programming club	02 Apr 2018	02 Jun 2018	04 Jun 2018	0	Published	[View] [Edit] [Delete]
2	A New topic title	25 Mar 2018	25 Apr 2018	29 Apr 2018	2	Published	[View] [Edit] [Delete]
3	We need sport club?	25 Feb 2018	25 Apr 2018	29 Apr 2018	3	Published	[View] [Edit] [Delete]
4	Upcoming Topic Title	25 Jun 2018	26 Jul 2018	31 Jul 2018	0	Unpublished	[View] [Edit] [Delete]
5	This is an Old topic title	01 Jan 2018	15 Feb 2018	24 Mar 2018	7	Closed	[View] [Edit] [Delete]

Figure 42: Click on delete button

The screenshot shows the UOG Discussion Forum interface. A red error message box is displayed at the top, stating "Unable to delete this topic, It is being used!". Below the error message, the "Topic List" is visible, showing the same table of topics as in Figure 42. The "Action" column for the second topic, "A New topic title", has a red box around the delete button (trash icon).

No.	Title	Start Date	Closure Date	Final date	Total Idea	Status	Action
1	About programming club	02 Apr 2018	02 Jun 2018	04 Jun 2018	0	Published	[View] [Edit] [Delete]
2	A New topic title	25 Mar 2018	25 Apr 2018	29 Apr 2018	2	Published	[View] [Edit] [Delete]
3	We need sport club?	25 Feb 2018	25 Apr 2018	29 Apr 2018	3	Published	[View] [Edit] [Delete]
4	Upcoming Topic Title	25 Jun 2018	26 Jul 2018	31 Jul 2018	0	Unpublished	[View] [Edit] [Delete]
5	This is an Old topic title	01 Jan 2018	15 Feb 2018	24 Mar 2018	7	Closed	[View] [Edit] [Delete]

Figure 43: Show error message

Other validation screenshots are provided in the repository.

Repository URL: <https://goo.gl/gB73Yo>

Appendix E: Code Snippets

Screenshot of some key functionality codes are given below:

```
public function update(Request $request, $id)
{
    Idea::find($id)->update([
        'status' => request('status')
    ]);

    if(request('status') == '1'){
        $idea = Idea::find($id);
        $author = User::find($idea->user_id);
        $department = DepartmentHead::where('dep_id', $author->student->dep_id)->
            first();

        $user = User::find($department->user_id);

        \Notification::send($author, new NotifyAuthonApprove($idea));
        \Notification::send($user, new NotifyAuthonApprove($idea));
    }
    return redirect()->route('viewIdea')->withMsgsuccess('Idea updated successfully')
        ;
}
```

Figure 44: Idea approve and notify user code

```
<?php
$data = \risul\LaravelLikeComment\Controllers\LikeController::getLikeViewData($
    like_item_id);
?>
<div class="laravel-like">
    <i id="{{ $like_item_id }}"-like"
        class="icon {{ $data[$like_item_id.'likeDisabled'] }} {{ $data[$like_item_id.'
            likeIconOutlined'] }} laravelLike-icon thumbs up"
        data-item-id="{{ $like_item_id }}"
        data-vote="1">
    </i>
    <span id="{{ $like_item_id }}"-total-like">{{ $data[$like_item_id.'total_like'] }}</
    span>
    <i id="{{ $like_item_id }}"-dislike"
        class="icon {{ $data[$like_item_id.'likeDisabled'] }} {{ $data[$like_item_id.'
            dislikeIconOutlined'] }} laravelLike-icon thumbs down"
        data-item-id="{{ $like_item_id }}"
        data-vote="-1">
    </i>
    <span id="{{ $like_item_id }}"-total-dislike">{{ $data[$like_item_id.'total_dislike']
    }}</span>
</div>
```

Figure 45: Like and dislike functionality code

Add Topic:

```
public function store(Request $request)
{
    $validate = $this->validate(request(),[
        'topic_title' => 'required|min:3',
        'topic_des' => 'required|min:3',
        'start_date' => 'required',
        'closure_date' => 'required',
        'final_date' => 'required',
        'status' => 'required',
    ]);

    $closure_date = Carbon::parse(request('closure_date'))->format('Y-m-d');
    $start_date = Carbon::parse(request('start_date'))->format('Y-m-d');

    $final_date = Carbon::parse(request('final_date'))->format('Y-m-d');

    if($validate)
    {
        Topic::create([
            'title' => request('topic_title'),
            'description' => request('topic_des'),
            'start_date' => $start_date,
            'closure_date' => $closure_date,
            'end_date' => $final_date,
            'status' => request('status')
        ]);

        return redirect()->route('viewTopic')->withMsgsuccess('Topic created successfully');
    }else{
        return redirect()->back()->withInput();
    }
}
```

Figure 46: Add topic functionality code

Other code snippets are provided in the repository.

Repository URL: <https://goo.gl/VSnTCX>