

Course: COMP1640

Enterprise Web Software Development

Submitted To:

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Submitted By:

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- Team Name: TECHBROS

- Team Members:

S/L	Name	Role
1	Jonaet Rubel	Database Designer
2	Shahidul Islam	System Architect & Analyst
3	Deluar Jahan	UI Designer & Programmer
4	Mahzabin Hoque	System Tester

- Application Live URL

- Screen cast URL: [http://](#)

- Repository URL: [http://](#)

- Credentials:

Role	Full Name	User Name	Password
Administrator			
EC Manager			
EC Coordinator			
Student	Junavet Rubel	iunavet11	123456

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Evaluation of Product and Process:

I like the developed proposed system as the system successfully accomplished the requirements that have been stated in the scenario. An outline of the developed system is given below –

- The developed EC claims system is a web-based secure role based system where different types of users EC Manager, EC Coordinators, Student and Administrator can login from a single login window.
- The build system is easy to navigate that will help users to find the information without hassle and easily and also all navigation buttons are grouped together.
- The user interface of the developed system is responsive for all devices like mobile phones, tablets, laptops and desktops. A screenshot is given below –



Figure 1 : Responsive Interface

- The developed system is more secured where users can only access role based pages and database is protected for SQL injection attack that will prevent disclosure or loss of information.
- System will provide statistical analysis report for numbers of claim of each faculty and EC Coordinator will be unable to processed claim without uploaded evidence.

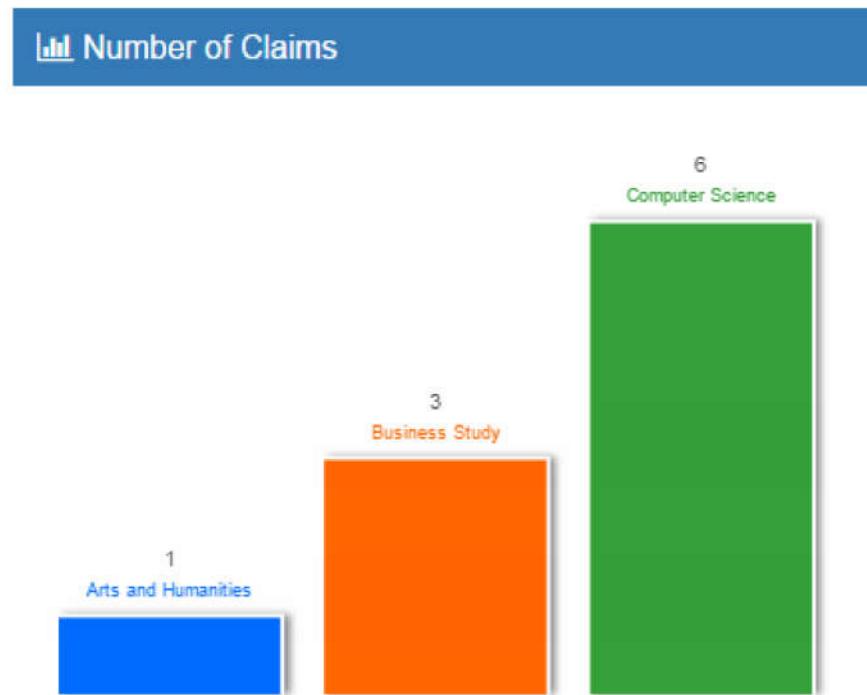


Figure 2 : Statistical Analysis

- Internal email notification system will inform EC Coordinator if any student applies for new claim and student also will get notification if the claim is approved or reject.
- The developed system is platform independent and the loading performance is good enough. The system accepts an accurate level of performance.
- If something goes wrong the system will track down the error easily and data needed to re-produce if error happens.
- If any EC Coordinator don't process any claims within 14 days then the system will notify the EC Coordinator. A snapshot is given bellow

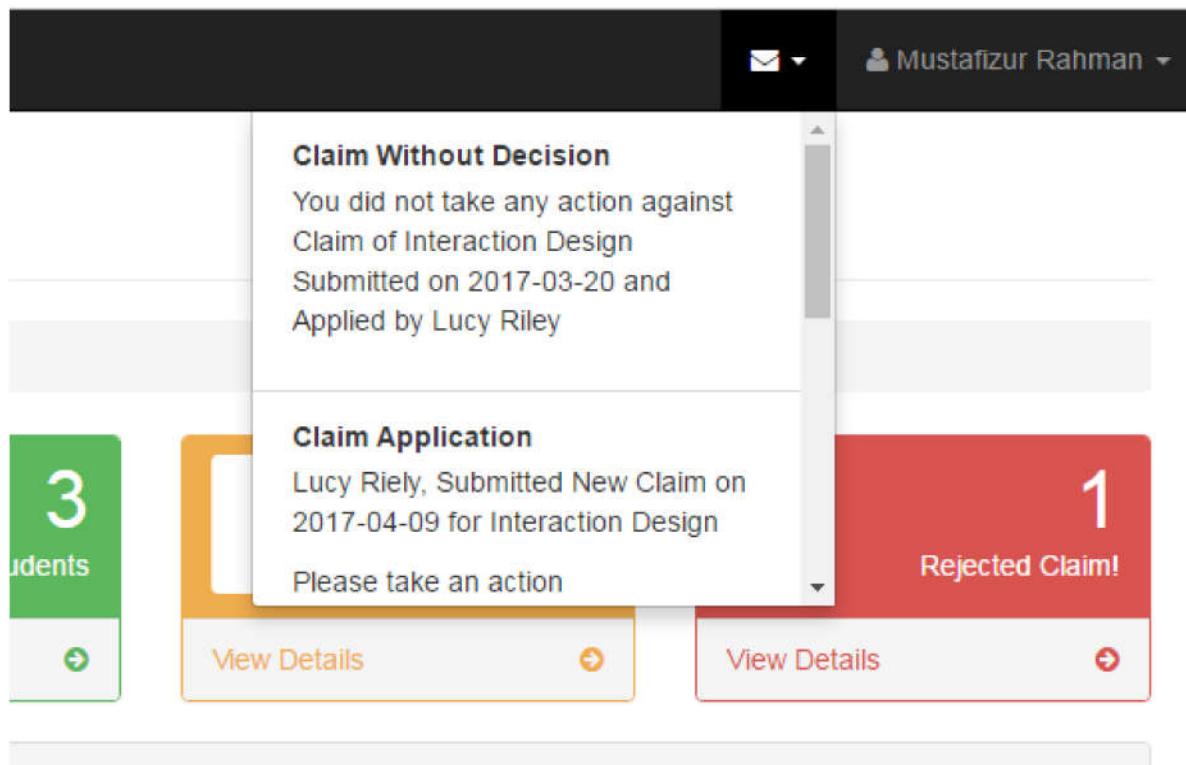


Figure 3 : Notification of Without Decision Claims

Further Development

The EC claims system is quite reliable and robust on its first delivery. There are few things which could be developed in future as iterative development. For example, there is no password retrieval option for users if they forget their username or password. Users should be able to modify their user profile. When EC Coordinator and Student get email notification, the notification color should be changed. In the developed EC Claims system an internal mailing option should be added in later.

Methodology Used

There are many frameworks are used in Agile and one of them most popular is scrum. For the development of this proposed EC claims project, scrum is fully used and this framework enables collaborative teamwork.

As we were four-member team, many roles were divided into members such as System architect and Analyst, Database designer, UI Designer, Programmer and Tester in order to develop proposed project successfully. Our team regularly followed scrum meeting that allow us to change requirement before final delivery of the system successfully.

Evaluation of Team:

Team Members Efforts

For developing the proposed web based system a total of four members were involved where everyone had different role in this project. This application is delivered successfully because of hard work of each member. Before developing the system one member were assigned as System Architect and Analyst, one as Database designer, one as UI Designer and Programmer and the rest one as Tester. The System Architect and Analyst spent a great deal of time to list out the functional and non-functional requirements and the use cases of the proposed system. After categorizing the requirements it was delivered to the database designer to design the database for the system. So, it can be said that the System Architect and Analyst of our team done excellent job.

The database designer designed a well-normalized and long-term solution for the proposed system where no primary changes needed to the database for further development. It can be said truly that his efforts in database design were very good.

Before final delivery of the proposed system to customer, it was sent to the quality assurance department where Tester tested the application with appropriate method, plan and test cases. Also various tests were accomplished in order to ensure reliability, robustness and quality of the system. The test result

was good and bugs were found and fixed. The efforts of the Tester were good enough.

Criteria	System Architect & Analyst	Database Designer	System Tester
Meetings Attendance	Excellent	Good	Acceptable
Punctuality	Good	Acceptable	Marginal
Cooperation	Excellent	Excellent	Good
Communication	Good	Excellent	Good
Focus on Schedule	Excellent	Acceptable	Good

Self Evaluation:

Own Efforts

As I took the role of both UI Designer and Programmer, I had to provide my best efforts than usual in the proposed system. I attend every meeting that held weekly and provided my works for review to ensure the robustness of the proposed system. After collecting the requirements from the Analyst I sketched the User Interface of the system and communicated more and more with other members to deliver the system successfully.

After sketching the user interface of the system and getting approval from team members, I started to develop the program where I have used HTML5, bootstrap, JQuery, JavaScript and Charts.

Overall I tried my best to make the application responsive and robust and also tried to make the team more efficient to provide the approvable result. After developing the system, it was sent to tester to ensure quality and responsiveness, robustness and reliable. The tester has ensured that the system is responsive and found few bugs and later I fixed its. The application met the all the user requirements as System analyst confirmed and all functions of the proposed application have been working properly.

Lessons Learnt

In this group project I played role as UI Designer and Programmer. There are many things I have learnt during this project. Firstly I had to work in a group and I have learnt how to work in a group and how to collaborate with each and every team members to provide a successful outcome of a project.

As a UI Designer and Programmer, I had to make sketch for the frontend of the application and then backend part of the proposed system. Thus the way, I learned few more techniques such as Bootstrap CSS framework to provide

desired frontend. I have improved my PHP, JQuery, JavaScript and Statistical chart making knowledge during the development of the proposed application.

Conclusion:

The proposed EC Claims system is an enterprise level application where agile frameworks had used and a scrum team was built to develop the project. Firstly to make the application successful all the requirements of users had identified and categorized based on priority. Each and every team members of the group had worked hard to deliver the proposed application in a timescale and more tests were run in order to ensure the system is bug free and robust and responsive.

Appendix A: User Interface Design

The Wireframe models of the proposed system are given below.



The wireframe shows the login page for the EC Claims Application. At the top, there is a logo consisting of a leaf icon followed by the text "EC Claims Application". Below the logo is a header message "Please Enter Your Information" with a small user icon. The main form area contains two input fields: "User Name" and "Password", each with its own icon (user and lock respectively). To the left of the "Remember Me" checkbox is a link "I forgot my password".

Please Enter Your Information	
User Name	
Password	
<input type="checkbox"/> Remember Me	
 I forgot my password	

Figure 4 : Login Page

Figure 5 : Administrator Dashboard

University of Greenwich

Dashboard

Welcome

Report

Claim Application

Academic Year

View Claim

Rejected Claims!

Approved Claims!

Claims Submitted!

New Message!

Your Individual Claim Report

Assessment Name

Claim Type

Claim Description

Claim Status

Claim Date

< 1 2 3 4 5 >

Figure 6 : Student Dashboard

Figure 7 : EC Coordinator Dashboard



Figure 8 : Report View

University of Greenwich

Dashboard / View Academic Year

Report

Assign User

View Claim

Academic Year

Add Academic Year

View Academic Year

Add Student

6 1 2 3 4 5 >

Figure 9 : Academic Year View

University of Greenwich

Dashboard [Dashboard / Assign User](#)

[Report](#)

[Assign User](#)

[View Claim](#)

[Academic Year](#)

[Add Academic Year](#)

[View Academic Year](#)

[Add Student](#)

Add New Users

First Name

Last Name

User Name

E-mail

Password

User Type

Create User 

Figure 10 : Assigning Users

University of Greenwich

Dashboard Report Assign User

View Claim Academic Year Add Academic Year

Add Academic Year

Faculty Assessment

Due Date Closure Date

Add Academic Year

Dashboard / Add Academic Year

Figure 11 : Adding Academic Year

The screenshot shows a web-based application for claiming academic support. The header features the University of Greenwich logo and navigation links for Dashboard, Report, Claim Application, Academic Year, and View Claim. The main content area is titled 'EC Claims Application Form' and contains fields for Student Profile No., First Name, Last Name, E-mail, Faculty, Subject/Assessment, Claim Type, Evidence Type, Upload Evidence, and Description. Each field includes a validation icon (e.g., a checkmark or exclamation mark) and a placeholder text. At the bottom right are 'Submit' and 'ResetAll' buttons.

Field	Description
Student Profile No.	Text input field with placeholder 'Student Profile No.' and validation icon.
First Name	Text input field with placeholder 'First Name' and validation icon.
Last Name	Text input field with placeholder 'Last Name' and validation icon.
E-mail	Text input field with placeholder 'E-mail' and validation icon.
Faculty	Text input field with placeholder 'Faculty' and validation icon.
Subject/Assessment	Text input field with placeholder 'Subject/Assessment' and validation icon.
Claim Type	Text input field with placeholder 'Claim Type' and validation icon.
Evidence Type	Text input field with placeholder 'Evidence Type' and validation icon.
Upload Evidence	File input field with placeholder 'Choose File' and validation icon.
Description	Text input field with placeholder 'Description' and validation icon.

Figure 12 : Claim Application Form

Appendix B: Responsive Application

The proposed EC Claims application is developed for all types of devices like mobile phones, tablets, desktops and etc. For the proposed application one of the important requirements was to provide an interface that must be suitable for all devices. Bootstrap CSS framework and HTML5 support has been implemented and customized enough to run the application on all devices suitably. The user interfaces of the application on different devices are given bellow.

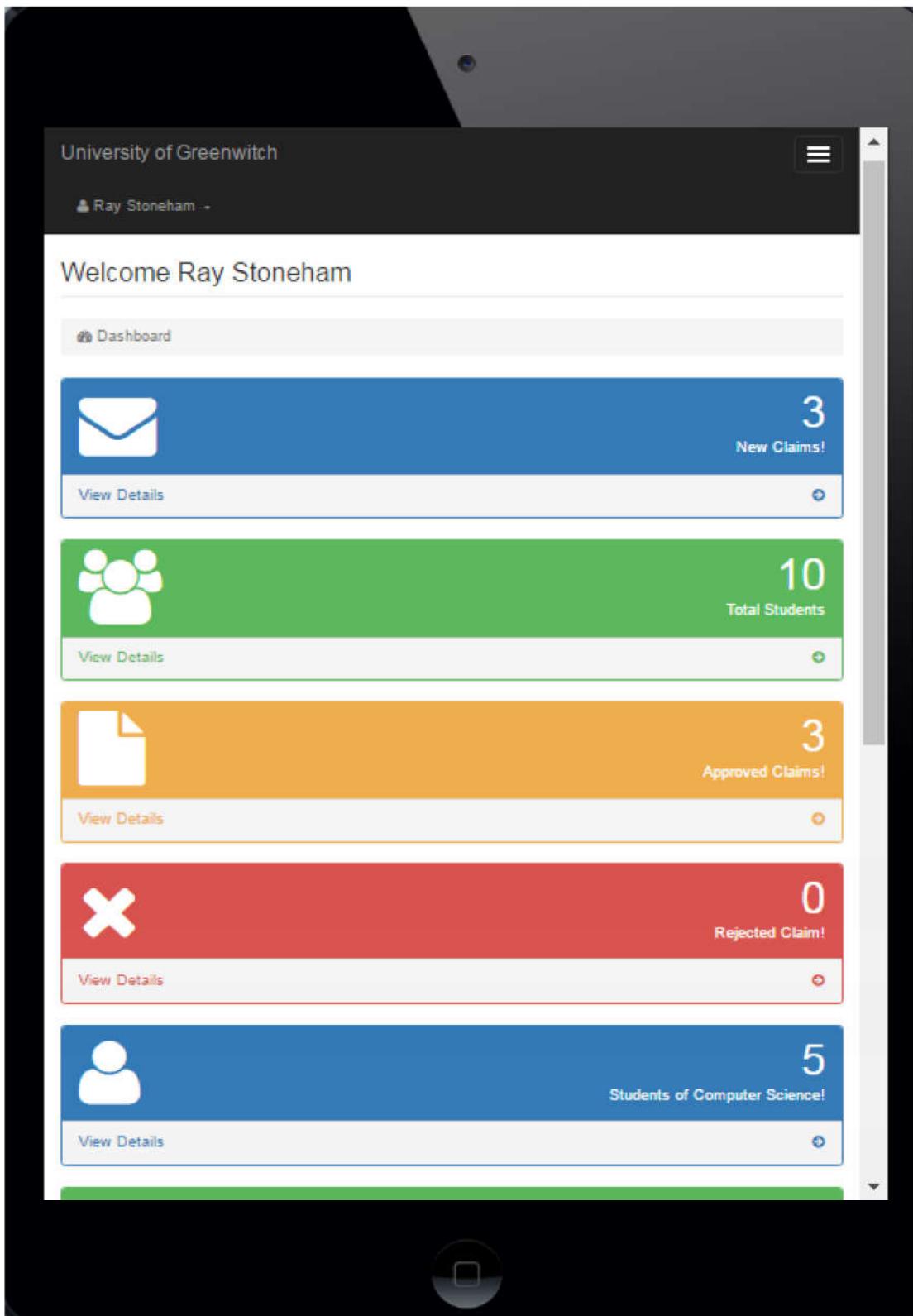


Figure 13 : iPad View

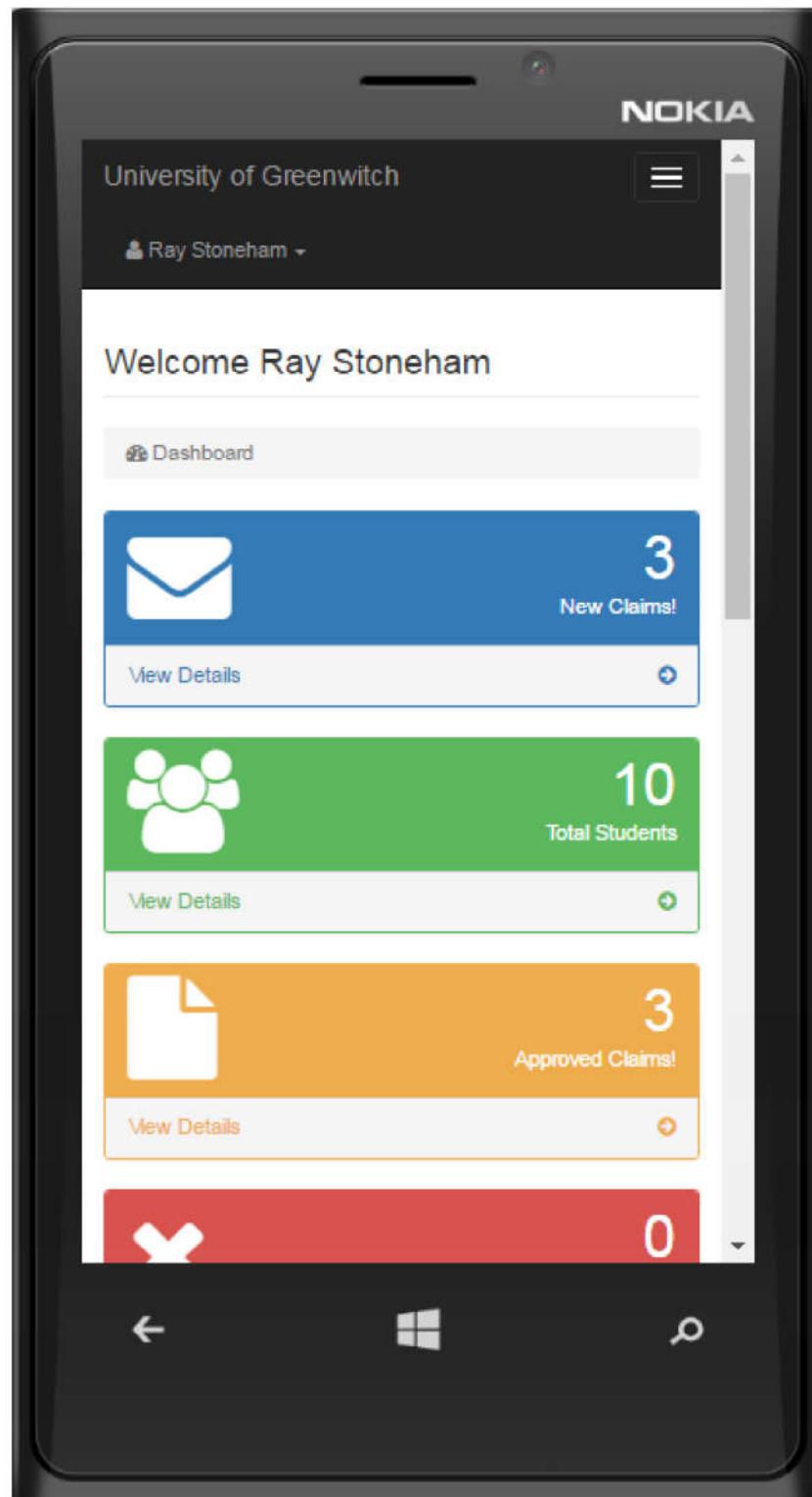


Figure 14 : Mobile View

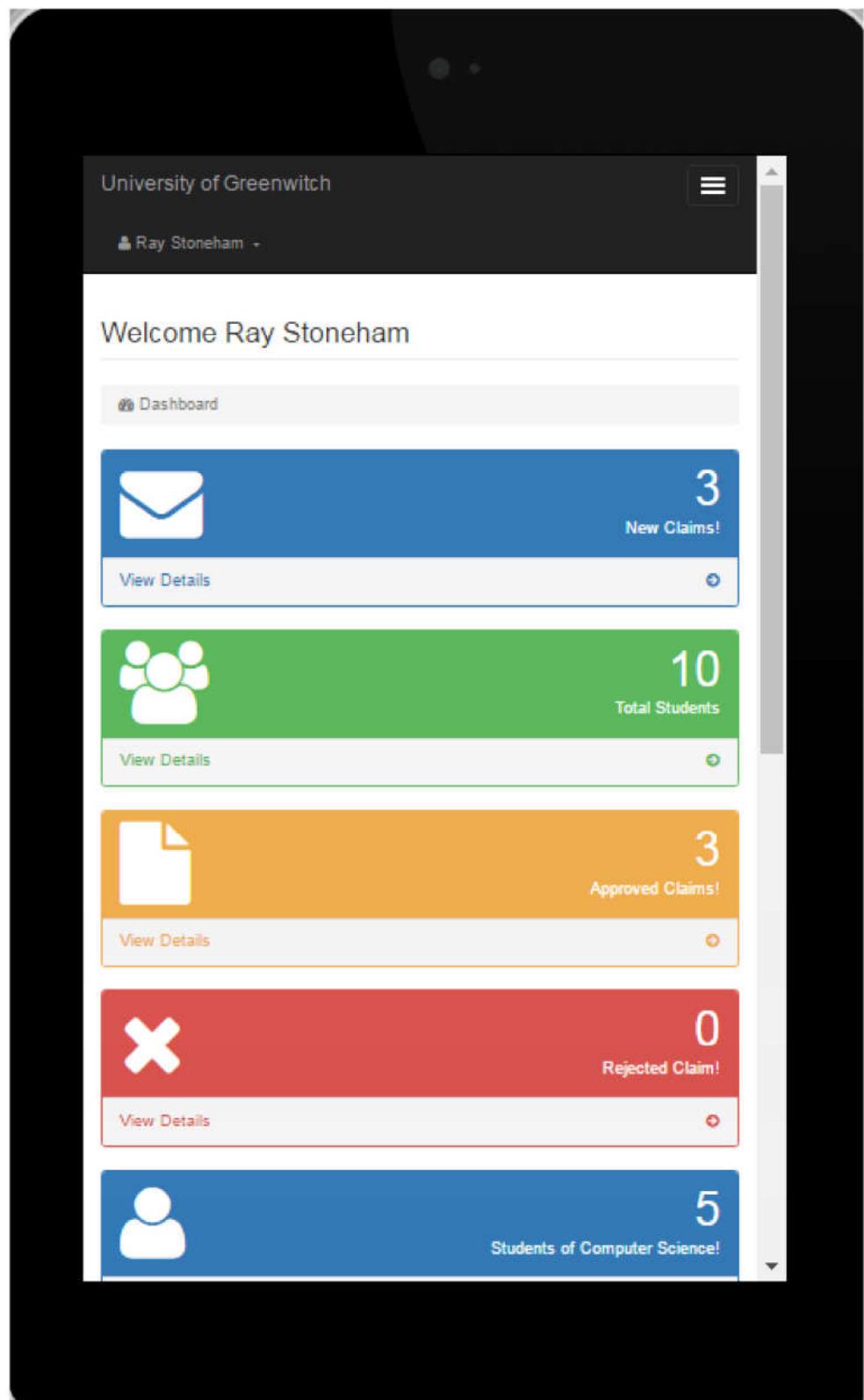


Figure 15 : Tablets View

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Dashboard

Assign Users

View Claims

Academic Year

Add Academic Year

View Academic Year

Add Student

View Details

New Claims!

3

View Details

View Details

Total Students

10

View Details

Approved Claims!

3

View Details

Rejected Claim!

0

View Details

Students of Arts and Humanities!

2

View Details

View Details

Total Numbers of Claims!

6

View Details

View Details

Students of Business Study!

3

View Details

Students of Computer Science!

5

View Details

Faculty Based Claim Report

Faculty Name	Numbers of Claims	Approved Claims	Rejected Claims	Without Decision
Business Study	2	1	0	1
Computer Science	3	1	0	2
Arts and Humanities	1	1	0	0

< 1 2 3 4 5 >

Figure 16 : Desktop View

Appendix C: Final Delivered System

There are mainly four types of users using the proposed system they are Administrator, EC Manager, EC Coordinators and Students. All of the users must be login to the system and after being authorized, they will be able to execute any operation into the system according to their roles.

Key functionality of the proposed application is given bellow –

Administrators Functions

- Assign Users:**

After login to the application admin can add new users as EC Manager, EC Coordinators and Students. Admin have to provide First Name, Last Name, Username, Email, and Password and have to select user type to assign new users.

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Dashboard / Assign Users

Reports

Add New Users

Assign Users

View Claims

Academic Year ▾

Add Academic Year

View Academic Year

Add Student

First Name	<input type="text"/> First Name
Last Name	<input type="text"/> Last Name
User Name	<input type="text"/> jacksmith
Email	<input type="text"/> ecclaims@gmail.com
Password	<input type="password"/> Password
User Type	<input type="text"/> Select User Type *

Create User 

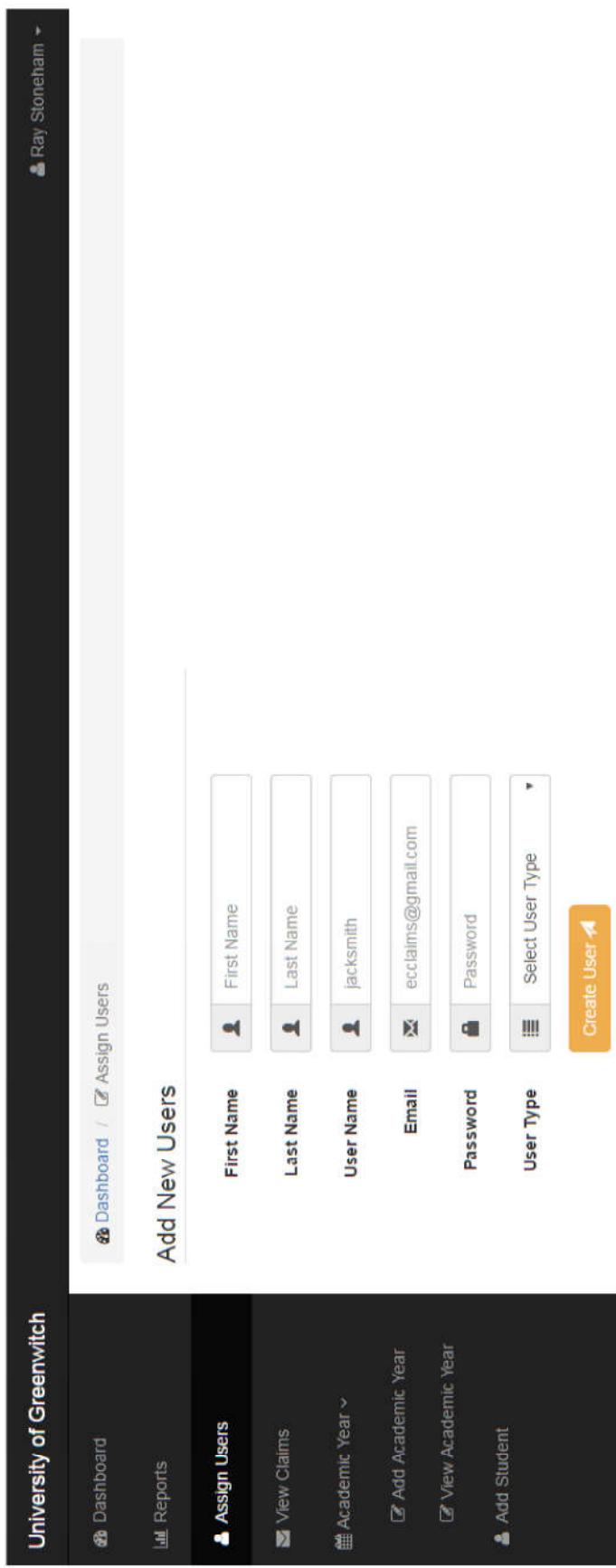


Figure 17 : Assign Users

- **Add and View Academic Year:**

Admin can add academic year for any assessment of any faculty by selecting faculty, assessment name, due date and closure date. And also can edit or delete the academic year.

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Dashboard / Add Academic Year

Reports

Assign Users

View Claims

Academic Year ▾

Add Academic Year

View Academic Year

Add Student

Add Academic Year

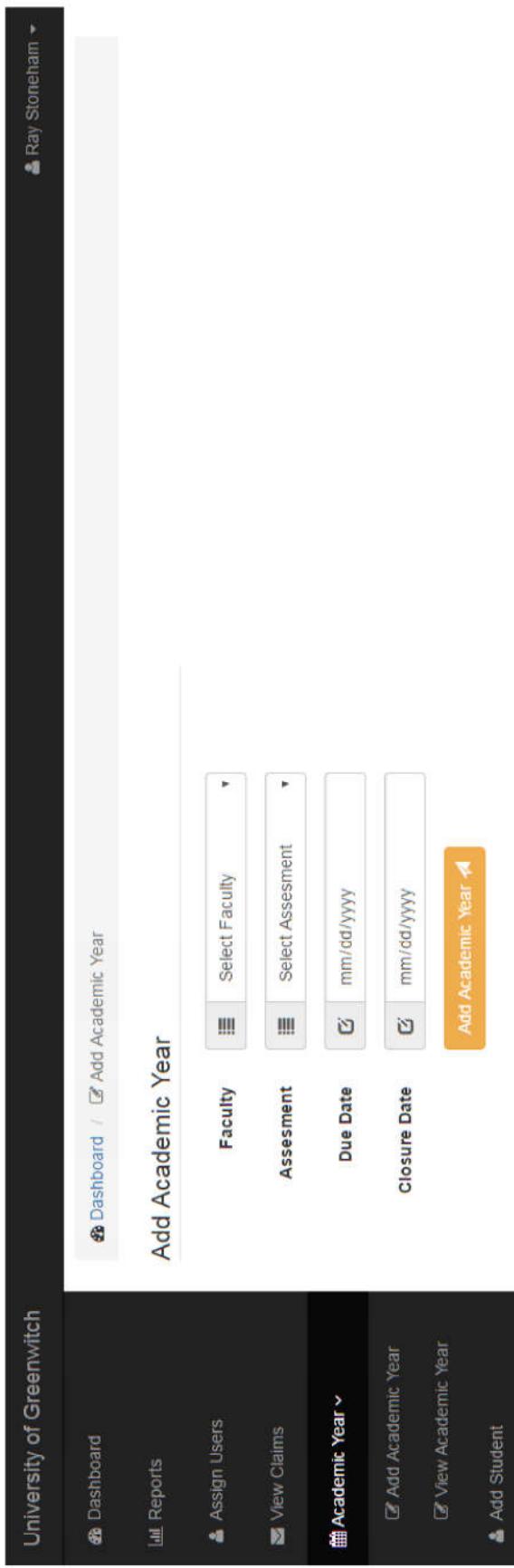
Faculty Select Faculty ▾

Assessment Select Assessment ▾

Due Date mm/dd/yyyy

Closure Date mm/dd/yyyy

Add Academic Year 



This screenshot shows the 'Add Academic Year' form from a web application. The form includes fields for Faculty (with a dropdown menu), Assessment (with a dropdown menu), Due Date (text input), and Closure Date (text input). At the bottom right of the form area is an orange button labeled 'Add Academic Year' with a pencil icon. The background features a sidebar with various navigation links and a header with user information.

Figure 18 : Add Academic Year

View Academic Year 2017						
	Assessment Name	Faculty	Due Date	Closure Date	Edit	Delete
<input type="checkbox"/>	Interaction Design	Computer Science	2017-04-18	2017-04-28		
<input type="checkbox"/>	Requirement Analysis	Computer Science	2017-04-26	2017-04-20		
<input type="checkbox"/>	Enterprise Web Software Development	Computer Science	2017-04-13	2017-04-08		
<input type="checkbox"/>	Banking and Finance	Business Study	2017-05-10	2017-05-01		
<input type="checkbox"/>	Business Mathematics	Business Study	2017-05-20	2017-05-10		
<input type="checkbox"/>	English	Arts and Humanities	2017-06-08	2017-05-28		
<input type="checkbox"/>	Media Studies	Arts and Humanities	2017-06-14	2017-06-02		
<input type="checkbox"/>	Interaction Design	Computer Science	2017-04-10	2017-04-13		

Figure 19 : View Academic Year

University of Greenwich

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Update Academic Year

Assessment	Faculty	Due Date	Closure Date	Edit	Delete
Select Assessment	Select Faculty	mm/dd/yyyy	2017-04-28		
Select Assessment	Select Faculty	mm/dd/yyyy	2017-04-20		
Select Assessment	Select Faculty	mm/dd/yyyy	2017-04-08		
Enterprise Web Software Development	Computer Science	2017-04-13	2017-04-08		
Banking and Finance	Business Study	2017-05-10	2017-05-01		
Business Mathematics	Business Study	2017-05-20	2017-05-10		
English	Arts and Humanities	2017-06-08	2017-05-28		
Media Studies	Arts and Humanities	2017-06-14	2017-06-02		
Interaction Design	Computer Science	2017-04-10	2017-04-13		

Update

Figure 20 : Update Academic Year

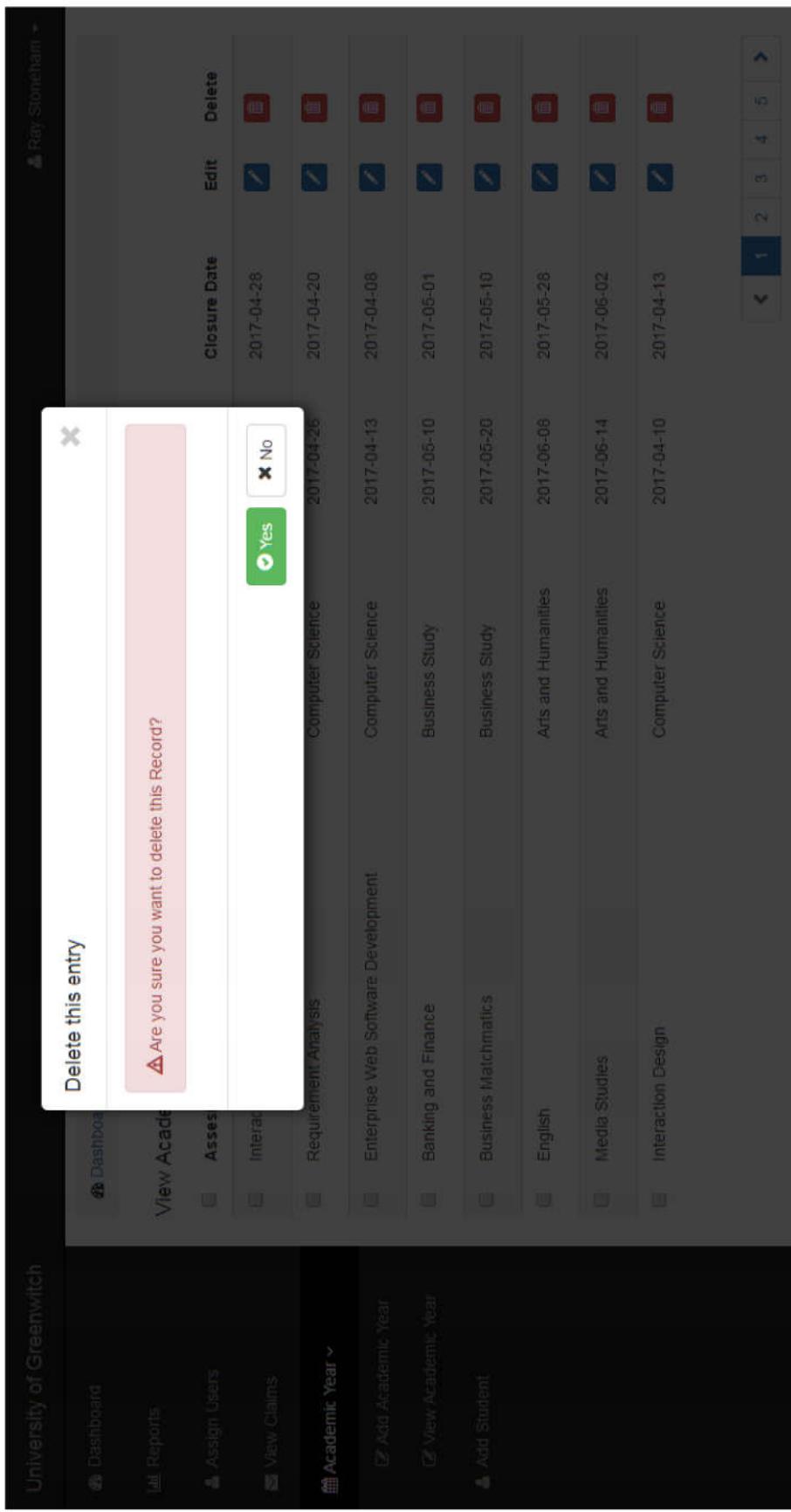


Figure 21 : Delete Academic Year

- **View Reports:**

Admin can view a number of reports based on number and percentage of claims within each faculty and number of claims without uploaded evidence. And also can view Statistical analysis for number of claims per faculty.

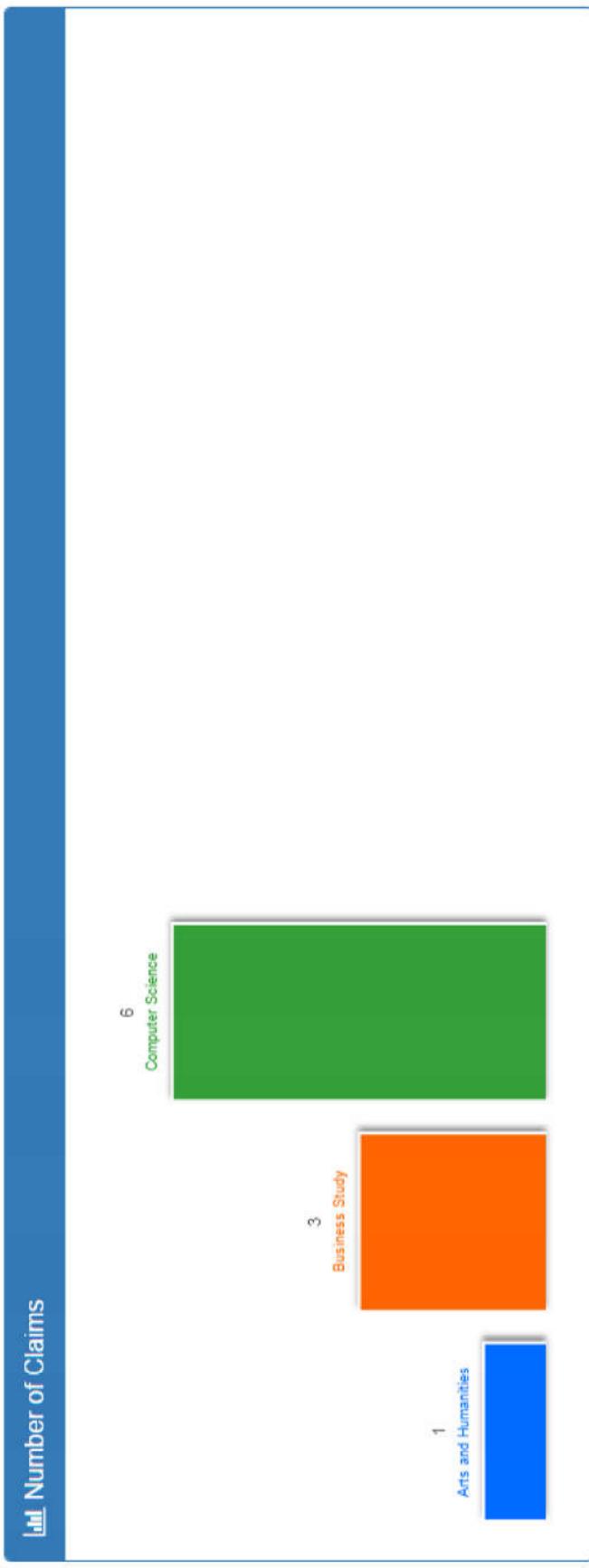


Figure 22 : Statistical analysis



Figure 23 : Claim Reports

EC Manager Functions

- **View Claims:**

EC Manger can only view claims of all faculties and view the claim evidence, status and claim date but cannot process claims.

Academic Years Details of 2017					
	Student Name	Assessment	Faculty	Evidence	Status
<input checked="" type="checkbox"/> With Evidence	Lucy Riley	Requirement Analysis	Computer Science	view evidence	Rejected
<input checked="" type="checkbox"/> Without Evidence	Deluar Jahan	Interaction Design	Computer Science	view evidence	Approved
<input checked="" type="checkbox"/> Academic Year	Lucy Riley	Requirement Analysis	Computer Science	view evidence	Pending
<input checked="" type="checkbox"/> Shahidul Islam	Media Studies		Arts and Humanities	view evidence	Approved
<input checked="" type="checkbox"/> Deluar Jahan	Business Mathematics		Business Study	view evidence	Approved
<input checked="" type="checkbox"/> Lucy Riley	Requirement Analysis		Computer Science	view evidence	Approved

◀ 1 2 3 4 5 ▶

Figure 24 : Claims with Evidence

University of Greenwich						
Dashboard		View Claims without Evidence				
Reports						
View Claims ▾						
With Evidence	Without Evidence	Academic Year	Student Name	Assessment	Faculty	Claim Type
<input checked="" type="checkbox"/>	<input type="checkbox"/>	manzabin hogue	Interaction Design	Computer Science	Organisational Maladministration	Pending
<input type="checkbox"/>	<input checked="" type="checkbox"/>	deluar jahan	Business Mathematics	Business Study	Accident	Approved
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Deluar Jahan	Banking and Finance	Business Study	Jury Service	Approved
<input type="checkbox"/>	<input type="checkbox"/>	Lucy Riley	Interaction Design	Computer Science	Harassment or Assault	Pending

Figure 25 : Claims without Evidence

EC Coordinators Functions

- Manage Claims:**

EC Coordinators can view and manage claims only for that faculty where he/she is assigned as EC Coordinator. EC Coordinator will not be able to process any claims without uploaded evidence. For the proposed function I have divided manage claims part into two options. One is Claims with evidence and another is claims without evidence. For Claims with evidence EC Coordinator will be able to approve or reject the claim. But for claims without evidence he/she will not be able to approve or reject claims where approve or reject buttons are disabled.

Academic Years Details of 2017							
	Student Name	Assessment	Claim Type	Evidence	Status	Claim Date	Take Action
<input checked="" type="checkbox"/> With Evidence	Lucy Riley	Requirement Analysis	Bereavement	view evidence	Rejected	2017-04-10	<button>Approve</button> <button>Reject</button>
<input checked="" type="checkbox"/> Without Evidence	Deluar Jahan	Interaction Design	Accident	view evidence	Approved	2017-04-10	<button>Approve</button> <button>Reject</button>
<input checked="" type="checkbox"/> Academic Year	Lucy Riley	Requirement Analysis	Harassment or Assault	view evidence	Pending	2017-04-09	<button>Approve</button> <button>Reject</button>
	Lucy Riley	Requirement Analysis	Accident	view evidence	Approved	2017-04-08	<button>Approve</button> <button>Reject</button>

< 1 2 3 4 5 >

Figure 26 : Can Process Claims

The screenshot shows a web application interface for managing claims. At the top, there is a header bar with the University of Greenwich logo, a search bar, and a user profile for 'Mustafizur Rahman'. Below the header is a navigation menu with options like 'Dashboard', 'Reports', 'Manage Claims' (selected), 'With Evidence', 'Without Evidence', and 'Academic Year'. The main content area has a title 'Academic Years Details of 2017'. A table lists two claims:

Student Name	Assessment	Claim Type	Evidence	Claim Description	Claim Date	Take Action
mahzabin hoque	Interaction Design	Organisational Maladministration	No File	kjkjasnkjjwjjbcjbjdn	2017-04-10	<button>Approve</button> <button>Reject</button>
Lucy Riley	Interaction Design	Harassment or Assault	No File	Please accept my application	2017-04-08	<button>Approve</button> <button>Reject</button>

At the bottom right of the table, there is a navigation bar with icons for back, forward, and search.

Figure 27 : Cannot Process Claims

- **Email Notification:**

Once a claim is submitted on a faculty the EC Coordinator of that faculty will be notify from the system.

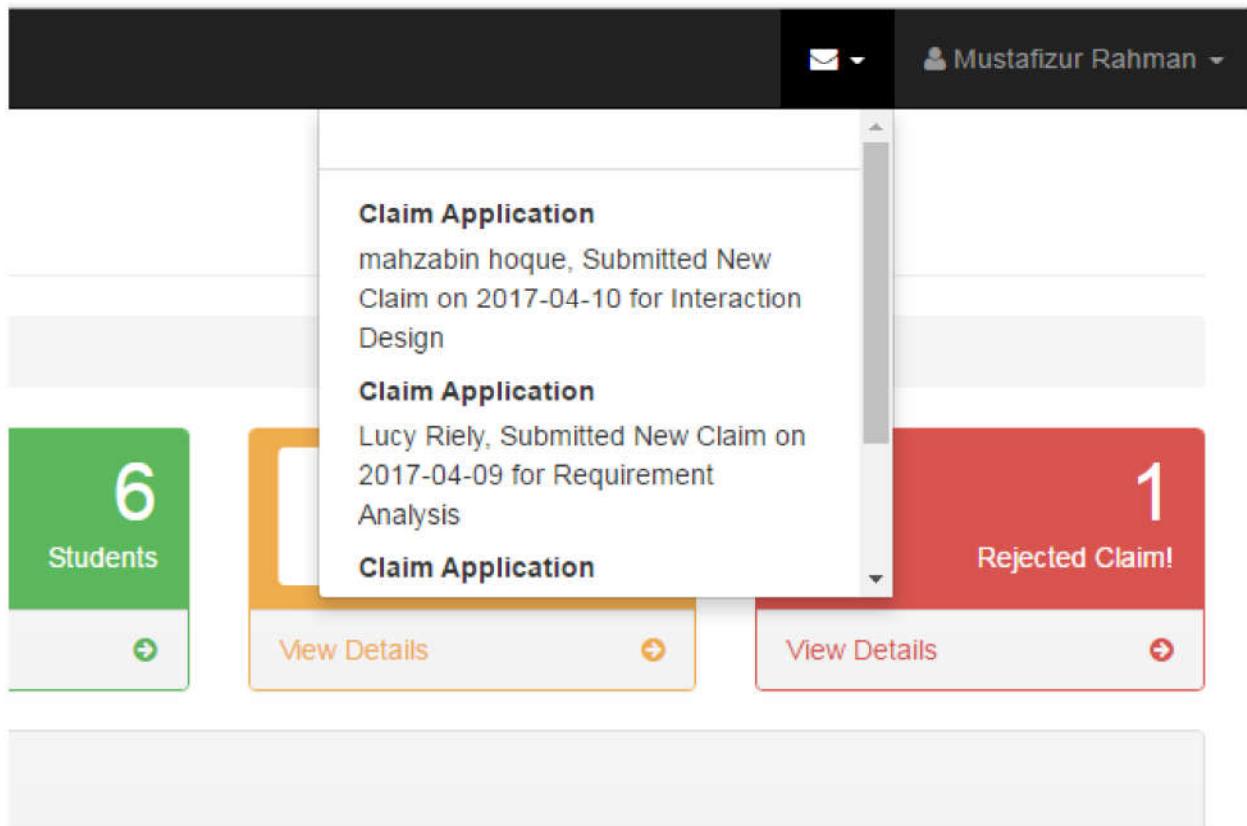


Figure 28 : E-mail Notification of EC Coordinator

The system will also send email notification to EC Coordinator if any claim is not processed within 14 days of that faculty.

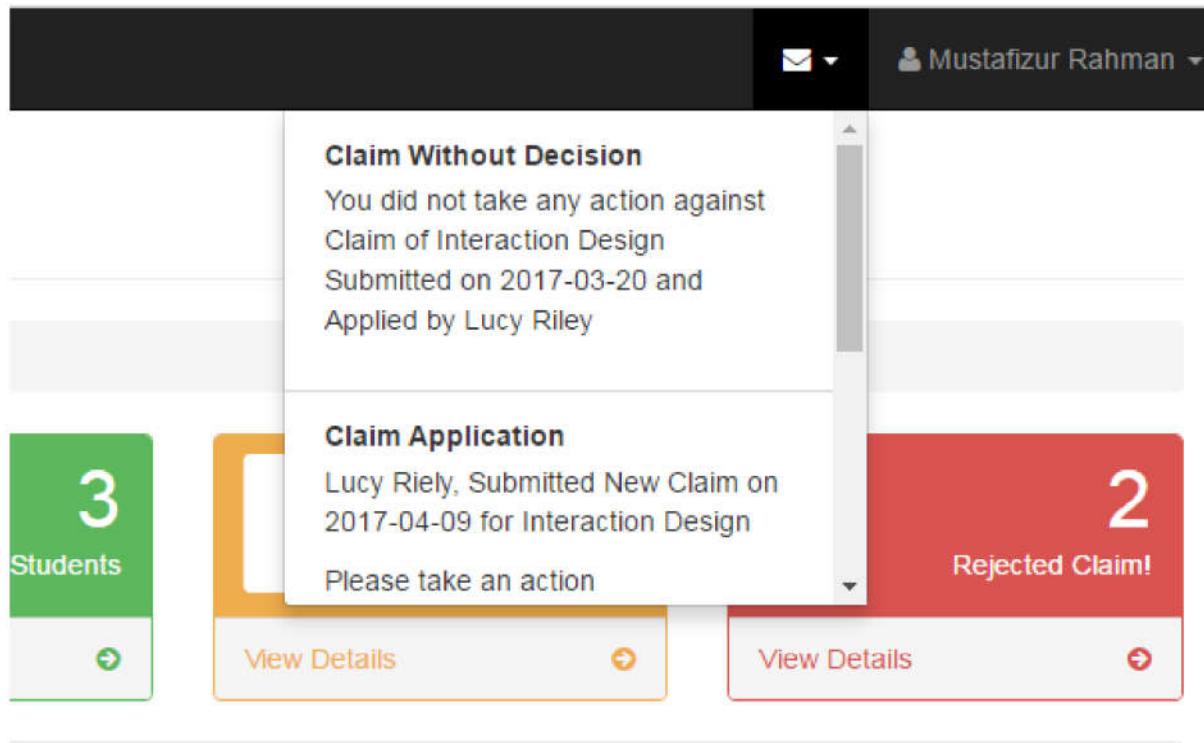


Figure 29 : Without Decision Claim Notification

Student Functions

- **Claim Submission:**

From the proposed application student will be able to submit one or more EC claim for any assessment by submitting the claim application form. Student can only submit claims for those assessments that within the closure date. The system will automatically disable to submit claims for those assessments that closure dates is already finished.

University of Greenwich

Dashboard / Claim Application

Reports

Claim Application

Academic Year

View Claims

EC Claims Application Form

Student Profile No.

First Name

Last Name

E-mail

Faculty

Subject/Assessment

Claim Type

Evidence Type

Upload Evidence

Description

Profile Number

First Name

Last Name

E-mail Address

Select Faculty

Select Assessment

Select Claim Type

Select Evidence Type

Choose File

No file chosen

Submit

Reset All

The screenshot shows a web-based application for claiming academic assessments. It features a sidebar with navigation links for Dashboard, Reports, and Claim Application. The main content area is titled 'EC Claims Application Form' and contains several input fields. These fields include 'Student Profile No.' (with a placeholder 'Profile Number'), 'First Name' (placeholder 'First Name'), 'Last Name' (placeholder 'Last Name'), 'E-mail' (placeholder 'E-mail Address'), and 'Faculty' (placeholder 'Select Faculty'). Below these are dropdown menus for 'Subject/Assessment' (placeholder 'Select Assessment') and 'Claim Type' (placeholder 'Select Claim Type'). Another dropdown menu for 'Evidence Type' (placeholder 'Select Evidence Type') is also present. A file upload field 'Upload Evidence' shows 'No file chosen'. A large text area labeled 'Description' is provided for additional information. At the bottom right are two buttons: a green 'Submit' button and an orange 'Reset All' button.

Figure 30 : Claim Application Form

- **View Claims**

In this system Student will be able to update evidence before processing the claim by EC Coordinators. Students will also be able to view own claim details with any decision.

The screenshot shows a web-based application for managing claims. At the top, there's a dark header bar with the text "University of Greenwitch". Below it, a navigation bar includes links for "Dashboard", "View and Update Claims", "Reports", "Claim Application", "Academic Year", and "View Claims". On the right side of the header, there are user profile icons for "Lucy Riley" and a dropdown menu. The main content area has a light gray background. It displays a table titled "Assessment" with two rows. The first row contains "Requirement Analysis" under "Assessment", "2017-04-09" under "Claim Date", "DPL.pdf" under "Evidence File", and a green "Upload File" button under "View Evidence". The second row contains "Interaction Design" under "Assessment", "2017-04-08" under "Claim Date", "view evidence" under "Evidence File", and a green "Upload File" button under "View Evidence". At the bottom right of the content area, there is a small navigation bar with numbers 1 through 5 and arrows for pagination.

Assessment	Claim Date	Evidence File	View Evidence
Requirement Analysis	2017-04-09	DPL.pdf	<button>Upload File</button>
Interaction Design	2017-04-08	view evidence	<button>Upload File</button>

Figure 31 : Update Evidence

University of Greenwich

Welcome Lucy Riley

Dashboard

Claim Application

Academic Year

View Claims

1 New Message

View Details

4 Claims Submitted!

View Details

1 Approved Claims!

View Details

1 Rejected Claims!

View Details

Your Individual Claim Report

Assessment Name	Claim Type	Claim Description	Claim Status	Claim Date
Interaction Design	Harassment or Assault	Please accept my application	Pending	2017-04-08
Requirement Analysis	Accident	I would be glad if you accept my application	Approved	2017-04-08
Requirement Analysis	Harassment or Assault	Please accept my Claim application	Pending	2017-04-09
Requirement Analysis	Bereavement	Please approve my application	Rejected	2017-04-10

< 1 2 3 4 5 >

Figure 32 : Individual Student Claim Report

- **Receive Emails**

In this system student will receive e-mail notification containing the decision of EC Coordinator against the submitted claims. A screenshot of the desired function is given bellow –

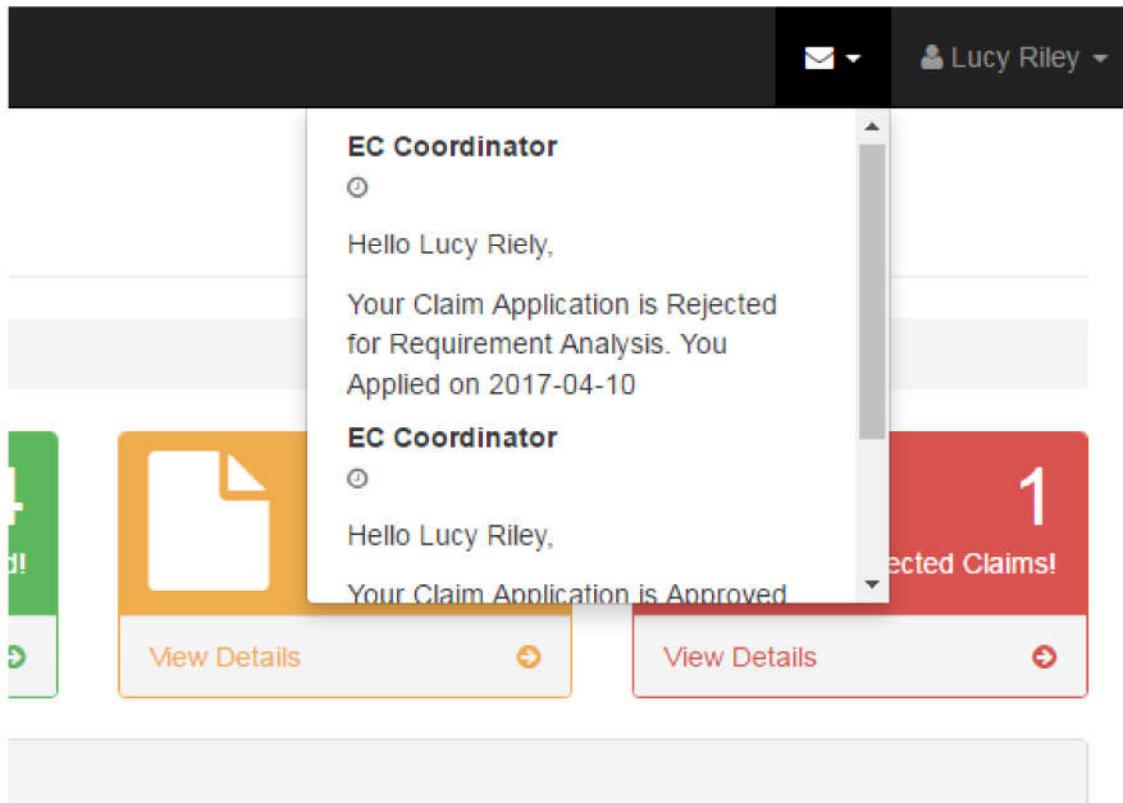


Figure 33: Email Notification for Student