

Course: COMP1640

Enterprise Web Software Development

Submitted to

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Submitted by

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Group: TITAN

Team Members		
S/I	Name	Role
1	Provat Sutradhar	System Analyst and Database Designer
2	Md. Saidul Islam	UI Designer
3	Sylvester Antu Rozario	Programmer
4	Golam Rabbani	System Tester

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Credentials		
Group	User name	Password
Admin		
EC Manager		
EC Coordinator		
Student		

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Introduction

We named our system is EC-CMS. This is a role based security system. There are four deferent types of user role Admin, EC Manager, EC Coordinator and Student. The main objective of this system is student will submit EC claim and coordinator manage those claim by taking decision. The EC Manager oversee the system like how is going and observe claims processing. We develop this system as a four members group, each and every body has a specific roles for build this system. We follow agile scrum methodology for develop this system and we successful done it. We meet all the requirements and also there are some extra features in the system. My role was programmer so I handle the technical aspect of this system.

Evaluation of product and process

Key features of the system

EC-CMS meet all the requirements based on the scenario. All the feature of EC-CMS deployed successfully. All the prime feature of EC-CMS system is given below.

- Student can submit EC claim with multiple evidence upload.
- Student can upload evidence in a EC claim multiple times until the session is closed.
- Strong security feature implemented for protect uploaded evidence file.
- EC Coordinator gets notification when a student submit new claim.
- EC Coordinator can process claim of his own faculty students by approve or reject it and also can give a comment.
- Students get notification and also can view own submitted EC claims status and decision.
- EC Manager can see all the EC claims form every faculty.
- EC Manager can see decisions of a claim which make through the EC Coordinator.
- Multi language (English, French, Spanish and Germany) support added in the system.
- The system can provide statistical and exceptional reports.
- Secure login feature implement for data privacy with predefine roles.
- Role base secure system is implemented.
- The design of the system is responsive, so user can also access from mobile devices.
- System administrator can manage Subject, Item of assessment and Session.
- System administrator can update student information.
- Students can view their own profile.
- For each user group deferent types of dashboard have been implemented for show the system summarize data and status.

Strength of our system

EC-CMS has developed with some strong feature and techniques that make the system very powerful. The strength of our system is given below:

- MD5 encryption mythology used for user password store.
- System Database is protected with well security layer.
- Different account and credential is use for System source code and database in the server.
- Hackers cannot run any script in my system from outside.
- This system prevents SQL injection.
- All scripts of this system are protected and not editable from outside.
- The performance of this system is very consistent.
- The design of the system is responsive.
- In thy system runtime no confidential or important data are store in the browser.
- Well security is provided for prevent user from unauthorized URL.
- All of the SQL quires that use in the system is very optimize for better performance.
- Strong validation rules are implemented.
- All the validation rules are set into the server side instead of frontend, where it is possible to change or modify front source code.
- This system has multi language support for use it internationally.
- The user interface of this system is very well design and user friendly.
- The system database is well normalized which prevent from using complex join and sub quires that is why system data fetching performance is very good.

Weakness of the system

There is some weakness in the system that is given below:

- EC manager and EC coordinator cannot see their own profile and mange it.
- All users role in the system is prefixed. Administrator cannot change it from the system.
- A single subject can only assign into a single session. It should be multiple.
- No customize report option is provided for the EC Coordinator.
- This system has no front end validation option. Server validation process is slower than frontend.

Further development

Software development is a continues process, new requirements, latest technology, update old requirement all is a part of further development. I find some issue which can be take place for further development and those are given below:

- A mobile application can be develop for make this system more usable.
- Socket or NodeJS can be used for live notification.
- Forget me or password recovery option can be added.
- A notification can provide to EC coordinator when students upload evidence.
- A help or instruction option can be added for student for let them know how the process work.
- Although this system supports malty language some more new language can be added.
- Data caching mythology can be applied for better performance.

Evaluation of team

This assignment we complete as a four members of team. We split in five important roles like, system analyst, database designer, user interface designer, programmer and taster. Every single person of my team play very important role. I must say without collaboration and individual performance of my each team member according their role we couldn't make it done successfully. But everyone's performance is not equal, that is why I am going to evaluate our team by team members in this section.

Every team member's efforts can be evaluate against some criteria like technical skills, communication skills, availability, team collaboration and etc. Here I have evaluated my team members in four scales and those are

- Excellent
- Good
- Average
- Poor
- Very poor.

Well understandable tables provide below about my evaluation of my team members.

Skills	Provat Sutradhar	Md. Saidul Islam	Sylvester Antu Rozario	Golam Rabbani
Technical skill	Poor	Excellent	Excellent	Poor
Contribution on key requirement	Poor	Excellent	Excellent	Good
Core skill on his area	Good	Good	Good	Good
Communication skill	Excellent	Good	Good	Poor
Availability	Excellent	Good	Excellent	Average
Creativity	Good	Good	Good	Average
Adaptability	Excellent	Excellent	Excellent	Good
Team Collaboration	Good	Excellent	Excellent	Good
Overall Performance	Good	Excellent	Excellent	Average

Self-evaluation

Individual Effort

In this team my role was programmer, but I have to keep my focus in every department because I was the team leader of this group. First I work with our system analyst to find the requirements and prioritize them then I also collaborate with database designer for design and develop the database. I also collaborate with our web designer about how it should look like and I help our tester to test this application.

As a programmer I really worked hard for develop this system from very beginning. For make this system as enterprise level my focus was makes it maintainable, secure and easy to use. It is a web application so make it secure was in my high priority list. I tried to develop every feature with high security concerns.

From the every aspect I meet the system requirement. All the requirements are successfully deployed and working properly.

Lesson Learnt

This assignment was a group project so by team work this project has been done. The first thing I have learned in this assignment is how to work in a team. I also learned how to collaborate with team members for develop a project successfully. So I must say that, by doing this assignment I gain some skill about how to work in a team which will be help in my future life.

I didn't have any particle idea about how scrum methodology works in agile development process. But for develop our system we use scrum methodology and I learn a lot about it. I got some partial knowledge about scrum methodology; I also achieve some clear statement and idea about how scrum methodology works step by step.

In this group project my role was programmer. Systems technical aspect and implementation of functional and nonfunctional requirements was my responsibility. I develop this system by using PHP programing language and codeigniter framework. So after complete this project I got a level up in my programing skill. I also learn how to develop a system based on a scenario and how to collaborate with system analyst and database designer for make it done.

By doing this assignment a got some knowledge about how to work in a team and some advance technical knowledge that will surely help in my further programing life.

Conclusion

EC-CMS is a sub system of a university management system. Where the main requirement is submit EC claim form the student part and process that claim by EC Coordinator. Every single requirement is deployed and we make it done successfully.

In the end I want to say thank you to my team members, without their effort and time it was not possible to complete this project. We have some great time while doing this assignment and I really enjoy it. The last thing I want to say I achieve some knowledge about how web applications build in real life and how to work in a tem hop this knowledge help me in my future life.

Appendices

APPENDIX A: Tools Usage

Language

- PHP
- JavaScript

Framework

- Bootstrap
- Codeigniter

Libraries

- jQuery
- DataTables
- Chart.js

Database

- MySql

APPENDIX B: Role based security system

Roles by user groups

Role based security is applied in to our system. The below table show which user group get access in which features in the system.

ID	Features	Admin	Student	EC Coordinator	EC Manager
1	Manage Assessment (ADD, EDIT,DELETE,VIEW)	YES			
2	Manage Session (ADD, EDIT,DELETE,VIEW)	YES			
3	Manage Subject (ADD, EDIT,DELETE,VIEW)	YES			
4	Manage Studen (EDIT,VIEW)	Yes			
5	Submit Claim		Yes		
6	Upload Evidence		Yes		
7	View Claims			Yes	Yes
8	Process Claim			Yes	
9	Delete terminated claims				Yes
10	Vie claim Decision		Yes		Yes
11	View exceptional report				Yes
12	View statistical report				Yes
13	View own profile	Yes			

Role based security implementation

I implement the security by using server side script (PHP). I use codeigniter framework and it is a MVC (Model, View and Controller) based framework. I write some code in to the parent class construction function and other every class (except Welcome controller) inherits this class and in a helper function I manage array for each group where I tell that which group has permission for which classes. When user try to access any class by any feature the child class call to the parent class to check the users has the permission or not. IF the user has the permission to access in to the requested class then the system redirect to him in his requested class/function else the system redirect the user in to the dashboard.

Some screen short given below to show how I implement the role based system.

```

Root_controller.php x
\Root_controller::__construct
<?php
defined('BASEPATH') OR exit('No direct script access allowed');

class Root_controller extends CI_Controller
{
    public function __construct()
    {
        parent::__construct();
        date_default_timezone_set('Asia/Dhaka');

        $user_id = $this->encrypt->decode($this->session->userdata('session_user_id'));

        if (!$user_id) {
            $this->session->set_flashdata('fl_message_error', 'LOGIN_TO_YOUR_ACCOUNT');
            redirect('Welcome');
        }

        $req_class = $this->router->fetch_class();

        $has_access = User_helper::has_access($req_class); //return value from has access function

        if (!$has_access) {
            $this->session->set_flashdata('fl_message_error', $this->lang->line('ACCESS_NOT_GRANTED'));
            redirect('Dashboard');
        }
    }
}

```

Figure 1: Root Controller construct function

```

public static function has_access($req_class)
{
    return in_array($req_class, self::access_permission(), TRUE) ? true : false;
}

public static function access_permission()
{
    $user_group = self::get_user();
    switch ($user_group->group_title) {

        case "Student":
            return $access_classes = array('Dashboard', 'Claim','Profile');
            break;

        case "Admin":
            return $access_classes = array('Dashboard', 'Semester','Assessment','Subject','Setting','Student');
            break;

        case "EC_Coordinator":
            return $access_classes = array('Dashboard', 'Claims_by_faculty');
            break;

        case "EC_Manager":
            return $access_classes = array('Dashboard', 'Claims_by_manager','Exception_report');
            break;

        default:
            return $access_classes = array('Dashboard');
    }
}

```

Figure 2: Access permissions by group

Appendix C: Validations implemented

For avoid unexpected data and run the system fluently I apply some validation in to the system. Here I am going to show you some validation that I implement for this system.

Add & Edit Subject

Subject title and assessment is required for add and edit subject.

The screenshot shows the 'Add New Subject' form. On the left is a dark sidebar with a user icon, 'EC-CMS', and navigation links for 'Home' and 'Setting'. The main area has a header 'Add New Subject'. It contains fields for 'Subject Title' (marked with a red asterisk), 'Department' (BIT), and 'Assessments' (checkboxes for Class Test, Assignment, Project, Final Examination, and Attendance). Below the form are 'Back', 'Reset', and 'Submit' buttons. A red-bordered box highlights a 'Warning Alert' message on the right: 'The Subject Title field is required.' and 'The Assessments field is required.'

Figure 3: Subject's validation alert message

Assessment

Assessment title is required for add and update assessment.

The screenshot shows the 'Add New Assessment' form. The layout is similar to Figure 3, with a sidebar, a header, and a main form area. The 'Assessment Title' field is marked with a red asterisk. A red-bordered box on the right displays a 'Warning Alert' message: 'The Assessment Title field is required.'

Figure 4: Assessment validation alert message

Session

Session title, start date end date and closing date is required for add and update session.

The screenshot shows the 'Add New Session' form. It includes fields for Session Title, Start Date, End Date, and Closing Date, each marked with a required indicator (*). Below the form are three buttons: Back, Reset, and Submit. To the right of the form is a red-bordered 'Warning Alert' box containing four error messages: 'The Session Title field is required.', 'The Start Date field is required.', 'The End Date field is required.', and 'The Closing Date field is required.' The 'Submit' button is highlighted in green.

Figure 5: Session validation alert message

While add or update session , closing date must have to be large then start and end date, and end date must have to larger then start date and smaller then closing date.

The screenshot shows the 'Add New Session' form with data entered into the fields: Session Title is 'test', Start Date is '15-04-2017', End Date is '01-04-2017', and Closing Date is '29-04-2017'. Two red arrows point from the 'End Date' and 'Closing Date' fields towards a red-bordered 'Warning Alert' box. This box contains the message 'Please check your dates'. The 'Submit' button is highlighted in green.

Figure 6: Session date validation alert message

Submit new claim

While submit a new claim student must have to provide item of assessment, reason and details information.

The screenshot shows the 'ADD New Claim' form. On the left is a sidebar with a user profile for 'Antu Rozario' and links for 'Home', 'MY Claims' (which is expanded), 'Submit New', and 'Submitted Claims'. The main area has fields for 'Subject' (Enterprise Web Application Development), 'Item Of Assessment' (Select), 'Reasons' (Select), and 'Details' (a large text area). Below these is a 'Evidence' section with a 'Browse' button and a note about file types and size. At the bottom are 'Back', 'Reset', and 'Submit' buttons. A red-bordered 'Warning Alert' box on the right lists three required fields: 'The Item Of Assessment field is required.', 'The Reasons field is required.', and 'The Details field is required.'

Figure 7: New claim validation alert message

Process claim

Without choosing a decision and a comment a claim will be not processed.

The screenshot shows the 'Claim Details' page. The sidebar is identical to Figure 7. The main area displays filled-in form fields: Name (Antu Rozario), Department (BIT), Subject (Enterprise Web Application Development), Assessment (Attendance), Reason (Sick), Details (Details), Have Evidence (Yes), Submitted Date (10-04-2017), Session Closing Date (30-06-2018), Status (In_Process), and Evidence (a file preview). A red-bordered 'Warning Alert' box on the right lists two required fields: 'The Action field is required.' and 'The Comment field is required.'

Figure 8: Processing claim validation alert message

Update Student information

For update a student information user name and name is required

The screenshot shows the 'Edit Student Information' form. On the left is a dark sidebar with a user icon, 'EC-CMS' logo, 'Welcome admin', 'Home', and 'Setting'. The main area has a title 'Edit Student Information' and three input fields: 'Name *' (empty), 'User Name *' (empty), and 'Password' (empty). Below the fields is a note: 'Leave it, if you do not want to set new password.' At the bottom are 'Back', 'Reset', and 'Submit' buttons. A red box highlights a 'Warning Alert' message on the right: 'The Name field is required.' and 'The User Name field is required.'

Figure 9: Update student validation alert message

While update user information a user name which is already used cannot use for another student.

The screenshot shows the 'Edit Student Information' form. The sidebar and fields are identical to Figure 9. The 'User Name *' field contains 'student2'. The 'Warning Alert' message on the right says: 'The user name that you write is already taken.'

Figure 10: User name validation alert message

APPENDIX D: The Delivered System

We meet with all the requirements of this assignment. Here I am going to describe all the features of our system and how they work.

Admin section

Login and dashboard: User must have to log in into the system by entering user name and password. If the user name and password is correct system will be redirect to the dashboard where some summarized data will display to the user.

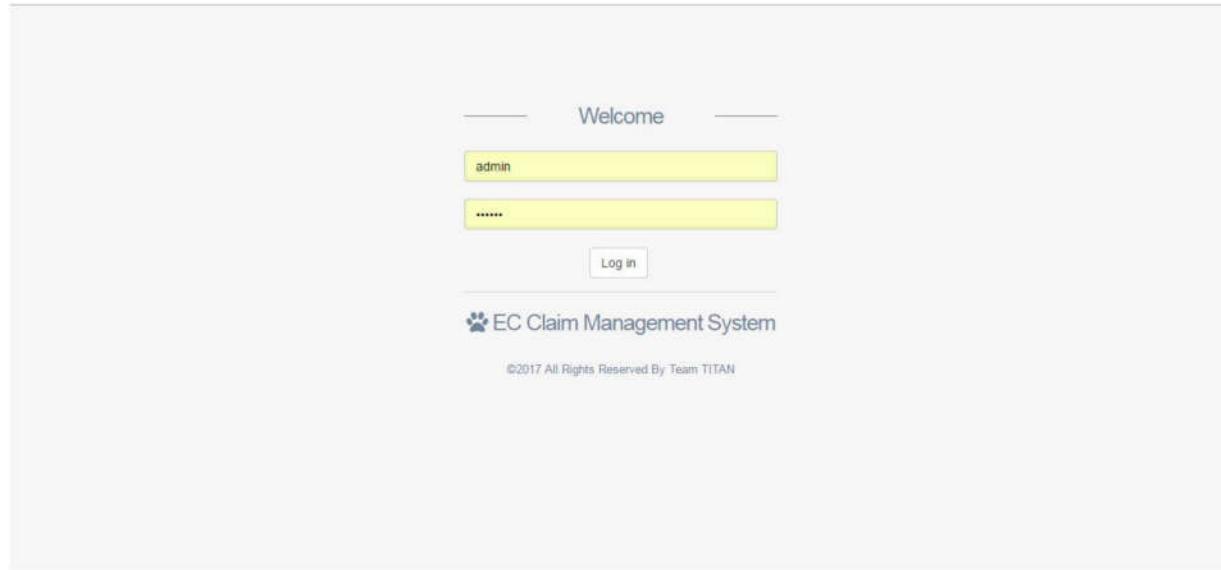


Figure 11: Login interface of the system

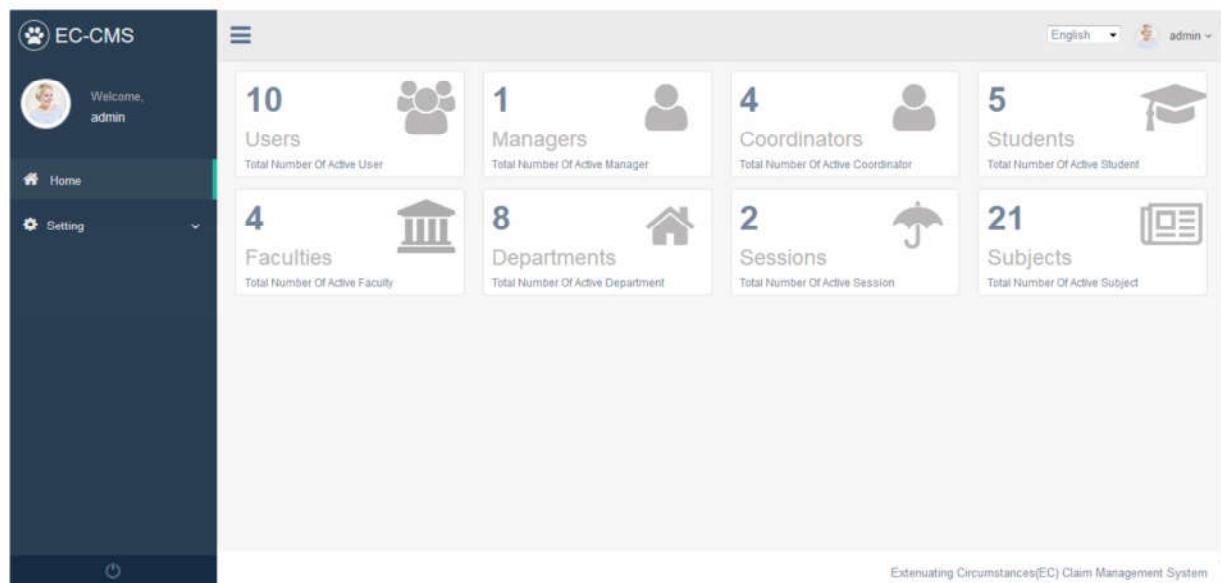


Figure 12: Admin dashboard

Manage Assessment: Admin can view the list of assessments and can add new by clicking the add new button and also delete and update assessments.

The screenshot shows the 'Assessment List' page. On the left is a dark sidebar with a user icon, 'Welcome admin', and navigation links for Home, Setting (Manage Session, Manage Assessment, Manage Subject, Manage Student), and a power button icon. The main area has a header with 'English' and 'admin'. It displays a table with columns: Serial No, Title, and Action (Edit and Delete). The table contains five rows with the following data:

Serial No	Title	Action
1	Class Test	Edit Delete
2	Assignment	Edit Delete
3	Project	Edit Delete
4	Final Examination	Edit Delete
5	Attendance	Edit Delete

At the bottom, it says 'Showing 1 to 5 of 5 entries' and 'Extenating Circumstances(EC) Claim Management System'.

Figure 13: Assessments list

The screenshot shows the 'Add New Assessment' page. The sidebar is identical to Figure 13. The main area has a header with 'English' and 'admin'. It displays a form with a single input field labeled 'Assessment Title *' and three buttons at the bottom: 'Back', 'Reset', and a green 'Submit' button. At the bottom right, it says 'Extenating Circumstances(EC) Claim Management System'.

Figure 14: Add new assessment

Manage Subject: Admin can view the list of the subject from subject list and can add new from add new subject section, Admin can also delete and update assessments.

Serial No	Department Title	Subject Title	Action
1	BIT	Enterprise Web Application Development	Edit Delete
2	BIT	Interaction Design	Edit Delete
3	BIT	Information Requirement Analysis	Edit Delete
4	BIT	Final Project	Edit Delete
5	BIT	Database	Edit Delete
6	BBA	Intro to Business	Edit Delete
7	BBA	Business Math	Edit Delete
8	BBA	Business Fundamentals	Edit Delete
9	BBA	Principles of Economics	Edit Delete
10	Department of Architecture	Architecture Design Foundations	Edit Delete

Figure 15: Assessments list

Add New Assessment

Assessment Title *

Back Reset Submit

Figure 16: Add new assessment form

Manage Session: It is very important part for this system. Session is a time frame which contains start date, end date and closing date. Start date means when it starts, end date means the last date to submit claim and closing date means the last date of upload evidence. Admin can view the list of session and can add new.

The screenshot shows the 'Session List' page of the EC-CMS system. On the left is a dark sidebar with a user icon, the text 'Welcome admin', and navigation links: Home, Setting (with Manage Session selected), Manage Assessment, Manage Subject, and Manage Student. The main area has a header 'Session List' with a green 'Add New' button. Below is a table with columns: Serial No, Title, Start Date, End Date, Closing Date, and Action. The table contains two rows:

Serial No	Title	Start Date	End Date	Closing Date	Action
1	Winter	01-01-2018	15-06-2018	30-06-2018	Edit Delete Assign Subject
2	Summer	01-07-2017	15-12-2017	31-12-2017	Edit Delete Assign Subject

At the bottom, it says 'Showing 1 to 2 of 2 entries' and has 'Previous' and 'Next' buttons. The footer reads 'Extraneous Circumstances(EC) Claim Management System'.

Figure 17: Session list

The screenshot shows the 'Add New Session' form. The sidebar is identical to Figure 17. The main form has a title 'Add New Session'. It contains four input fields with asterisks: 'Session Title *', 'Start Date *', 'End Date *', and 'Closing Date *'. Below the inputs are three buttons: 'Back', 'Reset', and a green 'Submit' button. The footer is 'Extraneous Circumstances(EC) Claim Management System'.

Figure 18: Add new session form

Department	Subjects
BIT	<input checked="" type="checkbox"/> Enterprise Web Application Development <input checked="" type="checkbox"/> Interaction Design <input type="checkbox"/> INformation Requirement Analysis
CSE	<input checked="" type="checkbox"/> Basic Electronics <input checked="" type="checkbox"/> Digital Systems
BBA	<input checked="" type="checkbox"/> Intro to Business <input checked="" type="checkbox"/> Business Math <input checked="" type="checkbox"/> Principles of Economics <input checked="" type="checkbox"/> Principles of Economics
MBA	<input checked="" type="checkbox"/> Principles of Financial Accounting <input checked="" type="checkbox"/> Company Accounts
Department of Architecture	<input checked="" type="checkbox"/> Architecture Design Foundations <input checked="" type="checkbox"/> Design Studio Objects and Interaction

Figure 19: Assign subject to session

Update Student information: Admin can view student list from here and can update student's information.

Serial No	Faculty	Department	Name	Action
1	IT	BIT	Antu Rozario	Edit
2	IT	CSE	Kazi Been	Edit
3	Business	BBA	Kenny de Rodric	Edit
4	Arts and Humanities	Department of Architecture	Provrat Shorkar	Edit
5	Biological Sciences	Archaeology	Nahid Nawaz	Edit

Figure 20: Student list

Welcome, admin

Name * Antu Rozario

User Name * student

Password

Leave it, if you do not want to set new password.

Back Reset Submit

Extraneous Circumstances(EC) Claim Management System

Figure 21: student information update form

Student section

Dashboard: For students a custom dashboard has been designed. Where they can know about their claim related information.

Submitted Claim: 4 Total number of submitted claims

Pending Claim: 3 Total number of pending claims

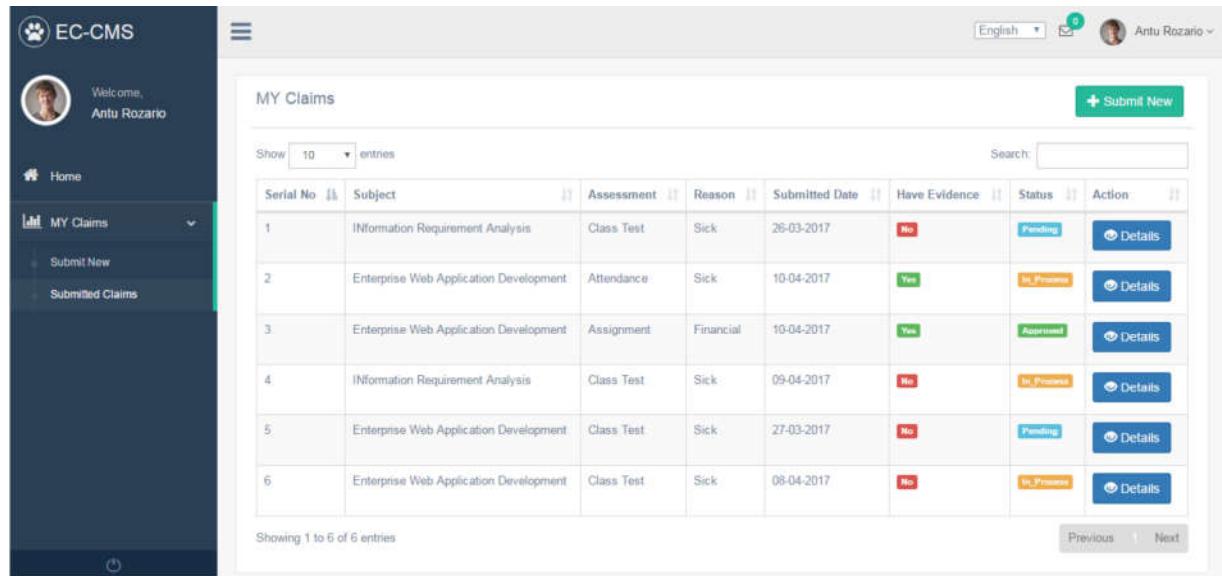
Approved Claim: 1 Total number of approved claims

Rejected Claim: 0 Total number of rejected claims

Serial No	Subject	Assessment	Reason	Submitted Date	Have Evidence	Action
1	Information Requirement Analysis	Class Test	Sick	09-04-2017	No	<button>Details</button>
2	Enterprise Web Application Development	Class Test	Sick	27-03-2017	No	<button>Details</button>
3	Enterprise Web Application Development	Class Test	Sick	08-04-2017	No	<button>Details</button>

Figure 22: Student's dashboard

Submit claim: The main requirement of this system is submit and process claim. Submitting a new claim is the starter of the process. Student can see their all submitted claim and status from my claims and from submit new claim window they can submit new.

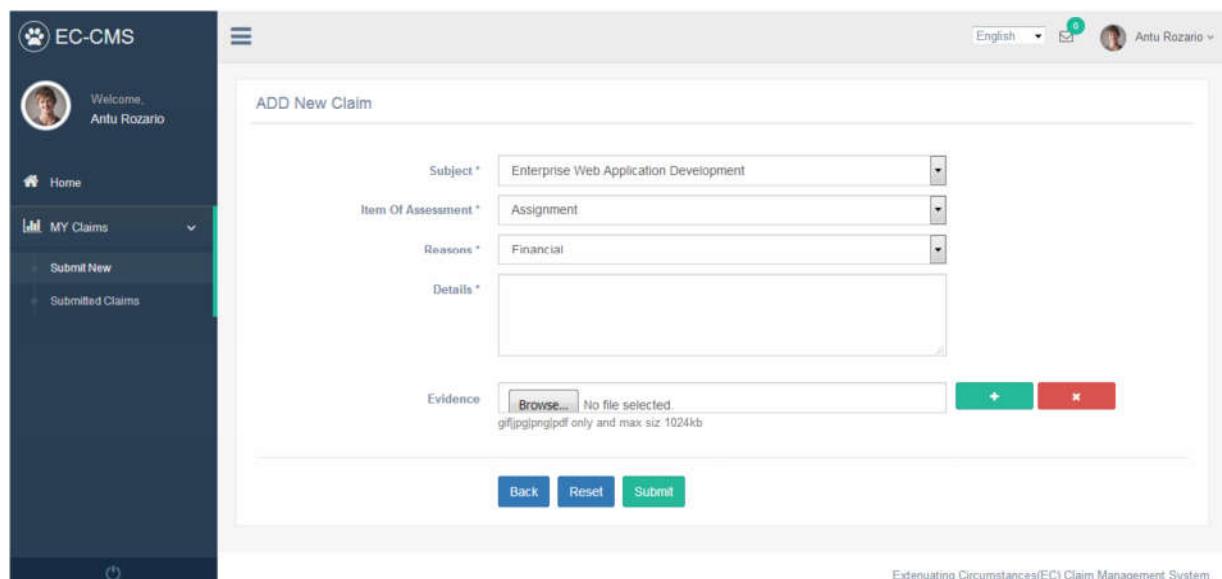


The screenshot shows the 'MY Claims' section of the EC-CMS interface. On the left, there's a sidebar with a user profile picture, a welcome message 'Welcome, Antu Rozario', and navigation links for 'Home', 'MY Claims' (selected), 'Submit New', and 'Submitted Claims'. The main area is titled 'MY Claims' and contains a table of submitted claims. The columns are: Serial No, Subject, Assessment, Reason, Submitted Date, Have Evidence, Status, and Action. There are 6 entries listed:

Serial No	Subject	Assessment	Reason	Submitted Date	Have Evidence	Status	Action
1	Information Requirement Analysis	Class Test	Sick	26-03-2017	No	Pending	Details
2	Enterprise Web Application Development	Attendance	Sick	10-04-2017	Yes	In Progress	Details
3	Enterprise Web Application Development	Assignment	Financial	10-04-2017	Yes	Approved	Details
4	Information Requirement Analysis	Class Test	Sick	09-04-2017	No	In Progress	Details
5	Enterprise Web Application Development	Class Test	Sick	27-03-2017	No	Pending	Details
6	Enterprise Web Application Development	Class Test	Sick	08-04-2017	No	In Progress	Details

At the bottom, it says 'Showing 1 to 6 of 6 entries' and has 'Previous' and 'Next' buttons. The top right shows language settings ('English') and a user icon ('Antu Rozario').

Figure 23: Submitted claim list



The screenshot shows the 'ADD New Claim' form. The left sidebar is identical to Figure 23. The main form has a title 'ADD New Claim'. It contains several input fields: 'Subject*' (dropdown menu showing 'Enterprise Web Application Development'), 'Item Of Assessment*' (dropdown menu showing 'Assignment'), 'Reasons*' (dropdown menu showing 'Financial'), 'Details*' (text area), 'Evidence' (file upload field with 'Browse...' button, showing 'No file selected.' and file type restrictions 'gif|jpg|png|pdf only and max size 1024kb'), and a row of buttons 'Back', 'Reset', and 'Submit'. At the bottom right, it says 'Extenuating Circumstances(EC) Claim Management System'.

Figure 24: New claim submitting form

Processed claim notification: When a submitted claim is processed, students will get a notification.

The screenshot shows the EC-CMS dashboard. On the left, there's a sidebar with a user profile for 'Antu Rozario' and links for 'Home' and 'MY Claims'. The main area has three cards: 'Submitted Claim' (4), 'Pending Claim' (3), and 'Approved' (1). The 'Approved' card is highlighted with a red box and shows a message from 'coordinator' with a timestamp '7h ago'. Below these cards is a table titled 'Recent submitted claims' with three rows. At the bottom, there's another section titled 'Recent processed claims'.

Figure 25: Claim notification

Claim decision: Students can view decision that the EC coordination

The screenshot shows a 'Claim Details' page. The left sidebar is identical to Figure 25. The main content shows a form with fields: Subject (Enterprise Web Application Development), Assessment (Assignment), Reason (Financial), Details (test), Have Evidence (Yes), Submitted Date (10-04-2017), Session Closing Date (30-06-2018), Status (Approved), and Evidence (a file icon for 2017-04-08_123238.png). A green box at the bottom contains the text: 'Claim Approved. Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum'.

Figure 26: Showing claim decision

View profile: Students can see their own profile form my profile option.

EC-CMS

Welcome, Antu Rozario

Home

MY Claims

My Profile

Antu Rozario

Department	BIT
Faculty	IT
Subjects	Enterprise Web Application Development Interaction Design Information Requirement Analysis Final Project Database

Extenuating Circumstances(EC) Claim Management System

Figure 27: Showing student profile

EC Coordinator section

Dashboard: For EC coordinator group we develop custom dashboard. Where coordinator can get summarize information of claims of his faculty.

EC-CMS

Welcome, coordinator

Home

Claims By Faculty

3 Pending Claim Total number of pending claims

1 Claim In Process Total number of claims in process

1 Approved Claim Total number of approved claims

0 Rejected Claim Total number of rejected claims

Pending Claims Last 7day

Serial No	Subject	Assessment	Reason	Submitted Date	Have Evidence	Action
1	Basic Electronics	Class Test	Sick	10-04-2017	No	<button>Details</button>
2	Enterprise Web Application Development	Class Test	Sick	08-04-2017	No	<button>Details</button>

In Process claims Last 7day

Serial No	Subject	Assessment	Reason	Submitted Date	Have Evidence	Action
-----------	---------	------------	--------	----------------	---------------	--------

Figure 28: EC Coordinators dashboard

Claim notification: When a new claim submitted EC coordinator get a notification about that claim.

Serial No	Claim ID	Subject	Assessment	Reason	Submitted Date	Action	Details		
1	1008	Basic Electronics	Class Test	Sick	10-04-2017	13 Days	No	In Process	Details
2	1004	Information Requirement Analysis	Class Test	Sick	09-04-2017	13 Days	No	In Process	Details
3	1002	Enterprise Web Application Development	Class Test	Sick	27-03-2017	8 Day	No	Pending	Details
4	1001	Enterprise Web Application Development	Class Test	Sick	08-04-2017	12 Days	No	Pending	Details

Showing 1 to 4 of 4 entries. Previous | Next

Extraneous Circumstances(EC) Claim Management System

Figure 29: Claim notification for coordinator

Manage Claim: EC Coordinator can process claim. Coordinator can view the list of submitted claims and from details he/she can process them. EC coordinator must have to process a claim with in 14days after submitted to him else the claim will be terminated and cannot be processed.

Serial No	Claim ID	Subject	Assessment	Reason	Submitted Date	Expire In	Have Evidence	Status	Action	Details
1	1008	Basic Electronics	Class Test	Sick	10-04-2017	13 Days	No	Pending	Details	
2	1004	Information Requirement Analysis	Class Test	Sick	09-04-2017	13 Days	No	In Process	Details	
3	1002	Enterprise Web Application Development	Class Test	Sick	27-03-2017	8 Day	No	Pending	Details	
4	1001	Enterprise Web Application Development	Class Test	Sick	08-04-2017	12 Days	No	Pending	Details	

Showing 1 to 4 of 4 entries. Previous | Next

Extraneous Circumstances(EC) Claim Management System

Figure 30: Claim list

The screenshot shows a web-based application for managing claims. On the left, a dark sidebar menu includes 'Home', 'EC Claims', and 'Exception reports'. The main area is titled 'Claim Details' and contains a table with the following data:

Name:	Antu Rozario
Department:	BIT
Subject:	Enterprise Web Application Development
Assessment:	Attendance
Reason:	Sick
Details:	Details
Have Evidence:	<input checked="" type="checkbox"/>
Submitted Date:	10-04-2017
Session Closing Date:	30-06-2018
Status:	Pending
Evidence:	

Below the table are two input fields: 'Action *' with a dropdown menu ('Select') and 'Comment *' with a text area. At the bottom are three buttons: 'Back', 'Reset', and 'Submit'.

Figure 31: Claim details and process form

EC manager section

Dashboard: EC manager has a really great dashboard where manager can know overall the system status.



Figure 32; EC Manager Dashboard

View Claims: EC Manager can view claims from all faculties. Claim status and decision also EC manager can see.

Serial No	Claim ID	Subject	Assessment	Reason	Submitted Date	Expire In	Have Evidence	Status	Action
1	10011	Enterprise Web Application Development	Attendance	Sick	10-04-2017	13 Days	Yes	In_Process	<button>Details</button>
2	10010	Enterprise Web Application Development	Assignment	Financial	10-04-2017	13 Days	Yes	Approved	<button>Details</button>
3	1009	Architecture Design Foundations	Class Test	Financial	10-04-2017	13 Days	No	Pending	<button>Details</button>
4	1008	Basic Electronics	Class Test	Sick	10-04-2017	13 Days	No	In_Process	<button>Details</button>
5	1007	Business Math	Class Test	Sick	09-04-2017	13 Days	Yes	In_Process	<button>Details</button>
6	1005	Intro to Business	Class Test	Sick	09-04-2017	13 Days	No	Pending	<button>Details</button>
7	1004	Information Requirement Analysis	Class Test	Sick	09-04-2017	13 Days	No	In_Process	<button>Details</button>
8	1002	Enterprise Web Application Development	Class Test	Sick	27-03-2017	0 Day	No	Pending	<button>Details</button>

Figure 33: All claim list

Reports: For EC manager couple of report has been made. Like exceptional report and statistical report for better understanding and information gathering.

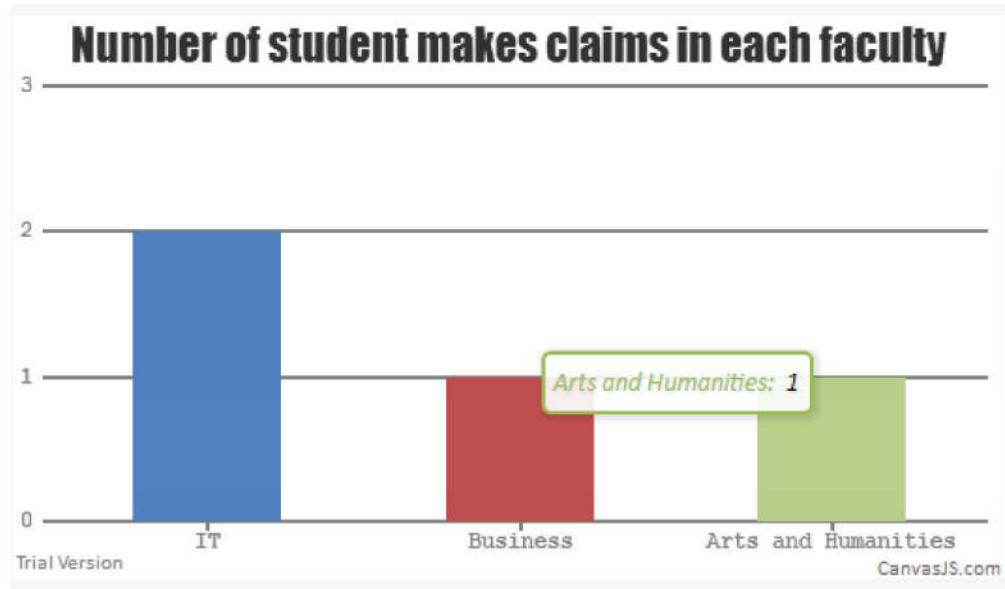


Figure 34: Report showing number of student make claim in each faculty

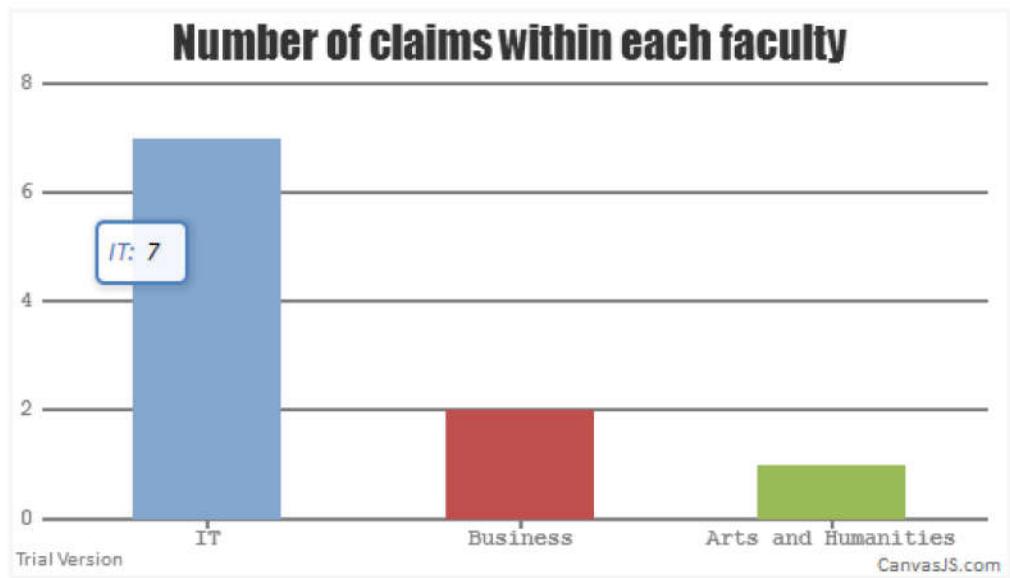


Figure 35: Report showing number of claim from each faculty

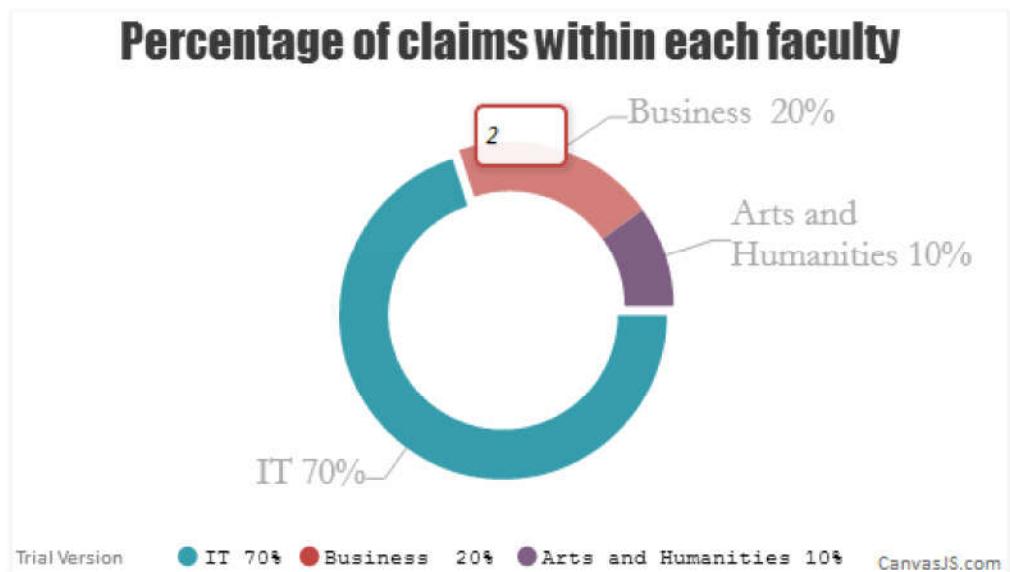


Figure 36: Report showing percentage of claims within each faculty

The screenshot shows the EC-CMS application interface. On the left, a dark sidebar menu includes 'Home', 'EC Claims' (which is expanded), and 'Exception reports' (also expanded). Under 'Exception reports', 'Claims without uploaded evidence report' is selected. The main content area displays a table titled 'Claims without uploaded evidence report'. The table has columns: Serial No, Department, Student Name, Subject, Assessments, Reason, and Submitted Date. There are four entries listed:

Serial No	Department	Student Name	Subject	Assessments	Reason	Submitted Date
1	CSE	Kazi Been	Basic Electronics	Class Test	Sick	10-04-2017
2	BIT	Antu Rozario	Information Requirement Analysis	Class Test	Sick	09-04-2017
3	BIT	Antu Rozario	Enterprise Web Application Development	Class Test	Sick	27-03-2017
4	BIT	Antu Rozario	Enterprise Web Application Development	Class Test	Sick	08-04-2017

At the bottom right of the content area, it says 'Showing 1 to 4 of 4 entries' and has 'Previous' and 'Next' buttons. The footer of the page reads 'Extemating Circumstances(EC) Claim Management System'.

Figure 37: Exceptional Report showing claims without evidence

The screenshot shows the EC-CMS application interface. The sidebar menu is identical to Figure 37, with 'Exception reports' expanded and 'Claims without decision report' selected. The main content area displays a table titled 'Claims without decision report'. The table has columns: Serial No, Department, Student Name, Subject, Assessments, Reason, and Submitted Date. There is one entry listed:

Serial No	Department	Student Name	Subject	Assessments	Reason	Submitted Date
1	BIT	Antu Rozano	Information Requirement Analysis	Class Test	Sick	26-03-2017

At the bottom right of the content area, it says 'Showing 1 to 1 of 1 entries' and has 'Previous' and 'Next' buttons. The footer of the page reads 'Extemating Circumstances(EC) Claim Management System'.

Figure 38: Exceptional report showing claims without decision