Bvec Unite

A Thesis (Project Phase-II) Submitted in Partial Fulfillment of the Requirements for the Degree of

Bachelor of Engineering
in Computer Science and Engineering

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DECLARATION BY THE PROJECT GROUP

We do hereby declare that the thesis entitled "**BVEC UNITE",** being submitted to the Department of Computer Science and Engineering, Barak Valley Engineering College, Karimganj, Assam, is a record of BE final year project work carried out by us under supervision of **Maram Smriti Baruah**. All sources of assistance have been assigned due acknowledgement. We also declare that neither this work as a whole nor a part of it has been submitted to any other University or Institute for any other degree, diploma or award.

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This is to certify that the work presented in the thesis entitled **"BVEC UNITE",** has been carried out by ***Kushaldeep Deb Choudhury, Arunesh Dhar, Swaib Ilias Mazumdar*** under **my** guidance. They have fulfilled the requirements of the rules and regulations related to the nature and prescribed period of project work at Barak Valley Engineering College. The thesis embodies accounts of their own findings and these have not been submitted previously anywhere for the award of any degree either by them or by anyone else.

All help received from various sources have been duly acknowledged.

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Date: 29/07/21

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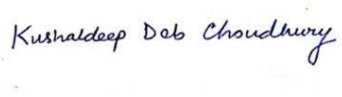

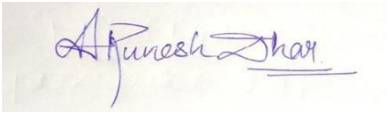

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ABSTRACT

BVEC UNITE is a social networking site for Barak Valley Engineering College. The aim of this site is to provide a single platform for students and the staffs to interact with each other, such as discussing their queries, uploading and viewing the study materials, chatting with each other, attending the quiz provided by the staff members, uploading their messages, images and videos in their timeline, viewing the notice published by the staff members. The admin of the site takes care of the activities such as adding and removing of courses, subjects, students and staff members and publishing notices.

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PROJECT SYNOPSIS

1. Project Synopsis

1. **Title of the Project:**
   BVEC UNITE

2. **Objective of the project:**
   The BVEC UNITE is the social networking project for Barak Valley Engineering College students. The main objective of this project is to develop for college students to interact with their faculties. This helps college administrator to track all the activities of the college. In this project the faculties can upload assignment details, notes, etc. Even students can ask questions with faculties.

3. **Project category:**
   RDBMS (Relational Database Management System)

4. **Hardware and Software Requirement Specifications:**
   Hardware requirements:
   - Operating System - Windows XP / Windows 7
   - Processor - Intel dual core
   - RAM – 1 GB
   - Hard Disk – Minimum 40 GB
   - Keyboard, monitor and mouse

   Software requirements:
   - Adobe Dreamweaver CS 6.0
   - Apache Server
   - MySQL database Server

   Programming Language:
   Front End: PHP:
   - PHP stands for PHP: Hypertext Preprocessor
   - PHP is a server-side scripting language. PHP scripts are executed on the server
   - PHP supports many databases (MySQL, Informix, Oracle, Generic ODBC, etc.)
   - PHP is an open source software (OSS).

   Back End: MY SQL:
   - MySQL is a database server
   - MySQL is ideal for both small and large applications
   - MySQL supports standard SQL

5. **Project modules:**
   - Dashboard module
   - Faculty control panel
   - Student Account panel
   - Discussion module
   - Study materials module

- Individual Chat and Group chat module
- Quiz module
- Result module
- Timetable and syllabus module

6. Innovativeness and usefulness:

- The faculties can upload study materials through online. The students can view uploaded study materials by faculties.
- The project has Individual and group chat feature where students can chat with faculties.
- A Quiz is given as a series of questions. Answers are then stored in the database. Scores and results are displayed during or after the quiz.
- In the events section the admin can organize and publish all types of events and students can apply for event participation.
- Admin has full authority of the website to manage students, faculties, question answers, result, Examination, course, events etc.

7. Limitations:

- Internet connection required to access this website.
- Basic computer knowledge required.

PREAMBLE

2. PREAMBLE

BVEC UNITE is a social networking site for Barak Valley Engineering College. The aim of this site is to provide a single platform for students and the staffs to interact with each other, such as discussing their queries, uploading and viewing the study materials, chatting with each other, attending the quiz provided by the staff members, uploading their messages, images and videos in their timeline, viewing the notice published by the staff members. The admin of the site takes care of the activities such as adding and removing of courses, subjects, students and staff members and publishing notices.

SOFTWARE REQUIREMENTS SPECIFICATION

3. SOFTWARE REQUIREMENTS SPECIFICATION

1. Introduction:

This SRS describes the requirements and specifications of BVEC CONNECT, a social networking engine for college. This section gives a scope, description and overview of everything included in this SRS document. Also, the purpose for this document is described and a list of abbreviations and definitions is provided.

Purpose:

The purpose of this document is to present a detailed description of BVEC CONNECT. It will illustrate the purpose and complete declaration for the development of system. It will also explain system constraints, interface and interactions with other external applications. This document is primarily intended to be proposed to a customer for its approval and a reference for developing the first version of the system for the development team.

Scope:

The project BVEC UNITE is the web application which helps college students to interact with their faculties and many more. This web application can be accessed by students of Barak Valley Engineering College.

The main scopes of the projects are:

- The faculties can upload study materials through online. The students can view uploaded study materials by faculties.
- The faculties can send assignment request and the students can upload assignments.
- In the question answer section, the students can post any queries to faculties and faculties can post answers.
- The administrator or faculty can publish time table and result.
- Admin has full authority of the website to manage students, discussion forum, faculties, quiz question answers, chat features, course, time table and result system.

Definitions, acronyms, abbreviations:

- SRS – Software requirements specifications.
- PHP - A server side scripting language.
- MySQL - The database that will be used for this project.
- http – Hypertext transfer protocol
- www – World wide web

References

- Software engineering by Pankaj Jalote
- www.w3schools.com
- www.tutorialspoint.com

Overview

The remainder of this document includes three chapters and appendixes. The second one provides an overview of the system functionality and system interaction with other systems. This chapter also explains the system constraints and assumptions about the product.
The third chapter provides the requirements specification in detailed terms and a description of the different system interfaces. Different specification techniques are used in order to specify the requirements more precisely for different audiences.

2. Overall description

This section provides an overview of the system functionality and system interaction with other systems. This chapter also explains the system constraints and assumptions about the product.

Product Perspective:

The project BVEC UNITE is the web based application with two interfaces: One is for students and another is for management. The website works in the desktop computers, laptops, and mobile devices with the help of browser.

Product functions:

The project BVEC UNITE has following product functions:

- The web portal will provide functionality to manage the system and the student information.
- The website is secure because user must enter login details to access the website.
- The system contains huge records. For this reason, the search option has been provided in all report pages. So the search results can be viewed in the list view.
- The product works online with help of internet connection.

User Characteristics:

It is considered that the user does have the basic knowledge of operating the internet and its accession. The administrator is expected to be familiar with the interface of the technical support system.

General Constraints:

This system is provisioned to be built on the Core PHP which is highly flexible. Decision regarding which database to use should be taken considering the fact that data being exchanged or stored is large, and the appropriate data management system will yield efficient performance.

Assumptions and Dependencies

- Internet connection required.
- 24X7 uptime server connection required.

3. Specific Requirements:

This section contains all of the functional and quality requirements of the system. It gives a detailed description of the system and all its features.

External Interface Requirements:

This section provides a detailed description of all inputs into and outputs from the system. It also gives a description of the hardware, software and communication interfaces and provides basic prototypes of the user interface.

User interfaces

There are three types of users in this system. They are:

- **Administrator**: The administrators are the main users with full authority who handles complete website information.
- **Faculty:** Faculties are the users who monitors students, uploads quiz questions, study materials, and publish result.
- **Student:** Students are the registered users. They can view study materials, quiz questions, results and communicate with each other etc.

Hardware interfaces

- **Operating system:** Windows XP onwards
- **Hard disk:** minimum 40 GB hard disk
- **RAM:** minimum 1 GB RAM
- **Processor:** Intel Pentium or above

Software interfaces

- XAMPP 1.8.2
- Apache server
- PHP 5.4
- MYSQL server 5.5
- Adobe Dreamweaver CS 6.0

Communication interfaces:

The project shall use the HTTP protocol for communication over the internet and for the intranet communication will be through TCP/IP protocol suite.

Functional Requirements:

Dashboard module: This dashboard module is for administrator where admin can manage complete control of the website. Admin is the super user of the website.

Settings module: In the settings module the administrator can add or delete department details, course details, subject details, etc.

Faculty control panel: The administrator has option to add new faculty records. The system will send login details to the faculties. The faculties can publish quiz questions, study materials, timetable, syllabus and result.

Student Account panel: The students can login to the website by entering login id and password. The administrator approves new student profile details. The student can update their profile after the login.

Discussion module: In this module students can send questions in the discussion panel. The faculties can answer to all students' questions. All the question and answer records stores in the discussion panel. All students can view discussion panel records.

Study materials module: In this module the faculties can upload notes and documents by entering book details. This helps students to refer for exam, studies, etc.

Individual Chat and Group chat module: This allows users to chat with their friend circles. Users can send invitation to their friends to join the chat system. The user can create chat room in the group chat.

Quiz module: This module provides a common platform to connect students and faculties online. The faculty can create Quiz and student can take up quiz. The quiz result and point system will display in the student account panel.

Result module: The faculties can publish students' exam results in this module, where student can view their result by entering their roll number and password.

Performance requirements:

- This section lists the performance requirements expected from the BVEC UNITE Project.
- The users shall be able to add any records fewer than 5 seconds.
- The users shall be able to view any records fewer than 10 seconds.
- The users shall be able to download videos within 20 -40 seconds.
- The navigation between pages shall take fewer than 5 seconds.
- The application shall be able to do a validation check on the information provided in the user-authentication form and the place-order form to avoid false or incomplete information.

Design constraints:

This section lists the design requirements for the BVEC UNITE project. The user interface (UI) must have specific fonts and font sizes. The system shall match the fonts and font sizes used for all the pages of the application.

System attributes:

Integrity:

- The authorized user shall be allowed to access the BVEC UNITE Project application.
- Based on the user type, the BVEC UNITE shall provide a user specific interface.

Correctness:

- The assigned project modules should be received by the specified user.

Availability:

- The system shall be made available to the students, faculties, and administrator year round.

Robustness:

- The system shall be able to save and view all the records in the fraction of seconds.

Other requirements:

Installation:

A Readme for installation instructions and required dependencies will be provided with the software. A user friendly installer script will also be provided.

System Design

4. System Design

Introduction:

- **System Analysis:**
  The system analysis approach emphasises a closed look on all parts of the system. The analyst must consider all the system elements, their inputs, outputs, control, feedback and the environment when the system is being constructed.

- **System Design:** The goal of system design phase is to produce a model or representation of the system, which can be used to build the system. Here the emphasis is on translating the requirements of the system into design specification.

1. **Applicable Documents:**

   The document used in system design is Software Requirement Specification Document.

2. **Functional Decomposition:**

   The system can be decomposed into functional components as follows. The Components are–

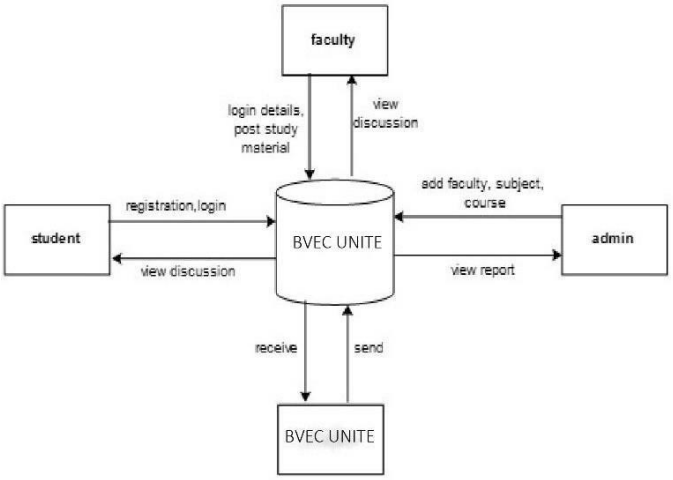
   - The faculties can upload study materials through online. The students can view uploaded study materials by faculties.
   - The faculties can send assignment request and the students can upload assignments.
   - In the question answer section the students can post any queries to faculties and faculties can post answers.
   - The administrator or faculty can publish time table and result.
   - Admin has full authority of the website to manage students, discussion forum, faculties, quiz question answers, chat features, course, time table and result system.

3. **Program Description:**

   Context Flow Diagram:

   Context flow diagram is a top level data flow diagram. It only contains one process node that generalises the function of the entire system in relationship to external entities. In context diagram the entire system is treated as a single process and all its inputs, outputs, sinks and sources are identified and shown.

Context Flow Diagram (Level 0):



Data Flow Diagram:

A data flow diagram is a graphical representation of the flow of data through an information system. A data flow diagram can also be used for the visualization of the data processing. It is common practice for a designer to draw a context level DFD. It shows the interaction between the system and the outside entities. This context level DFD, is then exploded to show more detail of the system being modelled.

A DFD represents flow of data through a system. Data flow diagrams are commonly used during problem analysis. It views a system as a function that performs the input into the desired output. A DFD shows movement of data through the different transformations or processes in the system.

Data Flow diagrams can be used to provide the end users with the physical idea of where the data they input ultimately has an effect upon the structure of whole system from order to dispatch to restock how any system is developed can be determined through data flow diagram. The appropriate register saved in database and maintained by appropriate authorities.

Notations in the DFD:

Symbol	Description
	The circle or bubble represents a process. A process is named and each process is represented by a named circle.
	The source or sink is represented as a rectangular box. The source or sink is the net originator or the consumer of the data that flows in the system.
	The arrow represents the flow of data through the system. The labeled arrows enter or leave the bubbles.
	The database is represented with the open box symbol.

Top Level DFD - Level-1:

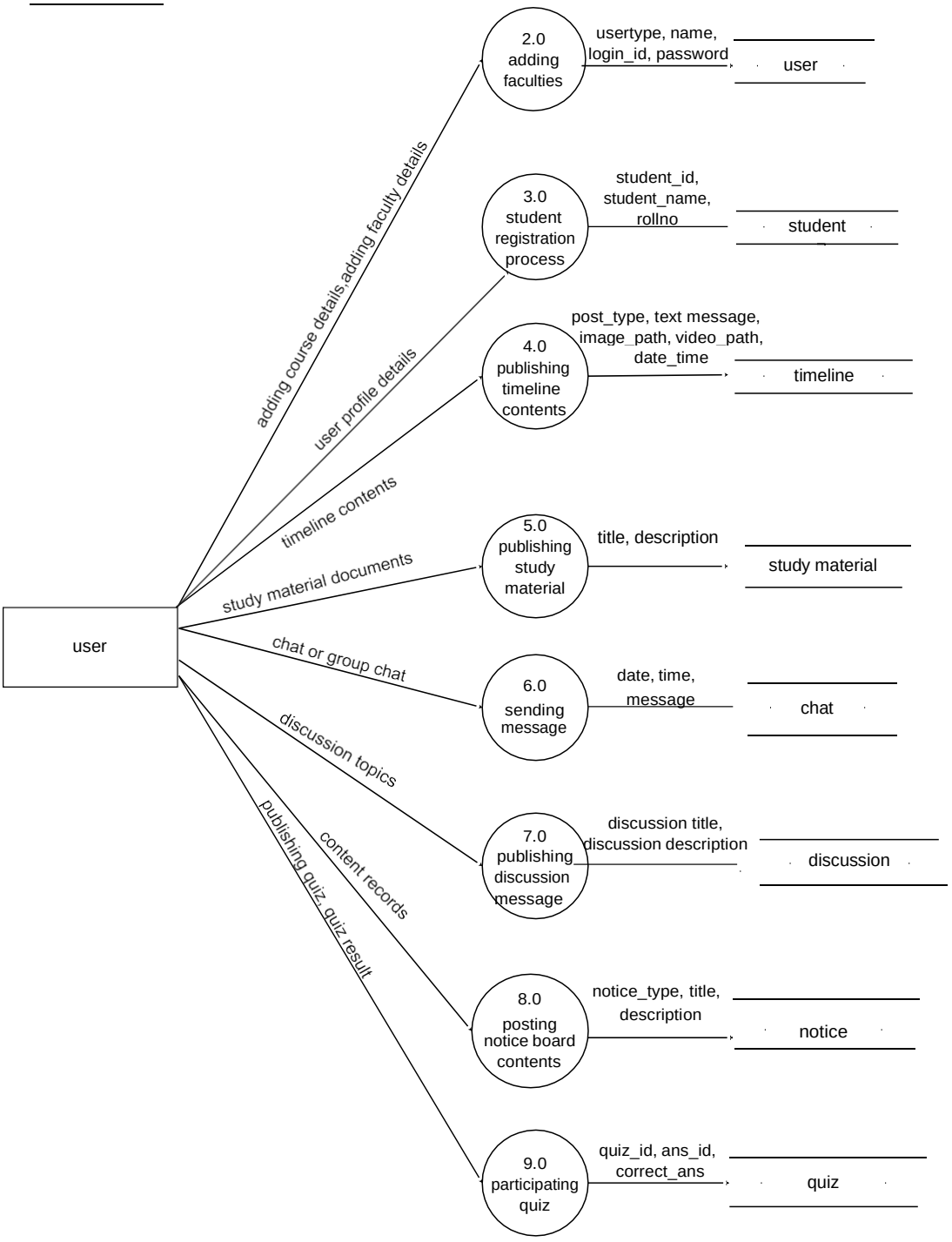


Fig.2

DFD Level 2:

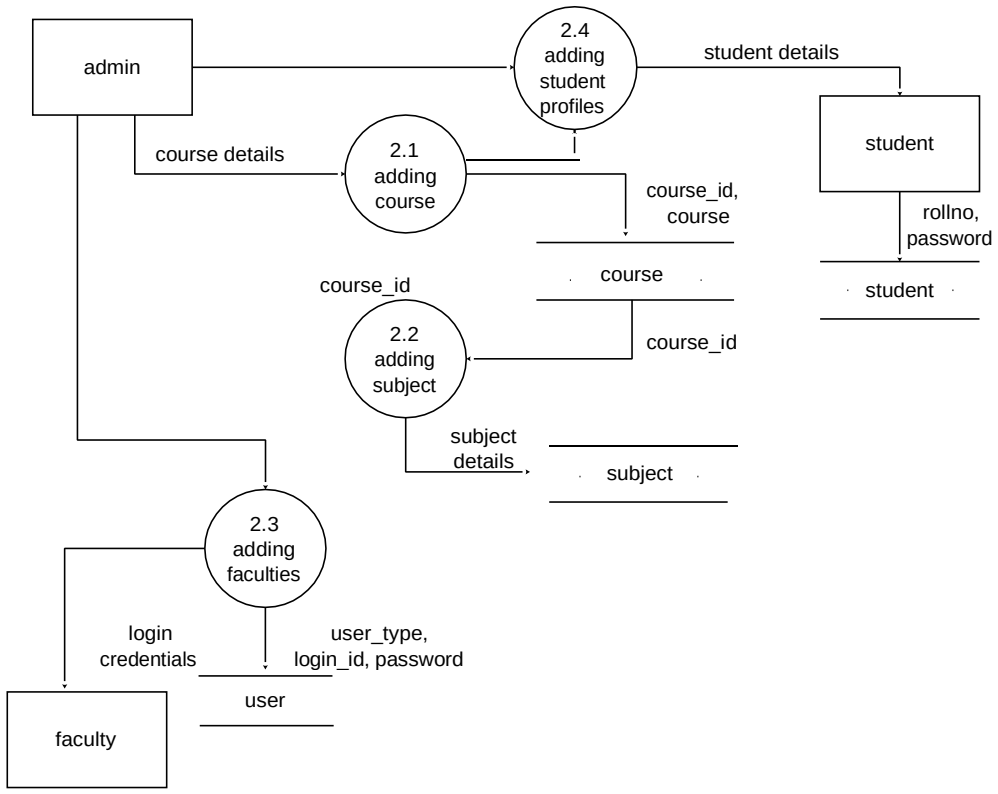


Fig.3

Description of component:

- **Input**:
  - Course details
  - Subject details
  - Faculty details

- **Process Definition**:
  - Adding course details
  - Adding Subject details
  - Adding Faculty details

- **Output Definition:**
  - In the course details all the course list stores in the course table
  - In the subject details all the subject list stores in the subject table
  - Under the course the system adds faculty records.

DFD Level 3:

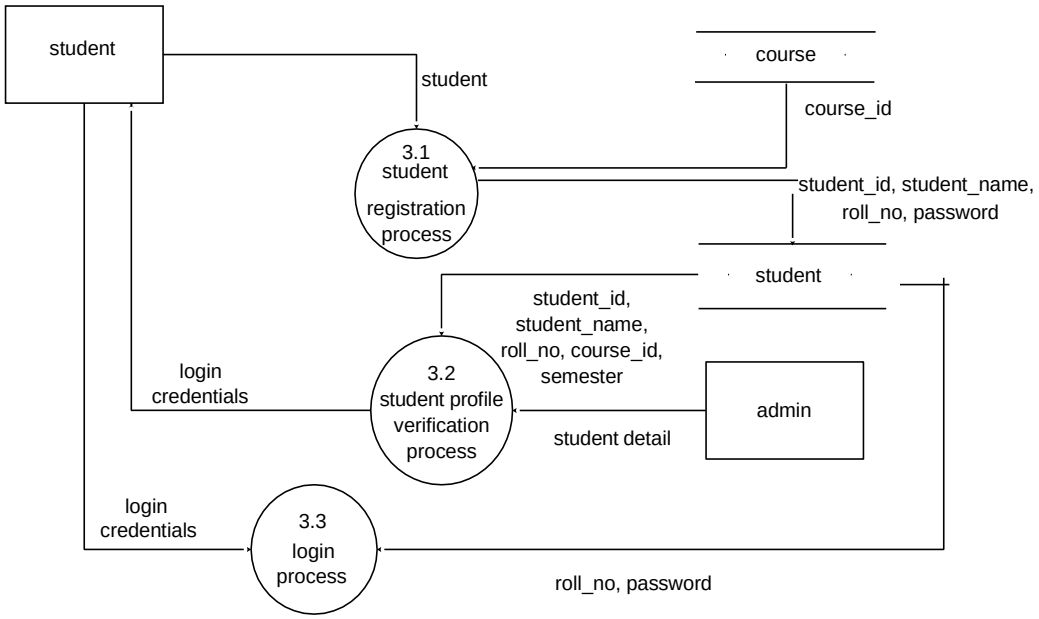


Fig.4

Description of component:

- **Input**:
  - Student registration
  - Student profile details to verify
  - Login details

- **Process Definition:**
  - Registration process
  - Profile verification process
  - Login process

- **Output definition:**
  - The system inserts registration details in the student table
  - The system approved student profile details in the profile verification component
  - In the login component the student can view account page after the login.

DFD Level 4:

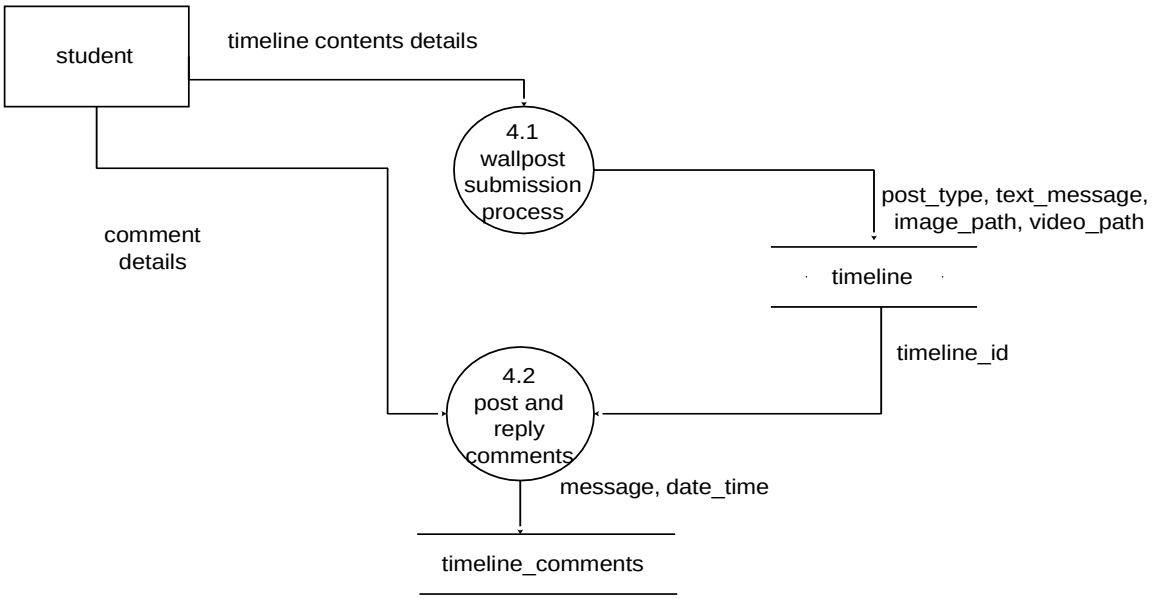


Fig.5

Description of component:

- **Input:**
  - Wallpost submission details
  - Reply comment

- **Process Definition:**
  - The wallpost submission process check whether the uploaded content is text or image or video.
  - Sending comment process

- **Output definition:**
  - The system stores all the wallpost record in timeline table
  - Comment reply stores in timeline_comments

DFD Level 5:

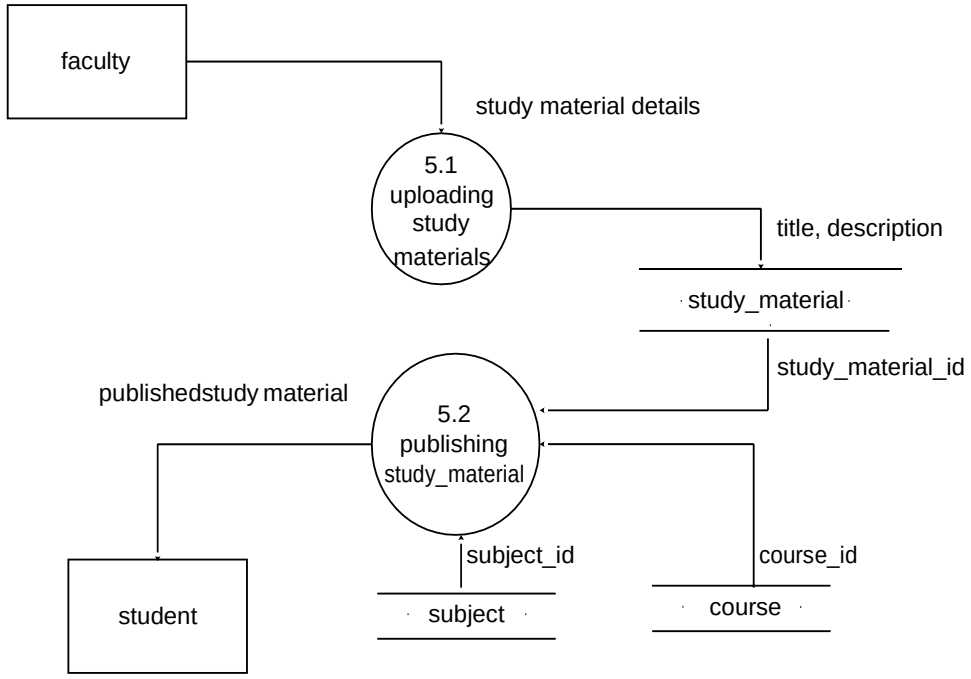


Fig.6

Description of component:

- **Input**:
  - Study materials
  - Publishing study material

- **Process Definition:**
  - Uploading study materials
  - Publishing study materials

- **Output definition:**
  - The study material document uploads in the study material table
  - The system will publish the study material on scheduled date and time.

DFD Level 6:

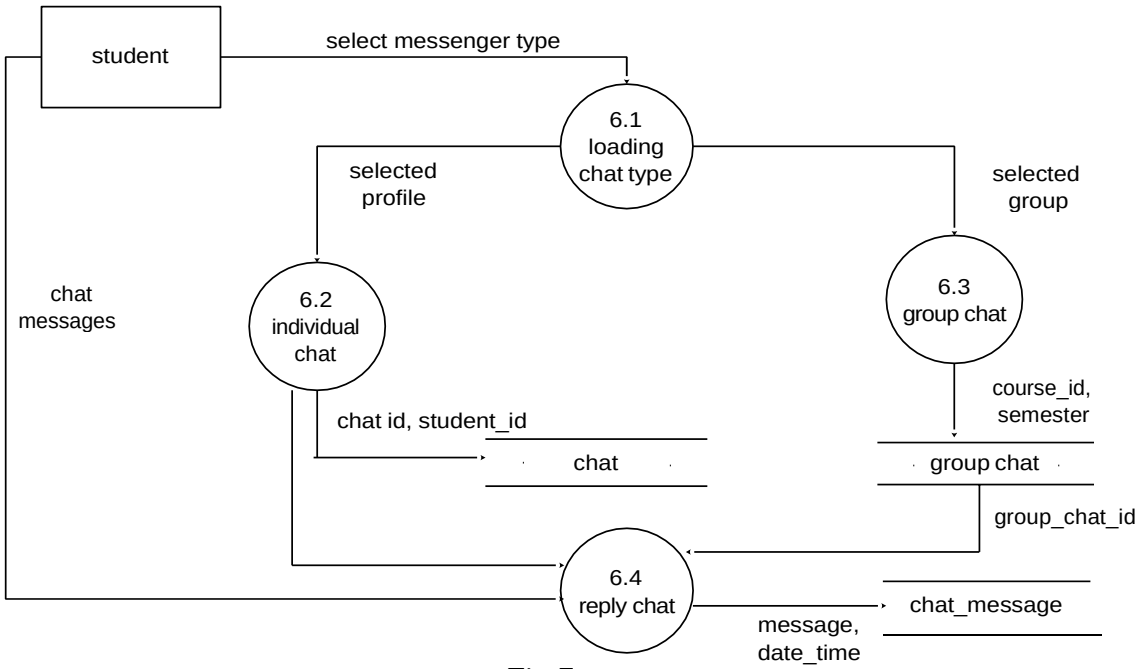


Fig.7

Description of component:

- **Input**:
  - Messenger type
  - Chat message
  - Chat group

- **Process Definition:**
  - Loading chat type
  - Loading group chat
  - Loading individual chat
  - Replying chat process

- **Output definition:**
  - The chat messages and reply messages stores in chat table.

DFD Level 7:

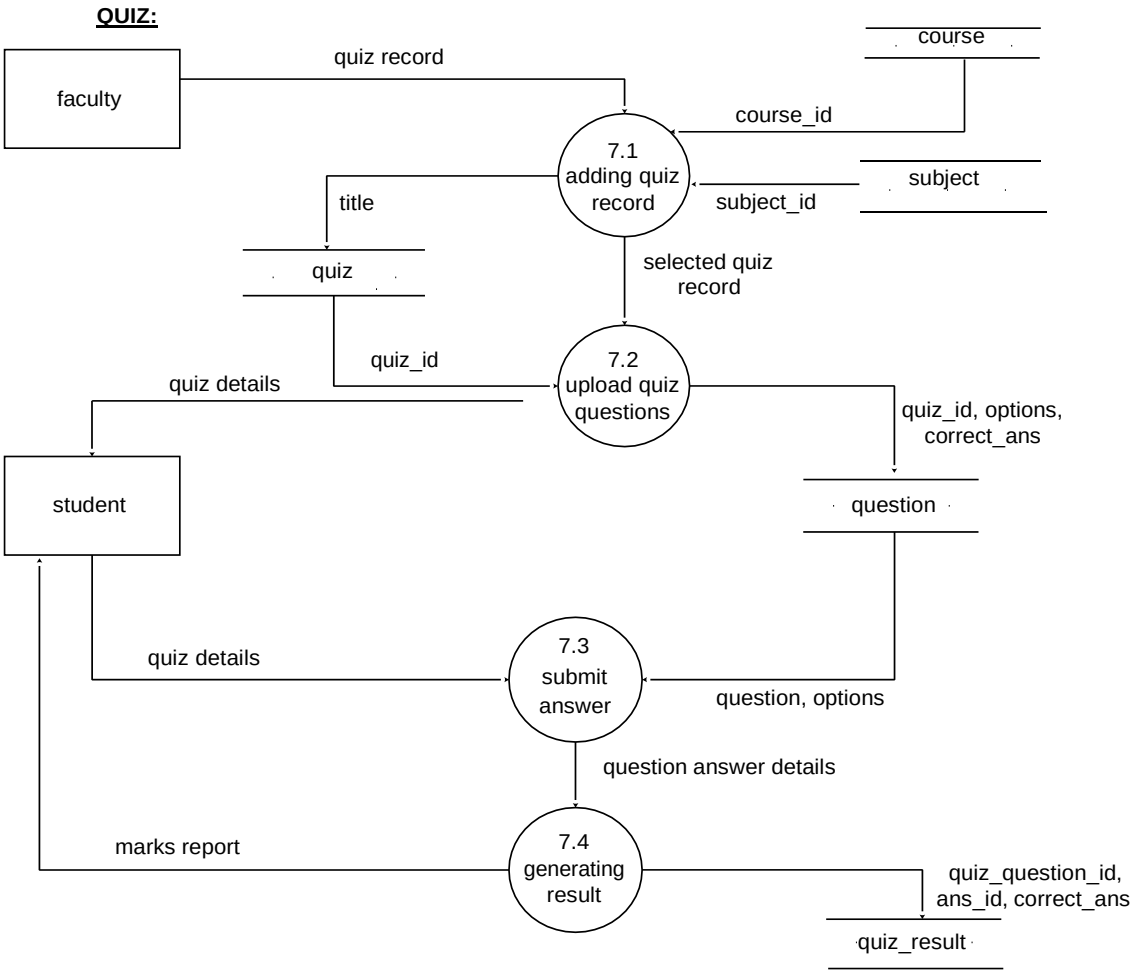


Fig.8

Description of component:

- **Input**:
  - Quiz records
  - quiz questions
  - quiz details
  - Attend quiz

- **Process Definition:**
  - Adding quiz record
  - Uploading quiz questions
  - Submitting answer
  - Generating result

- **Output definition:**
  - Added quiz record stores in quiz table
  - Quiz question stores in quiz_question table

- Students submitted answer stores in quiz_result. The system will publish the result and generates the report.

DFD Level 8:

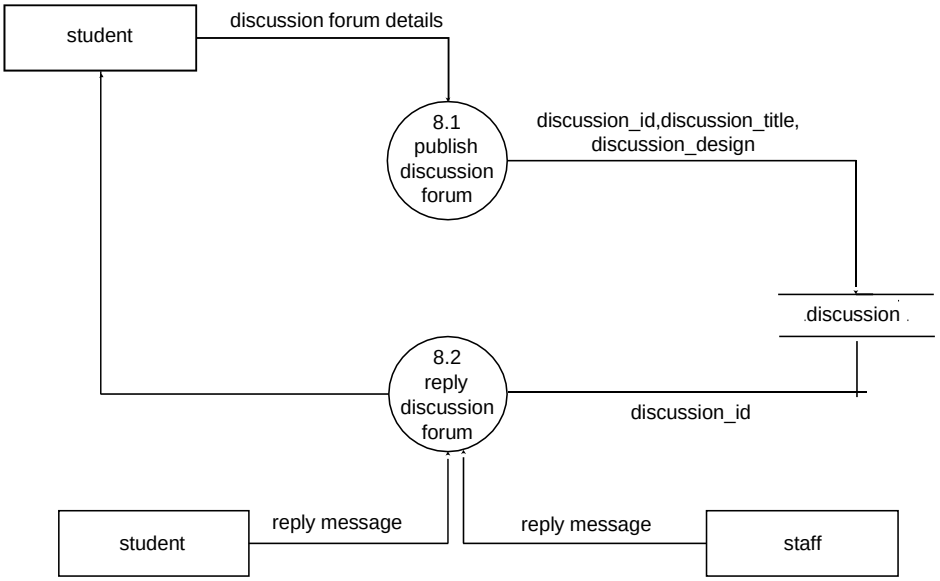


Fig.9

Description of component:

- **Input**:
  - Discussion forum details
  - Discussion reply details

- **Process Definition:**
  - Publishing discussion forum
  - Replying discussion forum

- **Output definition:**
  - The published discussion form stores in discussion table
  - The discussion forum comment stores in discussion_comment

DFD Level 9:

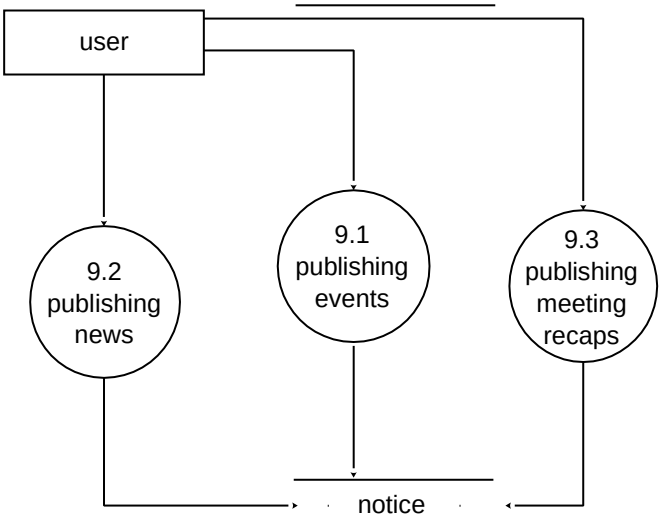


Fig.10

Description of component:

- **Input**:
  - Event details
  - News contents
  - Meeting details

- **Process Definition:**
  - Publishing news
  - Publishing events
  - Publishing meeting.

- **Output definition:**
  - All the published content stores in notice table.

Database Design

5.Database Design

Introduction:

- **Database:** A Database is collection of related data, which can be of any size and complexity. By using the concept of Database, we can easily store and retrieve the data. The major purpose of a database is to provide the information, which utilizes it with the information's that the system needs according to its own requirements.

- **Database Design:**Database design is done before building it to meet needs of end-users within a given information-system that the database is intended to support. The database design defines the needed data and data structures that such a database comprises.

  The database is physically implemented using MySQL.

The database for **BVEC UNITE** is organized into 16 tables:

- course
- subject
- user
- student
- notice
- chat
- group_chat
- chat_message
- timeline
- timeline_comments
- quiz
- question
- quiz_result
- study_material
- discussion
- discussion_reply

Each entity can be described as follows along with its attributes:

Table name: student

The student table stores student records.

Column	Type	Index	Description
student_id	int(10)	Primary key	Student ID
student_name	varchar(25)	Null	Student name
roll_no	varchar(20)	Unique	Student Roll Number
Password	varchar(100)	Null	Student password
student_img	varchar(100)	Null	Student profile image
course_id	int(10)	Foreign key	Course ID
Semester	varchar(20)	Null	Semester
about_student	Text	Null	About student
email_id	varchar(25)	Null	Email ID
mob_no	varchar(15)	Null	Mobile Number
Status	varchar(10)	Null	Student status

Table name: subject

The subject is the master table which stores subject details

Column	Type	Index	Description
subject_id	int(10)	Primary key	Subject ID
subject	varchar(40)	Null	Subject name
course_id	int(10)	Foreign key	Course ID
note	Text	Null	Subject note
status	varchar(10)	Null	Subject status

Table name: user

The user table stores administrator and staff information

Column	Type	Index	Description
user_id	int(10)	Primary key	User ID
user_type	varchar(25)	Null	User type
name	varchar(25)	Null	Name
user_img	Text	Null	User Image
login_id	varchar(25)	Unique	Login ID
password	varchar(100)	Null	Password
status	varchar(10)	Null	Status

Table name: course

The course table is the master table which stores course records

Column	Type	Index	Description
course_id	int(10)	Primary key	Course ID
course	varchar(25)	Null	Course title
course_description	text	Null	Course description
status	varchar(10)	Null	Course status - Active or Inactive

Table name: timeline

The timeline table stores published wallpost contents.

Column	Type	Index	Description
timeline_id	int(10)	Primary key	Timeline ID
student_id	int(10)	Foreign key	Student ID
post_type	varchar(20)	Null	Post type – Photo, video or Text
text_message	Text	Null	Text message
image_path	Text	Null	Image page
video_path	Text	Null	Video path
date_time	Datetime	Null	Published date and time

Table name: timeline_comments

The timeline comments table stores comment which is published for wallpost.

Column	Type	Index	Description
timeline_comment_id	int(10)	Primary key	Timeline comment ID
comment_type	varchar(15)	Null	Timeline comment type
student_id	int(10)	Foreign key	Student ID
timeline_id	int(10)	Foreign key	Timeline ID
message	Text	Null	Comment message
date_time	Datetime	Null	Comment date and time

Table name: chat

The chat table stores chat records

Column	Type	Index	Description
chat_id	int(10)	Primary key	Chat ID
student_id1	int(10)	Foreign key	Chat message sender ID
student_id2	int(10)	Foreign key	Chat message receiver ID

Table name: chat_message

The chat message table stores chat messages.

Column	Type	Index	Description
chat_message_id	int(10)	Primary key	Chat message ID
chat_id	int(10)	Foreign key	Chat ID
group_chat_id	int(10)	Foreign key	Group chat ID
student_id	int(10)	Foreign key	Student ID
date_time	Datetime	Null	Message received date and time
message	Text	Null	text message
message_status	varchar(10)	Null	Chat message status

Table name: group_chat

The group_chat is the table which contains group chat messages.

Column	Type	Index	Description
group_chat_id	int(10)	Primary key	Group chat ID
course_id	int(10)	Foreign key	Course ID
Semester	varchar(20)	Null	Semester

Table name: discussion

The discussion table stores discussion details.

Column	Type	Index	Description
discussion_id	int(10)	Primary key	Discussion ID
course_id	int(10)	Foreign key	Course ID
semester	varchar(20)	Null	Semester
subject_id	int(10)	Foreign key	Subject ID
discussion_title	varchar(100)	Null	Discussion title
discussion_description	Text	Null	Discussion description
date_time	Datetime	Null	Date time
student_id	int(10)	Foreign key	Student ID
status	varchar(10)	Null	Discussion status

Table name: discussion_reply

The discussion reply stores discussion reply records

Column	Type	Index	Description
discussion_reply_id	int(10)	Primary key	Discussion reply ID
discussion_id	int(10)	Foreign key	Discussion ID
student_id	int(10)	Foreign key	Student ID
user_id	int(10)	Foreign key	User ID
message	Text	Null	Discussion reply Message
uploads	varchar(100)	Null	Uploaded documents
date_time	Datetime	Null	Discussion reply date and time

Table name: notice

The notice table stores published events, news and meeting records.

Column	Type	Index	Description
notice_id	int(10)	Primary key	Notice ID
notice_type	varchar(25)	Null	Notice type
user_id	int(10)	Foreign key	User ID
title	varchar(100)	Null	Notice title or heading
description	Text	Null	Notice content
uploads	Text	Null	Notice uploading files.
date_time	Datetime	Null	Notice date and time
status	varchar(10)	Null	Notice status

Table name: quiz

The quiz table stores the detailed information of quiz

Column	Type	Index	Description
quiz_id	int(10)	Primary key	Quiz ID
user_id	int(10)	Foreign key	User ID
course_id	int(10)	Foreign key	Course ID
subject_id	int(10)	Foreign key	Subject ID
title	varchar(100)	Null	Quiz title
description	Text	Null	Quiz detailed information

Table name: question

The question table stores quiz question, options and answers

Column	Type	Index	Description
quiz_question_id	int(10)	Primary key	Quiz question ID
quiz_id	int(10)	Foreign key	Quiz ID

question	Text	Null	Quiz question
option1	Text	Null	Option 1
option2	Text	Null	Option 2
option3	Text	Null	Option 3
option4	Text	Null	Option 4
correct_ans	varchar(10)	Null	Correct answer
status	varchar(10)	Null	Question status

Table name: quiz_result

The quiz result stores published quiz result.

Column	Type	Index	Description
quiz_result_id	int(10)	Primary key	Quiz result ID
quiz_id	int(10)	Foreign key	Quiz ID
student_id	int(10)	Foreign key	Student ID
quiz_question_id	int(10)	Foreign key	Quiz question ID
selected_option	varchar(10)	Foreign key	Answer ID
correct_ans	varchar(10)	Null	Correct answer
date_time	Datetime	Null	Attended Date time

Table name: study_material

The study_material table stores uploaded study materials.

Column	Type	Index	Description
study_material_id	int(10)	Primary key	Study material ID
course_id	int(10)	Foreign key	Course ID
semester	varchar(20)	Null	Semester
subject_id	int(10)	Foreign key	Subject ID
title	varchar(100)	Null	Study material title
user_id	int(10)	Foreign key	Uploaded faculty id
description	Text	Null	Study material descripton
uploads	Text	Null	Documents uploaded
date_time	Datetime	Null	Published date and time

1. Entity-Relationship Diagram:

An entity-relationship (ER) diagram is a specialized graphic that illustrates the relationships between entities in a database. ER diagrams often use symbols to represent three different types of information. Boxes are commonly used to represent entities. Diamonds are normally used to represent relationships and ovals are used to represent attributes.

The Symbols are shown in below table:

Name	Notation	Description
Entity		Entity is represented by a box within the ERD. Entities are abstract concepts, each representing one or more instances of the concept in question. An entity might be considered a container that holds all of the instances of a particular thing in a system. Entities are equivalent to database tables in a relational database, with each row of the table representing an instance of that entity.
Relationship		Relationships are represented by Diamonds. A relationship is a named collection or association between entities or used to relate to two or more entities with some common attributes or meaningful interaction between the objects.
Attributes		Attributes are represented by Oval. An attribute is a single data item related to a database object. The database schema associates one or more attributes with each database entity.

ER Diagram:

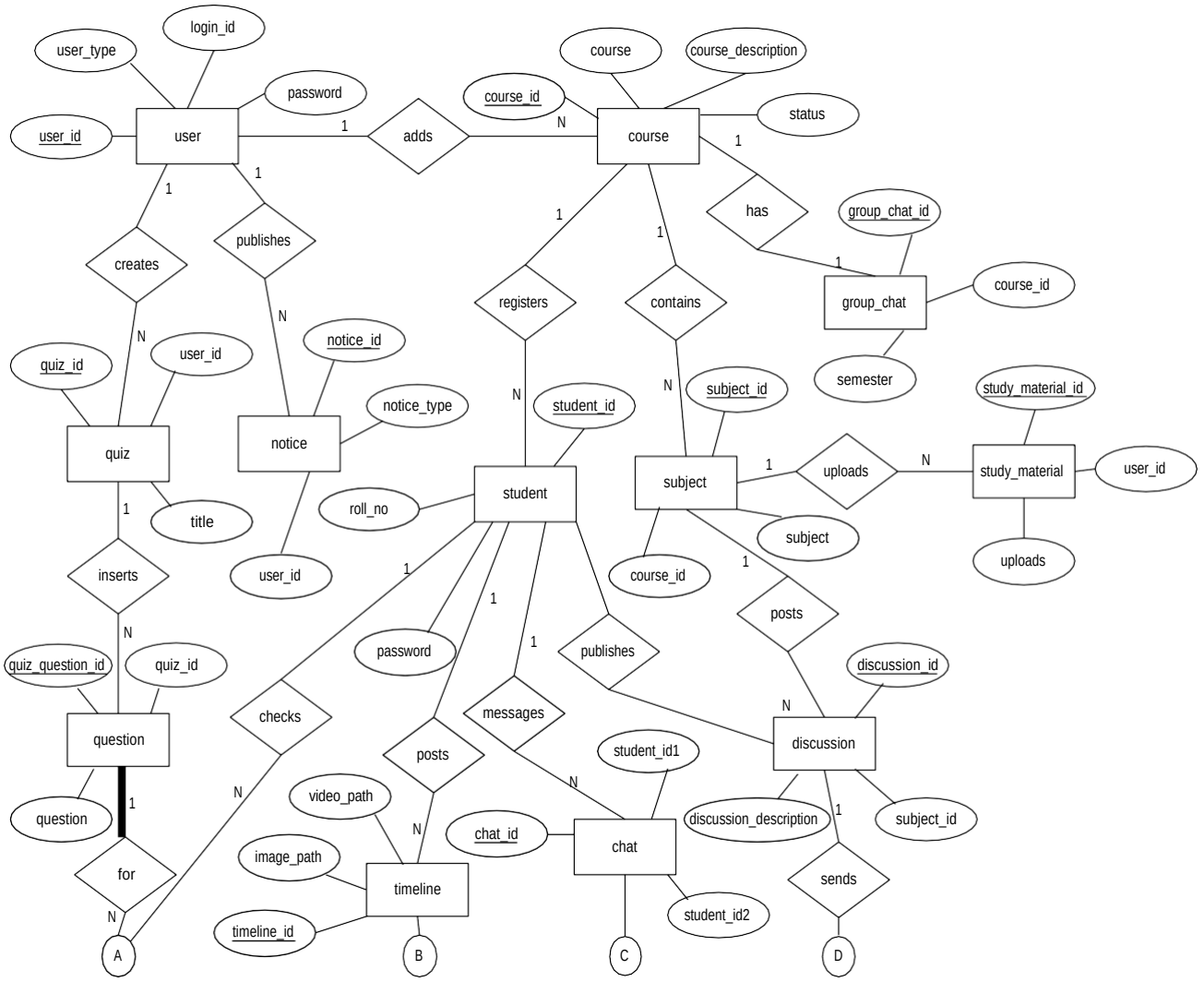
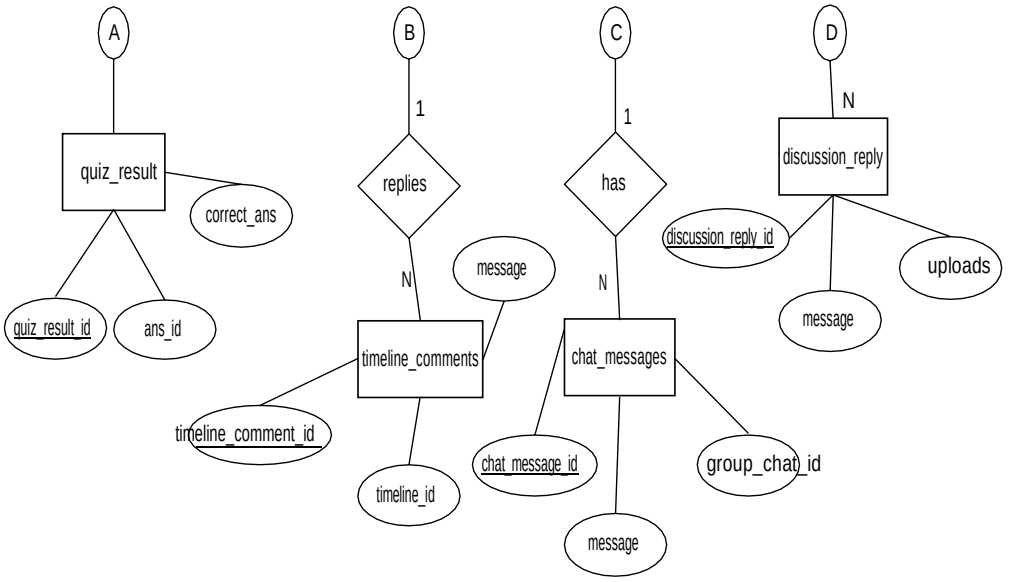


Fig.11



Database Schema design:

MySQL Workbench simplifies database design and maintenance, automates time-consuming and error-prone tasks, and improves communication among DBA and developer teams. It enables data architects to visualize requirements, communicate with stakeholders, and resolve design issues before a major investment of time and resources is made. It enables model-driven database design, which is the most efficient methodology for creating valid and well-performing databases, while providing the flexibility to respond to evolving business requirements. Model and Schema Validation utilities enforce best practice standards for data modeling, also enforce MySQL-specific physical design standards so no mistakes are made when building new ER diagrams or generating physical MySQL databases.

Database Design

6.Detailed Design

1. **Introduction:**

The purpose of preparing this document is to explain complete design details of our project BVEC UNITE (Social Networking site for Barak Valley Engineering College).

This detailed design report will mainly contain the general definition and features of the project, design constraints, the overall system architecture and data architecture. Additionally, a brief explanation about our current progress and schedule of the project will be provided in related sections. Design of the system and subsystems/modules will be explained both verbally and visually by means of diagrams in order to help the programmer to understand all information stated in this document correctly and easily.

2. **Applicable documents:**

The documents used during detailed design are

- System Requirements Document
- System Design
- Database Design

3. **Structure of the software package**:

The Components are –

- Dashboard module is for administrator where admin can manage complete control of the website. Admin is the super user of the website.
- In the settings module the administrator can add or delete department details, course details, subject details, etc.
- The faculties can publish quiz questions, study materials, timetable, syllabus and result.
- The students can login to the website by entering login id and password.
- All the questions and answers record stores in the discussion panel. All students can view discussion panel records.
- In the study material module, the faculties can upload notes and documents by entering book details.
- The chat module allows users to chat with their friend circles.

- The faculty can create Quiz and student can take up quiz. The quiz result and point system will display in the student account panel.

4. Modular Decomposition of Components:

Dashboard Component:

Identification of Modules:

The modules identified in this component are:

- Admin account
- Publish news
- Publish events
- Publish meeting schedule
- Add course records
- Add subject records

Structure chart for Dashboard:

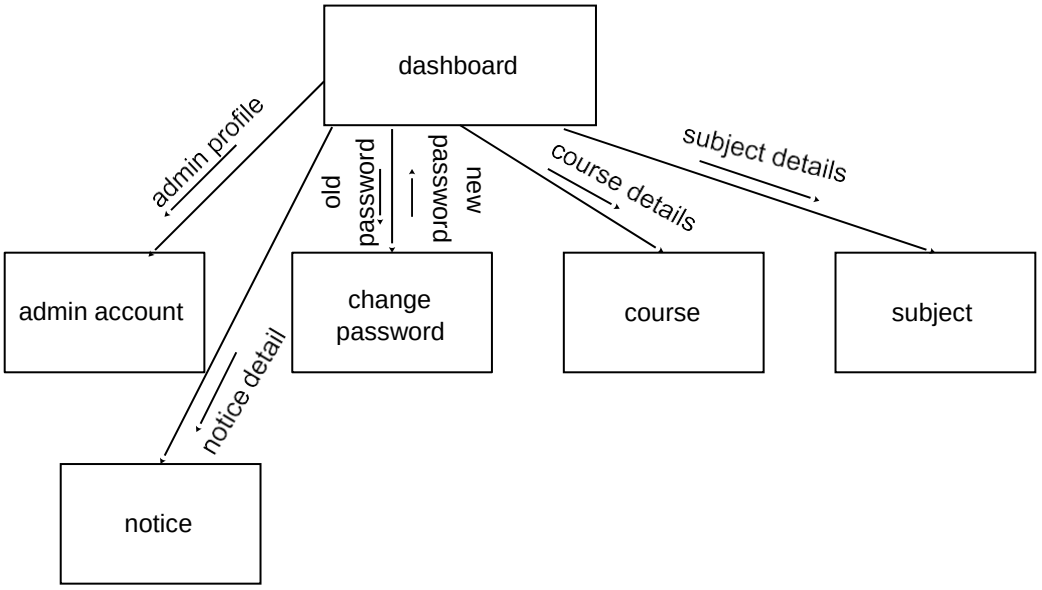


Fig.12

FacultyComponent:

Identification of Modules:

The modules identified in this component are:

- Quiz materials
- Study materials
- Students record
- Faculty profile

Structure chart for Faculty:

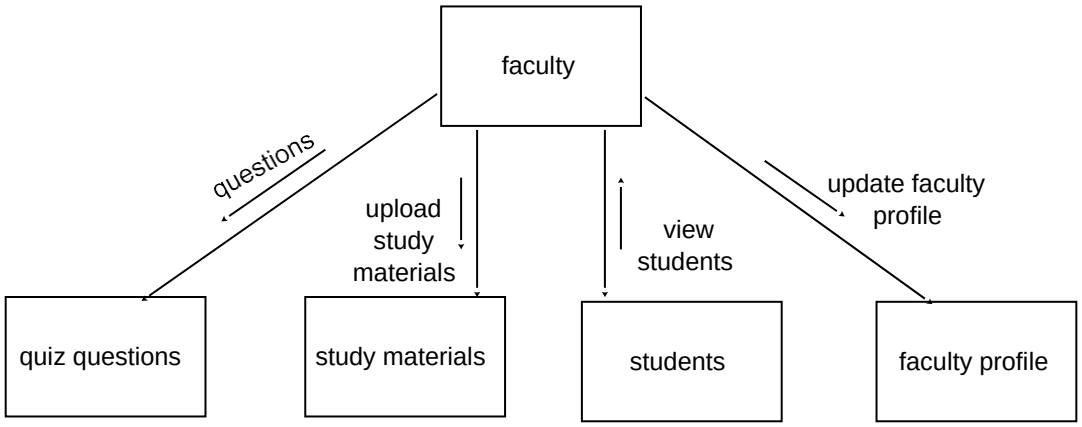


Fig.13

Payment Discussion:

Identification of Modules:

The modules identified in this component are:

- Post discussion forum
- Discussion reply
- View discussion forum

Structure chart for Discussion:

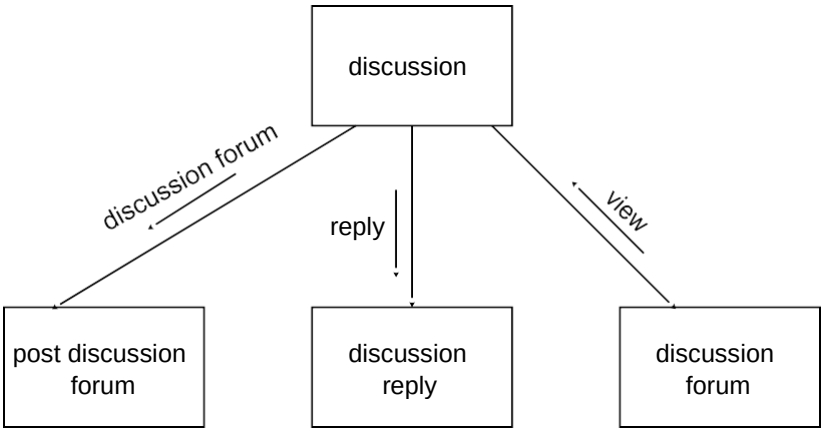


Fig.14

Quiz Component:

Identification of Modules:

The modules identified in this component are:

- Upload quiz question
- Attend quiz exam
- Quiz result

Structure chart for Quiz:

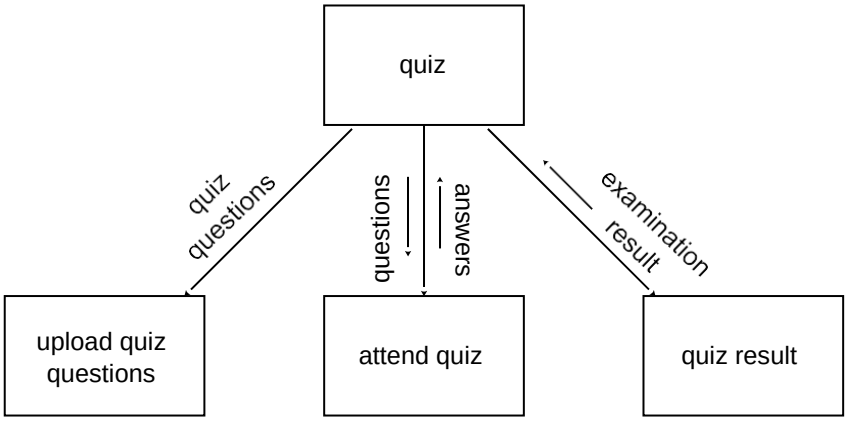


Fig.15

Study material Component:

Identification of Modules:

The modules identified in this component are:

- Upload notes
- View study materials

Structure chart for Study material:

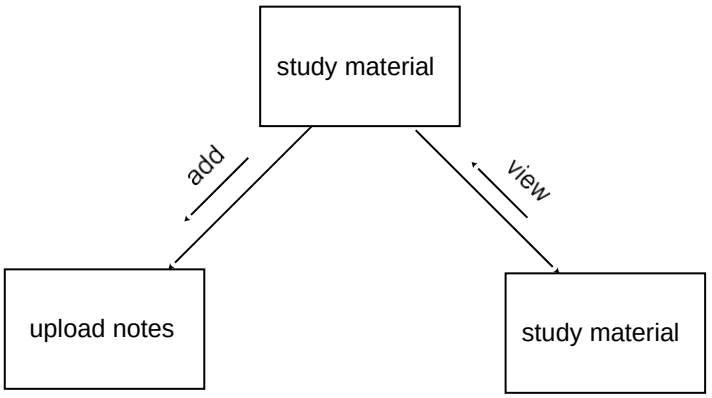


Fig. 16

TESTING

7. TESTING

Introduction:

Testing is the major quality control measure used during software development. It is a basic function to detect errors in the software. During the requirement analysis and design the output of the document that is usually textual and non-executable after the coding phase the computer programs are available that can be executed for testing purpose. This implies that testing not only has to uncover errors introduce during the previous phase. The goal of testing is to uncover requirement, design, coding errors in the program.

Testing determines whether the system appears to be working according to the specifications. It is the phase where we try to break the system and we test the system with real case scenarios at a point.

- **Levels of Testing:**

- **Unit Testing:**

The unit testing of the source code has to be done for every individual unit of module that was developing part of the system and some errors were found for every turn and rectified. This form of testing was use to check for the behavior signified the working of the system in different environment as an independent functional unit.

- **Integration Testing:**

From the individual parts to the cohesion of each part to make the system as a whole, there is need to test the working between the assembled modules of the system. The modules are integrated to make up the entire system. The testing process is concerned with finding errors that result from unanticipated interaction between the sub-system and system component. It is also concerned with validating the system meets its functional and non-functional requirement.

- **System Testing:**

The requirement specification document that is the entire system is to be tested to see whether it meets the requirement or not.

Test Reports:

✓ **Test Unit: User Component**

- **Adding User:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If user type is not selected	Usertype	Kindly select user type.	SUCCESSFUL
2.	If user name contains other than Character values	Name	Name should contain only alphabets.	SUCCESSFUL
3.	If login id contains other than alphabets and digits	loginid	Only alphabets and numeric values are allowed.	SUCCESSFUL
4.	If password length is less than 8 characters	Password	Password must contain at least 8 characters.	SUCCESSFUL
5.	If password and confirm password does not match.	password, confirmpassword	Password and Confirm password are not matching.	SUCCESSFUL
6.	If status is not selected	Status	Kindly select your status.	SUCCESSFUL

- **User login:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If login id contains other than alphabets and digits	Loginid	Only alphabets and numeric values are allowed.	SUCCESSFUL
2.	If password contains less than 8 characters	Password	Password must contain at least 8 characters..	SUCCESSFUL

Fig

- **User Profile Update:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If user name contains other than Character values.	Name	Name should contain only alphabets.	SUCCESSFUL

- **User Change Password:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If the old password contains less than 8 characters	Oldpassword	Password must contain at least 8 characters.	SUCCESSFUL
2.	If the new password contains less than 8 characters	Newpassword	Password must contain at least 8 characters.	SUCCESSFUL
3.	If the password and confirm password does not match	newpassword, confirmpassword	Password and Confirm password are not matching.	SUCCESSFUL

- **Adding Student:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If student name contains other than Character values	Name	Name should contain only alphabets.	SUCCESSFUL
2.	If roll number contains other than digits	Rollno	Only numeric values allowed.	SUCCESSFUL
3.	If course is not selected	Course	Kindly select your course.	SUCCESSFUL
4.	If semester is not selected.	Semester	Kindly select your semester.	SUCCESSFUL

✓ **Test Unit: Student Component**

- **Student Registration:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If student name contains other than Character values	Name	Name should contain only alphabets.	SUCCESSFUL
2.	If course is not selected	Course	Kindly select your course.	SUCCESSFUL
3.	If semester is not selected.	Semester	Kindly select your semester.	SUCCESSFUL
4.	If roll number contains other than digits	Rollno	Only numeric values allowed.	SUCCESSFUL

5.	If password contains less than 8 characters	Password	Password must contain at least 8 characters..	SUCCESSFUL
6.	If password and confirm password does not match	password, confirmpassword	Password and Confirm password are not matching.	SUCCESSFUL
7.	If E-mail ID is invalid	emailid	Invalid E-mail ID.	SUCCESSFUL

- **Student login:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If the Registration Number and Password does not match.	rollno, password	Invalid Roll Number and password	SUCCESSFUL
2.	If roll number contains other than digits	Rollno	Only numeric values allowed.	SUCCESSFUL
3.	If password contains less than 8 characters	Password	Password must contain at least 8 characters..	SUCCESSFUL

- **Student Profile Update:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If student name contains other than Character values	Name	Name should contain only alphabets.	SUCCESSFUL

2.	If semester is not selected	Semester	Kindly select your semester.	SUCCESSFUL
3.	If E-mail ID is invalid	Emailed	Invalid E-mail ID.	SUCCESSFUL

- **Student Change Password:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If the old password contains less than 8 characters	Oldpassword	Password must contain at least 8 characters.	SUCCESSFUL
2.	If the new password contains less than 8 characters	Newpassword	Password must contain at least 8 characters.	SUCCESSFUL
3.	If the password and confirm password does not match	newpassword, confirmpassword	Password and Confirm password are not matching.	SUCCESSFUL

- **Student Forgot Password:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If the Registration Number and email ID does not match.	rollno, emailed	Invalid login credentials entered.	SUCCESSFUL
2.	If roll number contains other than digits	Rollno	Only numeric values allowed.	SUCCESSFUL

3.	If the E-mail ID is invalid.	Emailed	Enter the valid email id.	SUCCESSFUL

✓ **Test Unit: Wallpost component:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If message is not entered	Text	Message cannot be empty.	SUCCESSFUL
2.	If image is not chosen	Image	Kindly post image.	SUCCESSFUL
3.	If video is not chosen	Video	Kindly post video.	SUCCESSFUL

✓ **Test Unit: Notice component:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If notice type is not selected	Noticetype	Kindly select Notice type.	SUCCESSFUL
2.	If title is not entered	Title	Title cannot be empty.	SUCCESSFUL
3.	If description is not entered	Description	Kindly add description.	SUCCESSFUL

✓ **Test Unit: Course component:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If course is not added	Coursetitle	Kindly add Course.	SUCCESSFUL

✓ **Test Unit: Subject component:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If course is not selected.	Coursetitle	Kindly select Course.	SUCCESSFUL
2.	If semester is not selected.	Semester	Kindly select semester.	SUCCESSFUL
3.	If subject is not added.	Subject	Kindly add Subject.	SUCCESSFUL

✓ **Test Unit: Discussion component:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If subject is not selected	Subject	Select the subject.	SUCCESSFUL
2.	If title is not entered	Title	Title must be entered	SUCCESSFUL
3.	If description is not entered	Description	Description should not be empty.	SUCCESSFUL

✓ **Test Unit: Discussion Reply component:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If the title and uploads are empty.	title, uploads	Repy cannot be empty.	SUCCESSFUL

Test Unit: Study Material component:

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If course is not selected.	Coursetitle	Kindly select Course.	SUCCESSFUL
2.	If semester is not selected.	Semester	Kindly select semester.	SUCCESSFUL
3.	If subject is not selected.	Subject	Kindly select Subject.	SUCCESSFUL
4.	If title is not entered	Title	Title should not be empty.	SUCCESSFUL
5.	If uploads are not added	Uploads	Kindly include uploads.	SUCCESSFUL

✓ **Test Unit: Quiz Component:**

- **Add Quiz:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If course is not selected	Course	Kindly select course.	SUCCESSFUL
2.	If semester is not selected	Semester	Kindly select semester.	SUCCESSFUL
3.	If subject is not selected	Subject	Kindly select subject.	SUCCESSFUL
4.	If title is not entered	Title	Title must not be empty.	SUCCESSFUL

- **Add Questions:**

Serial No.	Condition To be Tested	Test Data	Expected Output	Remarks
1.	If quiz question is not added.	Question	Kindly add quiz question.	SUCCESSFUL
2.	If options are not added	option1, option2, option3, option4	Options cannot be empty.	SUCCESSFUL
3.	If correct answer is not selected	correctanswer	Kindly select the correct answer.	SUCCESSFUL

8. AUTOMATIC ENTRY OVER MANUAL ENTRY OF STUDENTS

- Nowadays the administration of every college has a tremendous workload in their hand. So BVEC UNITE has tried to reduce the workload to some extent.
- Every year many students get admission in the college. So, the admin will have to manually enter each and every student detail (name, roll no, branch etc.) and save it in the database. It will take a lot of time. So, this website has the feature of automatic entry of student details.
- At first, student has to register in the website by filling up the registration form entering his/her roll no, name, branch, email id etc. and click the register/submit button.
- And the admin can check in admin panel of the website if there is a new request from a new student or not.
- If yes, then the admin will recheck the details of the individual students with their actual data from the hardcopy of the documents which is submitted by the student during the admission.
- If found valid, then the admin will click accept and the students' data will be saved in the database and thereafter respective student can login in the website, otherwise the request of the student will be rejected/declined.
- The website can only be accessed by those who have or have had any existing or prior connection (such as students, teachers, stuffs etc.) with the college administration.

CONCLUSION

9.CONCLUSION

The project work titled “BVEC UNITE” has been designed using PHP – Hypertext Pre Processor where in many user friendly form controls have been added in order to make it a user interactive application. The system is developed in such a way that the user with common knowledge of computers can handle it easily. This website makes it easy for the Barak Valley Engineering College to interact with their staffs and students in single platform.

It was a wonderful learning experience while working on this project. This project took us through the various phases of project development and gave us real insight into the world of software designing. The joy of working and the thrill involved while tackling the various problems and challenges gave us a feel of developer’s industry.

It was due to the project we came to know how professional software’s are designed. The future enhancements to the system can be made as technology changes.

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