PROLINK

Project Management System for BMIIT

A project submitted to

UKA TARSADIA UNIVERSITY

in partial fulfillment of the requirements for the degree of

Bachelor of Science

in

Information Technology

for

5 Years Integrated M.Sc. (IT)

By

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Guided by

Dr. Omprakash Chandrakar
Associate Professor

Babu Madhav Institute of Information Technology
Uka Tarsadia University
Bardoli – 394350
May 2021

CERTIFICATE

This is to certify that **VIRAJ THAKKAR (201806100110094) and Dilipsingh Rajput(201906100120001)** Have submitted project entitled **"PROLINK : Project Management System for BMIIT"** as the partial fulfillment for the award of the degree of Bachelor of Science in Information Technology for 5 Years Integrated M.Sc.(IT) in 2020 – 2021.

Date:01/1205021

Place:

Dr. Omprakash Chandrakar

Guide

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Programme Coordinator,

External Examiner

UKA TARSADIA university

Babu Madhav Institute of Information Technology,

Uka Tarsadia University,

Bardoli – 394350

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1.Introduction

1.1 Problem Definition

Project Presentations are routine event which happens at BMIIT every year and for all the semesters. But observing it practically it is quite noticeable that process from Announcing the projects to the Final Evaluation majority of the task is manual hand written and are high chances of errors in it.

There are lots of steps included in the process. Like announcing a project, then group formation, allocating guides, creating a projects, creating evaluation, allocating guides, creating panels, allocating panels, doing evaluation and much more. So this communication was done in manually on multiple platforms. So there was need of hour if creating a more reliable and common platform for all the faculties and students to come together and communicate on it.

1.2 Initial Requirement Document

Title of the project	Prolink: Project Management Tool for BMIIT
Stakeholders involved in capturing requirements	Institute Faculties, Project Guide
Techniques used for requirement capturing	Interviewing, Brainstorming
Name of the person along with designation	-
Date	August, 2020
Users of the system	Admin, Faculty, Student
Version	3.0
Consolidated list of initial requirements:	
1. The system user faculty and students shall be able to first update their profile and change passwords. 2. The admin shall be able to manage semester. 3. The admin shall be able to manage courses semester wise. 4. The admin shall be able to manage course semester wise. 5. The admin shall be able to manage faculties. 6. The admin shall be able to manage student's semester wise. 7. The admin shall be able to form committees (manage committee) of faculties course wise. 8. The students shall be able create their own groups by selecting their project partners. 9. The committee shall be able to create deadlines. 10. The committee shall be able to view student's groups and allocate guides as a faculty member. 11. The faculty member as a guide shall be able view student's groups allocated under his/her guidance. 12. The students shall also be able to view his/her allocated guide. 13. The committee shall be able to create announcements. 14. The guides and student's groups shall be able to view the announcements.	

15. The committee head shall be able to schedule presentation (manage exam).
16. The committee head shall be able to manage evaluation criteria; and also, able to generate evaluation sheet panel wise.
17. The committee shall be able to assign student's group wise examiner's for the presentation panels.
18. The examiner shall be able to upload evaluated marks after project presentation.
19. The system should be able to generate reports like:
    a) Course wise students
    b) Details of projects course wise
    c) Student's groups with their allocated guide
    d) Number of student's groups under each guide
    e) Examiner wise (faculty wise) evaluation sheet
    f) Final evaluated sheet of project in a sorted form (enrollment wise)

1.3 Project Objective

ProLink: Project Management System for BMIIT is to help Babu Madhav Institute of information Technology Faculties and students to transform the manual and complex process of project conduction to the simple and digital one. This system will enable stakeholders to create courses, manage faculties, manage students, create and assign guides to the project, manage project data, manage submissions and even manage the project evaluation.

The aim is to create a common platform for both, Faculties and students to communicate with each regarding projects. So that there is strong communication channel and more efficient work flow. Computerized system will make it easier to convey things to students and manage their project statuses. Submission and feedback system from the guide is made much simpler process now.

ProLink system maintains adequate information about the projects, guides, committee and evaluation. This would result in easy generation of reports and make better decision.

1.4 Problem Definition

ProLink: Project Management System will be able to perform the following tasks

- Register the required users
- Provide login access to registered users
- Create the academic year wise courses and assign faculties
- Create the projects and submission deadlines
- It would be able to manage submission
- ProLink will be able to provide the interface to committee members to manage projects and their guides

- It would help in evaluation and report generation

The scope of the system is limited to the stake holders of BABU MADHAV INSTITUE OF INFORMATION TECHNOLOGY. Viz. Admin, Faculties and students. This system is designed to be use for long time over the number of new batches. It is designed to accommodate the complete procedure carried out during Project IE. From formation of committees to Final Evaluation of the project

2. Overall Description

2.1 Product Perspective/ Environment Description

2.1.1 Hardware Interface/ Hardware Specification

- Any windows machine (With Internet Connection)
- A working internet connection to deploy and use in production (not in development process)

2.1.2 Software Interface/ Software Specification

- Xampp Server with PhpMyAdmin Configured (Development Purpose)
- Text Editor
- Any Internet browser.

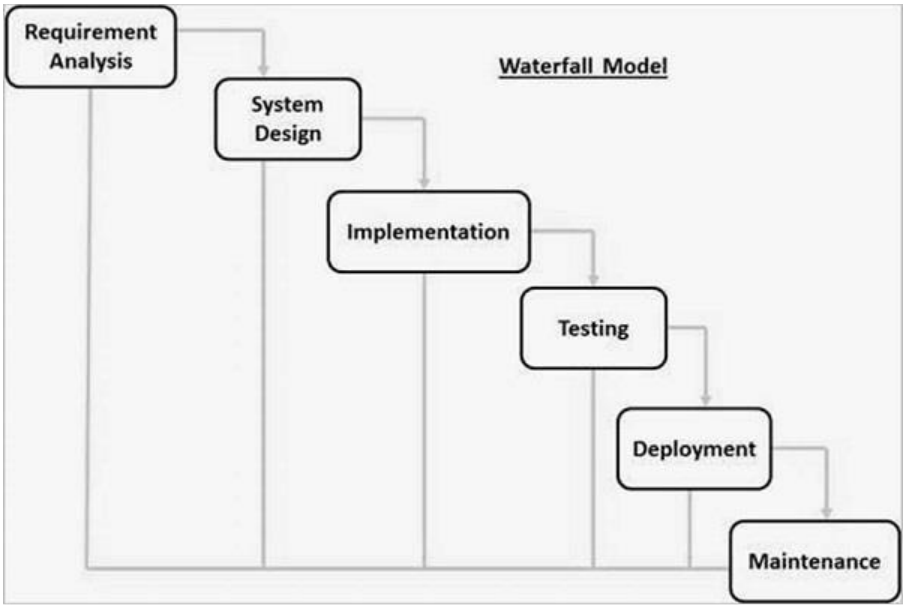
3. System Planning

3.1 Software Engineering Model

Waterfall Model

We have followed this model step is…
1. Requirement Analysis
2. Design
3. Implementation
4. Unit Testing
5. Integration and Testing
6. Deployment and Maintenance

The waterfall model begins with the system. It gathers requirements from the customer. At the end SRS and software project plan are produced. The SRS acts as a contract between the customer and the developer. In the design phase, the SRS is transformed into design which is suitable for implementation in a programming language. First preliminary design is made then detailed design is m initial test plan are produced at the end of this phase. During the implementation phase, in unit testing small modules are tested in isolation and the overhead code is written for handling communication amongst these modules. After implementation and unit testing, the modules are integrated to form a complete system. Integration and testing are carried out to verify the functionality of the system.



4. System Specific Requirements

4.1 Functional Requirement

These are statements of services the system should provide, how the system should react to particular inputs, and how the system should behave in particular situations. It specifies the application functionality that the developers must build into the product to enable users to accomplish their tasks

- **Manage User Login**

RN	**Description**	**Comments**
FR1	Students, Faculty and admin will be able to login into the system using their UserID and Password.	Login Page
FR2	Users will be able to change their password	Change Password Page
FR3	Admin will be able to reset the password for user if requested in case they forget the password	Forget Password Page

- **Manage Faculties**

RN	Description	Comments
FR1	Admin will be able to register faculties into the system Registration Details : Name, Designation, Email-ID, Contact Number	Add faculties page
FR3	Admin will be able to edit the details of the faculties.	

	Editable Details :Name, Designation, Email-ID, Contact Number	

- **Manage Students**

RN	Description	Comments
FR1	Admin will be able to register students into the system Registration Details : Enrolment Number , Name, CourseID, Email-ID, Contact	Add students page
	Admin will be able to edit the details of the students. Editable Details: Name, CourseID, Email-ID, Contact	

- **Manage Courses/Subjects**

RN	Description	Comments
FR1	Courses can be created to add students and committee into it.	Create Course Page

- **Manage Project Committee**

RN	Description	Comments
FR1	Admin will be able to make committee from existing faculties available	Form Committee page

- **Manage Student Projects**

RN	Description	Comments
FR1	Students will be able to add other students as the partner in the group	Create a group page
	Student will be only available in one group not more than one	
	Students will be able to add Project Title	
	Students will be able to add Technology to the project.	

- **Manage Guides**

RN	Description	Comments
FR1	Committee will be able to assign guides to the project groups	Assign Guides page
FR2	Guides will be able to see groups under their guidance	See project page : faculty login

- **Manage Projects**

RN	Description	Comments
FR3	Committee will be view the approved projects by guides, groups and guide details	View Projects : Faculty Login
	Unique ID should be given to each project	

- **Manage Panel**

RN	Description	Comments
FR1	Committee will be able to form panels	Add panel Page : Faculty Login
FR2	Committee will be able to assign faculties to the panel	Add panel page : Faculty Login
FR3	Committee will be able to assign projects to the panel	
FR4	Panel will be able to view assigned projects	View assigned projects : faculty login

- **Manage Submissions and Feedback**

RN	Description	Comments
FR1	Committee will be able to create a submission with the deadline	Create a submission page : Faculty Login role : committee
FR2	Committee will be able to edit the deadline	
FR3	Guides and students should be able to view deadline	View submissions: Faculty login Role : Guide
FR8	Guide will be able to maintain log book for students meeting.	

- **Manage Evaluation**

RN	Description	Comments
FR1	Committee will be able to add evaluation criteria	
FR2	Panel Members, Guides and students will be able view the criteria	
FR3	Committee will be able to create a Project Evaluation	
FR4	Panel will be able to view projects and assign grades to the projects	
FR5	Students will be able to view assigned grades	

- **Manage Technologies**

RN	Description	Comments
FR1	Committee will be able to add Technologies for students	
FR2	Student will be able to select technology while creating the project	

4.2 Non-Functional Requirement

Usability

The system provides a help and support menu in all interfaces for the user to interact with the system. The user can use the system by reading help and support.

Security

The system provides username and password to prevent the system from unauthorized access. The staffs' password must be greater than eight characters. The subsystem should provide a high level of security and integrity of the data held by the system, only authorized personnel of the company can gain access to the company's secured page on the system; and only users with valid password and username can login to view user's page.

Performance

The system response time for every instruction conducted by the user must not exceed more than a minimum of 10 seconds. The system should have high performance rate when executing user's input and should be able to provide response within a short time span usually 50 second for highly complicated task and 20 to 25 seconds for less complicated task.

Availability

The system should always be available for access at 24 hours, 7 days a week. Also in the occurrence of any major system malfunctioning, the system should be available in 1 to 2 working days, so that business process is not severely affected.

Ease of use

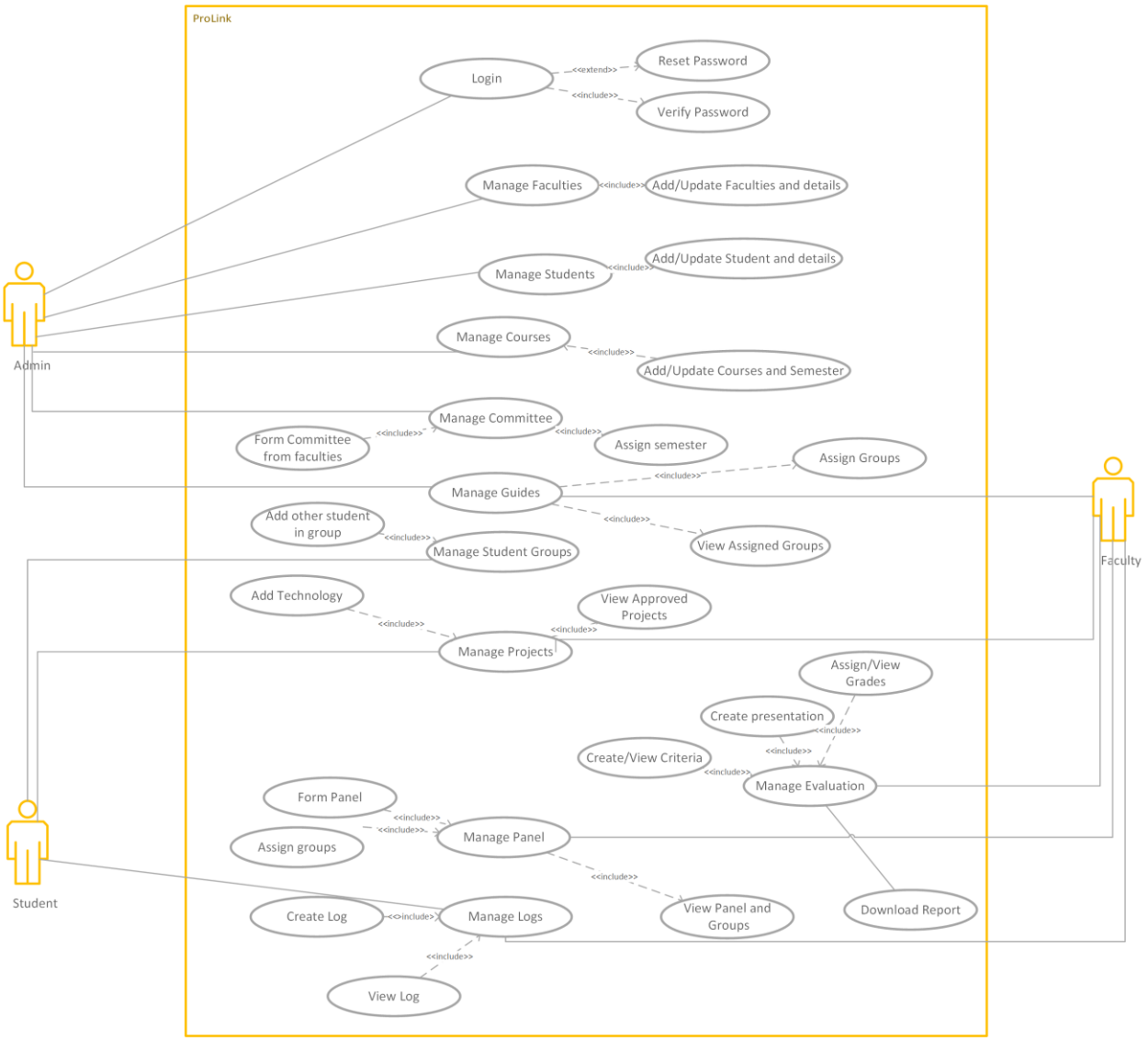
Considered the level of knowledge possessed by the users of this system, a simple but quality user interface should be developed to make it easy to understand.

Error Handling

Error should be considerably minimized and an appropriate error message that guides the user to recover from an error should be provided. Validation of user's input is highly essential. Also the standard time taken to recover from an error should be 15 to 20 seconds.

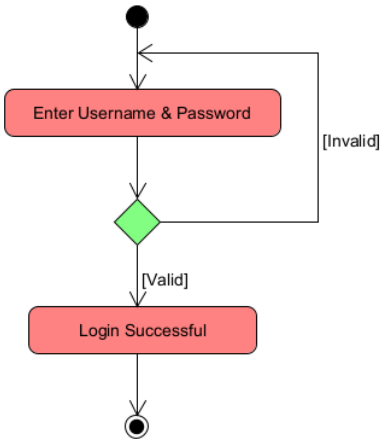
5. System Analysis

5.1 Use Case Diagram

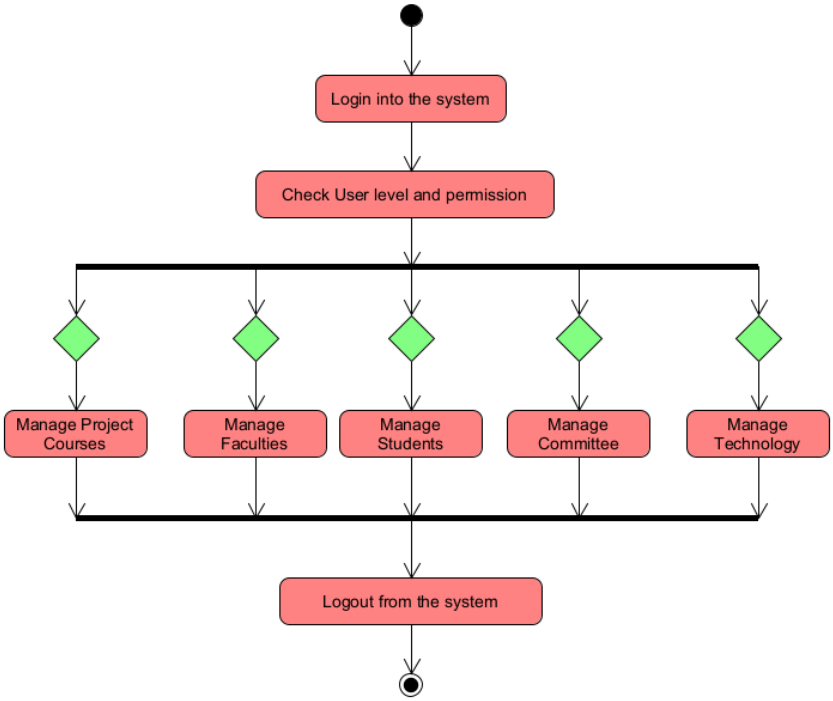


5.2 Activity Diagram

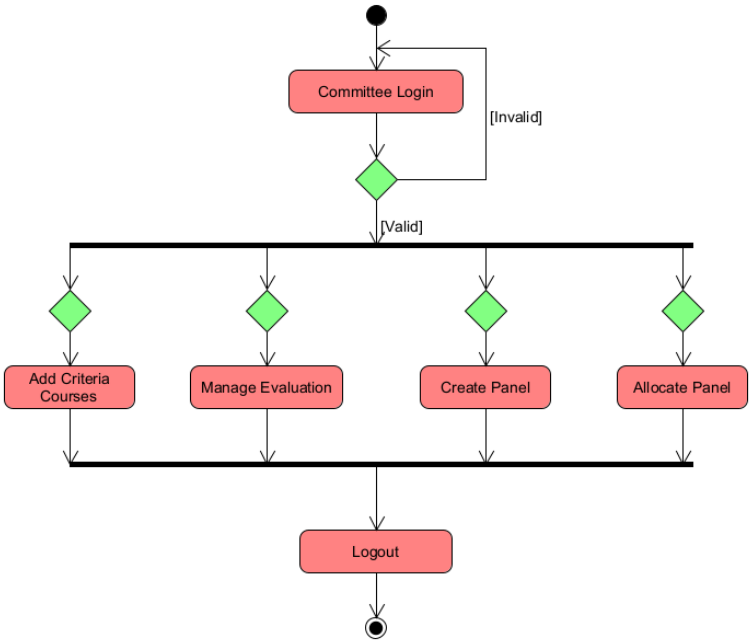
1) Login Activity



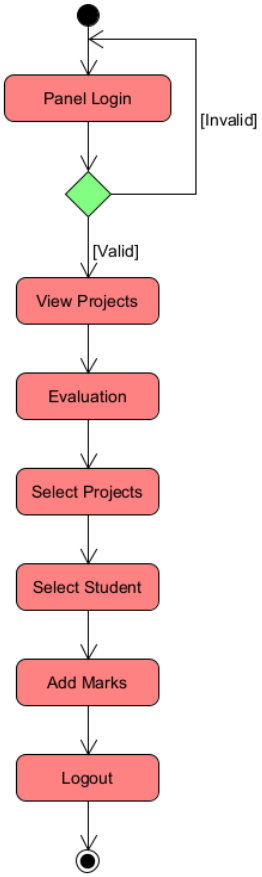
2) Project Mangement : Admin



3) Evaluation Creation



4) Evaluation of Students



6. System Design

6.1 Database schema

Course(Coursid[PK],Program,Semester,Year,CourseName)

FD: Coursid-> Program,Semester,Year

student(Enrollment[PK],Name,CourseID[FK],Email,Contact)

FD: Enrollment-> Name,CourseID,Email,Contact

faculty(FacultyID[PK],name,designation,email,contact,Role)

FD: FacultyID-> name,designation,email,contact,Role

group(Srno[PK],Groupid,projectTitle,Technology,guideid[FK],CourseID[FK])

FD: Srno-> Groupid,projectTitle,Technology,guideid,CourseID

groupmember(GroupID[FK],Enrollment[FK])

FD: GroupID-> Enrollment

projectguidance(SRNO[PK],GroupID[FK],DOM,Discussion,Instructions,Remarks)

FD: SRNO-> GroupID,DOM,Discussion,Instructions,Remarks

schedule evaluation(EvalID[PK],CourseID[FK],date,type,description)

FD: EvalID-> CourseID,date,type,description

panel(PanelSRNO[PK],evalid[FK],pno)

FD: PanelSRNO-> evalid,pno

panelmember(PanelID[FK],facultyid[FK])

FD: PanelID-> facultyid

panelallocation(Panelid[FK],GroupID[FK])

FD: Panelid-> GroupID

Login(EmailID[PK],Password,usertype)

FD: EmailID-> Password,usertype

Criteriamaster(ID[PK],Name)

FD: ID-> Name

Evaluationcriteria(Srno[PK],EvalID[FK],CriteriaID[FK],outofmarks)

FD: EvalID-> CriteriaID,outofmarks

Studentmarks(StudentID[FK],FacultyID[FK], evalid[FK],CriteriaID[FK],obtainedmarks)

FD: StudentID-> FacultyID[FK], evalid[FK],CriteriaID[FK],obtainedmarks

Technologymaster(TechId[PK],Name)

FD: TechID->Name

6.2 Data Dictionary

Course				
Fieldname	Datatype	size	constraint	Description
Courseid	Int		Primary Key	Unique ID of Project Course
Program	Char	15	Not Null	Defines the name of program
Semester	Int		Not Null	defines the semester of the course
Year	Char	7	Not Null	defines the Academic Course year
CourseName	Char	25	Not Null	Defines Name of the course

Groupmembers				
Fieldname	Datatype	size	constraint	Description
GroupID	Int		Not Null	Inherits unique group id of the student
Enrollment	Char	15	Foreign Key	Inherits unique id of the student

Student				
Fieldname	Datatype	size	constraint	Description
Enrollment	Char	15	Primary Key	Unique id of the student
Name	Char	35	Not Null	Name of the student
CourseID	Char	25	Foreign Key	Define course in which student belongs
Email	Char	50	Not Null	EmailID of student
Contact	Char	10	Not Null	contact number of student

Faculty

Fieldname	Datatype	size	constraint	Description
facultyid	int		Primary Key	Unique odentity of faculty
Name	Char	35	Not Null	name of the faculty
designation	Char	20	Not Null	designation of the faculty
Email	Char	50	Not Null	email of the faculty
Contact	Char	10	Not Null	contact of the faculty

Login				
Fieldname	Datatype	size	Constraint	Description
emailid	Char	50	Primary Key	username for user to login
password	Char	50	Not Null	password to authenticate user
usertype	Char	10	Not Null	role of the user

Group				
Fieldname	Datatype	size	constraint	Description
Srno	int		Primary Key	Uniqe ID of the table
GroupID	int		Not Null	Inherits unique group id of the group
Project Title	Varchar	MAX	Not Null	defines name of the project
Technology	Char	25	Not Null	defines the name of technology
Guideid	int		Foreign Key	defines the facultyid as a guide of the project
CourseID	Char	25	Foreign Key	defines course in which group belongs
Project Guidance				
Fieldname	Datatype	size	constraint	Description
Srno	int		Primary Key	unique identity of the table
groupid	int	3	Foreign Key	Inherits unique group id of the group

DOM	Date		Not Null	defines date of meeting
discussion	Varchar	MAX	Not Null	defines the details of discussion held between guide and student
instructions	Varchar	MAX	Not Null	defines the instructions for next meeting
remarks	Varchar	MAX	Not Null	remarks about the meeting
facultyid	int			guide who held the meeting

Scheduleevaluation				
Fieldname	Datatype	size	constraint	Description
Evalid	int		Primary Key	unique identity of the evaluation
courseid	Char	25	Foreign Key	Unique ID of Project Course
date	Date		Not Null	date of evaluation
type	Char	20	Not Null	type of evaluation
Description	Varchar	MAX	Not Null	Description of evaluation

Panelmember				
Fieldname	Datatype	size	constraint	Description
panelid	int		Foreign Key	unique identity of panel
facultyid	int		Foreign Key	identity of faculty acting as panel member

Panel				
Fieldname	Datatype	size	constraint	Description
panelSRNO	int		Primary Key	unique identity of panel
evalid	int		Foreign Key	unique identity of evaluation

pno	int		Not Null	number of panel group

Panelallocation				
Fieldname	Datatype	size	constraint	Description
Panelid	int		Foreign Key	unique identity of panel
groupid	int		Foreign Key	Inherits unique group id of the group

Committee				
Fieldname	Datatype	size	constraint	Description
Sr.no	int		Primary Key	Unique Id of the table
cid	int		Not Null	committee id to group faculties
Facultyid	int		Foreign Key	faculty mentioned in committee
role	Char	10	Not Null	role of the particular faculty
courseid	Char	25	Foreign Key	committee formed for particular project course

Criteriamaster				
Fieldname	Datatype	size	constraint	Description
id	int		Primary Key	unique id of the table
criterianame	Char	30	Not Null	name of the criteria

Studentmarks				
Fieldname	Datatype	size	constraint	Description
studentid	Char	25	Foreign Key	unique id of the student
facultyid	int		Foreign Key	identity of the faculty that is evaluating the student
mid	int		Foreign Key	defines the identity from marks for evaluation
evalid	int		Foreign Key	evaluation Id inherited to define evaluation

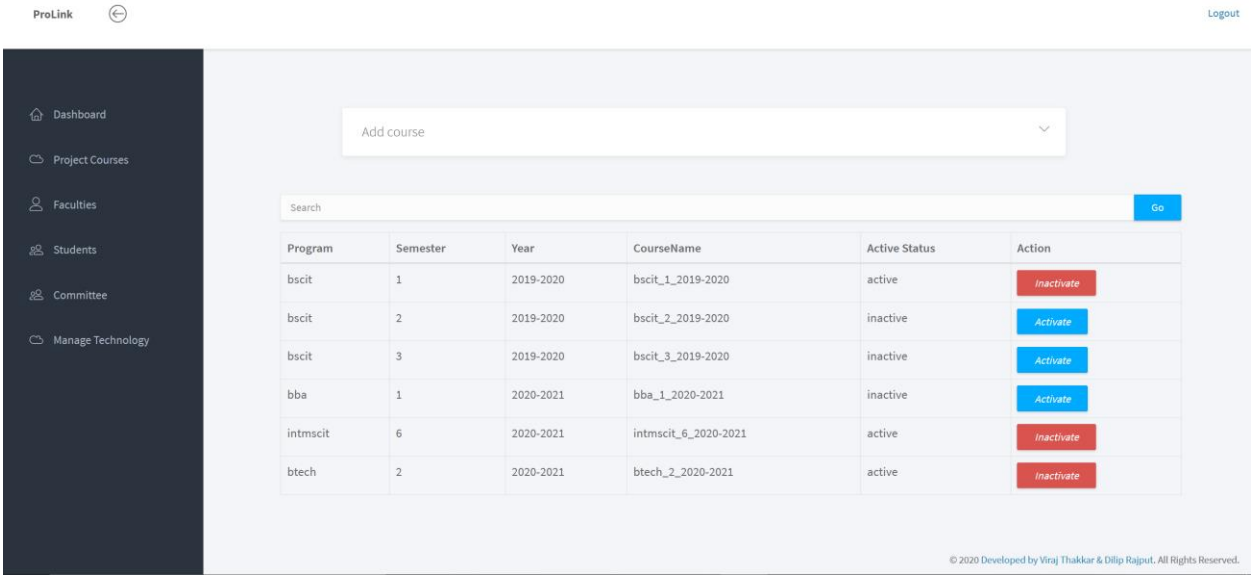
criteriaid	int		Foreign Key	criteria to evaluate
obtainedmarks	int		Not Null	marks obtained by student in that criteria

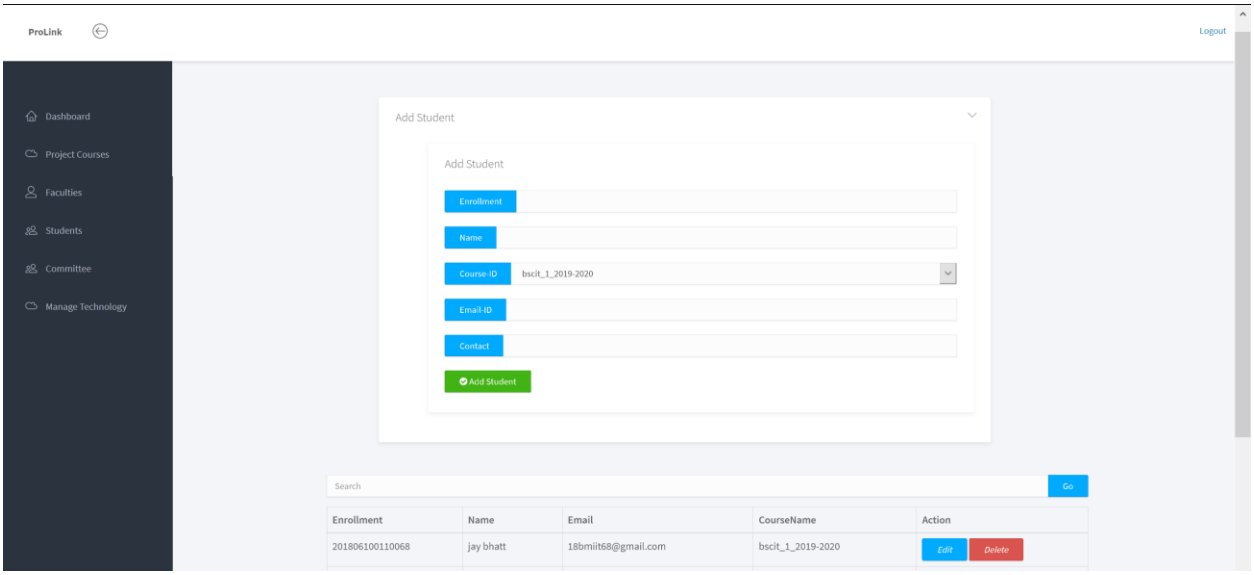
Evaluationcriteria				
Fieldname	Datatype	size	constraint	Description
evalid	int		Foreign Key	evaluation id of the criteria
criteriaid	int		Foreign Key	identity of the criteria to evaluate
outofmarks	int		Not Null	weightage of that criteria

TechnologyMaster				
Fieldname	Datatype	size	constraint	Description
TechId	int		Primary Key	id of the Technology
Techname	char	15		Name refering to technology

7.System Implementation

7.1 Screenshots




ProLink
Logout
Dashboard
Project Courses
Faculties
Students
Committee
Manage Technology
Add Student
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Email-ID
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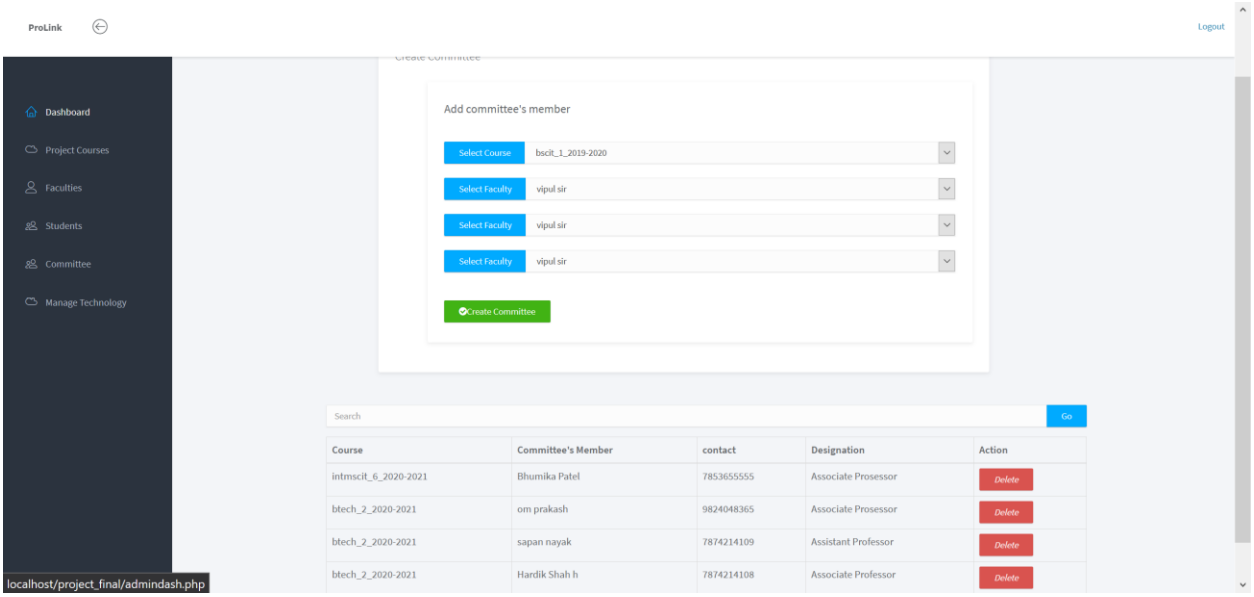
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Go
Course
Committee's Member
contact
Designation
Action
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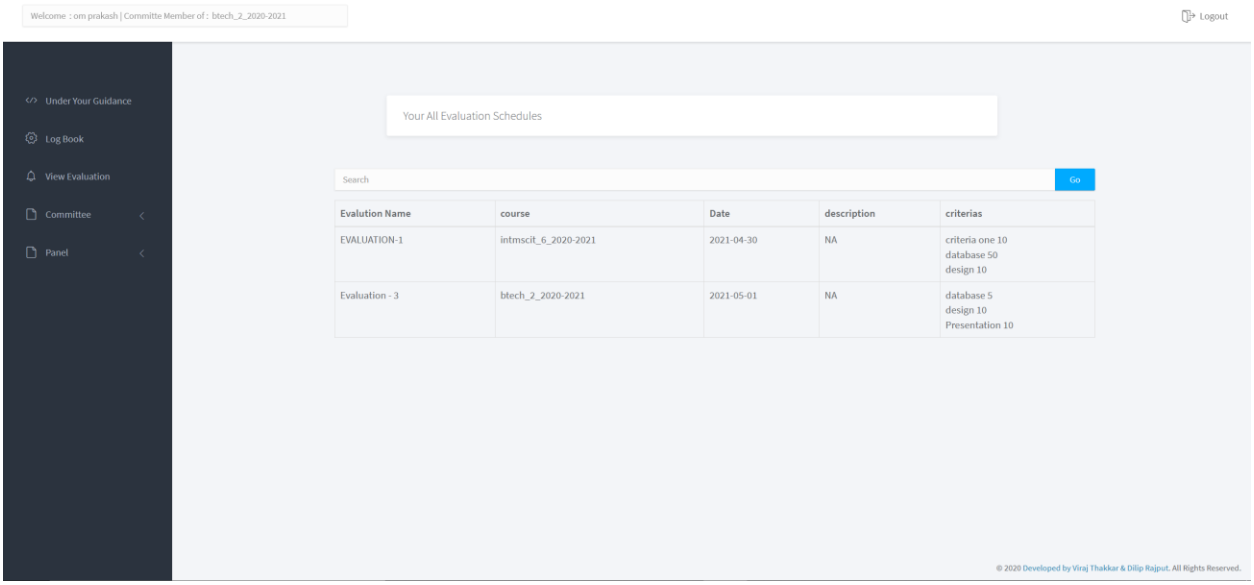
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Under Your Guidance
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View Evaluation
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Search
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course
Date
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database 50
design 10
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design 10
Presentation 10
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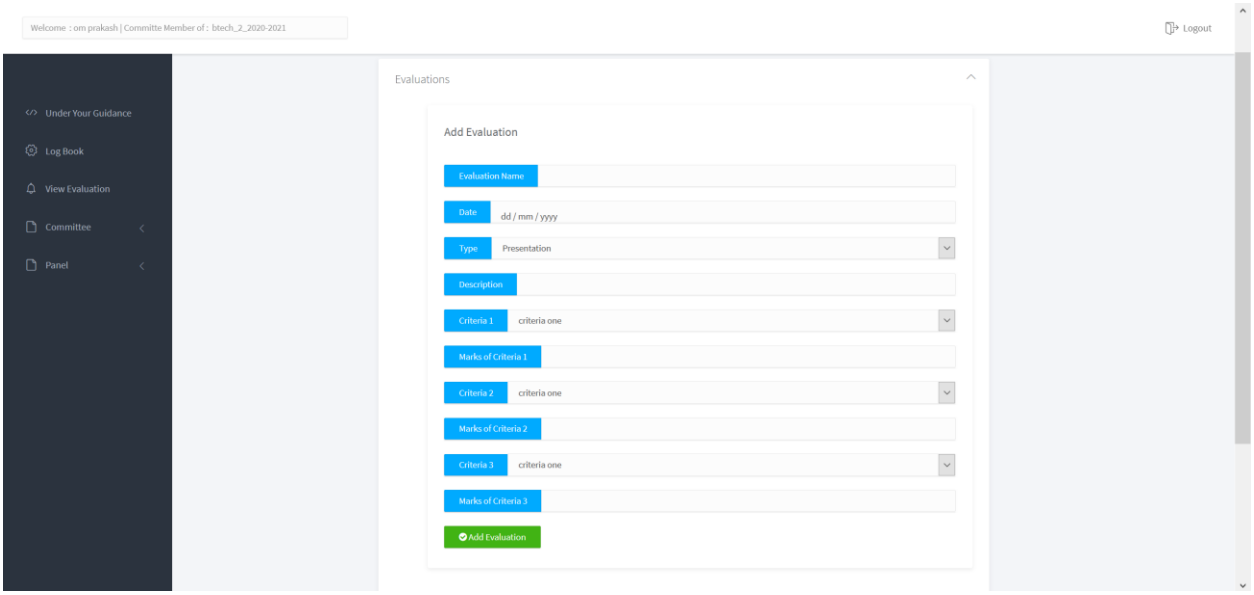
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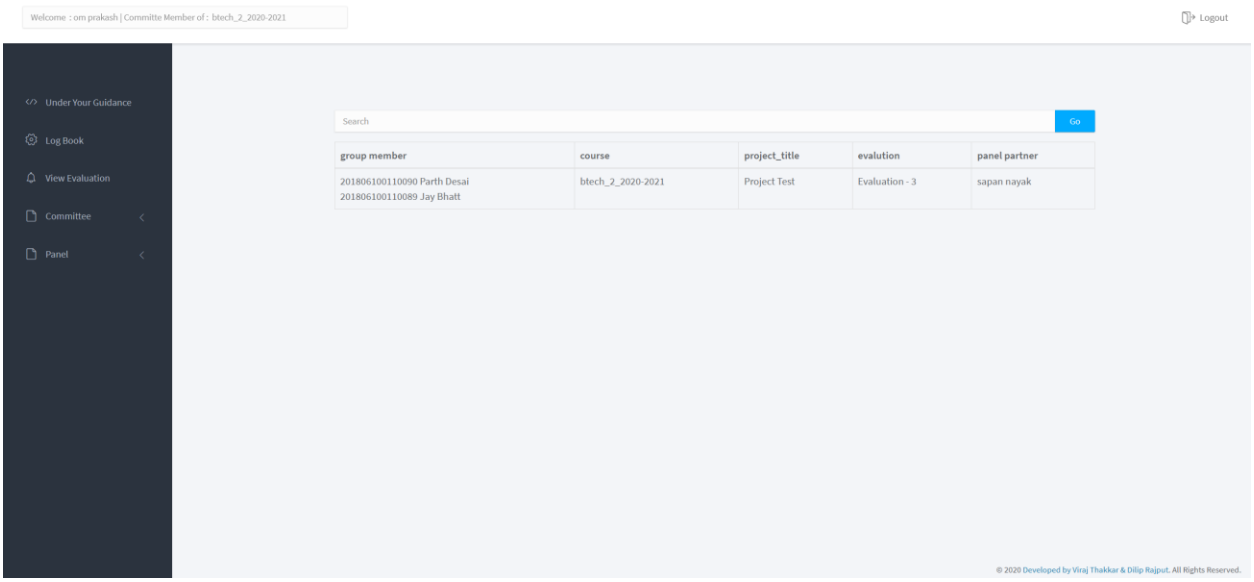
Criteria 2
criteria one
Marks of Criteria 2
Criteria 3
criteria one
Marks of Criteria 3
Add Evaluation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sapan nayak
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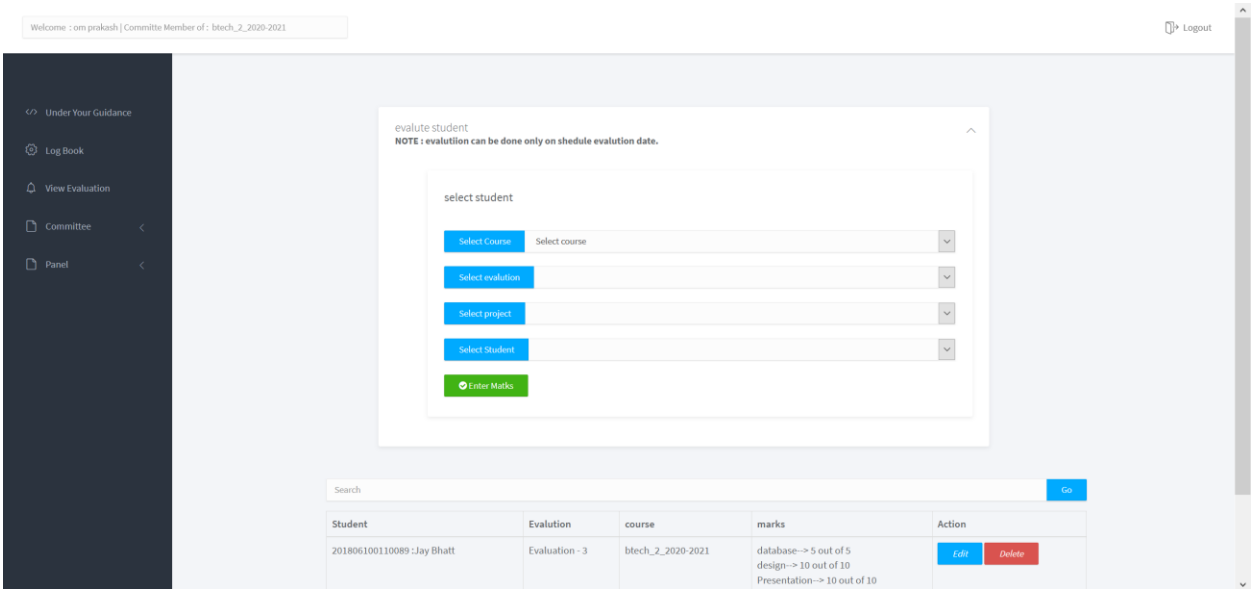
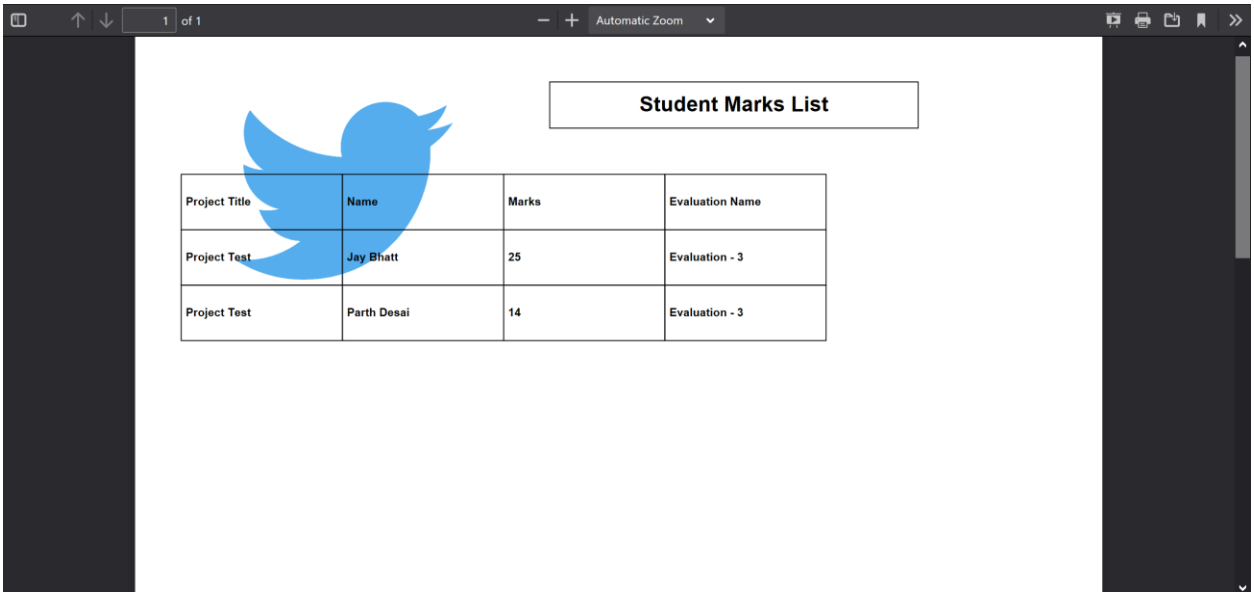

Welcome : om prakash | Committe Member of : btech_2_2020-2021
Logout
Under Your Guidance
Log Book
View Evaluation
Committee
Panel
evalute student
NOTE : evalution can be done only on shedule evalution date.
select student
Select Course
Select course
Select evalution
Select project
Select Student
Enter Matks
Search
Go
Student
Evalution
course
marks
Action
201806100110089 :Jay Bhatt
Evaluation - 3
btech_2_2020-2021
database--> 5 out of 5
design--> 10 out of 10
Presentation--> 10 out of 10
Edit
Delete


1 of 1
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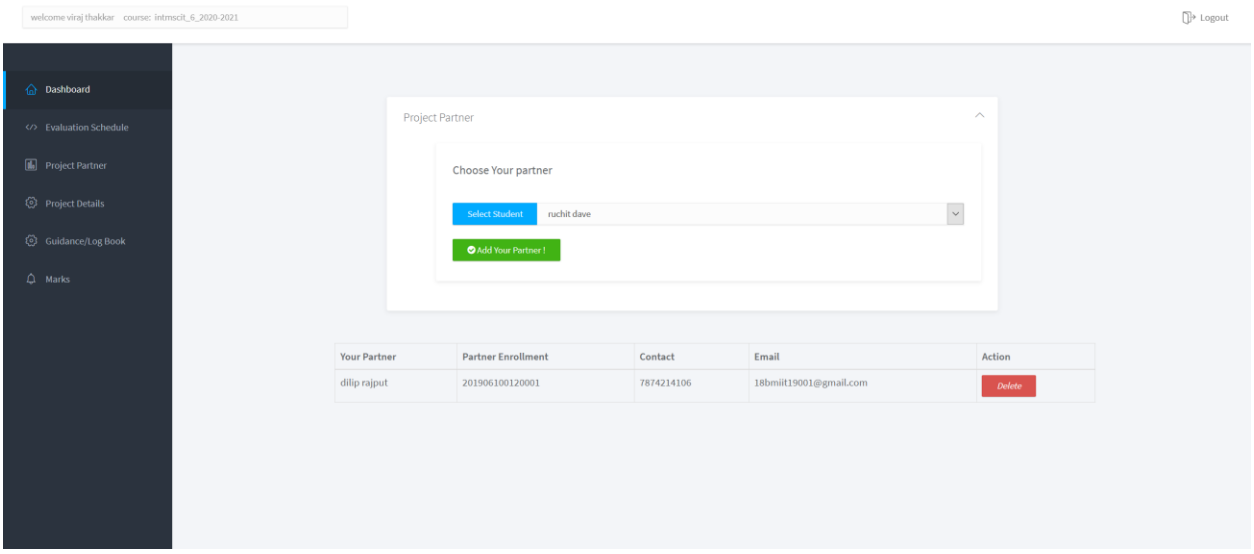
Parth Desai
14
Evaluation - 3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Project Partner
Project Details
Guidance/Log Book
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Project Partner
Choose Your partner
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Your Partner
Partner Enrollment
Contact
Email
Action
dilip rajput
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7874214106
18bmiit19001@gmail.com
Delete

8.Testing

8.1 Test Cases

Add Faculties & Student

Test Case ID	Test Case Description	Input-1	Input-2	Input-3	Expected Result	Remark(if any)
	Add Faculty	Valid Input	Valid Input	Valid Input	Faculty added successfully	-
	Faculty ID is invalid	Invalid Input	Valid Input	Valid Input	Invalid ID	Candidate ID is not proper or used same
	Faculty Name	Valid Input	Invalid Input	Valid Input	Invalid input for name	Name format not followed
	Faculty Email invalid	Valid Input	Valid Input	Invalid Input	Incorrect Email	EmaiiID not in proper format
	Add student	Valid Input	Valid Input	Valid Input	Student added successfully	-
	Student Course selection	Invalid input	Valid Input	Valid Input	Invalid sem details	Student not added
	Student Phone number invalid	Valid Input	Valid Input	Invalid input	Phone number not in proper format	Phone number not in specified format

Create Evaluation

Test	Test Case	Input-1	Input-2	Input-3	Expected	Remarks(if

Case ID	Description				Result	any)
	Enter Type of evaluation	Valid Input	-	-	Evaluation Type created	-
	Select Type of evaluation	Invalid Input	-	-	Prompted to create valid type	Evaluation Not created
	Enter Evaluation Date	Valid Date	-	-	Evaluation Created	-
	Evaluation Date invalid	Invalid Input			Date not specified format or backdated	Evaluation Not created

Allocate Guides

Test Case ID	Test case description	Input-1	Input-2	Input-3	Expected Result	Remarks(if any)
	Select Guide from Faculty	Valid Input	-	-	Guide selected	
	Select student Project	Valid Input	-	-	Guide allocated to the group	-

Manage Groups

Test Case ID	Test Case description	Input-1	Input-2	Input-3	Expected Result	Remarks (if any)
	Student add partner and project	Valid Input	Valid Input	-	Partner added in the group	-

	detail					
	Project details not valid	Valid Input	Invalid Input	-	Group not created	Group not created.

9.Future Enhancements

ProLink: Project Management System has a very large scope for expansion in the near future. The ProLink can be upgraded and developed to maintain other types of evaluations as well. The system could be upgraded to have multiple years' data and generate reports from back years.

Individual students can be evaluated instead of groups. It could be made more flexible and general by making it common for similar institutions i.e. Multiple institutions having multiple programs can work accordingly on the platform

10.Conclusion

From going over this whole project development process we can get assurance that system just works amazing by bringing both students, guides and committee together. By digitizing the work create a better workflow and we hope this system becomes useful in real world application.

Thank You