LEARN FROM ANYWHERE

LAB REPORT

Submitted by

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Under the Guidance of

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Assistant Professor, Department of Networking and Communications

In partial satisfaction of the requirements for the degree of

BACHELOR OF TECHNOLOGY
in
COMPUTER SCIENCE ENGINEERING

with specialization in Cloud Computing

SCHOOL OF COMPUTING

COLLEGE OF ENGINEERING AND TECHNOLOGY

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

KATTANKULATHUR - 603203

JUNE 2022

SRM INSTITUTION OF SCIENCE AND TECHNOLOGY
KATTANKULATHUR-603203

BONAFIDE CERTIFICATE

Certified that this lab report titled “LEARN FROM ANYWHERE” is the bonafide work done by ATUL SINGH [RA2011028010060] who carried out the lab exercises under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other work.

SIGNATURE

Dr. K.Deepa Thilak

SEPM – Course Faculty

Assistant Professor

Department of NWC

DEPT. Of NWC

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	1
Title of Experiment	To identify the Software Project, Create Business Case, Arrive at a Problem Statement
Name of the candidate	CHINTA PRADEEP
Team Members	CHINTA PRADEEP SILPI KARTHEEK ACHARI ATUL SINGH
Register Number	RA2011028010059 RA2011028010060 RA2011028010059
Date of Experiment	10-03-2022

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	

2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

To Frame a project team, analyze and identify a Software project. To create a business case and Arrive at a Problem Statement for the **LEARNING FROM ANYWHERE**

Team Members:

Sl No	Register No	Name	Role
1	RA2011028010059	Chinta Pradeep	Lead
2	RA2011028010068	Slipi Kartheek Achari	Member
3	RA2011208010060	Atul Singh	Member

Project Title: **LEARNING FROM ANYWHERE**

Project Problem Statement

Project Description

An E- Learning Management System – also known **LEARNING FROM ANYWHERE** is a cloud-based software package that enables enterprises to deliver learning content and resources to their employees .It is often web-and cloud-based to facilitate 24/7

access to e-learning courses and relevant education.These are typically membership-based, but there are other options where users can jump in and learn immediately on their first registration.

Problem Constraints

Purpose and Need :

1)The main purpose of this project is to:

- ➔ Enhance the quality of learning and teaching
- ➔ Improve the efficiency and effectiveness
- ➔ Improve user-accessibility and time flexibility to engage learners in the learning process

Goals and objectives :

This focuses on providing notes and asking doubts with their classmates. Providing notes after each topic and queries at any time with their mentors and classmates

It's easy to see how learning online can be advantageous, offering a number of benefits including:

- **Immediacy**: Users can learn pretty much whenever they want.
- **Breadth**: Users can find opportunity in most any subject/topic.
- **Self-paced**: Users can typically move and learn at their own pace.
- **Comfortability**: Users can learn in whatever environment they prefer.
- **Cost**: Online courses can be free and often less expensive.

Users:

- Anyone , who are willing to learn any kind of skills will be the users ….
- We have resources like udemy,unacademy etc….. for learning
- Resources available : Mobile phone, laptops or any portable device

Schedule, Resource, and Budget Constraints

BUSINESS CASE TEMPLATE

TITLE / ROLE:

LEARNING FROM ANYWHERE

THE PROJECT

- The statement “Learning From AnyWhere” refers to Learning is the concept of delivering training to learners at the moment they want it using the technology they prefer. The most common delivery system for this training model is mobile learning, which can be offered on desktops, laptops, tablets, and smartphones

THE HISTORY

The most significant invention in the history of online learning technology is the PLATO.From these evolved platform, designing notes after each topic and interactions with each other classmates is consider.

LIMITATIONS

- Online learning is inaccessible to the computer illiterate population.
- Cheating prevention during online assessments is complicated.
- Lack of communication skill development in online students.
- E-Learning requires strong self-motivation and time management skills.
- The authenticity of a particular student’s work cannot be confirmed.

APPROACH

- Define your goals
- Plan costs
- Create timeline
- Build a team
- Progress and quality

BENEFITS

- ☐ Students can interact with their peers from all around the world through group discussions and private chats.
- ☐ It promotes active and independent learning.
- ☐ Lectures Can Be Taken Any Number Of Times.
- ☐ The studying material can be accessed an unlimited number of times.
- ☐ Online courses can be free and often less expensive.

Result

Thus, the project team formed, the project was described, the business case was prepared and the problem statement was arrived..

Department of Networking and Communications

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	2
Title of Experiment	Identification of Process Methodology and Stakeholder Description
Name of the candidate	CHINTA PRADEEP
Team Members	ATUL SINGH S.KARTHEEK
Register Number	RA2011028010059 RA2011028010060 RA2011028010068
Date of Experiment	15/03/2022

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained

1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

To identify the appropriate Process Model for the project and prepare Stakeholder and User Description.

Team Members:

Sl No	Register No	Name	Role
1	RA2011028010059	CHINA PRADEEP	LEADER
2	RA2011028010060	ATUL SINGH	Member
3	RA2011028010068	S.KARTHEEK	Member

Project Title: **LEARNING FROM ANYWHERE**

Selection of Methodology : Agile Methodology

Agile management is the application of the values established primarily for the technology domain as Agile software development. Today the methodology is becoming more prevalent in various management techniques in other industries. Trailing the appearance of the Agile Software Development domain in 2001, Agile systems began to scatter into other areas of activities .

Agile methods were seen initially as best suitable for non-critical service and product domains, thereby barred from use in regulated fields such as collaboration, Constant focus on business values, and level of quantity. However, recently, there have been some drives for the adoption of agile methods for non-technology domains.

•*Agile Management is the Application of Values:*

Agile management is the application of the values established primarily for the technology domain as Agile software development.

•*Evolution of Agile Methodology :*

Agile methodology encompasses many strategies to end user under which requirements and solutions unfold through the collaborative exertion of self-organizing and maintenance.

•*Planning for Agile Methodology:*

It is not too uncommon for teams to fall into the trap of spending too much time preparing or planning.

•*Project Life-Cycle in Agile Methodology :*

Agile methods support a broad range of development or implementation life cycle. Some focus on the practices, while some focus on managing the flow of work.

•*The Quality focus in Agile Methodology :*

Various tools are often used to improve quality and enhance products or services in Agile.

Why Agile Methodology :

- *Flexible in Modifications and updations.*
- *Developers, Testers etc.. will be having face to face interactions.*
- *Scrum Meeting for daily updates.*
- *Priority works are done first.*
- *True validation*
- *collaboration, Constant focus on business values, level of quality makes this project to be successful.*
- *Each Stage need not to be tested, This may save efforts and time.*

Incorporate information to below table regarding stakeholders of the project [Make use of below examples]

Stakeholder Name	Activity/ Area /Phase		Influence	Priority (High/ Medium / Low)
1. Investors	The people who are funding your eLearning project.		high	3
2. Upper management	Upper manager helps to ensure that an organization meets its goals by overseeing the execution and delegation of strategic tasks. They may develop new ideas for a company to accommodate consumer requests or remain competitive within the market.		high	1
3. eLearning project managers	Project manager handles the eLearning course development from start to finish. They delegate tasks, keep the budget on track, and ensure timely delivery.		high	2
4. Corporate learners	Corporate learners are the top stakeholders in online training. After all, your employees must use the finished product to build their skills and improve on-the-job performance.They need to be consider the steps which involves surveys, focus groups, interviews, and other data-gathering.		medium	7
5. Instructional designers	Instructional designers handle everything from deciding the best ID model to creating online training content based on employee skill gaps.		medium	5

6. Online instructors/facilitators	The role of online instructors/faculties are :- sharing knowledge, creating a stimulating environment for student participation, monitoring, answering questions and evaluating.		medium	6
7. Tech experts	Most eLearning teams have a resident tech expert (or two) on hand to troubleshoot IT problems and ensure a smooth launch.		high	4
8. Admins	Administrators are usually in charge of monitoring employee performance and the effectiveness of the online training strategy.		low	8
9. Support staff	Support comes in many forms and greatly depends on your organizational requirements and corporate learner backgrounds.		low	9

/ *

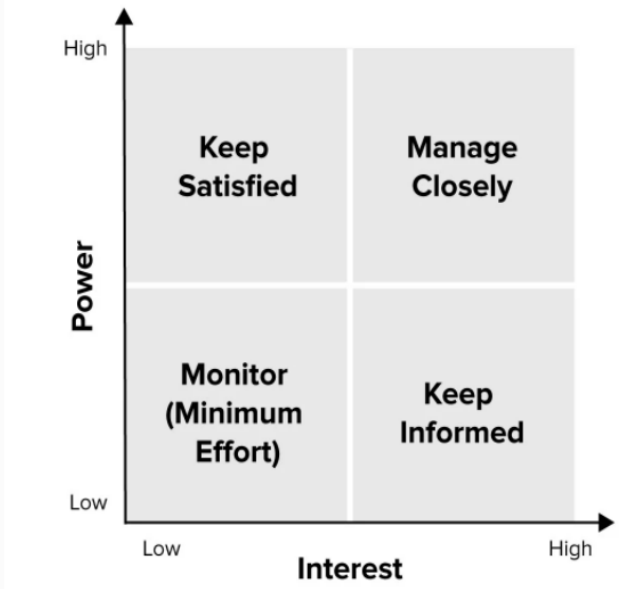
For Example

Stakeholder Name	Activity / Area / Phase	Interest	Influence	Priority (High / Medium/Low)
Regional Head of Sales & Marketing	Subscription using mobile App	High	High	1
Finance Account Receivable consultant	Multiple Currency Payment	High	Low	3

. Interest and Influence matrix

Interest	Influence
High	High
Low	Low
Low	High
High	Low

Figure 1: Power/Interest Grid for Stakeholder Prioritization



Stakeholder	Interests	Estimated Project Impact	Estimated Priority
Owner	Achieve targets, Increase sales margin	High	1
Sponsor	Provides new market to expand ventures Negotiate funding for project Reviews changes to project environments.	Med	3
Team members	Demand incentives Retain and upgrade skills New product excitement	High	2
Project Manager	Lead the team in every aspect. Accountable for entire project scope, team, success & failure	High	2
Investors	Promoter of the investment, Provides necessary financial resources	Low	5
Resource Manager	Resource planning and allocation. Ensuring adequate resource according to project needs and budget.	Med	4
Suppliers	Ensuring feasible and realistic in every aspect Managing divergence from budgeted cost.	Med	6
End Users	Provides feedback	Low	7

Result

Thus the Project Methodology was identified and the stakeholders were described.

Department Of Networking and Communications

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	3
Title of Experiment	System, Functional and Non-Functional Requirements of the Project
Name of the candidate	CHINTA PRADEEP
Team Members	ATUL SINGH S.KARTHEEK
Register Number	RA2011028010059 RA2011028010060 RA2011028010068
Date of Experiment	25/03/2022

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

To identify the system, functional and non-functional requirements for the project.

Team Members:

S No	Register No	Name	Role
1	**RA2011028010059**	**Chinta Pradeep**	**Representative**
2	**RA2011028010060**	**Atul Singh**	**Member**
3	**RA2011028010068**	**S.Kartheek**	**Member**

Project Title: LEARNING FROM ANYWHERE

System Requirements:

Functional requirements are product features or functions that developers must implement to enable users to accomplish their tasks.

- Operating System (Windows,Mac,Android,IOS etc..)
- Computer Speed and Processor (Eg: Dual core Intel i3,i5,i7)
- Screen Resolution (Canvas 1024*600)
- Internet Capability (Ups And Downs of 1mbps)

- Web Browser (Eg: Google Chrome, Firefox)
- Browser Plugins (Eg: Flash Player)

Functional Requirements :

These are the requirements that the end user specifically demands as basic facilities that the system should offer. All these functionalities need to be necessarily incorporated into the system as a part of the contract. They are basically the requirements stated by the user which one can see directly in the final product.

- **Must be adaptable to different learning methodologies:**
  - Must support single sign-on
  -Must integrate with a standards-based tool
  -Must support multiple-section courses
  -Must support grouping of materials across sections

- **Must enable synchronous collaboration and communication**
  - Document sharing
  - Desktop and application sharing
  - Instant Messaging
  - Integration with the phone system
  - Video over Internet
  - Web conferencing environment

- **Must support user customization**
  - Personalized portal page, with both optional and required content
  - Support for mobile devices
  - Support for screen readers
  - Support for mathematical symbols, equations and formulae
  - • Provides calendar overlaying with other calendaring resources

Non-Functional Requirements

Any requirement that specifies how the system performs a certain function.Those are the constraints or the requirements imposed on the system. They specify the quality attribute of the software. Non-Functional Requirements address vital issues of quality for software systems.

1. Scalability
2. Reliability
3. Regulatory
4. Maintainability
5. Serviceability
6. Security
7. Availability

Result

Thus the requirements were identified and accordingly described.

Department of Networking and Communications

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	4
Title of Experiment	Prepare Project Plan based on scope, Calculate Project effort based on resources and Job roles and responsibilities
Name of the candidate	Chinta Pradeep
Team Members	Atul Singh Silpi Kartheek
Register Number	RA2011028010059 RA2011028010060 RA2011028010068
Date of Experiment	31/03/2022

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

To Prepare Project Plan based on scope, Calculate Project effort based on resources, Find Job roles and responsibilities

Team Members:

Sl No	Register No	Name	Role
1	RA2011028010059	Chinta Pradeep	Lead
2	RA2011028010060	Atul Singh	Member
3	RA2011028010068	Kartheek Slipi	Member

1. Project Management Plan

Describe the key issues driving the project. **[Min 3 Focus Areas]**

Focus Area	Details
Scope Management	Scope Statement : 1. Designing the Database 2. managing infrastructure 3. Developing Backend user data a. user authentication b. viewing videos c. viewing courses, data about all features of the course 4. Designing good interface 5. Designing proper learning Solution Requirement Management : 1. Requirement Gathering : communication with the customer.. Ex : with students , Teachers etc… 2. Defining Tasks, Responsibilities, and due dates 3. Requirements Constraints 4. Collecting user feedback and managing the issues

	Define Deliverable : 1. Project Charter 2. Course Design Documents 3. Story Template 4. ScriptInstructions 5. Other Asserts Depending on the type of content being developed, the project may produce other deliverables, including Microsoft Word documents, Microsoft Project Plans, MS Power Points, Videos, Audio and Animation file
Schedule Management	Define Milestones 1. Requirement Gathering (1 week): 7 / 03 / 2022 - 14/03/2022 2. Development Period (2 months: 14/03/2022 - 14 / 05 / 2022 3. Testing Period (2 weeks): 14/05/2022 - 31/05/2022 4. Deployment : (1 week) 5. Commencement of Agile Scrum Sprints
Stakeholder	Investors : The people who are funding your eLearning project. Technical Lead : Most eLearning teams have a resident tech expert on hand to troubleshoot IT problems and ensure a smooth launch. Online Instructor : The role of online instructors/faculties are :- sharing knowledge, creating a stimulating environment for student participation, monitoring, answering questions and evaluating. Admins : Administrators are usually in charge of monitoring employee performance and the effectiveness of the online training strategy

2. Estimation

2.1. Effort and Cost Estimation

Activity Description	Sub-Task	Sub-Task Description	Effort (in hours)	Cost in INR
Design the user screen	E1R1A1T1 (Effort-Requirement-Activity-Task)	Confirm the user requirements (acceptance criteria)	3	2100
	E1R1A1T2	Integrated frontend functionality of screen components	4	2800
	E1R1A1T3	Integrtated backend functionality of screen components	2	1400
Identify Data Source for displaying units of Energy Consumption	E1R1A1T1	Go through Interface contract (Application Data Exchange) documents	5	35000
	E1R1A1T2	Document	1	700

Effort (hr)	Cost (INR)
1	700

2.2. Infrastructure/Resource Cost [CapEx]

< OneTime Infra requirements >

Infrastructure Requirement	Qty	Cost per qty	Cost per item
internet connectivity	2gb	24	12
Mobile	1	20000	20000
laptop	1	30000	30000

2.3 Maintenance and Support Cost [OpEx]

Category	Details	Qty	Cost per qty per annum	Cost per item
People	Network, System, Middleware and DB admin Developer , Support Consultant	3	2,000,000	6,000,000
License	Operating System Database Middleware IDE	10	10000	100,000
Infrastructures	Server, Storage and Network	20	20000	400,000

3. Project Team Formation

3.1. Identification Team members

Name	Role	Responsibilities
Chinta Pradeep	Key Business User (Product Owner)	Provide clear business and user requirements
Chinta Pradeep	Project Manager	Manage the project
Kartheek Slipi	Business Analyst	Discuss and Document Requirements
Kartheek Slipi	Technical Lead	Design the end-to-end architecture
Atul Singh	UX Designer	Design the user experience
Kartheek Slipi	Frontend Developer	Develop user interface
Atul Singh	Backend Developer	Design, Develop and Unit Test Services/API/DB
Atul Singh	Cloud Architect	Design the cost effective, highly available and scalable architecture
Chinta Pradeep	Cloud Operations	Provision required Services
Kartheek Slipi	Tester	Define Test Cases and Perform Testing

3.2. Responsibility Assignment Matrix

RACI Matrix	Team Members			
Activity	**Name (Tester)**	**Name (Developer)**	**Name (Project Manager)**	**Key Business User**
User Requirement Documentation	I	C/I	R	A
Front End	I	A	R	I
Back End	I	A	R	I
Testing	A	C	R	C

A	Accountable
R	Responsible
C	Consult
I	Inform

Reference

1. https://www.pmi.org/
2. https://www.projectmanagement.com/
3. https://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/ti-it/ervcpgpm-dsfvpmpt-eng.html

Result:

Thus, the Project Plan was documented successfully.

Department of Networking and Communications

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	5
Title of Experiment	Prepare Work breakdown structure, Timeline chart, Risk identification table
Name of the candidate	**CHINTA PRADEEP**
Team Members	**ATUL SINGH** **KARTHEEK SILPI**
Register Number	**RA20110280100659** **RA2011028010060** **RA2011028010068**
Date of Experiment	

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

To Prepare Work breakdown structure, Timeline chart and Risk identification table

Team Members:

Sl No	Register No	Name	Role
1	RA2011028010059	CHINTA PRADEEP	Rep
2	RA2011028010060	ATUL SINGH	Member
3	RA2011028010068	KARTHEEK SILPI	Member

RISK ANALYSIS – SWOT & RMMM

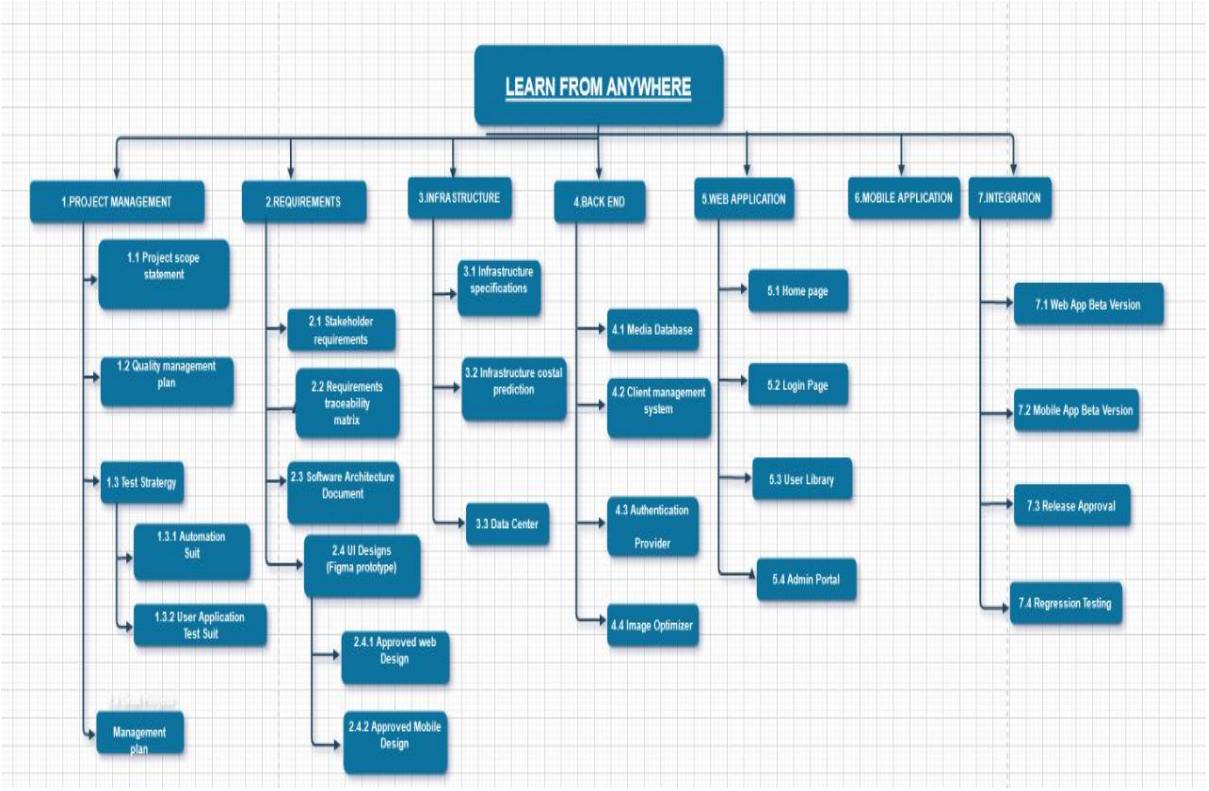
S - STRENGTH	W - WEAKNESS
Students: 1.Excitement about the technology based online learning environment 2.Online flexibility learning and technology navigational independence	**Students:** 1.Insufficient capability to link technological design 2.Unstable Internet connectivity

Lecturers: 1.Customized and structural e-learning teaching sessions 2.May experience better and faster communication towards Students	3.Interaction of students during Online Classes 4.Lack of Online Equipments (laptops, pc's, android mobile phones) **Lecturers:** 1.May receive better classroom evaluations in the face-to-face classroom than online teaching 2.May encounter difficulty in mastering online teaching because of several technology based advancement.
O - OPPORTUNITIES **Students:** 1.Increase of digital market share expansion available 2.Lower costs and reuse content for any E-Learning online courses **Lecturers:** 1.May gain competitive edge over traditional face-to-face colleagues 2.May offer departments scheduling flexibility when trained	T - THREATS **Students:** 1.Lack of motivation of the students because of multiple study options 2.High drop-outs of students 3.Lack of E-Content Policies in different institutions referring its' online E-Contexts **Lecturers:** 1.Have doubt about the integrity and effectiveness of online teaching and e-learning towards learners or students 2.Reduced teacher and students' physical engagement

Risk Management Framework – Risks and Mitigation

Response	Strategy	Examples
Avoid	**Risk avoidance is a strategy where the project team takes action to remove the threat of the risk or protect from the impact.**	**1.Extending the schedule 2.Reducing/ removing Scope 3. Change the execution strategy**
Transfer	**Risk transference involves shifting or transferring the risk threat and impact to a third party. Rather transfer the responsibility and ownership.**	**1.Purchasing insurance 2.Performance bonds 3.Warranties 4.Contract issuance**
Mitigate	**Risk mitigation is a strategy were by the project team takes an action to reduce the probability of the risk occurring. This does not risk or potential impact, but rather the likelihood of it becoming real.**	**1.Increasing testing 2.Changing suppliers to a more stable one 3. Reducing process complexity**
Accept	**Risk acceptance means the ream acknowledges the risk and its potential impact, but decides not to take any preemptive action to prevent it. It is detail with only if it occurs**	**1.Contingency reserve budgets 2.Management schedule float 3.Event Contingency**

Work Breakdown system



Gantt chart

TIMELINE – GANTT CHART

ID	Task	Start	Finish	Duration	Progress	Priority	Resources
1	Analysis	2022-04-01	2022-04-10	8 d	98.9%	1	Kartheek; Pradeep; Atul
2	Requirement Meetings	2022-04-01	2022-04-04	4 d	100%	1	Atul; Pradeep
3	Communication with Stakeholders	2022-04-05	2022-04-08	2 d	95.5%	3	Kartheek; Pradeep; Atul
4	Document Current System	2022-04-09	2022-04-10	2 d	100%	3	Pradeep
5	Analysis Finished	2022-04-10	2022-04-10	1 d	0%	1	
6	Design	2022-04-11	2022-04-05	18 d	14.9%	2	Atul; Pradeep
7	Design Database	2022-04-11	2022-04-17	5 d	62.4%	1	Atul
8	Software Design	2022-04-18	2022-04-25	6 d	0%	2	Pradeep
9	Interface Design	2022-04-26	2022-04-30	3 d	0%	4	Atul
10	Create Design Specifications	2022-04-26	2022-05-05	7 d	0%	2	Pradeep
11	Design Finished	2022-05-05	2022-05-05	1 d	0%	2	
12	Development	2022-04-11	2022-05-09	22 d	22.5%	3	Atul; Pradeep
13	Develop System Module	2022-04-11	2022-04-26	12 d	41.2%	1	Atul; Pradeep
14	Integrate System Module	2022-04-29	2022-05-06	7 d	0%	1	Atul
15	Perform Initial Testing	2022-05-07	2022-05-09	3 d	0%	2	Pradeep
16	Development Finished	2022-05-09	2022-05-09	1 d	0%	3	
17	Testing	2022-04-29	2022-05-20	17 d	29.4%	4	Kartheek; Pradeep
18	Perform System Testing	2022-04-29	2022-05-07	8 d	62.5%	3	Kartheek
19	Document Issues Found	2022-05-08	2022-05-15	6 d	0%	4	Kartheek
20	Correct Issues Found	2022-05-16	2022-05-20	3 d	0%	1	Kartheek
21	Testing Finished	2022-05-20	2022-05-20	1 d	0%	3	
22	Implementation	2022-05-20	2022-05-10	15 d	0%	1	Atul; Kartheek
23	On-Site Installation	2022-05-20	2022-05-20	1 d	0%	5	Atul
24	Support Plan for the System	2022-05-20	2022-06-10	15 d	0%	4	Kartheek
25	Completion	2022-05-21	2022-06-03	9 d	0%	2	Atul; Pradeep
26	System Maintenance	2022-05-21	2022-06-03	9 d	0%	3	Atul
27	Evaluation	2022-05-21	2022-06-03	9 d	0%	1	Pradeep

Result:

Thus, the work breakdown structure with timeline chart and risk table were formulated successfully.

Department of Networking and Communications

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	6
Title of Experiment	Design a System Architecture, Use Case and Class Diagram
Name of the candidate	**CHINTA PRADEEP**
Team Members	**ATUL SINGH** **KARTHEEK SILPI**
Register Number	**RA20110280100659** **RA2011028010060** **RA2011028010068**
Date of Experiment	

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	

2	Viva	5	
	Total	**10**	

Staff Signature with date

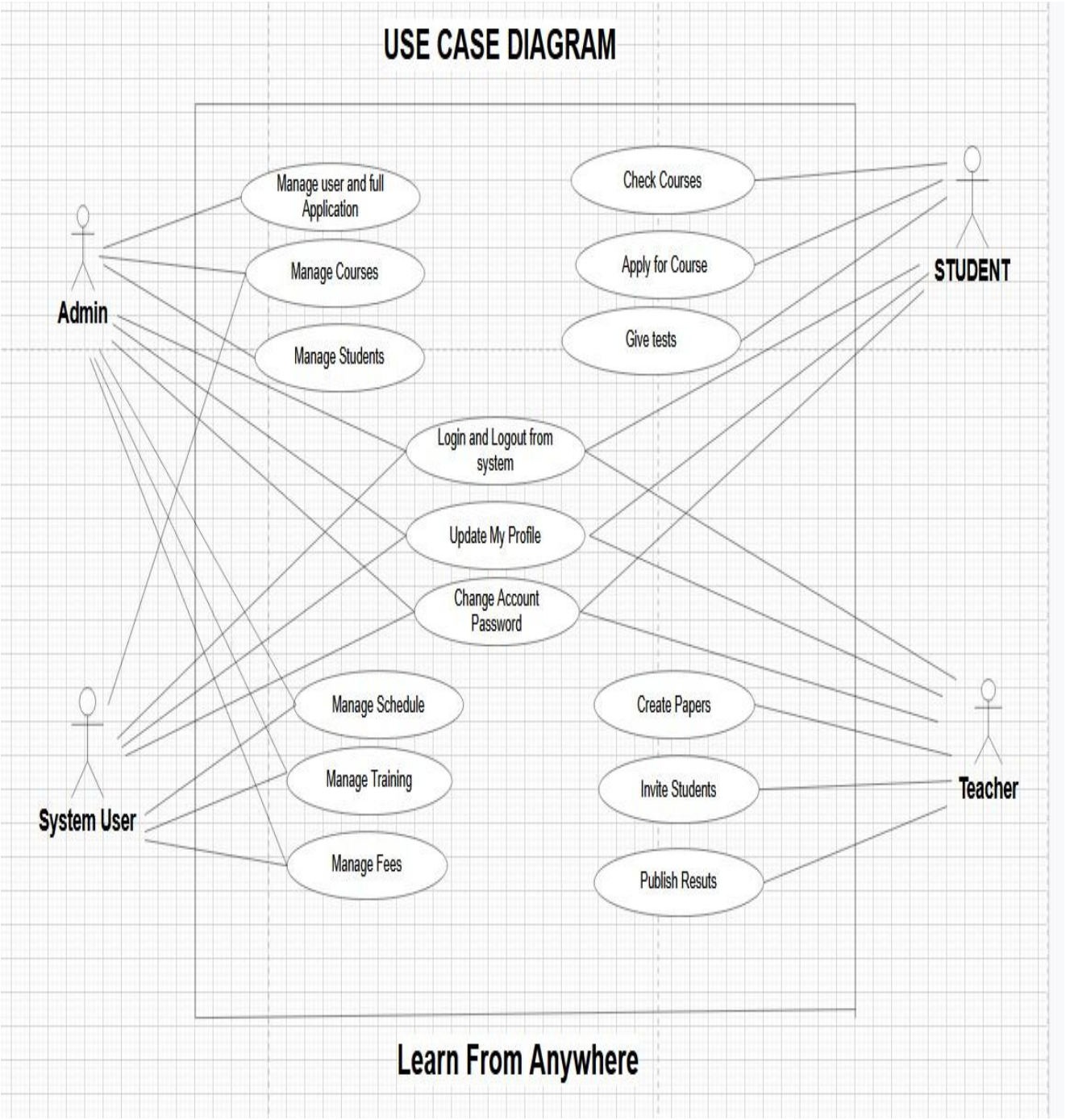
Aim

To Design a System Architecture, Use case and Class Diagram

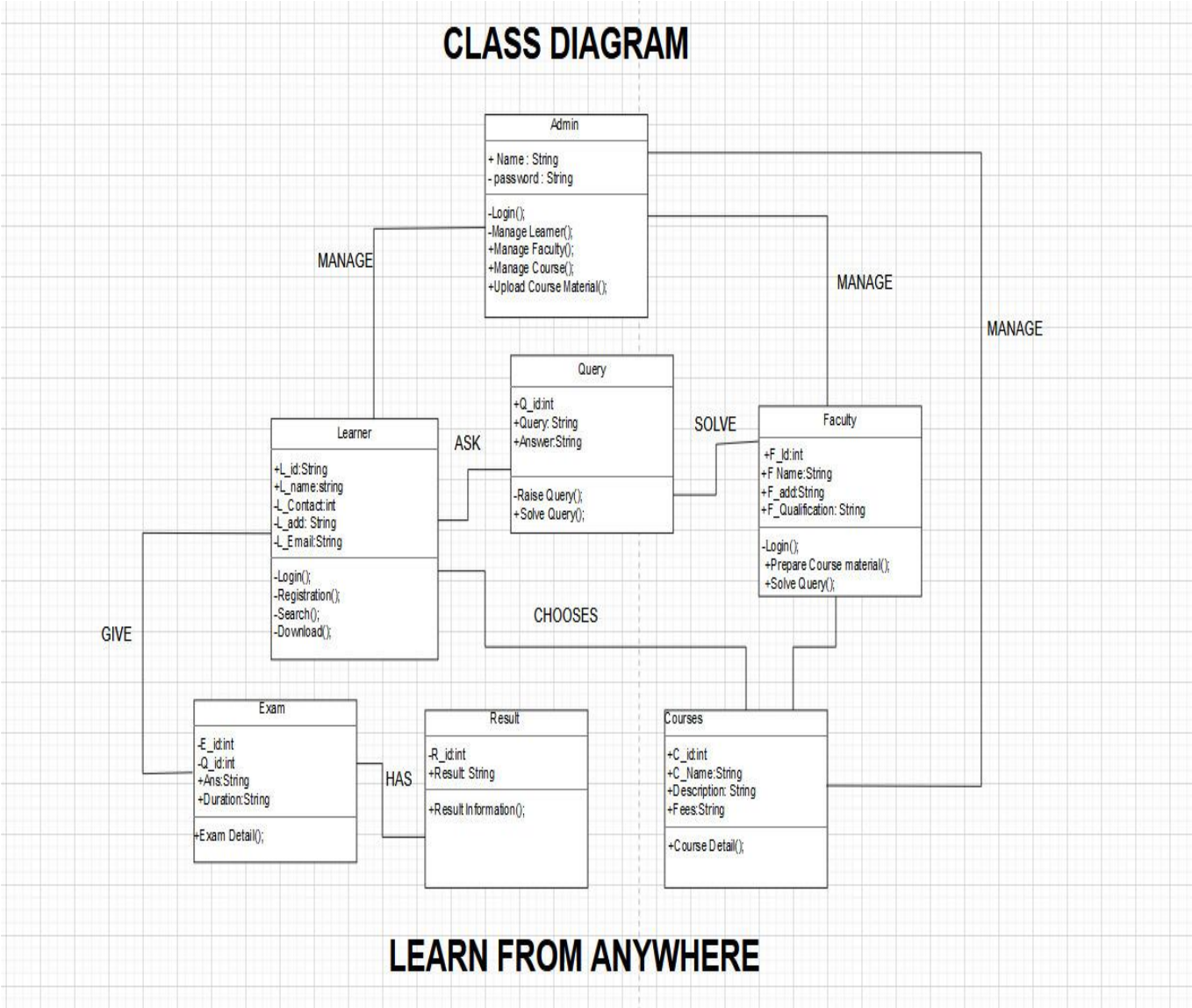
Team Members:

Sl No	Register No	Name	Role
1	**RA2011028010059**	**CHINTA PRADEEP**	**Rep**
2	**RA2011028010060**	**ATUL SINGH**	**Member**
3	**RA2011028010068**	**KARTHEEK SILPI**	**Member**

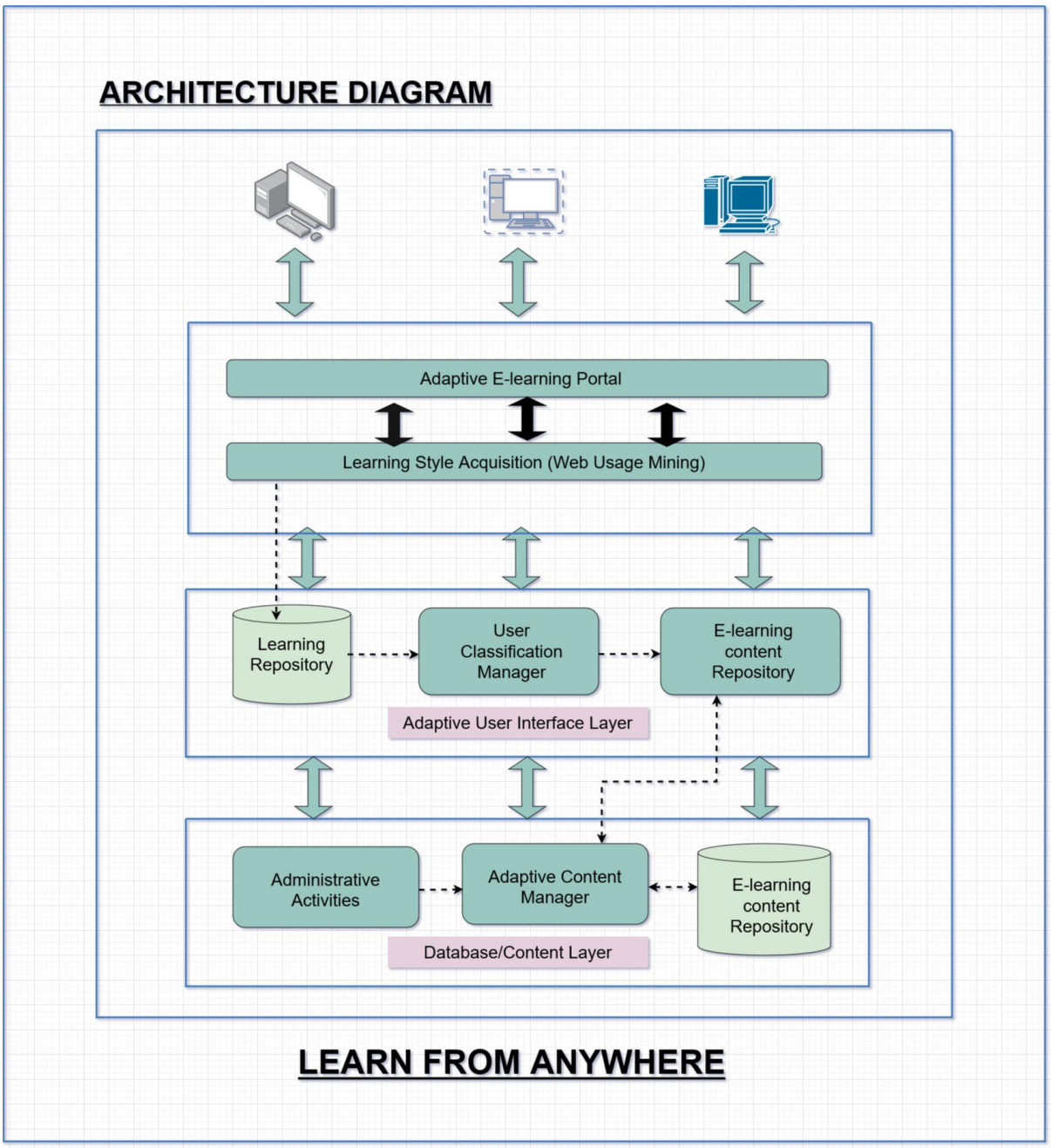
USE CASE DIAGRAM



Class Diagram



ARCHITECTURE DIAGRAM



Result:

Thus, the system architecture, use case and class diagram created successfully.

School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	7
Title of Experiment	Design a Entity relationship diagram
Name of the candidate	Chinta Pradeep
Team Members	Atul Singh Silpi Kartheek
Register Number	RA2011028010059
Date of Experiment	25/5/2022

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	

Total	**10**	

Staff Signature with date

Aim

To create the Entity Relationship Diagram

Team Members:

S No	Register No	Name	Role
1	RA2011028010059	Chinta Pradeep	Rep
2	RA2011028010060	Atul Singh	Member
3	RA2011028010068	Silpi Kartheek	Member

<ER Diagram >

Result:

Thus, the entity relationship diagram was created successfully.

<u>*/ ER Diagram, Notation and Example</u>

What is ER Diagram?

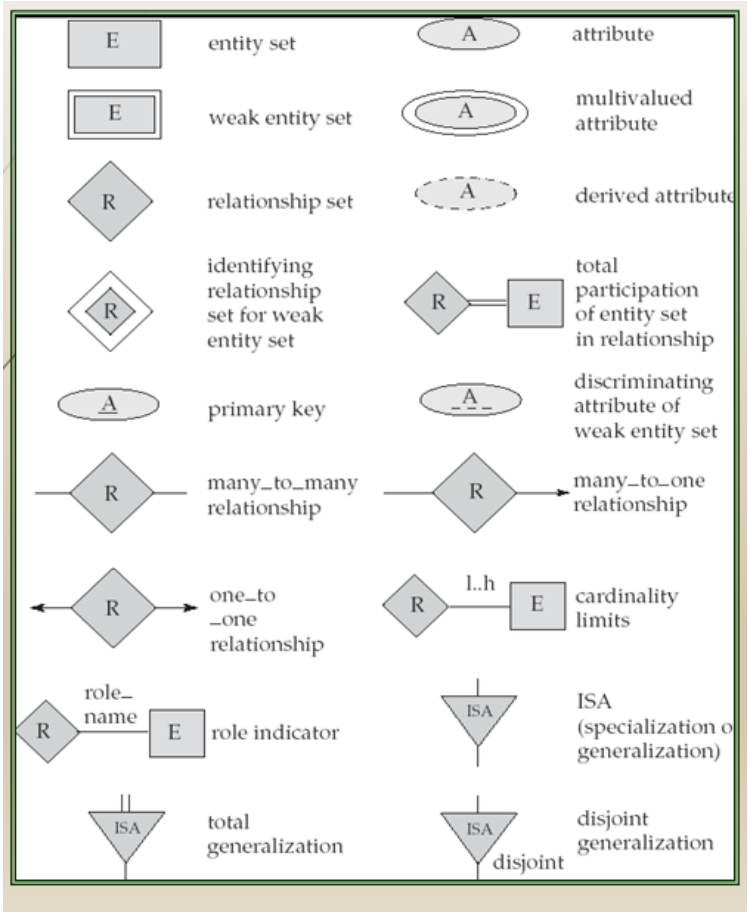
- ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships.
- ER Diagrams contain different symbols that use rectangles to represent entities, ovals to define attributes and diamond shapes to represent relationships.
- At first look, an ER diagram looks very similar to the flowchart. However, ER Diagram includes many specialized symbols, and its meanings make this model unique. The purpose of ER Diagram is to represent the entity framework infrastructure.

What is ER Model?
- ER Model stands for Entity Relationship Model is a high-level conceptual data model diagram. ER model helps to systematically analyze data requirements to produce a well-designed database.
- ER Model represents real-world entities and the relationships between them. Creating an ER Model in DBMS is considered as a best practice before implementing your database.
- ER Modeling helps you to analyze data requirements systematically to produce a well-designed database. So, it is considered a best practice to complete ER modeling before implementing your database.

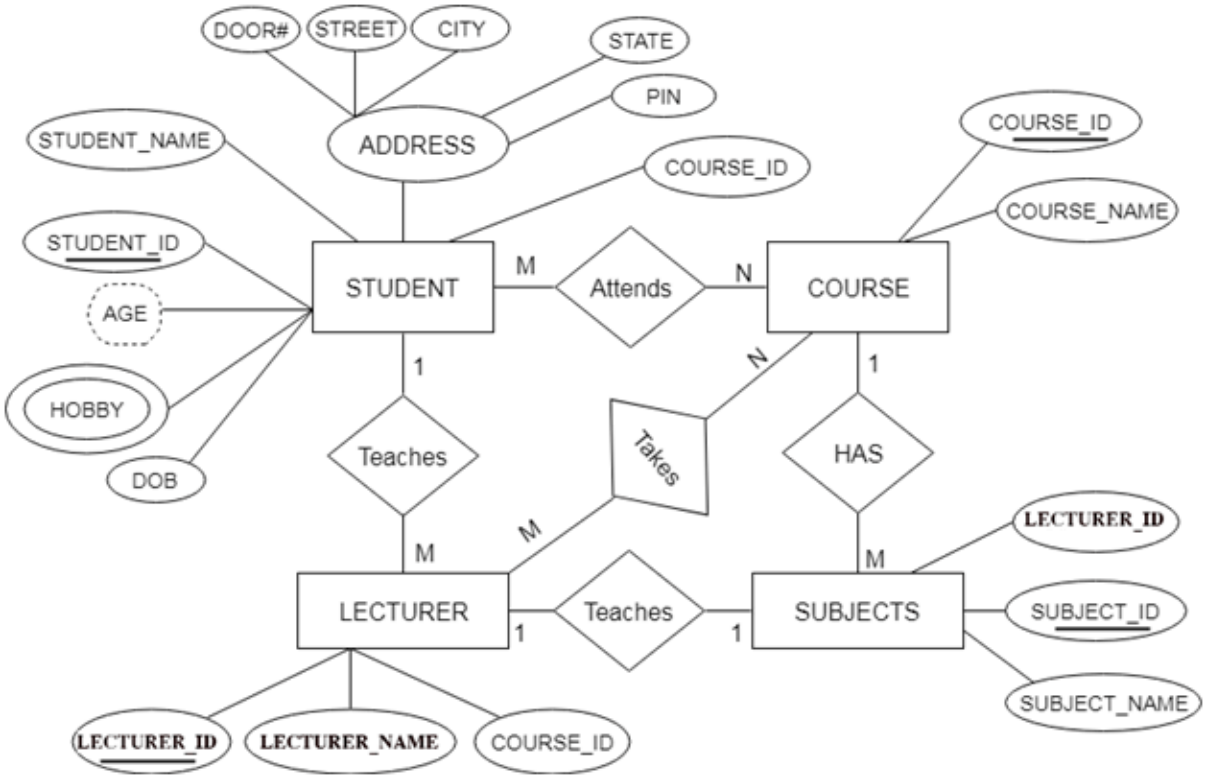
Why use ER Diagrams?
Here, are prime reasons for using the ER Diagram
- Helps you to define terms related to entity relationship modeling
- Provide a preview of how all your tables should connect, what fields are going to be on each table
- Helps to describe entities, attributes, relationships
- ER diagrams are translatable into relational tables which allows you to build databases quickly
- ER diagrams can be used by database designers as a blueprint for implementing data in specific software applications
- The database designer gains a better understanding of the information to be contained in the database with the help of ERP diagram
- ERD Diagram allows you to communicate with the logical structure of the database to users

Components of the ER Diagram
This model is based on three basic concepts: Entities, Attributes, Relationships

ER Diagram – Notations
- Rectangles represent entity sets.
- Diamonds represent relationship sets.
- Lines link attributes to entity sets and entity sets to relationship sets.
- Ellipses represent attributes
- Double ellipses represent multivalued attributes.
- Dashed ellipses denote derived attributes.
- Underline indicates primary key attributes



ER Diagram of University Database



ADDITIONAL NOTES

- A database can be modeled as a collection of entities, relationship among entities.
- An entity is an object that exists and is distinguishable from other objects.
Example: specific person, company, event, plant
- Entities have attributes.
Example: people have names and addresses
- An entity set is a set of entities of the same type that share the same properties.
Example: set of all persons, companies, trees, holidays

- Express the number of entities to which another entity can be associated via a relationship set.
- Most useful in describing binary relationship sets.
- We express cardinality constraints by drawing either a directed line (->), signifying "one," or an undirected line (—), signifying "many," between the relationship set and the entity set.

- An entity is represented by a set of attributes, that is descriptive properties possessed by all members of an entity set.
Example: customer = (customer-id, customer-name, customer-street, customer-city)
loan = (loan-number, amount)
- Domain – the set of permitted values for each attribute
- Attribute types:
1. Simple and composite attributes.
2. Single-valued and multi-valued attributes
E.g. multivalued attribute: phone-numbers
3. Derived attributes-Can be computed from other attributes

E.g. age, given date of birth

Cardinality

- For a binary relationship set the mapping cardinality must be one of the following types:

1. One to one

A customer is associated with at most one loan via the relationship borrower. A loan is associated with at most one customer via borrower

2. One to many

A loan is associated with at most one customer via borrower, a customer is associated with several (including 0) loans via borrower

3. Many to one

A loan is associated with several (including 0) customers via borrower, a customer is associated with at most one loan via borrower

4. Many to many

A loan is associated with several (including 0) customers via borrower, a customer is associated with several loans (including 0) via borrower

Weak Entity Set

- An entity set that does not have a primary key is referred to as a weak entity set and represented by double outlined box in E-R diagram.

Example : Consider the entity set payment which got three attributes : payment_number, payment_date and payment_amount. Payment numbers are sequential starting from 1 generally separately for each loan. Although each payment entity is distinct, payments for different loans may share the same payment number. Thus this entity set does not have a primary key.

Discriminator

- The discriminator (or partial key) of a weak entity set is the set of attributes that distinguishes among all the entities of a weak entity set

Example: discriminator of weak entity set payment is the attribute payment_number since for each loan a payment number uniquely identifies one single payment for that loan.

Specialization-Generalization-ISA

- E-R model provides means of representing these distinctive entity groupings
- Process of designating subgroupings within an entity set is called specialization depicted by triangle component labelled ISA (“is a”)
- Bottom up design process in which multiple entity sets are synthesized into higher level entity set - Generalization
- ISA relationship may also be referred to as superclass-subclass relationship
- Higher and lower level entity sets are designated by the terms superclass and subclass.
- Specialization and generalization are simple inversions of each other; they are represented in an E-R diagram in the same way.

Total & Partial Participation

- Total participation (indicated by double line): every entity in the entity set participates in at least one relationship in the relationship set

E.g. participation of loan in borrower is total, every loan must have a customer associated to it via borrower

- Partial participation: some entities may not participate in any relationship in the relationship set

Example: participation of customer in borrower is partial

Cardinality limits

- Cardinality limits can also express participation constraints
- Minimum and maximum cardinality is expressed as l..h where l is the minimum and h is the maximum cardinality
- Minimum value of 1 indicates total participation of entity set in relationship set
- Maximum value of 1 indicates entity participates in atmost one relationship set.
- Maximum value of * indicates no limit

Role indicator

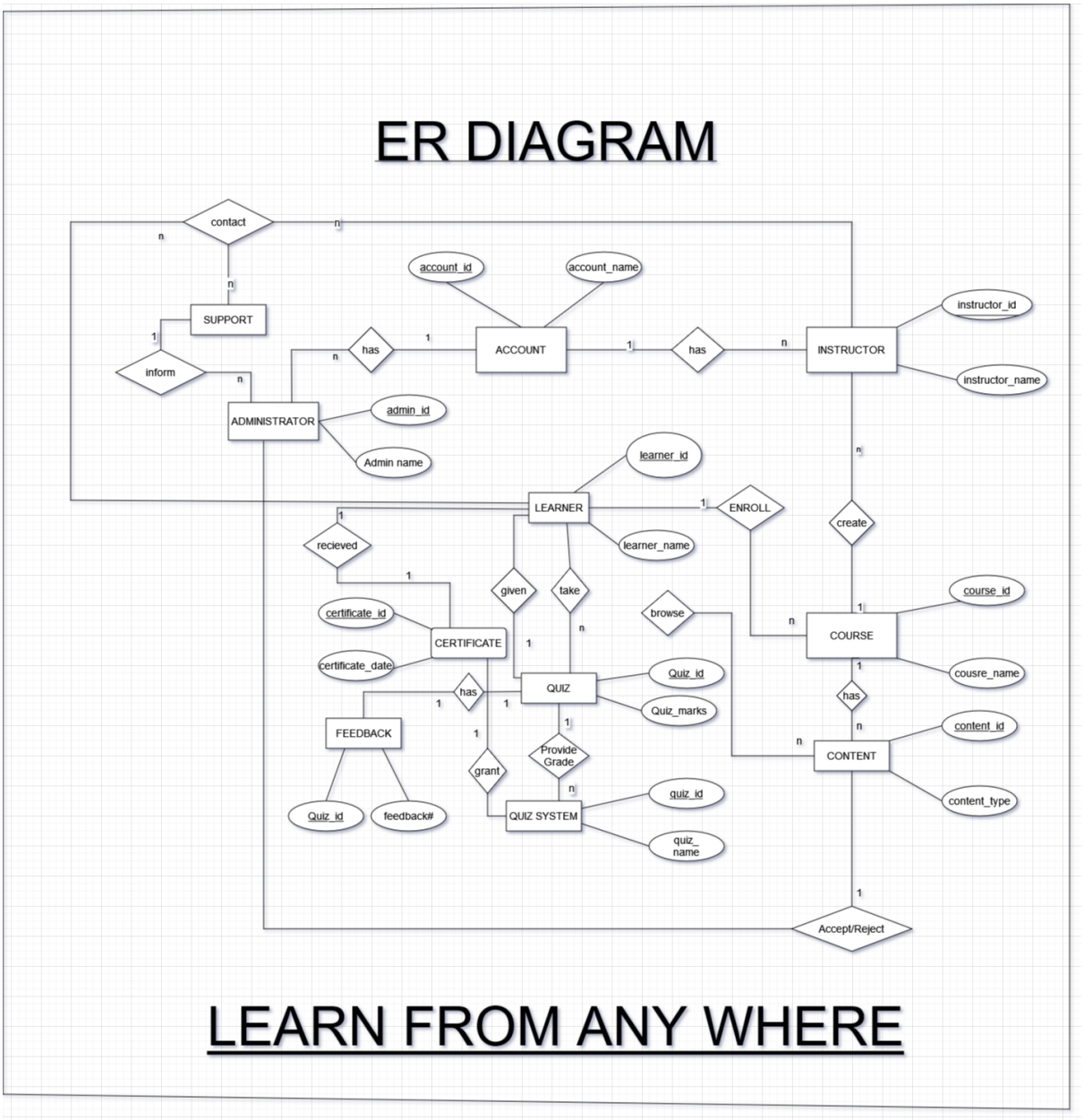
- Entity sets of a relationship need not be distinct
- The labels “manager” and “worker” are called roles; they specify how employee entities interact via the works-for relationship set.
- Roles are indicated in E-R diagrams by labeling the lines that connect diamonds to rectangles.
- Role labels are optional, and are used to clarify semantics of the relationship

Disjoint Generalization

- Disjointness constraint requires that an entity belong to more than one lower level entity set.

Example: account entity can satisfy only one condition for account_type attribute ; entity can either be savings or chequing account but not both.

ER DIAGRAM FOR E-LEARNING PLATFORM:



School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	8
Title of Experiment	Develop a Data Flow Diagram (Process-Up to Level 1)
Name of the candidate	Chinta Pradeep
Team Members	Silpi Kartheek Atul Singh
Register Number	RA2011028010059 RA2011028010060 RA2011028010068
Date of Experiment	

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	

Total	**10**	

Staff Signature with date

Aim

To develop the data flow diagram up to level 1 for LEARN FROM ANYWHERE

Team Members:

S No	Register No	Name	Role
1	RA2011028010059	Chinta Pradeep	Rep
2	RA2011028010060	Atul Singh	Member
3	RA2011028010068	Silpi Kartheek	Member

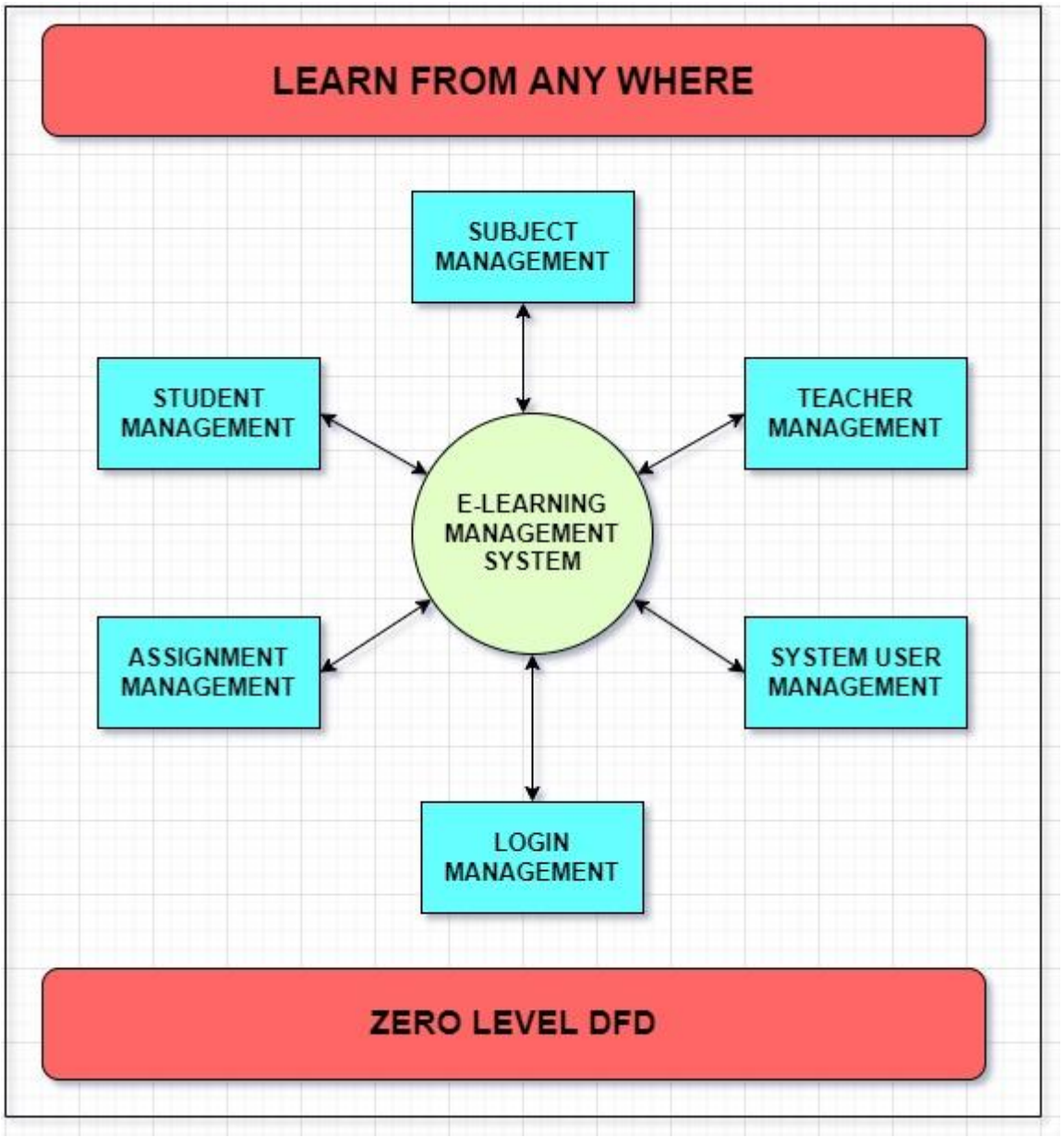
Data Flow Diagram

The DFD takes an input-process-output view of a system. That is, data objects flow into the software, are transformed by processing elements, and resultant data objects flow out of the software. Data objects are represented by labeled arrows, and transformations are represented by circles (also called bubbles). The DFD is presented in a hierarchical fashion. That is, the first data flow model (sometimes called a level 0 DFD or context diagram) represents the system as a whole. Subsequent data flow diagrams refine the context diagram, providing increasing detail with each subsequent level.

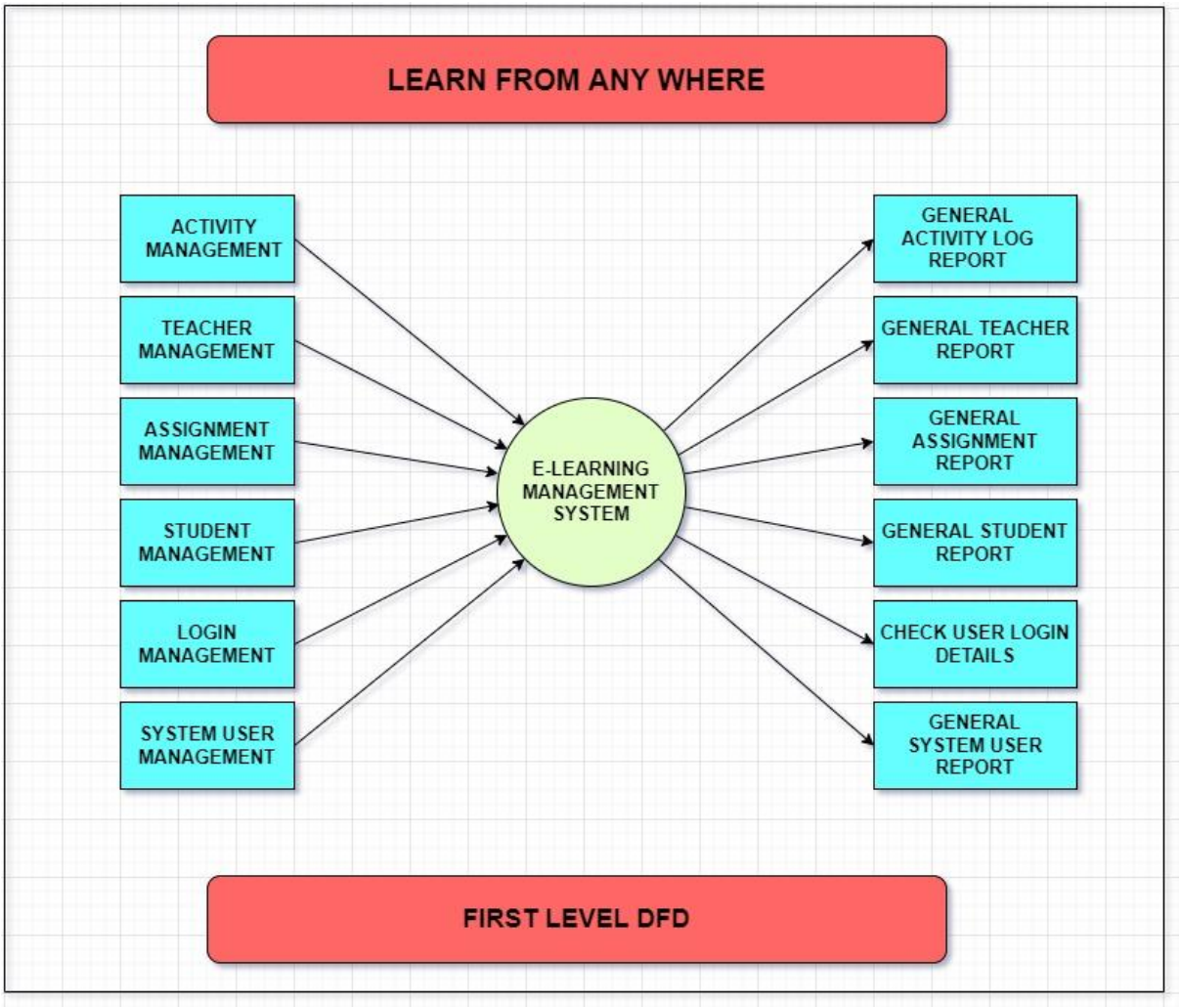
The data flow diagram enables you to develop models of the information domain and functional domain. As the DFD is refined into greater levels of detail, you perform an implicit functional decomposition of the system. At the same time, the DFD refinement results in a corresponding refinement of data as it moves through the processes that embody the application.
A few simple guidelines can aid immeasurably during the derivation of a data flow diagram:
(1) Level 0 data flow diagram should depict the software/system as a
single bubble;
(2) Primary input and output should be carefully noted;
(3) Refinement should begin by isolating candidate processes, data objects, and data stores to be represented at the next level;
(4) All arrows and bubbles should be labeled with meaningful names;
(5) Information flow continuity must be maintained from level to level and

(6) One bubble at a time should be refined. There is a natural tendency to overcomplicate the data flow diagram. This occurs when you attempt to show too much detail too early or represent procedural aspects of the software in lieu of information flow.

DFD Level 0



DFD Level 1



Result:

Thus, the data flow diagrams have been created for LEARN FROM ANYWHERE

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School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	9
Title of Experiment	Design a Sequence and Collaboration Diagram
Name of the candidate	Chinta Pradeep
Team Members	Atul Singh Silpi Kartheek
Register Number	RA2011028010059
Date of Experiment	14/6/2022

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

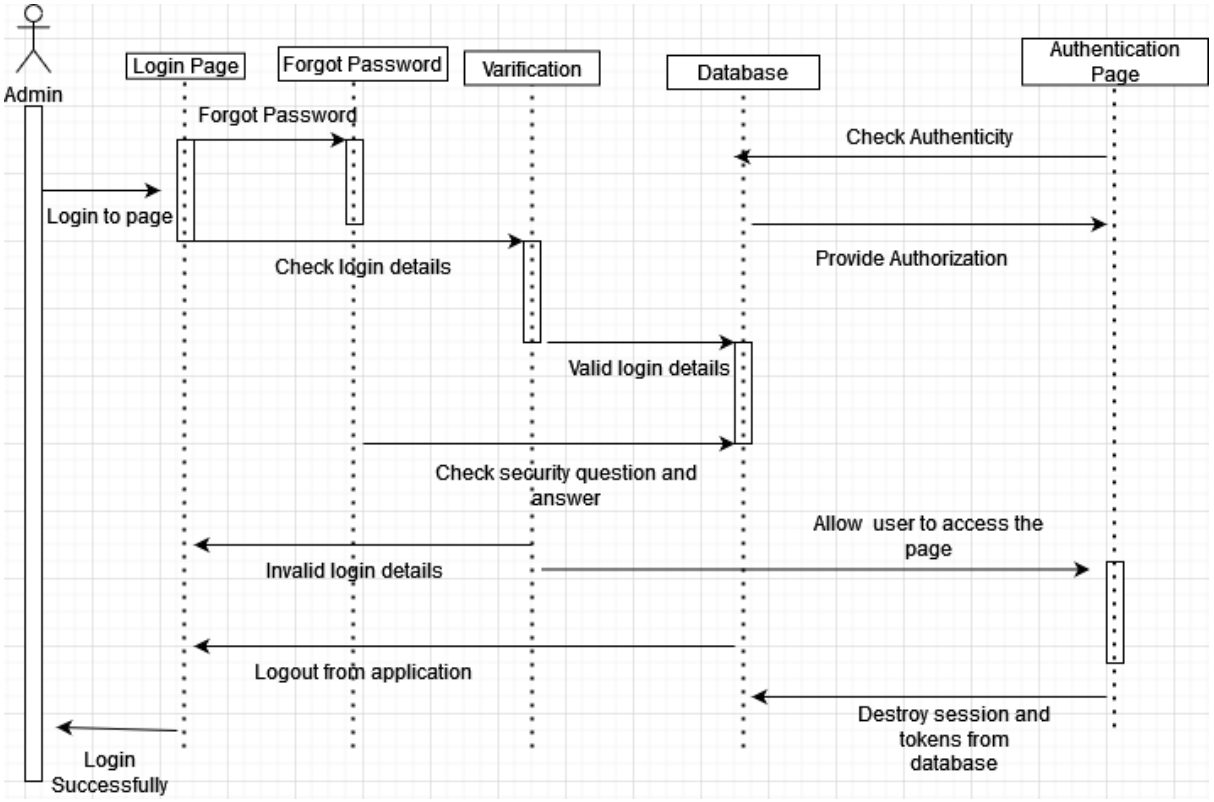
Aim

To create the sequence and collaboration diagram for the E-Learning Platform

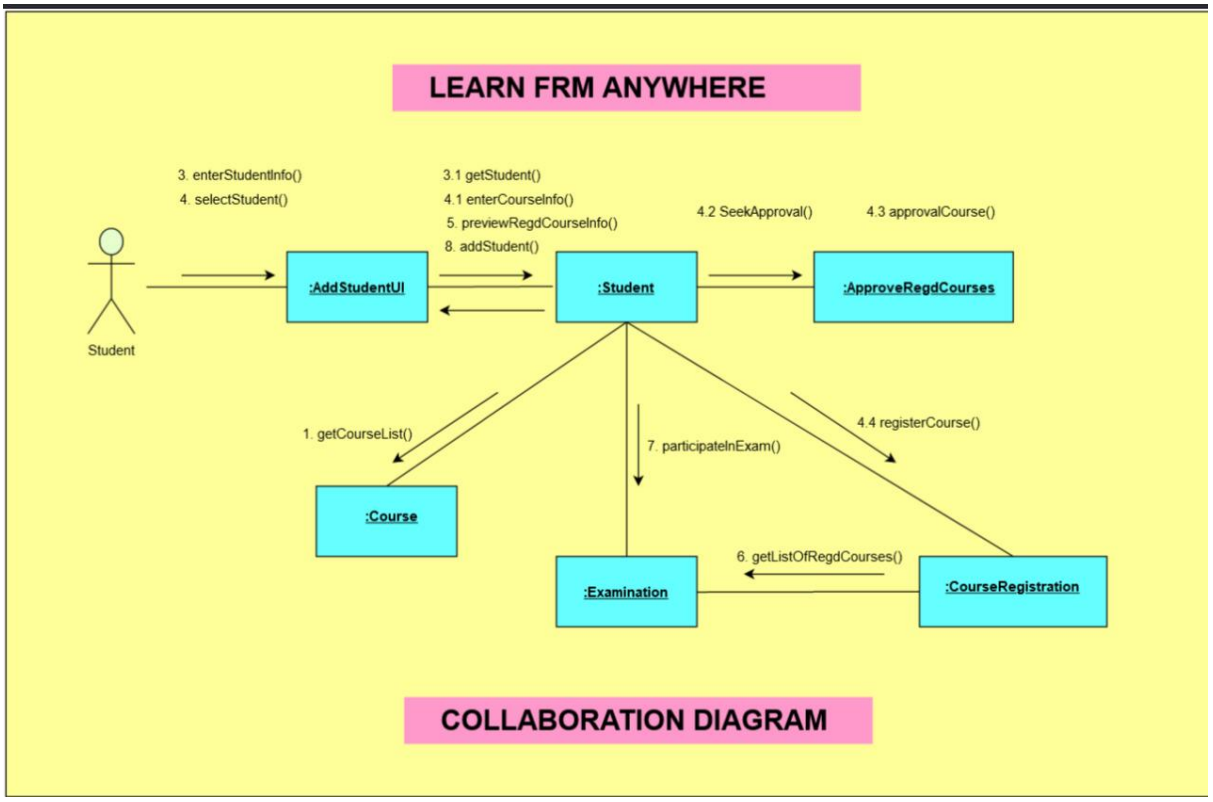
Team Members:

S No	Register No	Name	Role
1	RA2011028010059	Chinta Pradeep	Rep/Member
2	RA2011028010060	Atul Singh	Member
3	RA2011028010068	Silpi Kartheek	Member

Sequence Diagram:



Collaboration Diagram:



Result:

Thus, the sequence and collaboration diagrams were created for the E-Learning Platform

School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	10
Title of Experiment	Develop a Testing Framework/User Interface
Name of the candidate	Chinta Pradeep
Team Members	Atul Singh Silpi Kartheek
Register Number	RA2011028010059 RA2011028010060 RA2011028010068
Date of Experiment	

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	

Total	**10**	

Staff Signature with date

Team Members:

S No	Register No	Name	Role
1	RA2011028010059	Chinta Pradeep	Rep/Member
2	RA2011028010060	Atul Singh	Member
3	RA2011028010068	Silpi Kaetheek	Member

Aim: To develop the testing framework and/or user interface framework for the LEARN FROM ANYWHERE.

SCOPE*:* Enhance the quality of learning and teaching. Meet the learning style or needs of students. Improve the efficiency and effectiveness. Improve user-accessibility and time flexibility to engage learners in the learning process.

OBJECTIVES*:* Learning objectives are the cornerstone of every e-learning course. They're the reason you're creating the course. They guide you as you select the content and activities to include. And they help you determine whether your course has been effective.

Approach to test the software application*:* It is very important to test the software application, before its launch. Testing is very important to give user good experience which leads in gaining more loyal customers for the software or application. Testing plays an important role in making the product successful.

We will be testing the software on mainly two approaches:-

1. functional testing approach
2. Non - functional testing approach

Test Plan

A Test Plan is **a detailed document that describes the test strategy, objectives, schedule, estimation, deliverables, and resources required to perform testing for a software product**.

Scope of Testing

Technically, Software Testing is an investigation conducted to provide stakeholders with information about the quality of a particular product or service under test. In other words, software testing is a process of verification and validation.

Functional: **FUNCTIONAL TESTING** is a type of software testing that validates the software system against the functional requirements/specifications. The purpose of Functional tests is to test each function of the software application, by providing appropriate input, verifying the output against the Functional requirements.

Sno	Test item	Description
1	**Use interface testing**	**The testing of this particular module code will consist of checking if the application displays all the required buttons and check if the settings panel is in the main screen. The border line case of this module would be to check how the UI responds when the keyboard or the touch screen does not work or the user provides or gives too many stimuli to the software.**
2	**Platform Testing**	**We ensure that your E-learning domains are flawless and readily accessible, irrespective**

		of the operating software, mobile device or browser used. We make sure your application works conveniently across all platforms.
3	Performance Testing	Testrig has competent expertise in Performance testing of E-learning-based apps and websites. Speed is our primary focus–so your students can access the site and application quickly and conveniently.
4	Database testing	Database Testing is a type of software testing that checks the schema, tables, triggers etc. of the database under test. It involves creating complex queries for performing the load or stress test on the database and check its responsiveness. It checks integrity and consistency of data.
5	Content Validation	We put a lot of effort to make sure your content is high-quality and meets the standards of your educational industry. Our experts clearly understand the importance of education as well as its different domains. We are aware that your E-learning application is a crucial part of your educational

		service, and we ensure it is done accurately.

Non-Functional: **NON-FUNCTIONAL TESTING** is defined as a type of Software testing to check non-functional aspects (performance, usability, reliability, etc) of a software application. It is designed to test the readiness of a system as per nonfunctional parameters which are never addressed by functional testing.

included in your testing.

Sno	Test item	Description
1	The response time	The application should be verified i.e. how long does it take to load the application, any input given to the application provides the output in how much time, refreshing the browser, etc.
2	Process time	Process activities like import & export of excel, any calculations in the application should be tested.
3	Authentication	Only an authentic user should be able to Log in.

Types of Testing, Methodology, Tools

Category	Methodology	Tools Required
Functional Requirements	Manual	Word Template ,UFT
Non-functional Requirements	Server based	Loadstar, JMeter

Result: Thus, the testing framework/user interface framework has been created for the LEARN FROM ANYWHERE.

School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	11
Title of Experiment	Test Cases
Name of the candidate	Chinta Pradeep
Team Members	Atul Singh Silpi Kartheek
Register Number	RA2011028010059
Date of Experiment	14/6/2022

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

To develop the test cases manual for the E-Learning Platform

Team Members:

S No	Register No	Name	Role
1	RA2011028010059	Chinta Pradeep	Rep
2	RA2011028010060	Atul Singh	Member
3	RA2011028010068	Silpi Kartheek	Member

Test Case

Functional Test Cases

Test ID (#)	Test Scenario	Test Case	Execution Steps	Expected Outcome	Actual Outcome	Status	Remarks
1	Verify User Registration	Accept Valid Account if one registered	1. User clicks on User Registration link 2. Enter the mobile Number on the text box 3. Click Register button	User should be taken to the next page for entering more user details	As Expected will go through the website and follow ups data required	Pass	success
2	Verify User Registration	Don't Accept If not a member or not registered to	It will show error as customer is not registered	error	error	failure	failure

		the platform					
3	Popping Notification Popping Notification	Wants future Notifications Don't Want future Notifications	Click yes for future updates Click on no option	Pops up notification about new courses and the videos Updates are only listed	As expected As expected	Pass Pass	Success Success
4	Verify User bought the course or not	1.User to buy the course if not bought 2. User need to login throught authentified / Registered phoneNumber or Mail	Need to notify to purchase the course Give access to content and videos available int course	Give access tho see what content user can able to learn 2.Give Access to every content in the course	As Expected As Expected	Pass Pass	Success Success
5	Verify language modifications	Language changes or not	Click on the setting and selecting the	Change to user expected Language	Not as expected	Failure	Failure

Non-Functional Test Cases

Test ID (#)	Test Scenario	Test Case	Execution Steps	Expected Outcome	Actual Outcome	Status	Remarks
1	Security	Accept if only Registered and valid Credentials	Enter User id/phone number and password to login	Open User account	As Expected	Pass	Success
2	Recovery of credentials	Gives forgot password option	1.click on forgot password 2.check your email for otp.	A new window will appear for	As Expected	Pass	Success

			3.enter email 4.click login	setting new password			
3	scalability	Limited content which user purchased	Request for extra content might cost money 2. Pay the money 3.click on submit	extra cloud storage will be provided according to requirement asked	As expected	Pass	Sucsess
4	Positive/failure	Accessibility	Whatever user wants to view or select they can do it easily as the interface would be made user friendly	The user can easily select items and make purchases	As expected	Pass	Success

Result:

Thus, the test case manual has been created for the E-Learning Platform.

School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	12
Title of Experiment	Manual Test Case Reporting
Name of the candidate	CHINTA PRADEEP
Team Members	ATUL SINGH SILPI KARTHEEK ACHARI
Register Number	RA2011028010059 RA2011028010068
Date of Experiment	06/06/2022

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

To prepare the manual test casereport for the E-Learning Platform

Test Case

Functional Test Cases

Test ID (#)	Test Scenario	Test Case	Execution Steps	Expected Outcome	Actual Outcome	Status	Remarks
1	User Registration	Check for database for new user record	1. User clicks on User Registration link 2. Enters his/her credentials in the text box 3. Click Sign Up button	User should be taken to the next page for entering more user details	User taken to the next page	Pass	Success
2	Issues in connection speed	Checking for how the website hold in different data speed	1.website will check the minimum data required for the live classes and recorded lectures.	if the connection speed is ok then there is no interruption otherwise error will come(Network Error).	Lecture will play without lagging, otherwise lag in data	Pass	Success

3	Adding lecture videos	Check for newly added video lectures	1. New videos are getting updated. 2.updation process done regularly.	User should be notified and videos comes on notification	User is notified and videos is shown on notification bar.	Pass	Success
4	Bugs and crashing	Check if every button and videos is working perfectly or not	1.check by clicking buttons and videos.	video should start and stop after clicking on the button.	video will start playing.	Pass	Success
5	Errors when screen sizes vary	Responsive nature of website.	1.Check the responsiveness of website.	It should work in every screen	Website will work in every screen size	Pass	Success

Non-Functional Test Cases

Test ID (#)	Test Scenario	Test Case	Execution Steps	Expected Outcome	Actual Outcome	Status	Remarks
1	Authentication	Check if registered users can login/logout	In this test case, the queries are matched with the database and action is taken accordingly	User is redirected to their dashboard if authentication is successful or receives a notification if it is not	User is redirected to dashboard or receives a notification	Pass	Success

2	Performance Testing	Check if the database is being updated accordingly	In this test case we check if the database is being updated with each new videos into the respective folder.	Database is updated	Database is updated	Pass	Success
3	Mail Connectivity	Check if the OTP is received while login.	1.OTP will be sent to users email for authentication process.	OTP is supposed to be received by the user who is trying to login.	OTP is received	Pass	Success
4	Mobile connectivity	Check if the OTP is received while login	1.OTP will be sent to users mobile for authentication process.	OTP is supposed to be received by the user who is trying to login.	OTP is received	Pass	Success

The following test cases are under progress, as the old ones are rectified, new ones could pop up, this is called maintenance of the developed product. Involves continuous testing, upgrading and making the product safe.

Category	**Progress Against Plan**	**Status**
Functional Testing	Green	Completed
Non-Functional Testing	Amber	In-Progress

Functional	**Test Case Coverage (%)**	**Status**
User Registration	100%	Completed
Issue in connection speed	100%	Completed
Adding lecture videos Bugs and crashing Errors when screen sizes vary	100% 100% 100%	Completed Completed Completed
Non-Functional	**Test Case Coverage (%)**	**Status**
Authentication Performance Testing Mail E-Mail Connectivity Mobile connectivity	50% (Working Prototype) 50% (Working Prototype) 50% (Working Prototype) 50% (Working Prototype)	In-Progress In Progress In progress In progress

Result:

Thus, the test case report has been created for the **Learn FROM ANYWHERE.**

School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	13
Title of Experiment	Provide the details of Architecture Design/Framework/Implementation
Name of the candidate	Chinta Pradeep
Team Members	Atul Singh Silpi Kartheek
Register Numbers	RA2011028010059
Date of Experiment	25/06/2022

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

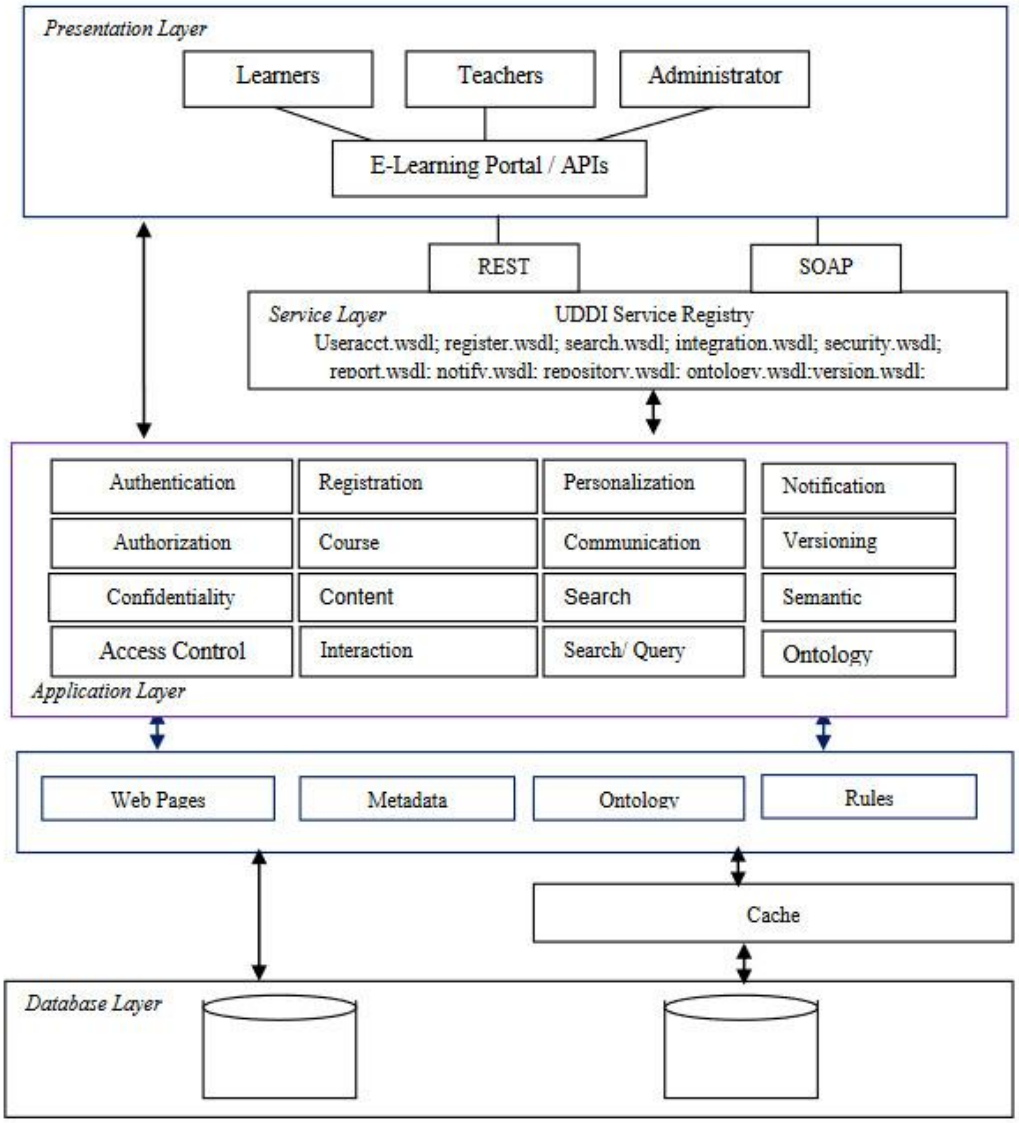
To provide the details of architectural design/framework/implementation

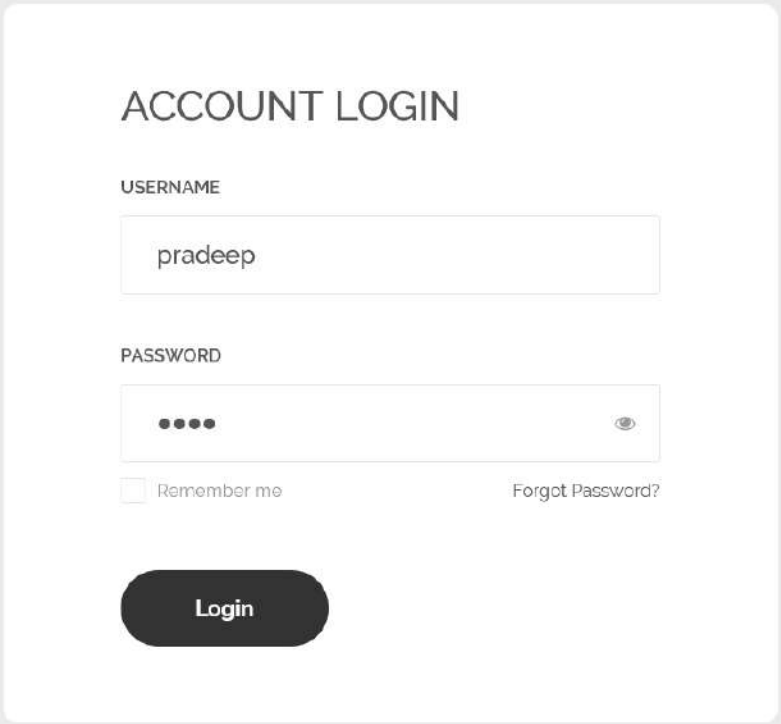
Team Members:

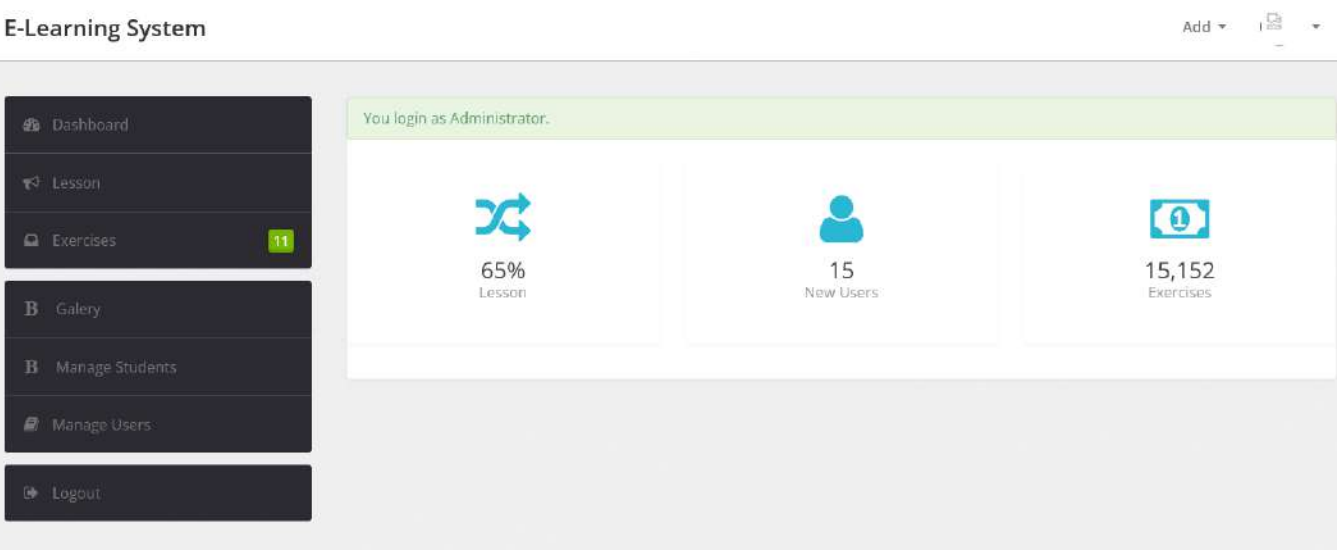
S No	Register No	Name	Role
1	RA2011028010059	Chinta Pradeep	Rep/Member
2	RA2011028010060	Atul Singh	Member
3	RA2011028010068	Silpi Kartheek	Member

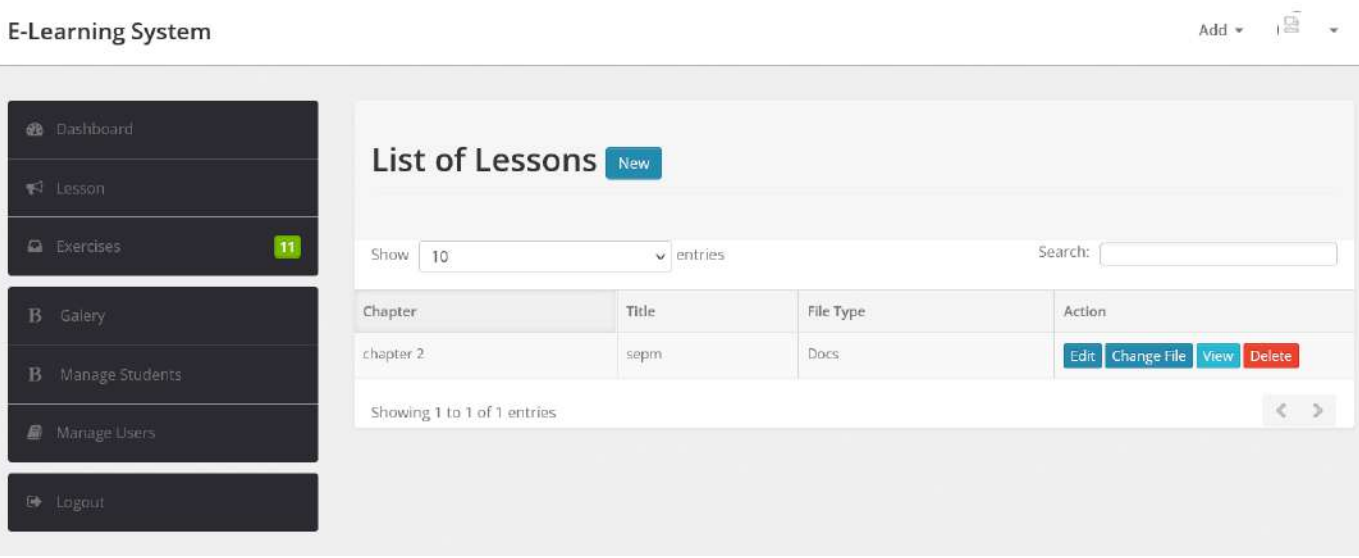
ARCHITECTURAL DESIGN - FRAMEWORK

ARCHITECTURAL DESIGN




ACCOUNT LOGIN
USERNAME
pradeep
PASSWORD
Remember me
Forgot Password?
Login


E-Learning System
Add
Dashboard
Lesson
Exercises
11
Galery
Manage Students
Manage Users
Logout
You login as Administrator.
65%
Lesson
15
New Users
15,152
Exercises


E-Learning System
Add
Dashboard
Lesson
Exercises
11
Galery
Manage Students
Manage Users
Logout
List of Lessons
New
Show
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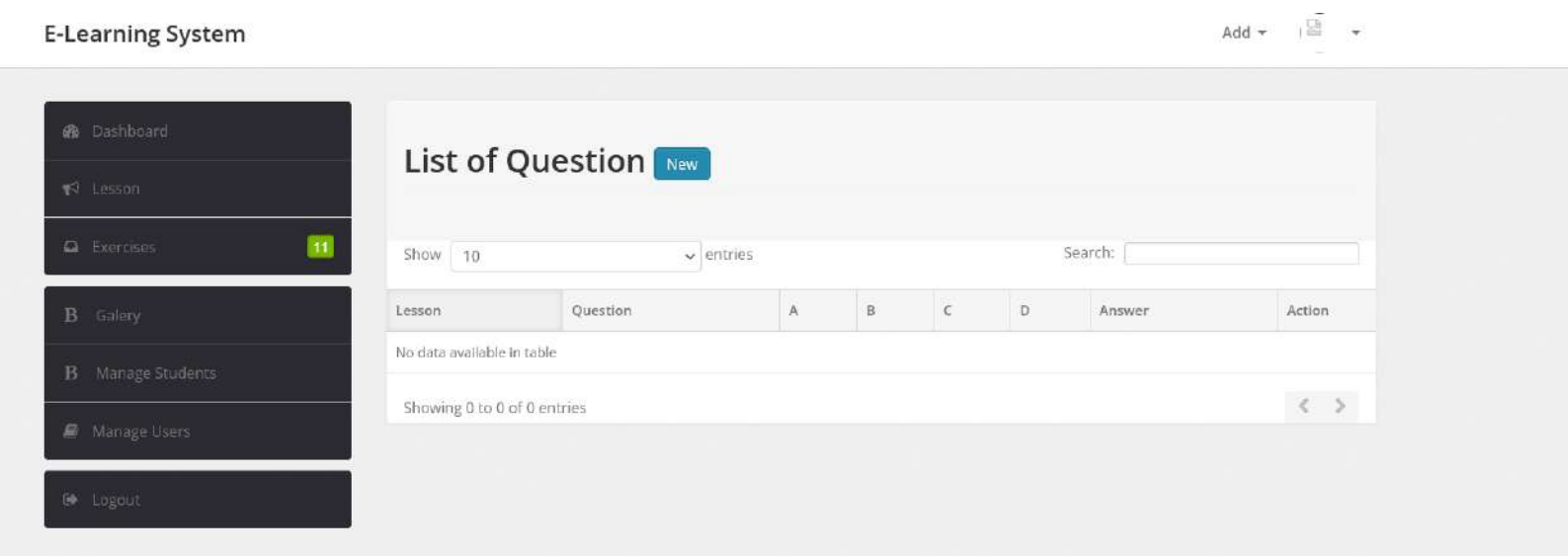
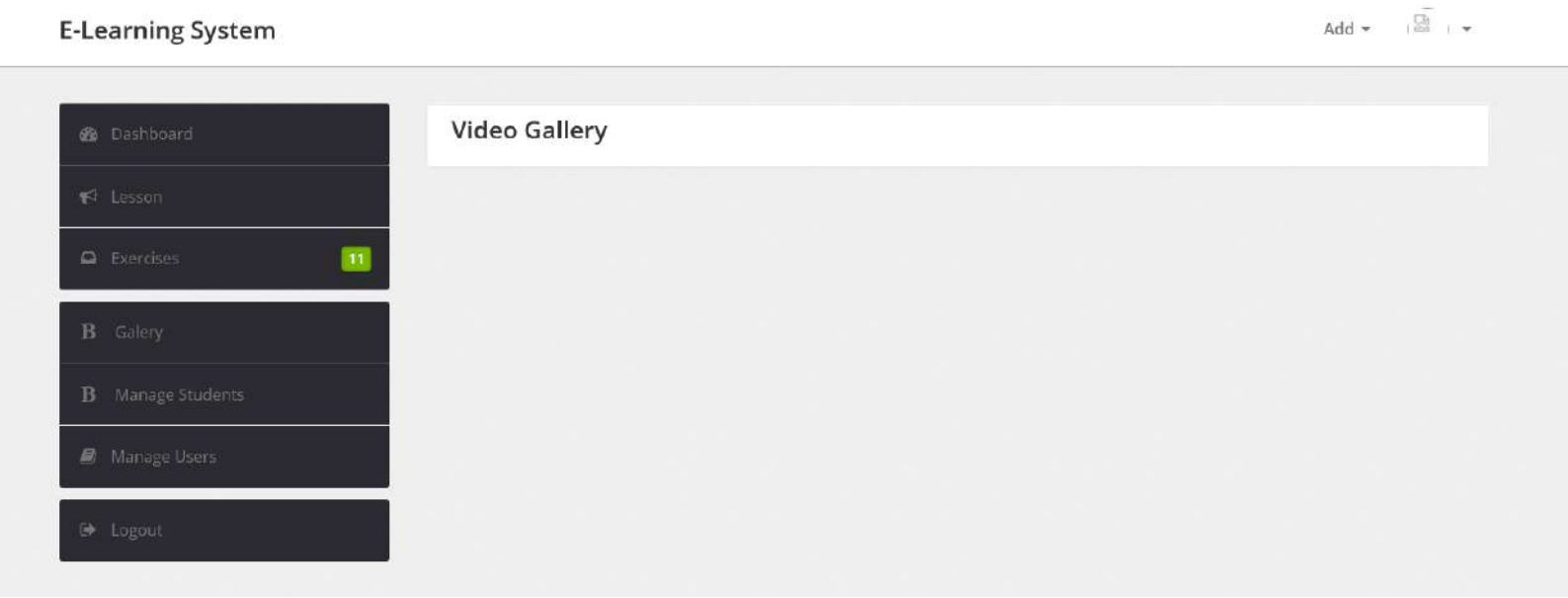
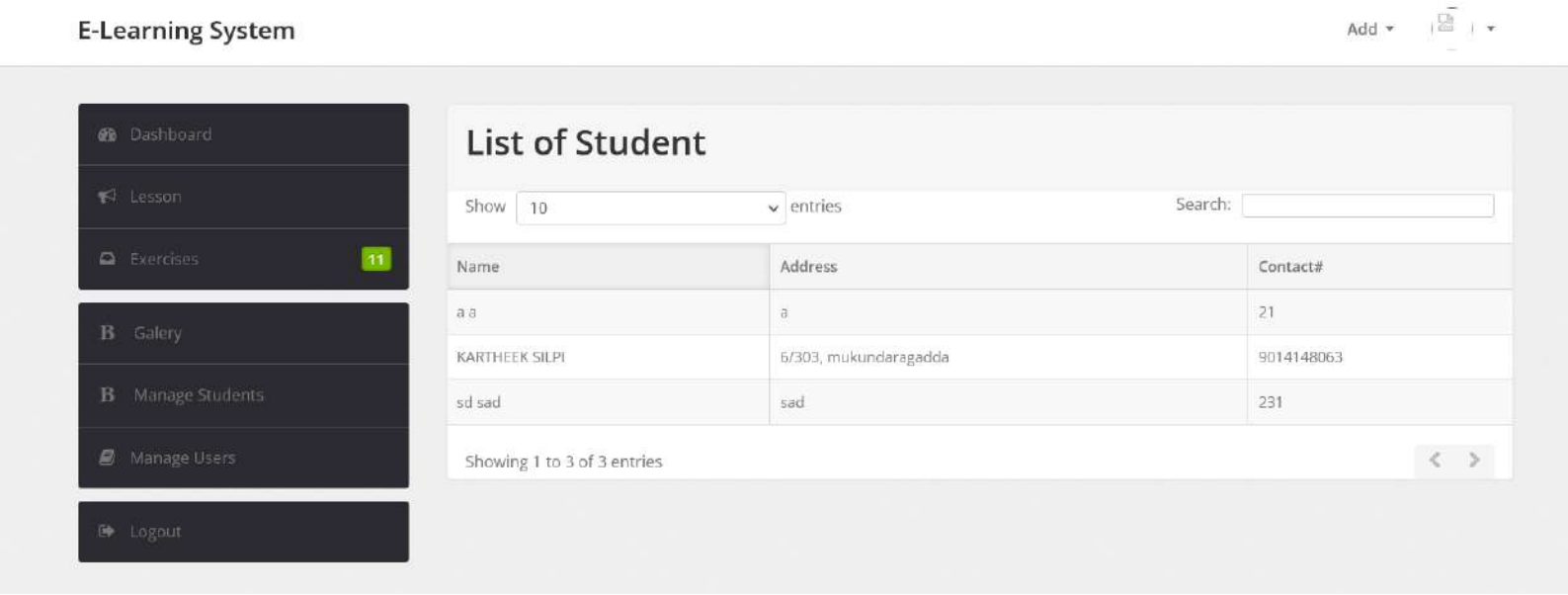
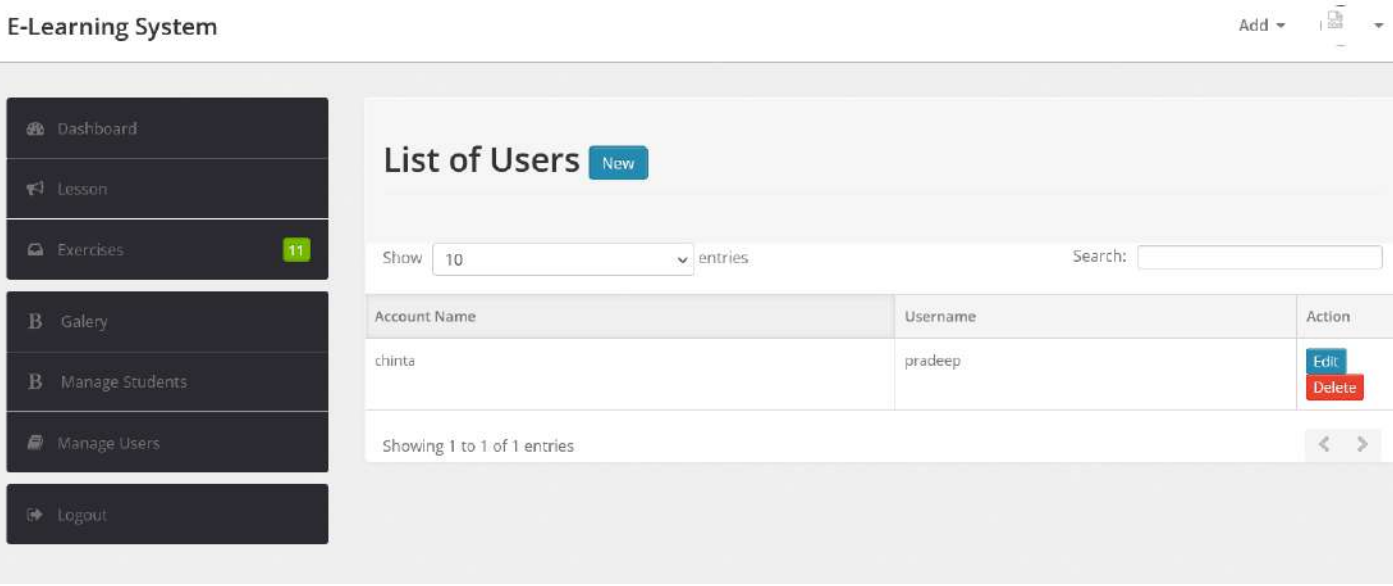
Chapter
Title
File Type
Action
chapter 2
sepm
Docs
Edit
Change File
View
Delete
Showing 1 to 1 of 1 entries


E-Learning System
Add
Dashboard
Lesson
Exercises
11
Galery
Manage Students
Manage Users
Logout
List of Question
New
Show 10 entries
Search:
Lesson
Question
A
B
C
D
Answer
Action
No data available in table
Showing 0 to 0 of 0 entries


E-Learning System
Add
Dashboard
Lesson
Exercises
11
Galery
Manage Students
Manage Users
Logout
Video Gallery


E-Learning System
Add
Dashboard
Lesson
Exercises
11
Galery
Manage Students
Manage Users
Logout
List of Student
Show 10 entries
Search:
Name
Address
Contact#
a a
a
21
KARTHEEK SILPI
6/303, mukundaragadda
9014148063
sd sad
sad
231
Showing 1 to 3 of 3 entries


E-Learning System
Add
Dashboard
Lesson
Exercises
11
Galery
Manage Students
Manage Users
Logout
List of Users
New
Show
10
entries
Search:
Account Name
Username
Action
chinta
pradeep
Edit
Delete
Showing 1 to 1 of 1 entries

Member Login

Username

Password

LOGIN

Create your Account →

Mandate

E-Learning is one of the thrust area identified by MeitY for imparting education using educational tools and communication media. It is the learning facilitated and supported by Information Communication technologies (ICT). The broad objective is to develop tools and technologies to promote e-learning in the country. E-learning mode and the related tools provide a platform for enhanced learning, cost effective delivery, flexibility of learning at the convenience of the learner, uniform quality content delivery, re-usability of the content etc.

Vision

education should available for all

Mission

To full fill all the needs of schollar

Core Values

1. Pursuit of TRUTH.
2. Passion for EXCELLENCE
3. Commitment to SERVICE

Guiding Principles

- Academic Freedom
- Responsibility
- Academic Standards

Lesson

PDF

#	Chapter	Title	Action
	chapter 2	sepm	View File

VIDEO

#	Decription	Action


Home
Lesson
Exercises
Downloads
Logout
Exercises
Chapter Title Action
chapter 2
sepm
View Exercises

Home | Lesson | Exercises | Downloads | Logout

Download

PDF

#	Chapter	Title	Action
	chapter 2	sepm	Downlaod

VIDEO

#	Decription	Action

```
#home

<!-- <h1><?php echo $title;?></h1> -->

<div class="col-lg-12">
<h4>Mandate</h4>
    <p> The Philippine Science High School System is an attached agency of the Department of Science and Technology (DOST).  The Board of Trustees (BOT), with the DOST Secretary as the Chairman, is the highest policy making body of the PSHS System. </p>
</div>
<div  class="col-lg-6">
  <h4>Vision</h4>
  <p>We are the leading science high school in the Asia Pacific Region preparing our scholars to become globally competitive Filipino scientists equipped with 21st century skills and imbued with the core values of truth, excellence, and service to nation.</p>
  <h4>Mission</h4>
  <p> The Philippine Science High School, operating under one System of Governance and Management, provides scholarship to students with high aptitude in science and mathematics.</p>
  <h4>Core Values</h4>
  <ol>
    <li>Pursuit of TRUTH.</li>
    <li>Passion for EXCELLENCE</li>
    <li>Commitment to SERVICE</li>
  </ol>


</div>
<div  class="col-lg-6">
  <h4>Guiding Principles</h4>
    <ul>
      <li>Academic Freedom </li>
      <li>Responsibility</li>
      <li>Academic Standards</li>
    </ul>

</div>


//index
<?php
```

```php
require_once("include/initialize.php");
if (!isset($_SESSION['StudentID'])) {
  # code...
  redirect('login.php');
}
$content='home.php';
$view = (isset($_GET['q']) && $_GET['q'] != '') ? $_GET['q'] : '';
switch ($view) {
  case 'lesson':
    $title = "Lesson";
    $content = 'lesson.php';
   # code...
   break;
  case 'exercises':
    $title = "Exercises";
    $content = 'exercises.php';
   # code...
   break;
  case 'download':
    $title = "Download";
    $content = 'download.php';
   # code...
   break;
  case 'about':
    $title = "About Us";
    $content = 'about.php';
   # code...
   break;
  case 'playvideo':
    $title = "Play Video";
    $content = 'playvideo.php';
   # code...
   break;
  case 'viewpdf':
    $title = "Play Video";
    $content = 'viewpdf.php';
   # code...
   break;
  case 'question':
    $title = "Question";
    $content = 'question.php';
   # code...
   break;
```

```
  case 'quizresult':
    $title = "Result";
    $content = 'quizresult.php';
   # code...
   break;
  default :
    $title = "Home";
    $content    = 'home.php';
}
require_once("theme/templates.php");
?>


#lesson
<h1><?php echo $title;?></h1>
<div class="col-lg-6">
    <h3>PDF</h3>
    <div class="table-responsive">
        <table id="example" class="table table-bordered">
            <thead>
                <th width="2%">#</th>
                <th>Chapter</th>
                <th>Title</th>
                <th width="2%">Action</th>
            </thead>
            <tbody>
                <?php
                $sql = "SELECT * FROM tbllesson WHERE Category='Docs'";
                $mydb->setQuery($sql);
                $cur = $mydb->loadResultList();
                foreach ($cur as $result) {
                    # code...
                    echo '<tr>';
                    echo '<td></td>';
                    echo '<td>'.$result->LessonChapter.'</td>';
                    echo '<td>'.$result->LessonTitle.'</td>';
                    echo '<td><a
href="index.php?q=viewpdf&id='.$result->LessonID.'" class="btn btn-xs
btn-info"><i class="fa fa-info"></i> View File</a></td>';
                    echo '</tr>';
                }
                ?>
            </tbody>
```

```
        </table>
    </div>
</div>
<div class="col-lg-6">
    <h3>VIDEO</h3>
    <div class="table-responsive">
        <table id="example2" class="table table-bordered">
            <thead>
                <th width="2%">#</th>
                <th>Decription</th>
                <th width="2%">Action</th>
            </thead>
            <tbody>
                <?php
                $sql = "SELECT * FROM tbllesson WHERE
Category='Video'";
                $mydb->setQuery($sql);
                $cur = $mydb->loadResultList();
                foreach ($cur as $result) {
                    # code...
                    echo '<tr>';
                    echo '<td></td>';
                    echo '<td>'.$result->LessonTitle.'</td>';
                    echo '<td><a
href="index.php?q=playvideo&id='.$result->LessonID.'" class="btn btn-xs
btn-info"><i class="fa fa-play"></i> Play Video</a></td>';
                    echo '</tr>';
                }
                ?>
            </tbody>
        </table>
    </div>
</div>

#login
<?php
require_once ("include/initialize.php");
if (isset($_SESSION['StudentID'])) {
  # code...
  redirect('index.php');
}
?>
```

```
<style type="text/css">
  body {
    background-color: #0000;
  }
</style>

 <!DOCTYPE html>
<html lang="en">
<head>
  <title>Login</title>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
<!--===============================================================
==============================-->
  <link rel="icon" type="image/png" href="images/icons/favicon.ico"/>

<link href="<?php echo web_root; ?>css/bootstrap.min.css"
rel="stylesheet">
<link href="<?php echo web_root; ?>fonts/font-awesome.min.css"
rel="stylesheet" media="screen">

<!--===============================================================
==============================-->
  <link rel="stylesheet" type="text/css" href="<?php echo web_root;
?>css/util.css">
  <link rel="stylesheet" type="text/css" href="<?php echo web_root;
?>css/main.css">
<!--===============================================================
==============================-->
</head>
<body>

  <div class="limiter">
    <div class="container-login100">
          <?php check_message(); ?>
      <div class="wrap-login100">
        <div class="login100-pic js-tilt" data-tilte>
          <img src="<?php echo web_root; ?>images/pshs.png" alt="IMG">
        </div>

        <form class="login100-form validate-form" action=""
method="POST">
```

```
          <span class="login100-form-title">
            Member Login
          </span>

          <div class="wrap-input100 validate-input" >
            <input class="input100" type="text" name="user_email"
placeholder="Username">
            <span class="focus-input100"></span>
            <span class="symbol-input100">
              <i class="fa fa-user" aria-hidden="true"></i>
            </span>
          </div>

          <div class="wrap-input100 validate-input" data-validate =
"Password is required">
            <input class="input100" type="password" name="user_pass"
placeholder="Password">
            <span class="focus-input100"></span>
            <span class="symbol-input100">
              <i class="fa fa-lock" aria-hidden="true"></i>
            </span>
          </div>

          <div class="container-login100-form-btn">
            <button class="login100-form-btn" type="submit"
name="btnLogin">
              Login
            </button>
          </div>

          <div class="text-center p-t-136">
            <a class="txt2" href="register.php">
              Create your Account
              <i class="fa fa-long-arrow-right m-l-5"
aria-hidden="true"></i>
            </a>
          </div>
        </form>
      </div>
    </div>
  </div>
```

```php
  <?php

if(isset($_POST['btnLogin'])){
  $email = trim($_POST['user_email']);
  $upass  = trim($_POST['user_pass']);
  $h_upass = sha1($upass);

   if ($email == '' OR $upass == '') {

      message("Invalid Username and Password!", "error");
      redirect (web_root."login.php");

    } else {
      //it creates a new objects of member
        $student = new Student();
        //make use of the static function, and we passed to parameters
        $res = $student::studentAuthentication($email, $h_upass);
        if ($res==true) {
             // redirect(web_root."index.php");

          echo $_SESSION['StudentID'];
        }else{
          message("Account does not exist! Please contact
Administrator.", "error");
          redirect (web_root."login.php");
        }
   }
 }
 ?>

<script type="text/javascript" language="javascript" src="<?php echo
web_root; ?>js/jquery.js"></script>
<script src="<?php echo web_root; ?>js/bootstrap.min.js"></script>
<!--================================================================
==============================-->
  <script src="<?php echo web_root;
?>vendor/select2/select2.min.js"></script>
<!--================================================================
==============================-->
  <script src="<?php echo web_root;
?>vendor/tilt/tilt.jquery.min.js"></script>
  <script >
```

```
    $('.js-tilt').tilt({
      scale: 1.1
    })
  </script>
<!--============================================================================
============================-->
  <script src="js/main.js"></script>

</body>
</html>

#logout
<?php
require_once 'include/initialize.php';
// Four steps to closing a session
// (i.e. logging out)

// 1. Find the session
@session_start();

// 2. Unset all the session variables
unset( $_SESSION['StudentID'] );
unset( $_SESSION['Fname'] );
unset( $_SESSION['Lname'] );
unset( $_SESSION['STUDUSERNAME'] );
unset( $_SESSION['STUDPASS'] );


// 4. Destroy the session
// session_destroy();
redirect("index.php?logout=1");
?>

#register
<?php
require_once ("include/initialize.php");
if (isset($_SESSION['StudentID'])) {
  # code...
  redirect('index.php');
}
?>
```

```
<!DOCTYPE html>
<html lang="en">

<head>
    <!-- Required meta tags-->
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1,
shrink-to-fit=no">
    <meta name="description" content="Colorlib Templates">
    <meta name="author" content="Colorlib">
    <meta name="keywords" content="Colorlib Templates">

    <!-- Title Page-->
    <title>Au Register Forms by Colorlib</title>

    <!-- Icons font CSS-->
    <link href="<?php echo
web_root;?>plugins/registration/vendor/mdi-font/css/material-design-ico
nic-font.min.css" rel="stylesheet" media="all">
    <link href="<?php echo
web_root;?>plugins/registration/vendor/font-awesome-4.7/css/font-awesom
e.min.css" rel="stylesheet" media="all">
    <!-- Font special for pages-->
    <link
href="https://fonts.googleapis.com/css?family=Roboto:100,100i,300,300i,
400,400i,500,500i,700,700i,900,900i" rel="stylesheet">

    <!-- Vendor CSS-->
    <link href="<?php echo
web_root;?>plugins/registration/vendor/select2/select2.min.css"
rel="stylesheet" media="all">
    <link href="<?php echo
web_root;?>plugins/registration/vendor/datepicker/daterangepicker.css"
rel="stylesheet" media="all">

    <!-- Main CSS-->
    <link href="<?php echo
web_root;?>plugins/registration/css/main.css" rel="stylesheet"
media="all">
</head>

<body>
    <div class="page-wrapper bg-blue p-t-100 p-b-100 font-robo">
```

```
        <div class="wrapper wrapper--w680">
            <div class="card card-1">
                <div class="card-heading"></div>
                <div class="card-body">
                    <h2 class="title">Registration Info</h2>
                    <form method="POST" action="register.php">
                        <div class="input-group">
                            <input class="input--style-1" type="text"
placeholder="Firstname" name="FNAME">
                        </div>

                        <div class="input-group">
                            <input class="input--style-1" type="text"
placeholder="Lastname" name="LNAME">
                        </div>
                        <div class="input-group">
                            <input class="input--style-1" type="text"
placeholder="Address" name="ADDRESS">
                        </div>
                        <div class="input-group">
                            <input class="input--style-1" type="number"
placeholder="Phone" name="PHONE">
                        </div>
                        <div class="input-group">
                            <input class="input--style-1" type="text"
placeholder="Username" name="USERNAME">
                        </div>
                        <div class="input-group">
                            <input class="input--style-1"
type="password" placeholder="Password" name="PASS">
                        </div>


                        <div class="p-t-20">
                            <button class="btn btn--radius btn--green"
type="submit" name="btnRegister">Submit</button>
                            <a href="login.php">Back to Login</a>
                        </div>
                    </form>
                </div>
            </div>
        </div>
    </div>
```

```
    <!-- Jquery JS-->
    <script src="<?php echo
web_root;?>plugins/registration/vendor/jquery/jquery.min.js"></script>
    <!-- Vendor JS-->
    <script src="<?php echo
web_root;?>plugins/registration/vendor/select2/select2.min.js"></script
>
    <script src="<?php echo
web_root;?>plugins/registration/vendor/datepicker/moment.min.js"></scri
pt>
    <script src="<?php echo
web_root;?>plugins/registration/vendor/datepicker/daterangepicker.js"><
/script>

    <!-- Main JS-->
    <script src="js/global.js"></script>

</body><!-- This templates was made by Colorlib (https://colorlib.com)
-->

</html>
<!-- end document-->




<?php
if (isset($_POST['btnRegister'])) {
    # code...

    $student = New Student();
    $student->Fname          = $_POST['FNAME'];
    $student->Lname          = $_POST['LNAME'];
    $student->Address        = $_POST['ADDRESS'];
    $student->MobileNo          = $_POST['PHONE'];
    $student->STUDUSERNAME       = $_POST['USERNAME'];
    $student->STUDPASS       = sha1($_POST['PASS']);
    $student->create();

    message("Your now succefully registered. You can login
now!","success");
    redirect("register.php");
```

```
}

?>


#validation

<?php
require_once("include/initialize.php");

$studentid = $_SESSION['StudentID'];
$exersiceid = $_POST['ExerciseID'];
$value = $_POST['Value'];


$sql = "SELECT * FROM `tblexercise` WHERE
`ExerciseID`='{$exersiceid}'";
$mydb->setQuery($sql);
$quiz = $mydb->loadSingleResult();

$answer = $quiz->Answer;
$lessonid = $quiz->LessonID;

if ($answer == $value) {
    # code...
    $score= 1;
    // echo 'Correct';
}else{
    $score = 0;
    // echo 'Wrong';
}

$sql = "SELECT * From tblscore WHERE ExerciseID = '{$exersiceid}' AND
StudentID='{$studentid}'";
$mydb->setQuery($sql);
$row = $mydb->executeQuery();
$maxrow = $mydb->num_rows($row);

if ($maxrow>0) {
    $sql = "UPDATE tblscore SET Score='{$score}' WHERE ExerciseID =
'{$exersiceid}' AND StudentID='{$studentid}'";
    $mydb->setQuery($sql);
```

```
    $mydb->executeQuery();

}else{
    $sql = "INSERT INTO tblscore (`LessonID`,`ExerciseID`, `StudentID`,
`Score`) VALUES
('{$lessonid}','{$exersiceid}','{$studentid}','{$score}')";
    $mydb->setQuery($sql);
    $mydb->executeQuery();
}


?>
```

Result:

Thus, the details of architectural design/framework/implementation along with the screenshots were provided.