

The background is a dark, monochromatic composition. It features a large, faint clock face with tick marks. Overlaid on the clock is a globe showing the Americas. At the bottom, a hand is visible holding a tablet. Various circular icons, including a Wi-Fi symbol and a document icon, are scattered around the clock face.

Online E-Learning

E-LEARNING

JABALPUR ENGINEERING COLLEGE



Project Report on

Online e-Learning (Web Based System)

For the partial fulfillment of the degree of

MASTER OF COMPUTER APPLICATION

5 th Semester

Session: 2020-2021

Submitted to:

Dr. Samar Upadhyay
(Head of the Department)

Submitted by:

Aditi Tiwari
0201CA181001

JABALPUR ENGINEERING COLLEGE



DECLARATION

Student is by declare that this Project Report tittled

Online e-Learning

(Web Based System)

Submitted in partial fulfillment for the award of “MASTER of COMPUTER APPLICATION” is a result of authentic analysis and the research undertaken by us. This same will be used only and only for the academic purpose and noting other than this.

Aditi Tiwari
0201CA181001

JABALPUR ENGINEERING COLLEGE



ACKNOWLEDGEMENT

The completion of any interdisciplinary project depends upon co-operation, co-ordination and combined effort of several sources of knowledge, energy and time. Hence we approach this matter of acknowledgement through these lines trying our best to give credit wherever it is due.

We are extremely thankful to Dr. Samar Upadhyay [HOD] it would be impossible for us to carry out this project without their continuous guidance and support.

We should also like to extend our thanks to other teachers for helping us to understand the basic system.

It is our proud privilege to express our heart full gratitude and renewable, regard for their abounding and able guidance inspiration and constructive criticism the tenure of project work,

Submitted by:

Aditi Tiwari

0201CA181001

JABALPUR ENGINEERING COLLEGE



CERTIFICATE

This is to certify that student of Master of Computer Application at **JABALPUR ENGINEERING COLLEGE** as has completed the project entitled.

Online e-Learning (Web Based System)

We are submitting the project in partial fulfillment of the Degree of **MASTER OF COMPUTER APPLICATION** from **JABALPUR ENGINEERING COLLEGE** for academic year 2020-21.

(Internal Examiner)

(External Examiner)

JABALPUR ENGINEERING COLLEGE



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Dr. Samar Upadhayay
(Head of the Department)

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Chapter-1

Introduction of the Project E-learning Management System

The "E-learning Management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. E- Learning Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and managing the information of Student, Assignment, QUIZ, CLASS, and QUESTION. Every E-learning Management System has different Assignment needs, therefore we design exclusive employee management systems that are adapted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executive who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

1.1 Abstract of the Project E-learning Management System:

The purpose of E-learning Management System is to automate the existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with. E-learning Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information.

Functionalities provided by E-learning ManagementSystem:

- Provides the searching facilities based on various factors. Such as Assignment, TEACHER, QUIZ, QUESTION.
- E-learning Management System also manage the CLASS details online for QUIZ details, QUESTION details, Assignment.
- It tracks all the information of Student, CLASS, and QUIZ etc
- Manage the information of Student.
- Shows the information and description of the Assignment, TEACHER
- To increase efficiency of managing the Assignment, Student.
- It deals with monitoring the information and transactions of QUIZ.
- Manage the information of Assignment
- Editing, adding and updating of Records is improved which results in proper resource management of Assignment data.
- Manage the information of QUIZ
- Integration of all records of QUESTION.

1.2 Scope of the project E-learning Management System:

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to E-learning Management System. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly.

Our project aims at Business process automation, i.e. we have tried to computerize various processes of E-learning Management System.

- In computer system the person has to fill the various forms & number of copies of the forms can be easily generated at a time.
- In computer system, it is not necessary to create the manifest but we can directly print it, which saves our time.
- To assist the staff in capturing the effort spent on their respective working areas.
- To utilize resources in an efficient manner by increasing their productivity through automation.
- The system generates types of information that can be used for various purposes.
- It satisfy the user requirement
- Be easy to understand by the user and operator
- Be easy to operate Have a good user interface
- Be expandable
- Delivered on schedule within the budget.

1.3 Reports of E-learning Management System:

- It generates the report on Assignment, Student, and CLASS
- Provide filter reports on TEACHER, QUIZ, and QUESTION
- You can easily export PDF for the Assignment, CLASS, and QUIZ
- Application also provides excel export for Student, TEACHER, QUESTION
- You can also export the report into csv format for Assignment, Student, and QUESTION.

1.4 Modules E-learning Management System:

- Assignment Management Module: Used for managing the Assignment details.
- QUESTION Module: Used for managing the details of QUESTION
- CLASS Module: Used for managing the details of CLASS
- Student Management Module: Used for managing the information and details of the Student.
- TEACHER Module: Used for managing the TEACHER details
- QUIZ Module: Used for managing the QUIZ information's
- Login Module: Used for managing the login details
- Users Module: Used for managing the users of the system

Focused Modules:

o Registration:-

In this, first the interested students get registered by selecting their desired username and password and by providing the necessary details.

Then each user profile will be maintained which can be edited by the user when desired. Each person will register only one time. Details of each person along with their username and password is saved permanently in the database.

o Login:-

After providing the correct username and password, the user log's in to the e-Learning system's homepage. There the user can select the available subjects to further learn about them. If user enter wrong username or password then they block their account temporary and after some security verification they will able to access their account.

o Homepage:-

After providing the correct username and password, the user log's in to the e-Learning system's homepage. Here at the homepage there are many choice for user to learn different Lesson and Exercises line languages like C, C++ ,Java etc.

User can take following helps:-

1. Tutorials about the Lesson.
2. View programs in the Lesson.
3. Playing quiz about the Lesson.
4. Download notes and programs.

- o Quiz:** - user play the quiz on appropriate language and immediately take the result. On each question user get the marks, there is no negative marking in quiz.

1.5 Objective

The main objective behind this project is to provide a user friendly environment to provide knowledge and give everyone a chance to learn, irrespective of where they are, provided they register themselves with the system.

The main features that the system provides can be made use of, once the registered people select their interested subject and take a starter test. This helps to establish incremental learning process. After taking this, based on their level of competence, they can take available tutorials, take online tests and also discuss an issue/topic by posting messages in the discussion forum. Along with this they can also take real time simulations of the most widely known competitive exams.

Project on E-learning Management System is to manage the details of Assignment, Student, TEACHER, QUIZ, QUESTION. It manages all the information about Assignment, CLASS, QUESTION, Assignment. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Assignment, Student, CLASS, TEACHER. It tracks all the details about the TEACHER, QUIZ, QUESTION.

Chapter-2 Requirement Engineering

2.1 Software Requirement Specification

The Software Requirements Specification is produced at the culmination of the analysis task. The function and performance allocated to software as part of system engineering are refined by establishing a complete information description, a detailed functional and behavioral description, an indication of performance requirements and design constraints, appropriate validation criteria, and other data pertinent to requirements.

2.2 The proposed system has following requirements:

- System needs store information about new entry of Assignment.
- System needs to help the internal staff to keep information of Student and find them as per various queries.
- System need to maintain quantity record.
- System need to keep the record of TEACHER.
- System need to update and delete the record.
- System also needs a search area.
- It also needs a security system to prevent data.

Chapter-3 Analysis & Design

3.1 System Design of E-learning Management System

In this phase, a logical system is built which fulfils the given requirements. Design phase of software development deals with transforming the client's requirements into a logically working system. Normally, design is performed in the following in the following two steps:

1. Primary Design Phase:

In this phase, the system is designed at block level. The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimizing the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

2. Secondary Design Phase:

In the secondary phase the detailed design of every block is performed.

3.2 General task involved in the design process are following:

- A. Design various blocks for overall system processes.
- B. Design smaller, compact and workable modules in each block.
- C. Design various database structures.
- D. Specify details of programs to achieve desired functionality.
- E. Design the form of inputs, and outputs of the system.
- F. Perform documentation of the design.
- G. System reviews.

VARIOUS TABLES TO MAINTAIN INFORMATION

Tables_in_db_elearning

- tblexercise
- tbllesson
- tblscore
- tblstudent
- tblusers

Server: localhost:3306 » Database: db_elearning

Structure SQL Search Query Export Import Operations Privileges Routines Events

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> tblexercise ★		2	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> tbllesson ★		4	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> tblscore ★		2	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> tblstudent ★		2	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> tblusers ★		1	InnoDB	latin1_swedish_ci	16.0 KiB	-
5 tables Sum		11	InnoDB	utf8mb4_0900_ai_ci	80.0 KiB	0 B

⬆ ☐ Check all With selected:

Exercise Table from Database

Server: localhost:3306 » Database: db_elearning » Table: tblexercise

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[Structure](#)
[SQL](#)
[Search](#)
[Insert](#)
[Export](#)
[Import](#)
[Privileges](#)
[Operations](#)
[Triggers](#)

[Table structure](#)
[Relation view](#)

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<input type="checkbox"/> 2	LessonID	int			No	None			Change Drop More
<input type="checkbox"/> 3	Question	text	latin1_swedish_ci		No				Change Drop More
<input type="checkbox"/> 4	ChoiceA	text	latin1_swedish_ci		No				Change Drop More
<input type="checkbox"/> 5	ChoiceB	text	latin1_swedish_ci		No				Change Drop More
<input type="checkbox"/> 6	ChoiceC	text	latin1_swedish_ci		No				Change Drop More
<input type="checkbox"/> 7	ChoiceD	text	latin1_swedish_ci		No				Change Drop More
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<input type="checkbox"/> 9	ExercisesDate	date			No	None			Change Drop More

☐ Check all
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[Print](#) [Move columns](#) Normalize

Lesson from Database

Server: localhost:3306 » Database: db_elearning » Table: tbllesson

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[Triggers](#)

[Table structure](#)
[Relation view](#)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
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Score Table from Database

Server: localhost:3306 » Database: db_elearning » Table: tblscore

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[Import](#)
[Privileges](#)
[Operations](#)

[Table structure](#)
[Relation view](#)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
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<input type="checkbox"/> 2	LessonID	int			No	None			Change Drop More
<input type="checkbox"/> 3	ExerciseID	int			No	None			Change Drop More
<input type="checkbox"/> 4	StudentID	int			No	None			Change Drop More
<input type="checkbox"/> 5	NoItems	int			No	1			Change Drop More
<input type="checkbox"/> 6	Score	int			No	None			Change Drop More
<input type="checkbox"/> 7	Submitted	tinyint(1)			No	None			Change Drop More

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Student from Database

Server: localhost:3306 » Database: db_elearning » Table: tblstudent

[Browse](#)
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[SQL](#)
[Search](#)
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[Export](#)
[Import](#)
[Privileges](#)
[Operations](#)
[Triggers](#)

[Table structure](#)
[Relation view](#)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
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<input type="checkbox"/> 4	Address	varchar(90)	latin1_swedish_ci		No	None			Change Drop More
<input type="checkbox"/> 5	MobileNo	varchar(90)	latin1_swedish_ci		No	None			Change Drop More
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<input type="checkbox"/> 7	STUDPASS	varchar(90)	latin1_swedish_ci		No	None			Change Drop More

☐ Check all
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[Primary](#)
[Unique](#)
[Index](#)
[Fulltext](#)

Admin Table from Database

Server: localhost:3306 » Database: db_elearning » Table: tblusers

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Privileges](#) [Operations](#) [Tri](#)

[Table structure](#) [Relation view](#)

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<input type="checkbox"/> 3	UEMAIL	varchar(90)	latin1_swedish_ci		No	None			Change Drop More
<input type="checkbox"/> 4	PASS	varchar(90)	latin1_swedish_ci		No	None			Change Drop More
<input type="checkbox"/> 5	TYPE	varchar(30)	latin1_swedish_ci		No	None			Change Drop More

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[Print](#) [Move columns](#) [Normalize](#)

Users (Teachers) from Database

Server: localhost:3306 » Database: db_elearning » Table: tblusers

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Privileges](#) [Operations](#) [Tri](#)

[Table structure](#) [Relation view](#)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
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<input type="checkbox"/> 3	UEMAIL	varchar(90)	latin1_swedish_ci		No	None			Change Drop More
<input type="checkbox"/> 4	PASS	varchar(90)	latin1_swedish_ci		No	None			Change Drop More
<input type="checkbox"/> 5	TYPE	varchar(30)	latin1_swedish_ci		No	None			Change Drop More

☐ Check all With selected: [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#) [Fulltext](#)

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3.3 Project Category

- **Relational Database Management System (RDBMS):** This is an RDBMS based project which is currently using MySQL for all the transaction statements. MySQL is an open source RDBMS System.

- **Brief introduction about RDBMS:**

A relational database management system (RDBMS) is a database management system (DBMS) that is based on the relational model as invented by E. F. Codd, of IBM's San Jose Research Laboratory. Many popular databases currently in use are based on the relational database model. RDBMSs have become a predominant choice for the storage of information in new databases used for financial records, manufacturing and logistical information, personnel data, and much more since the 1980s. Relational databases have often replaced legacy hierarchical databases and network databases because they are easier to understand and use. However, relational databases have been challenged by object databases, which were introduced in an attempt to address the object-relational impedance mismatch in relational database, and XML databases.

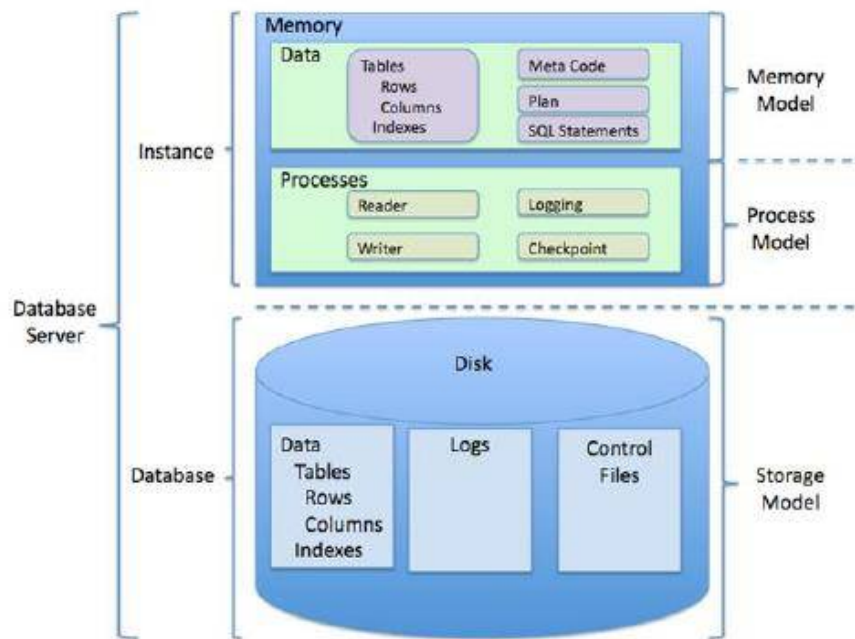


Figure 1 Database Server Architecture

3.4 Project Planning:

Software project plan can be viewed as the following:

- 1) **Within the organization:** How the project is to be implemented? What are various constraints (time, cost, and staff)? What is market strategy?

- 2) **With respect to the customer:** weekly or timely meetings with the customer with presentation on status reports. Customer's feedback is also taken and further modification and developments are done. Project milestones and deliverables are also presented to the customer.

3.5 **For a successful software project the following steps can be followed:**

- Select a project
 - Identifying project's aims and objectives.
 - Understanding requirements and specification
 - Methods Of analysis, design and implementation
 - Testing techniques
 - Documentation
- Project milestones and deliverables
- Budget allocation
 - Exceeding limits within control
- Project Estimates
 - Cost
 - Time
 - Size of code
 - Duration
- Resource Allocation
 - Hardware
 - Software
 - Previous relevant project information
 - Digital Library
- Risk Management
 - Risk avoidance
 - Risk detection

3.6 Project Scheduling:

An elementary Gantt chart or Timeline chart for the development plan is given below. The plan explains the tasks versus the time (in weeks) they will take to complete.

Table 1 Project Schedule

	January				February				March			
Requirement Gathering												
Analysis												
Design												
Coding												
Testing												
Implement												
	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4

W_i 's are weeks of the months, for $i = 1, 2, 3, 4$

3.7 Project Profile

There has been continuous effort to develop tools, which can ease the process of software development. But, with the evolving trend of different programming paradigms today's software developers are really challenged to deal with the changing technology. Among other issues, software re-engineering is being regarded as an important process in the software development industry. One of the major tasks here is to understand software systems that are already developed and to transform them to a different software environment. Generally, this requires a lot of manual effort in going through a program that might have been developed by another programmer.

This project makes a novel attempt to address the issue of program analysis and generation of diagrams, which can depict the structure of a program in a better way. Today, UML is being considered as an industrial standard for software engineering design process. It essential provides several diagramming tools that can express different aspects/ characteristics of program such as

Use cases: Elicit requirement from users in meaningful chunks. Construction planning is built around delivering some use cases n each interaction basis for system testing.

Class diagrams: shows static structure of concepts, types and class. Concepts how users think about the world; type shows interfaces of software components; classes shows implementation of software components.

State diagram: show how single object behaves across many use cases.

Activity Diagram: shows behavior with control structure. Can show many objects over many uses, many object in single use case, or implementation methods encourage parallel behavior etc. The end-product of this project is a comprehensive tool that can parse any vb.net program and extract most of the object oriented features inherent in the program such as polymorphism, inheritance, encapsulation and abstraction.

□ What is UML?

UML stands for Unified Modeling Language is the successor to the wave of Object Oriented Analysis and Design (OOA&D) methods that appeared in the late 80's. It most directly unifies the methods of Booch, Rumbaugh (OMT) and Jacobson. The UML is called a modeling language, not a method. Most methods consist at least in principle, of both a modeling language and a process. The Modeling language is that notation that methods used to express design.

□ **Class-Diagram:**

The class diagram technique has become truly central within object- oriented methods. Virtually every method has included some variation on this technique. Class diagram is also subject to the greatest range of modeling concept. Although the basic elements are needed by everyone, advanced concepts are used less often.

A class diagram describes the types of objects in the system and the various kinds of static relationship that exist among them. There are two principal kinds of static relationship:

- Association
- Subtype

Class diagram also show the attributes and operations of a class and the constraints that apply to the way objects are connected.

3.8 Use Case Model of the Project:

- ✎ The use case model for any system consists of "use cases". Use cases represent different ways In which the system can be used by the user. A simple way to find all the use case of a system is to ask the questions "What the user can do using the system?" The use cases partition the system behavior into transactions such that each transaction performs some useful action from the users' point of view.
- ✎ The purpose of the use case to define a piece of coherent behavior Without revealing the internal structure of the system. An use case typically represents a sequence of interaction between the user and the system. These interactions consists of one main line sequence is represent the normal interaction between the user and the system. The use case model is an important analysis and design artifact (task).Use cases can be represented by drawing a use case diagram and writing an accompany text elaborating the drawing.
- ✎ In the use case diagram each use case is represented by an ellipse with the name of use case written inside the ellipse. All the ellipses of the system are enclosed with in a rectangle which represents the system boundary. The name of the system being module appears inside the rectangle. The different users of the system are represented by using stick person icon. The stick person icon is normally referred to as an Actor. The line connecting the actor and the use cases is called the communication relationship. When a stick person icon represents an external system it is annotated by the stereo system>>.

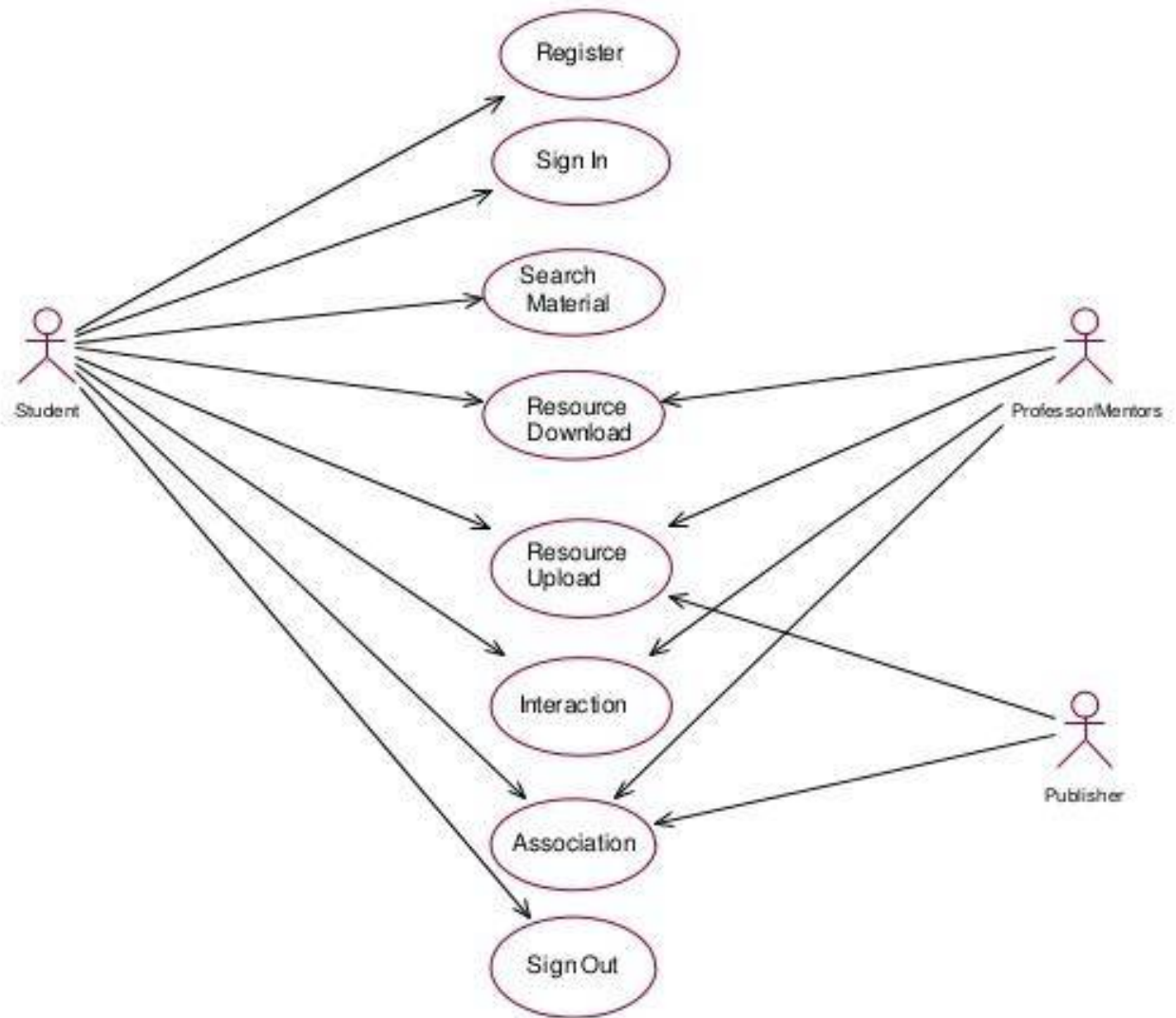
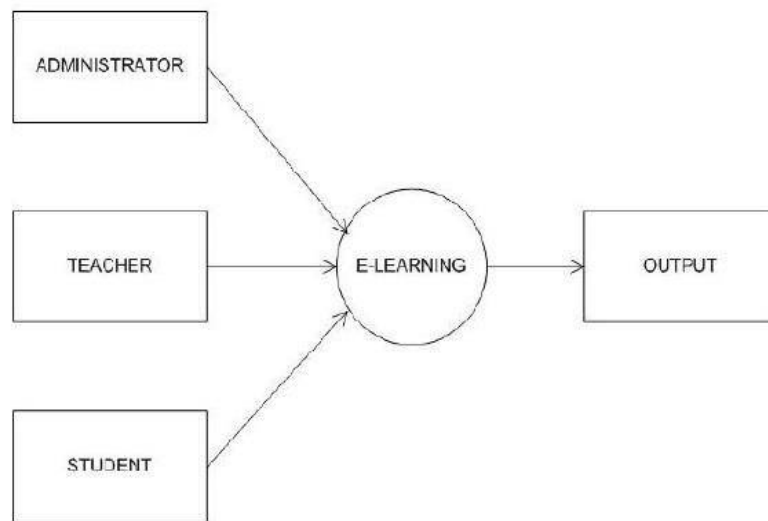


Figure 2 : Use Case Diagram

3.9 Dataflow Diagram:

Data flow diagram IS the starting point of the design phase that functionally decomposes the requirements specification. A DFD consists of a series of bubbles joined by lines. The bubbles represent data transformation and the lines represent data flows in the system. A DFD describes what data flow rather than how they are processed, so it does not hardware, software and data structure.

A data-flow diagram (DFD) is a graphical representation of the "flow" of data through an DFDs can also be used for the of processing (structured design). A data flow diagram (DFD) is a significant modeling technique for analyzing and construct ng information processes. DFD literally means an illustration that explains the course or movement of information in a process. DFD illustrates this flow of Information in a process based on the inputs and outputs. A DFD can be referred to as a Process Model. The data flow diagram is a graphical description of a system's data and how to Process transform the data is known as Data Flow Diagram (DFD). Unlike details flow chart, DFDs don't supply detail descriptions of modules that graphically describe a system's data and how the data interact with the system. Data flow diagram number of symbols and the following symbols are of by DeMarco.



This shows the context level diagram of the system. The users of the system are administrator, teachers and students.

Figure 3 Data Flow Diagram

This basic DFD can be then disintegrated to a lower level diagram demonstrating smaller steps exhibiting details of the system that is being modeled. On a DFD, data items flow from an external data source or an internal data store to an internal data store or an external data sink, via an internal process. It is common practice to draw a context-level data flow diagram first, which shows the interaction between the system and external agents, which act as data sources and data sinks. On the context diagram (also known as the Level 0 DFD), the system's interactions with the outside world are modeled purely in terms of data flows across the system boundary. The context diagram shows the entire system as a single process, and gives no clues as to its internal organization.

This context-level DFD is next "exploded", to produce a Level 1 DFD that shows some of the detail of the system being modeled. The Level 1 DFD shows how the system is divided into sub-systems (processes), each of which deals with one or more of the data flows to or from an external agent, and which together provide all of the functionality of the system as a whole. The level 1 DFD is further speeded and split into more descriptive and detailed description about the project as level 2 DFD. The level 2 DFD can be a number of data flows which will finally show the entire description of the software project.

3.10 About ER Diagram:

Entity Relationship Diagram: E-R Model is a popular high level conceptual data model. This model and its variations are frequently used for the conceptual design of database application and many database design tools employ its concept.

A database that to an E-R diagram can be represented by a collection of tables in the relational system. The mapping of E-R diagram to the entities are:

- Attributes
- Relations
 - Many-to-many
 - Many-to-one
 - One-to-many
 - One-to-one
- Weak entities
- Sub-type and super-type

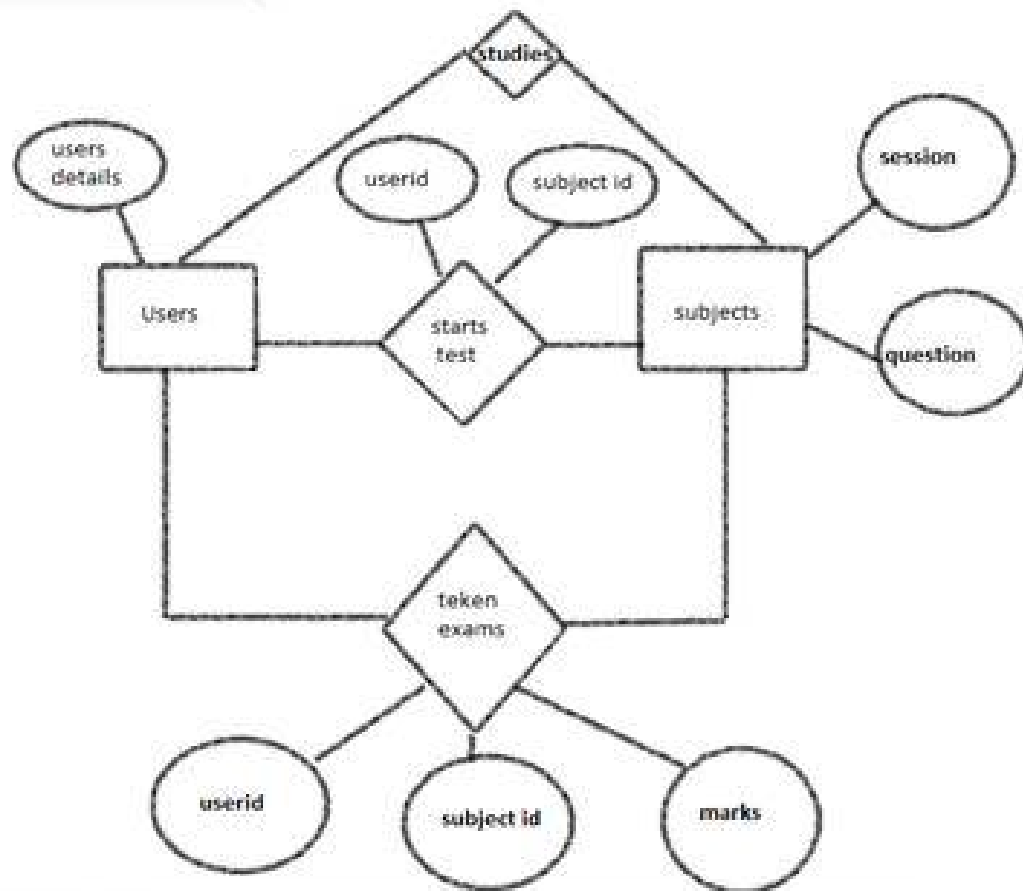


Figure 4: E-R Diagram

Chapter-4 Construction

4.1 Implementation and Software Specification Testing

Detailed Design of Implementation: This phase of the systems development life cycle refines hardware and software specifications, establishes programming plans, trains users and implements extensive testing procedures, to evaluate design and operating specifications and/or provide the basis for further modification.

- **Technical Design:** This activity builds upon specifications produced during new system design, adding detailed technical specifications and documentation.
- **Test Specifications and Planning:** This activity prepares detailed test specifications for individual modules and programs, job streams, subsystems, and for the system as a whole.

4.2 Programming And Testing

This activity encompasses actual development, writing, and testing of program units or modules.

User Training

This activity encompasses writing user procedure manuals, materials, conducting training programs, and testing procedures.

🕒 **Acceptance Test**

A final procedural review to demonstrate a system and secure user approval before a system becomes operational.

🕒 **Installation phase**

In this phase the new Computerized system is installed, the conversion to new procedures is fully implemented, and the potential of the new system is explored.

🕒 **System Installation**

The process of starting the actual use of a system and training user personnel in its operation.

🕒 **Review Phase**

This phase evaluates the successes and failures during a systems development project, and to measure the results of a new Computerized Transystem in terms of benefits and savings projected at the start of the project.

🕒 **Development Recap**

A review of a project immediately after completion to find successes and potential problems in future work.

Post-Implementation Review

A review, conducted after a new system has been in operation for some time, to evaluate actual system performance against original expectations and projections for cost-benefit improvements. Also identifies maintenance projects to enhance or improve the system.

4.3 THE STEPS IN THE SOFTWARE TESTING

The steps involved during Unit testing are as follows:

- a) Preparation of the test cases.
- b) Preparation of the possible test data with all the validation checks.
- c) Complete code review of the module.
- d) Actual testing done manually.
- e) Modifications done for the errors found during testing.
- f) Prepared the test result scripts.

The unit testing done included the testing of the following items:

1. Functionality of the entire module/forms.
2. Validations for user input.
3. Checking of the Coding standards to be maintained during coding.
4. Testing the module with all the possible test data.
5. Testing of the functionality involving all type of calculations etc.
6. Commenting standard in the source files.

After completing the Unit testing of all the modules, the whole system is integrated with all its dependencies in that module. While System Integration, We integrated the modules one by one and tested the system at each step. This helped in reduction of errors at the time of the system testing.

✎ **The steps involved during System testing are as follows:**

- Integration of all the modules/forms in the system.
- Preparation of the test cases.
- Preparation of the possible test data with all the validation checks.
- Actual testing done manually.
- Recording of all the reproduced errors.
- Modifications done for the errors found during testing.
- Prepared the test result scripts after rectification of the errors.

4.4 The System Testing done included the testing of the following items:

1. Functionality of the entire system as a whole.
2. User Interface of the system.
3. Testing the dependent modules together with all the possible test data scripts.
4. Verification and Validation testing.
5. Testing the reports with all its functionality.

4.5 Existing System of E-learning Management System:

In the existing system the exams are done only manually but in proposed system we have to computerize the exams using this application.

Lack of security of data.

More man power.

Time consuming.

Consumes large volume of pare work.

Needs manual calculations.

No direct role for the higher officials

4.6 Proposed System of E-learning Management System:

The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system. The system provides proper security and reduces the manual work.

Security of data.

Ensure data accuracy's.

Proper control of the higher officials.

Minimize manual data entry.

Minimum time needed for the various processing.

Greater efficiency.

Better service.

User friendliness and interactive.

Minimum time required.

4.7 Description of Technology Used:-

The front end is designed using of html , Php ,css, Java script

- **HTML- Hyper Text Markup Language**

the main markup language for creating web pages and other information that can be displayed in a web browser. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>), within the web page content. HTML tags most commonly come in pairs like <h1> and </h1>, although some tags represent empty elements and so are unpaired, for example . The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, further tags, comments and other types of text-based content. The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page. HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.

- **CSS- Cascading Style Sheets**

is a style sheet language used for describing the look and formatting of a document written in a markup language. While most often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML

document, including plain XML, SVG and XUL. CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation. CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for table less web design)

.CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speech-based browser or screen reader) and on Braille-based, tactile devices. It can also be used to allow the web page to display differently depending on the screen size or device on which it is being viewed. While the author of a document typically links that document to a CSS file, readers can use a different style sheet, perhaps one on their own computer, to override the one the author has specified. However if the author or the reader did not link the document to a specific style sheet the default style of the browser will be applied. CSS specifies a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called cascade, priorities or weights are calculated and assigned to rules, so that the results are predictable.

- **js- JavaScript**

is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also being used in server-side programming, game development and the creation of desktop and mobile applications. JavaScript is a prototype-based scripting language with dynamic typing and has first-class functions. Its syntax was influenced by C. JavaScript copies many names and naming conventions from Java, but the two languages are otherwise unrelated and have very different semantics. The key design principles within JavaScript are taken from the Self and Scheme programming languages. It is a multi-paradigm language, supporting object-oriented, imperative, and functional programming styles. The application of JavaScript to use outside of web pages—for example, in PDF documents, site-specific browsers, and desktop widgets—is also significant. Newer and faster JavaScript VMs and platforms built upon them (notably Node.js) have also increased the popularity of JavaScript for server-side web applications. On the client side, JavaScript was traditionally implemented as an interpreted language but just-in-time compilation is now performed by recent (post-2012) browsers.

- **PHP – Hypertext PreProcessor**

PHP a server-side scripting language designed for webdevelopment but also used as a general-purpose programming language. PHP is now installed on more than 244 million websites and 2.1 million web servers. Originally created by Rasmus Lerdorf in 1995, Rasmus Lerdorf in 1995, the reference implementation of PHP is now produced by The PHP Group. While PHP originally stood for Personal Home Page, it now stands for PHP: HypertextPreprocessor, a recursive backronym. PHP code is interpreted by a webserver with a PHP processor module, which generates the resulting web page: PHP commands can be embedded directly into an HTML source document rather than calling an external file to process data. It has also evolved to include a command-line interface capability and can be used in standalone graphical applications. PHP is free software released under the PHP License. PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge.

- **MySQL DataBase**

("My S-Q-L", officially, but also called "My Sequel") is (as of July 2013) the world's second most widely used open-source relational database management system (RDBMS). It is named after co-founder Michael Widenius daughter, My. The SQL phrase stands for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation .MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks). LAMP is an acronym for "Linux, Apache, MySQL, Perl/PHP/Python." Free-software-open source projects that require a full-featured database management system often use MySQL. For commercial use, several paid editions are available, and offer additional functionality. Applications which use MySQL databases

include: TYPO3, MODx, Joomla, WordPress, phpBB, MyBB, Drupal and other software. MySQL is also used in many high-profile, large-scale websites, including Wikipedia, Google (though not for searches), Facebook, Twitter, Flickr, and YouTube

- **3.8 Tools And Platform**

Processor	Intel Core Processor or Better Performance
Operating System	Windows Vista, Windows 7, Windows 10, Ubuntu
Memory	1 GB RAM or More
Hard Disk Space	Minimum 3 GB for DataBase Usages for Future
DataBase	MySQL

Chapter-5

Conclusion & Future Works

5.1 Conclusion of the Project E-learning Management System:

Our project is only a humble venture to satisfy the needs to manage their project work. Several user friendly coding have also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the school. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses.

At the end it is concluded that we have made effort on following points...

- A description of the background and context of the project and its relation to work already done in the area.

- Made statement of the aims and objectives of the project.

- The description of Purpose, Scope, and applicability.

- We &fine the problem on which we are working in the project.

- We describe the requirement Specifications of the system and the actions that can be done on these things.

- We understand the problem domain and produce a model of the system, which describes operations that can be performed on the system.

- We included features and operations in detail, including screen layouts.

- We designed user interface and security issues related to system.

- Finally the system is implemented and tested according to test cases.

5.2 Future Scope of the Project:

In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding:

- We can add printer in future.

- We can give more advance software for E-learning Management System including more facilities

- We will host the platform on online servers to make it accessible worldwide

- Integrate multiple load balancers to distribute the loads of the system

- Create the master and slave database structure to reduce the overload of the database queries

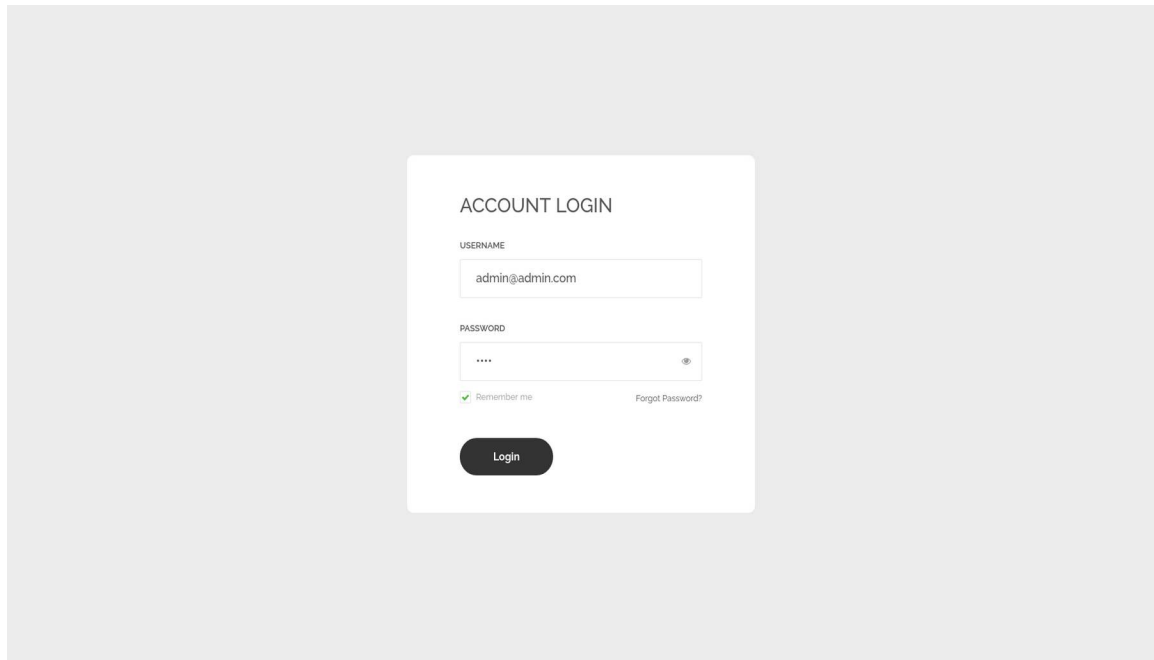
- Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers

The above mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Here we can maintain the records of Assignment and Student. Also, as it can be seen that now-a-days the players are versatile, i.e. so there is a scope for introducing a method to maintain the E-learning Management System. Enhancements can be done to maintain all the Assignment, Student, TEACHER, QUIZ, QUESTION.

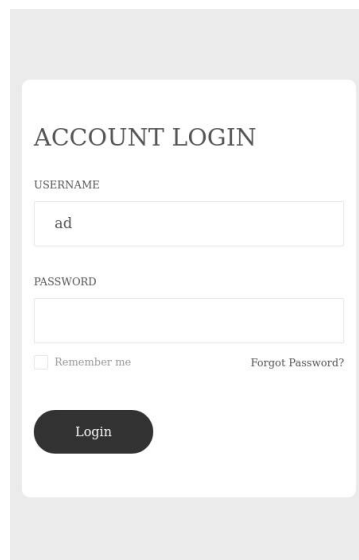
We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them. In the last we would like to thanks all the persons involved in the development of the system directly or indirectly. We hope that the project will serve its purpose for which it is develop there by underlining success of process.

6.2 Appendix A <<Snapshots of the project>>

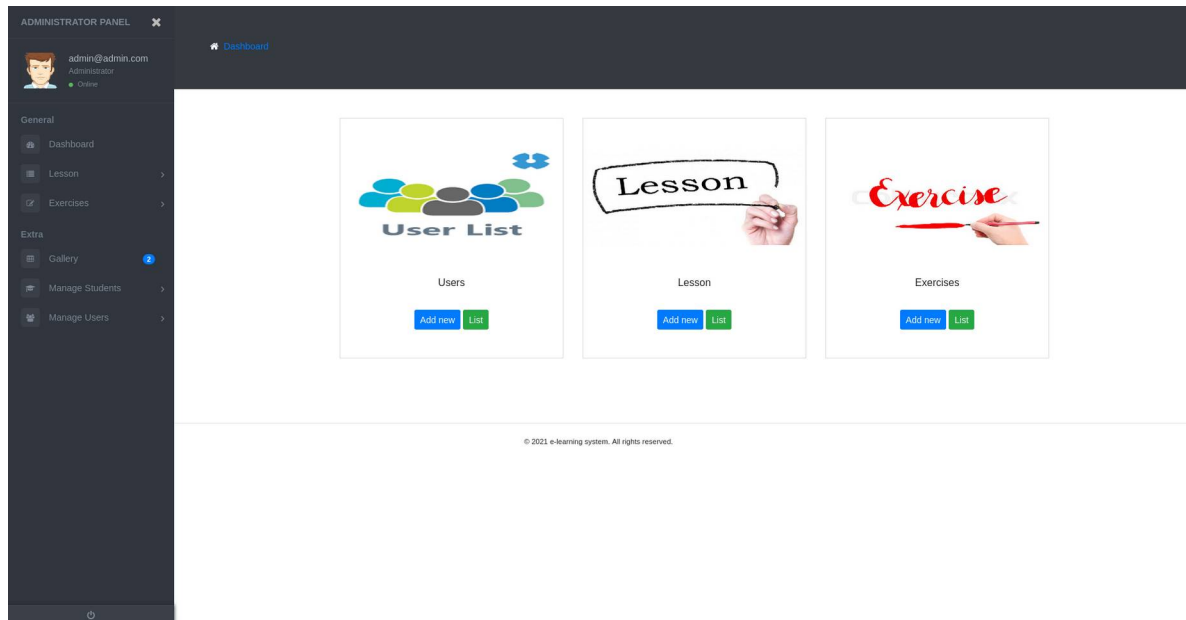
- Screenshot for **Login** (admin)



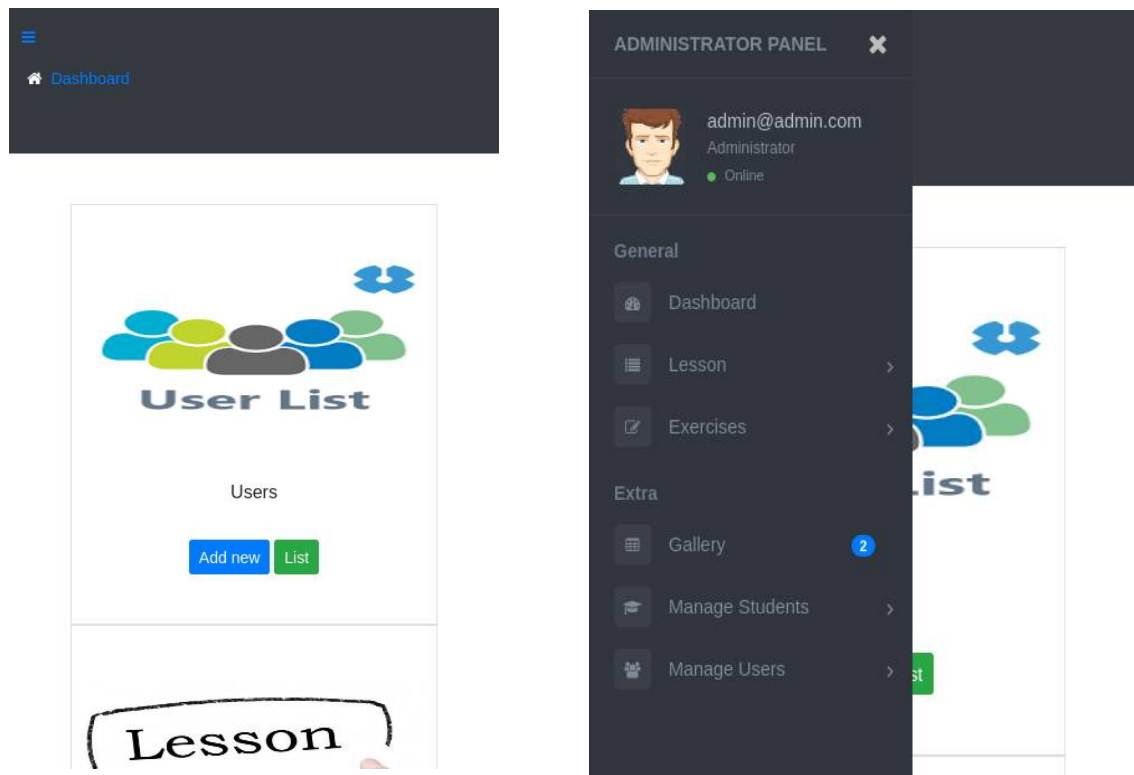
- Screenshot for **Login** on Phone (admin)



➤ Screenshot for **Login** (admin)



➤ Screenshot for **Dashboard** on Phone (admin)



➤ Screenshot for **Login** (admin)

The screenshot shows the 'Upload New Lesson' form in the Administrator Panel. The left sidebar contains navigation links: Dashboard, Lesson, Add, List, Exercises, Gallery, Manage Students, and Manage Users. The main content area has the following fields:

- Chapter:
- Title:
- Select File Type:
- Upload File: No file selected.
-

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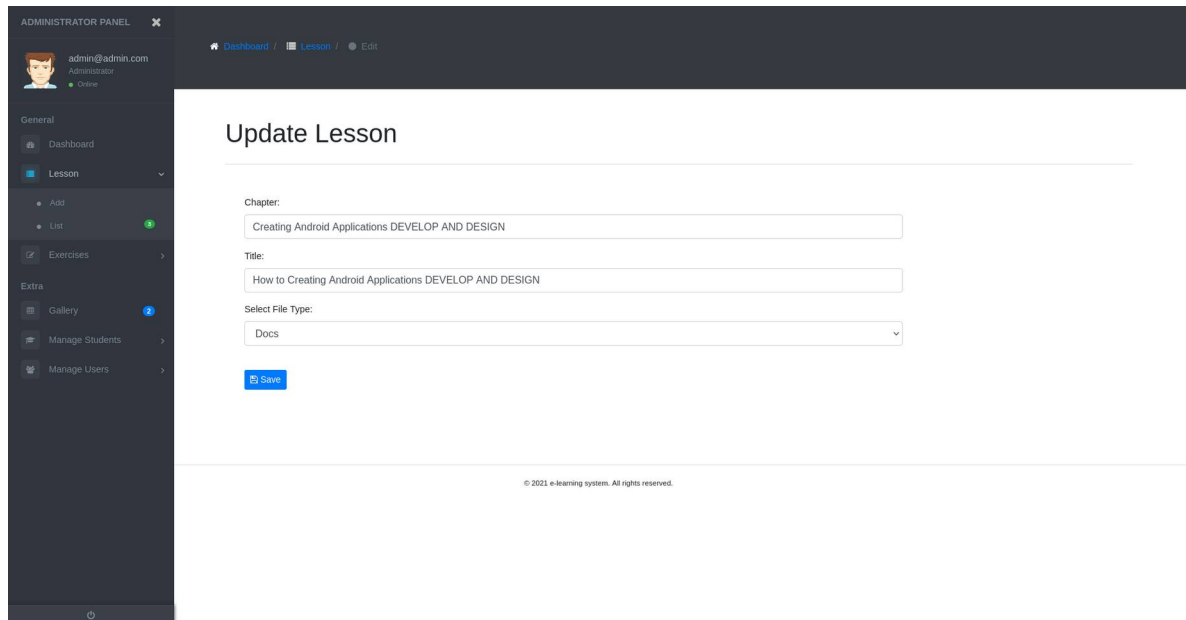
➤ Screenshot for **Dashboard** (admin)

The screenshot shows the 'List of Lessons' dashboard in the Administrator Panel. The left sidebar is the same as the previous screenshot. The main content area displays a table of lessons with the following data:

Chapter	Title	File Type	Action
Creating Android Applications DEVELOP AND DESIGN	How to Creating Android Applications DEVELOP AND DESIGN	Docs	<input type="button" value="Edit"/> <input type="button" value="Change File"/> <input type="button" value="View"/> <input type="button" value="Delete"/>
Beginning Android Tablet Programming	Beginning Android Tablet Programming	Docs	<input type="button" value="Edit"/> <input type="button" value="Change File"/> <input type="button" value="View"/> <input type="button" value="Delete"/>
Starting with Android Honeycomb for Tablets	Starting with Android Honeycomb for Tablets	Video	<input type="button" value="Edit"/> <input type="button" value="Change File"/> <input type="button" value="View"/> <input type="button" value="Delete"/>
Coding of Android Tablet Programming	Coding of Android Tablet Programming	Video	<input type="button" value="Edit"/> <input type="button" value="Change File"/> <input type="button" value="View"/> <input type="button" value="Delete"/>

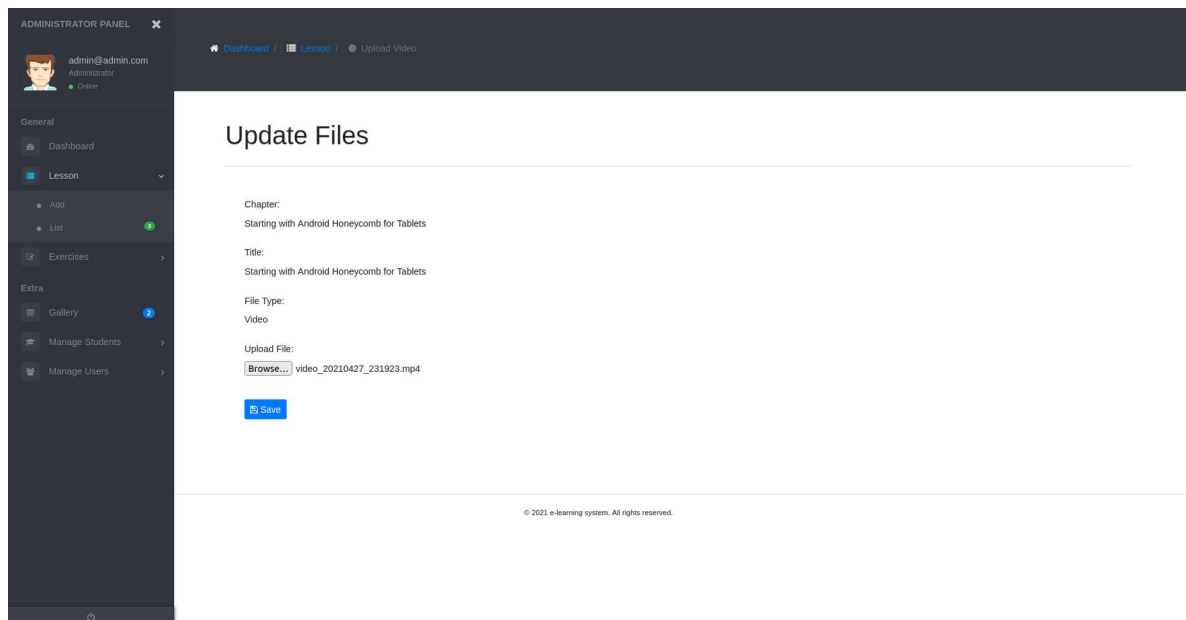
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➤ Screenshot for **Login** (admin)



The screenshot displays the 'ADMINISTRATOR PANEL' interface. On the left is a dark sidebar with a user profile for 'admin@admin.com' and a menu with options like 'Dashboard', 'Lesson', 'Add', 'List', 'Exercises', 'Gallery', 'Manage Students', and 'Manage Users'. The main content area is titled 'Update Lesson' and contains a form with the following fields: 'Chapter:' with the value 'Creating Android Applications DEVELOP AND DESIGN', 'Title:' with the value 'How to Creating Android Applications DEVELOP AND DESIGN', and 'Select File Type:' with a dropdown menu set to 'Docs'. A blue 'Save' button is at the bottom of the form. A footer note at the bottom center reads '© 2021 e-learning system. All rights reserved.'

➤ Screenshot for **Dashboard** (admin)



The screenshot displays the 'ADMINISTRATOR PANEL' interface. On the left is a dark sidebar with a user profile for 'admin@admin.com' and a menu with options like 'Dashboard', 'Lesson', 'Add', 'List', 'Exercises', 'Gallery', 'Manage Students', and 'Manage Users'. The main content area is titled 'Update Files' and contains a form with the following fields: 'Chapter:' with the value 'Starting with Android Honeycomb for Tablets', 'Title:' with the value 'Starting with Android Honeycomb for Tablets', 'File Type:' with the value 'Video', and 'Upload File:' with a 'Browse...' button and the filename 'video_20210427_231923.mp4'. A blue 'Save' button is at the bottom of the form. A footer note at the bottom center reads '© 2021 e-learning system. All rights reserved.'

➤ Screenshot for **Login** (admin)

ADMINISTRATOR PANEL

admin@admin.com
Administrator
Online

General

- Dashboard
- Lesson
- Exercises

Extra

- Gallery
- Manage Students
- Manage Users

View File

Chapter : Creating Android Applications DEVELOP AND DESIGN | Title : How to Creating Android Applications DEVELOP AND DESIGN

Place of supply: MADHYA PRADESH
Invoice Number : NAG1-50376
Invoice Details : MH-NAG1-1034-2122
Invoice Date : 14.05.2021

Sl. No	Description	Unit Price	Qty	Net Amount	Tax Rate	Tax Type	Tax Amount	Total Amount
1	boAt Bassheads 100 in Ear Wired Earphones with Mic(Black) B071Z8M4KX (B071Z8M4KX) HSN:85183000	₹121.19	1	₹121.19	18%	IGST	₹17.81	₹139.00
	Shipping Charges	₹33.90		₹33.90	18%	IGST	₹6.10	₹40.00
TOTAL:								₹163.91
Amount in Words: Four Hundred Nineteen only								
For Appario Retail Private Ltd:								

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➤ Screenshot for **Dashboard** (admin)

ADMINISTRATOR PANEL

admin@admin.com
Administrator
Online

General

- Dashboard
- Lesson
- Exercises

Extra

- Gallery
- Manage Students
- Manage Users

Add New Question

Lesson:
How to Creating Android Applications DEVELOP AND DESIGN

Question:
Question Name

A:

B:

C:

D:

Answer:
Answer

Save

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➤ Screenshot for **Login** (admin)

The screenshot displays the 'ADMINISTRATOR PANEL' interface. On the left is a dark sidebar with a user profile for 'admin@admin.com' and a menu with 'General' (Dashboard, Lesson, Exercises) and 'Extra' (Gallery, Manage Students, Manage Users) sections. The main content area is titled 'List of Question' and features a '+ New' button. Below the title is a table with columns: Lesson, Question, A, B, C, D, Answer, and Action. The table contains three rows of questions related to 'How to Creating Android Applications DEVELOP AND DESIGN'. Each row has 'Edit' and 'Delete' buttons in the Action column.

Lesson	Question	A	B	C	D	Answer	Action
How to Creating Android Applications DEVELOP AND DESIGN	Who is the name of the author in the story?	Ben	Holly	Gaston	Wise old elf	Gaston	Edit Delete
How to Creating Android Applications DEVELOP AND DESIGN	What is the title of the video	My Father	My Mother	My Brother	My Sister	My Sister	Edit Delete
How to Creating Android Applications DEVELOP AND DESIGN	Who is the name of the character in the story?	Ben	Holly	Gaston	Wise old elf	Gaston	Edit Delete

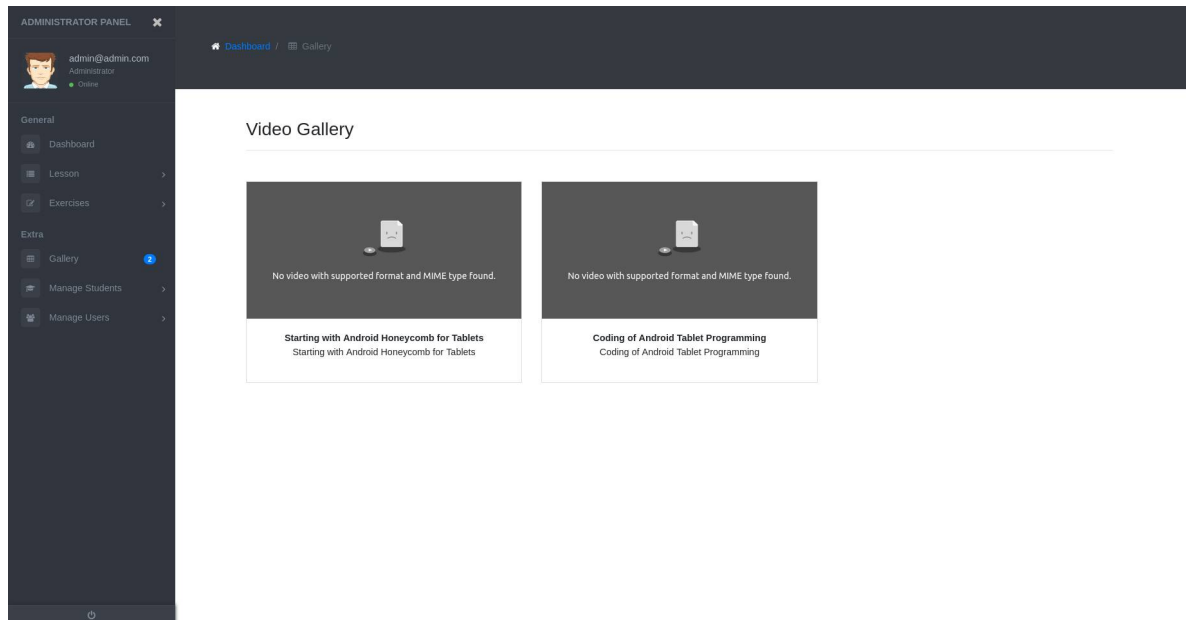
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➤ Screenshot for **Dashboard** (admin)

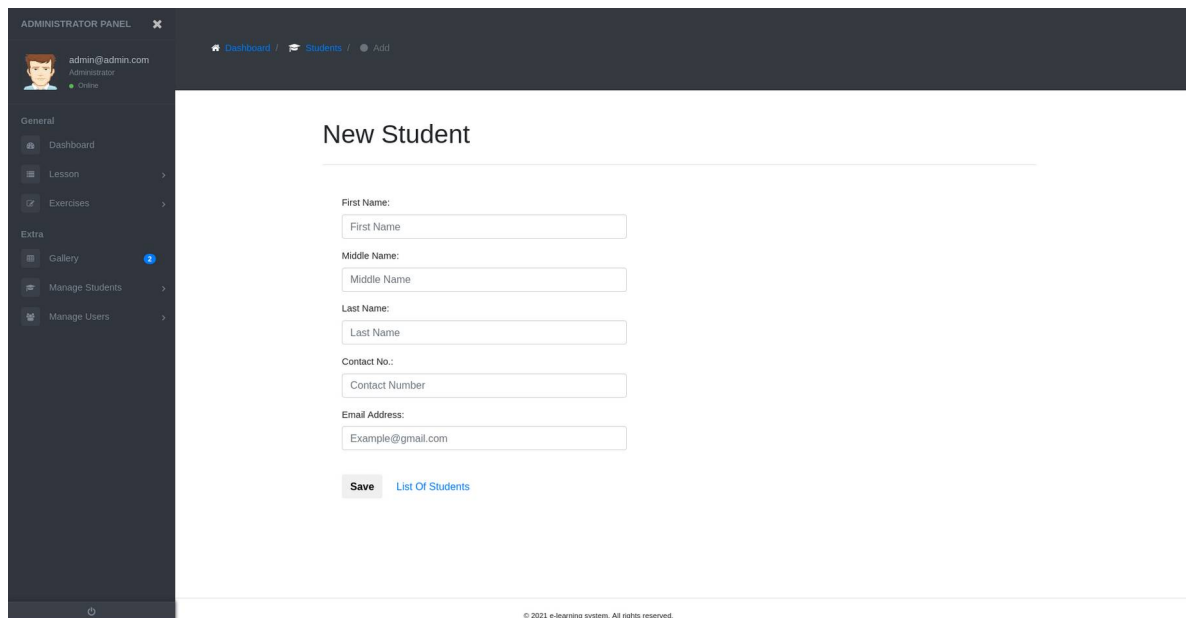
The screenshot shows the 'ADMINISTRATOR PANEL' with the 'Update Question' form. The sidebar is identical to the previous screenshot. The main content area is titled 'Update Question' and contains a form with the following fields: 'Lesson' (a dropdown menu with 'How to Creating Android Applications DEVELOP AND DESIGN' selected), 'Question' (a text input with 'Who is the name of the author in the story?'), and four options (A, B, C, D) each with a text input (A: 'Ben', B: 'Holly', C: 'Gaston', D: 'Wise old elf'). There is also an 'Answer' text input field. A 'Save' button is located at the bottom of the form.

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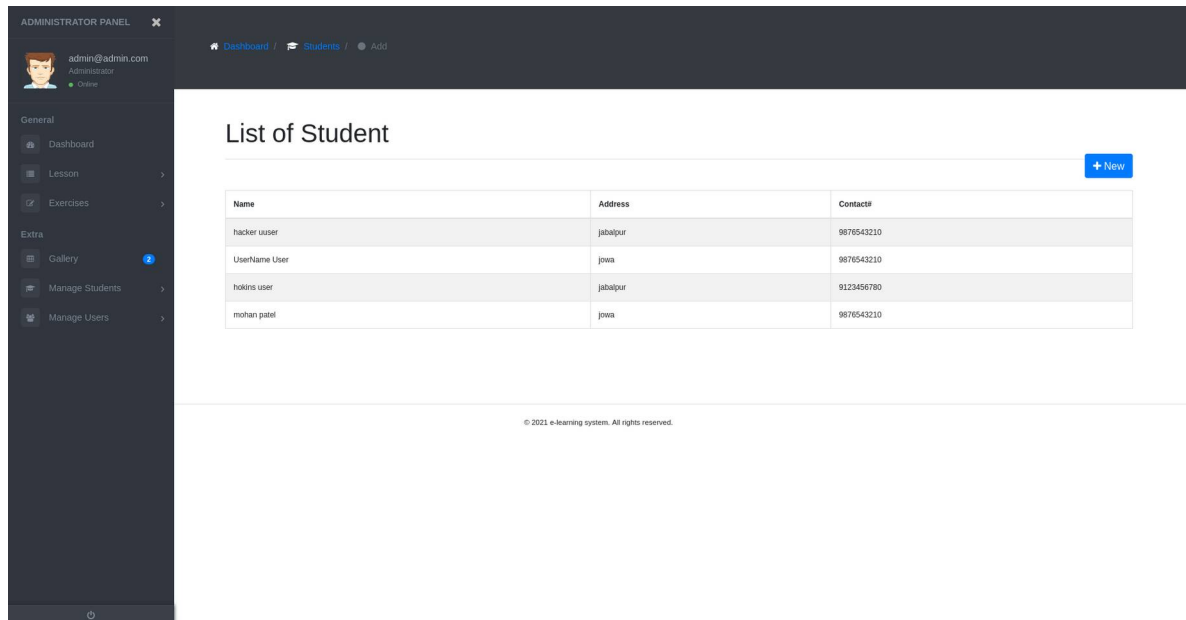
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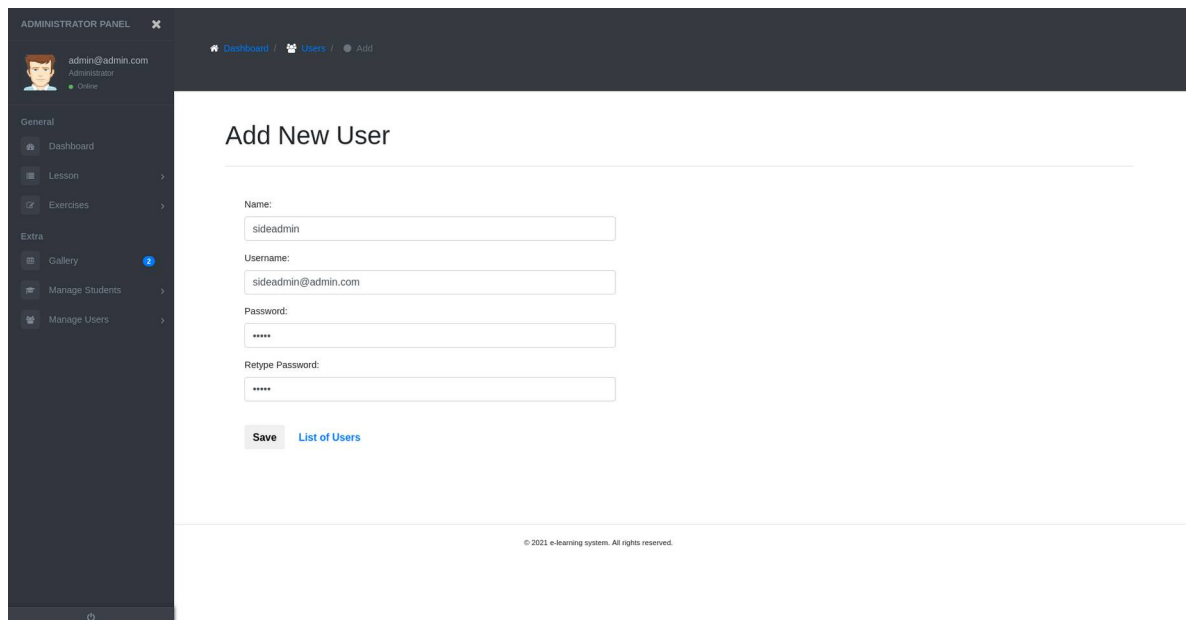
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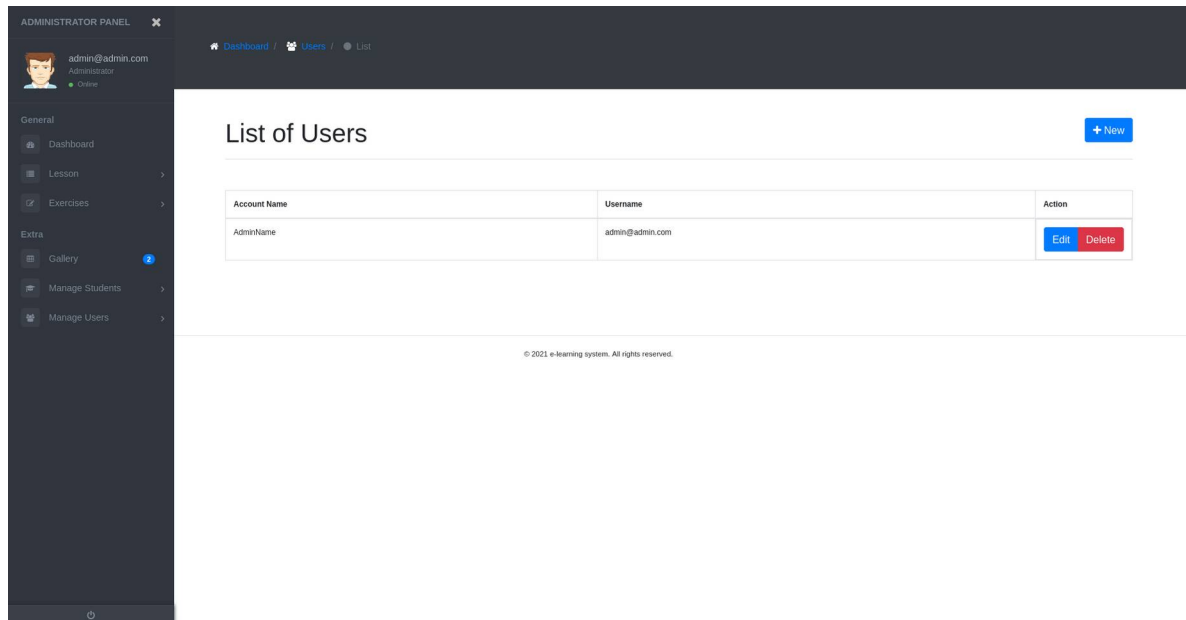
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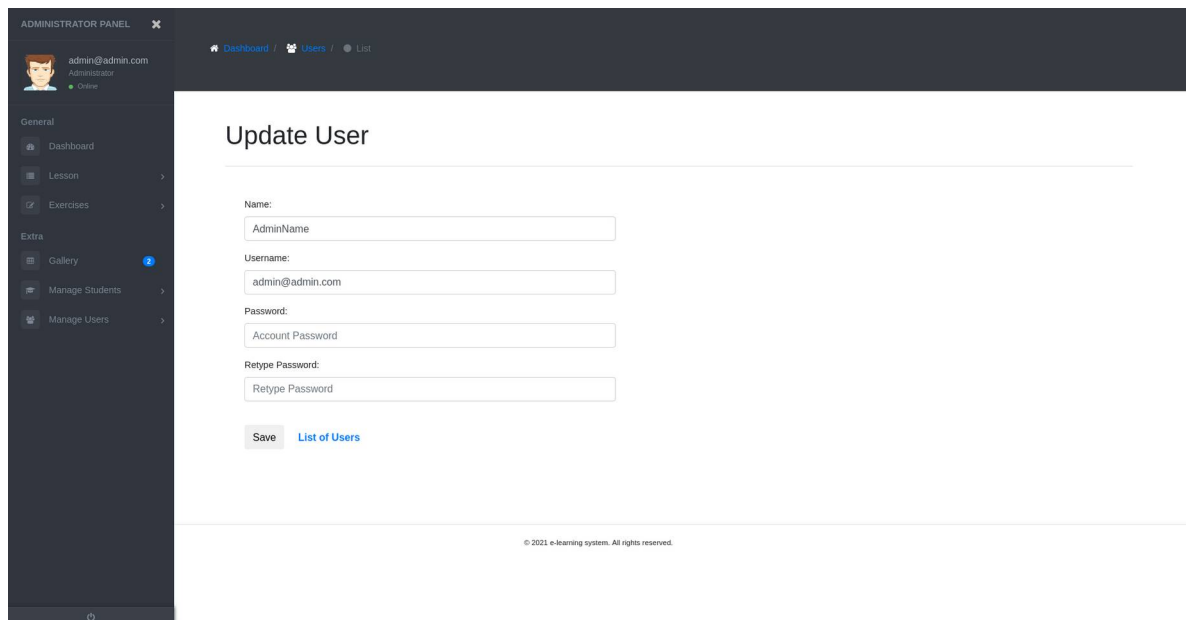
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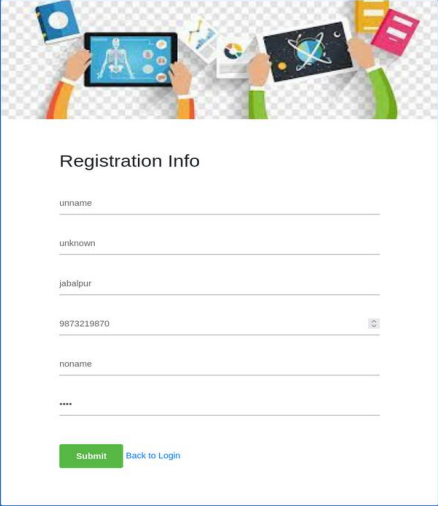
➤ Screenshot for **Login** (admin)



➤ Screenshot for **Dashboard** (admin)

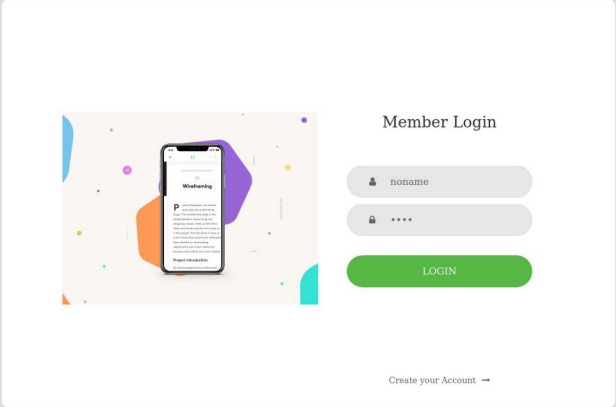


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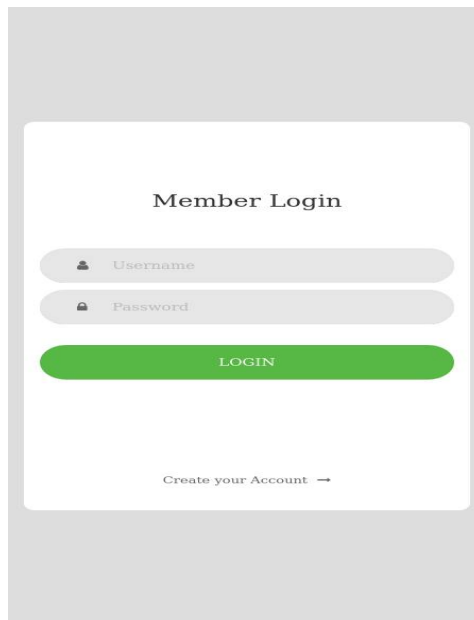
The screenshot shows a registration form titled "Registration Info" on a blue background. The form includes input fields for username, unknown, jabalpur, 9873219870, noname, and a password field with four asterisks. A green "Submit" button and a blue "Back to Login" link are at the bottom.

➤ Screenshot for **Dashboard** (admin)



The screenshot shows a "Member Login" form on a light gray background. The form includes input fields for username (labeled "noname") and password (labeled with four asterisks), a green "LOGIN" button, and a link "Create your Account" with a right arrow.

➤ Screenshot for **Login** (admin)



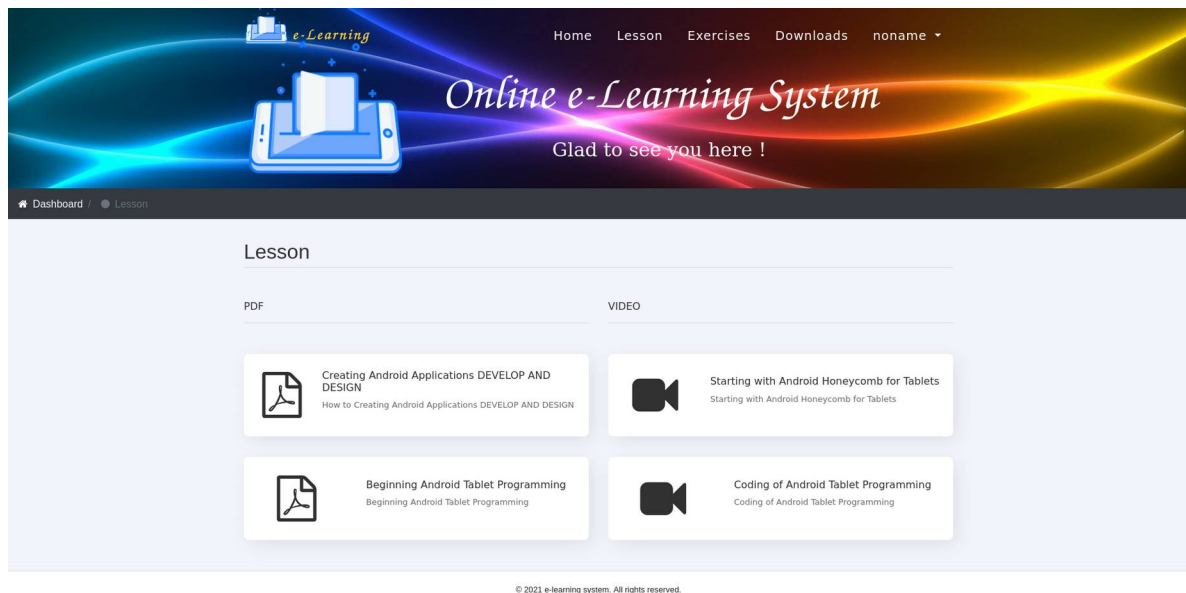
The screenshot shows a 'Member Login' form. It has a title 'Member Login' at the top. Below the title are two input fields: 'Username' and 'Password', each with a small icon to its left. Below these fields is a green 'LOGIN' button. At the bottom of the form, there is a link that says 'Create your Account' followed by a right-pointing arrow.

➤ Screenshot for **Dashboard** (admin)

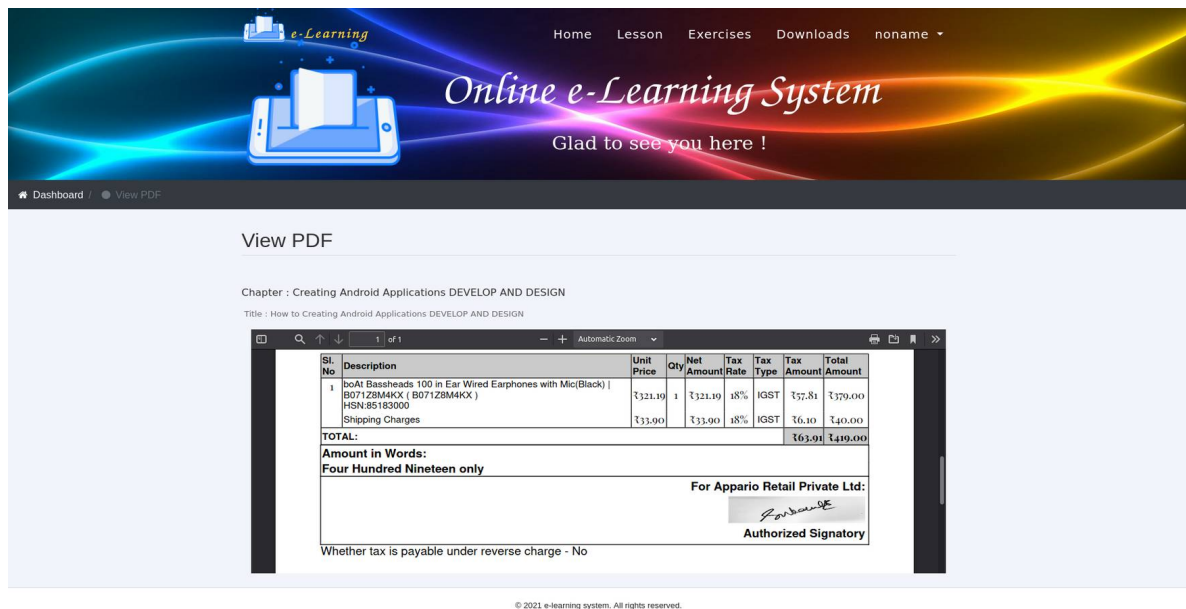


The screenshot displays the 'Online e-Learning System' dashboard. The header features a navigation bar with links: Home, Lesson, Exercises, Downloads, and a user profile 'noname'. The main content area is titled 'Home' and includes sections for 'Mandate', 'Vision', 'Core Values', 'Mission', and 'Guiding Principles'. The 'Core Values' section lists three items: '1. Pursuit of TRUTH', '2. Passion for EXCELLENCE', and '3. Commitment to SERVICE'. The 'Guiding Principles' section lists three items: '• Academic Freedom', '• Responsibility', and '• Academic Standards'. The footer contains the copyright notice: '© 2021 e-learning system. All rights reserved.'

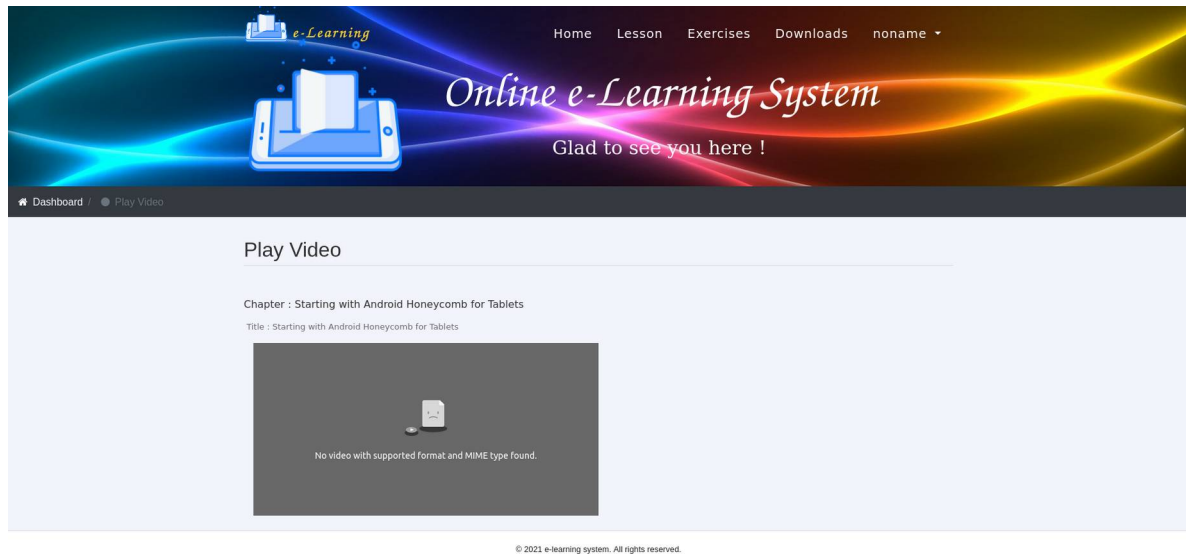
➤ Screenshot for **Login** (admin)



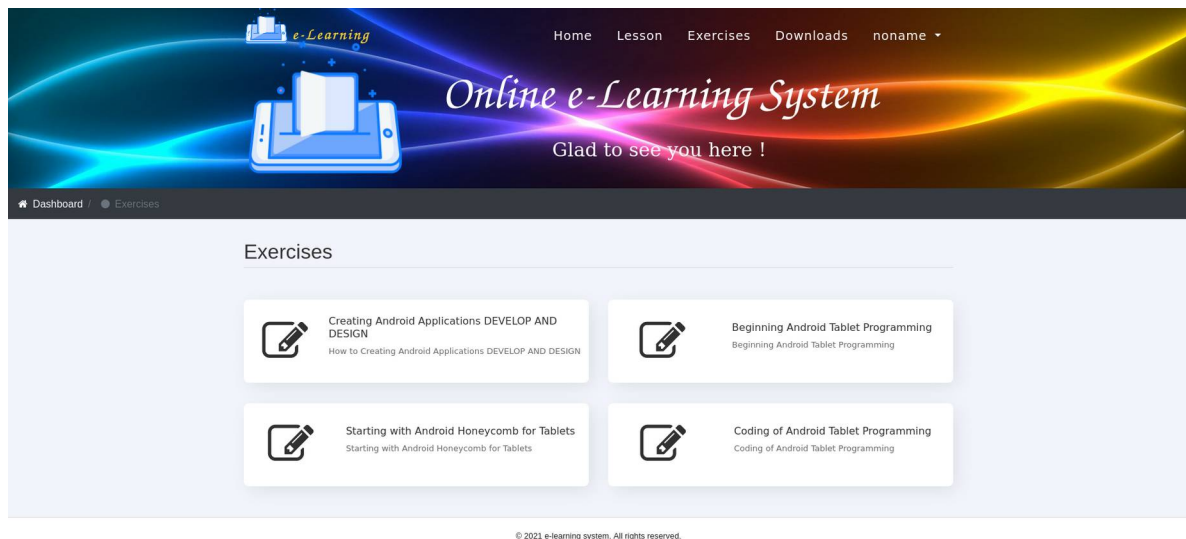
➤ Screenshot for **Dashboard** (admin)



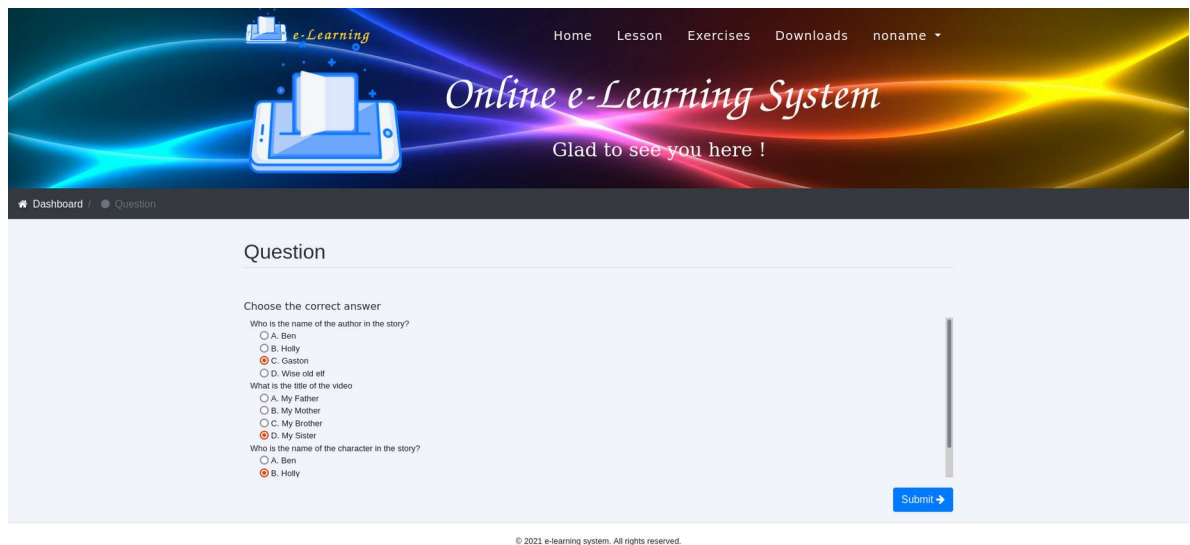
➤ Screenshot for **Login** (admin)



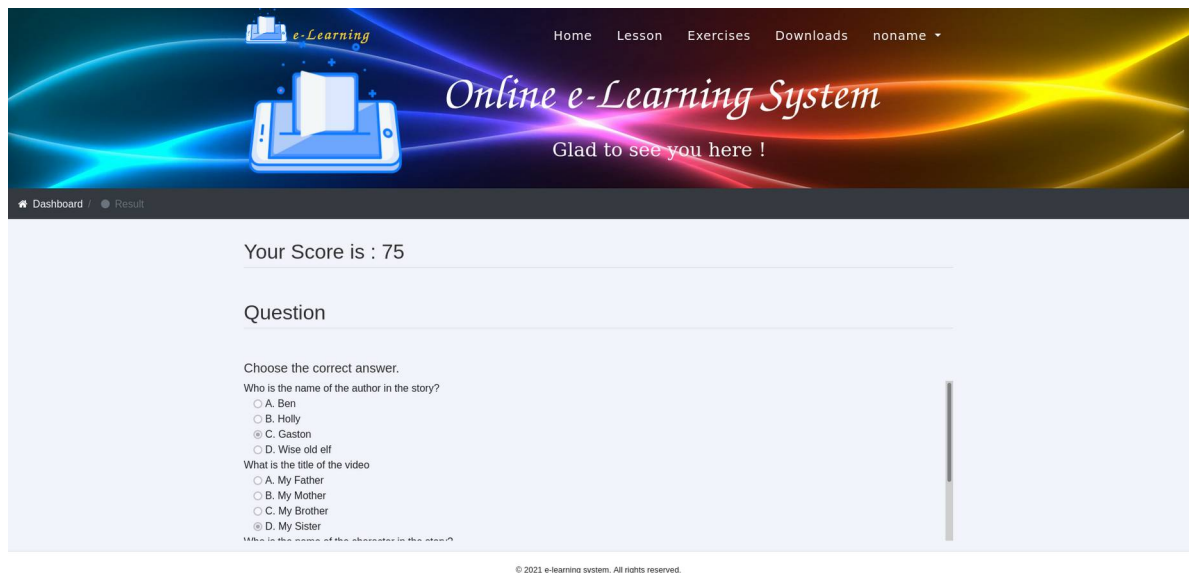
➤ Screenshot for **Dashboard** (admin)



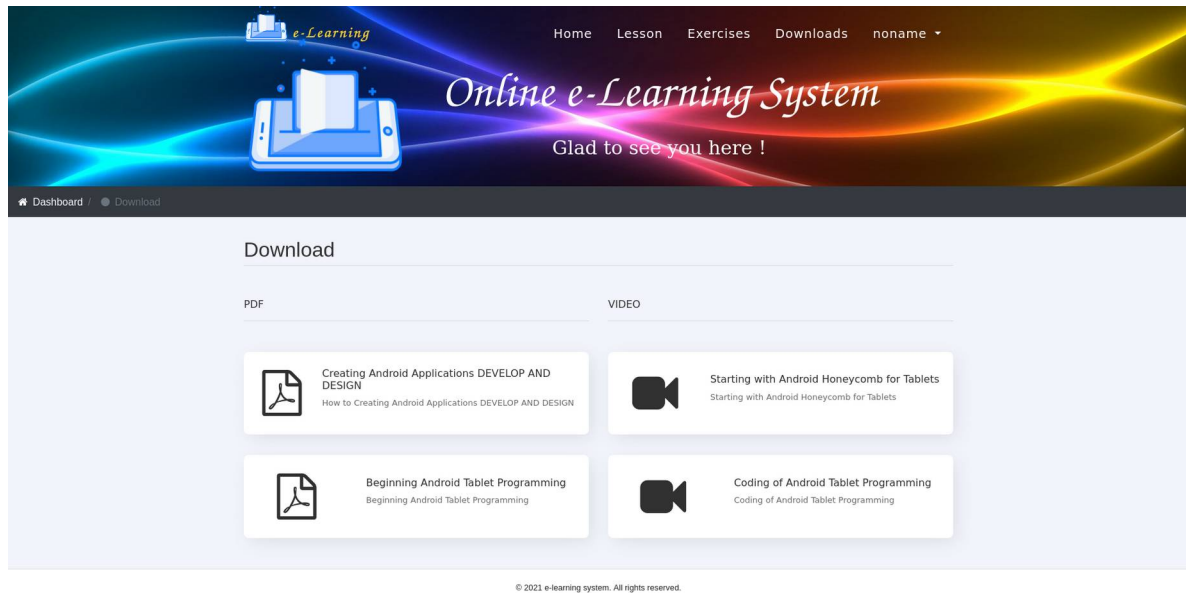
➤ Screenshot for **Login** (admin)



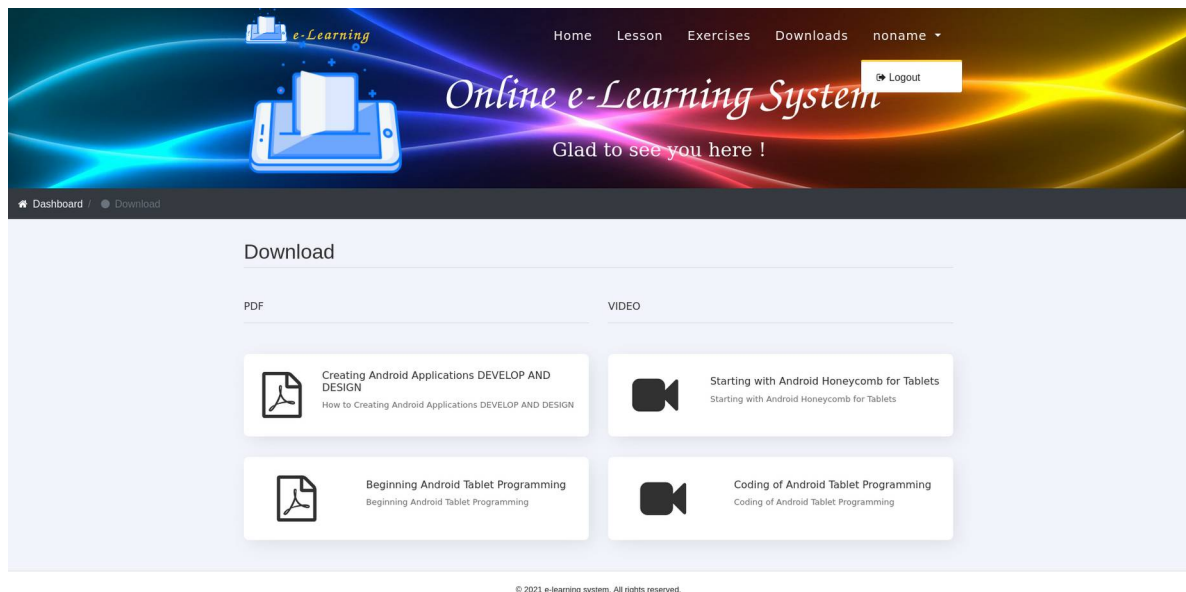
➤ Screenshot for **Dashboard** (admin)



➤ Screenshot for **Login** (admin)



➤ Screenshot for **Dashboard** (admin)



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