E-Learning Platform

A Project Report

Submitted in partial fulfillment of the

Requirement for the award of the Degree of

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

By

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JMF's VANDE MATARAM DEGREE COLLEGE OF SCIENCE & COMMERCE

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DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

CERTIFICATE

This is to certify that the project entitled, **"E-Learning Platform",** is bonafied work of **RAHUL S. JAISWAR** Bearing Seat no.: 4032701 submitted in partial fulfillment of the requirements for the award of degree ofBACHELOR OF SCIENCE in COMPUTER SCIENCE from University of Mumbai.

Internal Guide **Co-ordinator**

External Examiner

Date: **College Seal**

PROFORMA FOR THE APPROVAL PROJECT PROPOSAL

(Note: All entries of the proforma of approval should be filled up with appropriate and complete information. Incomplete proforma of approval in any respect will be summarily rejected.)

PNR No.: …….. Roll no.:_____

1. Name of the Student
   _____
2. Title of the Project
   _____
3. Name of the Guide
   _____
4. Teaching experience of the Guide _____
5. Is this your first submission? Yes ☐ No ☐

Signature of the Student Signature of the Guide

Date …… Date……

Signature of the Coordinator

Date……

DECLARATION

I hereby declare that the project entitled the **"E-Learning Platform"** done at "**Vande Mataram Degree Collegeof Science & Commerce"** has not been in any case duplicated to submit to any other university for the award of any degree.

According to me, yet nobody have been submitted this project in university.

The project is done in partial fulfilment of the requirements for the award of degree of **BACHELOR OF SCIENCE (COMPUTER SCIENCE)** to be submitted as **Semester - 6** project as a part of curriculum.

RAHUL S. JAISWAR

ABSTRACT

This abstract presents a project aimed at developing an e-learning platform to facilitate online education. The platform's main objective is to provide a seamless and personalized learning experience to learners, enabling them to access high-quality educational resources and tools from anywhere and at any time. The project focuses on developing a user-friendly and interactive platform that supports various types of multimedia content and offers diverse assessment options. It also aims to incorporate social and collaborative features to foster engagement and interaction among learners and instructors. The abstract discusses the project's methodology, including its development process, technology stack, and evaluation methods. Additionally, it highlights the project's potential impact, such as enhancing access to education and promoting lifelong learning. The abstract concludes by emphasizing the project's significance in the current era of remote learning and its potential for transforming the education landscape.

ACKNOWLEDGEMENT

A project is a creative work for each and everyone. A proper synchronization between the team members is must for completing the project successfully. I would like to extend my gratitude to, our **Principal Dr. Rajkumar Kolhe Sir** and all the staffs of our **Vande Mataram Degree College of Science and Commerce** for providing us moral support, conductive work environment which was needed to complete this project.

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CHAPTER 1

INTRODUCTION

Welcome to our E-Learning platform! Our platform is designed to provide a flexible and convenient way for you to learn new skills, acquire knowledge, and enhance your professional development.

Our platform offers a diverse range of courses, taught by expert instructors from around the world. Whether you're interested in advancing your career, learning a new hobby, or simply exploring new subjects, we have something for everyone.

Our platform is accessible from anywhere in the world, and you can learn at your own pace and on your own schedule. With our interactive and engaging course materials, you'll be able to deepen your understanding of the subject matter and gain practical skills that you can apply in your personal and professional life.

We are committed to providing an exceptional learning experience, and our team is always available to answer your questions and support you throughout your learning journey. So why wait? Sign up today and start your journey towards personal and professional growth with our eLearning platform.

❖ Objective

The objective of an e-learning platform project is to provide a digital platform for delivering educational content and training materials online. The platform is designed to provide a flexible and accessible way for students and learners to access educational content and interact with instructors and other learners.

❖ Background:

The background for e-learning platforms can be traced back to the early days of the internet, when the first online courses and training programs began to emerge. However, it was not until the development of learning management systems (LMS) and the widespread adoption of cloud computing and mobile technologies that e-learning platforms really began to take off.

Today, e-learning platforms are widely used in a range of industries and sectors, from K-12 education to corporate training and professional development. The growth of e-learning platforms has been driven by a range of factors, including the increasing demand for flexible and accessible education and training, the need for cost-effective and scalable solutions, and the development of new technologies and tools for delivering and managing educational content online.

One of the key benefits of e-learning platforms is that they provide a flexible and accessible way for learners to access educational content and interact with instructors and other learners. With e-learning platforms, learners can access educational materials and complete assignments from anywhere, at any time, using a variety of devices and technologies.

❖ Purpose of Project:

The purpose of e-learning platforms is to provide a digital platform for delivering educational content and training materials online. E-learning platforms aim to provide a flexible and accessible way for students and learners to access educational content and interact with instructors and other learners.

The primary purpose of e-learning platforms can be summarized as follows:

1. **Accessibility:** E-learning platforms aim to make educational content and training materials accessible to learners regardless of their geographical location or time constraints. Learners can access educational materials and complete assignments from anywhere, at any time, using a variety of devices and technologies.

2. **Flexibility**: E-learning platforms aim to provide learners with a flexible learning environment, where they can learn at their own pace and on their own schedule. E-learning platforms offer learners the opportunity to revisit content, take their time to learn difficult concepts and participate in self-paced learning.

3. **Engagement**: E-learning platforms aim to engage learners with interactive content and activities, such as quizzes, multimedia content, and discussion forums. These tools and resources can help to engage learners, promote active learning, and support different learning styles and preferences.

4. **Collaboration:** E-learning platforms aim to foster collaboration and communication between learners and instructors, as well as between learners themselves. E-learning platforms offer features like forums, live chats, and video conferencing to encourage learners to connect with each other, and discuss and share ideas.

5. **Assessment:** E-learning platforms provide tools for tracking learner progress and performance, such as quizzes and assessments, and generating reports for instructors and administrators. This information can be used to evaluate the effectiveness of the e-learning program and adjust it as needed to improve learning outcomes.

Overall, the purpose of e-learning platforms is to provide a comprehensive and effective way for delivering educational content and training materials online, while supporting communication, collaboration, and assessment among learners and instructors.

❖ Scope of Project

The scope of an eLearning project can vary depending on the specific goals and objectives of the project. Here are some potential areas of focus for an eLearning project:

- Content Development
- Platform Development
- User Experience Design
- Instructor Training
- Marketing and Promotion
- User Support

Overall, the scope of an eLearning project can be quite broad, and the specific focus areas will depend on the goals and objectives of the project. It is important for the project team to clearly define the scope of the project and prioritize the key areas of focus to ensure a successful outcome.

❖ Advantage of Proposed System

1. **Flexibility:** E-learning allows learners to access course materials and complete coursework on their own schedule and at their own pace, providing greater flexibility for those with busy schedules or other commitments.

2. **Accessibility:** E-learning courses can be accessed from anywhere with an internet connection, making education more accessible to individuals who may not have access to traditional classroom settings.

3. **Cost-effective:** E-learning eliminates the need for physical classroom space, printed materials, and travel expenses, reducing the overall cost of education for both learners and institutions.

4. **Customization:** E-learning can be tailored to meet the needs and learning styles of individual learners, providing a more personalized educational experience.

5. **Increased engagement**: E-learning platforms often incorporate interactive multimedia elements, such as videos, quizzes, and games, which can increase learner engagement and motivation.

6. **Improved retention**: Studies have shown that e-learning can lead to better retention of information, as learners can review materials at their own pace and revisit content as needed.

Overall, e-learning has the potential to provide a more flexible, accessible, cost-effective, and personalized educational experience that can lead to improved learning outcomes.

CHAPTER 2

Survey of Technology

❖ Existing system:

The traditional method of learning involves attending classes in a physical classroom. While this approach can be effective for some students, it can be limiting in terms of flexibility and accessibility. Students are required to attend classes at specific times and locations, which may not be convenient for everyone. Additionally, they may have to contend with traffic, parking, and other logistical issues.

Furthermore, traditional classrooms may not always be able to accommodate different learning styles and paces. Some students may need more time to process information, while others may find the pace too slow. Moreover, traditional classrooms may not always have the necessary resources and materials to support effective learning.

Overall, the existing system of traditional classroom learning has limitations that may hinder some learners from achieving their full potential.

❖ Proposed system:

Our proposed system is an eLearning platform designed to provide a flexible and convenient way for learners to acquire knowledge and enhance their professional development. Our platform offers a diverse range of courses taught by expert instructors from around the world. With our interactive and engaging course materials, learners will be able to deepen their understanding of the subject matter and gain practical skills that they can apply in their personal and professional life.

One of the key advantages of our eLearning platform is its accessibility. Learners can access the platform from anywhere in the world and learn at their own pace and on their own schedule. This makes it easier for learners to fit learning into their busy schedules and eliminates logistical issues associated with attending traditional classroom courses.

Our platform also offers resources and materials that cater to different learning styles and paces. Learners can choose to review materials multiple times, or skip ahead to topics they find more interesting. They can also interact with instructors and peers through online discussion forums, enhancing their learning experience and enabling them to build a community of like-minded individuals.

Overall, our proposed eLearning platform provides a more flexible, accessible, and engaging approach to learning, empowering learners to achieve their full potential.

CHAPTER 3

Requirements and Analysis

❖ Problem in purposed system:

There are several problems that can arise in e-learning platforms, some of which include:

1. **Technical issues:** Technical issues such as poor internet connectivity, slow loading times, and platform crashes can be frustrating for learners and instructors. These issues can disrupt the learning process and hinder progress.

2. **Lack of interaction:** E-learning platforms may lack the face-to-face interaction that traditional classroom settings provide, which can make it difficult for learners to build relationships with instructors and peers. This lack of interaction can lead to a sense of isolation and make it harder for learners to stay motivated and engaged.

3. **Limited feedback**: Instructors may struggle to provide feedback that is as detailed and personalized as they would in a traditional classroom setting. This can make it difficult for learners to improve their skills and understand where they need to focus their efforts.

4. **Content quality**: Some e-learning platforms may offer low-quality content that is outdated, irrelevant, or poorly designed. This can hinder the learning process and reduce the value of the platform.

5. **Accessibility:** E-learning platforms may not be accessible to all learners, particularly those with disabilities or those who do not have access to the necessary technology or equipment.

6. **Time management:** E-learning requires a high degree of self-discipline and time management. Some learners may struggle with managing their time effectively, which can lead to procrastination and reduced productivity.

❖ Planning and scheduling

Planning and scheduling are important aspects of developing and implementing an e-learning platform. Effective planning and scheduling can help ensure that the e-learning platform is launched on time, meets the needs of learners and instructors, and is well-received by stakeholders. Here are some key steps in planning and scheduling an e-learning platform:

1. **Define the objectives:** Define the objectives of the e-learning platform and what you hope to achieve through it. This can help you establish the scope of the project and identify key stakeholders.

2. **Assess learner needs**: Assess the needs of learners to ensure that the e-learning platform is tailored to their needs and preferences. This may involve conducting surveys or focus groups to gather feedback on the types of content and delivery methods that would be most effective.

3. **Define the content:** Define the types of content that will be included in the e-learning platform, such as videos, presentations, quizzes, and interactive activities. This may involve developing content in-house or sourcing content from external providers.

4. **Choose the platform:** Choose the platform that will be used to deliver the e-learning content. This may involve selecting an existing LMS or CMS platform, or developing a custom platform in-house.

5. **Create a development schedule:** Create a development schedule that outlines the key milestones and deliverables for the e-learning platform project. This may involve breaking the project down into smaller tasks and setting deadlines for each task.

6. **Identify resources:** Identify the resources needed to develop and implement the e-learning platform, such as personnel, technology, and funding. This may involve allocating resources from existing budgets or seeking external funding.

7. **Test and refine**: Test the e-learning platform and refine it based on feedback from learners and instructors. This may involve conducting pilot tests with a small group of users before launching the platform more widely.

8. **Launch and maintain**: Launch the e-learning platform and establish a plan for maintaining it over time. This may involve setting up regular updates and maintenance tasks, as well as monitoring usage and engagement metrics to ensure the platform is meeting its objectives.

Overall, effective planning and scheduling are critical to the success of an e-learning platform project. By following a structured approach and involving key stakeholders throughout the process, you can help ensure that the e-learning platform meets the needs of learners and instructors, and achieves its objectives.

❖ Cost Benefit Analysis

A cost-benefit analysis of an eLearning platform can help determine whether the investment in the platform is worth the potential benefits. Here are some key factors to consider:

1. **Development costs**: This includes the cost of designing, developing, and launching the platform.
2. **Maintenance costs**: This includes the cost of maintaining and updating the platform on an ongoing basis, including fixing bugs and adding new features.
3. **Content creation costs**: This includes the cost of creating or licensing educational content for the platform.
4. **Marketing costs:** This includes the cost of promoting the platform to potential users.

Additionally, it may be helpful to conduct sensitivity analysis to determine how changes in key assumptions (such as user adoption rate or course fees) would impact the overall financial outcome of the project.

Overall, a cost-benefit analysis can help inform the decision to move forward with the eLearning platform and ensure that it is a financially viable investment.

❖ Feasibility Study

A feasibility study of an eLearning project would typically involve an assessment of the technical, financial, and operational aspects of the project. Here are some key considerations for each of these areas:

1. Technical Feasibility:

Are the required technologies and resources available and reliable?

Is the platform able to accommodate the expected user traffic?

Will the platform be scalable to handle future growth and additional features?

Are there any technical limitations or challenges that need to be addressed before the project can proceed?

2. Financial Feasibility:

What is the estimated cost of development, deployment, and ongoing maintenance of the platform?

Will the projected revenue from the platform be sufficient to cover the costs and generate a profit?

Are there any additional costs associated with regulatory compliance, licensing, or security measures?

Are there any potential sources of funding or investors that could support the project?

3. Operational Feasibility:

What is the expected user adoption rate and level of engagement with the platform?

How will the platform be marketed and promoted to potential users?

Are there any legal or regulatory barriers that need to be considered?

How will the platform be managed and maintained on an ongoing basis, including content creation, user support, and updates to the platform?

In addition to these considerations, a feasibility study may also involve conducting market research and competitor analysis to better understand the demand for eLearning platforms and how the proposed platform can differentiate itself from existing solutions.

It is important to also consider the educational content that will be offered on the platform. The quality and relevance of the courses and materials will directly impact the success and adoption of the platform. The project team should consider partnering with subject matter experts, experienced educators, and instructional designers to ensure that the content is high quality and meets the needs of the target audience.

Finally, it is important to consider the user experience and usability of the platform. The project team should conduct user testing and gather feedback from potential users to ensure that the platform is intuitive, easy to use, and meets their needs.

Overall, a thorough feasibility study can help identify potential risks and challenges, as well as opportunities for success, and inform the decision to move forward with the project.

❖ Requirement Specification

1. Functional Requirements

➢ Data Accessibility

- System will track date and time of last API data
- Profile details are not available

➢ User Accounts

- Password protected
- Can change password
- Create users

➢ Administration Panel

- Can create, edit and delete user accounts.
- Can create, edit and delete the new student and tutor.
- Can create, edit and delete the new Course.
- Can create, edit and delete the new Quiz, certificate etc.

➢ System Security

- Employee and vendor has view only access.
- admin has all access.

2. non-Functional requirements

➢ Security

- No user permission
- It is secure for storing data.

➢ Performance

- Expecting high performance

➢ Reliability

- The data transferring is reliable.
- System log are kept

➢ Usability

- End user satisfaction and acceptance

❖ Tools & Technology

1. Software Specifications

- Localhost server – XAMPP
- Software – WordPress
- Plugins – use in this project: Razorpay, LMS, Elemntor
- Database – MySQL

⇨ **XAMPP:**

1. XAMPP is an abbreviation where X stands for Cross-Platform, A stands for Apache, M stands for MYSQL, and the Ps stand for PHP and Perl, respectively. It is an open-source package of web solutions that includes Apache distribution for many servers and command line executables along with modules such as Apache server, MariaDB, PHP, and

2. XAMPP helps a local host or server to test its website and clients via computers and laptops before releasing it to the main server. It is a platform that furnishes a suitable environment to test and verify the working of projects based on Apache, Perl, MySQL database, and PHP through the system of the host itself. Among these technologies, Perl is a programming language used for web development, PHP is a backend scripting language, and MariaDB is the most vividly used database developed by MySQL. The detailed description of these components is given below.

3. **Components of XAMPP**: As defined earlier, XAMPP is used to symbolize the classification of solutions for different technologies. It provides a base for testing of projects based on different technologies through a personal server. XAMPP is an abbreviated form of each alphabet representing each of its major components. This collection of software contains a web server named Apache, a database management system named MariaDB and scripting/ programming languages such as PHP and Perl. X denotes Cross-platform, which means that it can work on different platforms such as Windows, Linux, and macOS.

⇨ **WordPress:**

1. WordPress is a free, open-source content management system (CMS) that powers over 40% of all websites on the internet. It was initially launched in 2003 as a blogging platform, but it has since evolved into a versatile CMS that can be used to build virtually any type of website, from blogs and e-commerce sites to portfolio websites and online communities.

2. WordPress is built using PHP, a server-side scripting language, and uses a MySQL database to store content. It provides users with an intuitive and user-friendly interface that allows them to create and manage their website without any coding knowledge. Users can easily create pages, posts, and other content types, and customize the look and feel of their website using themes and plugins.

3. Themes are pre-designed templates that allow users to change the appearance of their website without any coding. There are thousands of free and premium WordPress themes available that users can choose from to customize the design of their website to suit their needs.

4. Plugins are software modules that can be installed on a WordPress website to add specific functionality. There are over 58,000 free and paid WordPress plugins available that allow users to add features like contact forms, e-commerce functionality, social media integration, and more.

5. WordPress is also highly customizable, and developers can use its open-source codebase to build custom themes and plugins that meet their specific needs. It also offers a robust set of APIs and integrations that allow it to integrate with other platforms and services, making it a popular choice for businesses of all sizes.

6. In summary, WordPress is a powerful and flexible CMS that makes it easy for users to create and manage their websites without any coding knowledge. It offers a vast ecosystem of themes and plugins, making it highly customizable and adaptable to virtually any use case.

⇨ **Plugins:**

1. In the context of software, plugins are software components that can be added to an existing program to enhance or extend its functionality. Plugins are typically designed to work with specific software programs or platforms, and they are often developed by third-party developers.

2. In the context of WordPress, plugins are software components that can be added to a WordPress website to add new features or functionality. WordPress is a powerful content management system that is designed to be highly customizable, and plugins are one of the key ways that users can extend its functionality.

3. WordPress plugins are typically developed using PHP, the same programming language that WordPress is built on, and they are designed to be installed and activated within the WordPress dashboard. Once installed, a plugin can add new functionality to the website, such as adding a contact form, improving site performance, or enhancing the SEO of the website.

4. One of the key benefits of using WordPress plugins is that they allow users to add new functionality to their website without needing to have programming or development skills. Plugins are typically designed to be user-friendly and easy to install, making them accessible to a wide range of users.

5. **Razorpay:** offers a wide range of payment solutions that allow businesses to accept payments through various channels such as credit and debit cards, net banking, UPI, and mobile wallets. It provides a secure and seamless payment gateway that enables businesses to accept payments from customers across India and around the world.

6. One of the key benefits of Razorpay is its ease of use. The company provides a simple and user-friendly interface that allows businesses to quickly and easily set up their payment gateway and start accepting payments. It also offers a range of features and tools to help businesses manage their payments, including real-time transaction monitoring, automated refunds, and detailed transaction reports.

7. Another benefit of Razorpay is its focus on security. The company uses advanced security measures such as 128-bit SSL encryption and two-factor authentication to ensure that customer data and transactions are protected at all times. It also complies with all the necessary regulations and standards, including PCI DSS Level 1, to ensure that businesses can trust their payment gateway to be secure and compliant.

8. **LMS plugins:** LMS stands for Learning Management System, which is a software application designed to manage and deliver educational courses and training programs. In the context of WordPress, an LMS plugin is a software component that can be added to a WordPress website to create and manage online courses and training programs.

9. **Elementor Plugins**: Elementor is a popular WordPress plugin that allows users to create custom web pages using a visual drag-and-drop interface. It is designed to be user-friendly and intuitive, allowing users to create professional-looking websites without needing to have programming or development skills.

10. With Elementor, users can choose from a range of pre-designed templates or create their own custom layouts from scratch. The plugin includes a range of widgets and elements, such as text, images, buttons, and forms, that can be added to the page and customized to meet the user's needs.

⇨ **MySQL:**

1. MySQL is a popular open-source relational database management system (RDBMS) that is widely used in web applications and other software systems. It is one of the most popular databases used for storing and managing data, and it is used by many large-scale websites such as Facebook, Twitter, and YouTube.

2. MySQL is a client-server database system, which means that it consists of two main components: the MySQL server and various client applications. The server is responsible for storing and managing the data, while the clients interact with the server to perform operations on the data.

3. MySQL uses a structured query language (SQL) to interact with the database, and it supports a wide range of SQL commands for creating, modifying, and retrieving data. It supports various data types, including numeric, text, and date/time data types, and it also provides support for complex data structures such as arrays and objects.

4. One of the key benefits of MySQL is its scalability. It is designed to handle large amounts of data and can support many concurrent connections, making it an ideal choice for high-traffic websites and other large-scale applications. It also provides support for various storage engines, which allow users to optimize their database performance for their specific use case.

5. MySQL is open-source software, which means that its source code is freely available and can be modified and redistributed by anyone. This has led to a large community of developers who contribute to the development and improvement of MySQL, and it has also resulted in a wide range of third-party tools and extensions that are available for use with MySQL.

6. In summary, MySQL is a popular and widely used open-source relational database management system that provides powerful features for storing, managing, and retrieving data. It is highly scalable, flexible, and customizable, making it an ideal choice for a wide range of web applications and other software systems.

2. Hardware Specifications

- Operating System - Windows 11
- Hardware:

  Processor with 2 GHz

  8 GB RAM

  Monitor Resolution 1024 X 768

  Internet connection Broadband with a speed of 3-4Mbps

  Keyboard and Mouse

  Browser: Chrome

CHAPTER 4

System Design

System Module:

- UML Diagram
- Gantt Chart
- E-R Diagram
- Class Diagram
- Use Case Diagram
- Sequence Diagram
- Activity Diagram
- DFD Diagram

❖ UML Diagram

UML (Unified Modeling Language) diagram is a graphical representation of a system or a software application, which is used to design, analyze, and document software systems. UML diagrams provide a standardized notation that allows developers, analysts, and stakeholders to communicate and understand complex systems in a visual format.

There are several types of UML diagrams, including:

- Use case diagrams.
- Class diagrams
- Sequence diagrams
- Activity diagrams
- State diagrams

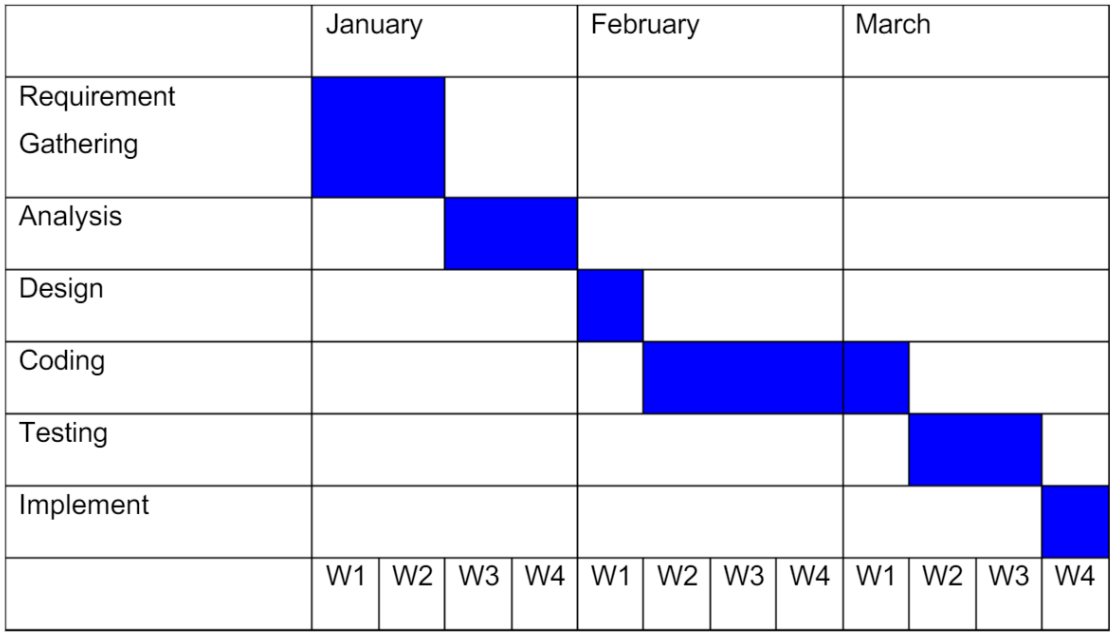
UML diagrams are widely used in software development to help communicate design concepts, and to facilitate collaboration between developers, analysts, and stakeholders.

❖ Gantt Chart

A Gantt chart is a type of bar chart that illustrates a project schedule, showing the start and finish dates of each task and their dependencies. It is used to visualize and track the progress of a project over time, and to identify potential scheduling conflicts or delays.

A typical Gantt chart consists of a horizontal timeline representing the duration of the project, with each task represented as a bar spanning the duration of the task. The start and end dates of each task are indicated by the endpoints of the bar, and the dependencies between tasks are shown using arrows connecting the bars.

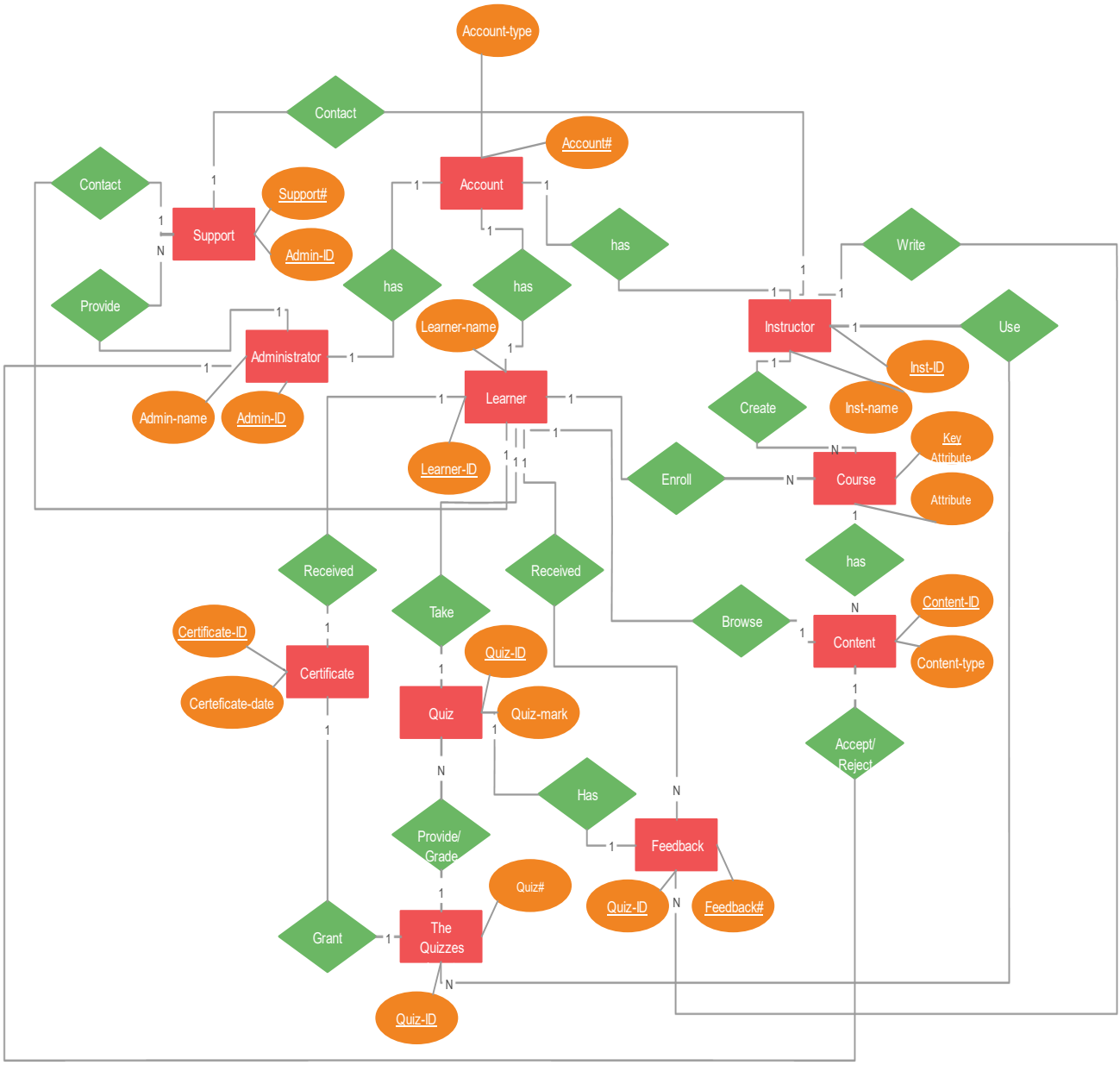
Gantt charts can be used for a wide range of projects, including construction, software development, event planning, and marketing campaigns. They are a useful tool for project managers to communicate project timelines and progress to stakeholders, and to monitor the progress of tasks and adjust the schedule as needed.



❖ E-R Diagram

ER (Entity-Relationship) diagram is a type of graphical representation used to model the data or information requirements of a system or a software application. ER diagrams are used to represent the entities (objects), attributes, and the relationships between the entities in a clear and concise manner.

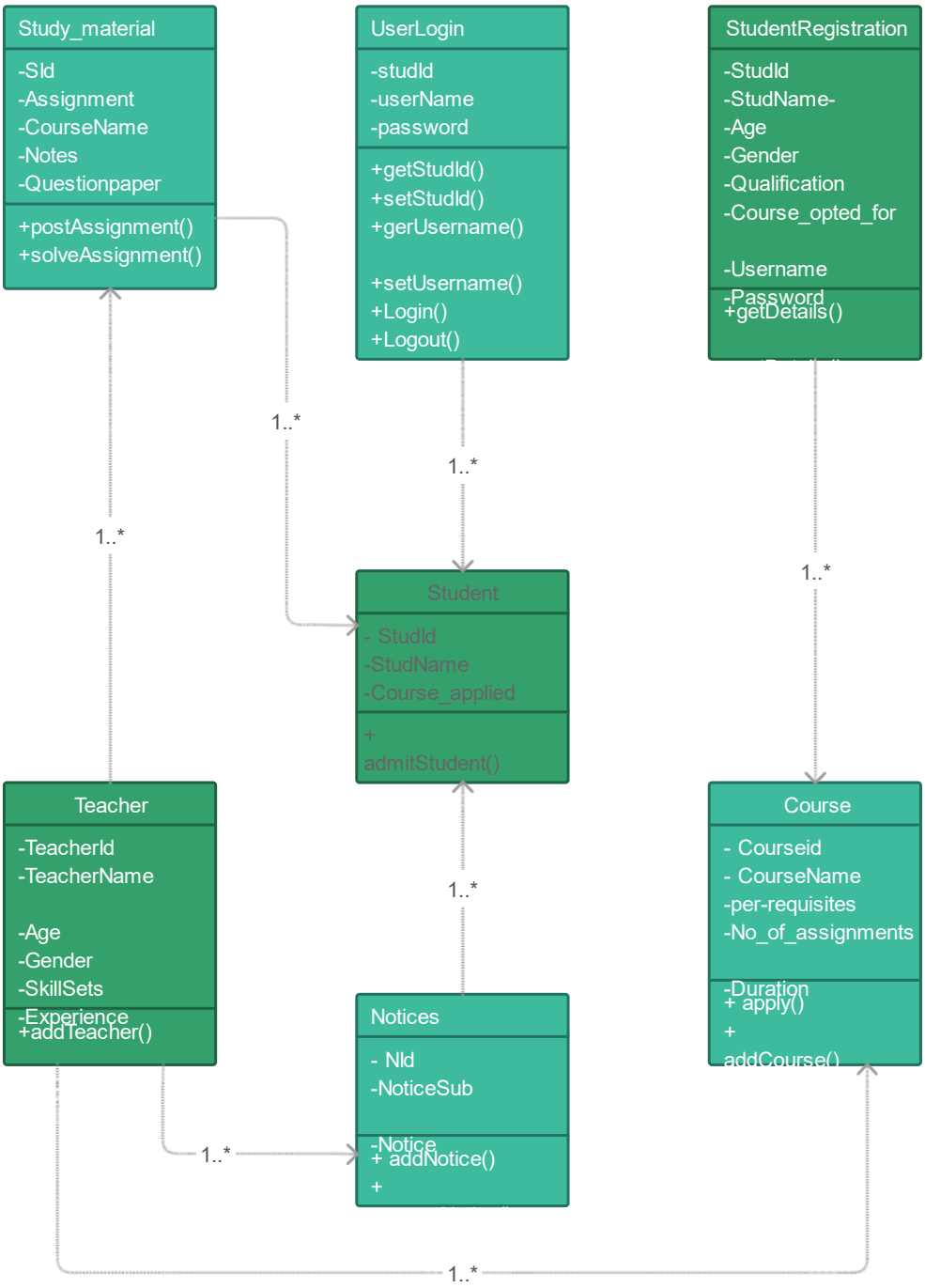
In an ER diagram, entities are represented as rectangles, attributes are represented as ovals, and relationships between entities are represented as diamond shapes. The relationships between entities can be of different types, including one-to-one, one-to-many, and many-to-many.



❖ Class Diagram

A class diagram is a type of UML (Unified Modeling Language) diagram that provides a graphical representation of the classes, interfaces, and objects in a software system, as well as the relationships between them. Class diagrams are used to model the static structure of a system, i.e., the classes and their relationships, attributes, and methods.

In a class diagram, each class is represented as a rectangular box, with the class name at the top and the attributes and methods listed underneath. Relationships between classes are represented as lines between the boxes, and can be of different types, including inheritance, association, aggregation, and composition.



❖ Use Case Diagram

A Use Case Diagram is a type of UML (Unified Modeling Language) diagram that provides a graphical representation of the functional requirements of a system or a software application, from the perspective of the end-user. It represents the interaction between the user and the system and helps to identify the various use cases or scenarios in which the user will interact with the system.

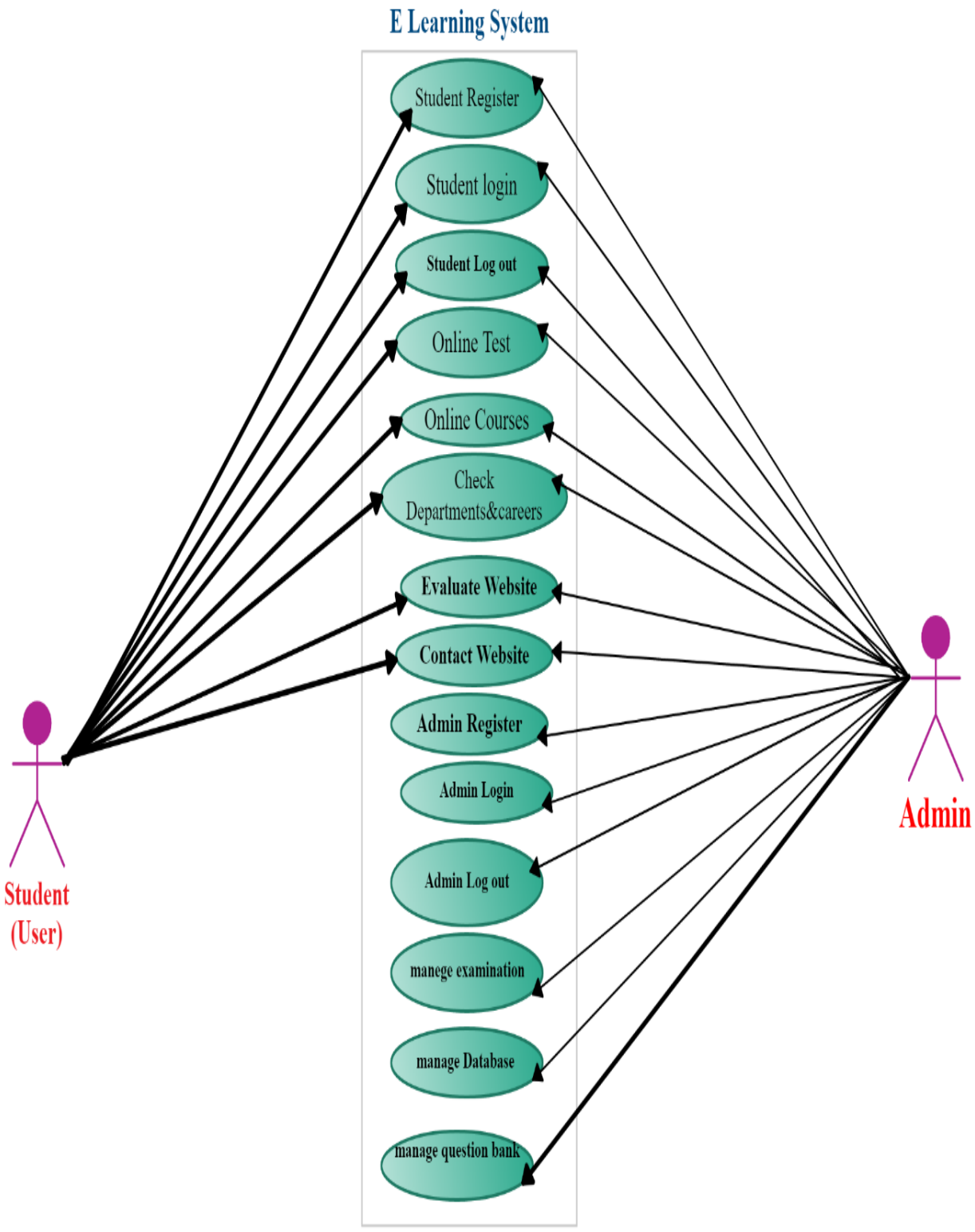
In a Use Case Diagram, actors are represented as stick figures, and use cases are represented as ovals. Actors are the people, organizations, or external systems that interact with the system, while use cases represent the specific tasks or actions that the system can perform.

The relationships between actors and use cases are represented as lines, which indicate the actions or interactions between them. These relationships can be of different types, including association, generalization, and include relationships.

Use Case Diagrams are an important tool for software developers as they help to identify the functional requirements of a system, which can then be used to design and develop software applications. Use Case Diagrams can also be used to document the requirements of the system, to identify potential errors or issues in the system design, and to communicate the system structure to stakeholders.

Overall, Use Case Diagrams are an important part of the UML notation and are widely used in software development to help model and document the functional requirements of software systems.

Use Case Diagram

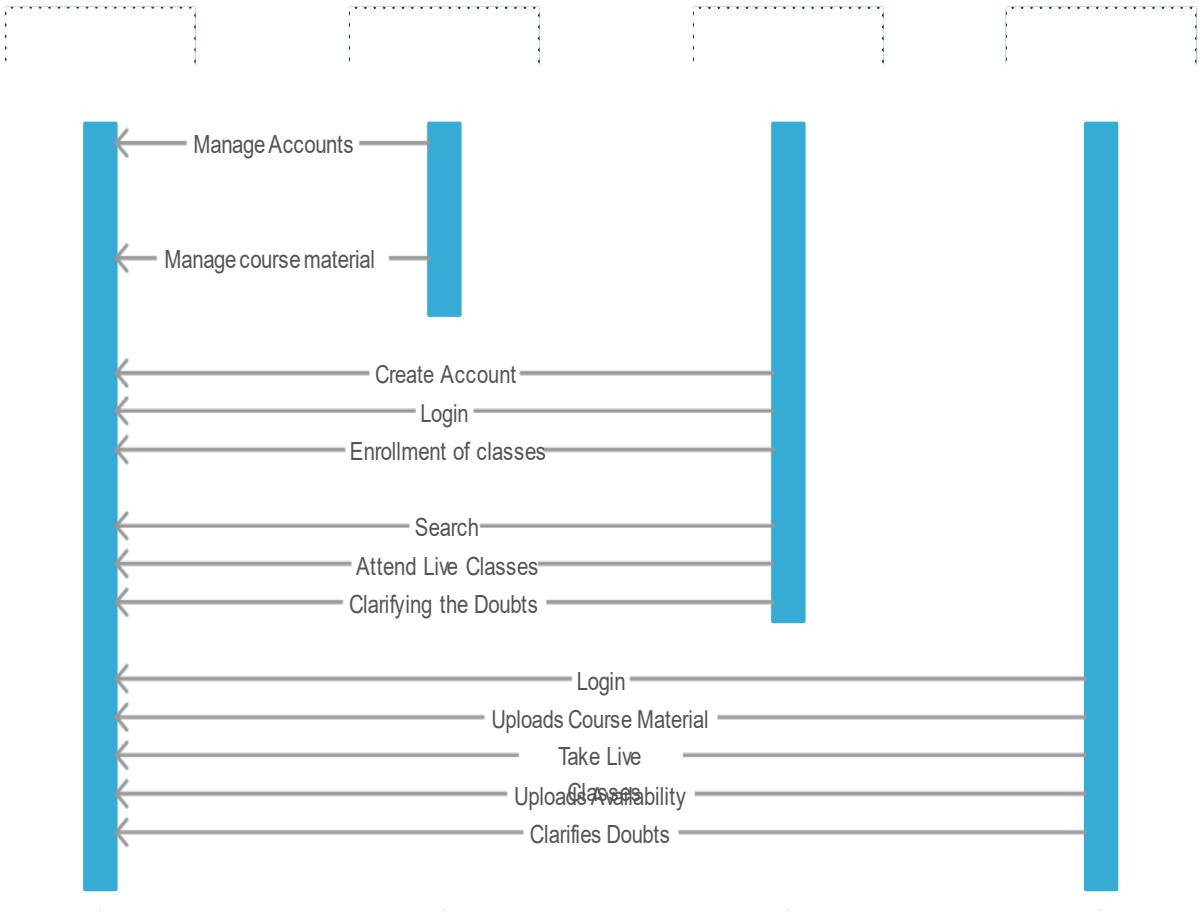


❖ Sequence Diagram

A sequence diagram is a type of UML (Unified Modeling Language) diagram that shows the interactions and messages exchanged between different objects or components of a system in a chronological order. Sequence diagrams are used to represent the dynamic behavior of a system and to show how the objects collaborate with each other to perform a particular task or function.

In a sequence diagram, objects are represented as vertical lifelines, and the messages exchanged between them are represented as horizontal arrows. Each message is labeled with the name of the message, and can also include parameters and return values.

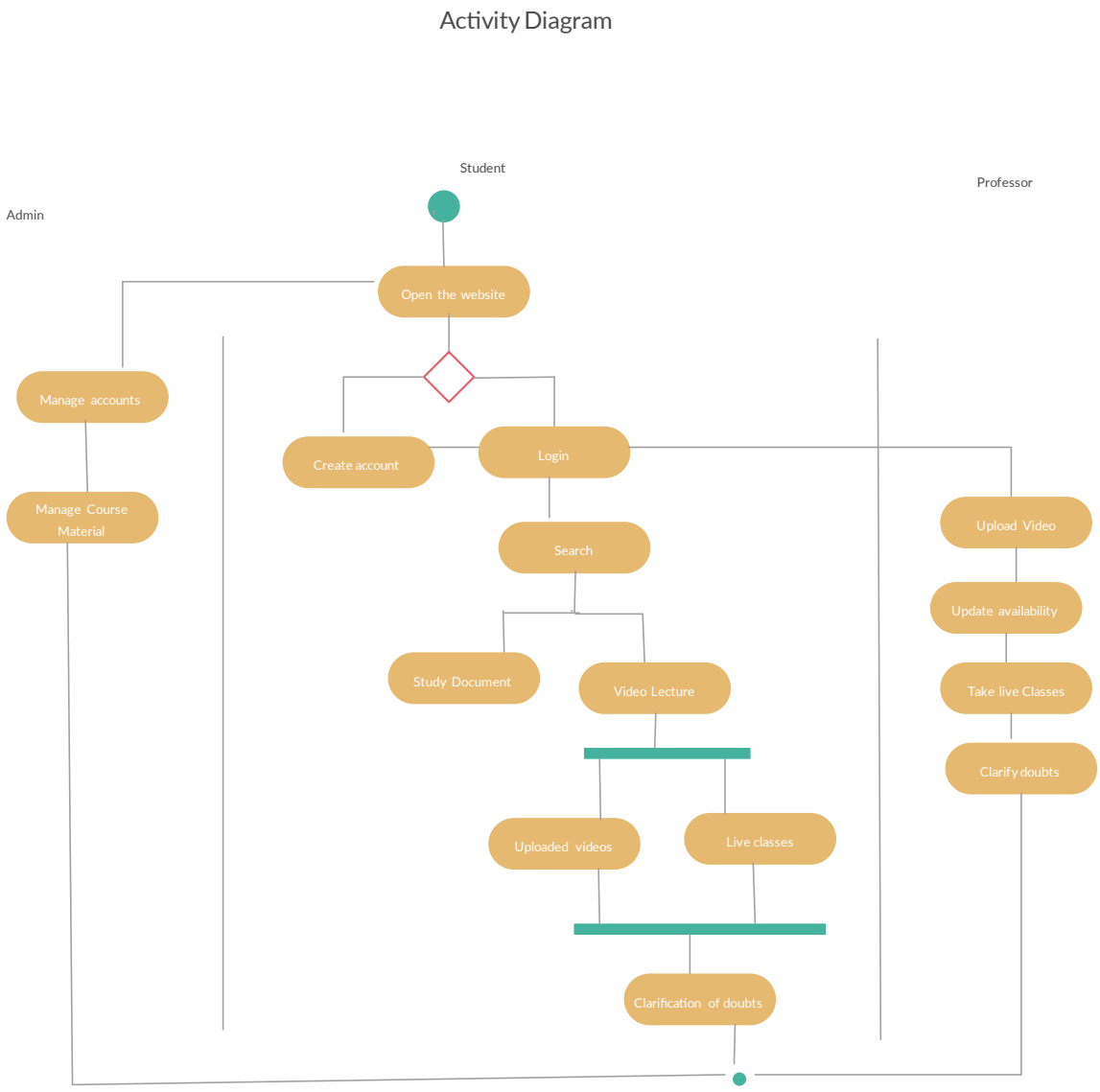
Sequence diagrams are particularly useful for visualizing the flow of control between different objects in a system and to identify potential issues or errors in the system design. They can also be used to generate code from the model and to test the software system.



❖ Activity Diagram

An activity diagram is a type of UML (Unified Modeling Language) diagram that depicts the flow of activities in a system, process, or workflow. It is a visual representation of the steps, decisions, and interactions involved in a particular activity or process.

In an activity diagram, the activities are represented as rounded rectangles, and the transitions between the activities are represented as arrows. The decisions and branching points are represented as diamond-shaped boxes, while the start and end points are represented as rounded rectangles with rounded corners.

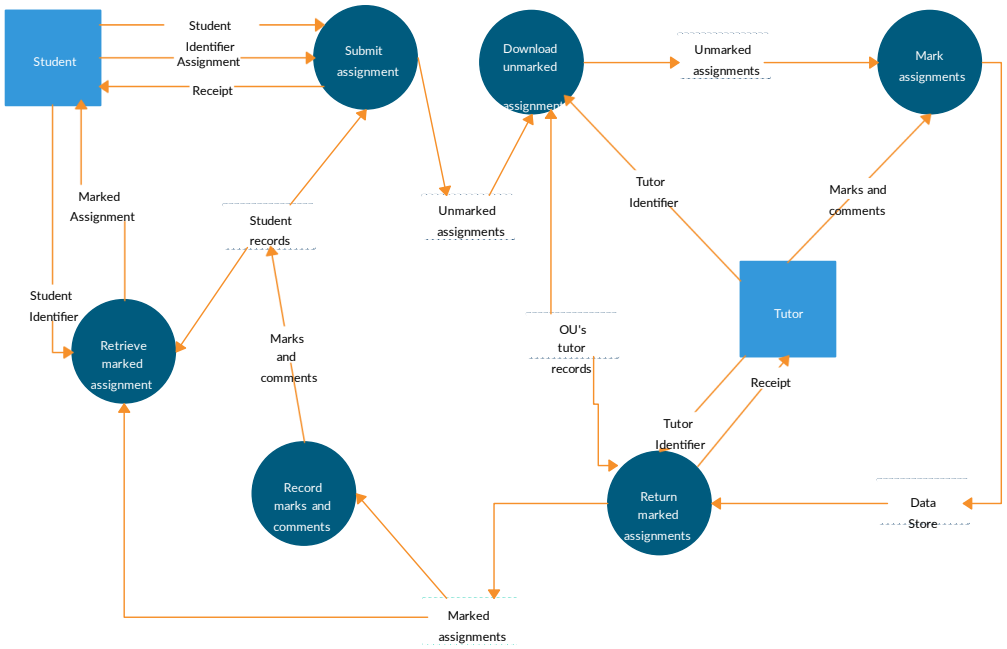


❖ DFD Diagram

DFD (Data Flow Diagram) is a graphical representation of a system that depicts how data flows through different processes and stores in a system. It is a modeling technique that is used to analyze, design, and document the flow of data within a system.

In a DFD diagram, data flows are represented as arrows, while the processes and stores are represented as rectangular boxes. The arrows indicate the direction of data flow between different processes or stores, and can be labeled to indicate the type of data being transmitted.

DFD diagrams are used to model complex systems and to identify the inputs, outputs, and processes involved in the system. They are particularly useful for identifying bottlenecks, redundancies, and inefficiencies in the system design and for optimizing the flow of data through the system.

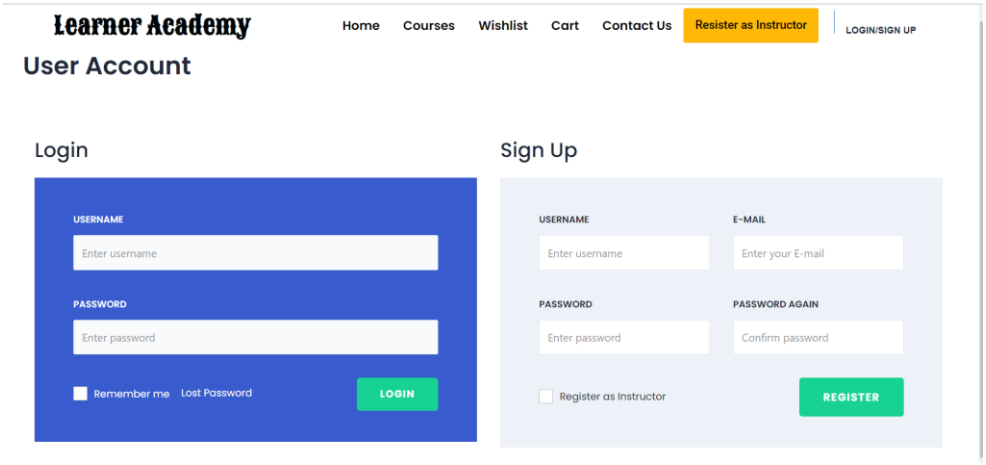


CHAPTER 5

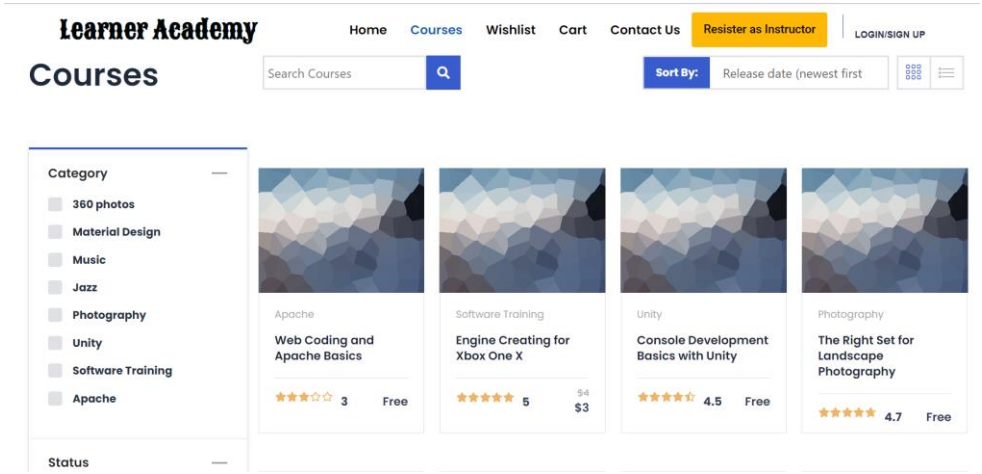
OUTPUT SCREENS AND CODING

❖ Screenshots of Project:

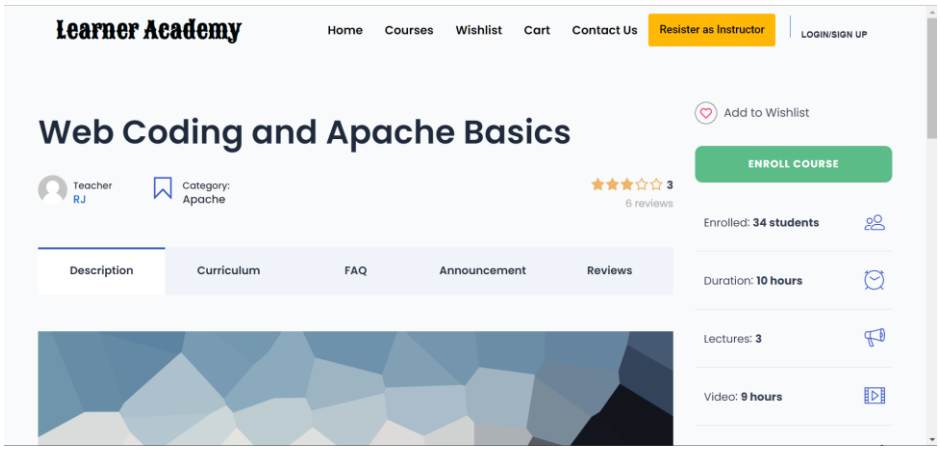
Login/Sign Up Page :

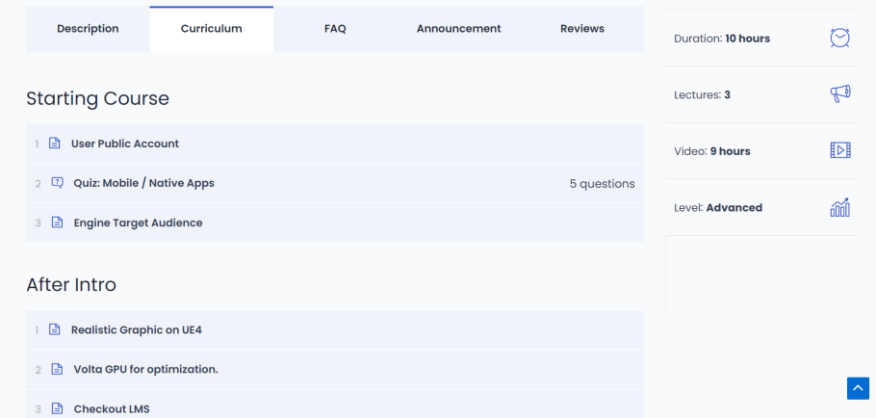


Courses Page:

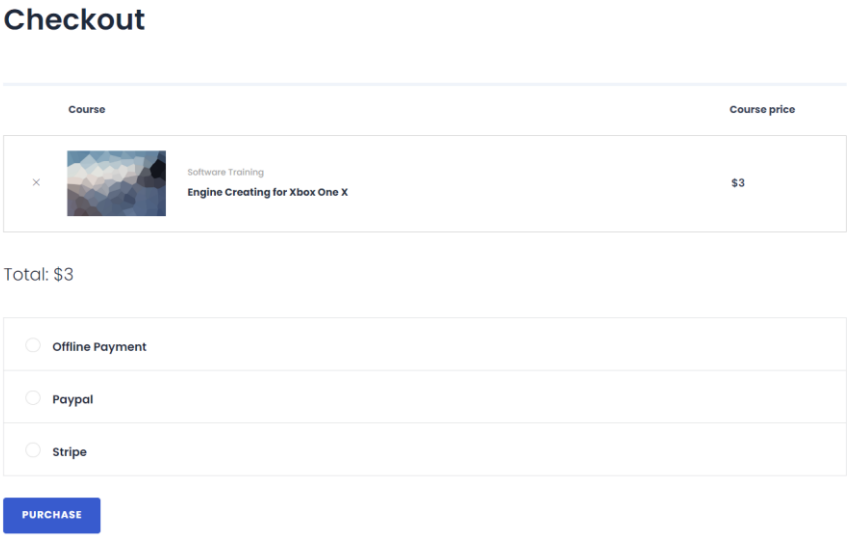


Course Details and descriptions Page:

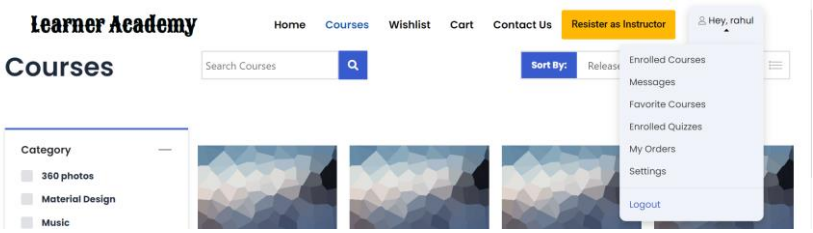




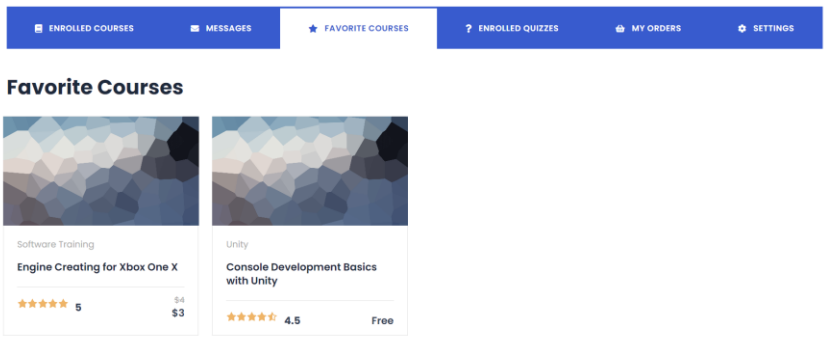
Checkout Page with various payments method:



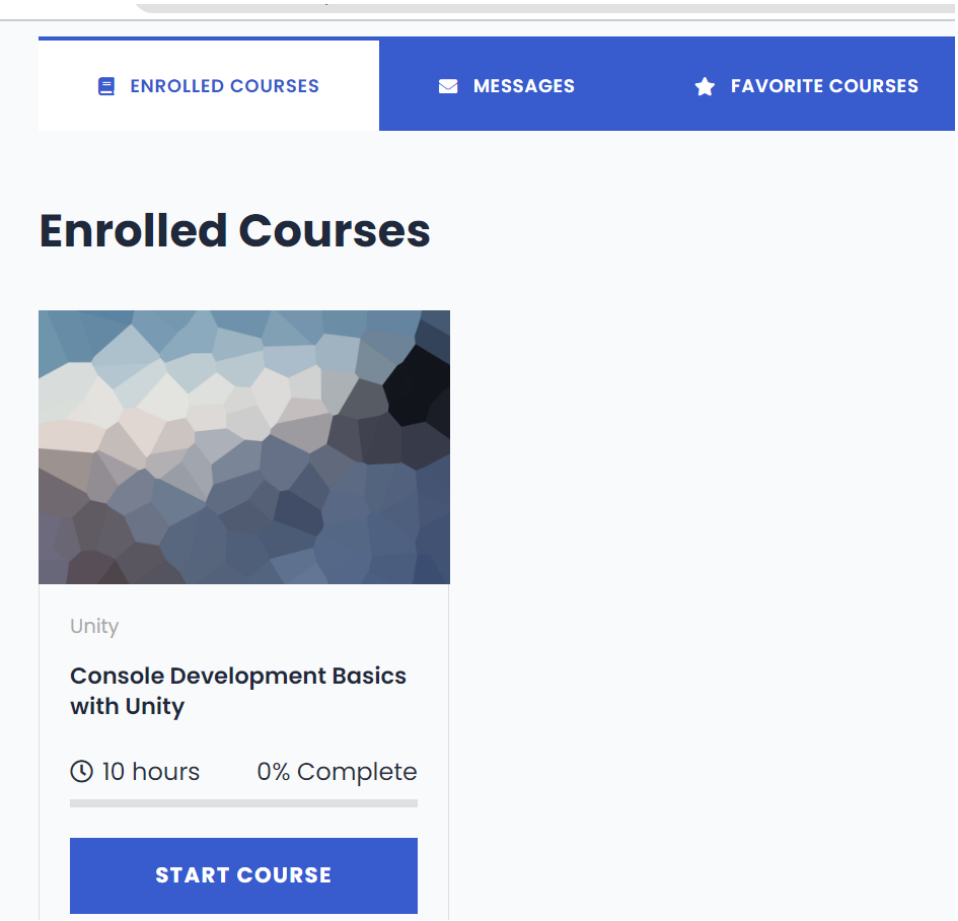
Menus:



Wishlist Page:



Enrolled Courses by User:



❖ Important Coding and Design:

index.php

```
<?php
/**
 * The main template file.
 *
 * This is the most generic template file in a WordPress theme
 * and one of the two required files for a theme (the other being style.css).
 * It is used to display a page when nothing more specific matches a query.
 * E.g., it puts together the home page when no home.php file exists.
 *
```

```
 * @link https://codex.wordpress.org/Template_Hierarchy
 *
 * @package Astra
 * @since 1.0.0
 */
if ( ! defined( 'ABSPATH' ) ) {
	exit; // Exit if accessed directly.
}
get_header(); ?>
<?php if ( astra_page_layout() == 'left-sidebar' ) : ?>

	<?php get_sidebar(); ?>

<?php endif ?>
	<div id="primary" <?php astra_primary_class(); ?>>
		<?php
		astra_primary_content_top();
		astra_content_loop();
		astra_pagination();
		astra_primary_content_bottom();
		?>
	</div><!-- #primary -->
<?php
if ( astra_page_layout() == 'right-sidebar' ) :
	get_sidebar();
endif;

get_footer();
```

header.php

```
<?php
/**
 * The header for Astra Theme.
```

```
 *
 * This is the template that displays all of the <head> section and everything up until <div id="content">
 *
 * @link https://developer.wordpress.org/themes/basics/template-files/#template-partials
 *
 * @package Astra
 * @since 1.0.0
 */
if ( ! defined( 'ABSPATH' ) ) {
	exit; // Exit if accessed directly.
}
?><!DOCTYPE html>
<?php astra_html_before(); ?>
<html <?php language_attributes(); ?>>
<head>
<?php astra_head_top(); ?>
<meta charset="<?php bloginfo( 'charset' ); ?>">
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="profile" href="https://gmpg.org/xfn/11">
<?php wp_head(); ?>
<?php astra_head_bottom(); ?>
</head>
<body <?php astra_schema_body(); ?> <?php body_class(); ?>>
<?php astra_body_top(); ?>
<?php wp_body_open(); ?>
<a
	class="skip-link screen-reader-text"
	href="#content"
	role="link"
	title="<?php echo esc_html( astra_default_strings( 'string-header-skip-link', false ) ); ?>">
		<?php echo esc_html( astra_default_strings( 'string-header-skip-link', false ) ); ?>
</a>
```

```
<div
<?php
	echo astra_attr(
		'site',
		array(
			'id'    => 'page',
			'class' => 'hfeed site',
		)
	);
	?>
>
	<?php
	astra_header_before();
	astra_header();
	astra_header_after();
	astra_content_before();
	?>
	<div id="content" class="site-content">
		<div class="ast-container">
		<?php astra_content_top(); ?>
```

footer.php

```
<?php
/**
 * The template for displaying the footer.
 *
 * Contains the closing of the #content div and all content after.
 *
 * @link https://developer.wordpress.org/themes/basics/template-files/#template-partials
 *
 * @package Astra
 * @since 1.0.0
```

```
 */
if ( ! defined( 'ABSPATH' ) ) {
	exit; // Exit if accessed directly.
}
?>
<?php astra_content_bottom(); ?>
	</div> <!-- ast-container -->
	</div><!-- #content -->
<?php
	astra_content_after();
	astra_footer_before();
	astra_footer();
	astra_footer_after();
?>
	</div><!-- #page -->
<?php
	astra_body_bottom();
	wp_footer();
?>
	</body>
</html>
```

page.php

```
if ( ! defined( 'ABSPATH' ) ) {
	exit; // Exit if accessed directly.
}
get_header(); ?>
<?php if ( astra_page_layout() == 'left-sidebar' ) : ?>

	<?php get_sidebar(); ?>
<?php endif ?>
	<div id="primary" <?php astra_primary_class(); ?>>
		<?php astra_primary_content_top(); ?>
```

```
                <?php astra_content_page_loop(); ?>

                <?php astra_primary_content_bottom(); ?>

        </div><!-- #primary -->
<?php if ( astra_page_layout() == 'right-sidebar' ) : ?>

        <?php get_sidebar(); ?>

<?php endif ?>

<?php get_footer(); ?>
```

search.php

```
if ( ! defined( 'ABSPATH' ) ) {

        exit; // Exit if accessed directly.

}

get_header(); ?>

<?php if ( astra_page_layout() == 'left-sidebar' ) : ?>

        <?php get_sidebar(); ?>

<?php endif ?>

        <div id="primary" <?php astra_primary_class(); ?>>

                <?php astra_primary_content_top(); ?>

                <?php astra_archive_header(); ?>

                <?php astra_content_loop(); ?>

                <?php astra_pagination(); ?>

                <?php astra_primary_content_bottom(); ?>

        </div><!-- #primary -->
<?php if ( astra_page_layout() == 'right-sidebar' ) : ?>

        <?php get_sidebar(); ?>

<?php endif ?>

<?php get_footer(); ?>
```

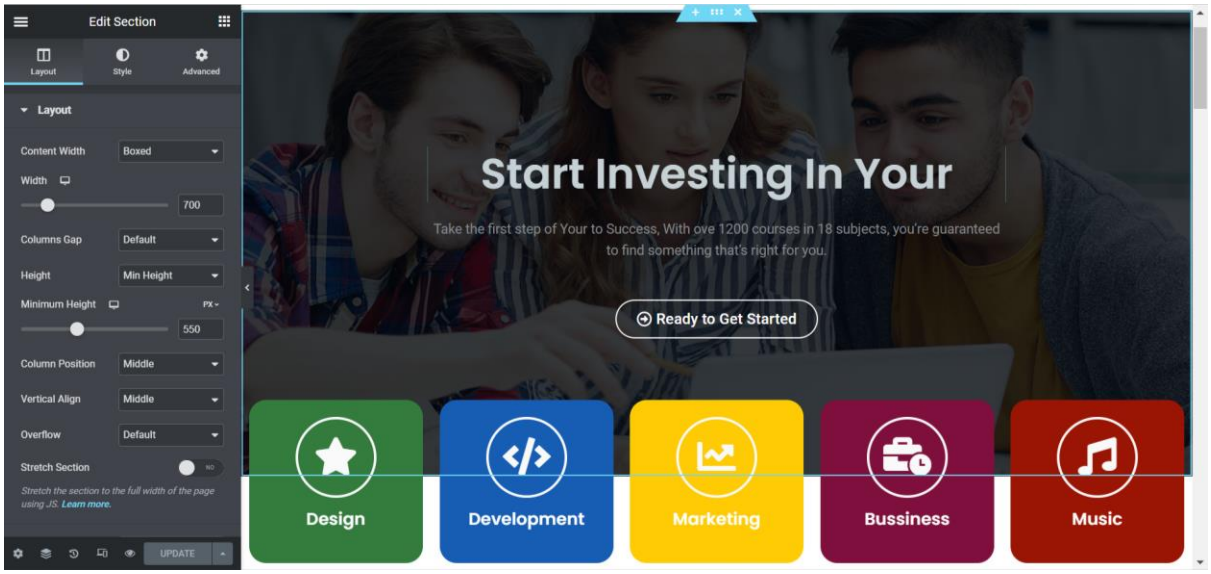
searchform.php

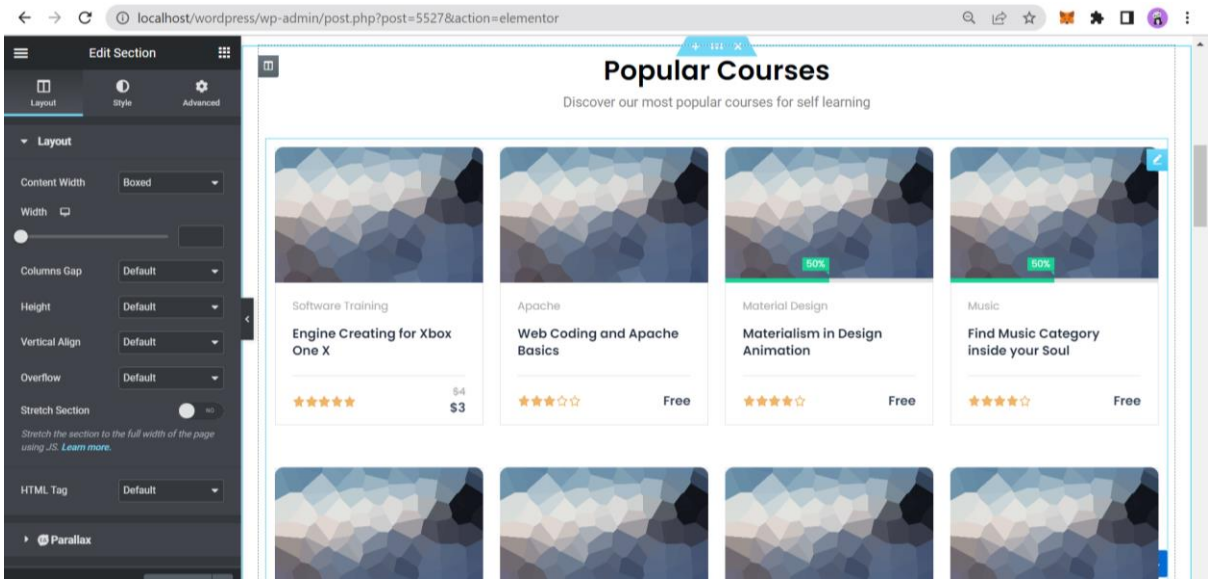
```
$astra_search_input_placeholder = isset( $args['input_placeholder'] ) ? $args['input_placeholder'] :
astra_default_strings( 'string-search-input-placeholder', false );
```

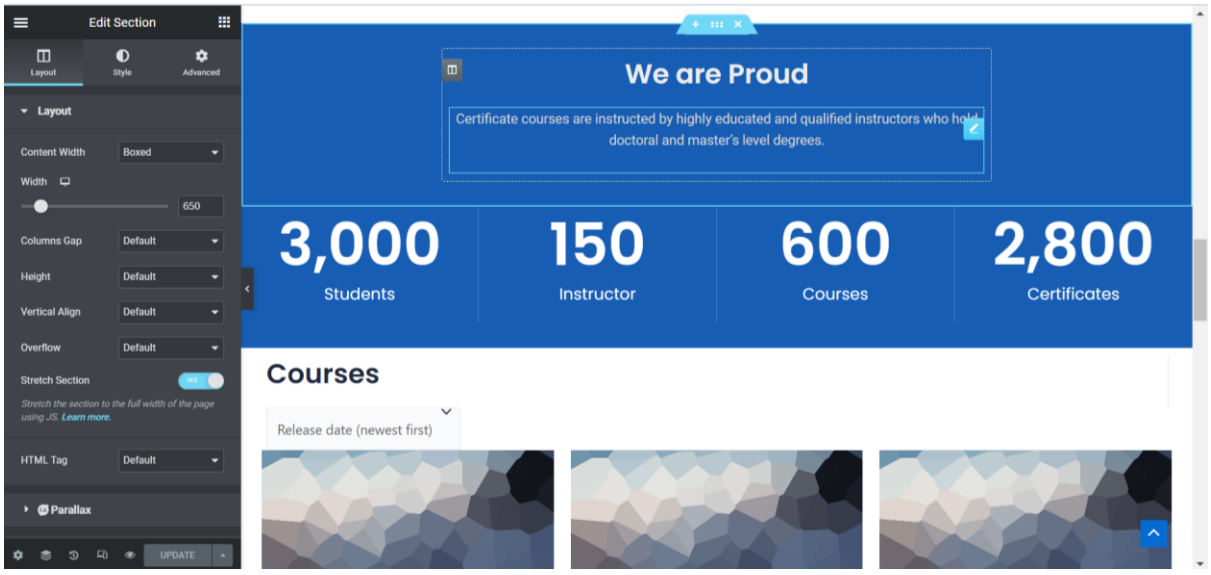
```
$astra_search_show_input_submit = isset( $args['show_input_submit'] ) ? $args['show_input_submit'] : true;

$astra_search_data_attrs       = isset( $args['data_attributes'] ) ? $args['data_attributes'] : '';

$astra_search_input_value      = isset( $args['input_value'] ) ? $args['input_value'] : '';

?>

<form role="search" method="get" class="search-form" action="<?php echo esc_url( home_url( '/' ) ); ?>">

        <label>

                <span class="screen-reader-text"><?php echo esc_html__( 'Search for:', 'astra' ); ?></span>

                <input type="search" class="search-field" <?php echo esc_html( $astra_search_data_attrs ); ?> placeholder="<?php echo esc_html( $astra_search_input_placeholder ); ?>" value="<?php echo esc_attr( $astra_search_input_value ); ?>" name="s" tabindex="-1">

                <?php if ( class_exists( 'Astra_Icons' ) && Astra_Icons::is_svg_icons() ) { ?>

                        <button class="search-submit ast-search-submit" aria-label="<?php echo esc_attr__( 'Search Submit', 'astra' ); ?>">

                                <span hidden><?php echo esc_html__( 'Search', 'astra' ); ?></span>

                                <i><?php Astra_Icons::get_icons( 'search', true ); ?></i>

                        </button>

                <?php } ?>

        </label>

        <?php if ( $astra_search_show_input_submit ) { ?>

                <input type="submit" class="search-submit" value="<?php echo esc_attr__( 'Search', 'astra' ); ?>">

        <?php } ?> </form> <?php>
```

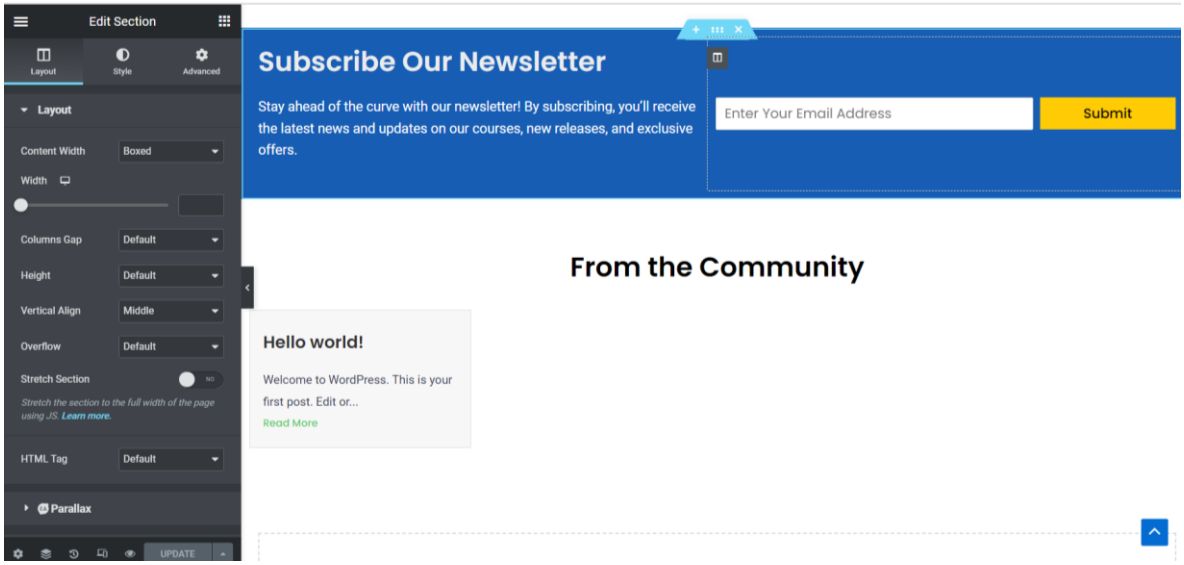
- ⇨ Some Pages are custom design using Elementor Free Pluging:

Home Page:

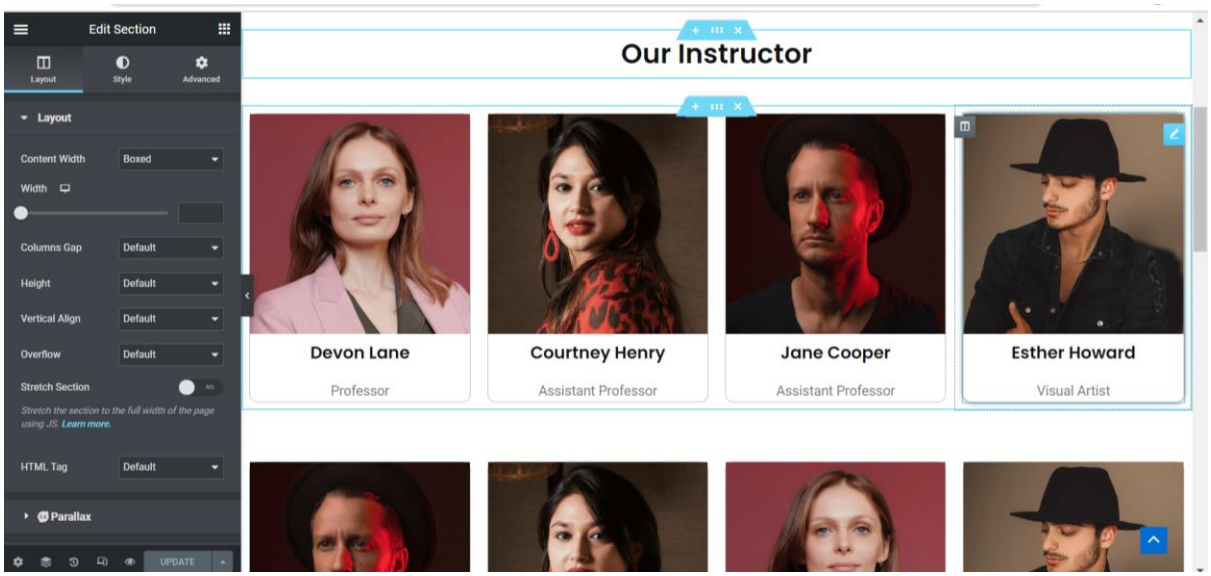

Edit Section
Layout
Style
Advanced
Layout
Content Width
Boxed
Width
700
Columns Gap
Default
Height
Min Height
Minimum Height
PX
550
Column Position
Middle
Vertical Align
Middle
Overflow
Default
Stretch Section
Stretch the section to the full width of the page using JS. Learn more.
UPDATE
Start Investing In Your
Take the first step of Your to Success, With ove 1200 courses in 18 subjects, you're guaranteed to find something that's right for you.
Ready to Get Started
Design
Development
Marketing
Bussiness
Music

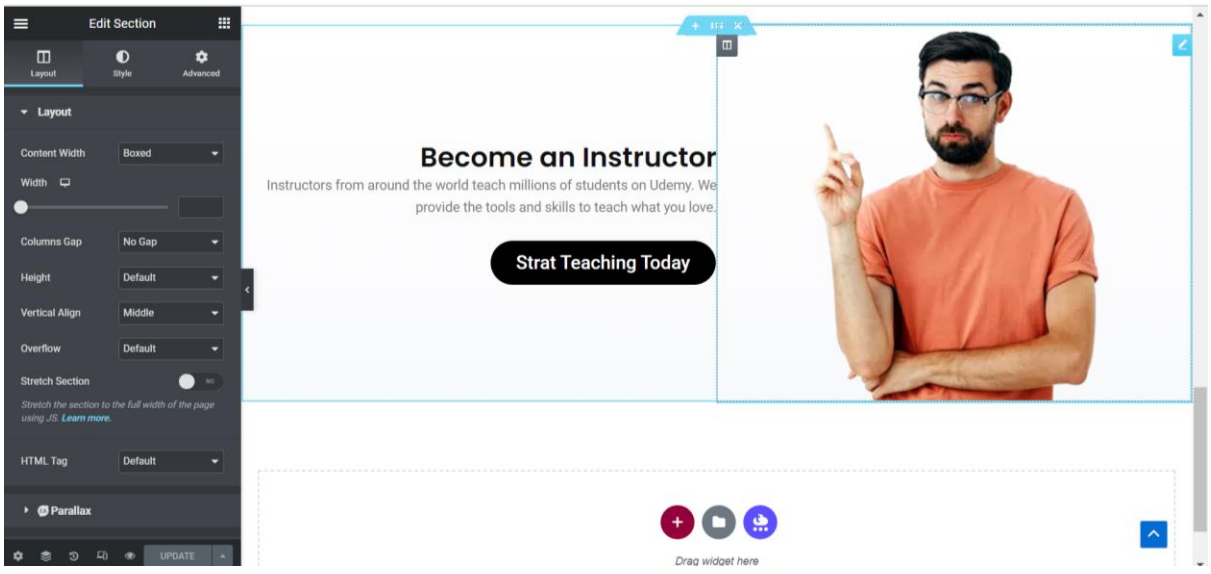

localhost/wordpress/wp-admin/post.php?post=5527&action=elementor
Edit Section
Layout
Style
Advanced
Layout
Content Width
Boxed
Width
Columns Gap
Default
Height
Default
Vertical Align
Default
Overflow
Default
Stretch Section
Stretch the section to the full width of the page using JS. Learn more.
HTML Tag
Default
Parallax
Popular Courses
Discover our most popular courses for self learning
Software Training
Engine Creating for Xbox One X
$4
$3
Apache
Web Coding and Apache Basics
Free
50%
Material Design
Materialism in Design Animation
Free
50%
Music
Find Music Category inside your Soul
Free


Edit Section
Layout
Style
Advanced
Layout
Content Width
Boxed
Width
650
Columns Gap
Default
Height
Default
Vertical Align
Default
Overflow
Default
Stretch Section
Stretch the section to the full width of the page using JS. Learn more.
HTML Tag
Default
Parallax
UPDATE
We are Proud
Certificate courses are instructed by highly educated and qualified instructors who hold doctoral and master's level degrees.
3,000
Students
150
Instructor
600
Courses
2,800
Certificates
Courses
Release date (newest first)

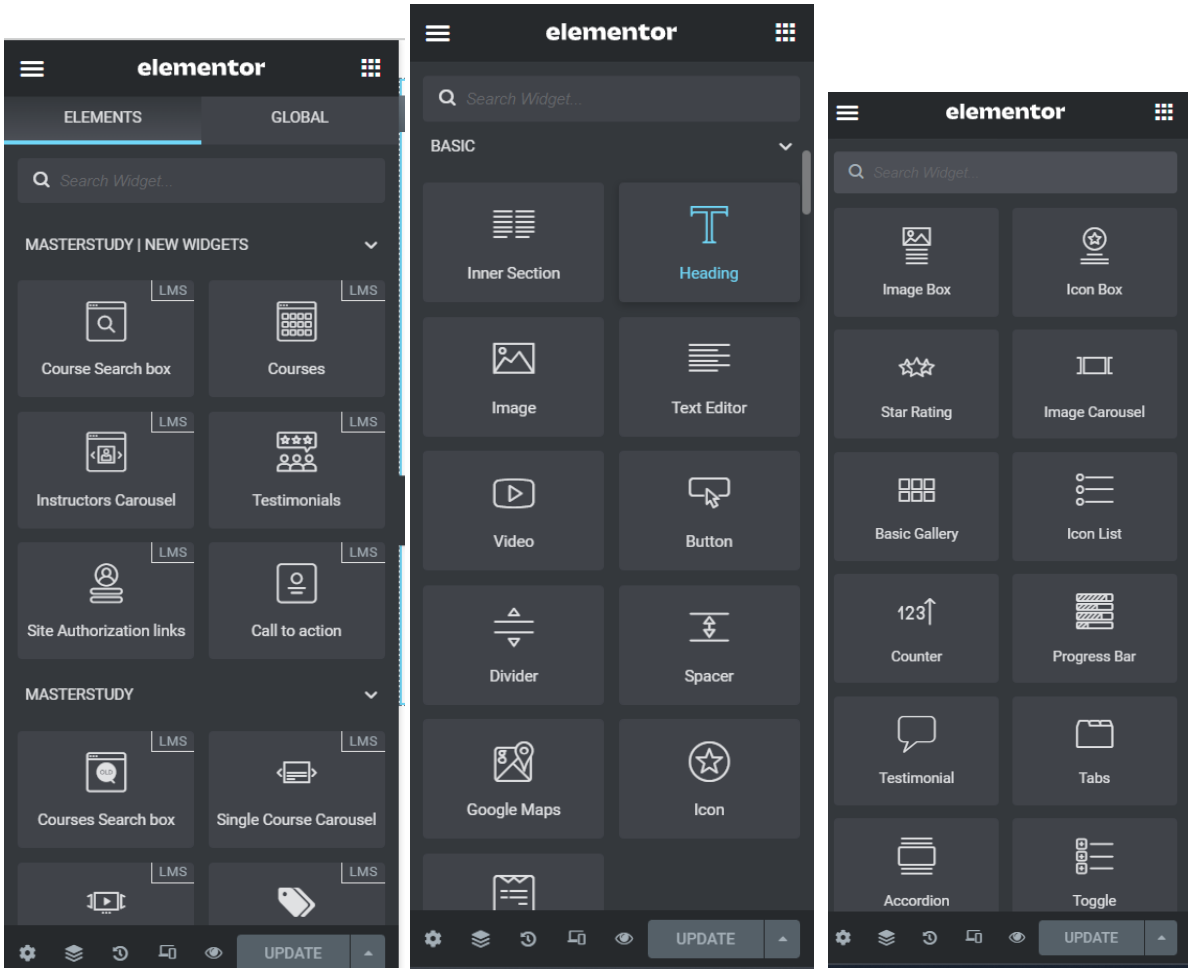


Instructor Page:





Elementor Interface:



Reference:

For installation of HTML, CSS, PHP, SQL

- **Visual Studio Code:**

  https://code.visualstudio.com/

- **XAMMP**

  https://www.apachefriends.org/it/download.html

  FOR DATABASE:

  http://localhost/phpmyadmin/

  OTHER INFORMATION:

  www.phpgurukul.com