

Project Final Document
Chorcha Pod

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Table of Contents

Project Overview	4
Project management resources and framework	4
User Stories	4
Module Breakdown	5
Course Enrollment:	5
Video Classroom:	6
Advanced Help and Support:	6
Digital Books and Learning Materials:	6
Assessments and Assignments:	6
Downloadable Resources:	6
Certification:	6
Collaboration Matrix	6
Process Model	7
1. Flexibility:	7
2. Incremental Development:	7
3. Client Involvement:	8
4. Collaboration and Communication:	8
5. Early Issue Detection and Mitigation:	8
6. Time to Market:	8
User Stories	9
Function point Ranking According to Complexity	14
Calculate Unadjusted Function Point (UFP)	14
1. External Inputs (EI)	15
2. External Outputs (EO)	16
3. External Inquiries (EQ)	16
4. Internal Logical Files (ILF)	17
5. External Interface Files (EIF)	17
Calculate Complexity Adjustment Factor (CAF)	18
Calculate Functional Points (FP)	19
Gantt Chart	20
Use case Diagrams	20
Level-0 use case - system	20
Level-1 use case – Sub system	21

Level-1.1 use case - Authentication	22
Level-1.2.1 use case – course enrollment.....	24
Swimlane Diagram	25
State Diagram.....	30
Data flow diagram.....	33
Sequence diagram	38
Conclusion.....	45

Project Overview

"Chorcha Pod" is an E-Learning Website. The "Chorcha Pod" project intends to develop an innovative e-learning platform that provides an abundance of features and functionalities to improve users' learning experiences. For those looking for online education, "Chorcha Pod" will work as a comprehensive platform, giving them access to a wide range of courses, engaging learning materials, and priceless assistance tools. To provide a highly engaging and productive learning environment, the website will prioritize usability, interactivity, and individualized learning analytics.

Project management resources and framework

- HTML
- CSS
- PHP
- JavaScript
- Php My SQL

User Stories

As a student, I want to be able to browse and enroll in courses offered on "Chorcha Pod" so that I can expand my knowledge and skills.

Feature: Course listing with detailed descriptions, instructor information, and enrollment options.

As a student, I want to have access to a video classroom on "Chorcha Pod" where I can watch lectures and participate in interactive sessions.

Feature: Video classroom with pre-recorded lectures and real-time interaction with instructors and fellow students.

As a student, I want to have access to digital books and learning materials on "Chorcha Pod" that supplement my course content.

Feature: Digital library with e-books, PDFs, slides, and other resources related to the courses offered.

As a student, I want to have access to assessments and assignments on "Chorcha Pod" to evaluate my understanding and progress.

Feature: Online assessments and assignments with automated grading and feedback.

As a student, I want to view my personal learning analytics on "Chorcha Pod", including my course progress, grades, and performance statistics.

Feature: Personal learning dashboard with visual representations of progress, grades, and performance metrics.

As a student, I want to be able to download resources from "Chorcha Pod" for offline access or further study.

Feature: Downloadable resources section where students can access supplementary materials.

As a student, I want to receive certifications and accreditations for completing courses on "Chorcha Pod", which can enhance my professional profile.

Feature: Certification and accreditation system that awards students with digital certificates upon course completion.

As an instructor, I want to be able to create and publish courses on "Chorcha Pod", including video lectures, learning materials, and assessments.

Feature: Course creation and management tools for instructors, including multimedia integration and assessment creation.

As an instructor, I want to have access to analytics and reports on "Chorcha Pod" to monitor student performance and engagement.

Feature: Instructor dashboard with analytics, reports, and insights into student progress, grades, and participation.

As an administrator, I want to be able to manage user accounts, courses, and content on "Chorcha Pod".

Feature: Administration panel with user management, course management, and content moderation capabilities.

As an administrator, I want to be able to generate reports on student performance and engagement across courses on "Chorcha Pod", so that I can analyze trends and make data-driven decisions.

Feature: Reporting and analytics dashboard for administrators to view aggregated data on student performance, course popularity, and engagement metrics.

Module Breakdown

Course Enrollment:

- i. User-friendly course catalog with detailed descriptions, categories, and filters.

- ii. Seamless enrollment process allowing users to sign up for courses of interest.

Video Classroom:

- i. Interactive video-based lessons with high-quality streaming and playback options.
- ii. Interaction with instructors through chat or comments.

Advanced Help and Support:

- i. Access to a knowledge base or FAQ section to address common queries.

Digital Books and Learning Materials:

- i. Online library of e-books, textbooks, research papers, and reference materials.

Assessments and Assignments:

- i. Online quizzes, tests, and assignments to assess knowledge and progress.

Downloadable Resources:

- i. Option to download course materials, videos, or interactive content for offline learning.
- ii. E-book downloads for offline reading.

Certification:

- i. Digital certificates or badges upon course completion or mastery of specific skills.

Collaboration Matrix

The collaboration matrix lists each participant's tasks and obligations for the E-Learning project. It describes how the tasks are distributed to the members of our project team. The matrix clearly identifies who is in charge of each task throughout the project.

Role / Task	Shahed	Humana	Aminul	Zannatul
-------------	--------	--------	--------	----------

Requirements Gathering	R	R		
User Research	R	R	R	R
Wireframe Design			R	R
Prototype Development		R		R
UI/UX Design	R			R
Front-End Development		R		R
Back-End Development	R		R	
Database Design		R	R	
User Acceptance Testing	R		R	
Deployment	R			R

R=Responsible in the Task

Blank = Not directly involved in the task

Fig: Collaboration Matrix

Process Model

An appropriate software development process paradigm for our "Chorcha Pod" would be the Agile model, more specifically the Scrum framework. This is why:

1. **Flexibility:** Scrum and other agile approaches encourage adaptability and flexibility, which is helpful when working on projects with changing requirements. like the project moves further, we can see adjustments or feature additions like an e-learning website. Agile's iterative development process and ongoing feedback help us accept these adjustments.
2. **Incremental Development:** Agile encourages incremental development, allowing us to produce usable software in brief periods of time called sprints. This strategy enables the regular delivery of functional website elements for e-learning, allowing us to demonstrate progress and get early feedback from stakeholders and users.

3. **Client Involvement:** Agile development approaches promote active client involvement at all stages of the process. This involvement guarantees that the client's requirements and vision are recognized and successfully carried out. A product that better fits the demands of the customer is the result of regular feedback and communication, which enables course adjustments and the adoption of customer preferences.
4. **Collaboration and Communication:** Scrum and other agile frameworks place a strong emphasis on teamwork. An effective e-learning website project requires open communication, which is encouraged by this collaborative environment. It makes it possible for developers, designers, content producers, and other project stakeholders to work together effectively.



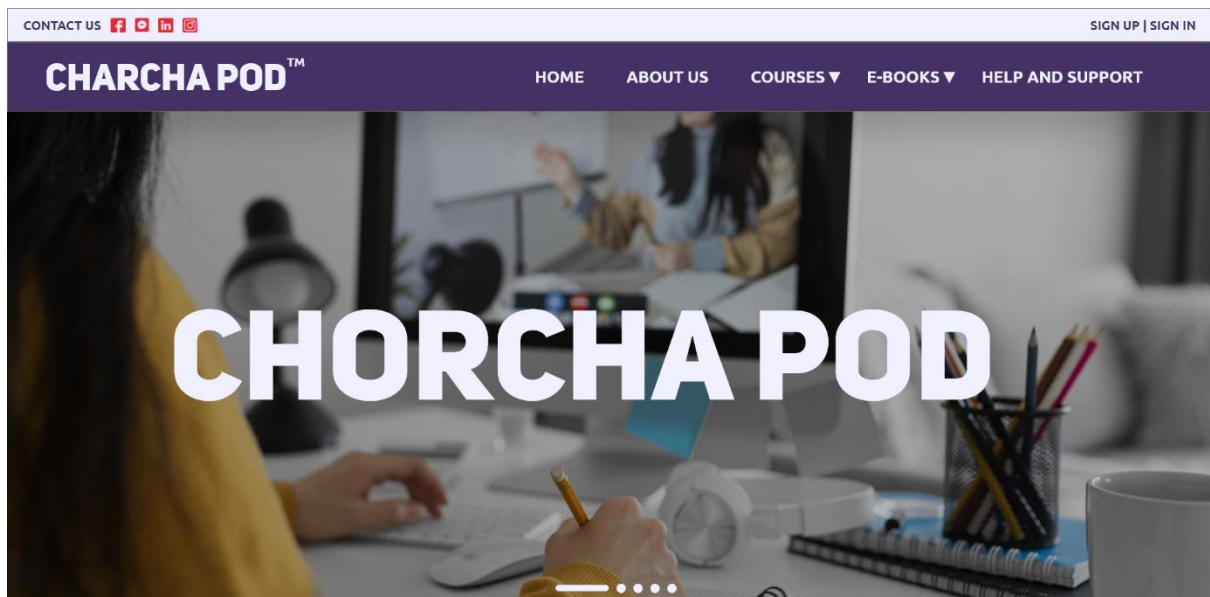
AGILE MODEL, SCRUM FRAMEWORK

5. **Early Issue Detection and Mitigation:** Agile techniques place a high priority on regular testing and quality assurance activities. Issues can be found early on by regularly testing and validating features during each sprint. This method aids in lowering the likelihood of serious flaws that compromise the e-learning website's general functionality.
6. **Time to Market:** Agile is an incremental methodology that enables quicker release of functional software. We can launch the website sooner by delivering functional

parts or functionality in iterations. This can be especially helpful in the cutthroat e-learning business, where a competitive edge is dependent on time to market.

It's necessary to modify and customize the procedures to match a team's unique demands and the project's requirements, even if Agile, and notably Scrum, is a suggested process model for e-learning website projects. To implement Agile approaches in the project in the most efficient way, take into account variables such team size, competence, customer availability, and the nature of the features.


User Stories



As a student, I want to be able to browse and enroll in courses offered on "Charcha Pod" so that I can expand my knowledge and skills.

Feature: Course listing with detailed descriptions, instructor information, and enrollment options.


ALL COURSES



COURSE TITLE

DESCRIPTION ACFHBD DHFB HBFCHBHB HHBGC
CHBCHBBBA CHABC ABBFDC DFJHJF SJJFAAK
DFJDFJDJFFDDFAKAKFAKAF


ENROLL NOW
SEE DETAILS



COURSE TITLE

DESCRIPTION ACFHBD DHFB HBFCHBHB HHBGC
CHBCHBBBA CHABC ABBFDC DFJHJF SJJFAAK
DFJDFJDJFFDDFAKAKFAKAF

ENROLL NOW
SEE DETAILS



COURSE TITLE

DESCRIPTION ACFHBD DHFB HBFCHBHB HHBGC
CHBCHBBBA CHABC ABBFDC DFJHJF SJJFAAK
DFJDFJDJFFDDFAKAKFAKAF

ENROLL NOW
SEE DETAILS

COURSE TITLE



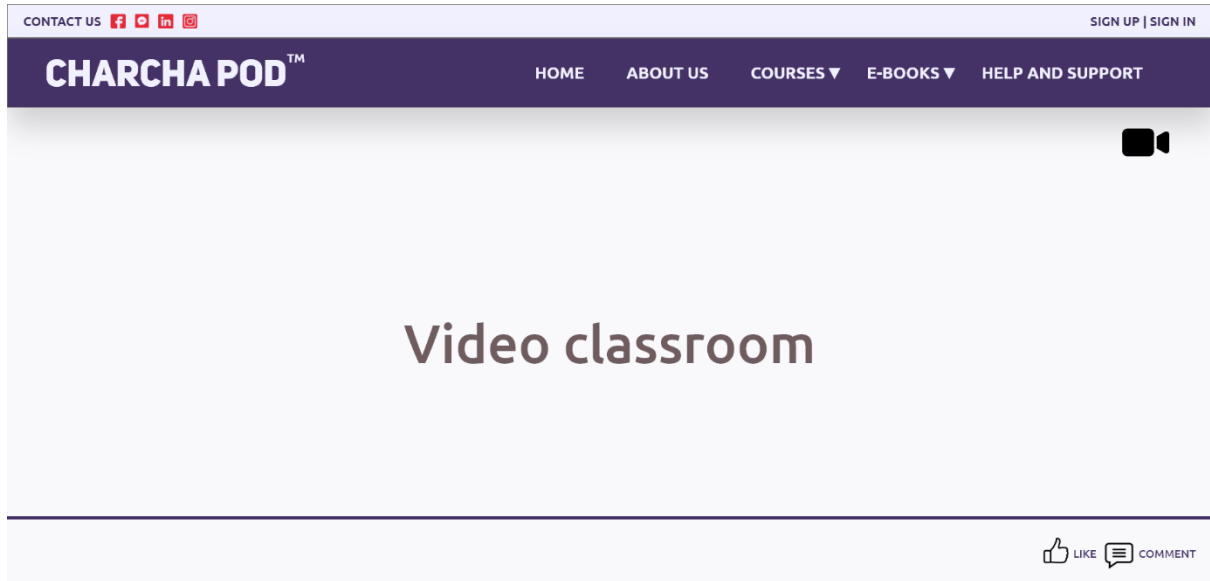
DESCRIPTION

ACFHBD DHFB HBFCHBHB HHBGC
CHBCHBBBA CHABC ABBFDC DFJHJF SJJFAAK
DFJDFJDJFFDDFAKAKFAKAF

[ENROLL NOW](#)
[ADD to CART](#)

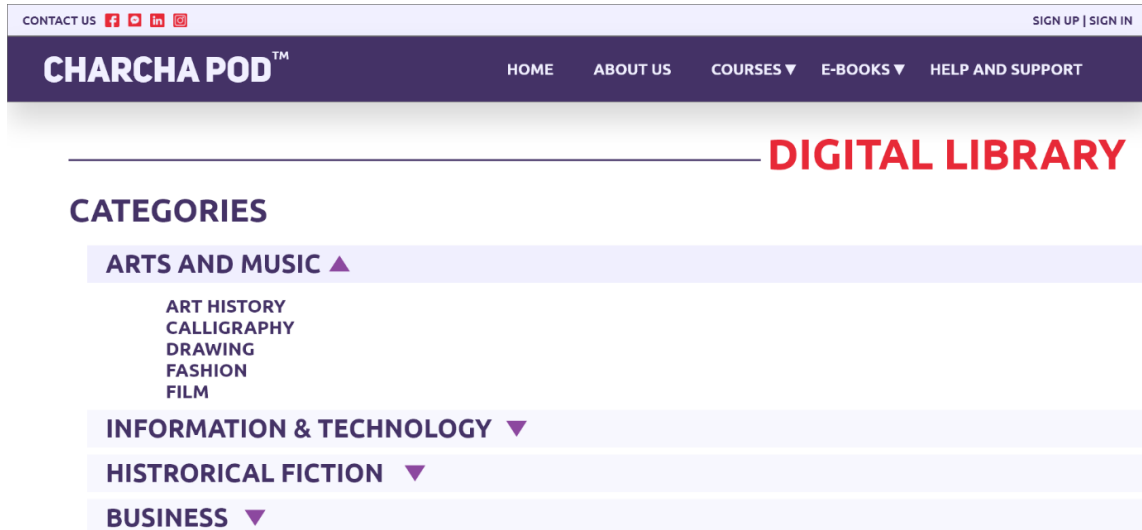
As a student, I want to have access to a video classroom on "Chorchha Pod" where I can watch lectures and participate in interactive sessions.

Feature: Video classroom with live streaming or pre-recorded lectures, chat functionality, and real-time interaction with instructors and fellow students.



As a student, I want to have access to digital books and learning materials on "Charcha Pod" that supplement my course content.

Feature: Digital library with e-books, PDFs, slides, and other resources related to the courses offered.



As a student, I want to have access to assessments and assignments on "Charcha Pod" to evaluate my understanding and progress.

Feature: Online assessments and assignments with automated grading and feedback.

ASSIGNMENTS

DESCRIPTION

ACFHB D HFB HBFCHBHB HHBGC SFDGGFN FGJJJJJJJ FDDDDDDDDDDDDDDG KDSSSSS DKFFF FJJJJJJJJG
CHBCHBBBA CHABC ABBFDC DFJHJF SJJFAAK NJJJJJJJJJJJJ FGJKBSDKGB GKBKVBKNDKJF KJGBJKFB KBG
DFJDFJJDJFFDDFAKAKFAKAF DBBF....

DGFNBHKBNLKJGNBJKLDFG SHDFGBHBF SKHGHGFBGDF SGBHFBHGBHDFGBHB SHKGBHBGBSG MSGHHSFGBSD
 GSGFGFGFHFH.

GFGFGSDGSGFGS FGRSBHJGBFG SGHFGBHFDS

ATTEMPT

MAY BE LATER

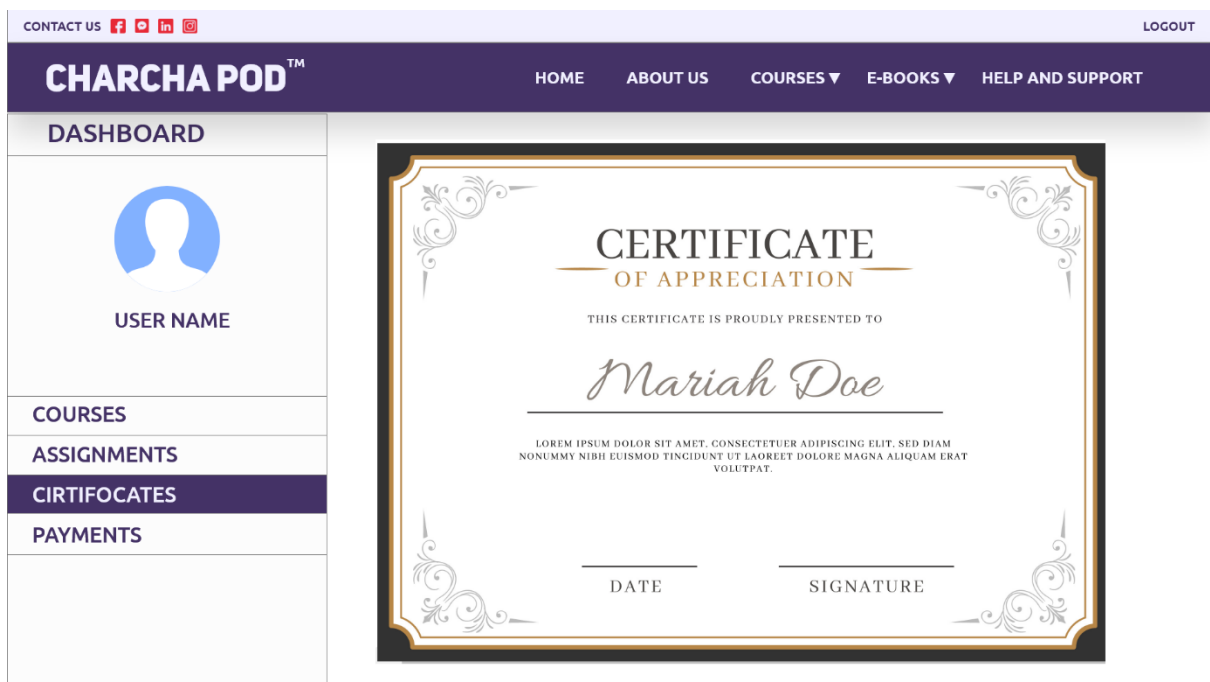
As a student, I want to view my personal learning analytics on "Chorchá Pod", including my course progress, grades, and performance statistics. I want to be able to download resources from "Chorchá Pod" for offline access or further study.

Feature: Downloadable resources section where students can access supplementary materials. Personal learning dashboard with visual representations of progress, grades, and performance metrics.



As a student, I want to receive certifications and accreditations for completing courses on "Chorch Pod", which can enhance my professional profile.

Feature: Certification and accreditation system that awards students with digital certificates upon course completion.



As an instructor, I want to have access to analytics and reports on "Chorch Pod" to monitor student performance and engagement.

Feature: Instructor dashboard with analytics, reports, and insights into student progress, grades, and participation.

As an administrator, I want to be able to manage user accounts, courses, and content on "Chorch Pod". I want to be able to generate reports on student performance and engagement across courses on "Chorch Pod", so that I can analyze trends and make data-driven decisions.

Feature: Administration panel with user management, course management, and content moderation capabilities. Reporting and analytics dashboard for administrators to view aggregated data on student performance, course popularity, and engagement metrics.



Function point Ranking According to Complexity

Table 1.1: Weights of 5-FP Attributes

Measurement Parameter	Low	Average	High
Number of external inputs, EI	7	10	15
Number of external outputs, EO	5	7	10
Number of external inquiries, EQ	3	4	6
Number of internal files, ILF	4	5	7
Number of external interfaces, EIF	3	4	6

Calculate Unadjusted Function Point (UFP)

Estimate the Complexity Values for each Functional Point Components:

1. External Inputs (EI)

- Admin sign in: (Low)
- Add new courses: (Average)
- Update Course: (Low)
- Show all Courses: (Low)
- Delete Course: (Average)
- Add new materials: (Low)
- Show all materials: (Low)
- Delete materials: (Low)
- New teacher signs in: (Low)
- Update teacher details: (Low)
- Show teacher details: (Low)
- Delete teacher details: (Average)
- New user sign in: (Average)
- Update user's details: (Low)
- Show user's details: (Low)
- Delete user's details: (Low)
- Add user's Evaluation: (Low)
- Add teachers for help and support: (Average)
- Search in daily enrollment: (Low)
- Search user's details for calculate Payments: (Low)
- Search user's Personal Learning Analytics for Certification: (Low)
- Payment Clips: (Low)
- User Certification: (Low)

Total Weighing Factor for **EI**: $7*18+10*5+15*0=174$

2. External Outputs (EO)

- Add new courses: (Average)
- Update Course: (Low)
- Show all Courses: (Low)
- Delete Course: (Average)
- Add new materials: (Low)
- Show all materials: (Low)
- Delete materials: (Low)
- Update teacher details: (Low)
- Show teacher details: (Low)
- Delete teacher details: (Average)
- Update user's details: (Low)
- Show user's details: (Low)
- Delete user's details: (Low)
- Add user's Evaluation: (Low)
- Add teachers for help and support: (Average)
- Search in daily enrollment: (Low)
- Search user's details for calculate Payments: (Low)
- Search user's Personal Learning Analytics for Certification: (Low)
- Payment Clips: (Low)
- User Certification: (Low)

Total Weighing Factor for **EO**: $5*16+7*4+10*0=104$

3. External Inquiries (EQ)

- Show all Courses: (Low)
- Show all materials: (Low)

- Show teacher details: (Average)
- Show user's details: (Low)
- Search in daily enrollment: (Average)
- Search user's details for calculate Payments: (Average)
- Search user's Personal Learning Analytics for Certification: (Average)

Total Weighing Factor for **EQ**: $3*3+4*4+6*0=25$

4. Internal Logical Files (ILF)

- Admin: (Low)
- Course Information Management: (Average)
- Metatrails Information Management: (Average)
- User Information Management: (Average)
- Teacher Information management: (Low)
- Everyday Enrollment Management: (Low)
- Quality Control Management: (Average)

Total Weighing Factor for **ILF**: $4*3+5*4+7*0=32$

5. External Interface Files (EIF)

- Print (Payment slip + Certification): (Average)

Total Weighing Factor for **EIF**: $3*0+4*1+6*0=4$

Table 1.2: Computing weighting factor

Measurement Parameter	Weighing Factor
Number of external inputs, EI	174
Number of external outputs, EO	104
Number of external inquiries, EQ	25
Number of internal files, ILF	32
Number of external interfaces, EIF	4
	Total Count: 339

So, UFP = 339

Calculate Complexity Adjustment Factor (CAF)

Table 2: 14-factors

General System Characteristics	Degree Of Influence (DI)
1. Data Communications	4
2. Distributed Data Processing	0
3. Performance	4
4. Heavily User Configuration	3
5. Transaction Rate	0
6. Online Data Entry	5
7. End-User Efficiency	5
8. Online Update	4
9. Complex Processing	4

10. Reusability	4
11. Installation Ease	0
12. Operational Ease	4
13. Multiple Sites	0
14. Facilitate Change	3
Total degree of influence	TDI: 40

0 – Not present ; 1 – Insignificant ; 2 – Moderate; 3 – Average; 4 – Significant; 5 – Essential

So, CAF = $[0.65 + (0.01 * \text{TDI})] = [0.65 + (0.01 * 40)] = 1.05$

Calculate Functional Points (FP)

So, FP = $\text{UFP} * \text{CAF} = 339 * 1.05 = 355.95$

Gantt Chart

The timetable and timeline of the tasks involved in a project are visually represented by a Gantt chart, which is a helpful project management tool. A Gantt chart will allow us to efficiently execute our website project, "Chorchha Pod," by allowing us to monitor the development of numerous tasks. Project timelines, task dependencies, milestones, resource allocation, progress monitoring, critical path analysis, collaboration, and updates/adjustments are all visually represented using Gantt charts.

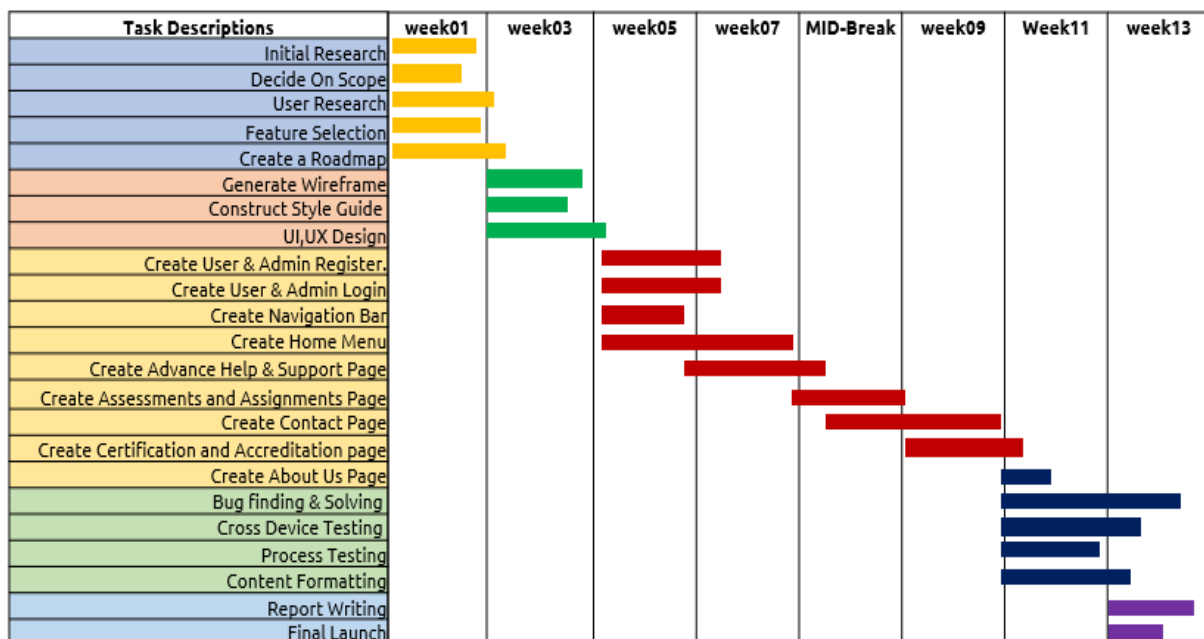
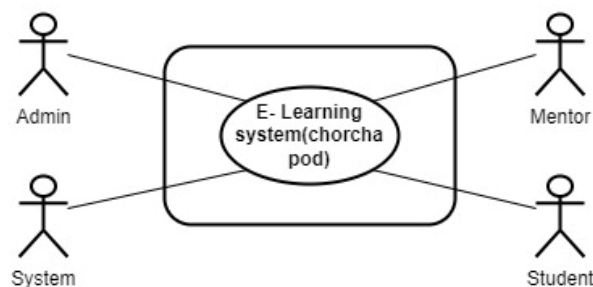


Fig 4.1: Gantt Chart of “Chorchha pod

Use case Diagrams

Level-0 use case - system



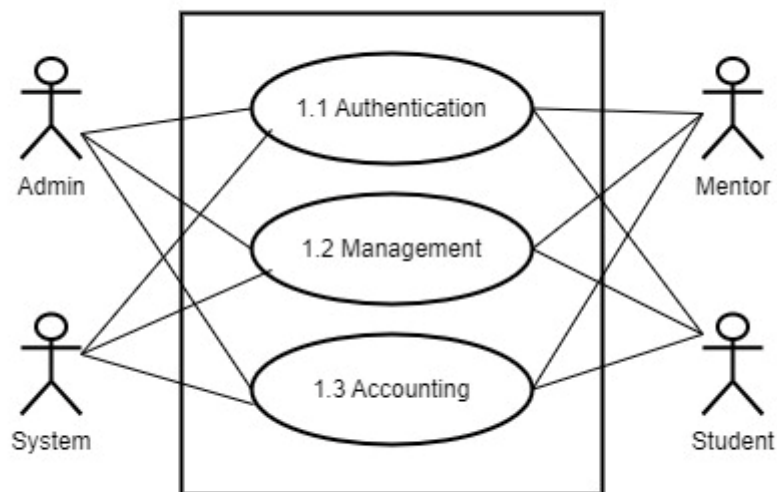
Level-0 Use case-system

Description:

There are 3 actors who interact with the system. Primary actors are those who will play action and get a reply from the system whereas secondary actors only produce or consume information. The actors are -

1. Admin
2. Mentor
3. Student

Level-1 use case – Sub system



Level-1 Use case-sub system

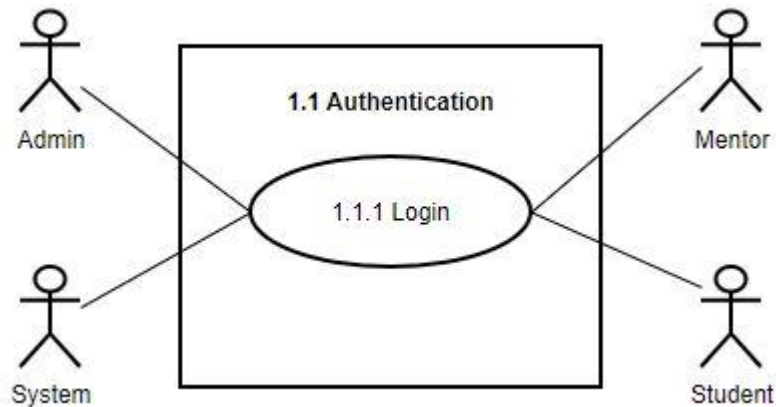
Description:

There are three subsystems in the E-learning system (“Chorcha Pod”). They are:

1. Authentication
2. management
3. Accounting

Subsystems are decomposed, in levels 1.1, 1.2 and 1.3 respectively

Level-1.1 use case - Authentication



Level-1.1 Use case-authentication

Description:

When the admin, mentor or student wants to log in, he needs to enter the username and password. If the username and password match, then, the login is successful “Login successful” message is shown. The system shows an error message if the username or password, or both are wrong and the user can try again to log into the system.

Action Reply:

User (Admin, Mentor, Student):

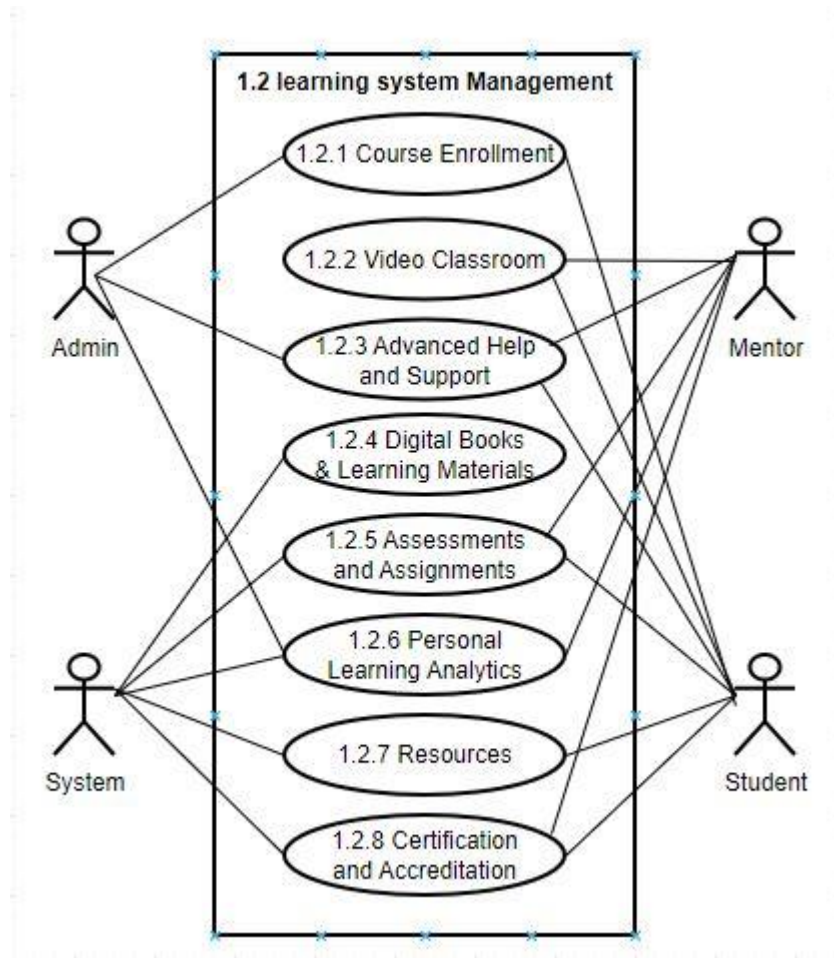
A1: User provides username and password

R1: System checks validity. If the username and password is valid, the system will allow the user to log into the account.

A2: User provides invalid information.

R2: The system will show an error message and allow the user to try again.

LEVEL-1.2
USE CASE - management

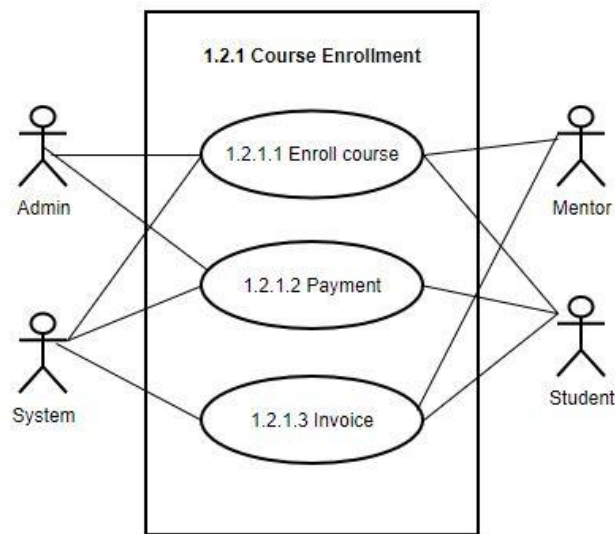


Level-1.2 Use case- management

Description:

Here all the managements will occur. From here Students can enroll to course, join video classroom, get support, resources and certificates. Mentors will also do their activities.

Level-1.2.1 use case – course enrollment



Level-1.3 Use case- course enrollment

Description of Use case diagram level-1.3:

Students can make payment from here and also get invoice. Mentors will also get invoice of getting their payment.

Action Reply:

User (Student, Mentor):

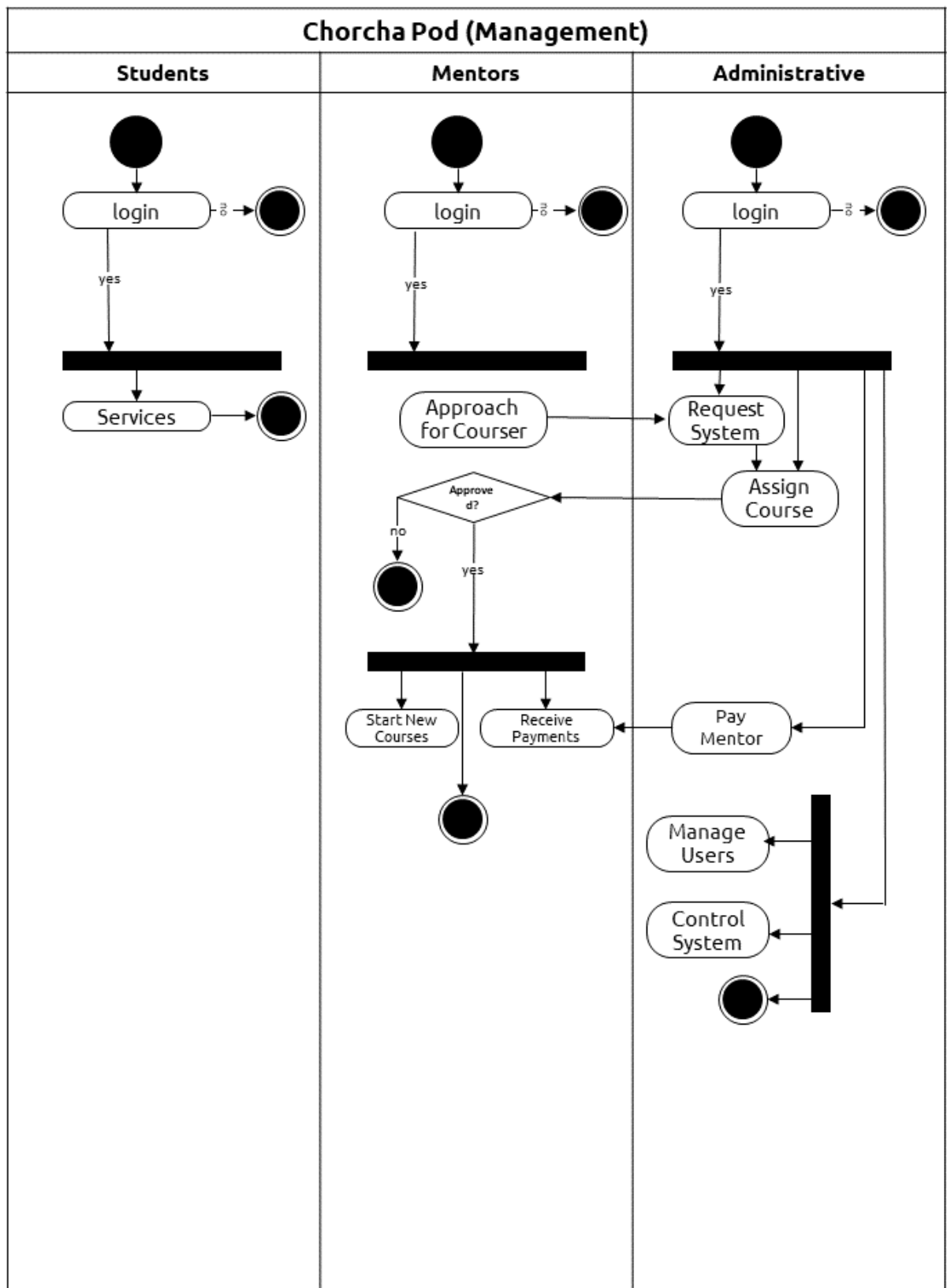
A1: User selects payment

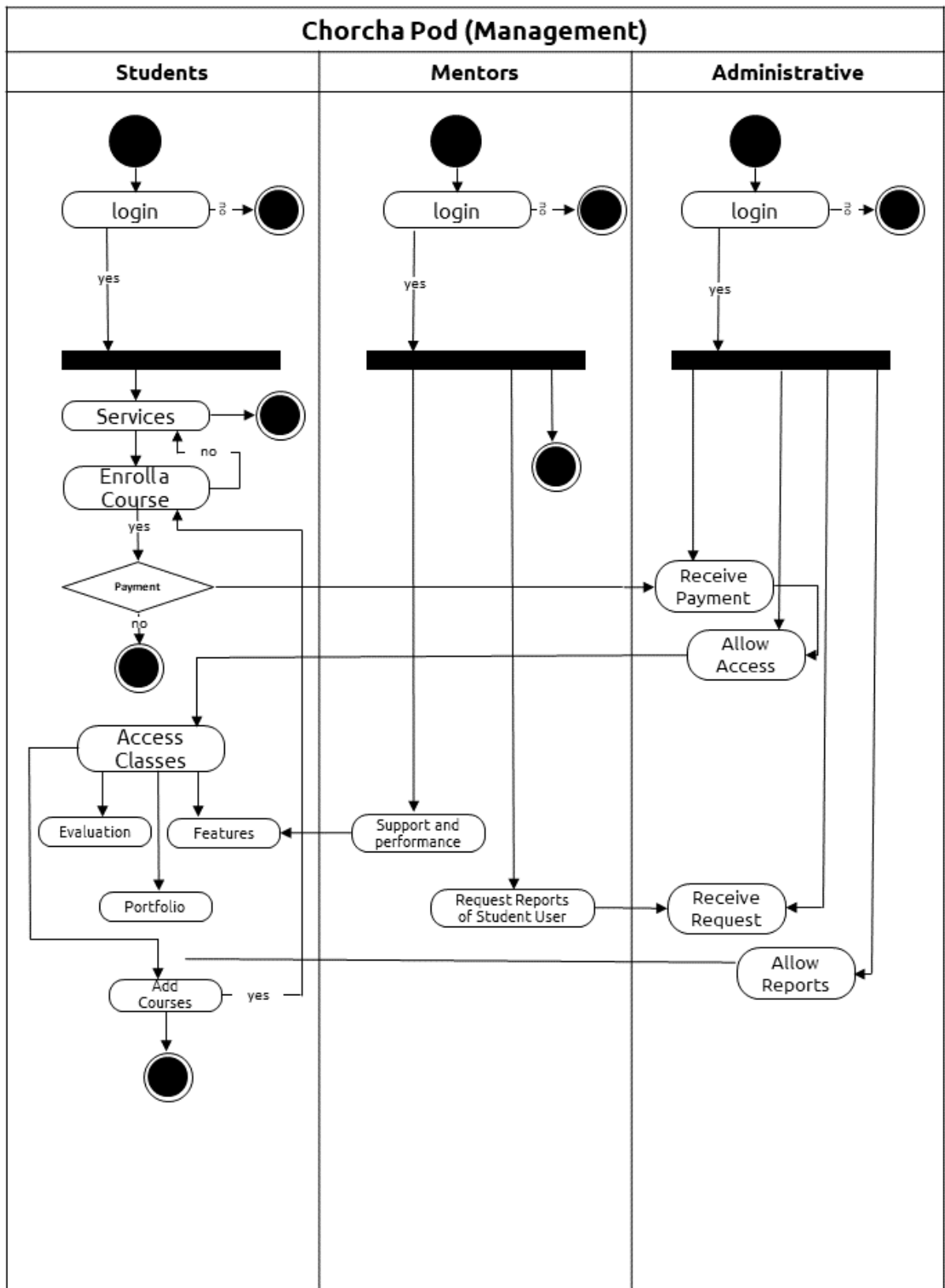
R1: The system acts accordingly and show the details.

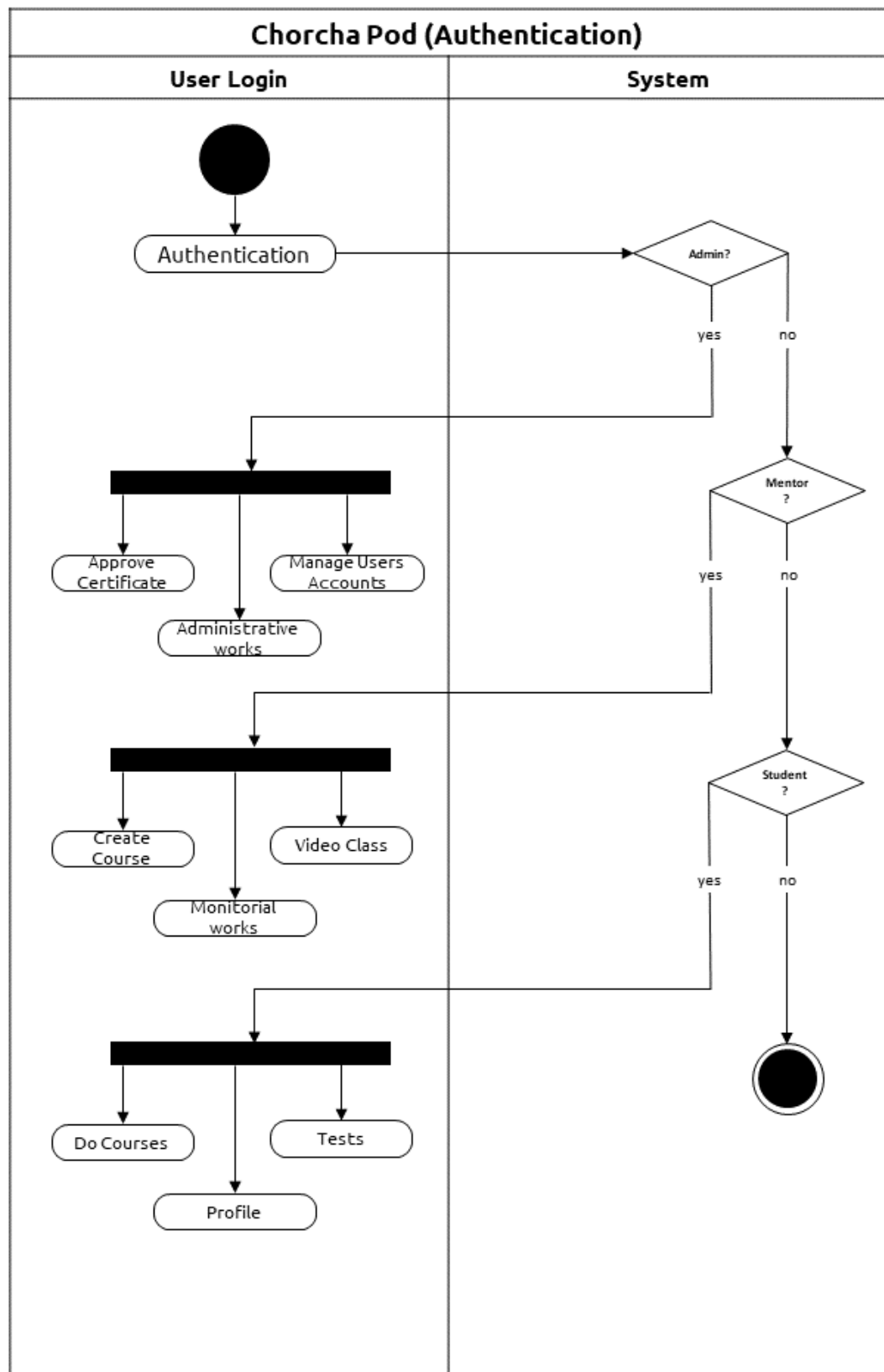
A2: User selects the invoice

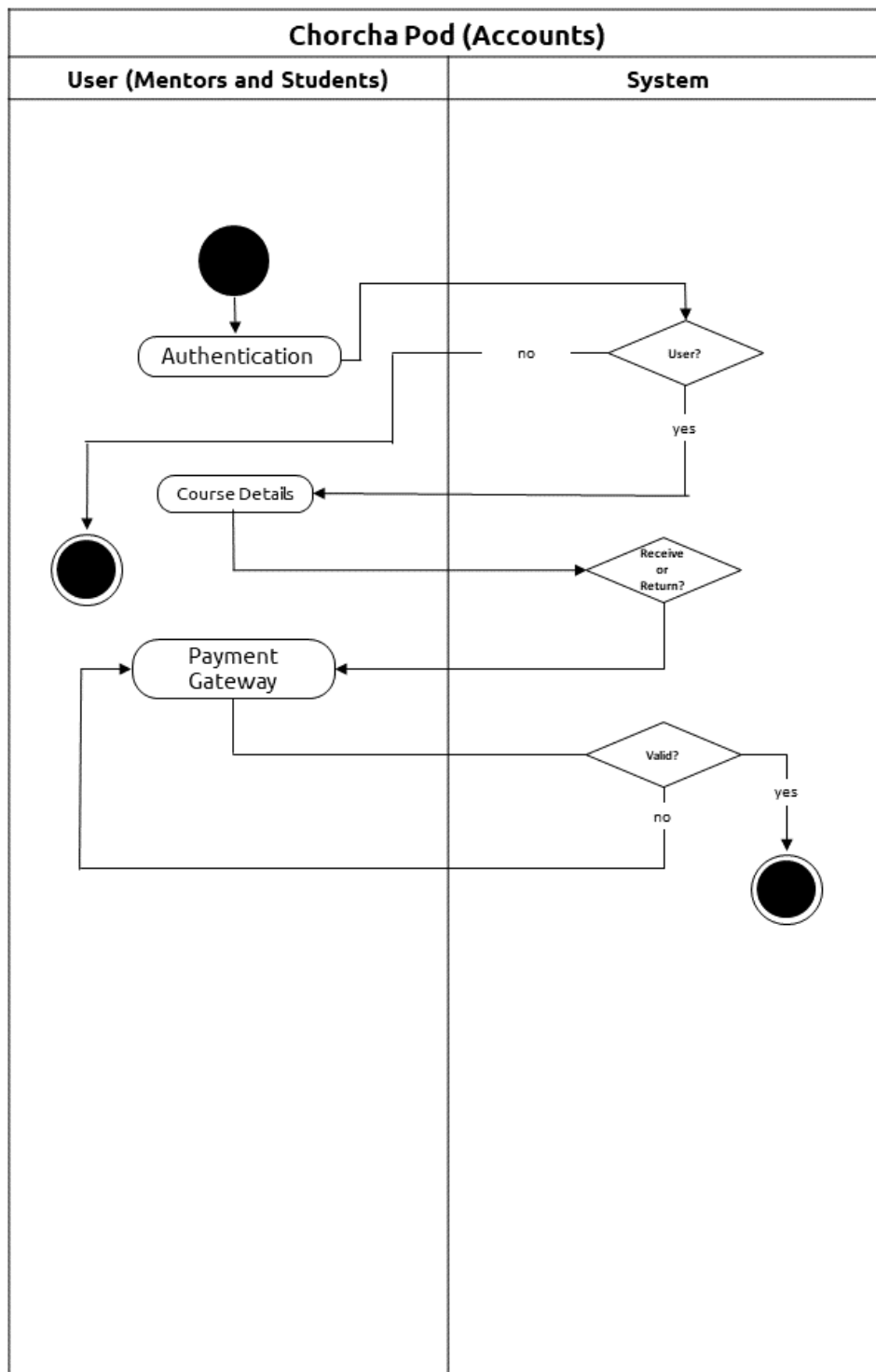
R2: The system will generate a PDF of the invoice for the users.

Swimlane Diagram

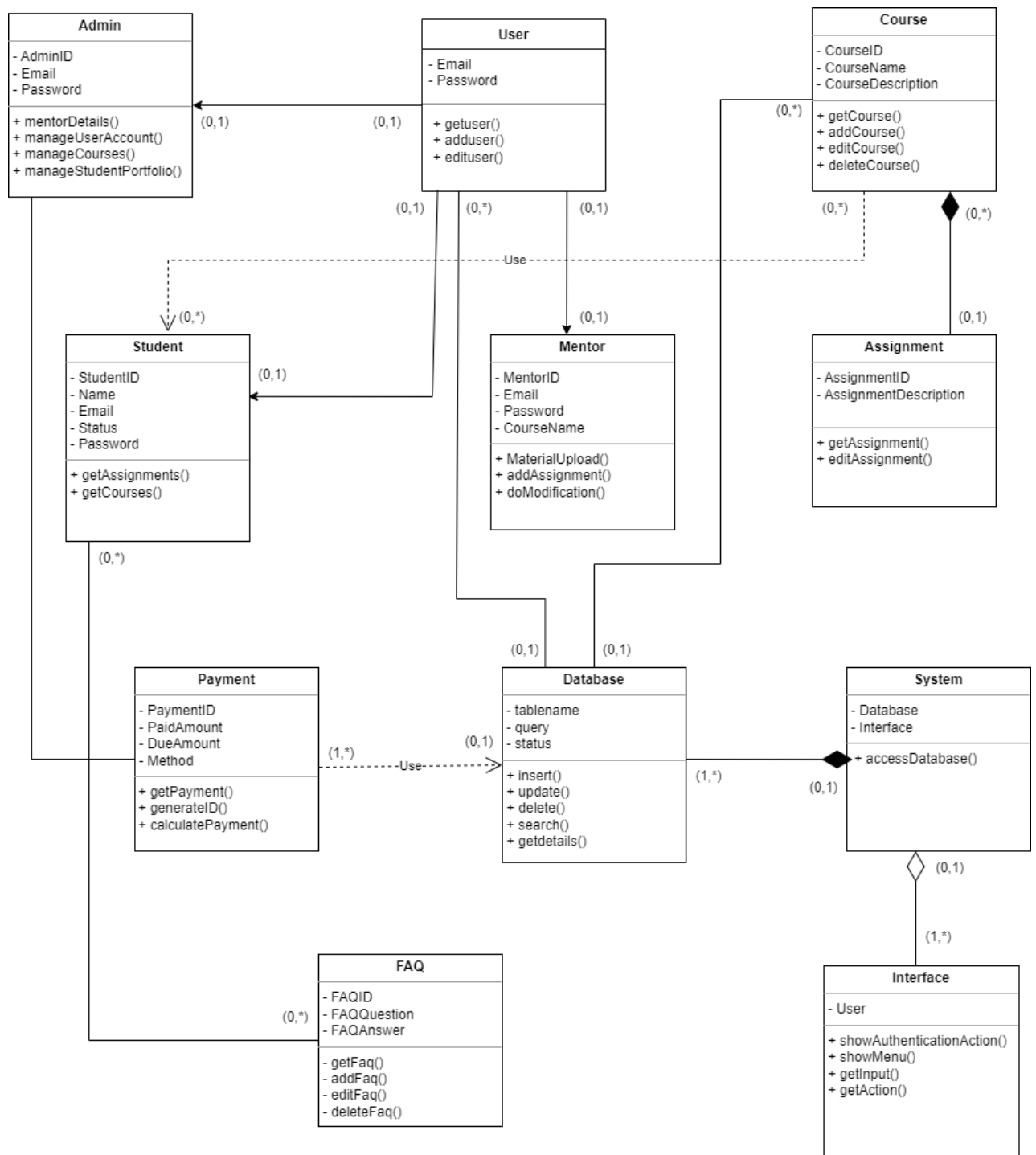








Class Diagrams



State Diagram

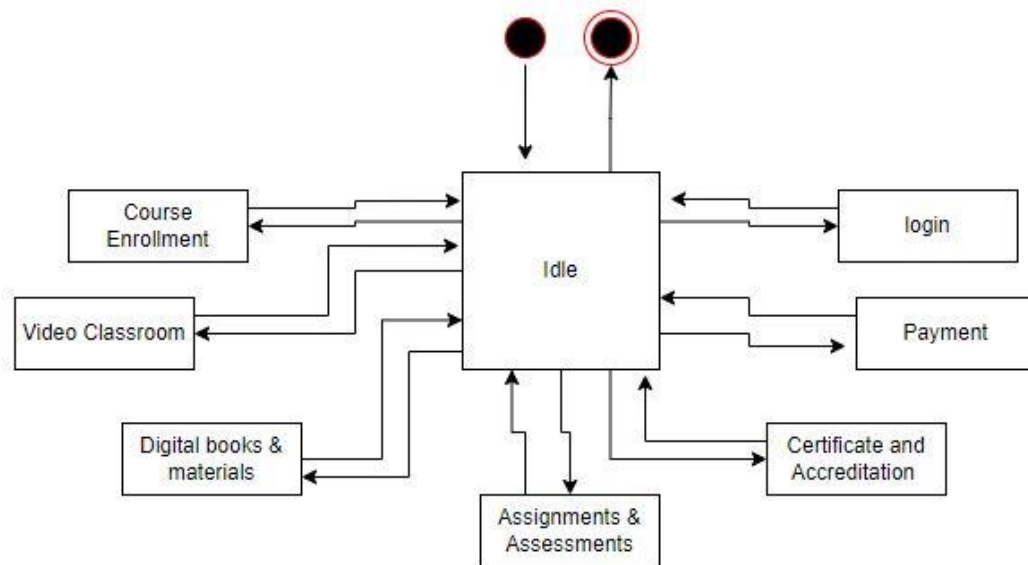


Figure 1

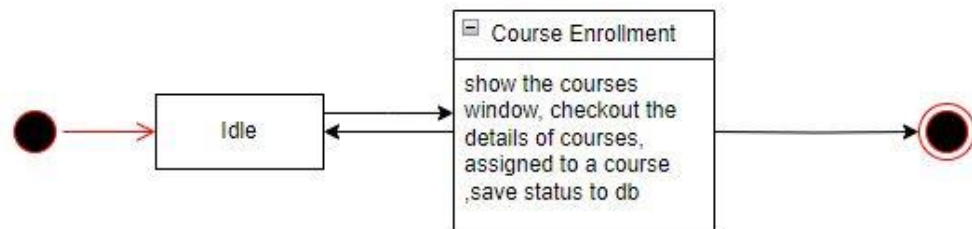


Figure3

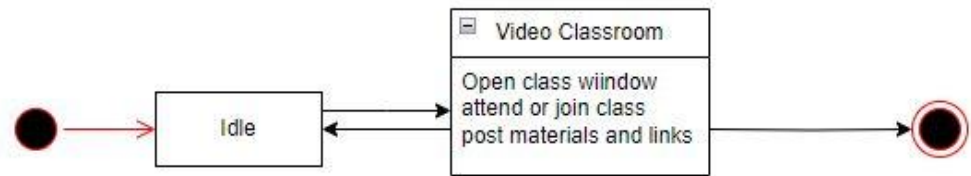


Figure4

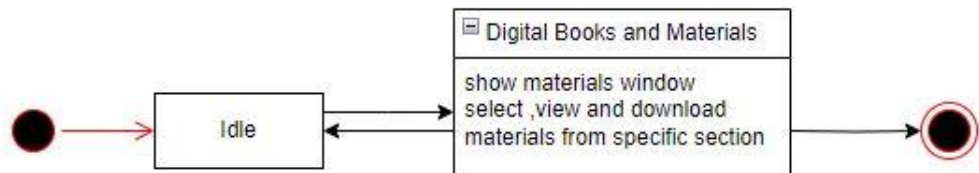


Figure5

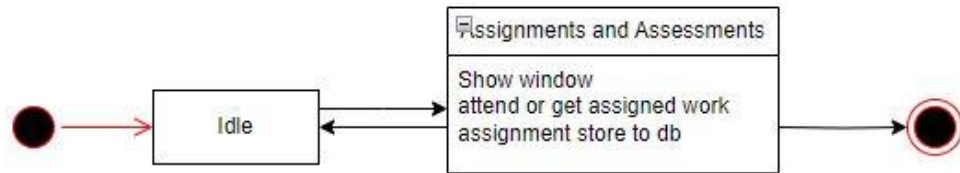


Figure6



Figure7

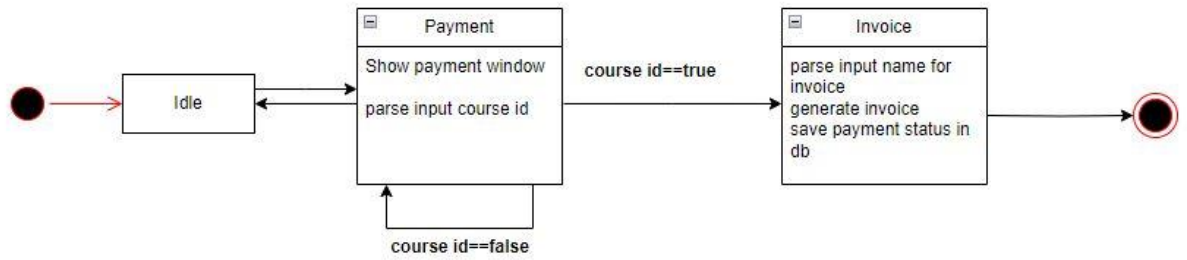
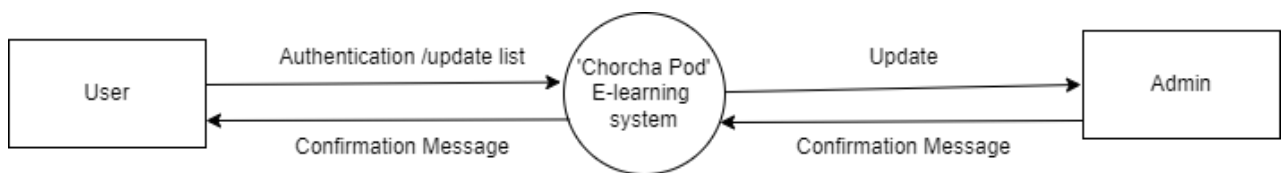
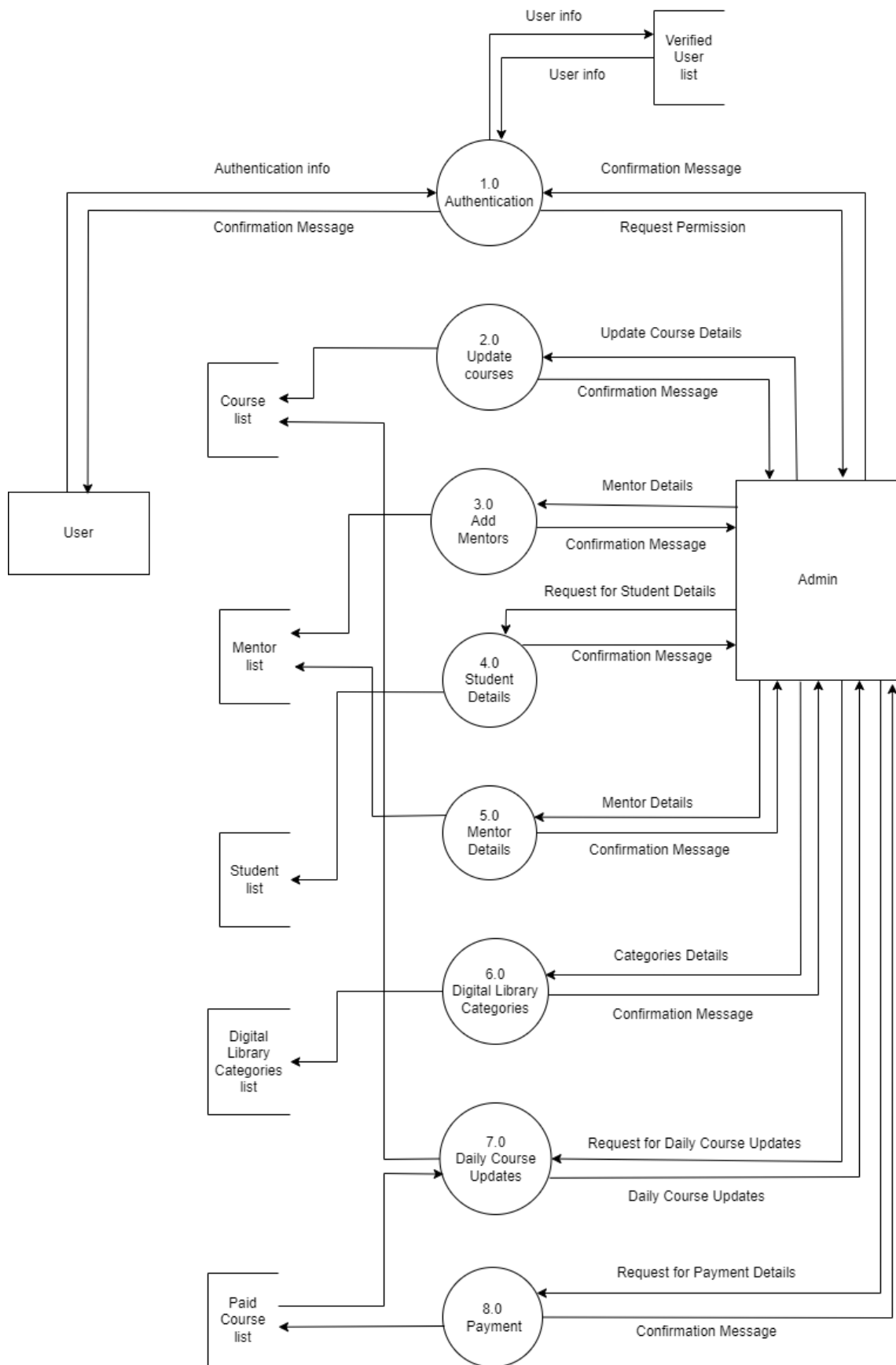


Figure8

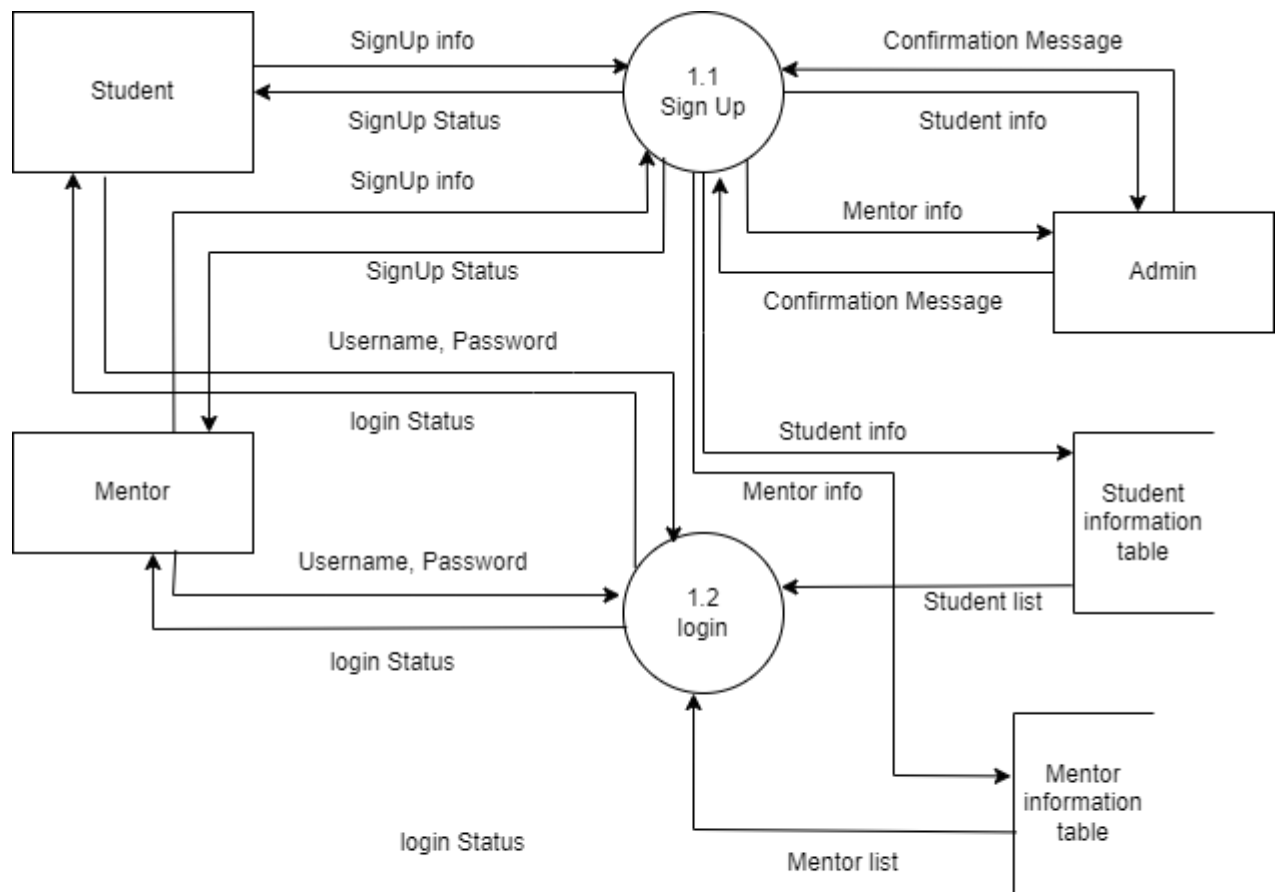
Data flow diagram



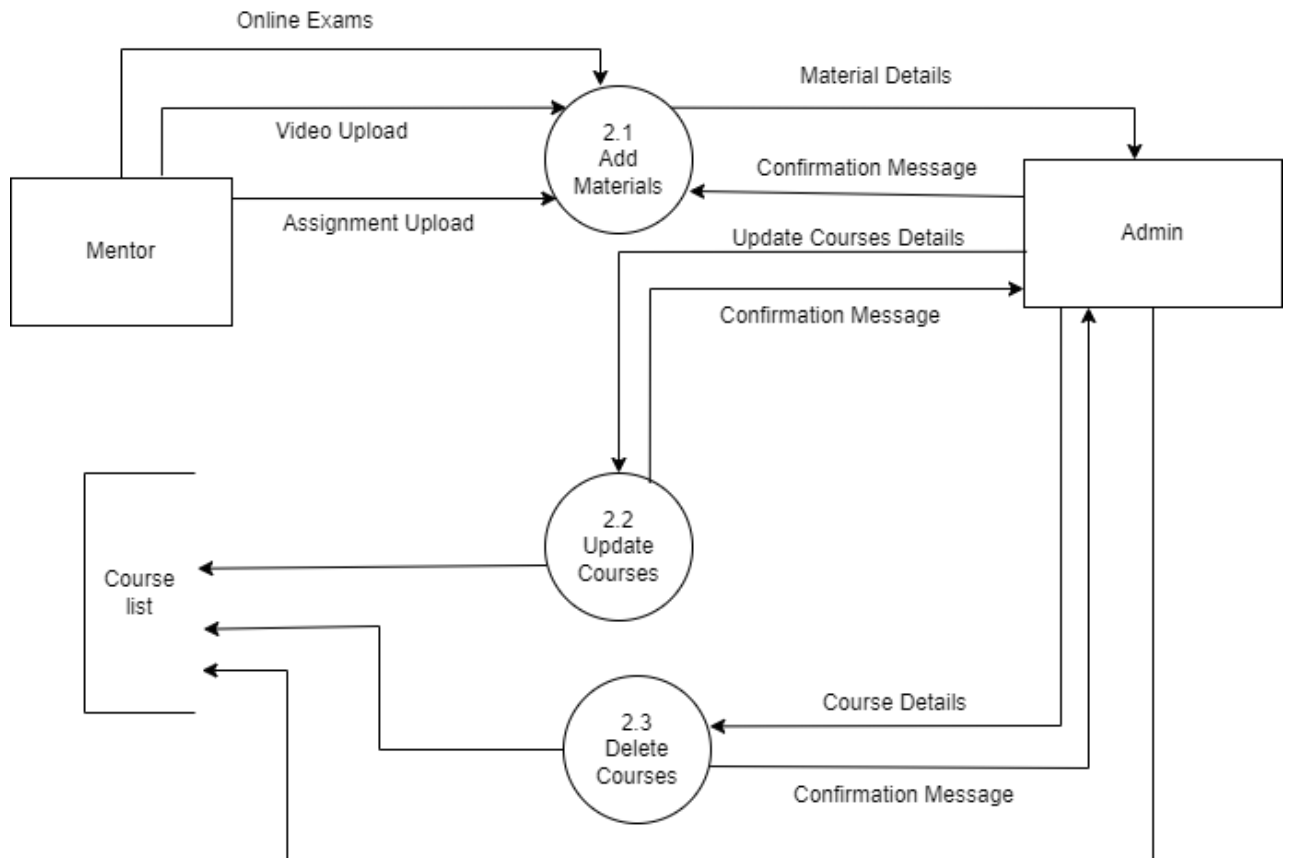
Fig(1)



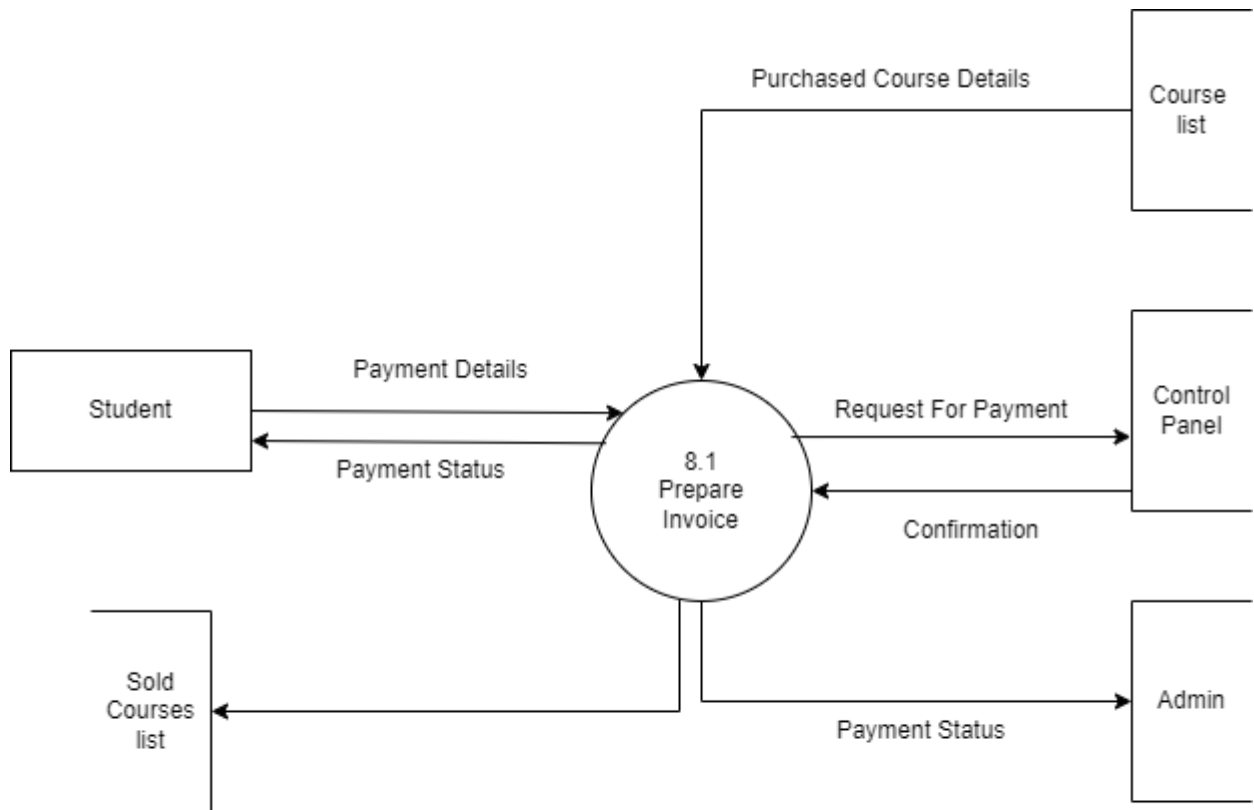
Fig(2)



Fig(3)



Fig(4)



Fig(5)

Sequence diagram

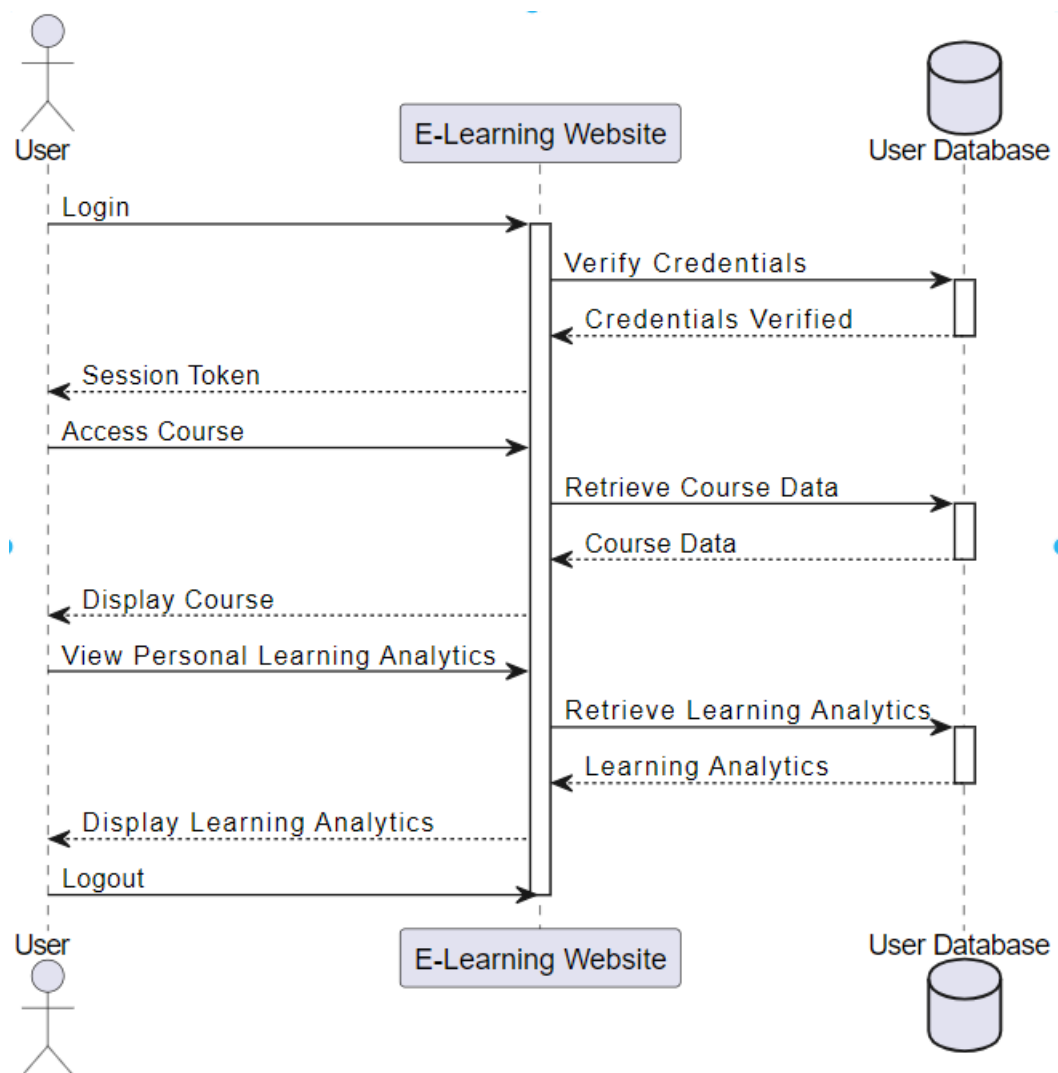


Figure: Login

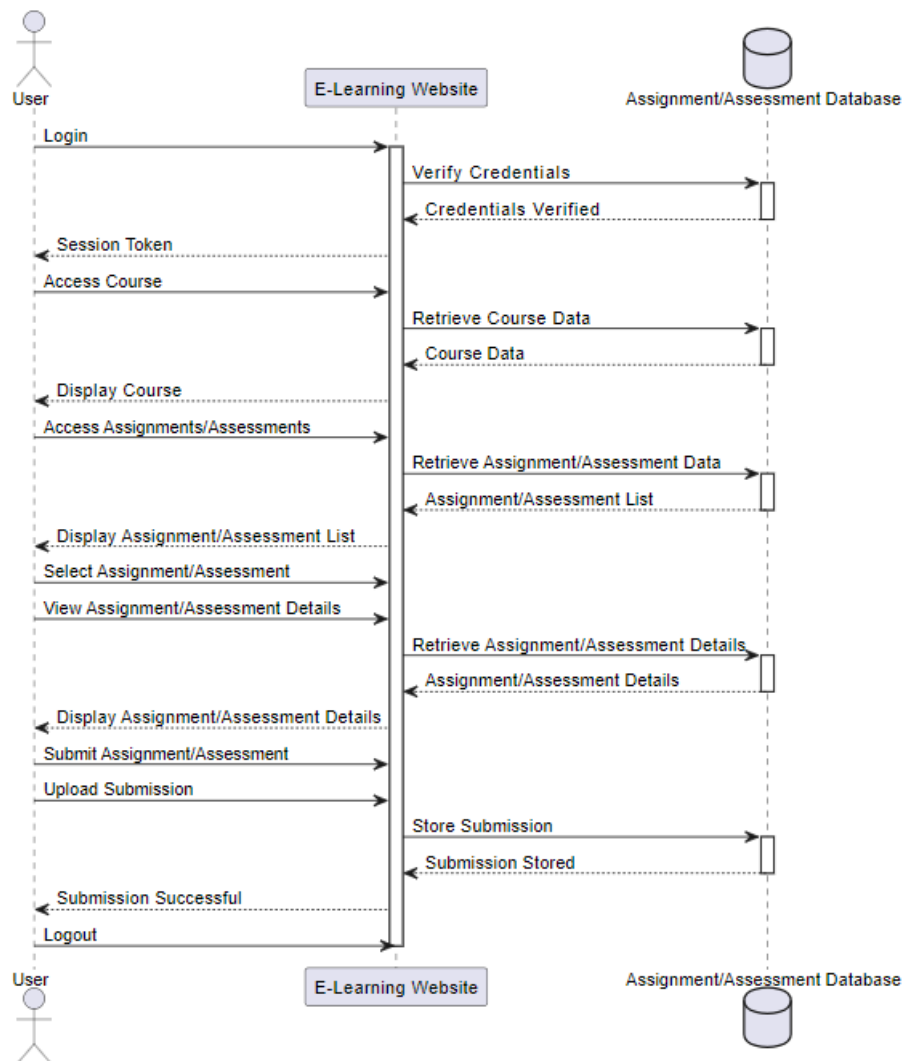


Figure: Assignments and Assessments

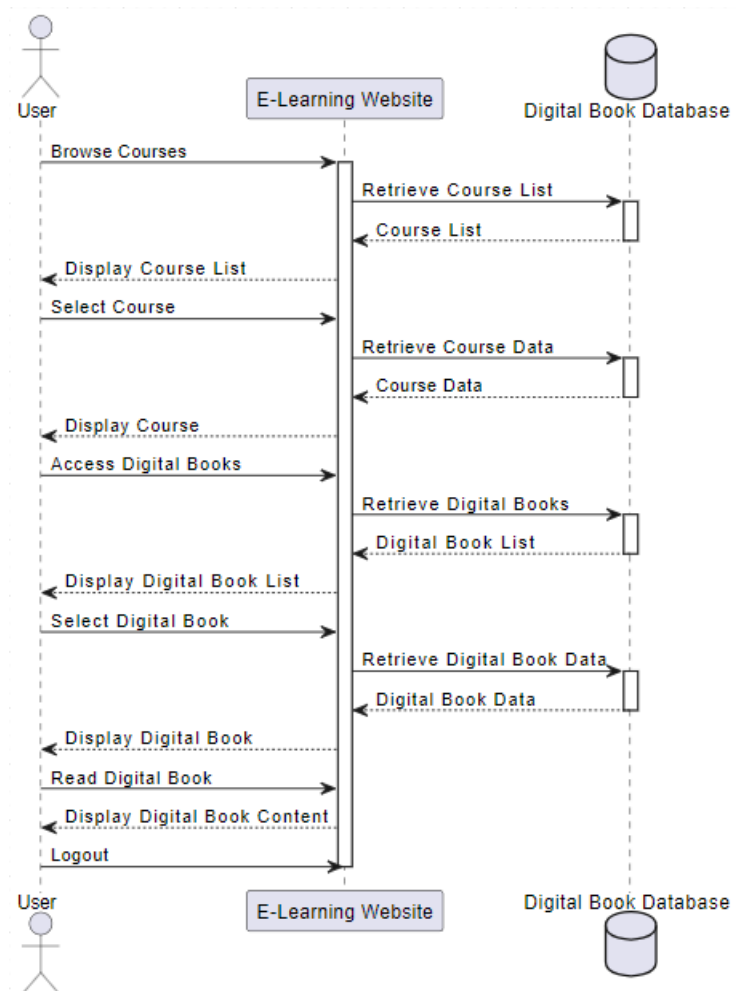


Figure: Digital Books and Materials

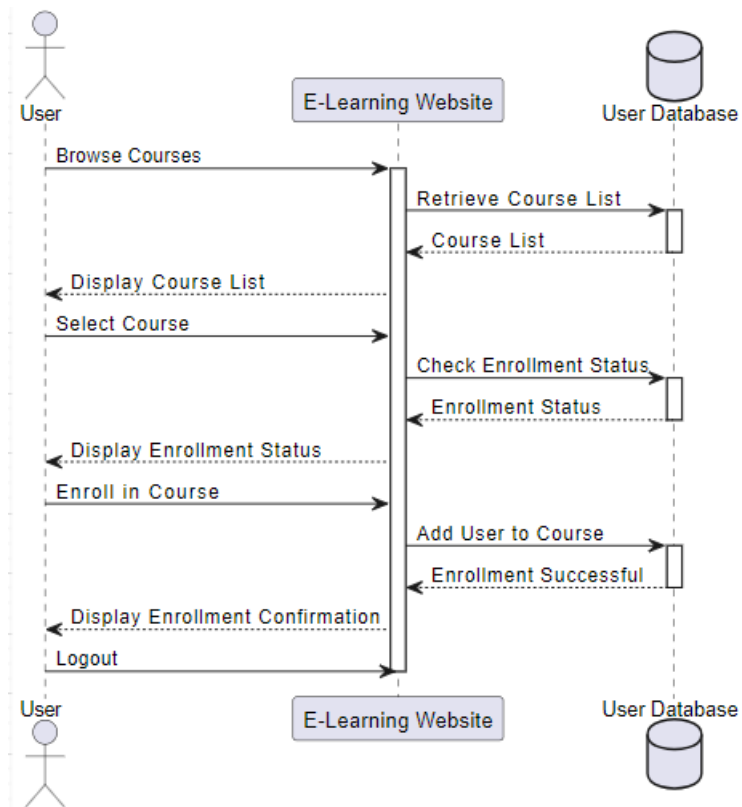


Figure: Course Enrollment

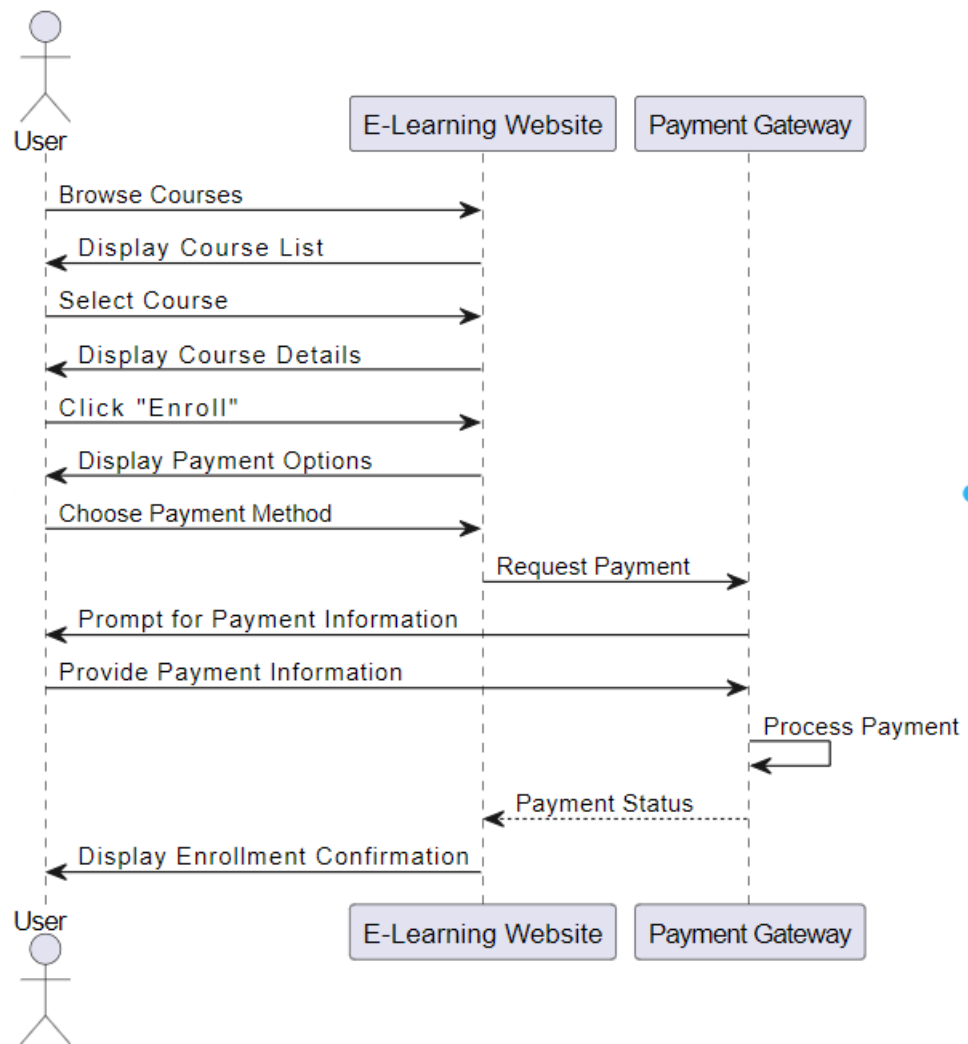


Figure: Payment

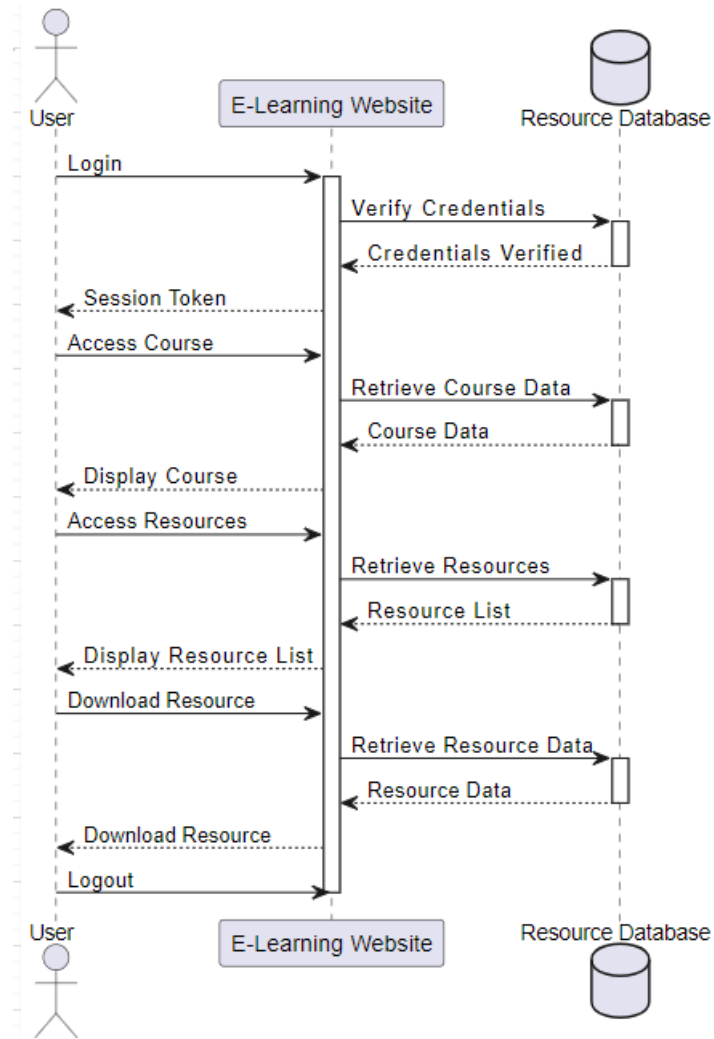


Figure: Resources

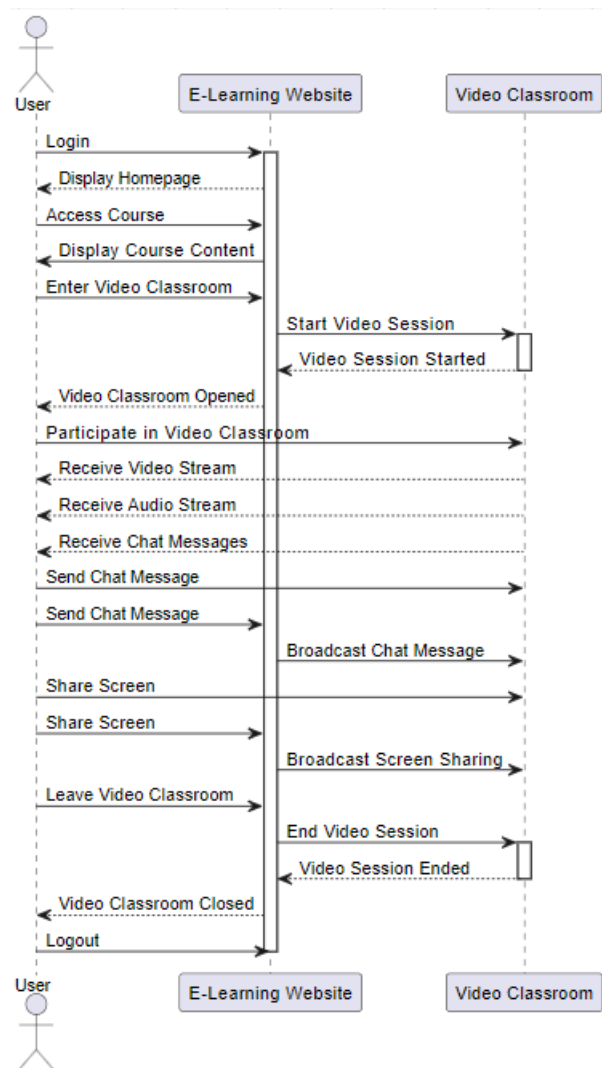


Figure: Video Classroom

Conclusion

A comprehensive set of features and functionalities are available on the cutting-edge e-learning platform Chorch Pod, which helps users get the most out of their study. It offers a user-friendly interface, interactive video classrooms, help and support, a large selection of digital books and learning materials, assessments and assignments, certification and accreditation, and many more features. Immersive learning experiences are promoted by the video classrooms, and users are guaranteed prompt assistance when needed by the feature of help and support infrastructure. The learning process is further enhanced by the accessibility of a wide variety of digital books and educational resources, and the community platform and discussion forums promote teamwork, knowledge sharing, and peer support. Users may make wise decisions and consistently enhance their learning outcomes by the insightful information that personalized learning analytics give them about their progress. Users' accomplishments are validated by the certification and accreditation function, which gives them concrete evidence of the skills and knowledge they have acquired.