ShareEdu

By

ID NO.	Name
17CEUON061	Moxank Patel
17ITUBN022	Kashyap Tamakuwala

A project submitted

as

a part of term work

Faculty of Technology

Department of Computer Engineering

Dharmsinh Desai University

CERTIFICATE

Faculty of Technology

Department of Computer Engineering

Dharmsinh Desai University

This is to certify that the project work titled

ShareEdu

is bona fide work done by

Moxank Patel (17CEUON061),

Kashyap Tamakuwala (17ITUBN022)

carried out in the partial fulfillment of term work for the subject Advanced Technologies in

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DR C. K. Bhensdadia	**Prof. Pinkal Chauhan**	**Prof. Prashant Jadav**
Dept. Of Computer Eng.	Dept. Of Computer Eng.	Dept. Of Computer Eng.

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Abstract

"Education is the best friend. An educated person is respected everywhere. Education beats the beauty and the youth." --Chanakya

Knowledge plays one of the most important roles in a person's life. But with time the cost of education has also increased. So, through the medium of ShareEdu we are trying to provide education free of cost for those who are eager to learn and want to develop skill.

Shareedu is an online learning platform built using latest web technology like **Angular, Node, Typescript**. ShareEdu uses **mongo dB** which help us to store data and achieve scalability for the application.

Shareedu is platform where the users can access courses, videos, notes and textbooks (provided by various experienced professor from different institutions present all over the world) without any cost from anywhere in the world.

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INTRODUCTION

Shareedu is an online e-learning site that provides free of cost courses and materials to every user. These courses are designed by various experienced professor such that every course helps user to gain skill which would benefit them in various ways.

Shareedu uses various web technology and was developed using various tools as listed below.

Technologies

1. Node.js
2. Mongo dB
3. Angular
4. jQuery
5. JavaScript
6. HTML
7. CSS

Tools

1. Visual Code
2. Mongo Db Compass, Shell
3. Postman

SOFTWARE REQUIREMENT SPECIFICATION

Types of Users:

1. Admin
2. Student
3. Teachers

Functional Requirement

1. General Requirements:

R.1.1: Login:

Description: User Login with given id and password

Input: User Id and Password

Output: Show error if any or allows user to continue further

R.1.2: Signup:

Description: User enters name, emuellid, password and get registered.

Input: name, email id, password.

Output: Display message

R.1.3: About Us:

Description: Information about developer, contact information etc.

Input: User Click

Output: Displays Information

R.1.4: Pricing:

Description: Displays selected course pricing.

Input: User selects course.

Output: Course details and price is shown.

R.1.5: FAQ:

Description: Displays frequently asked question and answer

Input: User click

Output: FAQ is displayed

R.1.6: Discussion Forum:

Description: User can ask question or enter answer to a question.

Input: Question/Answer

Output: Display Updated Page

2. Admin

R.2.1: Manage Students

R.2.1.1: Add Student

Description: Admin can add Student

Input: student email id, password

Output: Message is shown.

R.2.1.2: Remove Student

Description: Admin can remove Student

Input: student email id

Output: Message is shown.

R.2.2: Manage Teachers

R.2.2.1: Add Teacher

Description: Admin can add teacher

Input: student email id, password

Output: Message is shown.

R.2.2.2: Remove Teacher

Description: Admin can remove teacher

Input: user click on delete button

Output: Message is shown.

R.2.3: Manage Courses

R.2.3.1: Add Courses

Description: Admin can add courses

Input: student email id, password

Output: Message is shown.

R.2.3.2: Remove Courses

Description: Admin can remove courses

Input: user click on delete button

Output: Message is shown.

R.2.3.3: Update courses price

Description: Admin can add Student

Input: Course id and updated price

Output: Message is shown.

R.2.3.4: Add videos related to course

Description: Admin can add videos

Input: name, description, course and video file to be uploaded

Output: Message is shown.

R.2.3.5: Remove videos

Description: Admin can remove videos

Input: user click on video to be deleted

Output: Message is shown.

R.2.3.6: Add Textbooks

Description: Admin can add textbooks

Input: name, description, course and pdf to be uploaded

Output: Message is shown.

R.2.3.7: Remove Textbooks

Description: Admin can remove textbooks

Input: user click on textbooks to be deleted

Output: Message is shown.

R.2.4: Send mails

Description: Admin can send mails to teacher and student

Input: subject, content, and email id

Output: Message is shown.

3. Student

R.3.1: Courses

R.3.1.1: View courses

Description: Student can see a list of courses available

Input:

Output: List of courses

R.3.1.2: search courses

Description: Student can search particular course

Input: course name

Output: Respective course is displayed

R.3.2: Subscription

R.3.2.1: Subscribe

Description: Student can subscribe to a particular course

Input: student click on subscribe button

Output: Success Message

R.3.2.2: Unsubscribe

Description: Student can unsubscribe from a particular course

Input: student click on subscribe button

Output: Success Message

R.3.3: Manage Account Details

R.3.3.1: Edit

Description: Student can edit his/her details

Input: student enter updated details

Output: Success Message

R.3.4: Manage Notes

R.3.4.1: Create Notes

Description: Student can create his/her notes online

Input: click on create button

Output: Notes is created

R.3.4.2: Delete Notes

Description: Student can Delete his/her notes

Input: name of note

Output: Success Message

R.3.4.3: Edit Notes

Description: Student can edit his/her notes

Input: name of note

Output: Success Message

4. Teacher

R.4.1: Manage Content

R.4.1.1: Add videos related to course

Description: Teacher can add videos

Input: name, description, course and video file to be uploaded

Output: Message is shown.

R.4.1.2: Remove videos

Description: Teacher can remove videos

Input: user click on video to be deleted

Output: Message is shown.

R.4.1.3: Add Textbooks

Description: Teacher can add textbooks

Input: name, description, course and pdf to be uploaded

Output: Message is shown.

R.4.1.4: Remove Textbooks

Description: Teacher can remove textbooks

Input: user click on textbooks to be deleted

Output: Message is shown.

Database Schema

User								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	UID	Int	10	True	True	-	User Id	PK
2	Uname	String	25	True	False	-	User Name	-
3	Email	String	25	True	True	-	-	-
4	Utype	String	10	True	False	-	User Type	-
5	Password	String	6-10	True	False	-	-	-

Course								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	CID	Int	10	True	True	-	Course Id	PK
2	C Name	String	25	True	False	-	Course Name	-
3	Course Category	String	25	True	False	-	Category of course	-
4	C Details	String	10	True	False	-	Course Details	-
5	Course Instructor	String	10	True	False	-	Instructor of course	-
6	Course Price	Int	10	True	False	-	Course Price	-

Course User								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	CID	Int	10	True	False	Course	Course Id	FK
2	UID	Int	25	True	False	User	User Id	FK
3	CUID	Int	25	True	True	-	Course--User Id	PK

Video								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	VID	Int	10	True	False	-	Video Id	PK
2	CID	Int	10	True	False	Course	Course Id	FK
3	Vpath	String	500	True	False	-	Video path	-
4	Vdetails	String	1000	True	False	-	Video details	-
5	Vname	String	100	True	False	-	Video name	-

Quiz								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	QID	Int	10	True	False	-	Question Id	PK
2	CID	Int	10	True	False	Course	Course Id	FK
3	Question	String	500	True	False	-	-	-
4	AID	Int	10	True	False	-	Correct Answer	-
5	Answer Description	String	1000	True	False	-	Why is that Answer	-

Quiz Option								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	QID	Int	10	True	False	Quiz	Question Id	FK
2	AID	Int	10	True	True	-	Answer Id	PK
3	OPT_DETAILS	String	500	True	False	-	-	-

Textbook								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	TID	Int	10	True	True	-	Textbook Id	PK
2	CID	Int	10	True	True	Course	Course Id	FK
3	Textbook	String	500	True	True	-	-	-

FAQ								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	ID	Int	10	True	True	-	Id	PK
2	Question	String	1000	True	True	-	-	-
3	Answer	String	5000	True	False	-	-	-

Forum Question								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	FID	Int	10	True	True	-	FQ Id	PK
2	CID	Int	10	True	False	Course	Course Id	FK
3	UID	Int	10	True	False	User	User Id	FK
4	Question	String	1000	True	False	-	-	-

Forum Answer								
Sr. No	**Field Name**	**Data type**	**Width**	**Required**	**Unique**	**Referenced Table**	**Description**	**PK/FK**
1	FAID	Int	10	True	True	-	FA Id	PK
2	FID	Int	10	True	False	Forum Question	FQ Id	FK
3	UID	Int	10	True	False	User	User Id	FK
4	Answer	String	1000	True	False	-	-	-

Design

DTD

```
<!ELEMENT Students (Student)>
<!ELEMENT Student (Name, Phone, cyear, Address)>
<!ELEMENT Name (fname, lname, mname)>
<!ATTLIST Student id ID #REQUIRED>
<!ELEMENT lname (#PCDATA)>
<!ELEMENT fname (#PCDATA)>
<!ELEMENT mname (#PCDATA)>
<!ELEMENT Phone (#PCDATA)>
<!ELEMENT cyear (#PCDATA)>
<!ELEMENT Address (#PCDATA)>
```

XSD

```
<! -- Add XML Schema (XSD) Data -->
<?Xml version="1.0"?>
<xs: schema xmlns: xs="http://www.w3.org/2001/xmlschema">
  <xs: element name="Students">
    <xs:complextype>
      <xs:sequence>
        <xs:element name="Student" type="Std" maxoccurs="10" minoccur
s="0" />
      </xs:sequence>
    </xs:complextype>
  </xs:element>

  <xs:complextype name="Std">
    <xs:all>
      <xs:element name="Name" type="Nam"/>
      <xs:element name="Phone" type="xs:decimal"/>
      <xs:element name="cyear" type="xs:decimal"/>
      <xs:element name="Address" type="xs:string"/>
    </xs:all>
```

```
    <xs:attribute name="id" type="xs:string" use="required"/>
  </xs:complextype>


<xs:complextype name="Nam">
    <xs:all>
      <xs:element name="fname" type="xs:string"/>
      <xs:element name="lname" type="xs:string"/>
      <xs:element name="mname" type="xs:string"/>
    </xs:all>

  </xs:complextype>
</xs:schema>
```

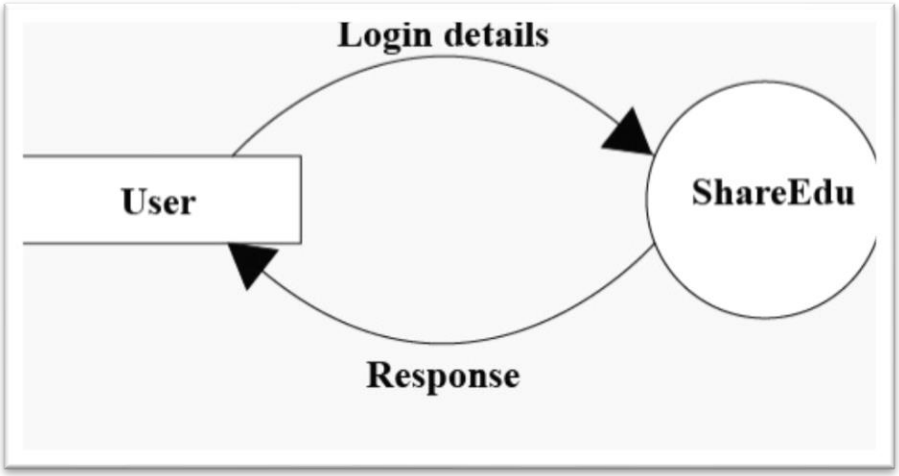
XML

```
<?Xml version="1.0" encoding="utf-8"?>
<!DOCTYPE Students [
<!ELEMENT Students (Student)>
<!ELEMENT Student (Name,Phone,cyear,Address)>
<!ELEMENT Name (fname,lname,mname)>
<!ATTLIST Student id ID #REQUIRED>
<!ELEMENT lname (#PCDATA)>
<!ELEMENT fname (#PCDATA)>
<!ELEMENT mname (#PCDATA)>
<!ELEMENT Phone (#PCDATA)>
<!ELEMENT cyear (#PCDATA)>
<!ELEMENT Address (#PCDATA)>
]>
<Students>
  <Student id="1">
    <Name>
      <fname>B</fname>
      <lname>A</lname>
      <mname>N</mname>
    </Name>
    <Phone>
      9876543210
    </Phone>
    <cyear>2019</cyear>
    <Address>Somewhere on earth</Address>
```

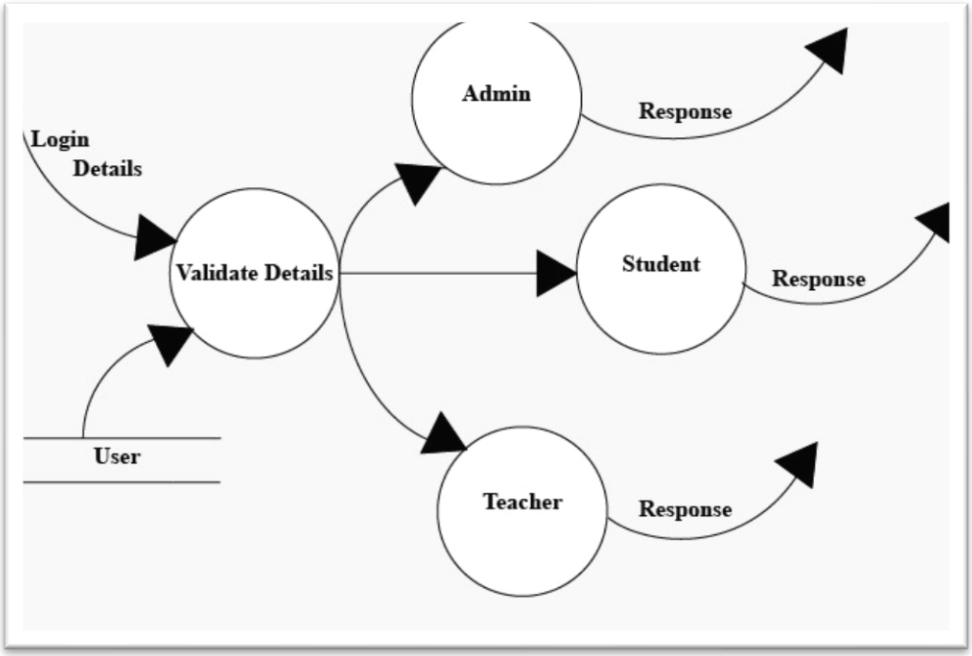
```
</Student>
<Student id="2">
   <Name>
      <fname>B</fname>
      <lname>A</lname>
      <mname>N</mname>
   </Name>
   <Phone>
      987645632
   </Phone>
   <cyear>2019</cyear>
   <Address>Earth</Address>
</Student>
<Student id="3">
   <Name>
      <fname>S</fname>
      <lname>H</lname>
      <mname>I</mname>
   </Name>
   <Phone>
      9876456320
   </Phone>
```

DFD

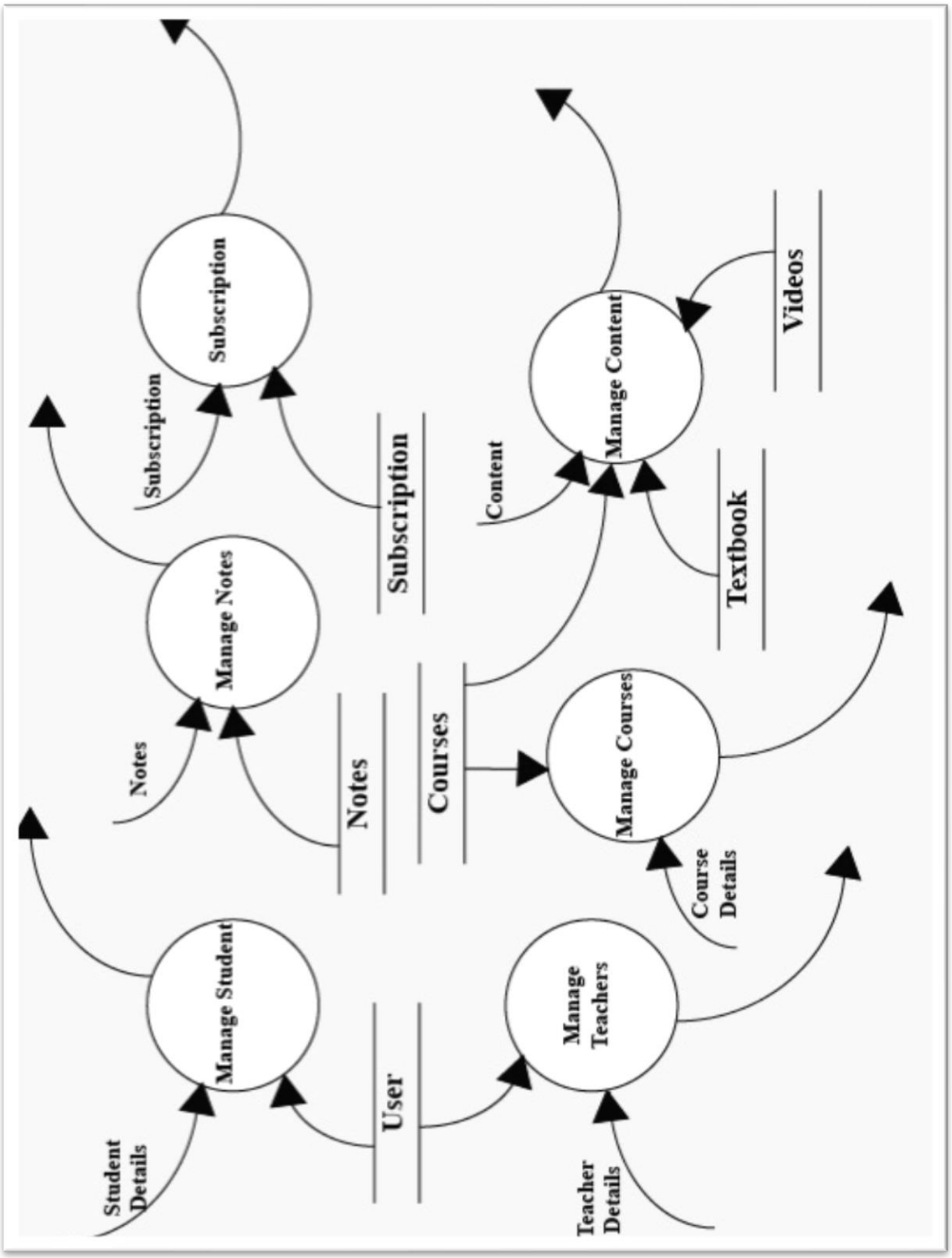
- *Level-0*



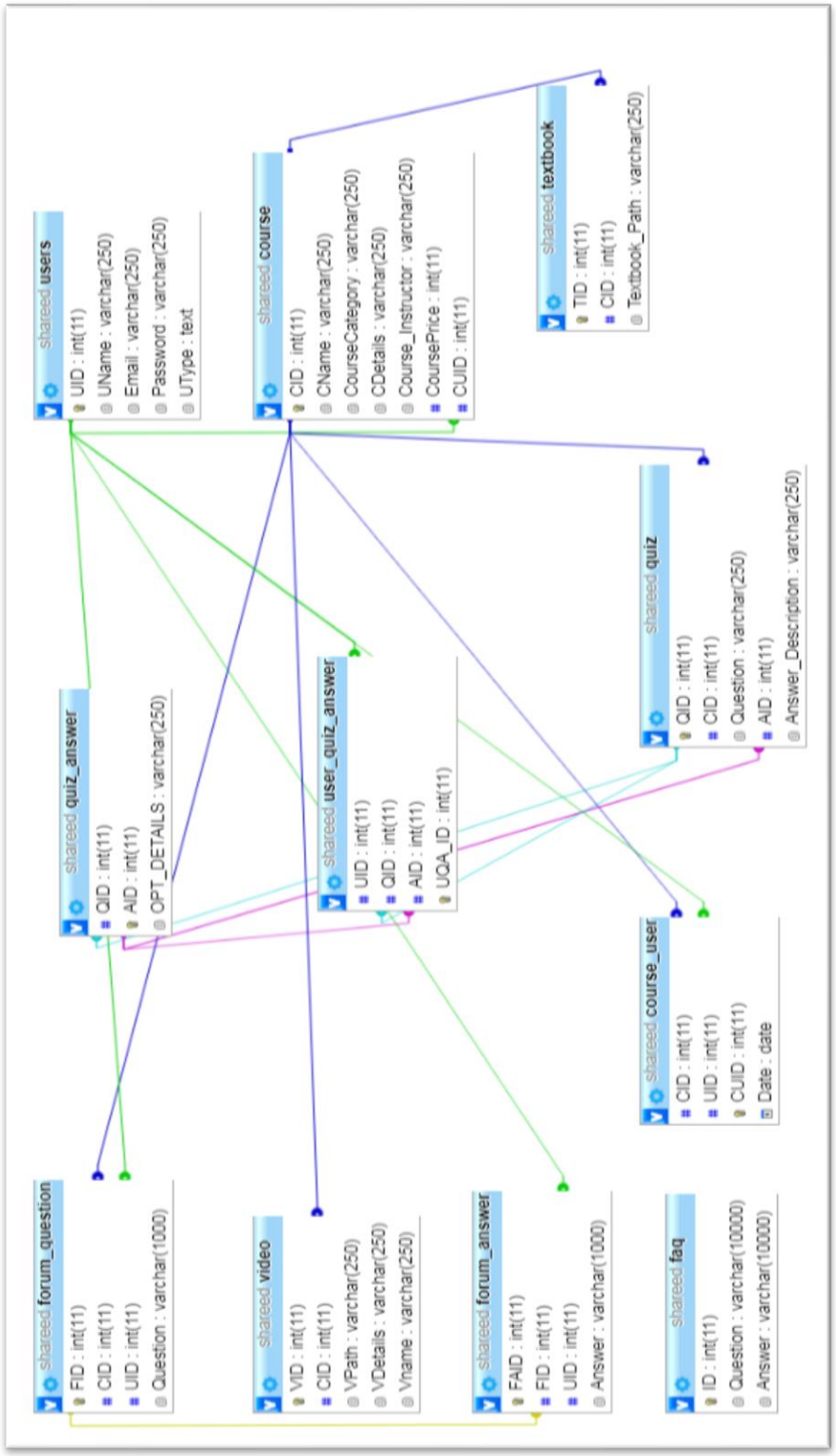
- *Level-1*



○ *Level-2*

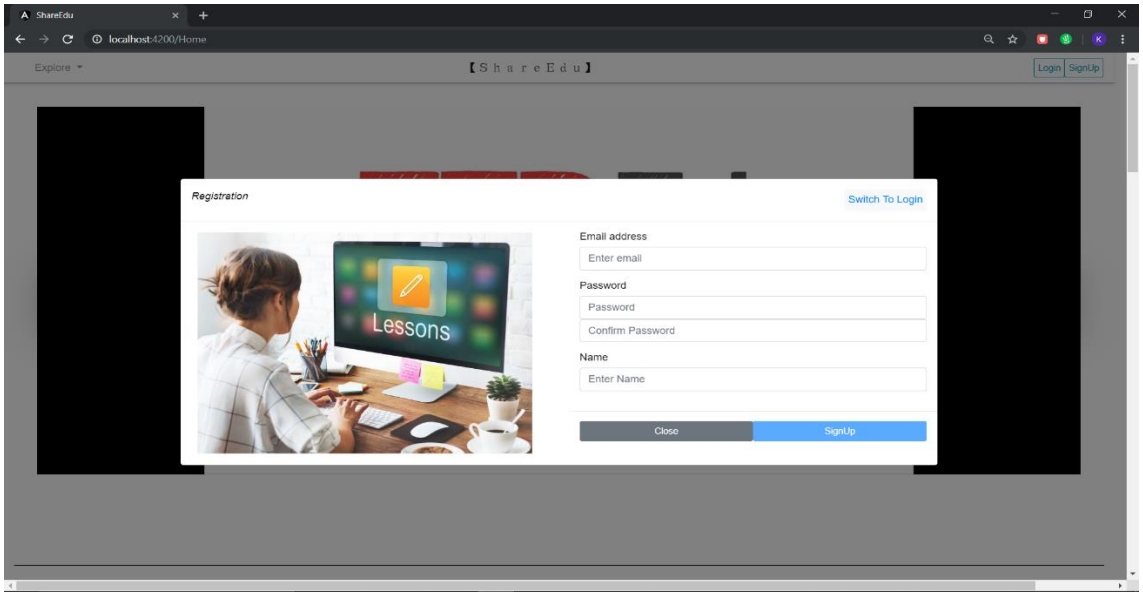

Student Details
Manage Student
User
Teacher Details
Manage Teachers
Notes
Manage Notes
Notes
Courses
Manage Courses
Course Details
Subscription
Subscription
Subscription
Content
Manage Content
Textbook
Videos

ER–Diagram

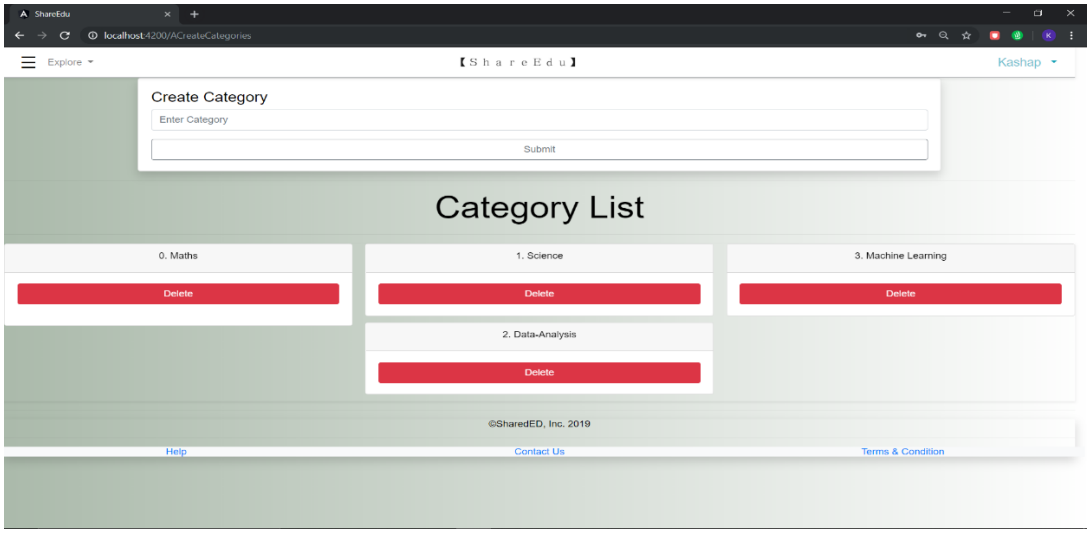

shareed users
UID : int(11)
UName : varchar(250)
Email : varchar(250)
Password : varchar(250)
UType : text
shareed course
CID : int(11)
CName : varchar(250)
CourseCategory : varchar(250)
CDetails : varchar(250)
Course_Instructor : varchar(250)
CoursePrice : int(11)
CUID : int(11)
shareed textbook
TID : int(11)
CID : int(11)
Textbook_Path : varchar(250)
shareed quiz_answer
QID : int(11)
AID : int(11)
OPT_DETAILS : varchar(250)
shareed user_quiz_answer
UID : int(11)
QID : int(11)
AID : int(11)
UQA_ID : int(11)
shareed quiz
QID : int(11)
CID : int(11)
Question : varchar(250)
AID : int(11)
Answer_Description : varchar(250)
shareed course_user
CID : int(11)
UID : int(11)
CUID : int(11)
Date : date
shareed forum_question
FID : int(11)
CID : int(11)
UID : int(11)
Question : varchar(1000)
shareed video
VID : int(11)
CID : int(11)
VPath : varchar(250)
VDetails : varchar(250)
Vname : varchar(250)
shareed forum_answer
FAID : int(11)
FID : int(11)
UID : int(11)
Answer : varchar(1000)
shareed faq
ID : int(11)
Question : varchar(10000)
Answer : varchar(10000)

Screenshots

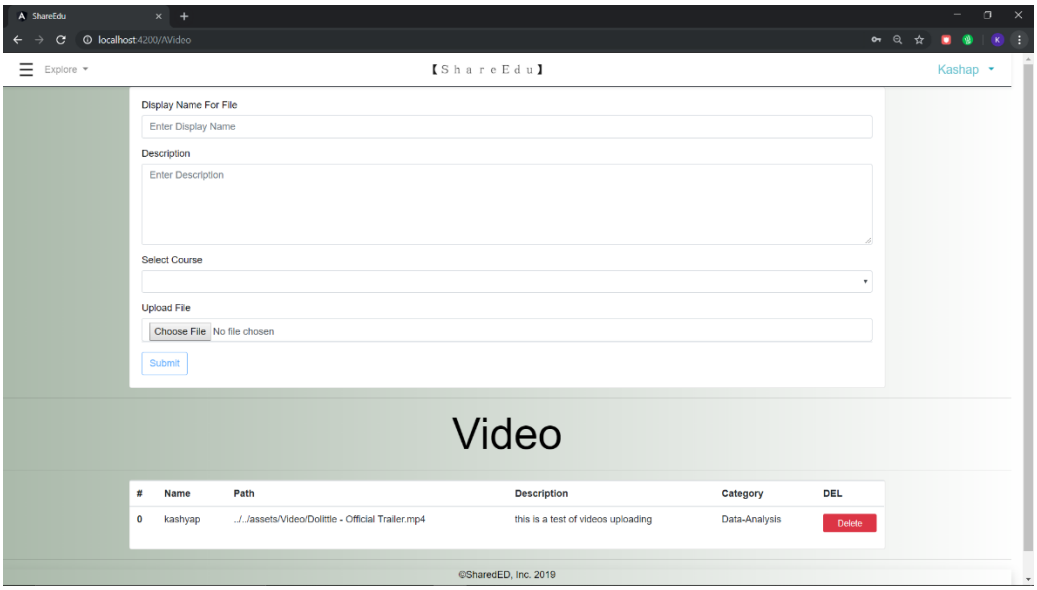
Login and Signup Page



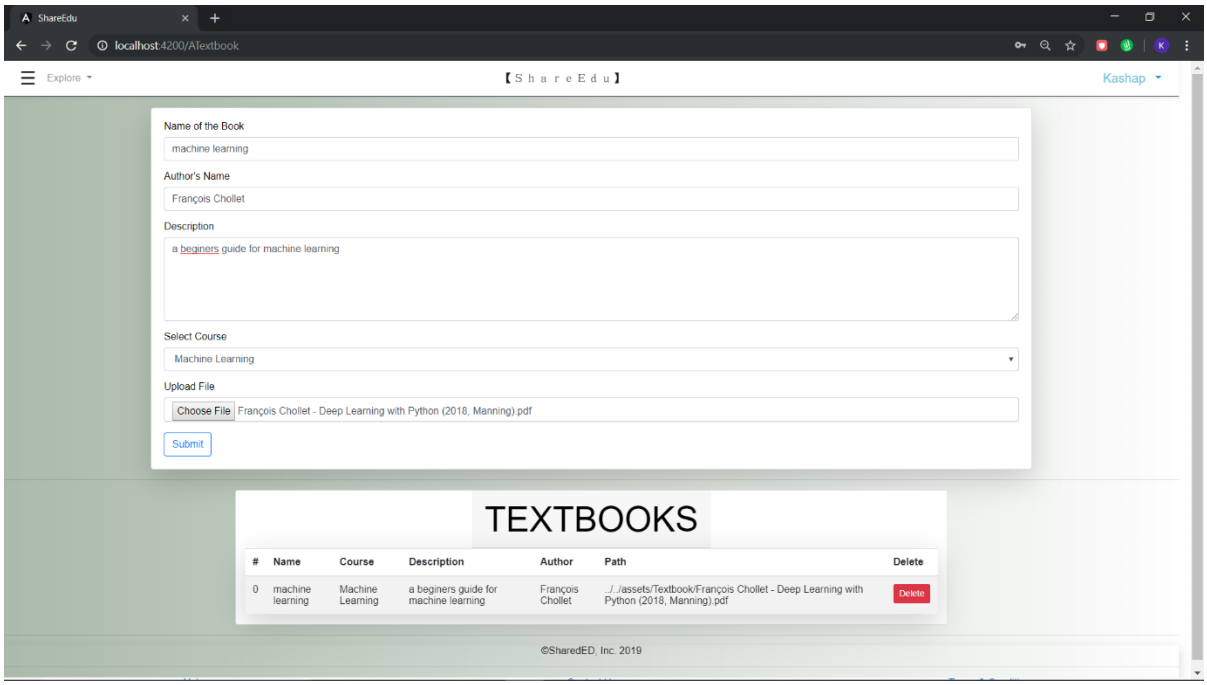
Managing categories



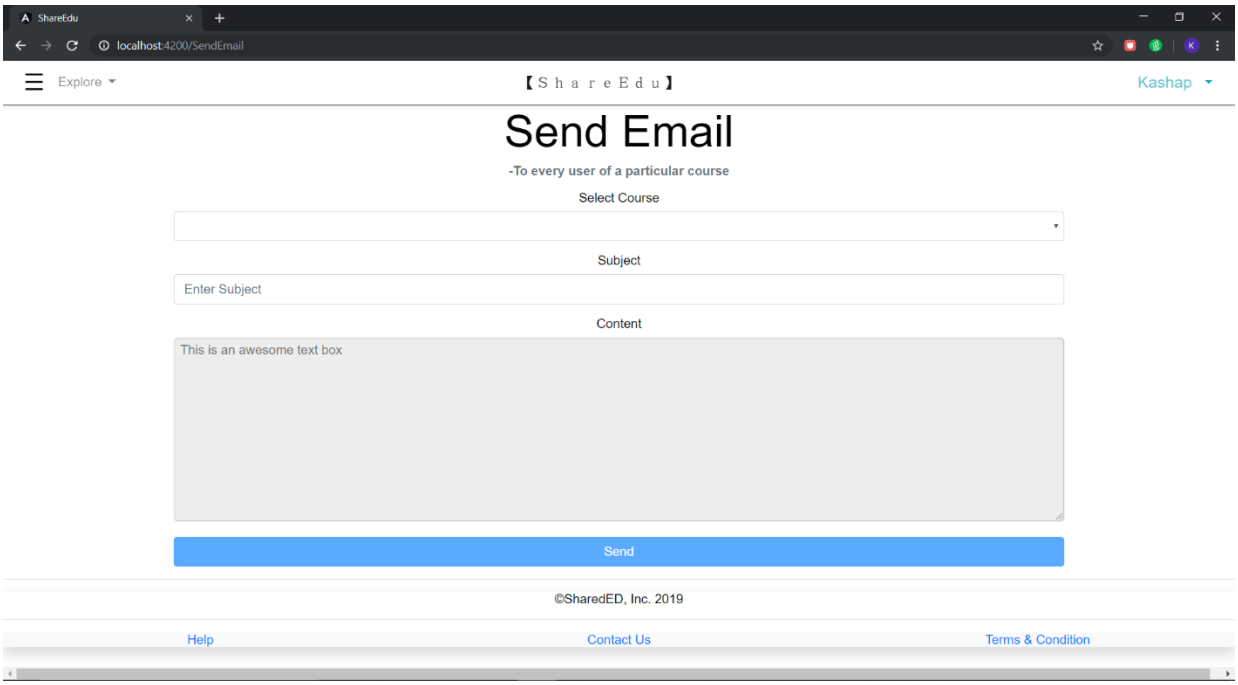
Managing Videos



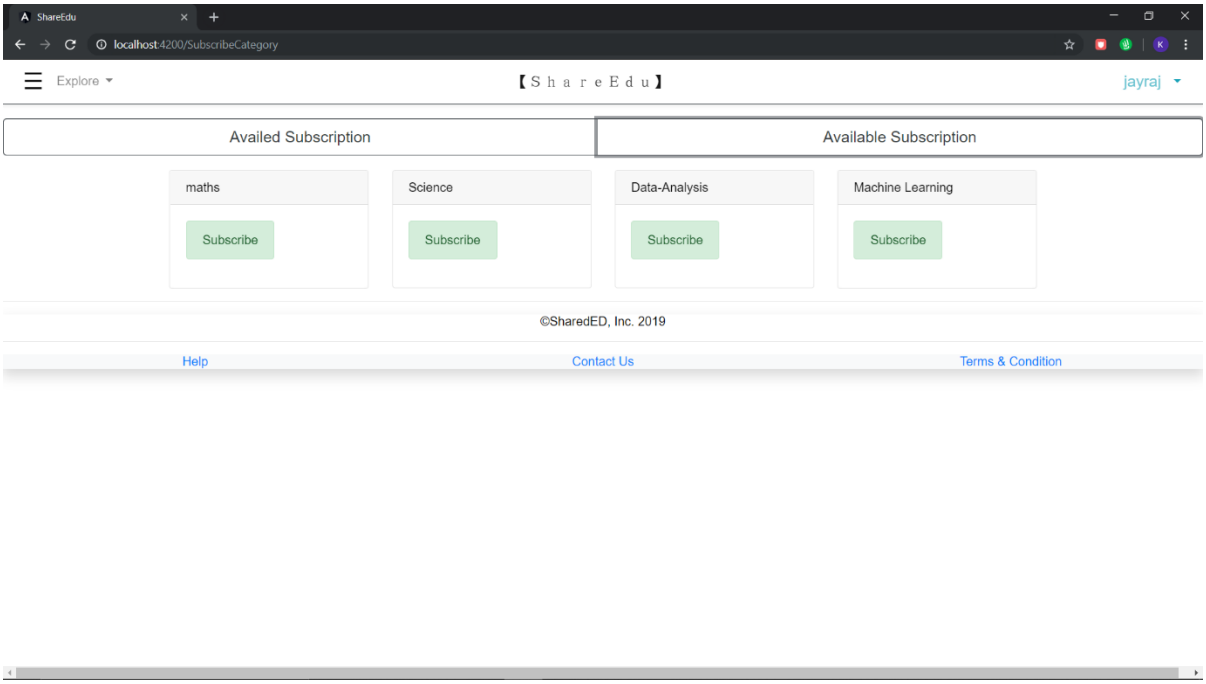
Managing Textbooks



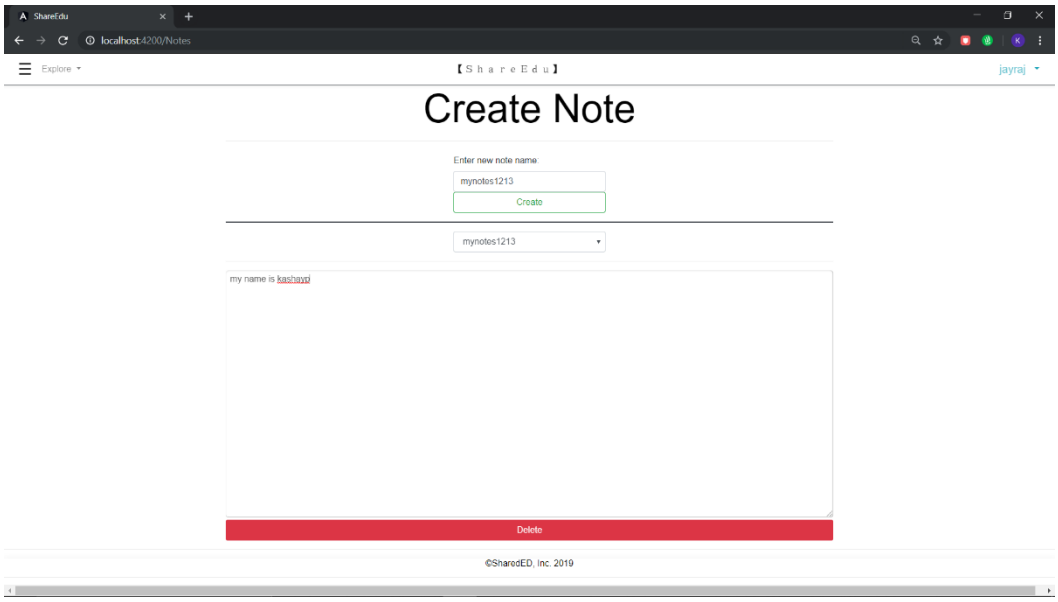
Mailing



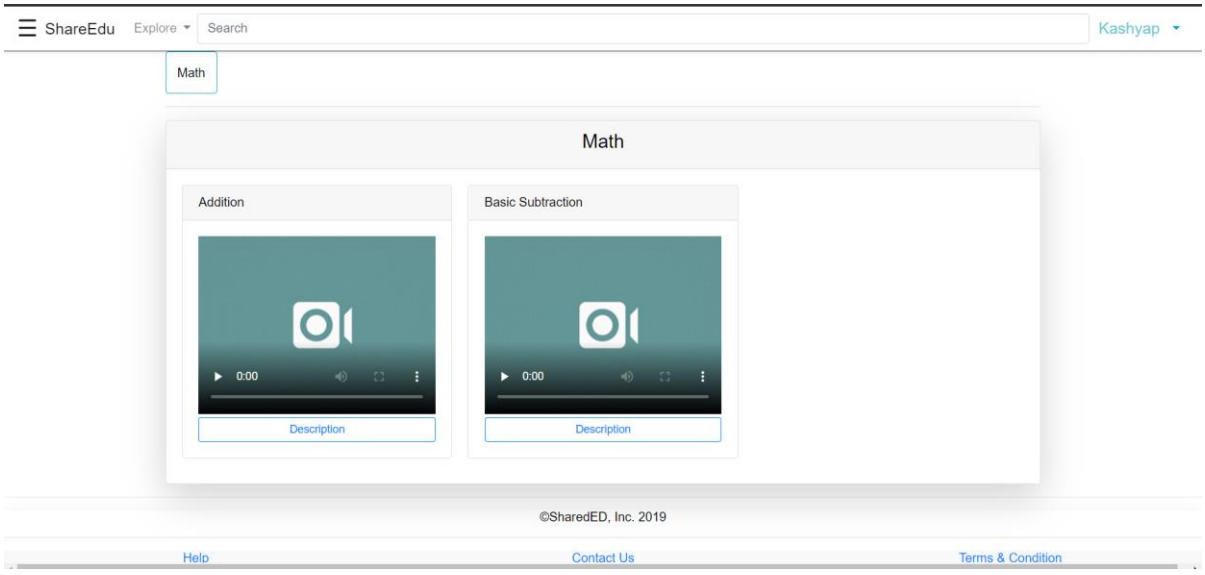
Subscription



Notes



Displaying Videos



**Videos are displayed according to selected Category*

Implementation

ShareEdu is divided into five main modules:

- User

  Its function to update/insert user details into database.

- Video

  Its function is to display all video according to selected category and upload videos.

- Textbook

  Its function is to a particular textbook which is selected by user on the basis of course, name and upload textbooks (only pdf) to database.

- Notes

  Its function is allowed user to take notes after they finished a video or course and save it to database.

- Email
  - It will mainly used to send important message to users of particular course for update related to that course.
  - Automatic updates are sent by system to users if anything new is available to a course.

Major Functionality

Course Selection:

Given a list available course, user selects an appropriate course.

Assign Admin:

Main admin can assign to anyone else and so can they.

Categories:

Based on user type a user can subscribe to a category from given list and can create category if user id admin.

Videos:

Based on user type a user can view video based on subscribed category and can also upload/delete video if user is admin.

Books:

Based on user type a user can view textbook and upload textbook and also delete textbook if they are admin

Further Extensions

- ShareEdu can be further extended to admin, teacher, freelancer and student types of user.
- It can have quizzes, scoreboard for quizzes where student can compete with each other in a friendly manner to enhance their knowledge.
- Course can be made paid.
- It can be further extended on basis of category, standard and level.
- It means a category may have variety of course and user (Student) could enroll for a particular course.
- They can have their track record.
- A statistical report which help they them to keep track of milestone.
- A recommendation system can be employed for user for course system which ultimately help them to select right course.
- A feedback system must be employed to help user navigate through website or any other difficulty.

References

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3. Https://www.tutorialspoint.com
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