A

PROJECT REPORT ON

REAL LEARNING APPLICATION

By

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Subject: System Design Practice

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CERTIFICATE

This is to certify that the practical / term work carried out in the subject of

System Design Practice and recorded in this journal is the

bonafide work of

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Table of Contents

1. Abstract

E-learning is an education via the Internet, network, or standalone computer. E-learning refers to using electronic applications and processes to learn.. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process. This often involves both out-of-classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum. E-learning is the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. That is to say E-learning systems contain both Learning Management System and Course management system. It can be self-pace or instructor-led and includes media in the form of text, image, animation, streaming video and audio. It is commonly thought that new technologies can make a big difference in education. In young ages especially, children can use the huge interactivity of new media, and develop their skills, knowledge, and perception of the world, under their parents' monitoring, of course.

Many proponents of e-learning believe that everyone must be equipped with basic knowledge in technology, as well as use it as a medium to reach a particular goal and aim. And our application Real-Learning provide e-learning

2. Introduction

2.1 Brief Introduction

Real-Learning is a mobile application which helpful to learn things online ,means its a e-learning system . Using this app you can learn given courses based on your choice and also most important is this app provide self-paced learning so you can learn as you want , whenever you want . Real-Learning is also provide quiz feature so after learning any topic thoroughly you can test you knowledge through test and if you want then you can start any particular topic again . As a backend support we have implemented a web app through which admin can add new courses and can manage courses. Admin can also manage it's content and quiz question. And it's a live app so two way binding is there in our app . Means as soon as admin add or update any course, content or question it will directly reflect to user . We developed a front-end using flutter and dart language , because flutter supports a both ios and android so we need to write for one app for both . And for a back-end we used django-python framework . We have try to develop a real life application.

2.2 Tools/Technologies used

Technologies:

1) Flutter (Dart)

2) Django Framework (Python)

3) Firebase Database

Tools:

Android Studio IDE

Sublime Text

3. Software Requirement Specifications

3.1 Types of User

1. Admin
2. Users (Learner)

3.2 System Function Requirement

R.1 User functionalities

R.1.1 View Course

Description: Users can view all course.

Input: User Command.

Output: All Course List**.**

R.1.2 View Course Content

Description: User can view Course Content to learn new couse

Input: Course Name

Output: Display All Tutorials.

R.1.3 Take Quiz

Description: User can take part in quiz topic wise.

Input: Select Topic

Output: All Questions related to topic.

R.2 Admin functionalities:

R.2.1 View Dashboard

Description: Admin can view dashboard for manage course, manage course-content and manage quiz.

Input: Admin login

Output: Display Dashboard.

R.2.2 Add Course

Description: Admin can add new course.

Input: Course details

Output: Added Successful/ Unsuccessful message.

R.2.3 Update Course

Description: Admin can update course details.

Input: Course Details

Output: Update status.

R.2.4 Delete Course

Description: Admin can delete any Course.

Input: Course name

Output: Deleted message.

R.2.5 Add Course Content

Description: Admin can add topic wise content for course.

Input: Content Details

Output: Added Successful/Unsuccessful message.

R.2.6 Update Course Content

Description: Admin can update topic wise content for course.

Input: Content Details

Output: Update status.

R.2.7 Delete Course Content

Description: Admin can delete topic wise content for course.

Input: Content Details

Output: Deleted message.

R.2.8 Add Quiz

Description: Admin can add topic wise quiz for course.

Input: Quiz Details

Output: Added Successful/Unsuccessful message.

Common Functionalities (User, Admin):

R.3 User Authentication-Sign Up

Input: User Details

Output: Data Stored Successfully

Description: User Enters Details Like User Id, Name, Password, Phone Number, E-Mail As Per Type Of User.

R.4 User Login

Input: User Credentials

Output: User Logged In Account/Error Message

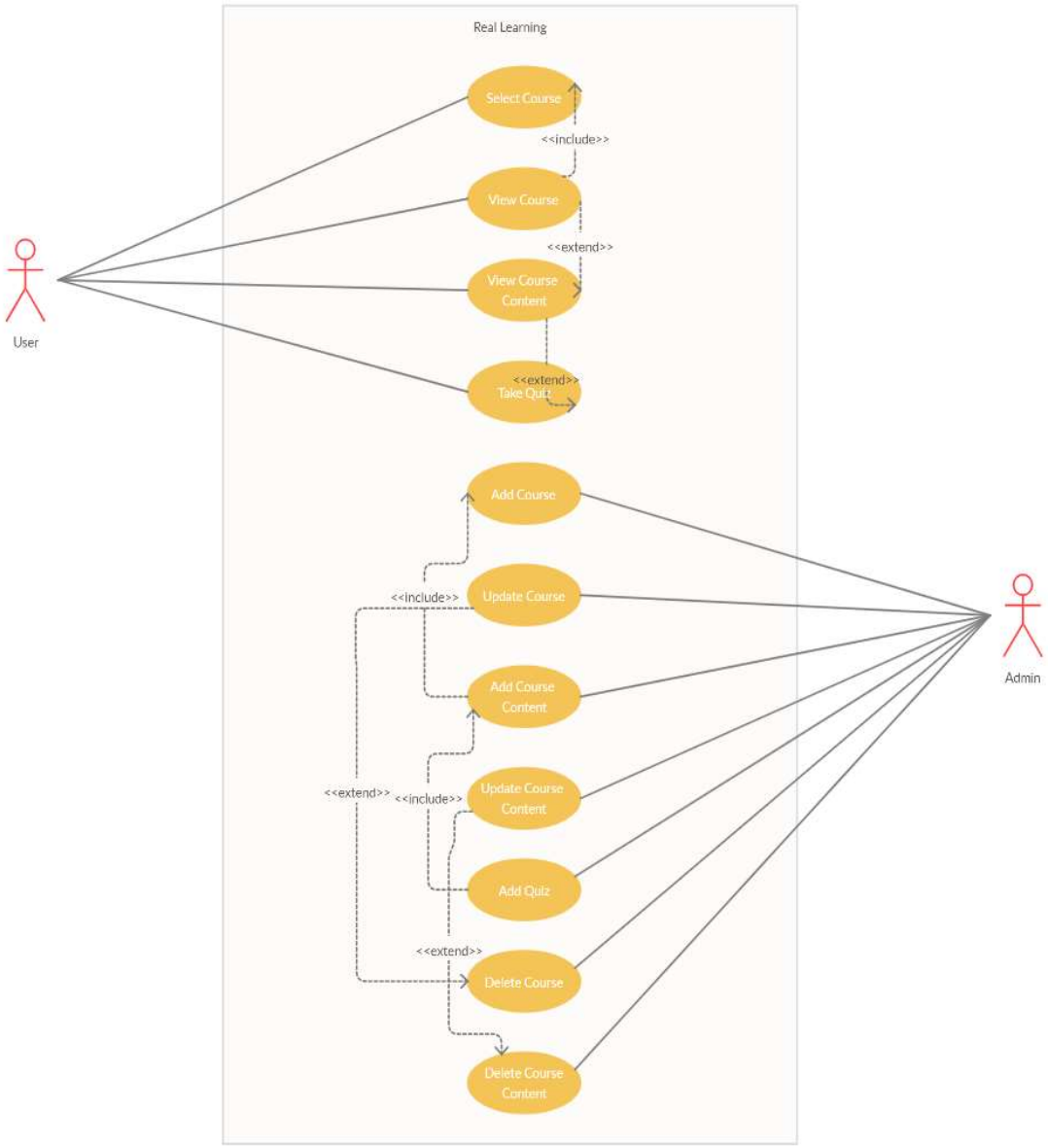
Description: User Enters The Username/Email And Password And Checks Into The Web Application By Validating In Database.

R.5 Log Out

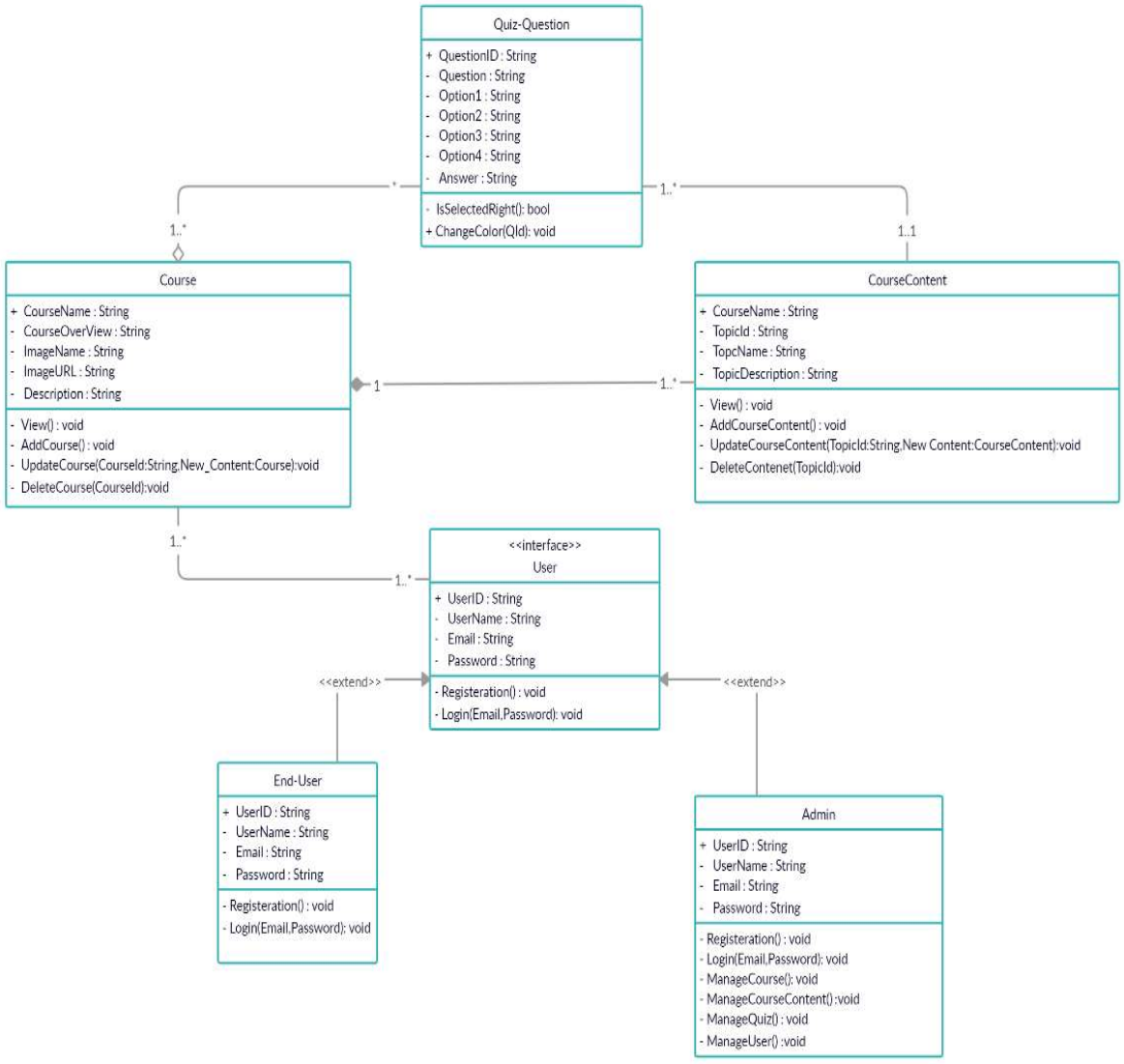
Description: User Logs Out Of The Website.

4. Designs

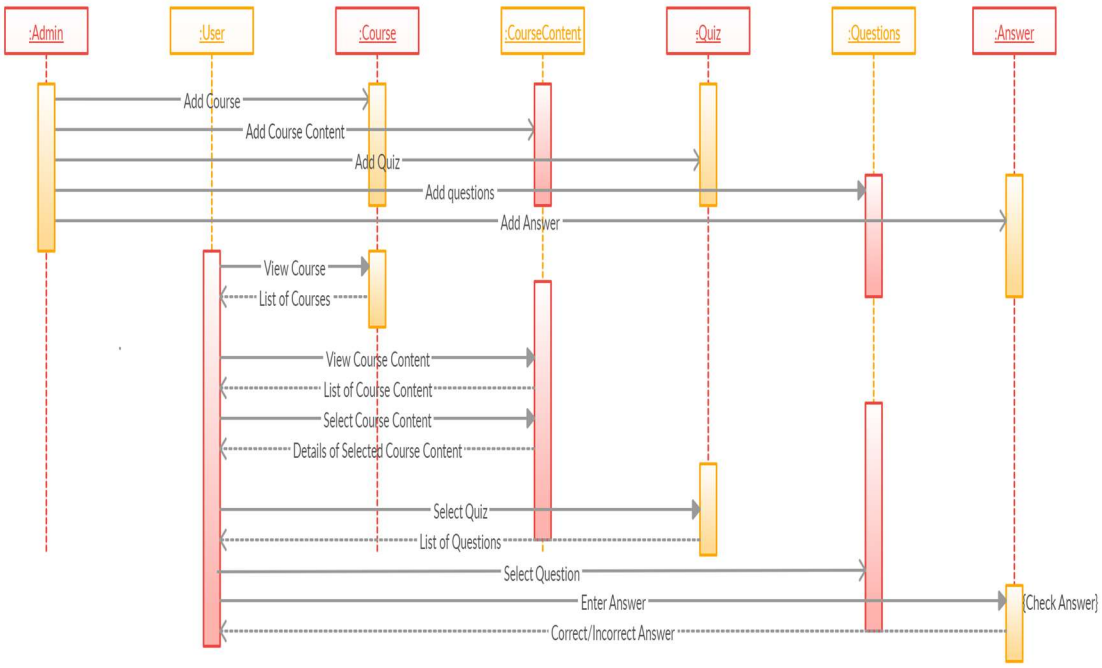
Use case Diagram:



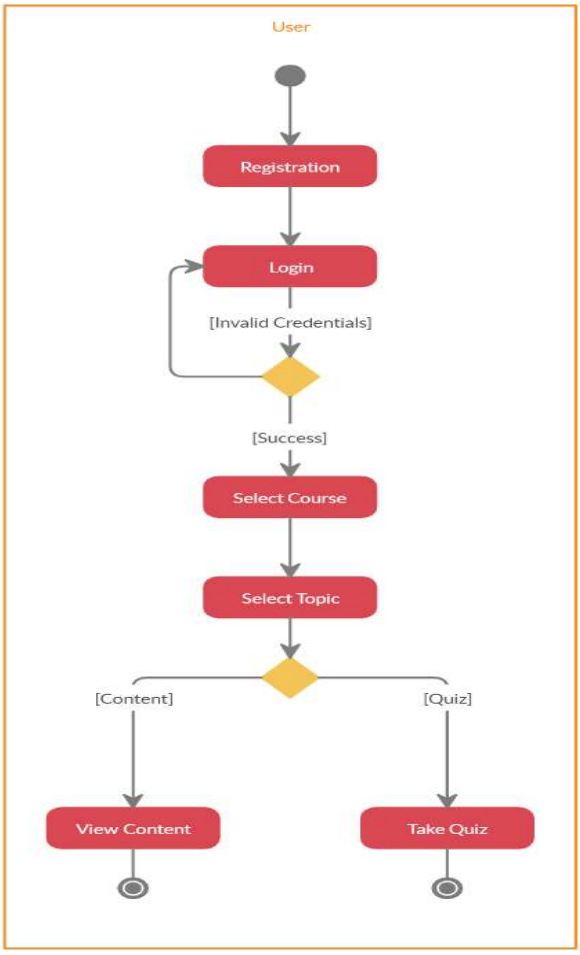
Class diagrams

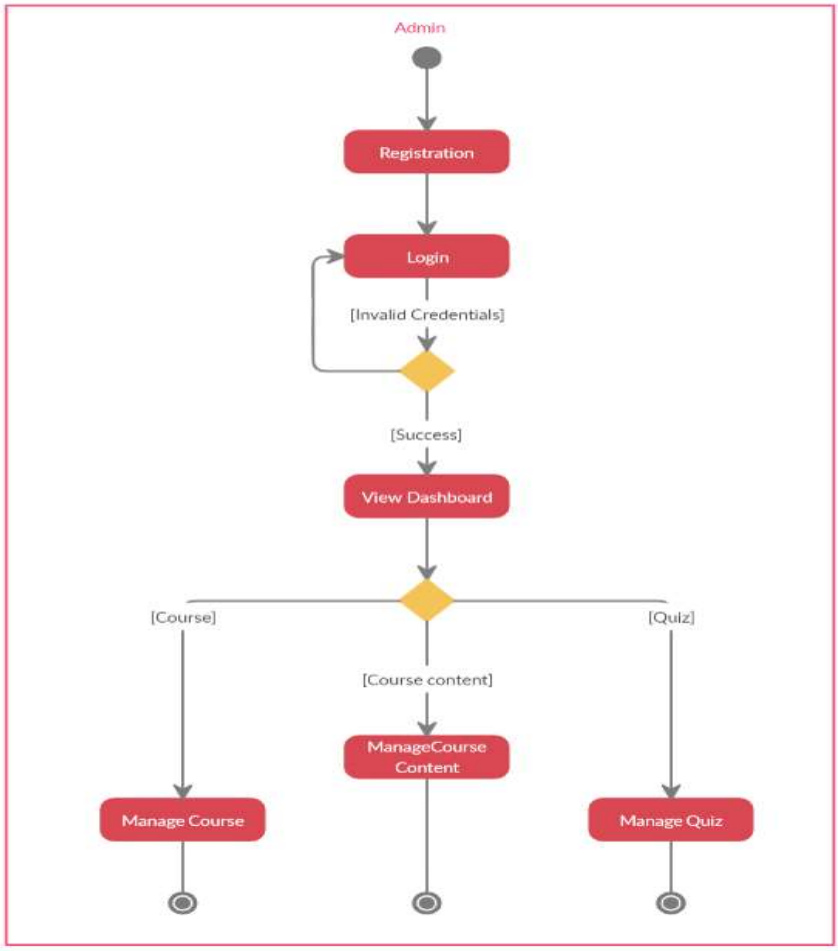


Sequence diagrams

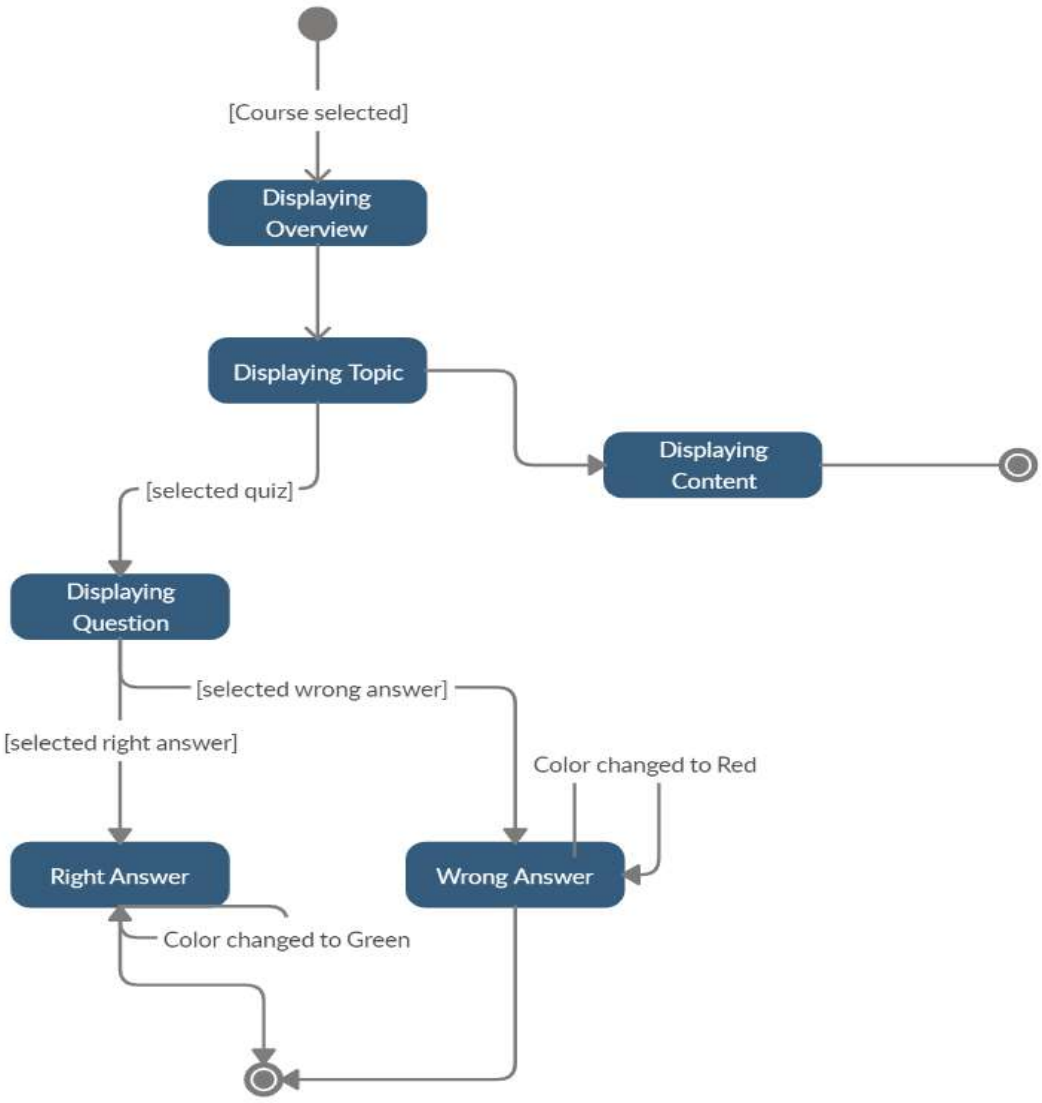


Activity diagrams:

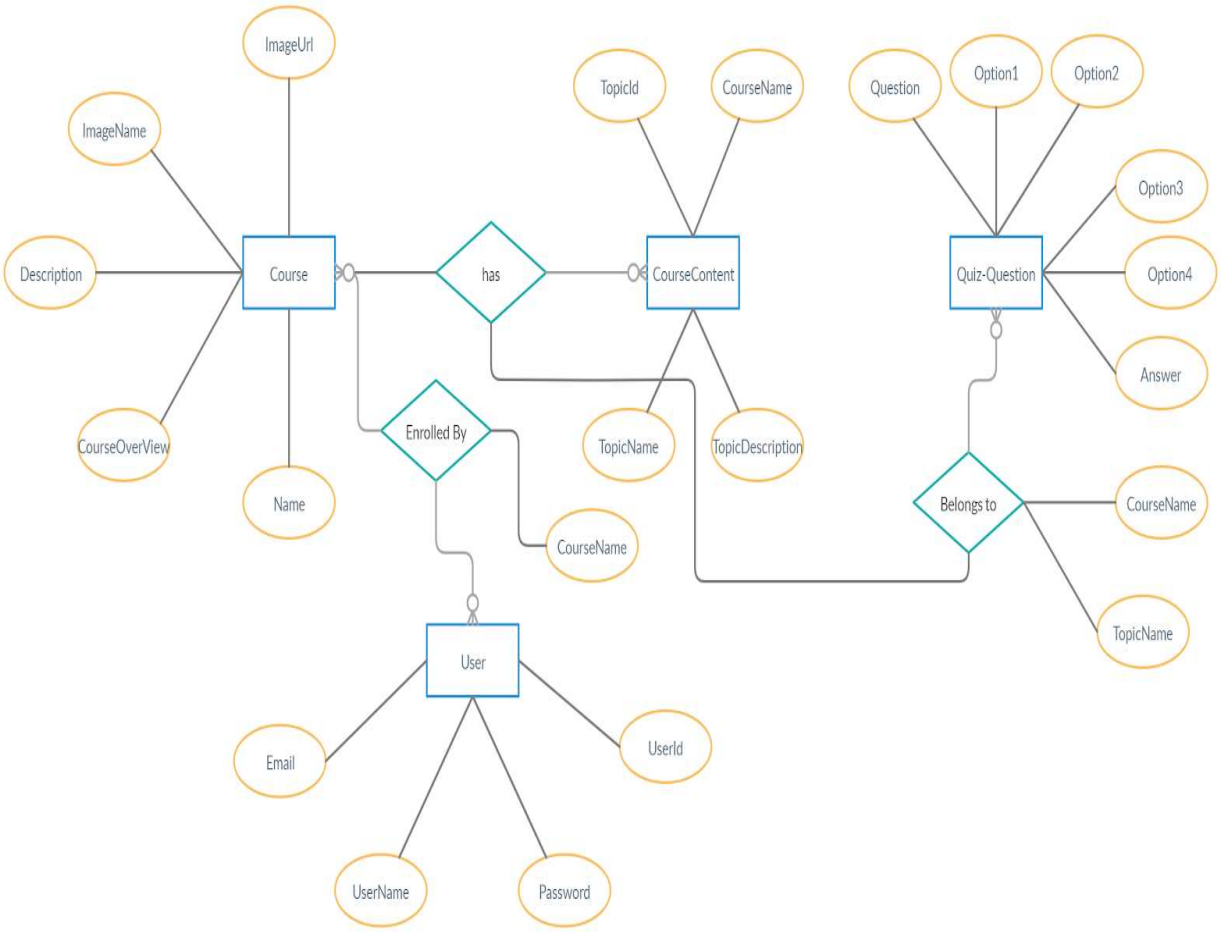



Admin
Registration
Login
[Invalid Credentials]
[Success]
View Dashboard
[Course]
[Course content]
[Quiz]
ManageCourse Content
Manage Course
Manage Quiz

State diagrams:



E-R Diagram:


ImageUrl
ImageName
Description
Course
CourseOverView
Name
has
TopicId
CourseName
CourseContent
TopicName
TopicDescription
Enrolled By
CourseName
User
Email
UserId
UserName
Password
Question
Option1
Option2
Option3
Option4
Answer
Quiz-Question
Belongs to
CourseName
TopicName

Data Dictionary:

USER							
SR.NO	NAME	DATA TYPE	WIDTH	REQUIRED	UNIQUE	PK/FK	REFERENCE TABLE DESCRIPTION
1	USERID	NUMERIC	20	YES	YES	PK	
2	PASSWORD	VARCHAR	20	YES	NO		
3	USERNAME	VARCHAR	20	YES	NO		
4	EMAIL	VARCHAR	20	YES	YES		

COURSE							
SR.NO	NAME	DATA TYPE	WIDTH	REQUIRED	UNIQUE	PK/FK	REFERENCE TABLE DESCRIPTION
1	ID	NUMERIC	20	YES	YES	PK	
2	NAME	VARCHAR	20	YES	NO		
3	DESCRIPTION	VARCHAR	20	YES	NO		
4	IMAGENAME	VARCHAR	20	YES	NO		
5	IMAGEURL	VARCHAR	20	YES	NO		
6	COURSE OVERVIEW	VARCHAR	20	YES	NO		

COURSE_CONTENT							
SR.NO	NAME	DATA TYPE	WIDTH	REQUIRED	UNIQUE	PK/FK	REFERENCE TABLE DESCRIPTION
1	ID	NUMERIC	20	YES	YES	PK	
2	COURSENAME	VARCHAR	20	YES	NO	FK	COURSE
3	TOPICNAME	VARCHAR	20	YES	NO		
4	TOPIC DESCRIPTION	VARCHAR	20	YES	NO		

QUIZ							
SR.NO	NAME	DATA TYPE	WIDTH	REQUIRED	UNIQUE	PK/FK	REFERENCE TABLE DESCRIPTION
1	ID	NUMERIC	20	YES	YES	PK	
2	TOPICNAME	NUMERIC	20	YES	YES	FK	COURSE_ CONTENT
2	QUESTION	VARCHAR	20	YES	NO		
3	OPTION1	VARCHAR	20	YES	NO		
4	OPTION2	VARCHAR	20	YES	NO		
5	OPTION3	VARCHAR	20	YES	NO		
6	OPTION4	VARCHAR	20	YES	NO		
7	ANSWER	VARCHAR	20	YES	NO		

5. Implementation Details

1. Modules

- **User Module:**

User module is basically manage all the activity of users. In this module user can register and login by giving some basic details.

User can view all course. User can see all the topics of any course and go through any particular topic of any course. Also user can take part in quiz for any particular topic of quiz.

- **Admin Module:**

This module handles all the activity of the Admin. Admin can add course, course content and quiz for all topics. Admin can also update the details of any course content or course. Also admin can delete the course content and whole course.

2. Function Prototype

Users:

- To get all course

  Future GetAllCourse()

- TO get specific course

  Stateless widget CourseDetail()

- TO get all sub topic

  Future getallsubTopic()

- To get quiz

  Stateful widget Quiz()

Admin:

- Login:

```
def login(request)
```

- Add Course:

```
def courseupload(request)
```

- Add Course-Content:

```
def uploadcoursecontent(request)
```

- View Course:

```
def viewselectedcourse(request)
```

- View Course-Content:

```
def viewselectedtopic(request):
```

- Update Course:

```
def courseupdate(request)
```

- Update course content:

```
def coursecontentupdate(request)
```

- Add Question:

```
def addQuestion(request)
```

- Delete Course:

```
def deletecourse(request)
```

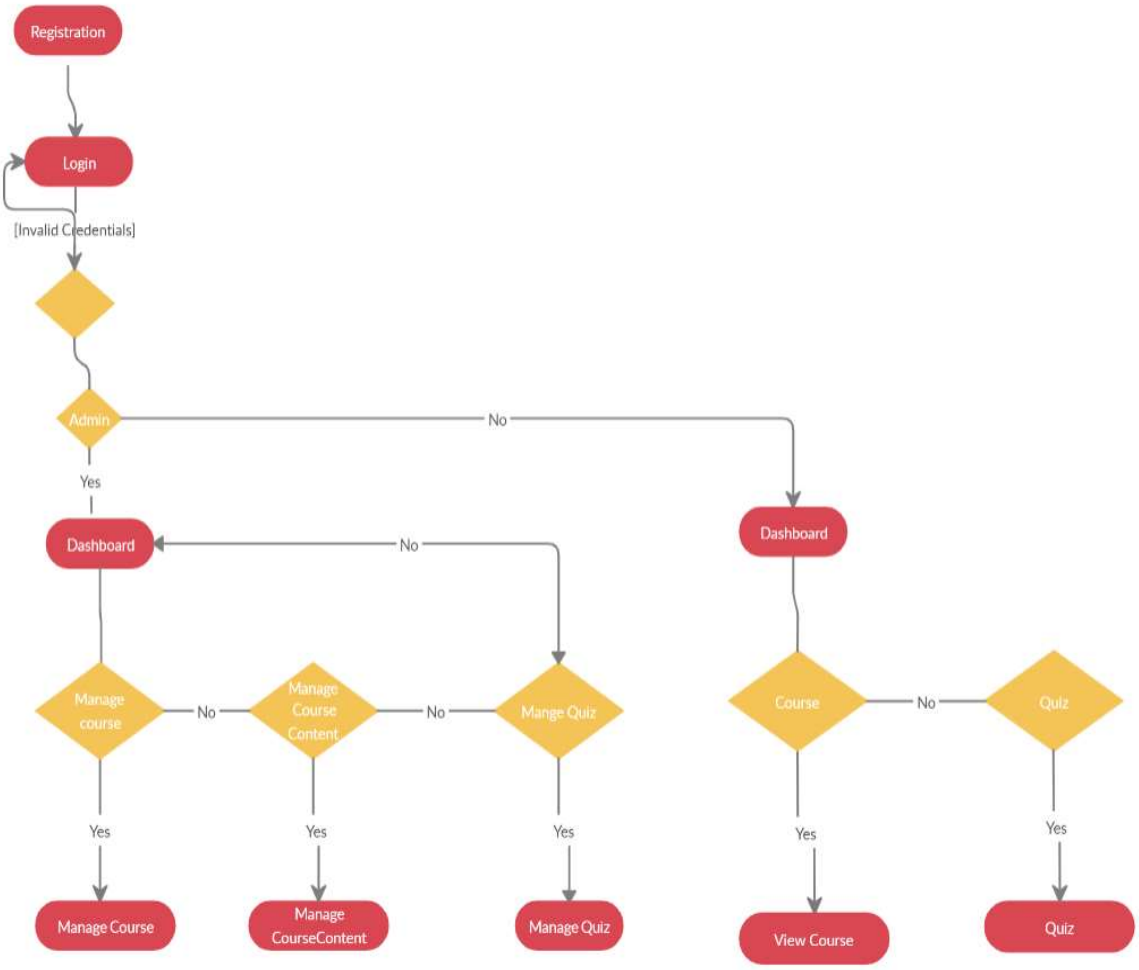
- Delete Course Content:

```
def addQuestion(request)
```

- Logout:

```
def logout(request)
```

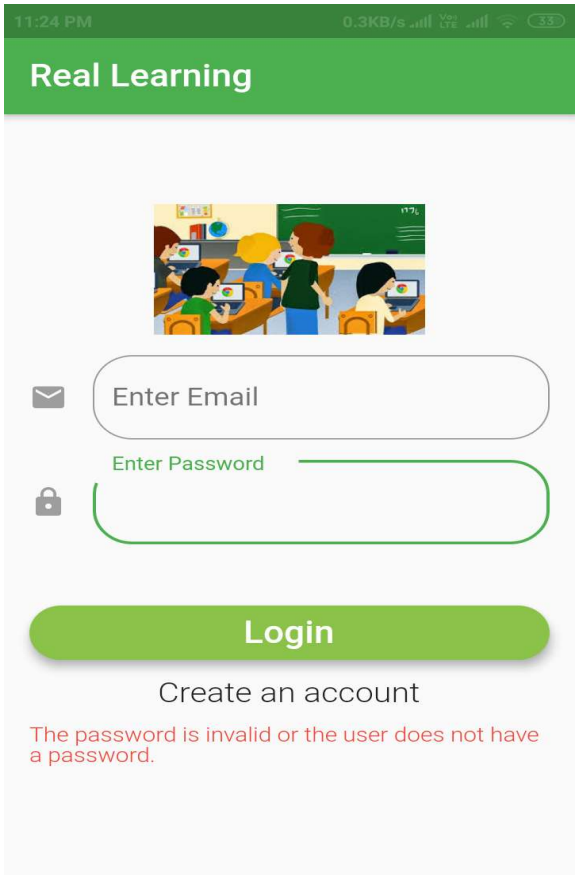
3. Flow Chart

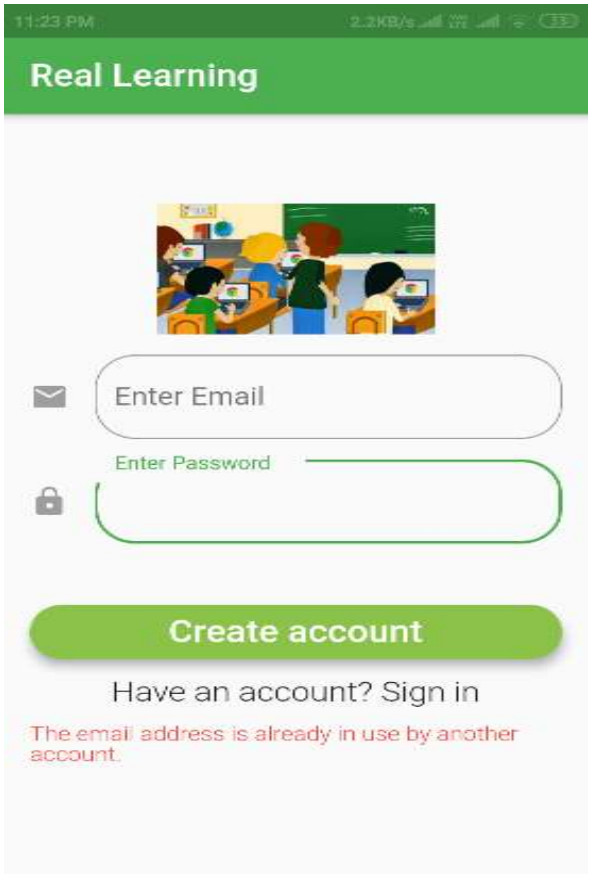

Registration
Login
[Invalid Credentials]
Admin
No
Yes
Dashboard
No
Dashboard
Manage course
No
Manage Course Content
No
Mange Quiz
Course
No
Quiz
Yes
Yes
Yes
Yes
Yes
Manage Course
Manage CourseContent
Manage Quiz
View Course
Quiz

6. Testing

We performed black box testing.

If user does not provide password or wrong details system will throw error.

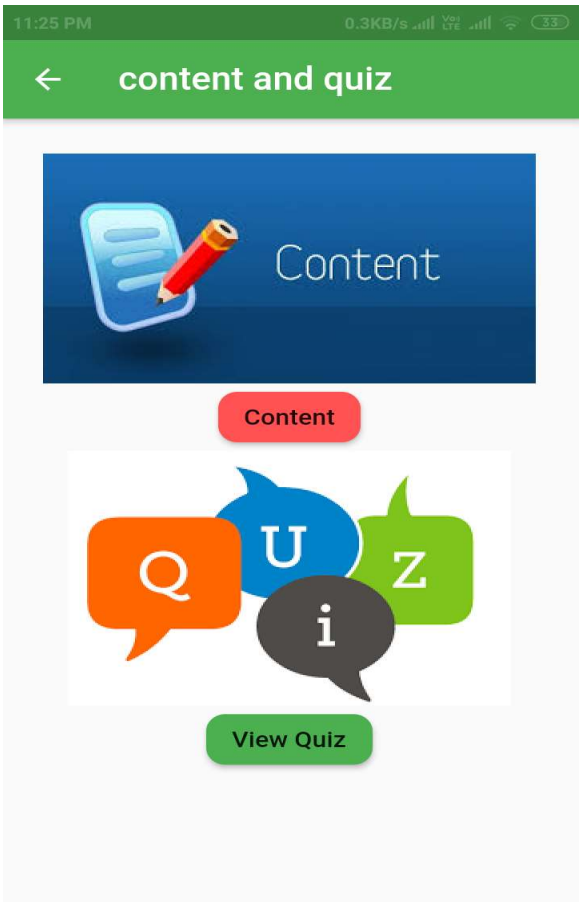




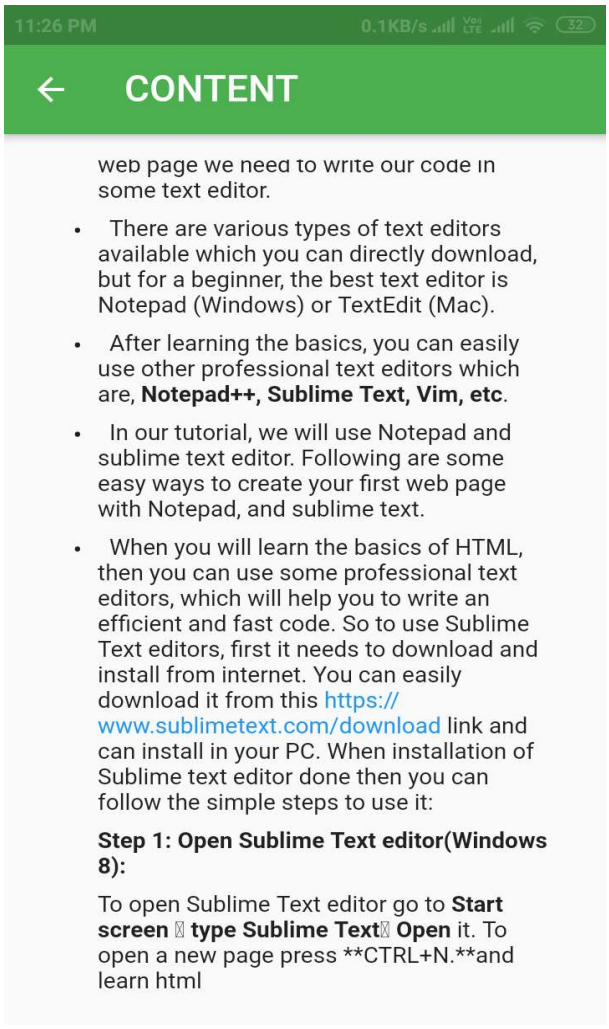
7. Screenshot

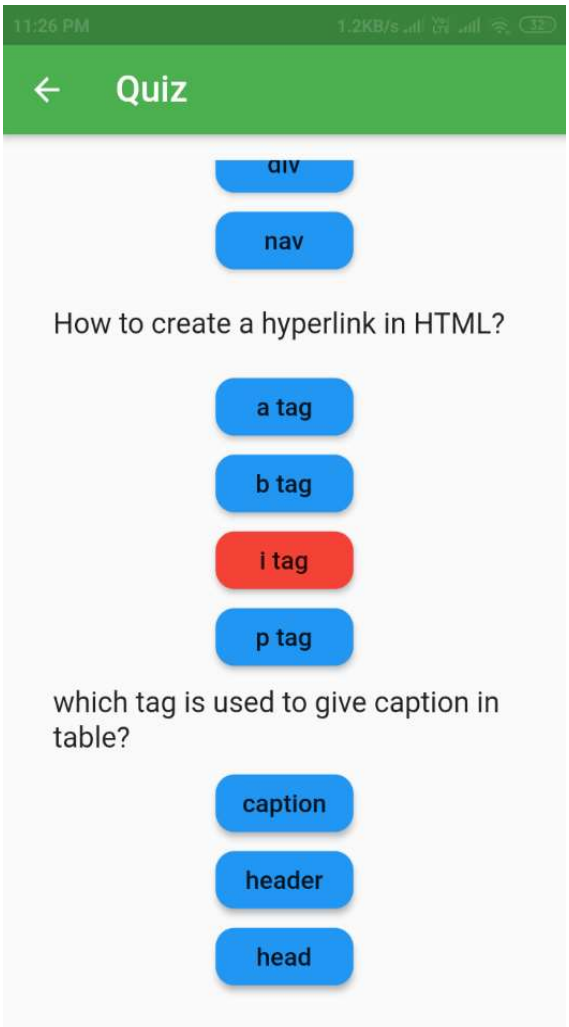
Users:

After Login user can see all courses:

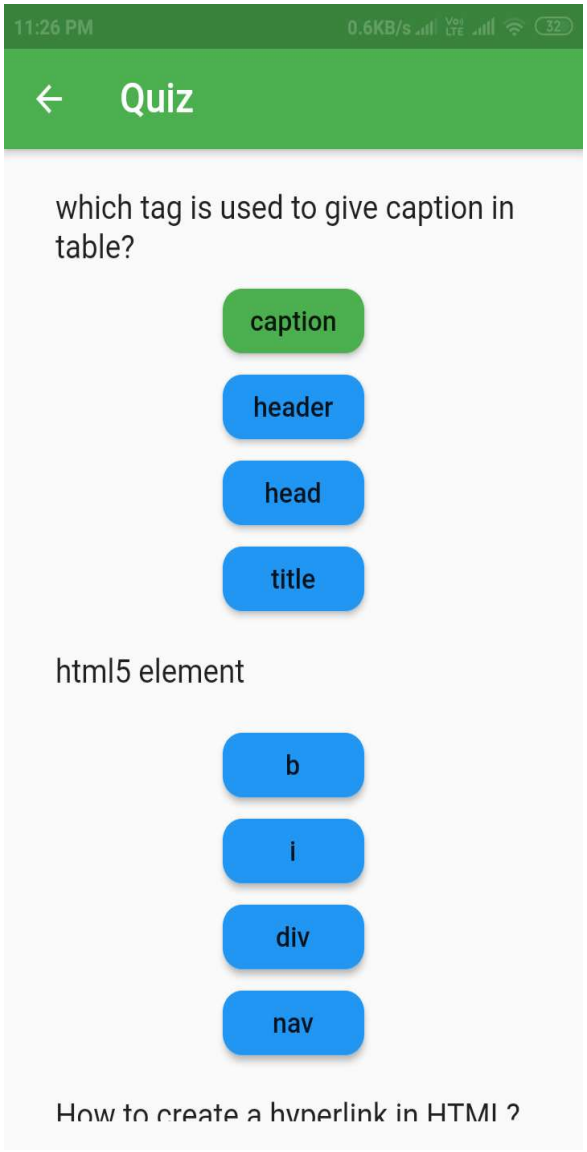


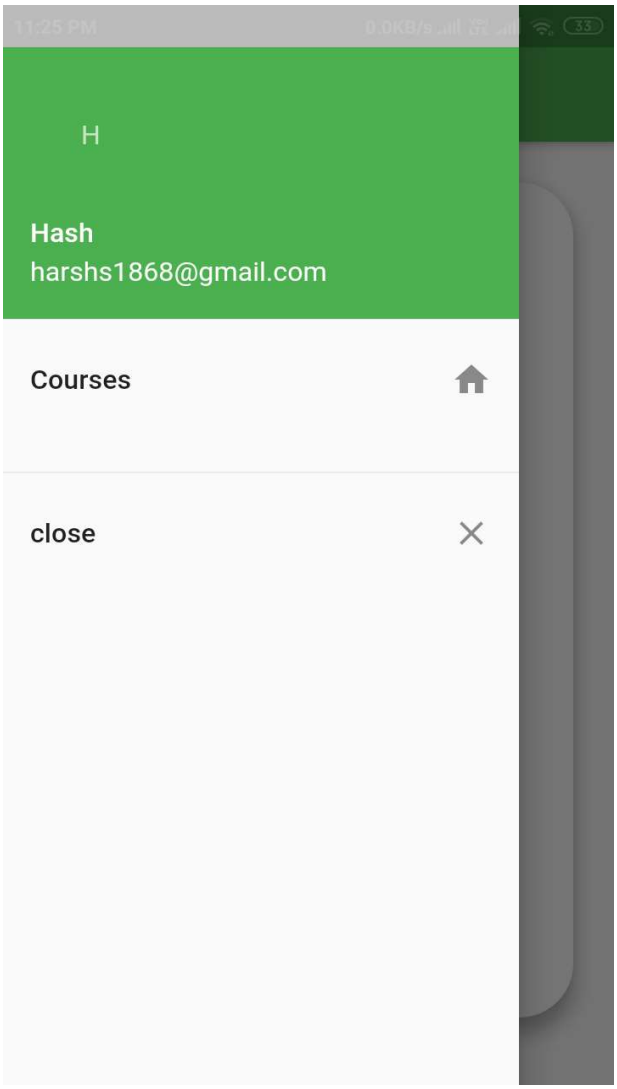
After Clicking on content or quiz user can see below screen. If answer of question is wrong then red color is displayed.





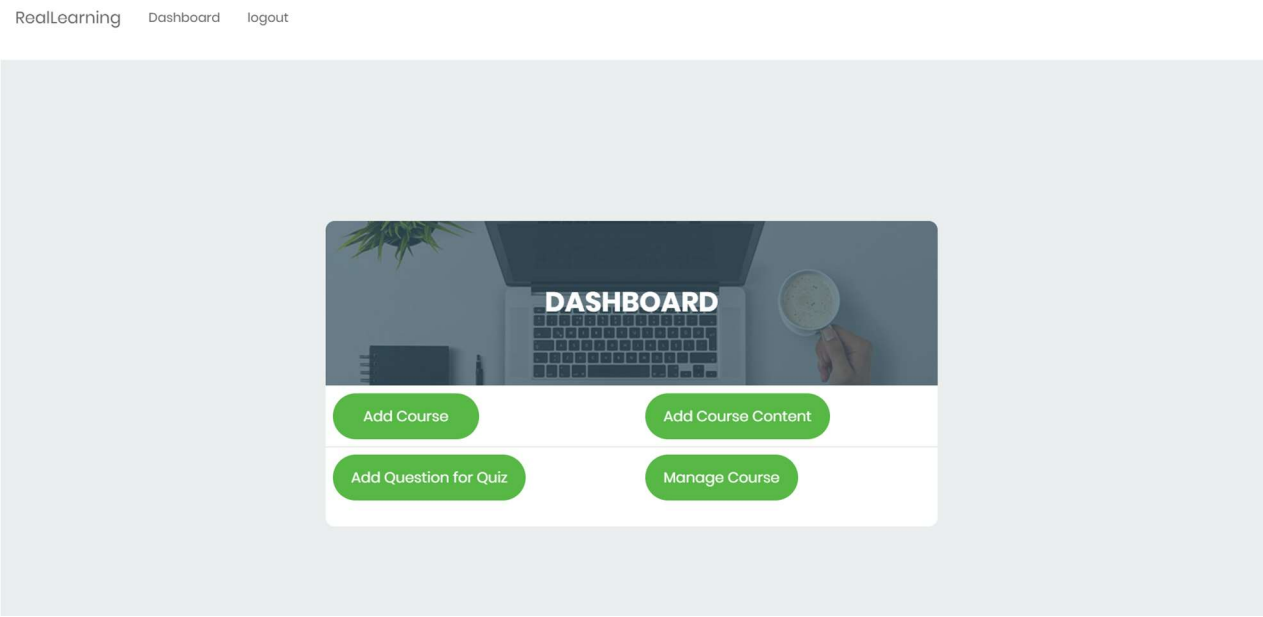
If answer of question is correct then green color is displayed.





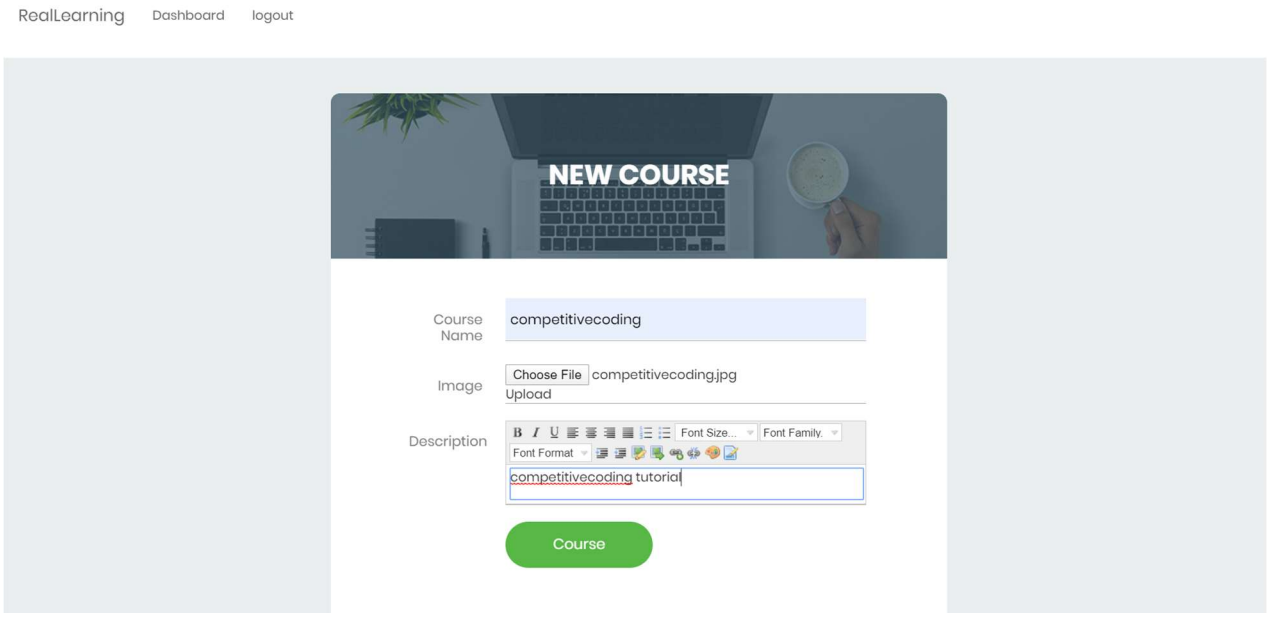
Admin:

1. Admin Dashboard:

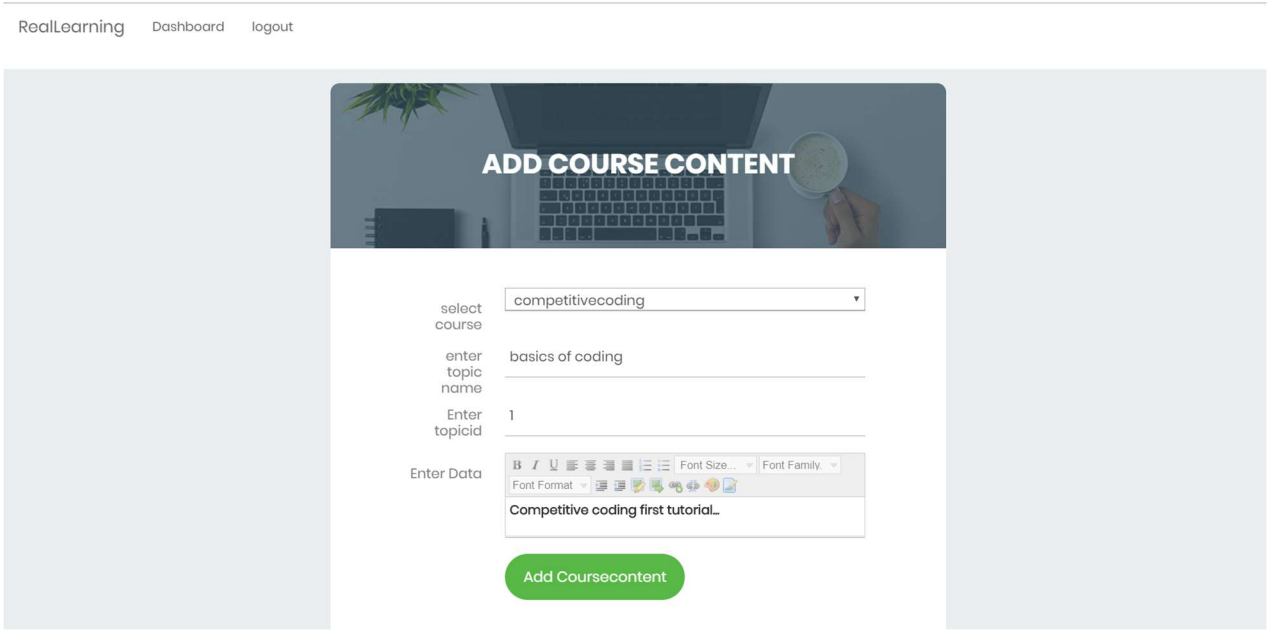


After login as Admin can see dashboard.

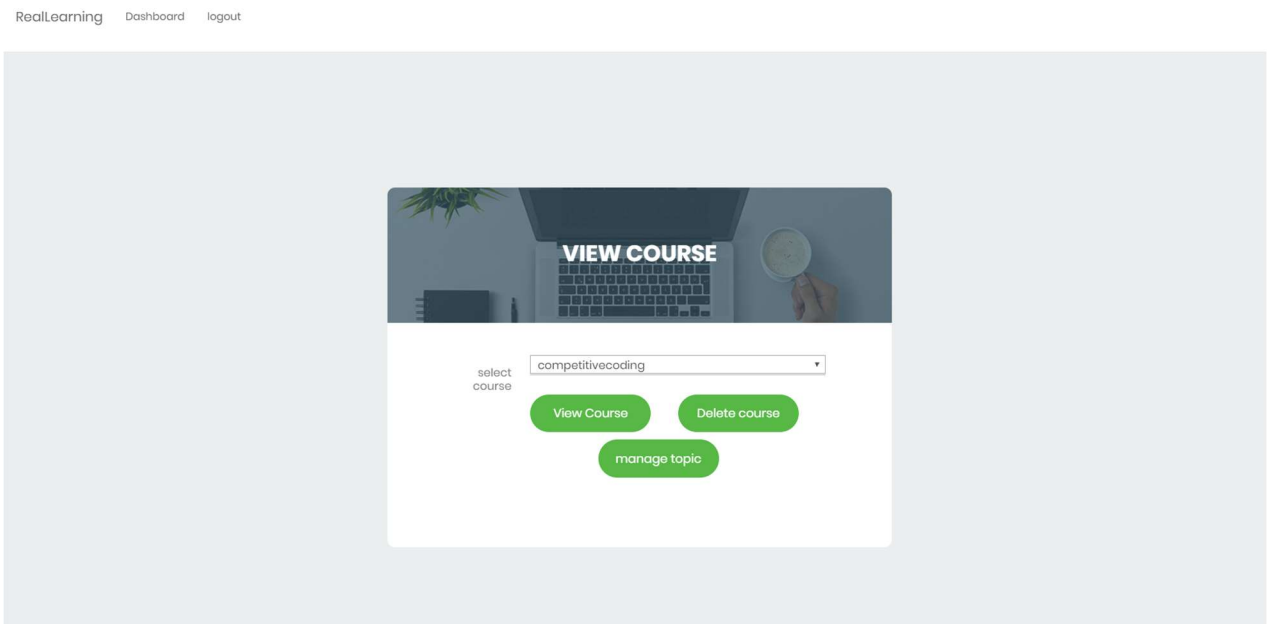
2. Add New Course:



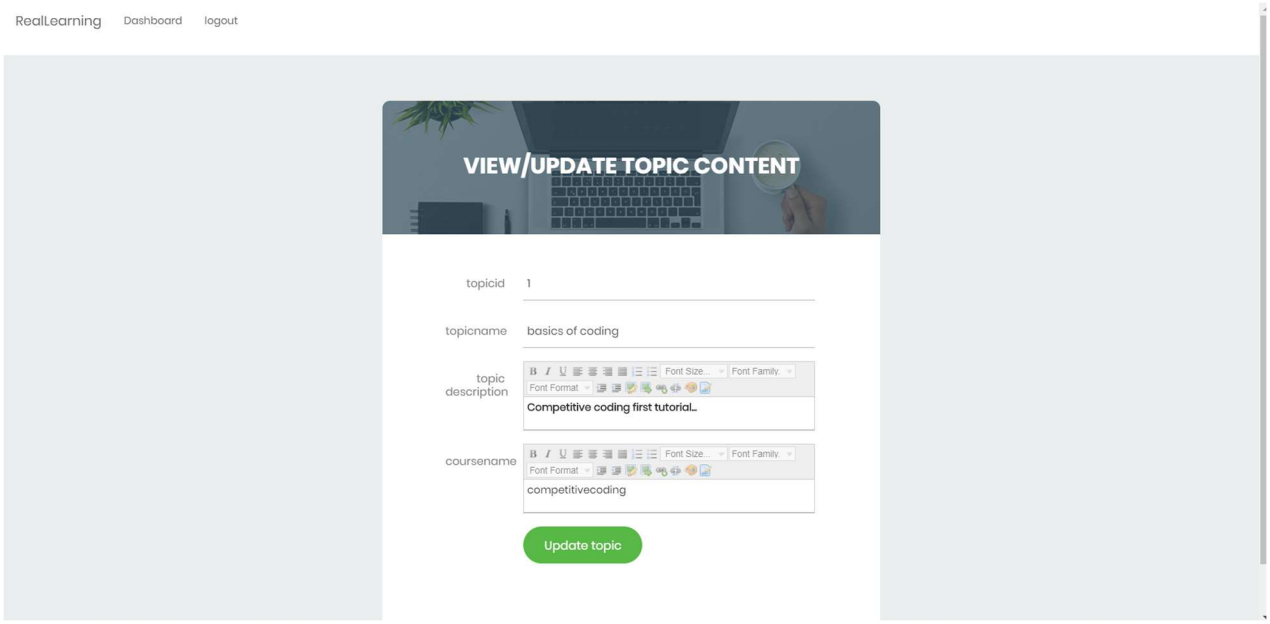
3. Add New Course-Content:



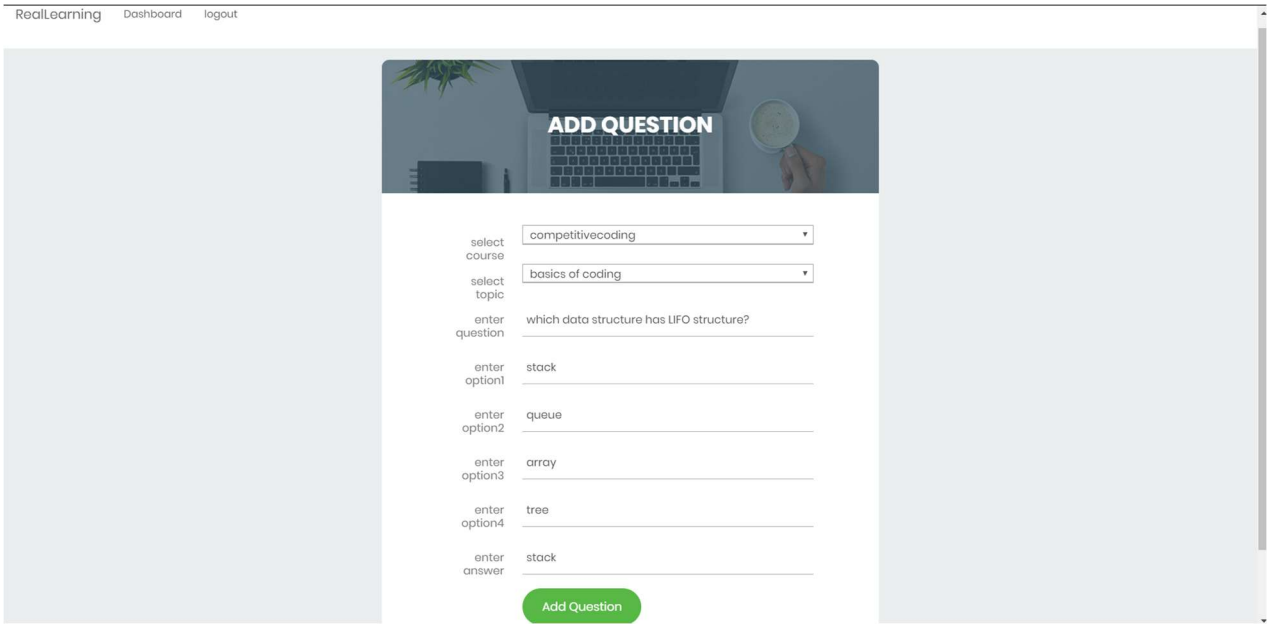
4. Manage Course:



5. Update Course-Content:



6. Add Question.



8. Limitation and Future Extension

Limitations

1. There is no enrollment feature for any course.
2. Currently system can not recommend any course based on learner's past course.
3. Our system is not tracking user so that user can know how much course is completed and how many module he has finished.
4. Our system not providing video content ,currently it supports only image and text format. You can add your rich text.

Future Extension

1. We will try to add Augmented Reality for better user experience.
2. We will provide subscription feature for course.
3. We will provide video content for any particular topic.
4. We will also track the record of learner to provide suggestion for best course.
5. We will add recommendation system for user.

9. Conclusion

The functionality of this system is developed after understanding whole system flow and all module and it is as per requirement.

The functionality which were successfully implemented :

1. Registration/Login

2. View Course

3. View Course Content

4. View Quiz

5. Manage Course

6. Manage Course Content

7. Manage Quiz

10. Bibliography

Reference Links:

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