Object Oriented Methodology

Online Course Management System
Project Report
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Project Description

Objective :

The objective is to make it easy for the user to view the free courses and moreover provide the facility to like and download the lecture. Our system give benefits to view the courses in systematic way if user has purchase the course(s). Moreover we have added board and competitive material in our paid courses. Our system provide the options to attempt test, solve DPPs, get formula books, etc. also it provide badges for attempting tests to boost the confidence level of the user.

Description :

We have created a system for online course management which allows the user to go through some free courses as well as some paid courses.

The description of the classes is listed as follows:-

Class student_profile :

It contains all the information related to the user such as name, mobile number, student ID, total study duration, number of tests attempted, courses purchased and badges.

- Student profile can only be viewed by user if he/she register at our system.
- Every time user watches a lecture, the watch time adds to total study duration
- Every time user attempts a test, number of tests attempted increases in his student profile.
- After attempting every two tests, user gets a badge.

Class lecture :

It contains information about a particular lecture such as topic, duration, checkbox.

- This class is used for lectures of paid courses.
- Checkbox shows if the user has watched the lecture or not.

Class free_lecture :

It is a derived class of "lectures", used for free lectures. It contains some additional information i.e. views and likes.

- When the user watches a free lecture, its number of views increases.
- When the user likes a free lecture, its number of likes increases.
- You can also download a free lecture.

Class board :

It contains the information about paid courses of board level, i.e. class, price, number of tests, total study hours in the course.

- User can purchase one or more courses of the same type.

Class competitive :

It is a derived class of 'board'. It is for competitive level exams. It contains some additional options i.e. DPPs and formula books.

- User has the options to download DPPs and formula book.

Class test :

Test is a class containing details of some tests available for all the paid courses. It contains syllabus of the test, duration, maximum marks, and checkbox.

- Checkbox tells if the user has attempted a test or not.

Some Important functions and their uses :

Class student_profile :

1. **void show_student_profile()** => This functions prints student profile.

2. **void register_student()** => This function take input of student name and mobile number and provide student id.

3. **void upload_course(string s)** => This function updates the name of the course purchased in student profile.

4. **void increase_watchtime(int t)** => This function increases study hours in student profile each time the user watches a lecture.

5. **void increase_test_attempted()** => This function increases no. of tests attempted in student profile each time the8 user attempts a test.

6. **void increase_badges()** => This function increases no. of badges in student profile for every two tests user attempts.

Class lecture :

7. **void change_watched()** => This function changes the checkbox to "yes" of a particular lecture if the user watches it.

8. **void details()** => This function provide the details of the lecture in a particular course that user has purchased.

Class free_lecture :

9. **void increase_views()** => This function update the views of a free lecture that user watches.

10. **void like_lecture()** => This function increases the number of likes of a free lecture when the user presses like button.

11. **void download_lecture()** => This function downloads the lecture when the user presses the download button.

Class board :

12. **virtual void show_details()** => This function prints the details of the course selected by the user from the list of courses.

13. **void purchase_course(string s)** => This function asks the user to select mode of payment and thus purchases the course and updates it to student profile.
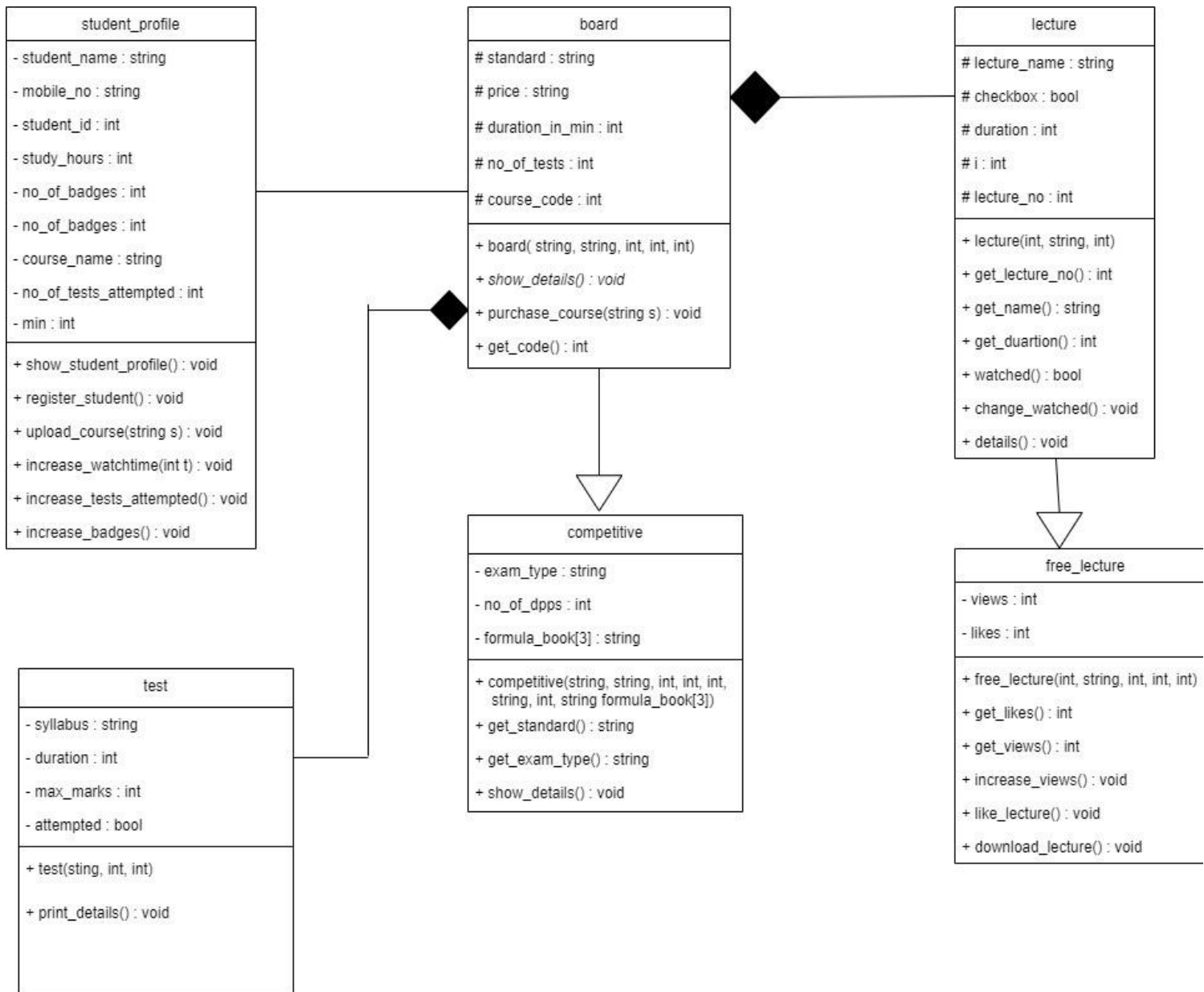
Class competitive :

14. **void show_details()** => This function is an updated function that shows the details of competitive-level course selected by the user from the list of courses.
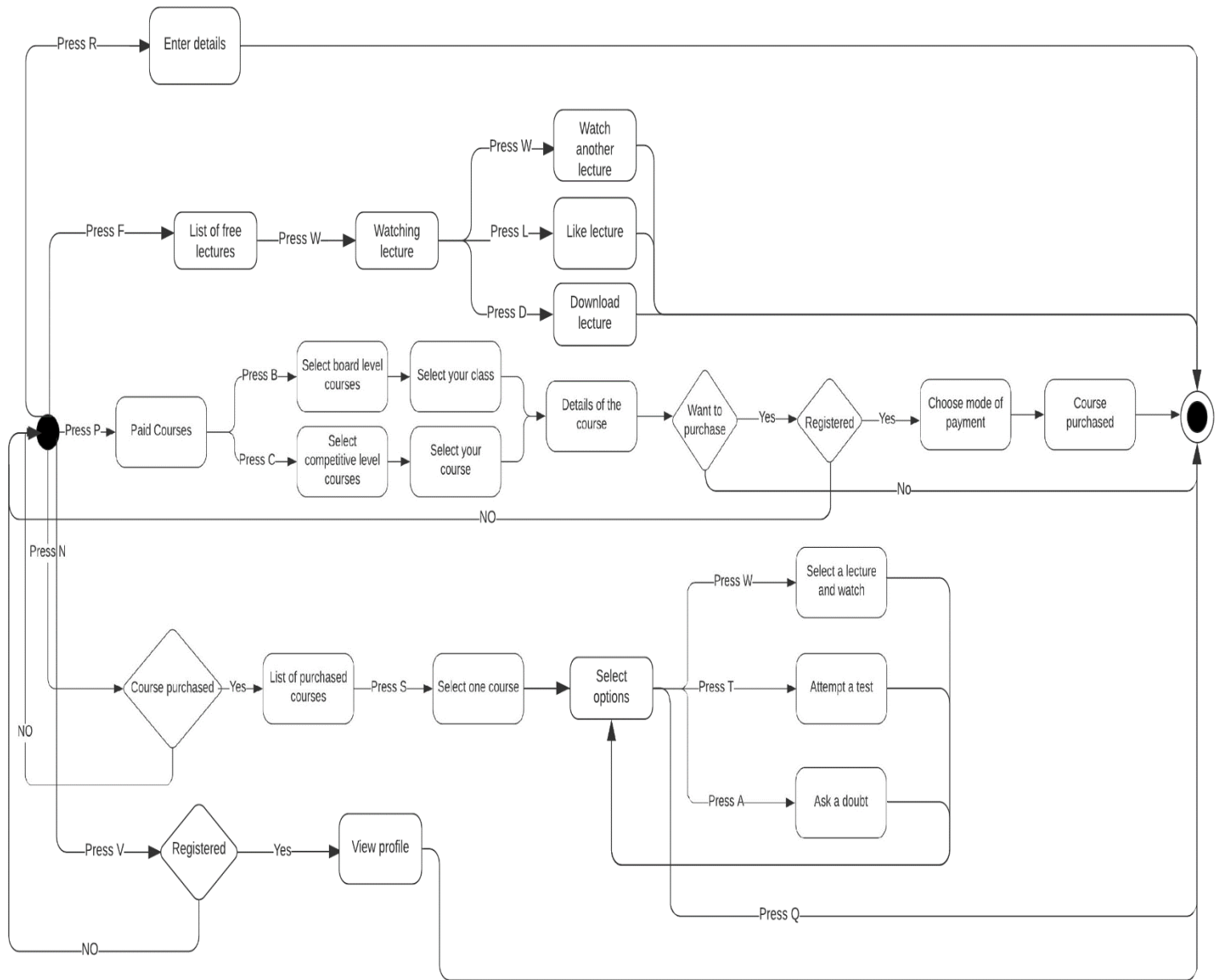
Class test :

15. **void print_details()** => This function prints the details of the tests in a particular course.

Structural Diagram – Class Diagram

student_profile

- student_name : string
- mobile_no : string
- student_id : int
- study_hours : int
- no_of_badges : int
- no_of_badges : int
- course_name : string
- no_of_tests_attempted : int
- min : int

+ show_student_profile() : void
+ register_student() : void
+ upload_course(string s) : void
+ increase_watchtime(int t) : void
+ increase_tests_attempted() : void
+ increase_badges() : void

board

standard : string
price : string
duration_in_min : int
no_of_tests : int
course_code : int

+ board(string, string, int, int, int)
+ *show_details() : void*
+ purchase_course(string s) : void
+ get_code() : int

lecture

lecture_name : string
checkbox : bool
duration : int
i : int
lecture_no : int

+ lecture(int, string, int)
+ get_lecture_no() : int
+ get_name() : string
+ get_duartion() : int
+ watched() : bool
+ change_watched() : void
+ details() : void

competitive

- exam_type : string
- no_of_dpps : int
- formula_book[3] : string

+ competitive(string, string, int, int, int, string, int, string formula_book[3])
+ get_standard() : string
+ get_exam_type() : string
+ show_details() : void

free_lecture

- views : int
- likes : int

+ free_lecture(int, string, int, int, int)
+ get_likes() : int
+ get_views() : int
+ increase_views() : void
+ like_lecture() : void
+ download_lecture() : void

test

- syllabus : string
- duration : int
- max_marks : int
- attempted : bool

+ test(sting, int, int)
+ print_details() : void

Behavioral Diagram – Activity Diagram

Some Screenshots from the system :-

Main Menu :

```
WELCOME TO OUR ONLINE COURSE MANAGEMENT SYSTEM

. . . . . . . . . . . . . . . . . . . .
Enter R to register
Enter F to view Free Lectures
Enter P to view Paid Lectures
Enter N to navigate through your purchased courses
Enter V to view profile
Enter E to exit
. . . . . . . . . . . . . . . . . . . .
```

Register (on pressing R) :

```
Please enter Student's Name: Ananya Sharma
Please enter your Contact Number: 9678490484

You have Registered Successfully!!

**The duration of every lecture you watch adds to your total study duration and shows up in your profile.
**You will get one badge everytime after attempting two tests.
**You can see your purchased course(s) in your profile.

Your Profile details are as follows:

Student Name : Ananya Sharma
Registered Mobile Number : 9678490484
Student ID : 114
Total Study Duration : 0 hrs 0 mins
Number of Badges : 0
Purchased Course : NA
Number of tests attempted : 0
```

Free Lectures (on pressing F):

```
The list of free lecture is as follows:

Lecture No.: 1
Lecture Name: Number System
Duration in minutes: 31
Views: 1254
Likes: 126
Watched: No

Lecture No.: 2
Lecture Name: Gravitation
Duration in minutes: 62
Views: 7392
Likes: 515
Watched: No

Lecture No.: 3
Lecture Name: Periodic Table
Duration in minutes: 43
Views: 4038
Likes: 304
Watched: No

Lecture No.: 4
Lecture Name: Control & Coordination
Duration in minutes: 75
Views: 6630
Likes: 437
Watched: No
```

```
Lecture No.: 5
Lecture Name: French Revolution
Duration in minutes: 84
Views: 5884
Likes: 317
Watched: No

Lecture No.: 6
Lecture Name: Reported Speech
Duration in minutes: 22
Views: 3762
Likes: 296
Watched: No

Enter W to watch lecture
Enter Q to quit
```

Paid Lectures (on pressing P) :

```
Enter B to select Board-level courses
Enter C to select Competitive level courses
Enter Q to quit

█
```

Board – Level Courses (on pressing B) :

```
Please select your class (9th-12th):
11
Please enter your majors (PCB or PCM?):
pcm

Class: 11th PCM
Price: 20000 INR
Total study hours: 300
Total No. of Tests: 30
Do you want to purchase the course (y/n)?
y

Choose your mode of payment:
1. UPI/Net Banking
2. Debit Card
3. Credit Card

2
You have purchased this course.

Your Profile details are as follows:

Student Name : Ananya Sharma
Registered Mobile Number : 9678490484
Student ID : 114
Total Study Duration : 0 hrs 0 mins
Number of Badges : 0
Purchased Course : Class 11th Board-Level
Number of tests attempted : 0
```

Competitive – Level Courses (on Pressing C) :

```
The list of Competitive-level courses is as follows:
1. 9th & 10th JEE(Mains + Adv)
2. 11th & 12th JEE(Mains + Adv)
3. 9th & 10th JEE(Mains)
4. 11th & 12th JEE(Mains)
5. 9th & 10th NEET-UG
6. 11th & 12th NEET-UG

Please enter the course no. you want to purchase:
2

Class: 11th & 12th
Price: 80000 INR
Total study hours: 600
Total No. of Tests: 70
Competitive course type: JEE(Mains + Adv)
Number of DPPs: 100
Formula Books provided: Maths, Physics, Chemistry

Do you want to purchase the course (y/n)?
y

Choose your mode of payment:
1. UPI/Net Banking
2. Debit Card
3. Credit Card

2
You have purchased this course.
```

```
Your Profile details are as follows:

Student Name : Ananya Sharma
Registered Mobile Number : 9678490484
Student ID : 114
Total Study Duration : 0 hrs 0 mins
Number of Badges : 0
Purchased Course : Class 11th Board-Level, Class 11th & 12th JEE(Mains + Adv)
Number of tests attempted : 0
```

Navigate through purchased courses (on pressing N) :

```
You have purchased the following course(s):
1. Class 11th Board-Level
2. Class 11th & 12th JEE(Mains + Adv)

Enter S to select one of the courses
Or
Enter Q to quit
s

Enter the course no. you want to view:
1

You have selected the "Class 11th Board-Level" course

Enter W to watch a lecture
Enter T to attempt a test
Enter A to go to doubt section
Enter Q to quit
```

View Profile (on pressing V) :

(showing profile after selecting 'watch a lecture' and 'attempt a test' options)

```
Your Profile details are as follows:

Student Name : Ananya Sharma
Registered Mobile Number : 9678490484
Student ID : 114
Total Study Duration : 1 hrs 16 mins
Number of Badges : 0
Purchased Course : Class 11th Board-Level, Class 11th & 12th JEE(Mains + Adv)
Number of tests attempted : 1
```

Thanks