Digital Education Platform

(alternative of Coursera)

Degree of

Master of Science

In

Information Systems

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Chapter-1
Introduction of the Digital Education Platform (Eduversity)

Consider a different approach to education in which you are free to select the subjects and times that you wish to study. This is the idea behind our alternative online learning platform, which is similar to Coursera but has some fun additions.

Professors are the educational super heroes on our site. They can teach from any location in the world and have total control over the courses they offer. We think you get a special and excellent education when instructors are at the center of your learning process.

Here's what makes our platform special:

Your Choice: You can sign up for courses whenever you want, just like picking your favourite books from a library. Professors offer courses in their areas of expertise, so you know you're getting top-notch knowledge.

Reputation Matters: To assist you in selecting the top courses, we have a reputation index. It's similar to looking through reviews before visiting a new eatery. You'll be aware of the highly suggested courses.

Global Learning: Professors can join us from anywhere, and you can access their courses on your tablet, computer, or phone. Learning knows no boundaries!

Get Your Degree: You must enroll in classes taught by various instructors in order to receive your degree. It is comparable to obtaining stamps in your passport through your exploration of the realm of knowledge.

Everything has been considered, from assisting you with graduation to getting started with the platform. In addition to browsing classes and creating your own timetable, you can also examine how other students rank the instructors.

We are also concerned with enhancing education and ensuring that it is available to everybody. For this reason, we're implementing cutting-edge concepts like adding third-party certifications for your degrees and integrating employers into the educational process.

We will offer our solution, the technical details, the working blueprint, and a fully functional application that covers all the fantastic things you can accomplish with our platform in this project. We'll even talk about whether this is how education will develop in the future—making it more accessible and inexpensive for all, particularly for those who most need it.

Our digital education platform is here to enable the transformation we believe education can bring about in people's lives. Greetings from the future of education!

1.1 Abstract

Ensuring that education is both accessible and of high quality is a major global challenge. In response, we present a cutting-edge digital education platform that reinvents the educational environment with an emphasis on empowerment and decentralisation. This platform makes use of cutting-edge software engineering methods to improve learning experiences and increase accessibility to education for people all over the world.

Professors have full control over the courses they teach and when they teach them, free from institutional restrictions, in this new paradigm of digital education. Teachers can work remotely from any location in the world, and students can choose the most appropriate courses with the help of a crucial reputation index. Learning has no borders because to the platform's accessibility across multiple devices, including tablets, browsers, and smart devices.

A wide range of crucial use cases are covered by our system, such as initial system setup, a global student directory, and graduation certification. Students view their transcripts, and instructors can easily maintain their course catalogue and timetables. Students can peruse and choose classes from instructors across the globe, supported by a system for grading teachers. The path to a degree is made simpler by the automation of graduation requirements.

A dashboard gives platform owners the ability to gather various kinds of data in order to fully capture performance data. In order to improve the educational experience, we also welcome creative ideas like employer engagement and third-party certification bodies.

This project imagines a future of education in which creativity, autonomy, and technology come together to transform education and, in the end, promote equality and progress for all.

1.2 Modules:

- ☐ Manage Professor

  When user select the role as the professor they will be redirected to the Professor login screen. If the Professor already has the account they can login using their Username & Password.

- ☐ Manage Student

  When user select the role of student he/she have two choices either to login if already a user and if a new user then he may have to redirect to signup page to make a new account and then he can login to perform various kind of actions.

- ☐ Manage Employee

  Employee is the user who is responsible for providing feedback to faculty and students when needed .

- ☐ Registration:

  In this, first the Employee, admin, faculties and students get registered by selecting their username and password and by providing the necessary detail.

  Then each user profile will be maintained which can be edited by the user when desired. Each person will register only one time. Details of the each person along with the username and password is saved in the array list.

- ☐ Login:

  After providing the correct username and password, each user such as students, faculties and employee can log into their dashboard. Different users have separate dashboards. In the student dashboard, they have access to register for the new course, view and rate the professor rating, view current course schedule,etc. In the professor dashboard, professors can manage courses, manage student accounts, grade students, view student performance, add new courses and course catalogues. In the admin or

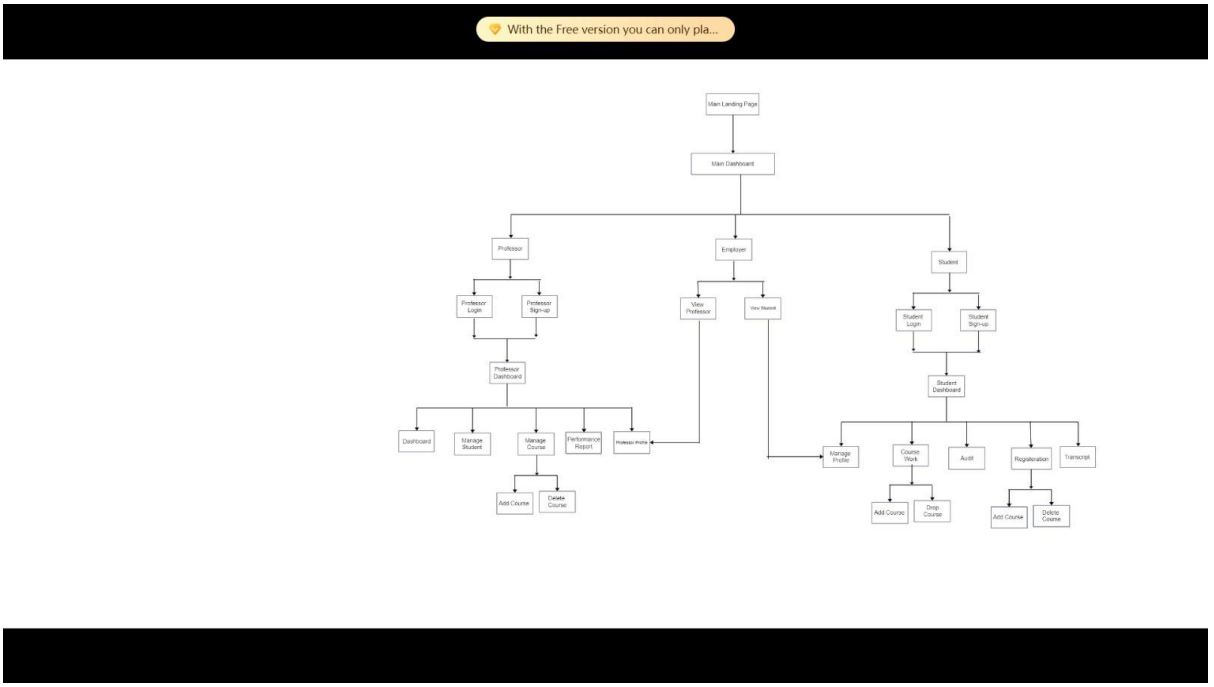
employee dashboard, they have the access to view the feedback for the professor given by the student and convey it to the professor.

Chapter-2

Responsibilities of roles-

Abstract-

Different roles have different responsibilities in this portal and no other user of different roles can access the other roles with his/her credentials.



Professor-

Professor have access to operate below functionalities:

a)Dashboard

b)Manage Student

c)Manage Course

(1)Add Course

(2)Delete Course

d)Performance Report

e)Professor Profile

Employer-

Employer have access to operate below functionalities:

1)View Professor and Provide Feedback.

2)View Student and Provide Feedback.

Student-

Student have access to operate below functionalities:

1)Manage Profile

2)Choose Course work

  a)Add Course

  b)Drop course

3)Request to third party for graduation certification.

4)Registration of next sem courses

  a)Add course

  b)Drop Course

5)View Transcript.

Third Party/Grad Authority-

The role of grad authority is just to view the student subjects and decide if he/she is ready to graduate from the virtual university or not.

Admin-

Admin can view any person irrespective of role either it is employer,professor or student.

Chapter 3-

The Architecture of Eduversity Working :

Abstract:

1. This chapter consists of the approach and the basic architecture used while implementing this module.
2. This project is divided into two modules one for java backend(Business) and another for frontend (UserInterface) which are further divided into sub modules .
3. For smooth implementation of the UI, cardlayout panel is used with the name of workArea.
4. For efficient working of the database flow used to store the data six arraylists **(personDirectory,employeeDirectory,professorDirectory,userAccountDirectory,studentDirectory,graduationCertificationAuthorityDirectory) are used and after creation of this directory these all directories are initiated in Business.java class and this Business.java class is further used in initiation and connections of the panels along with cardlayout's attribute workArea.**

Sub modules and Classes used in the model:

Business module-

Business

1) Business.Java

2)ConfigureABusiness.Java

Business.Person

1)Person.Java

2) PersonDirectory.Java

Business.Profiles

1)EmployeeDirectory.Java

2)EmployeeProfile.Java

3)StudentDirectory.Java

4)StudentProfile.Java

5) ProfessorDirectory.Java

6) ProfessorProfile.Java

Business.userAccount

1)UserAccount.Java

2)UserAccountDirectory.Java

UserInterface Module-

UserInterface:

1)MainJFrame.Java

2)ManageUserAccountJPanel.java

UserInterface.workArea.Authority(third party certification)

1)LoginAuthJPanel.Java

UserInterface.workArea.Employer

1)EmployerPortalJPanel.java

2)LoginEmployerJPanel.Java

3)ViewProfJPanel.Java

4)ViewStudentJPanel.Java

UserInterface.workArea.Student

1)StudentCourseJPanel.Java

2)StudentCourseRegistrationJPanel.Java

3)StudentGradAuthorityJPanel.Java

4)StudentGradesJPanel.Java

5)StudentPortalJPanel.Java

6)StudentProfileJPanel.Java

7)StudentTranscriptJPanel.Java

8)StudentworkAreaJPanel.Java

9)ViewSelectedAvailableCourseDetailJPanel.Java

UserInterface.workArea.Faculty

1)FacultyDashboardJPanel.Java

2)FacultyGradeAreaWorkJPanel.Java

3)FacultyLoginJPanel.java

4)FacultySignupJPanel.Java

5)ManageCourseJPanel.Java

6)ManageIndividualCourseFacultyJPanel.Java

7)ManageStudentProfileJPanel.Java

8)PerformanceReportJPanel.Java

Apart from basic Creation of this model, some graphs to display scores and grades of student to the professor Statistically have been implemented, and for that 3 jar files are imported

-jfreechart

-jcommon

-Rojerusan.parte 1

Chapter 4:

The Use cases and their brief description-

Abstract-This project consists of 29 used cases .

1)Professor Login-It is used simply to enter username and password in the textfield which will bring professor to their dashboard.

2)Professor Sign in-Used to enter details of professor and let him sign and then login again and then redirect to next panel that is dashboard panel.

3)Professor Dashboard-This use case consists of table showing professor subject details and along with that it consist 3 more buttons ie-manage student profile,manage course,performance report .

4)Manage Student profile-In this panel/used case professor can view all of his students and he can add grades over their and then the information about student grades will get updated.

5)Add Grades-In this case professor can add the grade of students of all the components manually which will reflect back after updation in the table present in manage student profile.

6)Manage Course-This feature allows the professor to view his already running course and along with that professor can add more courses of his choice as per his knowledge.

7)Performance Report-Here professor can view all of his students performance in form of table along with the gpa and can view that graphically the individual performance.

8)Analyse Student Performance-Here in this use case professor can view his student's performance in form of line graph in order to get mean value of score and for that jcommons and jfreechart jars were imported in the libraries.

9)Student Login-It is used simply to enter username and password in the textfield which will bring student to their dashboard.

10)Student Signup-Used to enter details of student and let him sign and then login again and then redirect to next panel that is dashboard panel.

11)Coursework-Here student can view his courses of the semester in table form and have rights to drop ,view as well as register other courses.

12)View Courses-Here by selecting a entry on table a student will redirect to view course page which consists of all the details of course,professor,location,credits and semester availability.

13)Drop Course-Here user have the rights to drop the courses from already registered /selected courses.

14)Register Other Course-Here student have the permission to register for other courses from available courses in the list .

15)Submit Rating-Here student can give ratings to professor which will further change the already present ratings of professor just by culminating the student given value and already present value.

16)Manage Profile-Here student can view all his information present within the platform including username ,password ,first name ,last name etc and can update it any time needed(it is just like a setting features **Privacy** to edit and manage one own's details).

17)Registration-Here student can view the details of all the course works available in virtual campus and can register his course as per convenience.

18)Transcript-Here student can see his all the grades which he scored in all the courses taken and then can view his gpa or cumulative gpa in which percentile mathematics formula is used ie- (Grades*Credits/Total Credits) and further he can download his transcript in a pdf format for which com.lowagie.text jar file is added in the libraries.

19)Graduation Audit-Here student have permission to send request to the third party for the graduation approval and along with that a text box is there which will allow him to see his status after third party action performed.

20)Employer Login-It is used simply to enter username and password in the textfield which will bring employer to their dashboard.

21)View Student-Here employer can view all the details of all the students in a table form and further can view the ranking of students as per the gpa.

22)View Professor-Here employer can view details of all the professor in table format and employer can give the feedback to the professor which will further reflect on the professor dashboard and that will help professor to improve the quality of education.

23)Feedback-Here employer will give the feedback and that will reflect on professor's dashboard.

24)Graduation Authority's Login-It is used simply to enter username and password in the text field which will bring third party to their dashboard.

25)Work On request-Here third party can view the details of student along with his grades in every selected course and after seeing the grades third party have two permission either to approve graduation or decline graduation.

26)Approve Graduation-Here on clicking approve button a popup will reflect that the person is graduated and the message of “congartulations you are graduated ” will be reflected on student portal.

27)Decline Graduation-Here third party can decline the graduation request raised by student which will reflect a message of “sorry you are fail” on student portal.

28)Admin Login-Here admin can login with username and password.

29)View details-Admin can view both professor and student’s details.

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Methodology-

This project is created in java swing ui in which cardlayout format of panel is used in creation ,The software used is netbeans and the VM used is jdk20 along with jdk 20 some of other jar files have been used in this project such as jfreechart,com.lowagie.text,jcommons

The project is basically a virtual university model which consist of 5 roles and all the roles have permission to operate their respective panels and for efficient working of stored data in this project 6 arraylists were implemented which are further initiated in ConfigureABusiness.java class.

References-

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