

User (abstract)

Variables:

- Id
- name
- email
- password

Methods:

- void logout();
- void login();
- getter and setter

Admin(inherits from User)

Variables: NOTHING

Methods:

- Call methods inside user and courses service
- Payment(Student s)->include many way

Instructor (inherits from User)

Variables:

- ArrayList<Course> createCourses
- ArrayList<Certificate> createdCertificates
- ArrayList<quizes> createdquizes
- ArrayList<Lesson> createdLessons

Methods:

- manage_courses();
- generate_certificate();
- call methods inside quiz and courses service

Student (inherits from User)

Variables:

- ArrayList<Course> enrolledCourses
- ArrayList<Certificate> earnedCertificates
- ArrayList<Course> completedCourses
- Analytics analytics;

Methods:

- enroll_course();
- Complete_Course();
- Earn_certificate();
- browse_available_course();
- Do_quiz();
- time_spent();
- finish_lesson();

Analytics

Variables: NOTHING

Methods:

- displayTimeSpent(Student s)
- displayCompletedCourses(Student s)
- displayQuizGrades(Student s)

Certificate

Variables:

- Instructor instructor
- Student student
- Course course

Methods:

- **Create_certificate()**

Course

Variables:

- ArrayList<Quiz> quiz
- ArrayList<Instructor> instructor
- ArrayList< Lessons> lesson
- ArrayList< Student > student
- price

Methods:

- getter and setter

Lesson

Variables:

- id
- name
- content
- optional_resource
- duration

Methods:

- getter and setter

Quiz

Variables:

- id
- number_questions
- course_name
- passing_score
- name
- duration

Methods:

- getter and setter

*****ALL Service DEAL WITH DATABASE(JSON) *****

UserService

Variables: NOTHING

Methods:

- add_instructors(Instructor i) && update && delete
- add_student(Student s) && update && delete

CourseService

Variables: NOTHING

Methods:

- add_courses(Course c) && update && delete
- add_lessons(Lesson l) && update && delete
- add_certificate (Certificate c) && update && delete

QuizService

Methods:

- add_quiz(Quiz q) && update && delete

JsonDatabaseManager

Variables: NOTHING

Methods:

- add_courses(Course c) && update && delete to courses.txt
- add_certificate(Certificate c) && update && delete to certificate.txt
- add_instructors(Instructor i) && update && delete to user.txt
- add_student(Student s) && update && delete to user.txt
- add_quizes(Quiz q) && update && delete to quiz.txt
- add_lessons(Lesson l) && update && delete to lesson.txt