

DB Project Proposal - Courshaalaa - The Learning Platform

List of Group members

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Course

This collection will store data about all the courses that are to be offered by the platform. Within each course document, there will be a name/title for each course, its description, a ratings tab, an array containing tags related to the course which will be used for recommendations, a subdocument containing reviews given by students who have taken the course. It also contains an array of links to the course videos that are to be displayed.

Name	Type	Description
Course Name	String	It stores the name or title
Course Description	String	It contains the details about the topics covered in the course
Ratings	Number	It is the average rating of the course calculated after each review

Tags	Array	It contains all the tags related to the topics covered in the course
Videos	Sub Document	An array of objects, wherein each video object will have a link and an order number
_id	Object ID	A globally unique identifier to represent the course
Reviews	Array	List of review IDs that are about this course
Assignments	Sub Document	Contains the list of assignment IDs that are related to the course
Teacher_id	Object ID	Id of the prof who have created the course.

```

{
  "_id": "507f1f77bcf86cd799439011",
  "course_name": "Fundamentals of Mathematics",
  "description": "Fundamentals of Mathematics is designed for the student who needs to improve or review basic math skills and concepts",
  "rating": 3,
  "videos": [
    {
      "Course_id": "507f1f77bcf86cd799439011",
      "Video_URLs": "https://www.youtube.com/watch?v=WjJ-kpgps1c&ab_channel=TabletClassMath",
      "order_number": 5,
      "Video_id": "507f1f77bcf86cd799439011"
    }
  ],
  "assignments": [
    {
      "Course_id": "507f1f77bcf86cd799439011",

```

```

      "File_URLs": "https://www.youtube.com/watch?v=WjJ-kpgps1cab_channel=TabletClassMath",
      "order_number": 5,
      "Assignment_id": "567f1f77bcf86cd799439011"
    }
  ],
  "tags": [
    "maths",
    "concepts",
    "fundamentals",
    "exponents",
    "roots",
    "factorization"
  ],
  "Teacher_id": "507f1f77bcf86cd799439014"
}

```

Assignments (subdocument of Course, not stored in a collection)

This is the subdocument of the Course document. This will contain a file which will have the assignment. After each video, an assignment is to be submitted by a student.

Name	Type	Description
Course_id	Object ID	Contains the object id of the course this assignment belongs to
File_URLs	String	Links to the file containing the assignment

order_number	integer	Order set by teacher
Assignment_id	Object ID	A globally unique identifier to represent the assignment

```
{
  .... "Course_id": "507f1f77bcf86cd799439011",
  .... "File_URLs": "https://www.youtube.com/watch?v=WjJ-kpgps1c&ab_channel=TabletClassMath",
  .... "order_number": 5,
  .... "Assignment_id": "567f1f77bcf86cd799439011"
}
```

Videos (subdocument of Course, not stored in a collection)

This is the subdocument of the Course document. This will contain a file which will have a list of the videos of the course. Each video along with the link will also contain an “order_number” which will denote the order in which the video is to be shown in a course.

Name	Type	Description
Course_id	Object Id	Contains the object id of the course this assignment belongs to
Video_URL	String	Link to the file containing the video
order_number	integer	Order set by the teacher

```
{
  ... "Course_id": "507f1f77bcf86cd799439011",
  ... "Video_URL": "https://www.youtube.com/watch?v=WjJ-kpgps1c&ab_channel=TabletClassMath",
  ... "order_number": 2
}
```

Course Review

This collection will contain reviews of the courses given by students. Students will give reviews and ratings which will show up for each course and an average rating will be reflected on the main course page.

Name	Type	Description
Review_id	ObjectId	Unique id for each review
Course_id	ObjectId	Stores the course Id
Student_id	ObjectId	Stores the student Id
Comments	String	Text field to give comment
Rating	Number	The user provides a rating from 1-5

```

{
  "Review_id": "507f1f77bcf86cd799439011",
  "Course_id": "507f1f77bcf86cd799439011",
  "Student_id": "507f1f77bcf86cd799439011",
  "Comments": "This course is really good and interesting",
  "Rating": 4
}

```

Student

This collection will contain data regarding all the students. This collection contains the login details associated with each student, the courses they have taken and their progress along with their grades, the

Name	Type	Description
Student_id(User_name)	String	It is the unique id given by the user.
Email	String	Student Email
Hashed- Password	String	Password set by the User.
List of active courses	Array	Object of IDs of all the courses which are active along with the order until which the user has completed the videos.
List of completed courses	Array	Id of all the courses which are completed.

List of Recommended Courses	Array	Id of all the recommended courses based on the tags.
StackOverflowLink	String	Link of the user profile in stack overflow
GitHubLink	String	Link of the user profile in Github
Avg_grades	Number	Average grade per course
Grades	Array	Array of grade IDs of that particular student
First Name	String	Name of the student
Last Name	String	Last name of student

```

{
  .... "Student_id": "287f1f77bcf86cd799431000",
  .... "Email": "abc@gmail.com",
  .... "Password": "abcd",
  .... "Active_Courses": [{ "ObjectId": "506f1f77bcf86cd799432000", "Videos_complete": 4, "Course_id": "507f1f77bcf86cd799439011" }],
  .... "Completed_Courses": ["807f1f77bcf86cd799439011", "700f1f77bcf86cd799439011"],
  .... "Recommended_Courses": ["Algorithms", "DataStructures"],
  .... "StackOverflowLink": "",
  .... "GitHubLink": "",
  .... "Avg_Grades": 80,
  .... "Grades": 80
}

```

Grades

This collection will contain grades of each Assignment per each student.

Name	Type	Description
Id	ObjectID	Id of each Assignment Grades
Student_id	ObjectID	Id of student
Assignment_id	ObjectID	Id of course
Grades	Number	Grade of the assignment submitted by the student
Course_id	ObjectID	Id of the course
Teacher_id	ObjectID	Id of the teacher giving grades.

```
{
  "id": "227f1f77bcf86cd799439011",
  "Student_id": "287f1f77bcf86cd799431000",
  "Assignment_id": "561f1f77bcf86cd799439011",
  "Course_id": "507f1f77bcf86cd799439011",
  "Teacher_id": "507f1f77bcf86cd799439014",
  "Grades": 80
}
```


Teachers:

This collection will consist of all the courses offered by the professor. Fields will include the Teacher_id, name, password, course, college, uploaded assignment, subdocument for the course will include links to videos, description, of the course, assignments,

Name	Type	Description
Teacher_id	Object ID	Unique ID to identify the teacher
Hashed-Password	String	Password set by Teacher
Email	String	Email id of the Teacher
Course	Array	Array of courses(Id) uploaded by the professor
University	String	Name of the university where the professor teaches
Experience	Number	Experience of teaching
First Name	String	First name of teacher
Last Name	String	Last name of teacher

```
2 ..... "Teacher_id": "507f1f77bcf86cd799439014", -  
..... "First Name": "abc", -  
..... "Last Name": "def", -  
..... "Password": "hello", -  
..... "Email": "abc@gmail.com", -  
..... "Course": ["507f1f77bcf86cd799439011", "507f1f77bcf86cd799439011"], -  
..... "University": "Stevens Institute Of Technology", -  
..... "Experience": "12", |  
3
```

