**RV College of Engineering®, Bengaluru – 59**

**Department of Computer Science and Engineering**

**Database Design Laboratory (18CS53)**

**Requirement specification**

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| **TITLE: Online Course Selector** | | |
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1. **Hardware Specification**

The hardware requirements for the project are as below:

* Processor: 64-bit, 2cores, Pentium IV or higher
* Processor Speed: 1.8GHz minimum per core
* RAM: 2GB or higher
* Hard Disk: Minimum 20GB

1. **Software Specification**

* Operating System: WINDOWS 7 or higher, Android 5.0 or higher, MacOS, Linux
* Language: Python
* Front-End: HTML, CSS, Bootstrap, JS.
* Back-End: Django
* Relational Database: MySQL (back end)
* NoSQL Database: MongoDB (back end)

1. **Functional Requirements**

The functional requirements of the project include:

**1. Authentication**

Mainly there are two different types of Authentication, Admin and User authentication. The admin can perform special functions by getting their credentials authenticated in the form of a username and password.

1. The Admin is the only handler of the database and has the authority to explicitly change the database or update the database contents regularly. The
2. Users have separate credentials for authentication.
   1. He is given the privilege of creating an account for more.
   2. commenting.
   3. writing a review.
   4. updating the ratings of courses.
   5. creating a todo list that contains the courses they wish to enroll in future.
   6. course recommendations based on their previous enrollments, todo list, field of interests and qualification.

On invalid credentials, Guest User mode is applied. Guest User can also access the website but only in view mode, where they get limited features, only viewing and filtering of courses is available. To get full access to all features User has to create an account.

**2. Search Course**

The user can enter any keyword, the system searches for the keyword in courses and their tags and if it finds any matches, then it’ll display all in any order specified by the user. Sorting can also be done based on ratings, relevance, popularity, time, fees/cost etc.

**3. Data Filter**

The user can also search courses by selecting a combination of categories, domains, price, time, tags, platform etc. The items belonging to the selected features are extracted from the database and sorted according to users selection. On printing the filtered set, the user can then select to view a particular item or go back.

**4. Course View:**

On selecting a particular course, the course details are opened where all details of the course such as description, availability of certificate, enrollment fees, instructor, domain name, platform, course link, ratings, reviews etc are displayed.

**5. Recommended Courses:**

Registered users get an additional feature of recommendation where the system recommends courses for a particular user based on their previous enrollments, interests, qualifications, ratings, todo list.

**6. Review System**:

Registered users have the option of reviewing any course based on their experience. They have the option of writing a review and rating the course based on a specific rating scale. Every course contains the reviews in the reviews section and the average rating is displayed as the overall rating of the course.

**7. Course Comparator:**

This feature allows the user to select any two courses of a particular category and displays the details in two columns in a manner that facilitates the user to compare each attribute of the selected courses.

**ER Diagram**

The Entity Relationship diagram represents the plan for the database. The various entities are user, course, tag, platform. Figure below shows the ER diagram. The various relationships in the given ER diagram are user searching for a course, admin / user updating the rating.

