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## **Dharmsinh Desai University**



**Compititive programming discussion and help portal**

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**Team members:**

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**Subject:**

System Design Practice

**Faculty:**

Prof. Jigar M Pandya

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**AIM** :

To develop **Competitive Programming discussion and help portal**

**Problem Statement** :

To reduce difficulties of coders and to make the concept of algorithms and problem solving easier. User can post any doubt related to competitive programming with code also and any other user can reply to that doubt. Users can also post articles and can be edited also. Functionality of compiling code is also provided by these portal.

These portal also provide functionality of syntax highlighting.

**Functional Requirements:**

**1. Register a user**

**R.1.1 Sign up**

**Description** : This function lets users register in the system and add the details of the user( username, birth date , email id, password,address).

**Input** : User details

**Output** : Confirmation

**R.1.2 Log in**

**Description** : Login functionality lets users log into the system, by providing credentials(username , password).

**Input** : login credentials

**Output** : confirmation

**R.1.3 Log out**

**Description** : Logout functionality lets users log out from the system.

**Input** : user selection

**Output** : Confirmation Message

**2. Read Available Articles:**

**R.2.1 Read Article:**

**Description** : This function provides a feature to read existing articles and description of articles with code and explanation. User can read articles without logged in to portal also.

**Input** : User selection

**Output** : Article Page

**3. Manage Article:**

**R.3.1 To Write article/code in markdown language**

**Description** : This function allows writers to manage the article easily.

**Input** : Article text/code

**Output** : confirmation

**R.3.2 Syntax highlighting**

**Description** : This functionality lets syntax of language to be highlighted to make reading code of any language in an article.

**Input** : Code

**Output** : Highlighted Syntax

**R.3.3 Run Code**

**Description** : This function allows user to run the code

**Input** : user selection

**Output** : output of code

**R.3.3 Edit Article**

**Description** : This function allows user to edit any article posted priorly.

**Input** : old article

**Output** : new article

**4. Doubt Solution:**

**R.4.1 To ask a question**

**Description** : This function allows coders to ask the question and format it easily. It also provide functionality to add code in question.

**Input** : Question text/code

**Output** : confirmation

**R.4.2 To answer a question**

**Description** : This function allows writers to answer the question in form comments. It also provide functionality to add code in answer.

**Input** : Answer text/code

**Output** : confirmation

**Non-functional Requirements:**

**N.1 : Database :** A suitable database management system that is secure and fast to manipulate data efficiently.

**N.2 Maintaining Performance:** Good graphical user interface and good performance in network traffic and stress testing.

**N.3 Security :** System ensures to preserve and protect the information of users and manages the access-control activities at database level.