**Course Assets Application 1: Course Planning Model**

The Course Planning Model is a recommendation model which aims at generating the best **plan of action** so that the user gains the expertise fast and efficiently in their field.

It’ll focus on things like user\_score, duration of course, previous knowledge about the course, user\_availablity and target completion date.

The Code is elaborated in an extensive way as follows:

**Input**

The code takes input in the form of a json file. This file must contain every feature the user wants to put in, in a detailed format:-

{

"\_id":{"$oid":"5ecea1b690cfa44a44f83139"},

"user\_id":"Caramel\_1",

"firstName":"Student",

"lastName":"One",

"course\_duration":90,

"user\_availability":3,

"target\_completion\_date":3/2/2021,

"category":"Student",

"course\_name":"Introduction to Html",

"user\_proficiency ":5,

}

The Input has to mention the course name that the user has enrolled into along with his proficiency in it. It should also include the duration of the course he is enrolling in, availability of the user per day and their target completion date.

**Code**

* Data is taken from the json input like ID, name, course\_name, user\_availability, course\_duration, target\_completion\_date and user proficiency.
* Firstly let’s explain each point. User availability is the time that the user can dedicate per day. It’ll be more for students and less for professionals. Course duration is on hours. Target completion date is that in how many days the user wants to learn it or their own time constraint.
* The **whole course is divided into 3 parts- Learning (50%), Practice (30%), Assessments (20%).**

Learning includes all the material that has been provided like videos, presentations and pdfs. Practice includes the technical scenarios and self-practice time. And assessments are for quizzes and tests the user has to give. The timing is divided as 5:3:2.

* Now taking in consideration the target\_completion\_date and availability of the user per day provided, a time table is set according to the ratio provided above.
* The getplan() function is called which will firstly sort data according to the coursename, selecting those course data which belongs to that domain. This data will be divided into learning material, practicing material and assessment material.
* Now according to the ratio, the timing of each part of the course will be set. This includes how many hours a day the user has to work

**\*\*IMPT\*\***

**Example**: for a student, he will have to work 4 hours a day spending 2 hours on learning and 1.15 hours on practicing and 45 minutes on assessment.

Similarly, for a professional, he will have to work 2 hours a day spending 1 hour on learning 45 minutes on practicing and 15 minutes for assessment.

* The time table is imported into a dataframe (df) through Dataframe Methods present in the pandas library. This dataframe stores the respective time required for learning, practicing and assessing.
* Finally the output is provided as a json file.

**\*\*It has to be made sure that the time should not exceed the target\_completion\_date**

**Output**

The final dataframe is then converted to json format and saved into a separate file with the name of the user id.

It gives the per day requirement for the user to dedicate for completing the course effectively and efficiently on time.

{"Predicted\_TIme":

{

"TotalTime ":5,

"LearningTime ":2.5,

"PracticeTime":1.25,

"AssessTime":0.75,

}

}