**IMPLEMENTATION:**

**MODULES:**

* Customer
* Cloud Service Provider
* Cloud Admin
* Machine learning with KNN

**MODULES DESCRIPTION:**

**Customer:**

The Cloud Customer can register the first. While registering he required a valid user email and mobile for further communications. Once the customer register then admin can activate the customer. Once admin activated the customer then customer can login into our system. After login he can upload the data by selecting the cloud services. The customer history or log based suggestion he may see in his screen. To view suggestion we used knn algorithm. In the suggestion we can see the distance also. The top k value maintained by programmatically. We mapped movie dataset to cloud service data. Based on the data only the suggestion will come.

**Cloud Service Provider:**

The Cloud Service Provider can login based on Admin created information. Here we took some sample service which is not really existed. To check the performance only we took the services name like Amazon Web Services (AWS),Microsoft Azure, Google Cloud Platform etc… for each service once csp will be available. He can check the customer send data to csp, and knn recommended suggestion also he see. The suggestion will be available for csp on which time the customer done the process.

**Cloud Admin:**

Cloud admin will monitor the system, he can activate the register customers. The cloud admin will create the Cloud Service Provider based on minimum information. When creating csp’s he can assign the cloud services to the users. Cloud also can view the customer uploaded data based on services names.

**Machine learning with KNN**

KNN algorithm: This algorithm comes under supervised learning which involves both regression and classification based solutions. The ideology of KNN is that similar data points are close to each other. KNN believes in such an ideology for the algorithm to be useful.

1. Initialize with loading data

2. Declare k with chosen number of neighbors

3. For every sample of data

3.1 Calculate the distance between the query example and the current example from the data

3.2 Add the distance and index of the example to avail an ordered collection

4. Sort the ordered collections of distances and indices in ascending order with respect to distances.

5. Select the first K entries from sorted set

6. Avail the labels of the selected K entries

The best example we can say for supervised learning is a machine making predictions. The prediction requires pre-labelled data through which it learns and starts to predict from the next instance when the new data is given as input and the prediction done by the system is given as output to the given input.