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Career Guidance Android Application

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Abstract - In this project "Career Guidance Android APP" for Secondary and Higher Secondary Students" is an application which helps the secondary as well as higher secondary school students for their career. It involves the analysis and prediction process to choose the students' career using Mobile and Tablets. It creates awareness among the students about the courses, degrees, entrance exams, eligibility criteria and institutions available. Students can choose their desired course with their own will of free to act upon the destination. In order to build their future in a prosperous manner, this APP will be very much useful. Career Guidance App incubates lots of resources about individual subjects, scholarships, schemes available, institutional ratings, fees, etc. Students can easily obtain their maximum expected courses and colleges list in the priority they define.
Keywords - Career zone, Android App, Prediction and Data Mining.

1. INTRODUCTION

The major issue in the student community who are at the stage of higher secondary Secondary is the selection of their career. It is mainly due to lack of information in the area which they want to choose. Ignorance is the first issue they face that blocks them from continuing to the right destination. Finally they choose some course and institution randomly after sacrificing their own dream. Because of this our country loses many different potential students in various areas.In order to give them proper guidance towards the Professional education like the Courses, Degrees, and Institutions, the CAREER GUIDANCE APP will be available to the students who are willing to know the complete details about different areas. CAREER GUIDANCE APP will be available as an Android App which will be used by almost everyone due to the emergence of the Android based Mobile phones and Tablets among the Student community. CAREER GUIDANCE APP will provide the complete list of possible courses, institutions for a student based on the input he/she given. Then the analysis of the data will be maximum probable course towards the students need and possibility. It will completely give every individual detail including whether the institution is registered or not, whether scholarship is available in the institution or not, fees comparison, courses available, etc.Deep knowledge about the career will be available to the students make them decide their future so easily.

Analyzing the huge amount of data to form summarized useful information is a tedious task for human kind. Data Mining is the area which analyzes huge repositories of data to extract necessary or useful information.Computers can process any kind of data like numbers, texts, images and facts. This task performs the analysis based on the patterns, association, relations among all these data so as to get the information.The prediction with high accuracy in students' performance is beneficial as it helps in identifying the students with low academic achievements at the early stage of acdemics.

2. LITERATURE SURVEY

Review:- As many students face problem while taking admission after their higher secondary education and they are not aware of recent fields for carrier, competitive exams and the colleges in which they are willing to taking admission.Then they go to the various counselors to take advice which carrier to choose. and even they attend various seminars to know about recent fields. And the seminars are conducted in speech.

So the student might face difficulties while choosing career at the time of admissions. Aim of this project is to give proper guidance to higher secondary students with proper details of Courses, competitive exams and Colleges which provide that respective course.

The research paper aims at predicting and analyzing student performance with more accuracy.Prediction of Student Performance with accuracy.Colleges which offer those courses.Information about Competitive exams and Courses.Suggestion of various courses according to performance.Recommendation of colleges. Supports assistance for queries.Career opportunities in particular field.

K-means Clustering Algorithm

K-means clustering is a type of unsupervised learning, which is used when you have unlabeled data (i.e., data without defined categories or groups). The goal of this algorithm is tofind groups in the data, with the number of groups represented by the variable K. The algorithm works iteratively to assign each data point to one of K groups based on the features that are provided. Data points are clustered based on feature similarity.

The results of the K-means clustering algorithm are:

The centroids of the K clusters, which can be used to label new data. Labels for the training data (each data point is assigned to a single cluster).

The K-means clustering algorithm uses iterative refinement to produce a final result. The algorithm inputs are the number of clusters K and the data set. The data set is a collection of features for each data point. The algorithms starts with initial estimates for the K centroids, which can either be randomly generated or randomly selected from the data set.
The algorithm then iterates between two steps:
where dist(·) is the standard (L2) Euclidean distance. Let the set of data point assignments for each ith cluster centroid be Si.

2. Centroid update step:
In this step, the centroids are recomputed. This is done by taking the mean of all data points assigned to that centroid's cluster.

ci=1/|S_i| * xi E Si^xi

The algorithm iterates between steps one and two until a stopping criteria is met (i.e., no data points change clusters, the sum of the distances is minimized, or some maximum number of iterations is reached).

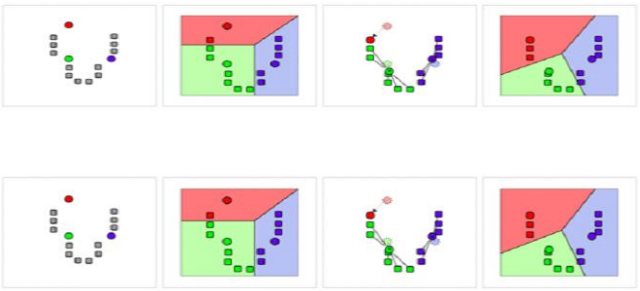

Figure 01:Demonstration of the standard algorithm

1.k initial "means"(in 2.kclusters are created 3.The centroid of 4. step 2 and 3 are this case k=3) are by associating every each k clusters repeated until randomly generated observation with the becomes the convergence has within the data domain nearest mean. new mean been reached. (shown in colour) .

Naïve Baye Algorithm
Step 1: Scan the student data set.
Step2: Calculate the probability of each attribute value. [n, nc, m, p].
Step3: Apply the formulae
P(attribute value(ai)/subject value(vj))=(nc+mp)/(n+m)
Where:
n = the number of training data item for which v = vj
nc = number of examples for which v = vj and a = ai
p = a priori estimate for P(ai,vj)
m = the parallel size of the sample.
Step4 : Multiply the probabilities by p.
Step5 : Compare the values and classify the attribute values to one of the predefined set of class

In Project: It will calculate the probability to which course does the user will prefer more. Naive Bayes is Probabilistic Classifier.

3. PROPOSED SYSTEM

A. Proposed System

In order to give proper guidance to students towards the professional education like courses ,degrees, and institution, this app will be available who are willing to know the complete details about different areas.This android app will be used by everyone due to emergence of the android based Tablets and mobile phones among the student community.
This app will provide complete list of possible courses, competitive exams , institutions for students based on his/her performance. The analysis of data will be more approximate to choose the appropriate course. It will completely give every individual detail including whether the institution is registered or not, whether the scholarship is available in institution or not ,fees comparison, courses available , etc.

A. *System Architecture.*

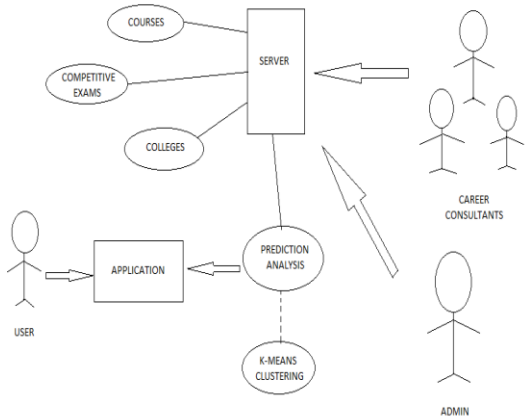

Figure: System Architecture of Proposed System

B. Modules.
1. Admin
2. User

1. Admin

- Obtain user information
- Display user information on career guide app
- Predict the appropriate career to be given to student.

A. Obtain user information
The server takes user information about their area of interest.

B. Display user information on career guidance app
Server analyses the users data and accordingly selects the career and displays the user infromation.

C. Predict appropriate career to be given to student.
The job of server is to operate and predict appropriate career and give the correct output.

2. User

- **Registration**
- **Login**
- **Operate Various career options through app**

A. Registration
Student will register to our to choose appropriate career.

B. Login
For login the user will enter the user's name and password when registered, whenever entered data is right then the app will divert to the career options page, else it will demonstrate a mistake message.

C. Operate Various career options through app

- After login the user will see the status of their inputed data.
- Then user will get the ouput according to their input.
- The user will get the appropriate career according to their choice.

4. FUTURE SCOPE

Future extension for the Career Guidance app Includes adding more career options , adding more colleges , expanding it all over India.Providing the platform to career consultants so that they can expand their business through our app.Providing more information to students so that they will be clear about the various streams they are going to opt for.Currently the system is implemented on Android which can also be implemented using iOS operating system.The application can be implemented using more appropriate and accurate algorithms in the field of data Mining in future. Future discovered streams and career's can be added in the database.Competitive exams for future discovered fields or stream can be added.Using google maps the person would get the best route to attend competitive exams for the respective course.

5. EXPECTED OUTPUT

It will predict the career of the student by means of various algorithms. Based on the user's input and their area of interest and applying the criteria's user come to know that which career option will be best suited to them.Career Guidance is a designed program to help individuals acquire knowledge, basic skills, increase their experience and implement informed educational and professional choices. These professional choices, in the long run determine an individual's social, financial and emotional well-being throughout. Career guidance is always sought by individuals to make mature and informed decisions.

6. CONCLUSION

With the implementation of the "CAREER GUIDANCE ANDROID APP for Higher Secondary School Students",the students who desire to pursue their aim can be easily achieved. With the help of this APP,any student is free to choose the field he/she wanted to be skilled at in the furure. By providing the maximum efficient result to the stuents, they can benefit to the level that will make them feel like one step ahead in fulfilling their professional dream.

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