

# CAS: Centralized Admission System with Higher Education Diversified Courses

Madhuri Awalekar<sup>1</sup>, Priyanka Lele<sup>2</sup>, Nivedita Agarmore<sup>3</sup>, Payal Patil<sup>4</sup>,  
A.P.Tapaswi<sup>5</sup>, Deepali Gothawal<sup>6</sup>

1(Department Of Computer Engineering, Pune/D.Y.Patil College Of Engineering Akurdi)

2(Department Of Computer Engineering, Pune/D.Y.Patil College Of Engineering Akurdi)

3(Department Of Computer Engineering, Pune/D.Y.Patil College Of Engineering Akurdi)

4(Department Of Computer Engineering, Pune/D.Y.Patil College Of Engineering Akurdi)

5(The Solution Circle Pune)

6(Department Of Computer Engineering, Pune/Professor AtD.Y.Patil College Of Engineering Akurdi)

## Abstract:

Using a CSA system, the student will be suggested with the list of colleges having the non-centralized courses and according to his marks entered in the system, appropriate course will be suggested to him. Firstly, the student must enter his marks and based on his performance the CSA system will suggest the course and the college. The student will make a choice about the course and the admission process about the same will be conducted. All the admission process like the college cutoff, vacancies will be checked as well as the fees payment and the admit card procedure will be done.

*Keywords* — **Data mining, Ranking, Decision making tree, Dynamic query, Clustering.**

## I. INTRODUCTION

### A. Project Idea

It is difficult to choose career after the 12<sup>th</sup> standard/Diploma. The system developed to recognize courses whenever student must enter his marks and based on his performance the CSA system will suggest the course and the college. The student will make a choice about the course and the admission process about the same will be conducted. All the admission process like the college cutoff, vacancies will be checked as well as the fees payment and the admit card procedure will be done.

### B. Motivation of the Project

After passing out 12th standard/Diploma, a student has many options to choose for higher education in India. He or she can choose a career oriented course or an academic course. Choosing a career is a critical decision. Now days, the multi-criteria decision making methods are

gaining importance for the selection of best suited alternative among the available alternatives. Multiple options have been considered as alternatives and some specific criteria were taken into account in dividedly to select best career option. The proposed system is for to choose the best career option and also applied for the colleges.

## II. LITERATURE SURVEY AND OBSERVATIONS ABOUT USAGE IN PROPOSED SYSTEM

- A. "[Student Placement Analyzer: A Recommendation System Using Machine Learning](#)" et al [8]. they designed for student who join the professional courses in higher learning institutions is to secure a well-paid job in reputed organization. Further that they used decision tree classifier within Scikit-learn a machine learning module. It written in python having efficient data mining and data analytics capability for the implementation of the system.

- B. ["Algorithmic Decision Support for Personalized Education"](#)[3] et al. the algorithmic decision support i.e. facilitates recommendation of courses schedule personalized to the background and interests of a given student. The algorithm generates personalized recommendations by constructing a graph from degree requirement, identifying and placing the paths within a course schedule. For implementing they describe algorithm in context of PERCEPOLIS (Pervasive Cyber infrastructure for Personalized Learning and Instructional Support).
- C. ["Priority-based Session Admission Control Method for Next Generation Internet"](#)[4] et al. The Priority-based admission control method for that it is necessary to change new connection processing mechanisms of existing connection admission control (CAC) solutions enabling comparison among concurrent sessions, as result to realize session-level priority-based admission policy.
- D. ["Recommender System Framework for Academic Choices"](#) [5] et al. Present a framework to implement a recommender system to improve academic choice process for the new students. The framework is based on our ongoing research for Predicting Educational Relevance For an Efficient Classification of Talent (PERFECT Algorithm Engine).
- E. ["Using the AHP and TOPSIS methods for Decision Making In Best Course Selection after HSC"](#)[2] et al. has addressed the problem of course selection decision making after passing out HSC. Individual Students can able to select the best course among N number of alternative courses available based on following four criteria's: Interest, Employment Opportunity, Duration and Fee. For implementing they used AHP and TOPSIS method to calculate weight of each criterion.
- F. ["Admission Control Scheme for Effective Revenue Management in NGN Networks"](#) [7] et al. The paper is continuation of previous research . The proposed admission control method is realized using the OMNeT++ network simulator allows detailed evaluation of pre-defined parameters impact on the overall results in more realistic network. The given simulation scenario shows, that the total revenue using AggSessAC with pre-defined waiting time 50 ms is about 26 - 32% higher and average link utilization is only 1.45% less than in the case of the conventional Threshold AC method. It also shows the potential of AggSessAC mechanism, which is based on a selective and mutually comparative connection admission strategy, thus extending the decision-making capabilities.
- G. ["Predicting Student Performance in an ITS using Task-driven Features"](#)[6] et al. The main objective of building the PSP model is to accurately predict student success for assigned tasks in a fine grained ITS system by proposing features that are focused on the task's resources such as similar worked-out examples suggested by the ITS and student's knowledge on these resources. The proposed method is able to extract meaningful task-based features and implement them to predict student performance using decision trees with accuracy and f\_score values as high as 96%. Existing ITS that predict student performance surveyed in section II have much lower values of accuracy, which can be attributed to their improper selection of student and domain model features. Here Which validates the hypothesis that student performance is predicted with a high value of accuracy if features used for prediction are well-informed about the assigned tasks and are measured

objectively. The rules generated by decision trees allow us to analyze and take informed decisions on ERS's future students.

- H. [“Online Learning in Large-scale Contextual Recommender Systems”](#)[1] et al. The paper, propose a contextual MAB based clustering approach to design and deploy recommender systems for a large number of users and items, while taking into consideration the context in which the recommendation is made. Our proposed ACR algorithm makes use of an adaptive item clustering method to improve the learning speed. More importantly, the algorithm can address the cold start problem and provide differential services to users of different types. Theoretical results show that the algorithm can achieve a sublinear regret, while our simulations show that our algorithm outperforms the state-of-the-art algorithms by 20% in terms of average CTRs.
- I. [“Department Recommendations for Prospective Students Vocational High School of Information Technology with Naïve Bayes Method”](#)[9] et al. Based on the results of research about the election of the department for the prospective students of Vocational High School majoring in Information Technology with the Naïve Bayes method, it is resulted the system test data of probability value according to the sample given where it is resulted the calculation with the probability value, that the TKJ has bigger value compared to the two other majors. The highest value of the probability of the department is suggested as a recommended department for the prospective student. This department election system runs based on the criteria determined along with the table of rules that becomes the reference data in considering to choose the department.

- J. [“Educational Data Mining and Learning Analysis”](#)[10] et al. Therefore, as per our present work, it is proposed to utilize clustering to increase instructive process mining and, in meantime, streamline the both execution or wellness and intelligibility or size of the model got. Specifically, the intelligibility of the model is a center objective in training because of the transversal of essential learning that it involves. Making diagrams, models or visual representation more available or if nothing else, open, to instructors and understudies, makes these outcomes exceptionally valuable for observing the learning procedure and giving criticism, one of the future objectives being to do it continuously. Moreover, Moodle does not give particular perception instruments of understudies' utilization information that let the diverse operators of the learning procedure comprehend these a lot of crude information and get to be mindful of what is going on in separation adapting, aside from developing the utilization of the outcomes to Adaptive Hypermedia Learning Environments where it is exceptionally helpful to incite understudies or suggest learning ways, shortenings, and so on, with a specific end goal to improve the learning background in a more key manner.

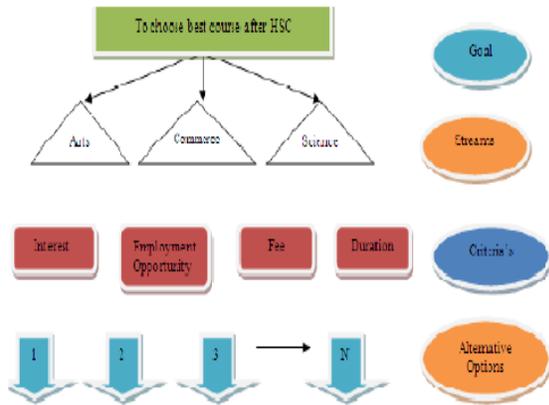
### **III. PROPOSED SYSTEM**

#### **a. PROBLEM STATEMENT**

To choose best career option after 12th standard is really a very critical decision which influences once future. According to stream selected after SSC, there are N number of options available but which one to select, where to go is the big question in front of all students after passing 12th.

#### **b. BLOCK DIAGRAM**

#### IV. CONCLUSIONS



**FIG.BLOCK DIAGRAM**

There are total three streams i.e. Arts, Commerce and Science, after SSC. This available options for courses after 12th have been considered stream wise. The course selection model is structured level wise as shown in Fig.

The main goal of this CAS system is to help students to select best course after 12th based on different streams. As multiple options are available it is difficult for students or even for their parents to decide correct option that helps to build a great career.

As multiple options are available it is difficult for students or even for their parents to decide correct option that helps to build a great career. So in this paper, we proposed course selection model that will definitely helps students to choose best option among multiple available courses. As shown in Fig. here we considered total four criteria's :

1.Interest: This is the criteria which helps to measure the students interest in particular area or course. This can be measured on the scale of 1 to 10 i.e. higher the value, the interest will be high.

2.Employment Opportunity: This is very important criteria. Student must know the percentage of getting job after completion of particular course.

3.Fee: The financial background of parents is also important while selecting any course.

4.Duration: The number of years required for completion of particular course is also matter for some students.

Using a CAS System, the student will be suggested with the list of colleges having the non-centralized courses and according to his marks entered in the system , appropriate course will be suggested to him. Firstly, the student must enter his marks and based on his performance the CAS System will suggest the course and the college. The student will make a choice about the course and the admission process about the same will be conducted. All the admission process like the college cutoff, vacancies will be checked as well as the fees payment and the admit card procedure will be done.To choose better career option after 12th standard is really a very critical decision which influence once future. In this way, using CAS system the user can perform the admission process of diversified course after 12th / diploma.In future, this system can be developed for the user to choose the courses available in foreign universities. The courses available for the user to opt will be displayed using the CAS System.

#### REFERENCES

- [1] Linqi Song, CemTekin, and Mihaela van der Schaar, Fellow, "Online Learning in Large-scale Contextual Recommender Systems" IEEE 2014 IEEE Transactions on Services Computing.
- [2] Ms.Varsha T. Lokare and Mr.Prakash M. Jadhav, "Using the AHP and TOPSIS methods for Decision Making In Best Course Selection after HSC" 2016 International Conference on Computer Communication and Informatics (ICCCI -2016), Coimbatore, INDIA
- [3] Tyler Morrow ,SahraSedighSarvestani , and Ali R. Hurso," Algorithmic Decision Support for Personalized Education" , 2016 IEEE 17th International Conference on Information Reuse and Integration.
- [4] AndrisSkraстіņš and JansJeļinskis, "Priority-based Session Admission Control Method for Next Generation Internet", 2017 Second International Conference on Fog and Mobile Edge Computing (FMEC) .

- [5] Muhammad FahimUddin, Soumita Banerjee, Jeongkyu Lee,” Recommender System Framework for Academic Choices”, 2016 IEEE 17th International Conference on Information Reuse and Integration .
- [6] RituChaturvedi and C. I. Ezeife, ”Predicting Student Performance in an ITS using Task-driven Features” 2017 International Conference on Computer and Information Technology (ICCIT -2017)
- [7] AndrisSkraštins,” Admission Control Scheme for Effective Revenue Management in NGN Networks”,22ndTelecommunicationFourm TELFOR 2014.
- [8] Senthil Kumar Thangavel, DivyaBharathi P and AbijithSankar“Student Placement Analyzer: A Recommendation System Using Machine Learning“ 2017International Conference On Advance Computing And Communication System.
- [9] Dyna Marisa Khairina, FajarRamadhani, Septya Maharani and HelizaRahmaniaHatta “Department Recommendations for Prospective Students Vocational High School of Information Technology with Naïve Bayes Method” 2016 ICITACEE .
- [10] Akansha Mishra, RashiBansal,Dr. Shailendra Narayan Singh, “Educational Data Mining and Learning Analysis” 2017 IEEE.