**REPORT ON**

Career Recommendation System

*Submitted in partial fulfilment of the requirements for the award of the degree of*

**BACHELOR OF COMPUTER APPLICATIONS**

****

**Batch: 2021 - 24**

***Under the Guidance of Submitted By***

Dr. Ruchi Sawhney Ankit Alex Minz 04328402021

Dibya Bharat 00928402021

**Bosco Technical Training Society**

**Don Bosco Technical School, Okhla Road, New Delhi-110025**

**9643868820, 8527787221, 011-41033889**

**Affiliated to**

****

**Guru Gobind Singh Indraprastha University**

### Sector - 16C, Dwarka, New Delhi - 110078 (India)

### Phone: +91-11-25302170, Fax: +91-11- 25302111

### E-Mail Id: ggsipu.pr@rediffmail.com, pro@ipu.ac.in

# 

## 

## Acknowledgement

The note starts with thanks to Almighty who actually created this piece of work and helped us when things were not easy for us.

I am very grateful and indebted to my Faculty/Guide <<Guide Name>> who immensely helped and rendered her/his valuable advice, precious time, knowledge and relevant information regarding the collection of material. She/He has been a major source of inspiration throughout the project as he not only guided me throughout this Project Report <<Project Title>> but also encouraged me to solve problems that arose during this report.

His guidance and suggestions about this Project report have really enlightened me. It has been a great help to support to have him around.

And finally, I would like to mention appreciation to our parents and friends who have been instrumental throughout this period by providing unrelenting encouragement.

Name of Students       Enrolment No. Signature

**CERTIFICATE**

This is to certify that the dissertation/project report entitled “Career Recommendation System” done by me is an authentic work carried out for the partial fulfilment of the requirements for the award of the degree of Bachelor of Computer Applications under the guidance of Mrs Ruchi Sawhney. The matter embodied in this project work has not been submitted earlier for award of any degree or diploma to the best of my knowledge and belief.

Signature of the student

ANKIT ALEX MINZ

04328402021

MAIN REPORT

Objective and Scope

**Objectives:**

* Develop a machine learning-driven recommendation system that analyzes students' academic performance, interests, strengths, and career aspirations which provides course, stream, and career recommendations based on content filtering.
* Identify and address subject-specific weaknesses that may hinder students' chosen career paths.
* Implement a user-friendly questionnaire to refine recommendations based on user tendencies and make further recommendations on things of their interest that they lack awareness of or even provide new things to get interested in for those who have exhausted their option.
* Suggest improvement strategies: For subjects in which students are weak, the system will offer tailored recommendations on strengthening their skills and improving their performance.

**Scope:**

* The project's scope encompasses providing students with informed career recommendations following their 10th-grade examinations.
* Recommendations are personalized through an in-depth analysis of academic data, interests, and subject weaknesses.
* Strategies to enhance proficiency in relevant subjects are offered.
* A user-centric questionnaire refines recommendations by evaluating user inclinations.

Theoretical Background Definition of Problem

Theoetical Background:

Python is a high-level, general-purpose, and versatile programming language. Python programming language is being used in web development, Machine Learning applications, along with all cutting-edge technology in Software Industry.Python’s Background in Desktop Application Development and Machine Learning comes from its cross platform nature and various libraries for Example: Pyqt5, Pandas, Numpy, Sci-kit Learn etc.

There are so many options provided by Python to develop GUI application and PyQt5 is one of them. PyQt5 is cross-platform GUI toolkit, it has a set of python bindings for Qt v5. One can develop an interactive desktop application with much ease because of the tools and simplicity provided by this library. A GUI application consists of Front-end and Back-end. PyQt5 has provided a tool called ‘QtDesigner’ to design the front-end by drag and drop method so that development can become faster and one can give more time on back-end stuff.

Due to the nature of Desktop Application development and Pyqt5 , Event Driven Programming come into play. It is a programming paradigm where different parts of the application or entities communicate by sending messages to one another through an intermediary. In the context of Gui development and desktop application development this refers to different components reacting to each other through signals and events written out by the programmer. For example, a button being clicked in a Pyqt5 gui interface is connected to function which would then be executed.

Machine LearningContent Based filteringKnn