**School of Computer Applications**  
Graphic Era Hill University

**Project Topic Proposal Form**

**1. Student Details:**

* Name(s) of Student(s): Ayush Kumar Jakhmola, Ashutosh Kashyap
* University Roll No(s): Ayush Kumar Jakhmola -2421716, Ashutosh Kashyap -2421712
* Section: BCA Cyber Security
* Contact Email: [jakhmolaayush51@gmail.com](mailto:jakhmolaayush51@gmail.com), kashyapashutosh8090@gmail.com
* Contact Number: 8869890343, 9119663423

**2. Project Details:** Tentative Title of the Project: Healthy Choice Café management with AI Recommendations Engine

* Broad Area of Project (e.g., AI, Cybersecurity, Data Science, IoT): Artificial Intelligence, Machine Learning, Web Development.

**3. Problem Statement:** (Describe the problem you are trying to solve or the need for the project)

* Most cafe systems only manage menus and billing but do not help customers understand the health impact of their food choices. People often consume junk food without knowing its nutritional values, which can harm health. There is a need for a system that uses AI to recommend healthy or junk food, show nutrition details like protein and calories in graphs, and save customer records for future reference.

**4. Objective and Significance:** (Explain the main aim of the project and why you have chosen this topic, highlighting its academic/industrial relevance)

**Objectives**

The main aim of this project is to build a Cafe Management System with AI-based food recommendation. It will let customers choose between healthy and junk food, show their nutritional values (protein, calories, fat, carbs) using graphs, and store customer records for future use.

**Significance**

* This project is important because it combines cafe management with health awareness.
* Academic relevance: shows how AI, databases, and data visualization can solve real-life problems.
* Industrial relevance: helps cafes improve customer experience, promote healthy choices, and use data for personalization.

**5. Expected Outcomes:** (List the expected results, deliverables, or impact of the project)

* A complete Cafe Management System for order and record management.
* An AI/ML-based recommendation engine that learns from customer choices to suggest healthy or junk food.
* Personalized recommendations using past data (e.g., if a customer usually orders healthy food, the system suggests similar items).
* Graphical representation of nutritional values (protein, calories, fat, carbs) for each order.
* A customer record database with history to improve ML model accuracy over time.
* Improved customer health awareness and smarter food decisions through ML-driven insights.
* An academically relevant project showing integration of Machine Learning, AI, and DBMS, with strong industrial relevance for smart cafes and restaurants.

**6. Tools, Technologies, and Methodologies Proposed:** (Include software, frameworks, hardware, or algorithms you plan

**1. Software & Frameworks:**

* Frontend: HTML, CSS, JavaScript / React.js (for user interface & graphs using Chart.js).
* Backend: Python (Flask/Django) or Node.js (for server-side logic).
* Database: MySQL / SQLite / MongoDB (to store user records and orders).
* Visualization: Matplotlib / Seaborn (Python) or Chart.js (Web).

**2. Machine Learning Algorithms:**

* Classification: Naïve Bayes / Decision Tree / K-Nearest Neighbors (for healthy vs junk food classification).
* Recommendation: Content-based filtering (nutritional value) or Collaborative filtering (user history).

**3. Hardware Requirements:**

* Standard PC/Laptop with minimum 4GB RAM, Intel i3 or above processor.
* Local server (XAMPP/WAMP for MySQL) or cloud hosting (optional).

**4. Methodologies:**

* Requirement Analysis → understanding cafe management + nutrition tracking needs.
* System Design → database design, AI module design, UI layout.
* Implementation → coding backend, frontend, and ML algorithms.
* Testing → functionality, accuracy of nutrition data, ML recommendations.
* Deployment → running system locally or on a web server.

**7. Project Type:**

This is a Mini Project based on Web Application Development with Artificial Intelligence and Machine Learning integration.

* It falls under the category of:
* Application-Oriented Project (since it provides a working cafe management system with health features).
* AI/ML-Based Project (because it uses machine learning for food classification and recommendation).
* Database Management System Project (since it stores and maintains user records and order history).

**8. Mentor Details:**

* Name of Preferred Mentor: **Ms. Sakshi Painuly**
* Mentor’s Signature (Acceptance of Supervision): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(Note: Each faculty member can guide a maximum of 12 students only from Post graduation , 28 students from Under Graduate -5th semester and 27 students from Under Graduate -3rd Semester)*

**9. Student Signatures:**

* Ayush Kumar Jakhmola - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Ashutosh Kashyap - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_