DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

PROJECT PROPOSAL

1. Project Title: - E-commerce for Artisans

2. Project Scope: - (Max 500 words):

Introduction:

In a rapidly evolving digital landscape, the need to empower artisans and promote their exquisite craftsmanship is paramount. With this vision in mind, our project aims to pioneer an innovative e-commerce platform that serves as a dedicated marketplace for artisans to showcase and sell their unique creations. This platform will transcend conventional online marketplaces by incorporating advanced technologies like deep learning and machine learning, adding value to both artisans and discerning customers.

Objectives:

The primary objectives of our project are as follows:

1. Develop an intuitive e-commerce platform that enables artisans to create profiles, list products, manage inventory, and interact with customers seamlessly.
2. Implement a demand forecasting system using historical sales data and market trends to predict demand for various products, assisting artisans in optimizing production and inventory management.
3. Integrate an automated quality checking system that utilizes computer vision and image analysis techniques to ensure the quality and consistency of products before they are listed for sale.

4. Create a sentiment analysis module to gauge customer reviews and feedback, and based on the sentiment analysis, develop a recommendation engine for artisans to improve their offerings.
5. Promote the Indian handicraft industry globally by providing a platform for artisans to showcase their products to an international audience.
6. Establish a common platform for artisans to make, market, and sell high-quality handicrafts, fostering economic growth and sustainability in the industry.

Scope of Work:

The scope of our project encompasses the following aspects:

1. Designing and developing an e-commerce platform with user-friendly interfaces for artisans and customers.
2. Collecting and analyzing historical sales data to implement an accurate demand forecasting system.
3. Creating machine learning models for automated quality checks of product images.
4. Developing sentiment analysis algorithms for customer feedback evaluation.
5. Implementing a recommendation engine based on sentiment analysis results.
6. Providing secure payment gateways and order processing functionalities.
7. Establishing a centralized database to store user profiles, product details, and sales data.

Deliverables:

Our project will deliver the following key outcomes:

1. A fully functional e-commerce platform for artisans.
2. A demand forecasting system for optimized inventory management.
3. An automated quality checking system for product images.
4. A sentiment analysis module for customer feedback evaluation.
5. A recommendation engine suggesting actions for artisans.
6. A database containing user profiles, product information, and sales records.

Constraints:

The project is subject to the following constraints:

1. Time constraint: The project must be completed within the stipulated timeline.
2. Resource limitations: Availability of hardware and software resources for development and testing.
3. Data availability: Availability and quality of historical sales and customer feedback data.

Assumptions:

Our project operates on the following assumptions:

1. Artisans are willing to embrace technology to enhance their market reach.
2. Sufficient historical sales and customer feedback data are available for training machine learning models.
3. Artisans are motivated to improve their products based on sentiment analysis and recommendations.

Project Scope:

The proposed project aims to develop an innovative e-commerce platform tailored exclusively for artisans to showcase and sell their unique products. This platform will incorporate cutting-edge technologies such as deep learning and machine learning to enhance the overall experience for both artisans and customers. The key objectives of this project are:

1. **Platform Development:**
   Create a user-friendly e-commerce platform that enables artisans to create profiles, list products, manage inventory, and interact with customers seamlessly.
2. **Demand Forecasting:**
   Implement a demand forecasting system that leverages historical sales data and

market trends to predict demand for various products. This will help artisans optimize their production and inventory management.

3. **Automatic Quality Checks:**
   Integrate an automated quality checking system that uses computer vision and image analysis techniques to ensure the quality and consistency of products before they are listed for sale.
4. **Sentiment Analysis and Recommendation:**
   Develop a sentiment analysis module to gauge customer reviews and feedback. Based on the sentiment analysis, implement a recommendation engine that suggests next best actions for artisans, such as improving product descriptions, enhancing visual appeal, or offering related products.
5. **Global Promotion of Indian Handicrafts:**
   Promote the rich Indian handicraft industry on a global scale by providing a dedicated platform for artisans to showcase their products to an international audience.
6. **Common Platform for Handicrafts:**
   Establish a centralized marketplace where artisans can create their brand identity, market their products effectively, and sell high-quality handicrafts, fostering economic growth in the industry.

Requirements:

Hardware Requirements:

- Computers with internet connectivity for development and testing purposes.
- High-performance servers for hosting the e-commerce platform and machine learning models.
- Cameras and imaging equipment for capturing product images used in quality checks.

Software Requirements:

- Python programming environment.
- Deep learning frameworks such as TensorFlow or PyTorch for building and training models.

- Web development tools for creating the e-commerce platform.
- Computer vision libraries for implementing image analysis and quality checks.
- Natural language processing libraries for sentiment analysis.
- Database management systems for storing user and product data.
- Version control tools for collaborative development.

STUDENTS DETAILS:

Name	UID	Signature
Chennupati Pavan Sanjay	21BCS6027	
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APPROVAL AND AUTHORITY TO PROCEED

We approve the project as described above, and authorize the team to proceed.

Name	Title	Signature (With Date)