MES COLLEGE OF ENGINEERING-KUTTIPPURAM
DEPARTMENT OF COMPUTER APPLICATIONS
20MCA246 – MAIN PROJECT

PRO FORMA FOR THE APPROVAL OF THE FINAL SEMESTER PROJECT

(Note: All entries of the pro forma of approval should be filled up with appropriate and complete information. Incomplete Pro forma of approval in any respect will be rejected.)

Project Proposal Number :
(Filled by the Department)

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Academic Year : 2023-2025
Year of Admission : 2023
Admission Number : 18067
Roll Number : 36
Register Number : MES23MCA-2036

1. Name of the Student (in BLOCK LETTERS) : NEETHU P
2. Name of the Organization : _____
3. Address of the Organization : _____
   Telephone No. : _____ Company E-Mail : _____
4. Name of the External Guide : _____
   Mobile No. : _____ E-Mail : _____
5. Title of the Project : _____
6. Name of the Guide (Internal-Departmet) : _____

Date : Signature of the Student:

Comments of The Project Guide

Initial Submission :
Approval Status : Approved / Not Approved Dated Signature of Guide HOD
First Review :
Second Review :
Third Review :

Comments of The Project Coordinator

Initial Submission:
First Review : Second Review: Third Review:

Dated Signature of Project Coordinator:

ABSTRACT
KID'S LEARNING TOOL

NEETHU P, MES23MCA-2036, 36

Introduction:

The "Kid's Learning Tool" Android application is designed to enhance the educational experience of young children aged above 5 years by incorporating innovative features. This application utilizes state-of-the-art technologies such as Malayalam handwriting recognition using Convolutional Neural Networks (CNN), puzzles for brain development, a story mode to enhance listening and pronunciation skills, and speech recognition to aid in improving speaking abilities. The handwriting recognition feature is unique as it recognizes Malayalam characters, a less common language in such applications, ensuring high accuracy through CNN-based training. Puzzles included in the app, ranging stimulate brain activity and foster mental agility. The story mode exposes children to narratives that inspire and aid in language development.By listening to the sounds of birds and learning their names, children can also discover and understand more about the anatomy and description of their organs. Moreover, the application integrates speech recognition to assist children in improving their verbal communication skills. Parents can monitor their child's progress through a secure web application that utilizes ensuring data privacy and security. The application leverages the phone's camera for secure login without requiring an internet connection, enhancing accessibility and ease of use.

Objectives:

The objective of the "KID'S LEARNING TOOL" Android application is to provide a valuable and engaging learning experience for children aged above 5. This application offers unique features such as Malayalam handwriting recognition using Convolutional Neural Networks (CNN), which helps children learn writing skills effectively. Additionally, the app includes various puzzles that stimulate cognitive development and enhance mental agility. Engaging stories featured in the app not only inspire children but also improve their listening skills and pronunciation.By listening to the sounds of birds and learning their names, children can also discover and understand more about the anatomy and description of their organs. Furthermore, speech recognition technology is integrated to assist children in developing their verbal communication abilities. Parents can monitor their child's progress through a secure web application, ensuring they stay involved in their child's learning journey. The application prioritizes data security using QR and RSA authentication for login and session passwords, allowing offline functionality through the phone's camera without requiring an internet connection. Overall, "KID'S LEARNING TOOL" aims to facilitate comprehensive learning and development while providing parents with valuable insights into their child's educational progress.

Motivation or Relevance:

The project was motivated by the need for meaningful use of smartphones among young children. Unlike existing applications, this tool uniquely combines advanced features such as CNN-based handwriting recognition for Malayalam characters, diverse puzzles, and secure parental monitoring. Its relevance lies in addressing the gap in educational tools tailored for regional languages and comprehensive learning platforms.

Problem Definition:

The project aims to develop an Android-based educational tool, "Kid's Learning Tool," featuring Malayalam handwriting recognition, cognitive puzzles, storytelling, and speech recognition. The system will also provide parents with a web application for real-time monitoring of their child's progress.

Basic functionalities:

Children

- Handwriting recognition for Malayalam characters.
- Cognitive puzzles and brain teasers.
- Story mode for improving language and pronunciation skills.
- Sound-based activities for learning bird and animal names.

Parents

- Progress monitoring through a secure web interface.
- Tools for reviewing completed activities.
- Recommendations for enhancing children's learning.

Admin Module

- Manage educational content (stories, puzzles, etc.).
- Oversee user data and system security.

Tools / Platform, Hardware and Software Requirements:

Hardware Requirement:

• Processor : Intel Core i5 or above

• RAM : 8 GB or above

• Hard disk : 40GB or above

Software Requirement:

• Operating system : Windows 8 or above

• Front end : HTML, CSS, JavaScript

• Back end : MYSQL Server

• Languages : Python,Dart

• Framework : Django,Flutter

• IDE : VS Code ,Android studio

ABSTRACT

ONLINE PAYMENT FRAUD DETECTION USING MACHINE LEARNING IN PYTHON

NEETHU P, MES23MCA-2036, 36

Introduction:

Online payment fraud is one of the most significant challenges facing the financial industry today. With the rapid adoption of digital payment systems globally, the frequency and sophistication of fraudulent activities have also increased. According to industry reports, fraud losses in online transactions amount to billions of dollars annually, causing financial and reputational damage to individuals and organizations.

Traditional rule-based fraud detection systems rely on predefined rules and thresholds to flag suspicious transactions. While effective in static environments, they lack the ability to adapt to evolving fraud patterns and emerging threats. Machine learning provides a promising alternative by enabling systems to learn from historical data, detect anomalies, and predict fraudulent activities in real-time.

The purpose of this project is to design and implement a robust fraud detection system using machine learning techniques. By leveraging Python's rich ecosystem of libraries and frameworks, the system aims to analyze transaction data, extract meaningful patterns, and classify transactions as legitimate or fraudulent.

Objectives:

The project focuses on developing a machine learning model designed to accurately detect fraudulent online payment transactions. To ensure the model's reliability and robustness, data preprocessing techniques are implemented to handle missing values, normalize the data, and scale features appropriately. The performance of the model is thoroughly evaluated using key metrics such as accuracy, precision, recall, and F1-score to measure its effectiveness in detecting fraud. Finally, the model is deployed in a real-time environment, enabling immediate detection of fraudulent activities and providing timely interventions to mitigate financial risks.

Motivation or Relevance:

The increasing incidence of online payment fraud underscores the need for advanced detection systems. Machine learning models can adapt to new and sophisticated fraud tactics, providing a proactive approach to fraud prevention. Implementing such a system enhances customer trust and safeguards financial assets.

Problem Definition:

The primary challenge is to develop a system that can distinguish between legitimate and fraudulent transactions in real-time. This involves processing large volumes of transaction data, extracting relevant features, and training a model that generalizes well to unseen data. Additionally, the system must handle imbalanced datasets, as fraudulent transactions are typically much less frequent than legitimate ones.

Basic functionalities:

Data Preprocessing: Handle missing values, normalize data, and perform feature scaling to prepare the dataset for modeling.

Model Development: Implement machine learning algorithms such as Random Forest, SVM, and Neural Networks to build the fraud detection model.

Model Evaluation: Assess the model's performance using metrics like accuracy, precision, recall, and F1-score to ensure reliability.

Real-time Deployment: Integrate the trained model into a web application using frameworks like Flask or Django to enable real-time fraud detection.

Tools / Platform, Hardware and Software Requirements:

Operating System: Windows 10 or Ubuntu 20.04
Programming Language: Python 3.8
IDE : PyCharm or VS Code

Libraries:

- Pandas and NumPy for data manipulation
- Scikit-learn for machine learning algorithms
- TensorFlow or Keras for neural network implementation
- Matplotlib and Seaborn for data visualization

Hardware Requirements:

- Processor: Intel i5 or higher
- RAM: 8 GB or more
- Storage: 256 GB SSD or higher

- **Additional Tools:**

- Flask or Django for deploying the model as a web application
- MySQL or PostgreSQL for storing transaction data

ABSTRACT
REQRAPID

NEETHU P, MES23MCA-2036, 36

Introduction:

The goal of this REQRAPID project is to create a platform that connects users with qualified home service providers. The platform will allow users to find and book services quickly and easily, and it will provide service providers with a platform to showcase their skills and attract new clients. The strategy for the project is to focus on the Indian market. The Indian market is a large and growing market for home services, and there is a large pool of qualified service providers available. The platform will be available in both English and Hindi, and it will be promoted through a variety of channels, including online advertising, social media, and wordof-mouth. The platform will be free to use for users, and service providers will be charged a commission for each booking. The commission will be set at a competitive rate, and it will be used to cover the costs of operating the platform and providing customer support. The platform will be developed using Laravel for the backend and React JS TypeScript for the front end.

Objectives:

To provide users with a reliable solution for booking home services quickly and efficiently. By offering a seamless user experience, it simplifies the process of finding and connecting with qualified service providers. For professionals, the platform serves as a dynamic marketplace, enabling them to showcase their skills and attract a broader client base. Leveraging advanced technology, **ReqRapid** incorporates precise service location tracking and real-time status updates to enhance transparency and convenience. Designed specifically for the Indian market, the system is built to be scalable and efficient, addressing the unique needs of a diverse and growing user base.

Motivation or Relevance:

The motivation stems from the need for a trustworthy, user-friendly, and comprehensive solution in the fragmented home services market in India. With the growth in digital adoption and urbanization, users require immediate, reliable, and transparent service solutions. Service providers also need a platform to enhance their visibility and customer reach. The project seeks to bridge this gap effectively.

Problem Definition:

The primary problem addressed by this project is the inefficiency and unreliability of existing service platforms. Key issues include:

- Difficulty in locating qualified and available service providers.
- Lack of transparency in pricing and service quality.
- Time-consuming and error-prone manual processes for booking services.

ReqRapid resolves these by offering a platform that connects users and providers seamlessly, ensuring reliability, transparency, and efficiency.

Basic functionalities:

User Module:

- Register, log in, and request services with location precision.
- View and track service requests in real-time.

Provider Module:

- Register as a service provider.
- Access and assign themselves to available jobs.
- Evaluate and manage services.

Admin Module:

- Oversee platform operations and monitor services.
- Manage user and provider data.

Tools / Platform, Hardware and Software Requirements:

Hardware Requirement:

Processor : inteli3

Memory : 4GB

Storage : 80GB

Display : Generic PnP Monitor

Keyboard : Windows compactible

Software Requirement:

Front End: Laravel Blade Template, Bootstrap, CSS, JavaScript.

Back End :PHPmyAdmin (SQL)

IDE : Visual Studio Code WEBSITE