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Mehran University Of Engineering And Technology

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MESSAGE FROM THE DEAN

It is matter of great pleasure to address on the occasion of publication of Final Year Project (FYP) Catalogue by Software Engineering Department. This catalogue showcases the state-of-the-art projects in the field of Software Engineering addressing the problems currently faced by our society.

Software Engineering field is growing at an exponential rate and touched the lives of millions of people around the globe. It is to be proudly mentioned that the department of Software Engineering is contributing significantly towards the growth and development of software at the graduate level, with focus on research, and innovation. The success of the department lies in the aspiration of student, the hard work of outstanding faculty members and unwavering support of the leadership.

It gives me immense pleasure and satisfaction to see to that the students of 18 SW batch have made such wonderful and innovative projects which can greatly contribute towards the betterment of society of the society.

MESSAGE FROM THE CHAIRMAN

In the current era there is growing need for talented Software Engineers across the globe. Software Engineering has deeply penetrated in almost every apvplication ranging from inance and banking to healthcare and national security.
Our department's vision is to produce professionals who have a mastery of principals, theory, practices and processes necessary to produce quality Software systems.

Department of Software Engineering prepares its students to proficiently apply their engineering and interpersonal skills to design develop, deploy and maintain software applications. The department also aspires to develop a capacity for innovation, research and a passion for lifelong learning is its graduates.
The final year students (18SW) of Software Engineering Department have applied tremendous efforts to build valuable final year projects catering solutions to diverse problems areas ranging from healthcare to business and commerce.
I would like to express my gratitude to all faculty memebers for their valuable suggestions and supervison to the final year students.

CREDIT SCORE RATING USING FINANCIAL ANALYSIS

ABSTRACT:

Credit scores are a measure of creditworthiness that allows lenders (banks and credit card companies) to assess their risk to a particular potential customer. There are several credit scoring methods available in the literature, but the most widely used is the FICO method. This method provides a score from 300 to 850 as a quick filter for a large number of complex lending decisions. However, it is not in terms of a decision support system that can achieve a revised rating to reflect the strengths and weaknesses of the borrower in each rating dimension and the trade-offs that may be made to maintain credit risk. enough. Therefore, this study describes and develops decision-making tools for credit score models. It is based on the principle of multistandarddecision making. In the proposed methodology, the criteria weights are generated by fuzzy AHP. Fuzzy linguistic theory is applied to AHP to explain the uncertainties and ambiguities that arise from human subjectivity in decision making. Finally, starting with the risk distance function, TOPSIS is used to rank alternatives based on the least risk. Sensitivity analysis is also shown by the proposed fuzzy AHP-TOPSIS method.

SYSTEM DESCRIPTION:

The system comprises of 2 major modules with its sub-modules as follows:

1.User:

- **User Registration:** System will provide the user with credentials. User will use those credentials to access the system.
- **User Login:** The system provides the user with credentials. Users use these credentials to access the system.
- **Update Details:** Consumers can update details such as monthly income, expenses, credit card numbers, number of loans, and more.
- **FICO Score Calculation:** The system calculates the credit score based on the credit parameters, displays the details to the user, and also indicates whether the consumer's credit score is bad, normal, good, or excellent.
- **Logout: U**ser can logout from his personal account.

2.Manager:

- **Loan Approval:** Manager will approve the loan if the FICO score of customer meets a certain criteria and is eligible for the loan.

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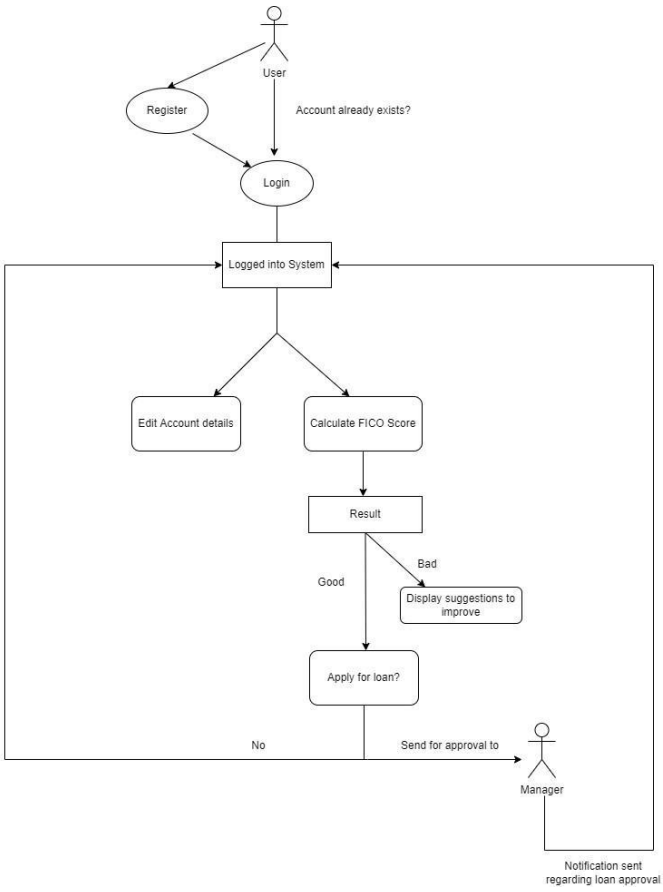
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

ENGR.SALAHUDDIN SADDAR

Urdu language therapist for children of age group (8-12)

ABSTRACT:

In this project we are going to make an application which will help children of age group (8-12) in speaking some difficult words of Urdu language. The aim of this project is to give a solution by using mic of mobile for detecting correct pronunciation of the words uttered by the child. Where children can learn the correct pronunciation of that word and can check their progress also by uttering that word. Final output of our work will be a mobile application.

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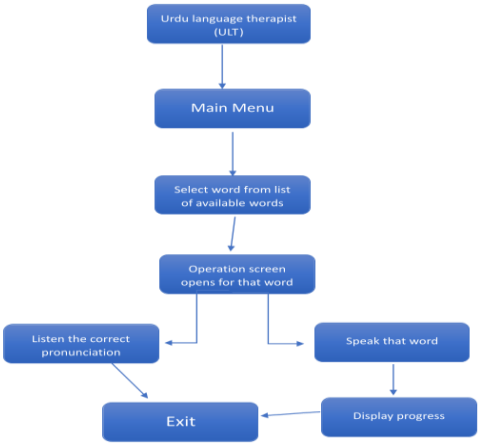
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Sania Bhatti

Google Apps ratings visualization using Python And ML

ABSTRACT:

This project is based on the numerical analysis of the Google applications' rating for the Computation of their reviews, number of installations, application's rating, price of the Application etc. The dataset for this project has been downloaded from Kaggle.com (an Authorized platform of python and ML datasets). The dataset has been cleaned and modified for Acquiring nominal outcomes pertaining to the detailed analysis of various Google Applications' Ratings. This project will be beneficial for all the developers, project managers and the local People to know the worth and value of any application and its ratings. Such type of numerical Analysis and visualization performed can also sort out all the relevant rating details of Applications which are widely used and downloaded by the people. The python libraries (Numpy, Pandas, OS, Matplotlib, Seaborn) will be used to import the data and the data cleaning will be Performed to clean the data of the dataset taken from an authorized source. After that, the same Data will help analyze the data from the directory for data loading as well as the data analysis Will help predict the shape of the data. Then comes the main goal of this project to find and Compute the rating of the applications through plotting a graph from the dataset, where the null And missing values will be sorted out column wise. Finally, the graph will be plotted and Sketched on the basis of category-wise rankings and prices in order to predict the visualization of Google application rating and to know which one is the best trending application in terms of Rating, download rate, price and reviews.

GROUP MEMBERS:

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SYSTEM WORKFLOW DIAGRAM:

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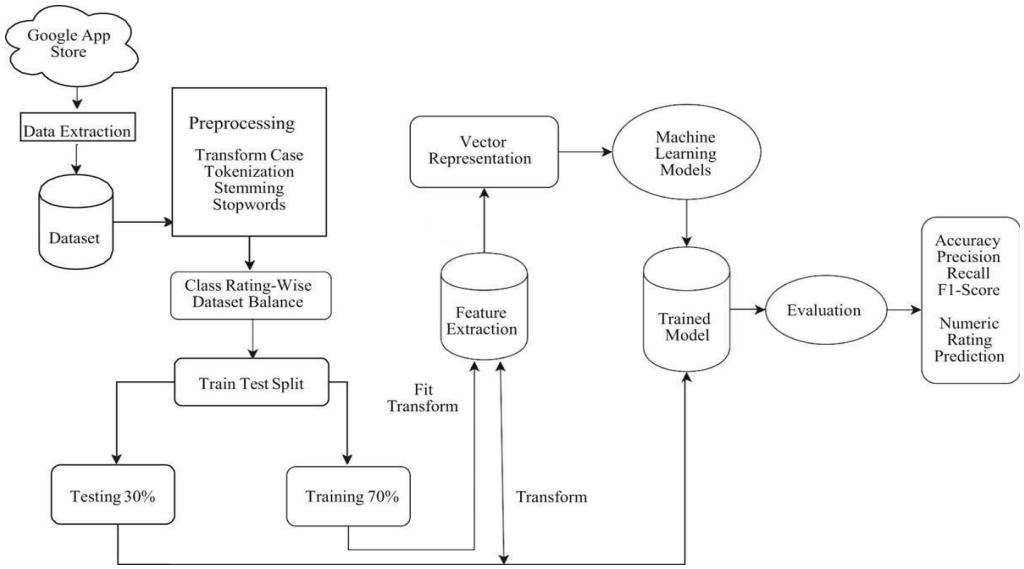

SUPERVISED BY:

Engr. Salahuddin Saddar

CO-SUPERVISED BY:

Engr.Afnan Sadhayo

Final Year Projects 2022 of 18SW

Language modeling – Rewriting Stories for lower reading Levels.

Abstract:

A web based tool for simplifying text of books and stories, this tool will be used to determine the probability of text to make it simple. Most of time there are so many books and blog stories that are hard to understand for different readers so by using Natural Language Processing (NLP) model will analyze the text and generate it in simple form. This will not only help readers but will help users to communicate in an easy way.

Technologies:

- Python
- Django
- React
- Machine Learning
- NLP
- Transformers

Group members:

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SYSTEM WORKFLOW DIAGRAM:

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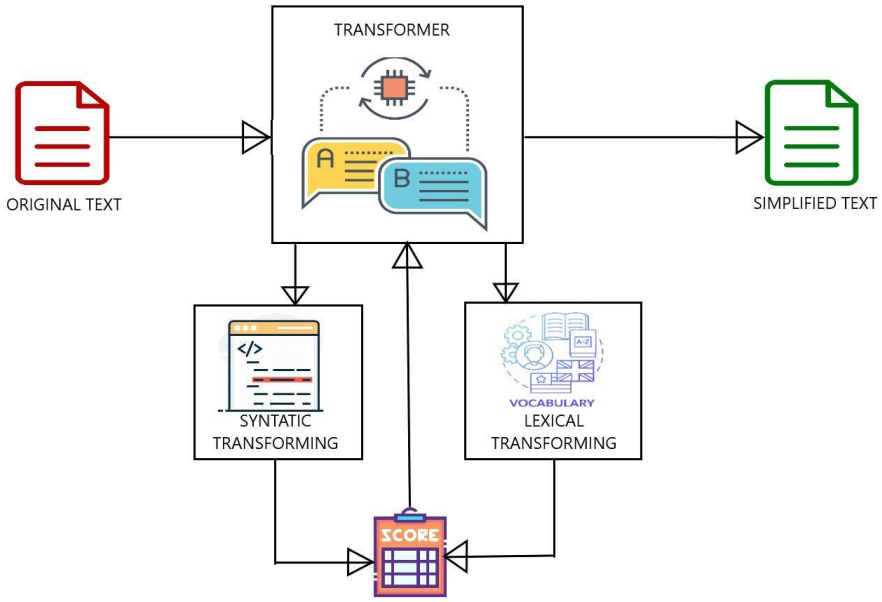

Supervised by:

Engr. Rabia Iftikhar

Co-Supervised by:

Hiba Shah

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Human Identification in non-cooperative scenarios

Abstract:

A biometric system is composed of a person's physical and behavioral features that allow the system to recognize them uniquely. However, various biometric systems have multiple issues that must be overcome. Assume we have a face detection system with which we want to identify a person, but there are some common issues with this system, such as dealing with changes in facial expression that can change the facial data, ageing is another challenge, gender transformation, and plastic surgery are all major flaws in the facial recognition system.

To address this issue, we employ the periocular area of the face. Periocular refers to the area that includes the eye and the area around the eye, which includes the eyebrows and the lower eye fold. As a result, we propose a system for detecting a person based on the periocular region, which is more practical than facial recognition and is particularly useful when recognition of the whole face image is not available.

Technologies:

- Python
- Machine Learning

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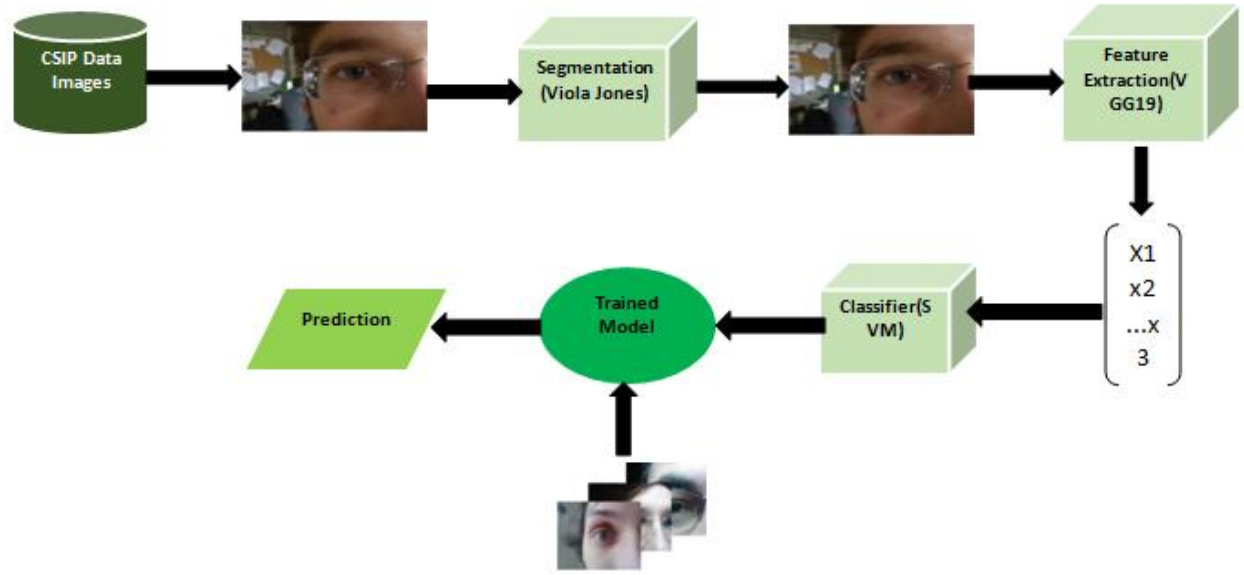
SYSTEM WORKFLOW DIAGRAM:



Supervised By:

Engr. Rabia Iftikhar

Final Year Projects 2022 of 18SW

Privacy policy summary generator using ML

ABSTRACT:

Privacy policy agreements are long and complex for users and consume a lot of time to understand for end users. Most of the time users just check agree and move forward. So we will develop machine learning model that reads privacy policy agreements availaible on the various web pages and provide few lines summary which is easy to read and understandable for end users. The scope of this project is not limited to privacy policy and may be extended further to summarize news articles or books.

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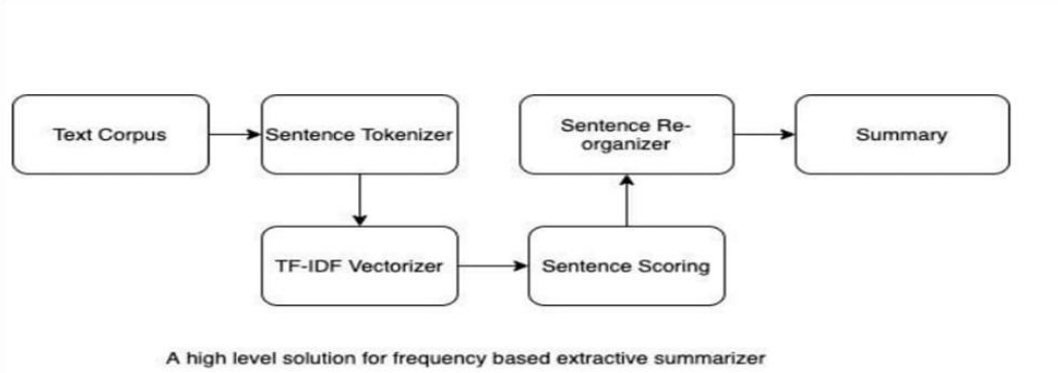
SYSTEM WORKFLOW DIAGRAM



A high level solution for frequency based extractive summarizer

SUPERVISED BY:

Engr. Rabia Iftikhar

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Virtual Mental Health Consultant

ABSTRACT:

People nowadays are suffering from many mental health issues and only 5-6% of them seek guidance from certified professionals by taking sessions. Most of the people find this topic odd to discuss therefore they start having anxiety issues. This app will help those introverts to seek mental guidance by chatting with our AI bot, which will have conversation with them, conduct some survey questions, personal questions and health related questions, and guide them accordingly. This app if become popular then suicides will decrease and majority people will not undergo depression because they will have someone (our app) to talk to and seek guidance from. the functionalities include: user will register and set credentials for every login, then select the category (type of problem they are facing which is causing them mental issues) then an AI bot will be assigned to them it will first ask some random questions then start asking personal questions for personal information, then it will ask about the issues ask some survey questions about that issue and guide the user for the approaches he/she should take in order to deal with issues. This app will work as a first aid to very depressed people.

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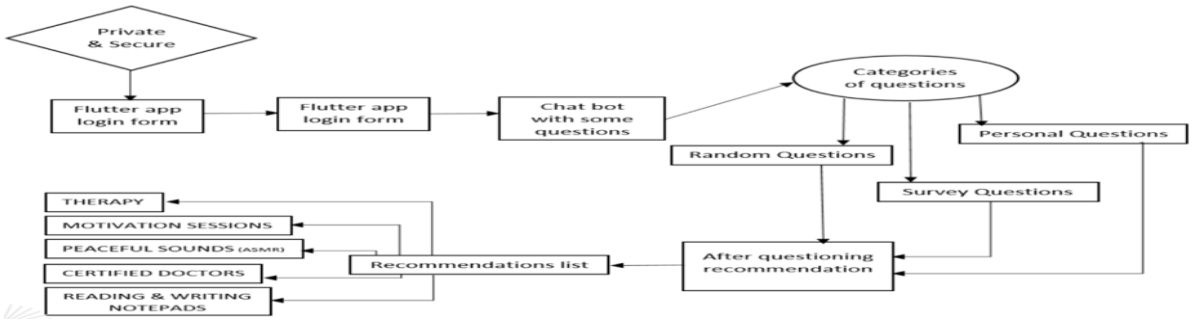
SYSTEM WORKFLOW DIAGRAM:



INPUT

SUPERVISED BY:

Engr. Anoud

WEATHER MONITORING SYSTEM

ABSTRACT:

We are building a weather monitoring system usingiot for smart agriculture. It is a system that involves fetching the weather and environmental data using its advanced sensors, and it will send it to the web with the help of the internet for further study and analysis.

It will be able to display the weather parameters and every information available in the world on its display. It will allow the people to access the weather data without going anywhere.The WMS uses the high accuracy sensors for the measurement of **temperature, humidity, php level, pressure** and other parameters.All the above information will be stored into the cloud, so that we can provide trending of temperature, humidity levels and co levels in a particular area at any point of time

This model can be further expanded to monitor the developing cities and industrial zones for weather monitoring. To protect the public health from pollution, this model provides an efficient and low cost solution for continuous monitoring of the system.

KEY WORDS:

Weather Monitoring System, IOT, Smart Agriculture,

Sensors, Servers, Arduino Uno.

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SYSTEM WORKFLOW DIAGRAM:

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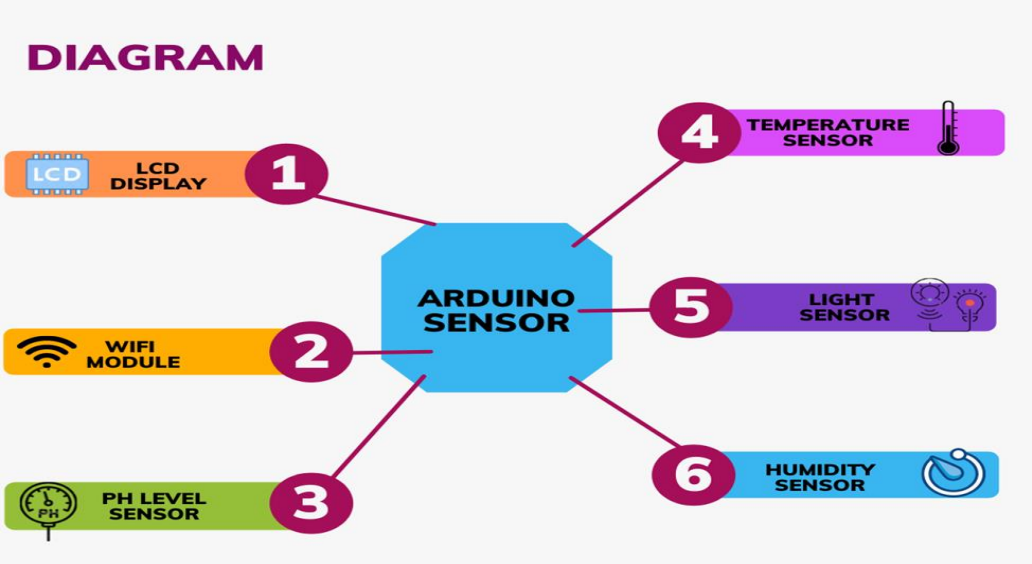

SUPERVISED BY:

Engr. ShafiyaMemon**.**

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PREDICTING WEATHER FROM TWEETS

ABSTRACT:

The goal of this project will be to analyze a set of tweets related to the weather. The task is to analyze individual tweets and

- determine whether it has a positive, negative, or neutral sentiment,
- whether the weather occurred in the past, present, or future, and
- the kind of weather the tweet references.

The data for this project will be collected from Crowd Flower Open Data Library.

Technologies: Python

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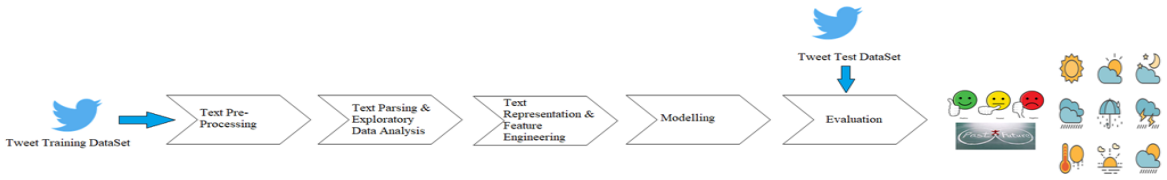
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. AreejFatemahMeghji

CO-SUPERVISED BY:

Syeda Sara Batool

MACHINE LEARNING TO PREDICT THE LIKELIHOOD OF ACUTE MYOCARDIAL INFARCTION

ABSTRACT:

Myocardial Infarction (MI) occurs on account of heart muscle death which leads to loss of life. This commonly occurs in individuals with genetic susceptibility to atherosclerosis, high blood pressure, an inactive lifestyle, and in those who are obese. The goal of this project is to use machine learning for early prediction of myocardial infarction.

Some features that may be used for model building can include demographics, examinations, symptoms, laboratory tests, and ECG features. Real data pertaining to patients will have to be collected and a predictive model will have to be designed that can predict myocardial infarction based on the chosen features.

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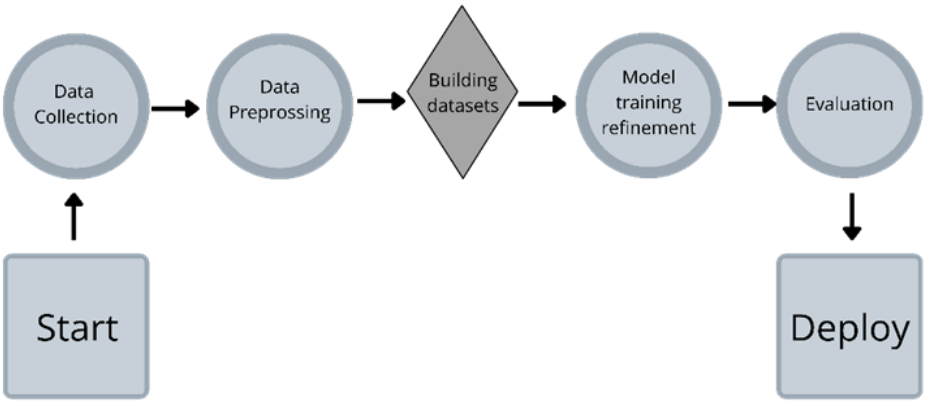
SYSTEM WORKFLOW DIAGRAM:



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Dr. Areej Fatemah Meghji

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MACHINE LEARNING BASED CLASSIFICATION FOR SENTIMENT ANALYSIS OF BOOK REVIEWS

ABSTRACT:

Machine learning allows the analysis of massive amounts of data in an efficient manner. This technique is helpful towards the classification of the content of a language, referred to as Natural Language Processing (NLP). A prominent area in NLP is sentiment analysis. With reference to machine learning, sentiment analysis is applied on three levels: sentence, document, and aspect.

The task of this project is to classify the sentimental representation of book reviews through machine learning based classification. Some tasks will include: removal of stop words and normalization of words in the review. Classification algorithms will be used to train and test the word matrix. The data for this project will be collected from Kaggle. This project aims to merge sentiment analysis with review-based technique of rating calculation so that a single value can be generated which truly indicates the value of the book review.

Technologies:

Python, Machine Learning, Data Science

HTML/CSS/Bootstrap

Flask

GROUP MEMBERS:

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SYSTEM WORKFLOW DIAGRAM:

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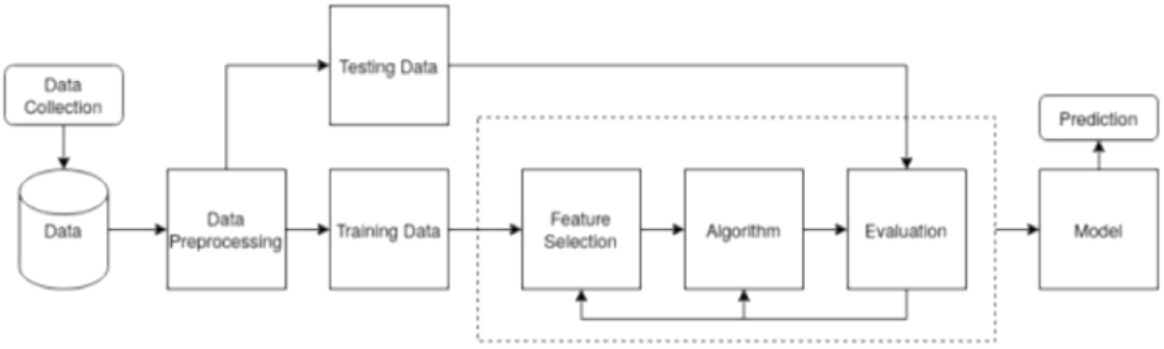

SUPERVISED BY:

Dr. Areej Fatemah Meghji

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Image Search Engine

ABSTRACT:

Image Search Engine is a content-based image retrieval system. A system which finds similarities between input images and images that are stored in a database. The system contains an image query and an image database. The process of the system will begin by extracting features by all images whether it's in the query or in the image database by using a features extraction algorithm. The Algorithm will then, find relevant features between the input image and the images stored in a database.

Feature Extraction is a method of lowering the number of components in a dataset by generating new highlights from existing ones and then discarding the initial ones. Most of the content in the original feature arrangement should be summarized by this new reduced arrangement of highlights.

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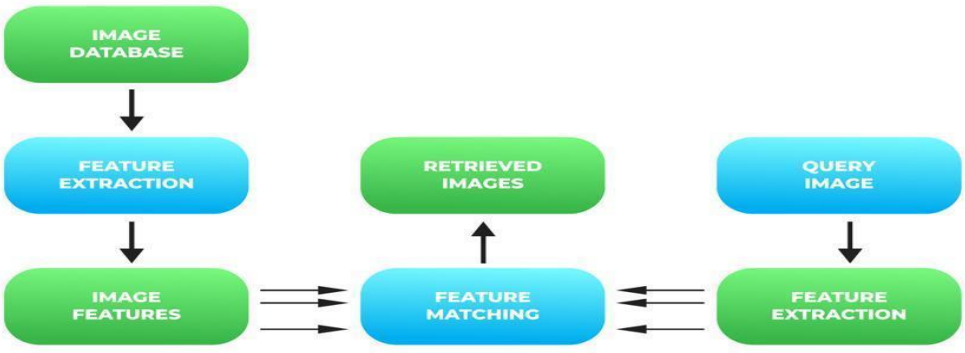
SYSTEM WORKFLOW DIAGRAM:



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SUPERVISED BY:

Engr. Mariam Memon

CO-SUPERVISED BY:

Sabika Nasir

MOBILE WALLET APP

ABSTRACT:

Across-platform QR code scanning application developed to manage and facilitate cash transactions between merchants and consumers. The purpose of developing this application is to supply a safe, reliable and efficient platform for monetary transactions at both ends. There will be two types of users; merchants and consumers, where consumer scans the QR code and the merchant generates the QR Code. This application will work in the following manner:

When the consumer scans the QR code generated by the Merchant the amount will be deducted from consumer's wallet and will be added into merchant's wallet and merchant can withdraw the amount to any provided bank account. The consumer must deposit amount in the wallet using a Visa/Master/Credit card and the card details can be saved for future use.

For enhancing security of this application, the application will require biometric verification before each transaction. The amount of transaction will be limited to 5000/= Rs. To ensure credibility of the user, each account made on this application will be linked to user's NIC number and mobile number.

GROUP MEMBERS:

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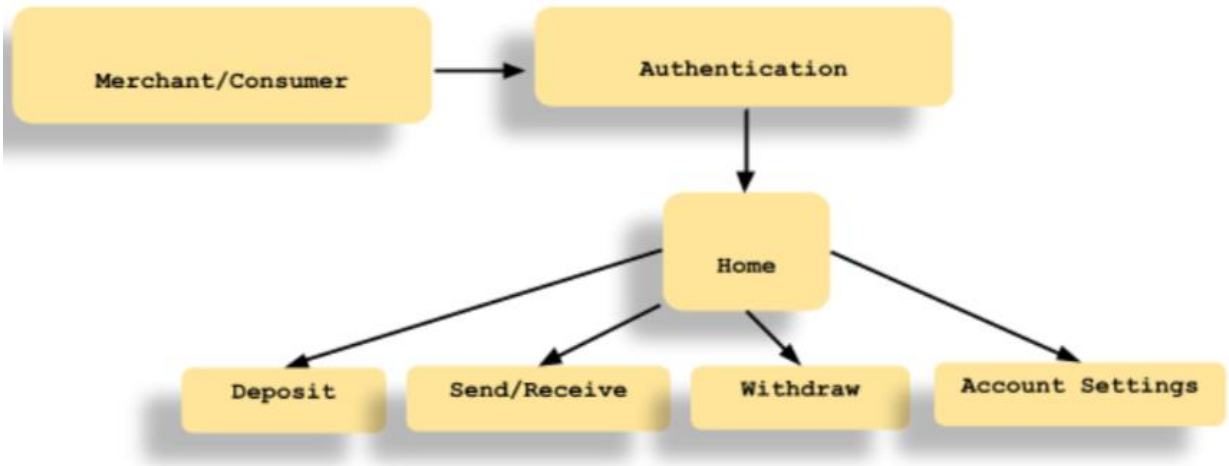
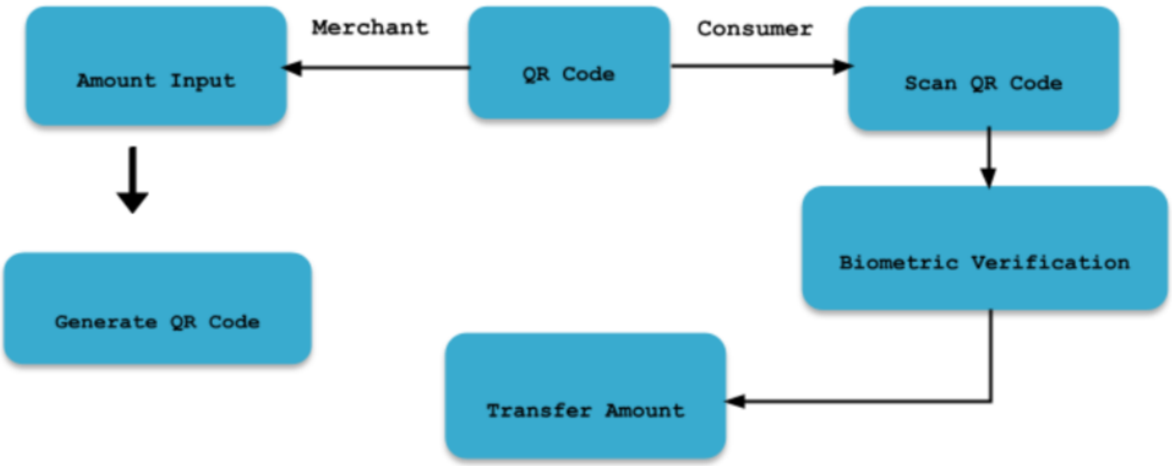
SYSTEM WORKFLOW DIAGRAM:





SUPERVISED BY:

- Engr. Mariam Memon

Decentralized Military Grade Encrypted Chat Application using Blockchain Technology

ABSTRACT:

Traditional chat apps are centralized, which means that all of the information is kept on a single server. As a result, the main issue with this arrangement is that if the central server fails, the entire network will collapse. For instance, while employing a centralized server, data might be lost or leaked. To address this, our project employs a decentralized application strategy (dApps). All of the user data in our program is kept inside a block, which is linked with other blocks to form a chain. A decentralized program does not have a centralized server, as the name implies. It's essentially a peer-to-peer system. Additionally, data on a block is encrypted with Military Grade Encryption AES-256, which is very hard to decrypt, and hashing is employed. Also, if any hacker tries to modify the information in a block, hacker will have to change all clones of that particular block from the whole blockchain network, which is almost impossible for anyone. Even though the block is available on all nodes, they cannot access the data contained inside it; only the person for whom the information is intended may do so. A decentralized application is made up of several nodes that are connected in a mesh topology network. They communicate with one another in a peer-to-peer manner.

Technologies:

Blockchain, Ethereum Crypto Network, Solidity, Python, Database, Html/CSS, JavaScript, jQuery, React Native

GROUP MEMBERS:

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SYSTEM WORKFLOW DIAGRAM:

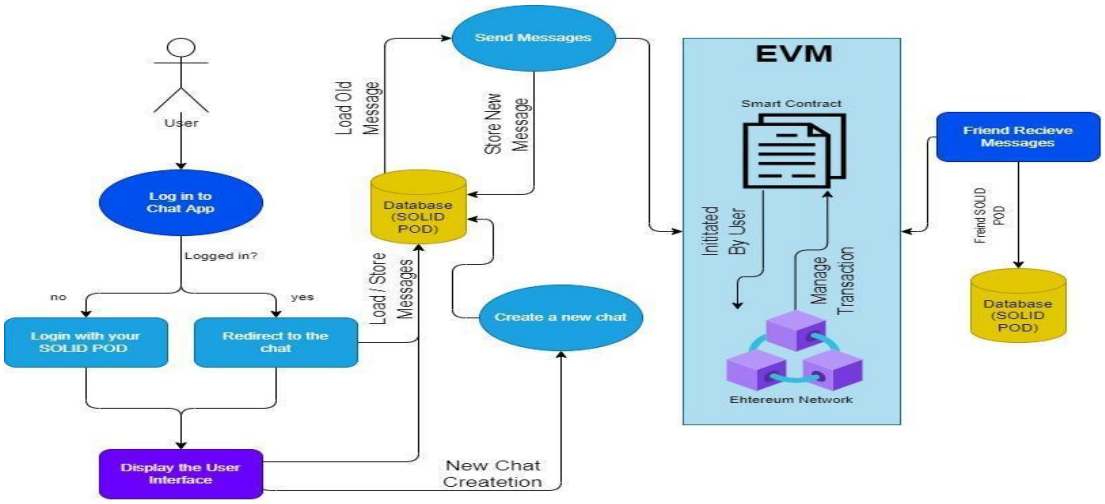

Figure 1. Workflow Diagram

SUPERVISED BY:

- Engr. Mariam Memon

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Reputation of social media influencers using twitter comments and sentiments analysis

ABSTRACT:

The social media is playing a significant role in consumers life. The social media influencers not only assist in opinion formation but also help in decision making. Therefore, it is necessary to measure the reputation of social media influencers based on the comments and sentiments shared by consumers and determine whether influencers' experiences are genuine and real. Sentiment analysis and opinion mining will be helpful to achieve this task to some extent.

GROUP MEMBERS:

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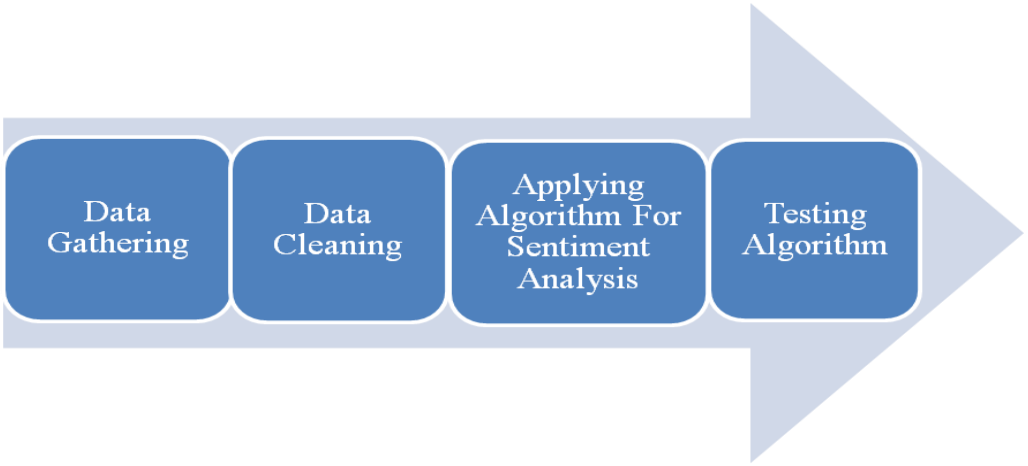
SYSTEM WORKFLOW DIAGRAM



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SUPERVISED BY:

Engr.Memoona

Final Year Projects 2022 of 18SW

WEB BASED BLOG GENERATOR

ABSTRACT:

Web Based blog generator is online tool which is used to generate Blog ideas, subheadings and unique content for you with the help of GPT3 model. GPT3 is a pre trained neural network transformer model trained on more than 175 billion parameters. GPT3 is a very intelligent model however to get the correct output from it you must provide it a well-crafted input so that it can understand the input properly and show correct output. This project will solve the problem of providing well-crafted input for GPT3. It will take simple user input and change it to the format that GPT3 can understand so that client can get proper output related to blog. This project will assist in generating the content of a blog for the given topic. The generated content will be perfectly readable, engaging, well-structured and contains proper formatting. Furthermore, generated content will also be plagiarism free. The evaluation of the project will be done by testing the generated content with some plagiarism checker.

GROUP MEMBER:

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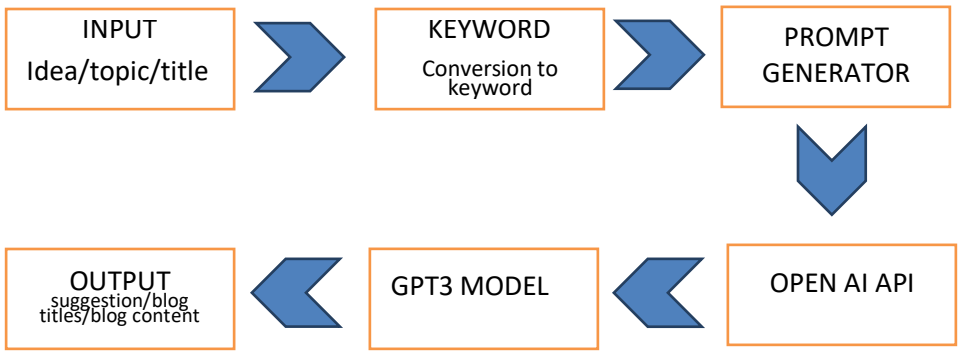
SYSTEM WORKFLOW DIAGRAM:



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Final Year Projects 2022 of 18SW

SUPERVISED BY:

Engr. Junaid Baloch

Smart Hat for Visually Impaired People

ABSTRACT:

According to google, there are 43 million people who are visually impaired. Our project “Smart Hat” is built to help these blind people and the main objective to build smart hat is to assist visually impaired people byrecognizingthere surrounding objects. So, the smart hat is consisted of an Arduino chip with a camera attached to it, Pictures taken by camera are being identified by Arduino chip through machine learning and data set derived in the chip, there is a mobile applicationwhich is connected to chip with the help of hotspot. This chip identifies the surrounding objects or obstacles and send the data to theapplication which help user to guide them through their way.Our device can help blind or visually impaired people move freely with the knowledge of their surrounding objects. Our device is more aweatccurate and efficient, and it is cheaper than other visually impaired helping devices because we have used Arduino chip instead Raspberry pi and it is much cheaper than raspberry pi. This will encourage visually impaired to use the device.

Technologies:

Arduino Chip, Esp32 cam, Flutter, ML (Machine Learning), Voice assistant, Mobile phone.

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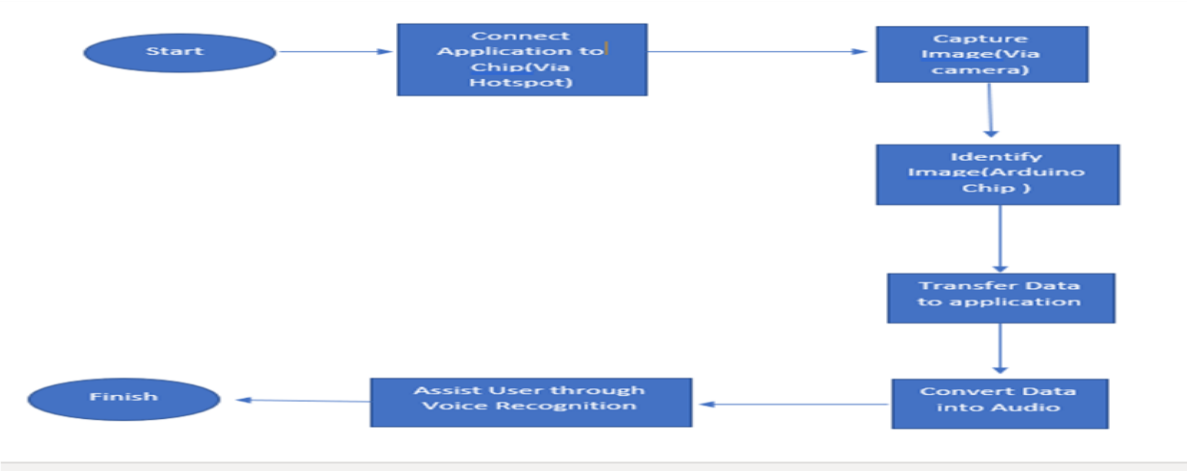
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Engr. Memoona

MACHINE LEARNING FOR TRAFFIC FLOW PREDICITION IN URBAN AREAS

ABSTRACT:

As human living quality improves because of urbanization and industrialization, more individuals are selecting to purchase their own vehicles instead of taking public transportation. The rising number of vehicles reinforces the gridlock in the world, especially in the metropolitan locales. Traffic congestion costs individuals important time, fuel, and dissatisfaction each and every day. Traffic congestion is a worldwide issue that impacts all levels of society.

The objective of this project is to simulate valid traffic circumstances in urban areas. With authentic prediction on traffic streams, individuals can change and modify their timetables ahead of time to keep away from gridlock that prompts delays for significant occasions. You can't necessarily stay away from traffic however with exact traffic forecasts you can settle on more brilliant decisions that can save time, money and road safety.

To get, a better model and prediction on the traffic, the model can be trained on neural networks with huge number of examples. The input to the algorithm indicating the traffic in a specific time in a day in range between 0 and 4 with 0 meaning low traffic and 4 meaning significant traffic congestion.

GROUP MEMBERS:

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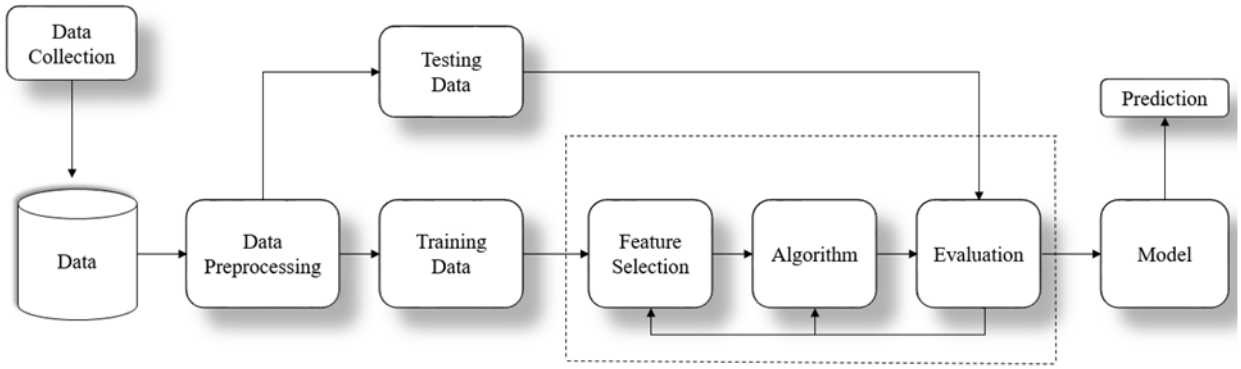
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Engr. Junaid Baloch

DIGITAL RIGHTS MANAGEMENT

ABSTRACT:

Digital rights management (DRM) is the technology that is used to guard and monetize exclusiveassets and copyrighted substances from misuse or robberyinsidethevirtual sphere.

Digital content material has been secure with encryption. A digital right management (DRM) system,use anunidentified key, encrypts content material to make it unwatchable in order thatmosteffectiveanyone who has the important thing can decrypt and watch it. But that key, like anydigital information, is simpleto replicate and share so on its very own it isn't alwaysenough to guard the content material.

DRM is a concept that allows the flow of Information to be restricted to a certain set of users. Other types of copy protection that can be bypassed without changing the file or device are not included in this definition. The study area includes solutions that focus on access control, as well as solutions that focus on copyright or ownership information being marked on the target object itself. Controlling legal and detecting fake information flows is critical in inter-enterprise cooperation systems. The goal of this project should be to provide an overview of DRM solutions that can be utilized in this situation, as well as a way for implementing DRM.Copyright holders, according to proponents, require it to prevent unauthorized replication of their work, either to retain creative integrity or to assure continuous revenue sources.

WORKING:

We have designed front interface with html and CSS on visual studio. We have used input type file in order to upload the file/document. Once we open the web application it will ask to upload our file, once we upload we have to submit it by clicking on the submit button. When a document is uploaded it will be stored in a database. On backend we will use PHP for document to be save in database and then it will check document that either the uploaded document unique or repeated. This will work with a certain algorithm that we will use in backend. After the document is uploaded it will determine who holds the copyright. If the copyright holder is known, then it will request for access the document. If permission is granted, then the document will open, if not the document will remain closed, but if the copyright holder is not known that we need to research about the source and then again the document will be determined.

Group members:

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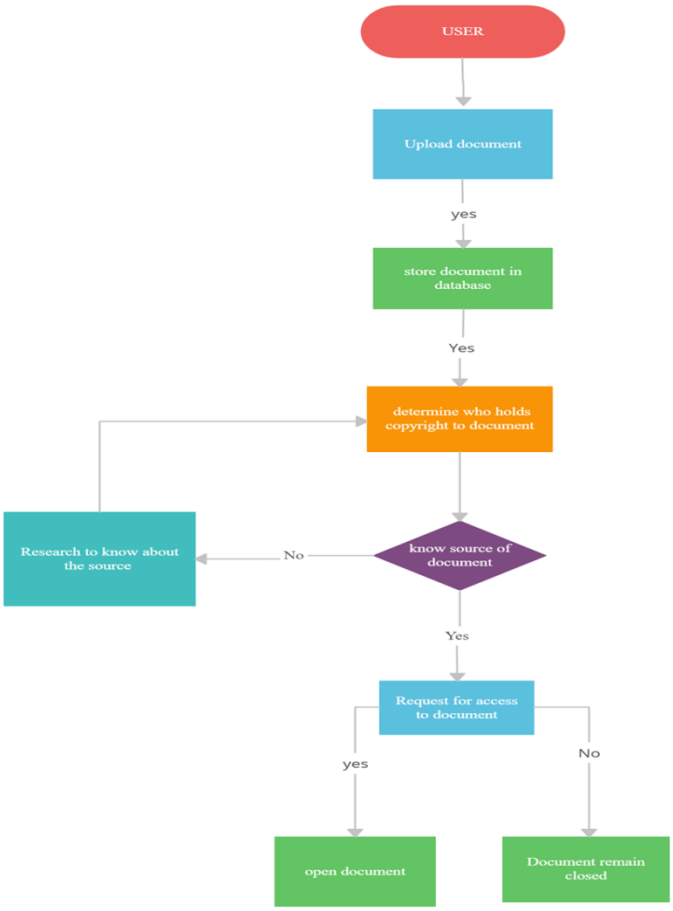
METHODOLOGY



SUPERVISED BY:

Engr. Junaid Baloch

Prediction of Financial Position of Pakistani Commercial Banks from 2009 to 2021 (13 years)

Abstract:

In this Python project, the dataset for the computation of Bank's financial position has been taken from the website opendoors.pk (a renowned and authorized source for ML and Python datasets). In this dataset, the prediction and analysis of financial position will be carried out from the year 2009 to 2021 (13 years duration). The sole purpose and benefit of developing this prediction model is to facilitate and convince the investors, businessmen, builders and the local community of the society in order to invest and draw their major chunk of amount in the best bank whose financial position is stable and viable. Such predictions can provide them a thorough information and in-depth knowledge regarding the banking profits and monetary gains in return of their huge investment. The financial ratios will help predict the investors to come up with the idea of spending and investing in a particular bank. In this regard, the 15 datasets have been accumulated to compare and distinguish among the 13 commercial banks as to which one is the best in terms of financial position. Moreover, the different Python libraries will be used like Numpy, Pandas, OS, Matplotlib and Seaborn, where paths are selected for each directory for data loading, besides it different Python techniques (Data cleaning, Exploratory Data Analysis, Data visualization and Data Modelling) will be demonstrated in this project for the purpose of obtaining better outcomes in a bid to choose the best bank for investment.

Group members:

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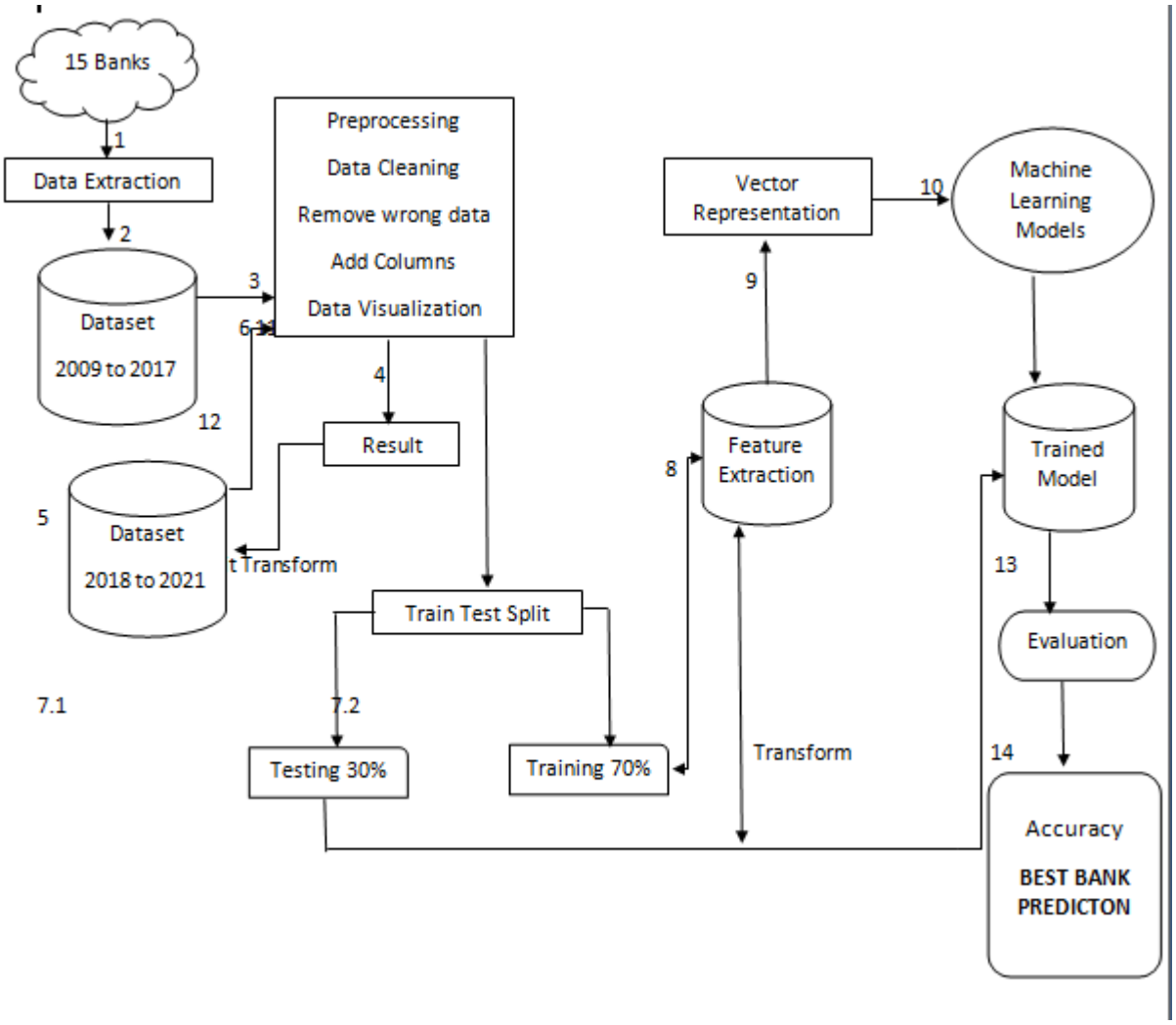
SYSTEM WORKFLOW DIAGRAM:



Supervised By:

Engr. zubair

Final Year Projects 2022 of 18SW

Cross-Platform Email Application

Abstract:

A Cross-Platform Email Application that will perform operations on both desktop (Windows) and mobile (IOS and Android) with full functionalities. The application will be developed in Dart programming language using Flutter framework.

This application will use the same code base for all platforms, making the development and maintenance easier. It is easier to keep the application up to date, so there is no need for expertise in any other language.

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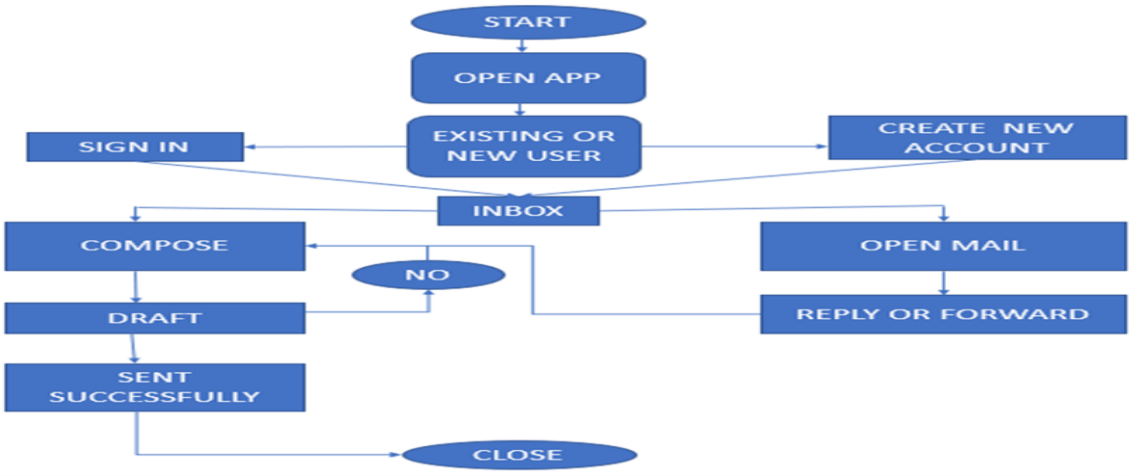
SYSTEM WORKFLOW DIAGRAM:



Final Year Projects 2022 of 18SW

Supervised by:

Engr. zubair

Final Year Projects 2022 of 18SW

STOCK MARKET ANALYSIS AND PREDICTION

ABSTRACT:

Considering that prediction of Stock Market is very effective and challenging. We offer Stock Market Analysis and Prediction with the use of Machine Learning Algorithms. As we are particularly focusing on single KSE index for prediction. Upon implementing different algorithms and checkout the accuracy for each model. We chose Random Forest because of its high accuracy. Deep Learning techniques was not implemented because of its complexity and requiring higher memory. After doing research Random Forest was filling that gap. The Random Forest Algorithm is composed of different decision trees, each with the same nodes, but using different data that leads to different leaves. It Prevents over fitting of data.

FYP_GROUP_MEMBERS :

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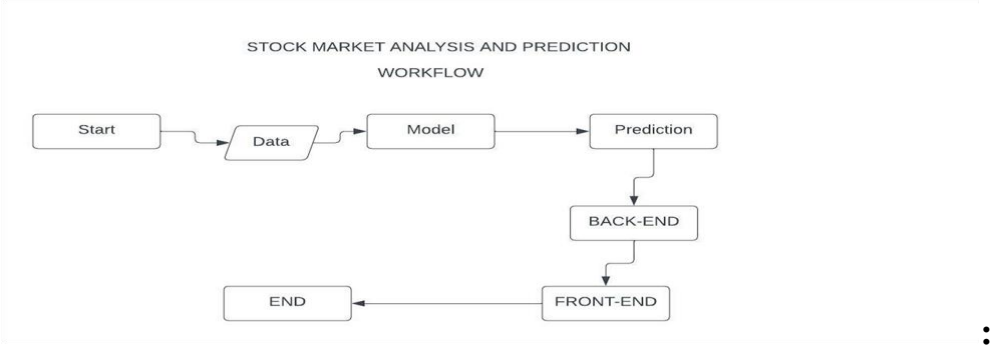
SYSTEM WORKFLOW DIAGRAM



:

Supervisor Name:

Engr. zubair

Report and track missing persons

Introduction:

People go missing from their families for various reasons. The reasons can be many like mental disability, kidnapping, personal will, etc. It is really hard to find those people. A technique will be developed using networking, mobile app and artificial intelligence to report, track and find lost people. We will provide mobile app which will ask for features to report and build a database of missing people. The application will find them using AI and facial recognition techniques. This project aims to build a web-based app and portal where missing persons can be reported and the word spread into nearby society. This app will streamline the process or reporting a missing person in real time and allowing people nearby to receive alerts for lookout of the same. In fast moving societies like ours, a service like this is the absolute need of the time because children and elderly, disabled people who get lost in the mayhem of big cities often undergo through unwanted conditions and situations. Such incidents could also report in loss of life or other mishaps, therefore will develop this project to add value to the society and use technology for the betterment of purpose.

Group members:

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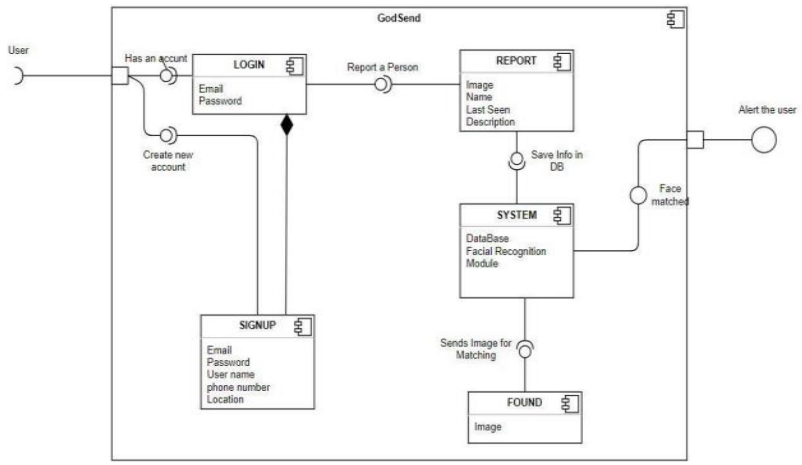
SYSTEM WORKFLOW DIAGRAM:



Final Year Projects 2022 of 18SW

Supervised By:

ENGR. SALAHUDDIN SADDAR

PRINT-ON-DEMAND CUSTOM T-SHIRT

ABSTRACT:

The project's goal is to overcome the difficulties that come with using the manual system. The programis supported in order to minimize and, in some situations, lessen the difficulties that the current manual system causes.

The purpose of the Print On Demand Custom T-Shirt application is to automate the existing manual system with the help android application, It is an Application based on Android Architecture that will allow the user to design t-shirts of their own choice, fulfilling their requirements, so that when the t-shirt is designed completely user can save it and also can place an order.

User has option

- To select already designed T-shirts provided by the system
- Or can create custom-designed T-Shirt using a wide range of Text Styles, Colors, and designs, and can even place a bulk order for the same design.

The technology allows consumers to choose a t-shirt design initially. The user can then select the desired color. Users can choose from a variety of designs and text to be printed on the t-shirt using the next step. The cost of design is estimated once the user has made their decision. This T-Shirt will be sent right to their door. With the help of this application,users can have a t-shirt of their own choice by sitting at home and can order it.

The application helps users to

- Saves time.
- Gets a Huge Choice of Colors.
- Gets Virtual View of T-Shirts.
- Make it Personalized.
- T-Shirt comes to user’s doorstep

Technology to be used: Android Application, Firebase Cloud Storage, Gesture Technology

Final Year Projects 2022 of 18SW

GROUP MEMBERS:

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SYSTEM WORKFLOW DIAGRAM:

SUPERVISED BY:

Engr.Memoona

Final Year Projects 2022 of 18SW

Image Captioning Deep Learning Model

ABSTRACT:

Generating descriptive sentences out of images automatically is a very recent and growing research problem nowadays. Image Captioning is a fundamental task that requires a semantic understanding of images and structures meaningful sentences utilising generated keywords, it requires both methods from computer vision to understanding the content of the image and a language model from the field of natural language processing to turn the understanding of the image into words in the right order. Our model builds on a deep convolutional neural network (CNN), used to understand the image contents and find out objects in an image and LSTM(Long Short Term Memor) which is used for language generation by making use of history and future context information at high-level semantic space. The most commonly used datasets are MS COCO, flicker 8k and flicker 30k.

By utilizing the power of the Deep Learning model. With the goal of a generalized domain web application for the model to be flexible for any input image for the most accurate description. Our future plans for this application (infrastructure) would be real-time classification and summarization of any scene inside an image or a video with closely related captions.

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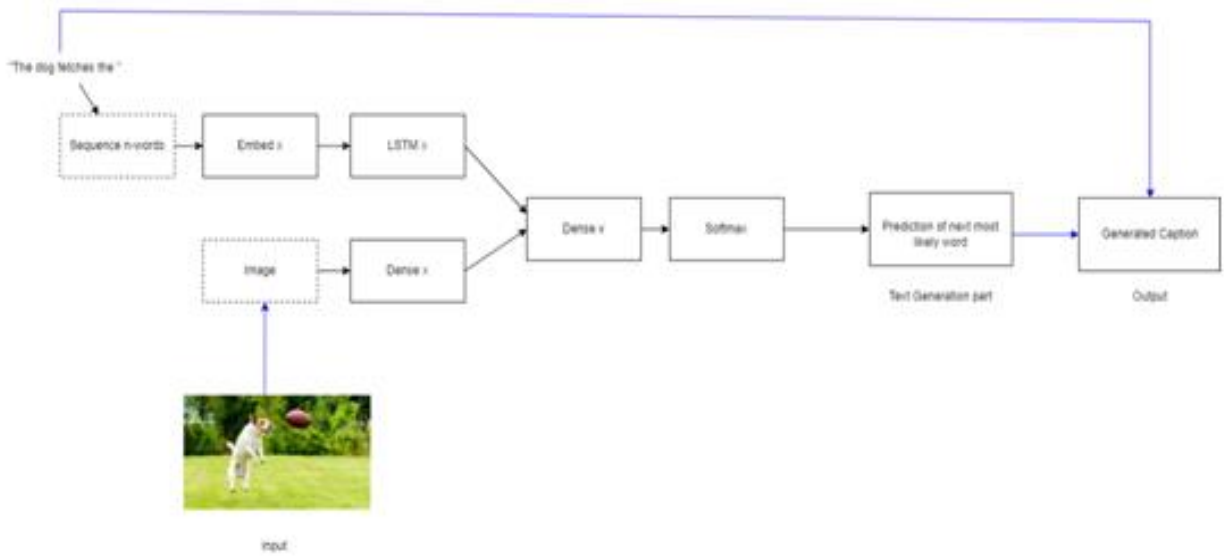
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. NaeemMahoto

Augmented Reality(AR) special affects on non living object images

ABSTRACT:

This project is totally based on the execution ofEffects of Augmented Reality (AR) into Non-Living Objects captured by a smartphone device or Images stored in the device. The Application starts the alteration process of Objects present in Image by finding the relatable content of concerned object from Cloud Service using different AR Technologies. This project uses python for Machine learning algorithms and for Computer vision techniques and AR effects we use Unity and Vuforia.The application scans every type of objects within seconds.

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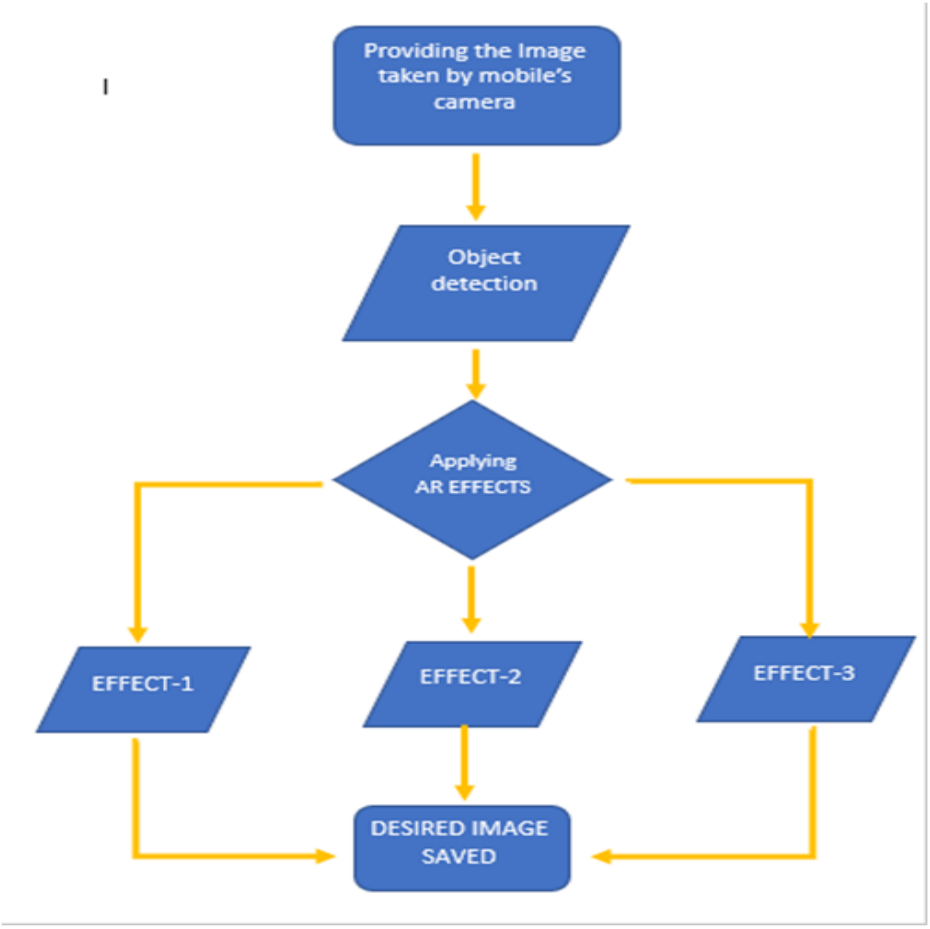
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Naeem Mahoto

CO-SUPERVISED BY:

Sir Samiullah Shah

CRIME RATE INDICATING GOOGLE MAPS

ABSTRACT:

Since Crime Rate has grown to very high levels and while travelling in a different/new city we don't know about the Red-Zone areas where most criminal activities happen, we have decided to build an app which can be easily installed in mobile phones. When user opens this app a Google Map displays in which areas where criminal activities are high are highlighted as Red, areas with moderate criminal activities will be highlighted as Yellow and areas with no criminal activities in past few months/years will be highlighted as Green. So if user was thinking to take a route to its destination but was the most active in criminal activities then user would take another route which is safer. If user clicks at any specific location on map then an icon will be displayed, when user clicks that icon then list of criminal activities that happened in that area and nearby areas will be displayed in which name, date, time, and number of people affected from that criminal activity will be displayed. User can also filter the search by choosing options (Search by Crime Type/ District/ Division). Our motive is to keep people aware of the crimes happening in the areas from which they are planning to travel.

GROUP MEMBERS:

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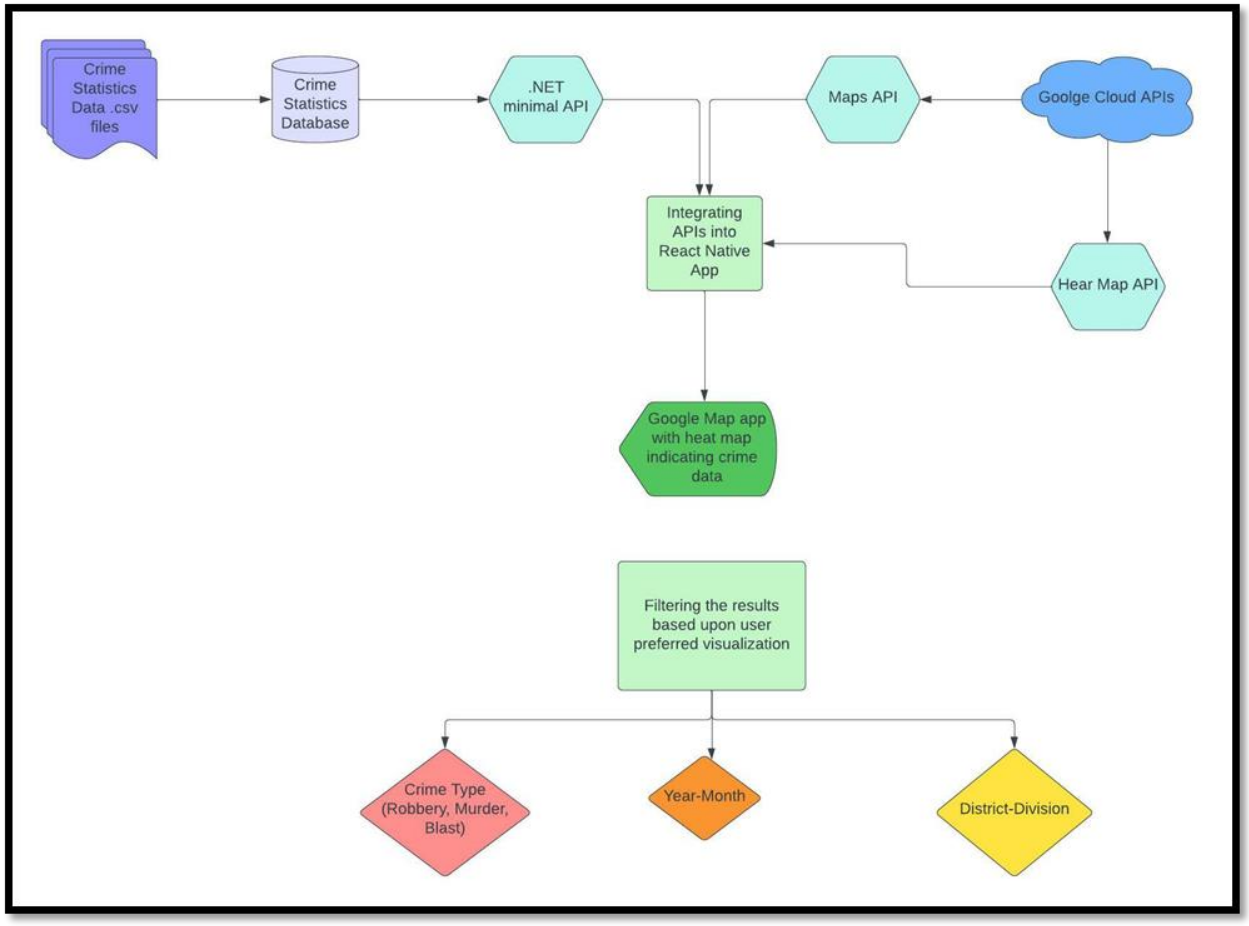
SYSTEM WORKFLOW DIAGRAM:



Flow Diagram of System Working

SUPERVISED BY:

Engr. Anoud

Software Cost Prediction using Machine Learning

Final Year Projects 2022 of 18SW

ABSTRACT:

Cost prediction of software is a crucial task while its development. This prediction enables project managers to accurately manage and plan their resources in terms of cost estimation. This project will involve developing a model using a machine learning approach which will be able to predict software development cost based on different cost drivers (effort, time, KLOC, etc).

GROUP MEMBERS:

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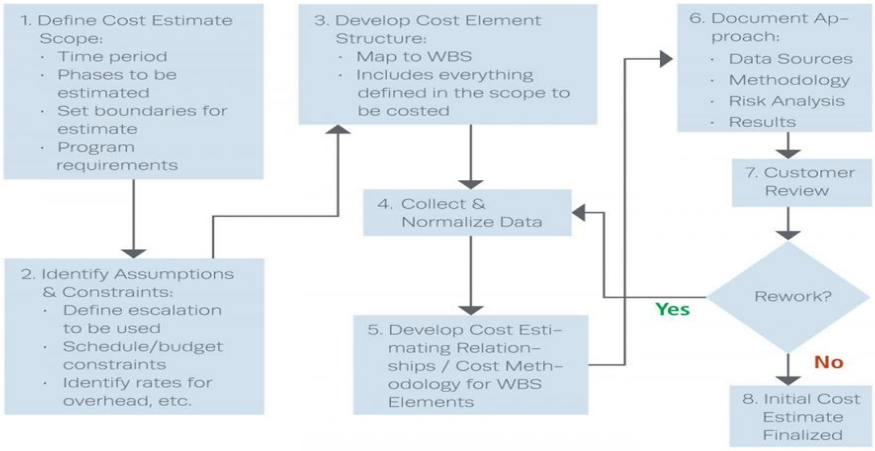
SYSTEM WORKFLOW DIAGRAM:

Software Cost Prediction



SUPERVISED BY:

Engr. Anoud

A PHOTOGRAPHIC RECIPE BOOK

Abstract:

Cooking is a daily activity for many people. However, traditional text recipes are often prohibitively difficult to follow for people with language disorders, such as aphasia.

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We have developed a multi-modal application that leverages the retained ability of aphasic individuals to recognize image-based representations of objects, providing a presentation format that can be more easily followed than a traditional text recipe.

Through a systematic approach to developing a visual language for cooking, and the subsequent case study evaluation of a prototype developed according to this language, we show that a combination of visual instructions and navigational structure can help individuals with relatively large language deficits to cook more independently.

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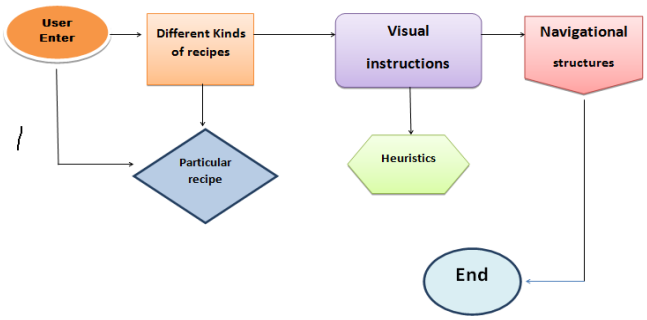
SYSTEM WORKFLOW DIAGRAM:



Supervised By:

Engr. Shafiya Memon

CURRENCY DETECTOR APPLICATION

ABSTRACT:

There are many people in our society who are visually impaired andfacea lot of problems in their daily life activities. They even face issues while performing monetary transactions as

they are not able to recognize paper currency without any support. By using this application, such people can detect paper money. Using voice commands, they can open camera within our app and capture picture of notes and get a speech response about how much the amount is. This app uses text to speech concept to read the value of note to user and converts text value into speech. The application uses Tensorflow lite and teachable machine learning based on images ofcurrency notes using mobile camera. This application will target 10rs, 20rs, 50rs, 100rs, 500rs, 1000rs and 5000rs notes. Pictures of these notes will be uploaded to a teachable machine learning model, which will be trained to get it recognized. And then these models will be used in our currency detector application to provideresults.

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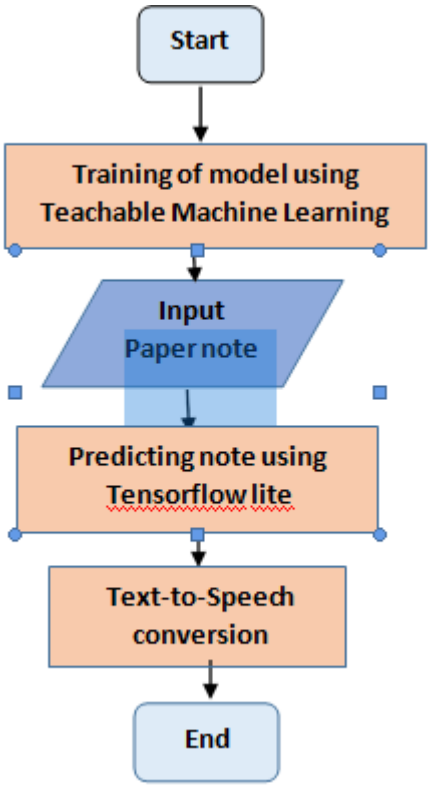
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Engr. ShafiyaMemon

Anytime Parcel

ABSTRACT:

People currently place a high value on sending and receiving commodities such as imported furniture, electronic equipment, gifts, commercial goods, and other such stuff. People rely heavily on various modes of transportation, the majority of which rely on manual methods of receiving and delivering goods. There is no method to trace the products until they are delivered, and there is no means to inform the consumer about what happened during transportation after he ordered some. In this case, we will require a system that fully automates cargo processes, including real-time tracking of the items transported.

This project aims to build a Web-Based Customer Relationship Management (CRM) System for a Courier Service, Anytime Parcel, which will create a strong bond between customers and the courier company by providing all necessary services and features, such as booking, loading, delivery, status check, and parcel tracking, which will assist business and casual customers to their satisfaction.

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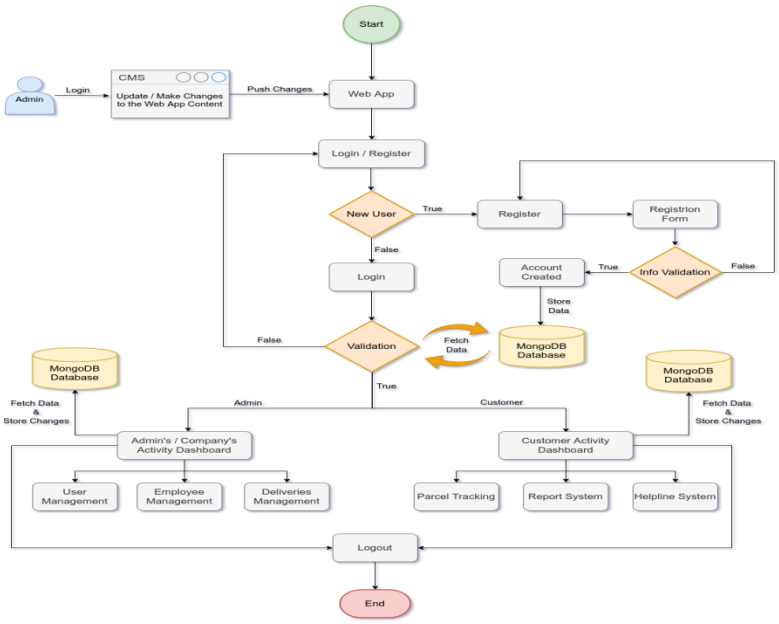
SYSTEM WORKFLOW DIAGRAM:

Final Year Projects 2022 of 18SW



SUPERVISED BY:

ENGR.SALAHUDDIN SADDAR

Final Year Projects 2022 of 18SW

SeChat (Blockchain chat dApp)

Abstract

Blockchain-based Decentralized Chat Application to send and receive sensitive data. Deploying our smart contracts on Ethereum chain (initially using test networks) distributed public Blockchain network that cannot be manipulated and changed to validate the transaction on the network. This project aims to make dApp in real-time for messaging purposes and eliminate the factors of trustlessness and lack of security.

Group Members

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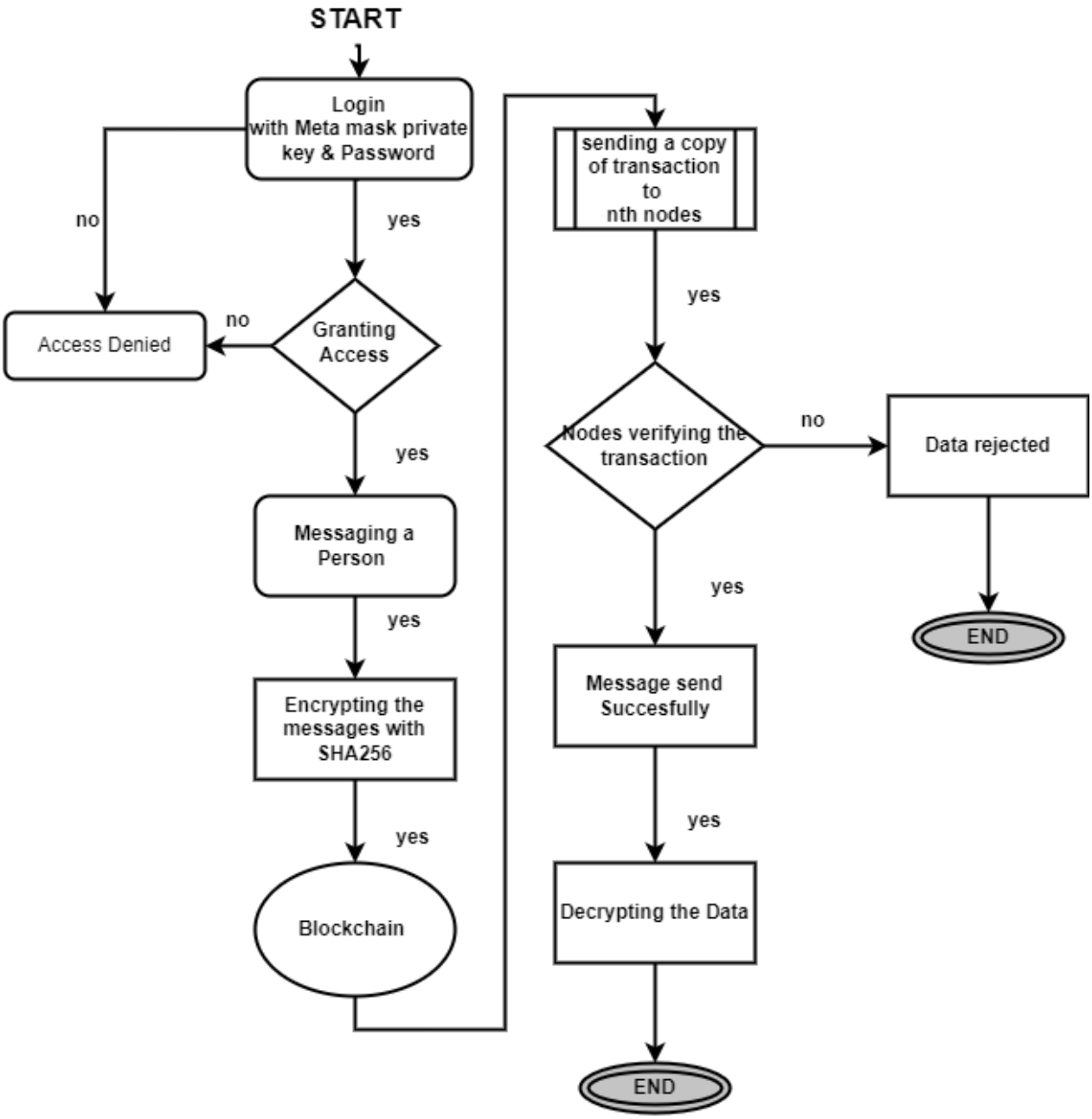
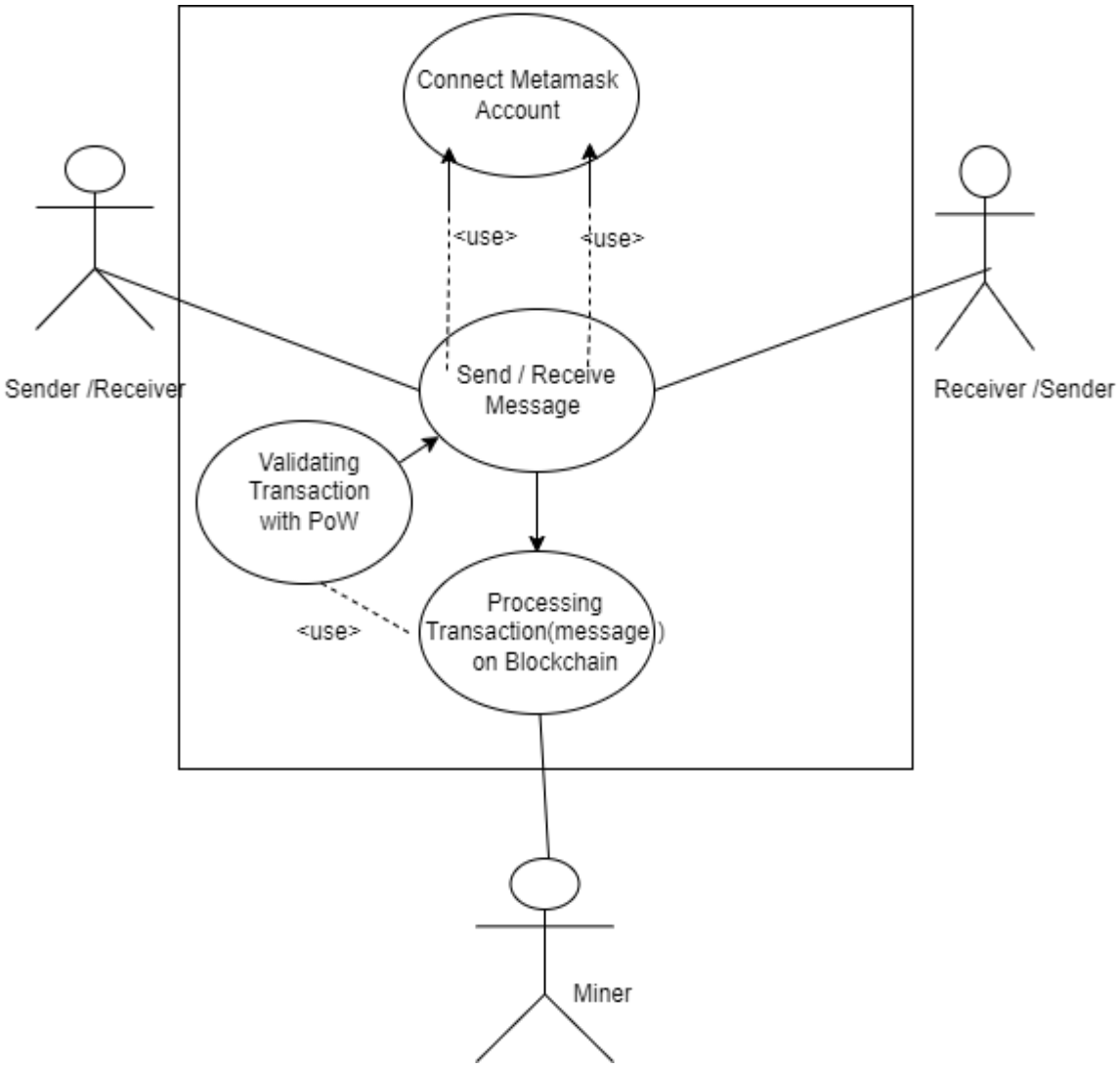
FLOW CHART



USE CASE DAIGRAM



Supervised by:
Dr. Mohsin Memon

Final Year Projects 2022 of 18SW

Digital Twin of a Battery

ABSTRACT

A Digital Twin is a digital model that mimics the behaviour of a physical entity using Machine Learning algorithms.

The aim of this project is to develop a Digital Twin of a Lithium-ion battery that can mimic the behaviour of the physical battery and show insights.

Group Members:

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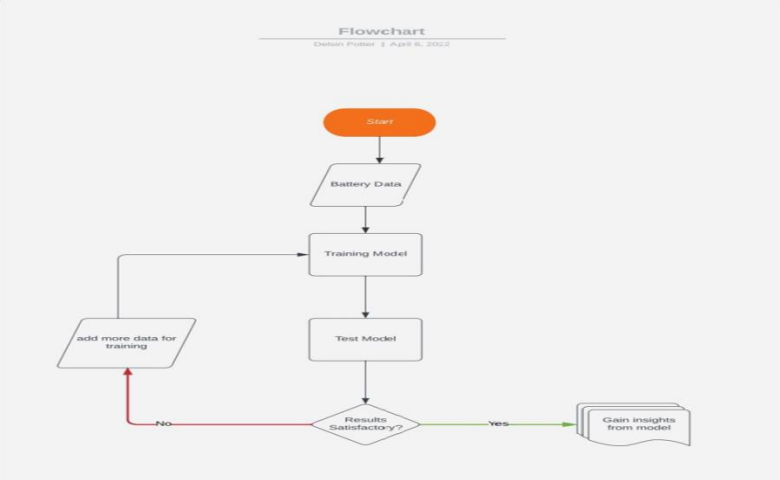
SYSTEM WORKFLOW DIAGRAM:



Supervised by:

Dr.MohsinMemon

Final Year Project Management System

ABSTRACT:

Final Year Projects (FYP) Management System Currently FYPs are being managed manually. The aim of this project is to automate FYP selection process. The project will involve developing two portals, one for FYP committee and the other for students. For students, the list of finalized FYP's will be uploaded on the website and students will be able to select projects in real-time based on first come first serve basis. For project selection students' will have to login using their MUET VPN credentials. Admin will decide date and time duration of selection process activation. The selection process will activate on designated time. Students will be allowed to choose only one idea. An idea on Fyp list will become unavailable as soon as it has been selected. Once the selection process ends, admin will be shown details regarding fyp selection. The admin panel will be designed as per the requirements of FYP committee.

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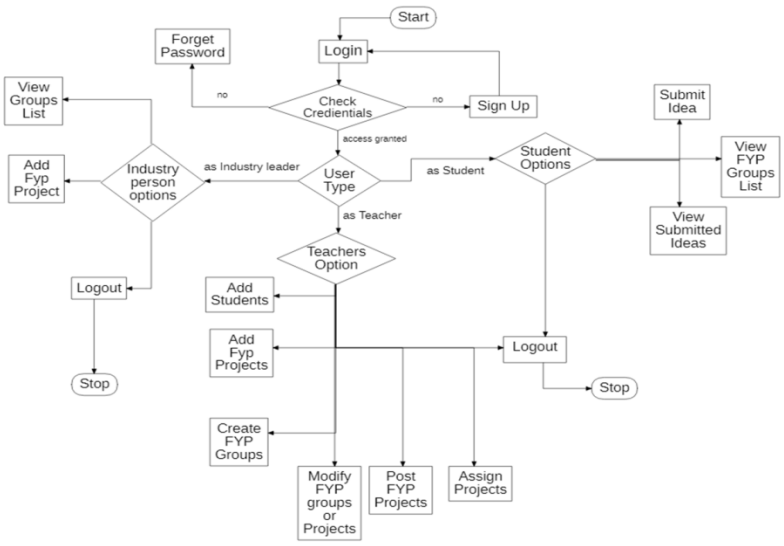
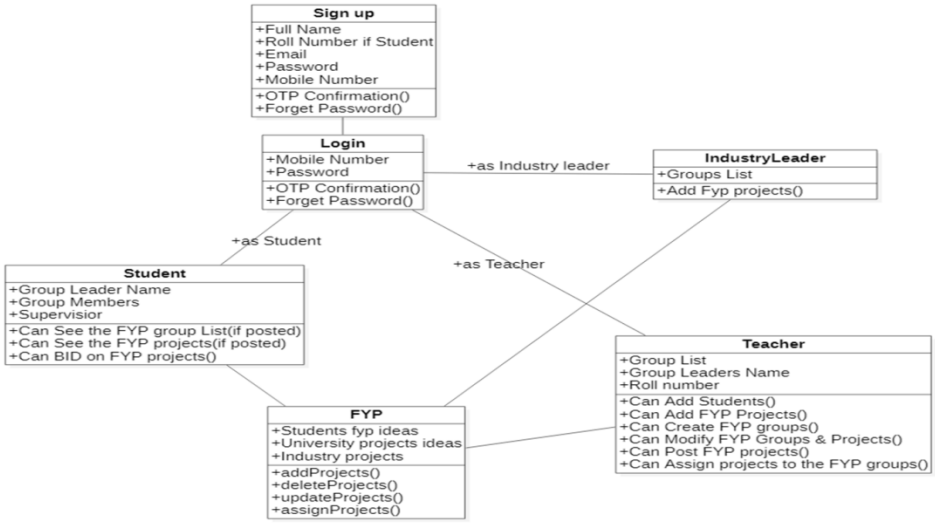
SYSTEM WORKFLOW DIAGRAM:

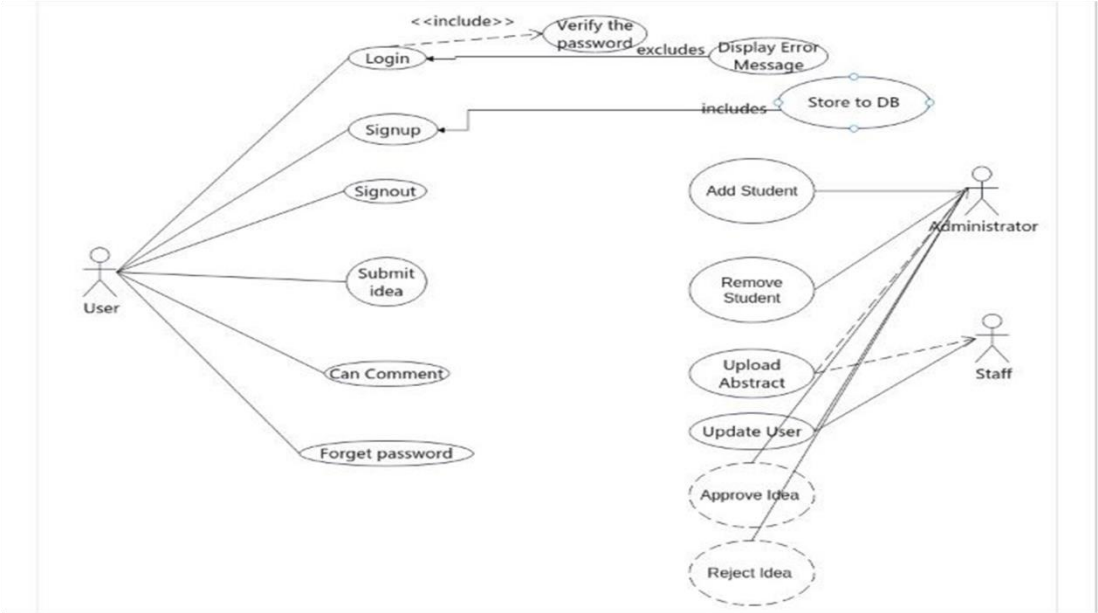


Final Year Projects 2022 of 18SW

class diagram



Use case Diagram



SUPERVISED BY:

DrMohsinMemon

PERSONALITY PREDICTION SYSTEM

ABSTRACT:

The final year topic given to us was a personality prediction system. Our interpretation aimed to tackle the major issue faced by the Human resource department of every organization; recruitment and selection. It is evident that the candidates selected for a job availability come with their huge set of degrees and achievements however, a degree cannot guarantee a candidates ability and skill. For example a software engineering degree includes a vast set of skills however not every hired software engineer can fulfil the purpose of a software developer, some degree holders are more equipped in the art of graphic designing, web development and some are even skillful analysts and leaders. The implementation of our project aims to design an aptitude test specifically designed to target specific personalities required for each position for example; leadership, decision making, people and communication skills, precision etc.

METHADOLOGY

The tentative schedule for the project consists of two systems, one is a generated aptitude form having specific questions to target personalities, and the other is an analyzer employing machine learning to meaningful results. The system would be a web based system employing the languages Html, CSS, JavaScript and Bootstrap. It will allow a user to upload results of an aptitude test which can be further analyzer using the system. The system would in the backhand conduct an analysis with the use of machine learning in python. The system would give an output report of the generated results allowing the user to view which candidate has the personality best fit for which position.

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SYSTEM WORKFLOW DIAGRAM:

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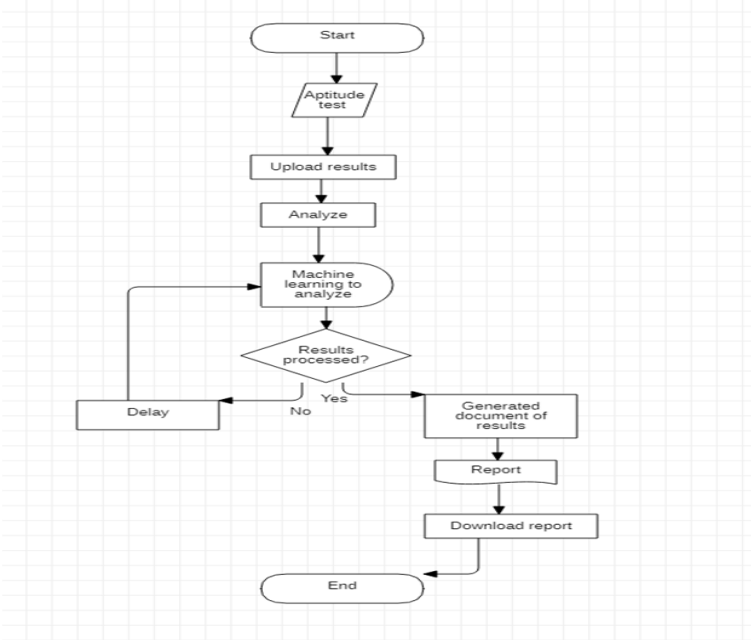

SUPERVISED BY:

Dr. Qasim Ali

CO-SUPERVISED BY:

Engr. Ali Mujtaba Sarang

DDOS Attack Detection using Machine Learning Approaches

Abstract:

Recent mode have divulged that DDOS Attacks are the cause of most of the Network Attacks and disturbance. The networks came across many challenges in distinguish between recognized and malicious traffic flows. DDOS attacks traffic are the major threat to any legitimate clients using network services. One should be aware of these attacks and how DDOS attacked network traffic is different from the normal traffics. The implementation and testing of DDOS attack strategies are difficult due to many complexity factors include rigidity, cost, technology and vendor particular architecture of modern networking devices and equipment. Our work has been done to detect DDOS attacks using Machine Learning model using Classification technique to help network make a different between normal and bad network traffic. We are going to detect DDOS attacks by various methods and evaluate their performance. Task is to choose the best machine learning model based on predictions and accuracy percentage.

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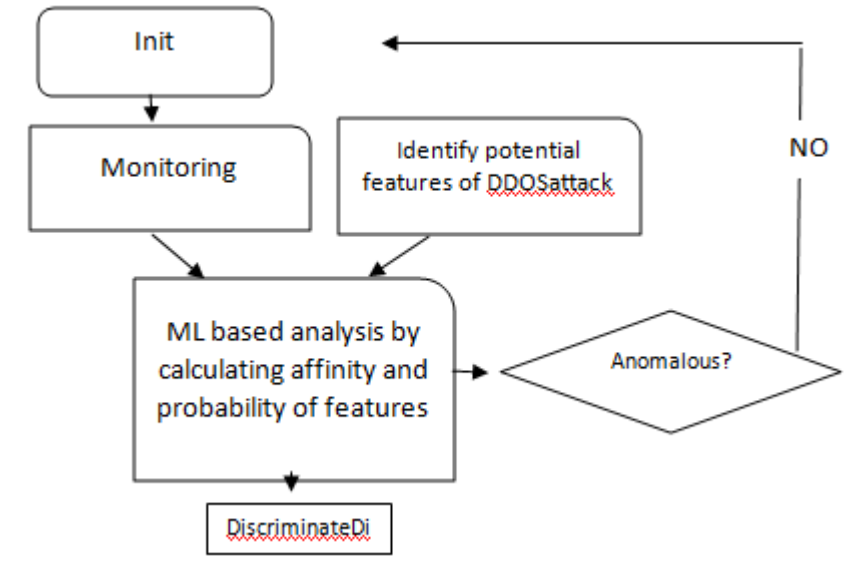

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Supervised By:

Dr. Qasim Ali

SOFTWARE AS SERVER(SAAS) FOR ENCRYPTED FILE STORAGE

ABSTRACT

Develop a cloud based storage application which provides the services of storing small files with 2 encryption algorithms to make them safe on a remote server. Make the Minimum ViableProduct(MVP) with core features and free subscription. Enhance the project by providing cloning services of mobile data (also encrypted) for minimal fee.

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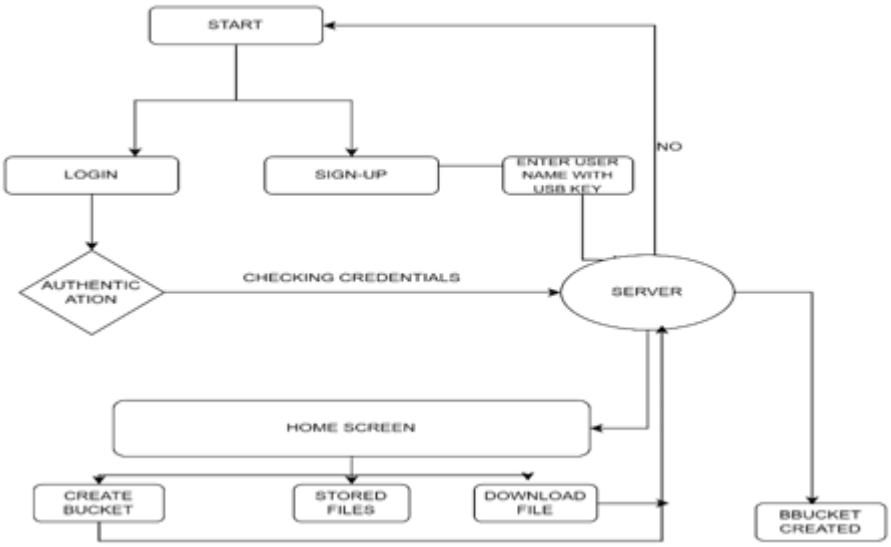
SYSTEM WORKFLOW DIAGRAM:



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SUPERVISED BY:

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Engr. Sajjad Memon

AI BASED DIETITIAN

Abstract

Food provides our bodies with the critical elements they require to keep us going through our daily tasks. It's also worth noting that different people have diverse interests, preferences, and dislikes when it comes to food. As a result, it is necessary to devise a technique for providing everyone with meals of his or her choice while also ensuring that they include the proper proportion of nutrients. As we are living in the digital world; where we are trying to make our lifestyles fancy with the help of Artificial intelligence.so, with that, there came the thought of developing an AI BASED CONSULTANT which can help people to maintain their healthy lives.

Artificial intelligence is a technology which is used to make human like system by using different techniques. AI based consultant use natural language to ask all the data from user as input and then process that input data to generate an output in the form of DIET PLAN. In this way users can save their time and money. It helps common people to maintain their diet efficiently.

AI BASED DIETITIAN generates diet plan according to its learning Model. The diet plan varies from person to person. This application can keep track on user's heath status. There is no need of wasting time and money on nutrition. This AI based web application can be more beneficial in daily life.

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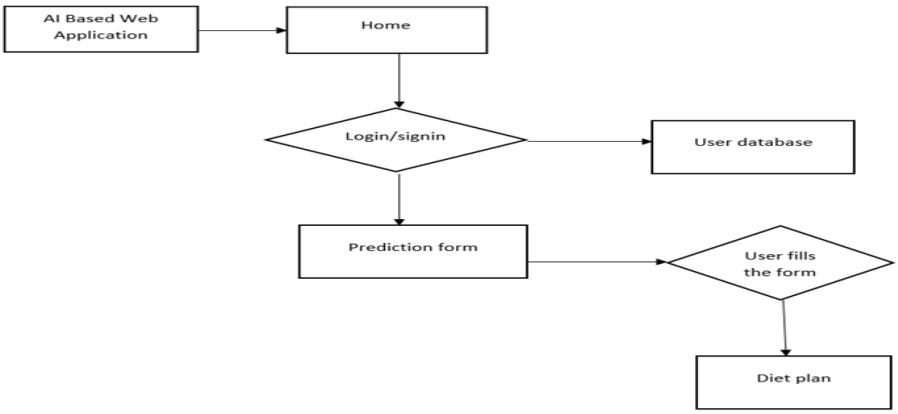
SYSTEM WORKFLOW DIAGRAM:



Supervised By:

Dr.Sania Bhatti

Final Year Projects 2022 of 18SW

Translating the Pakistan Sign Language (PSL) into text using Mobile Camera

ABSTRACT:

This project will work as a communication tool between normal people and hearing-impaired persons. The purpose of this work is to give a solution using mobile cameras for detecting the Pakistan Sign language. The input to the system will be hand movements and gestures (related to PSL) which are translated by the system into text, understandable by the normal person. A feature-based model will be developed as the baseline system. A dictionary of PSL will be developed as the training set. A mobile application is the final output of the project.

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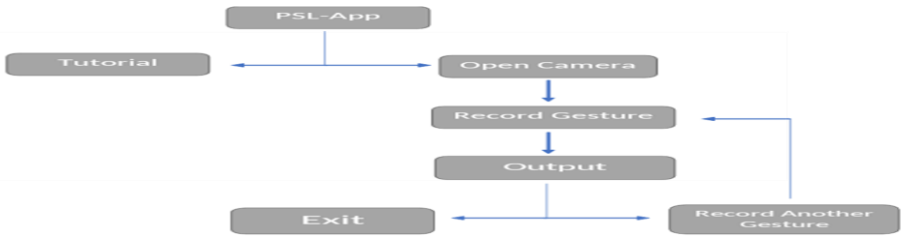
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Sania Bhatti

FINDING BEST PURCHASE USING DATA MINING TECHNIQUES

ABSTRACT:

E-Commerce website is a platform where you can sell things nationwide or worldwide. For better engagement of a user with the website, recommendation system is used.For finding the best purchase, recommendation system needs to analyze the data regarding the item a user clicked on after making a search, the products that were browsed and consequently purchased, the goal of this project will be to find the items that are best sellers or draw the most users to the website.Analysis can further be done on items most browsed yet not purchased and so on.Using suitable data mining techniques data can be analyzed and well used for recommending the customer different items.Data mining tools are very useful in order to reveal all of the hidden information from the large data sets and help in understanding the customer in a better way.Analyzing secondary data so that we can find best purchase among all of the sales is very helpful.Customers feedback is very important in form of reviews plays an important role in finding best purchase because seller should know what kind of things people are liking.It will cover the trend, background and factors that influence the opinion of potential customers.In marketing choices are increased for the customers as well as tough and increased competition make it difficult for decision maker to make decision.In order to maintain their position in the market, sellers have to build a long-term relationship with customers.Sellers can only make long-term relationship with customers only by knowing actual wants and needs of customers rather than assuming it.For true customer relationship management, integration of knowledge discovery process with management is required and it can be used further for marketing strategies.It will help in analyzing about customer preferences rather than generalized liking and disliking.This system will play an important role in expanding the online business and increasing your sale as well. It will also play a vital role in finding the best purchase.

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GROUP MEMBERS:

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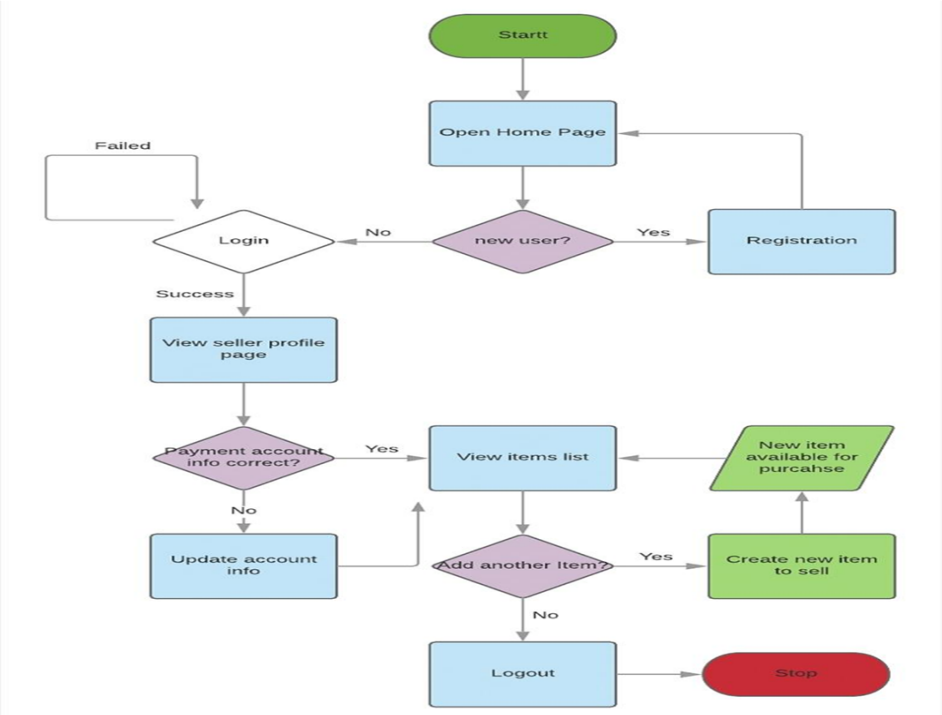
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Isma Farah Siddiqui

Decentralized Educational Payment System Using Blockchain Technology

ABSTRACT:

A decentralized payment network is a system that allows users to exchange money without relying on a third party to make the network safe and operational. By applying this technology, a decentralized computer system based on Blockchainis deployed allowing any transaction involving educational institutions to be completed using a digital system. This means that payments can be made from anywhere in the country. This simple transaction aids in the development of a secure payment system for all users. During the implementation process, a coin is created and a digital wallet is associated with it. Teachers, students, and staffhave a wallet in which they store their coin's unique address. Each user has access to the number of coins in their wallet as well as their value. Users of the system can buy and sell coins through wallet applications and websites using bank account services and other services such as JazzCash, Easypaisa, and others. A website will also be provided that will show the detail/ledger information about each transaction (such as the sender's and receiver's wallet addresses, the amount, the date, and time) as well as the sender's name and details (Sender Name: Anees Hussain, Status: Student, Institute: MUET Jamshoro, Id: 18swXX, Receiver Name: AA) and also there will be amapping option which shows transfer and distribution of crypto money in a form of a map. This information will be accessible to the public and also the government so that they can keep eye on it.

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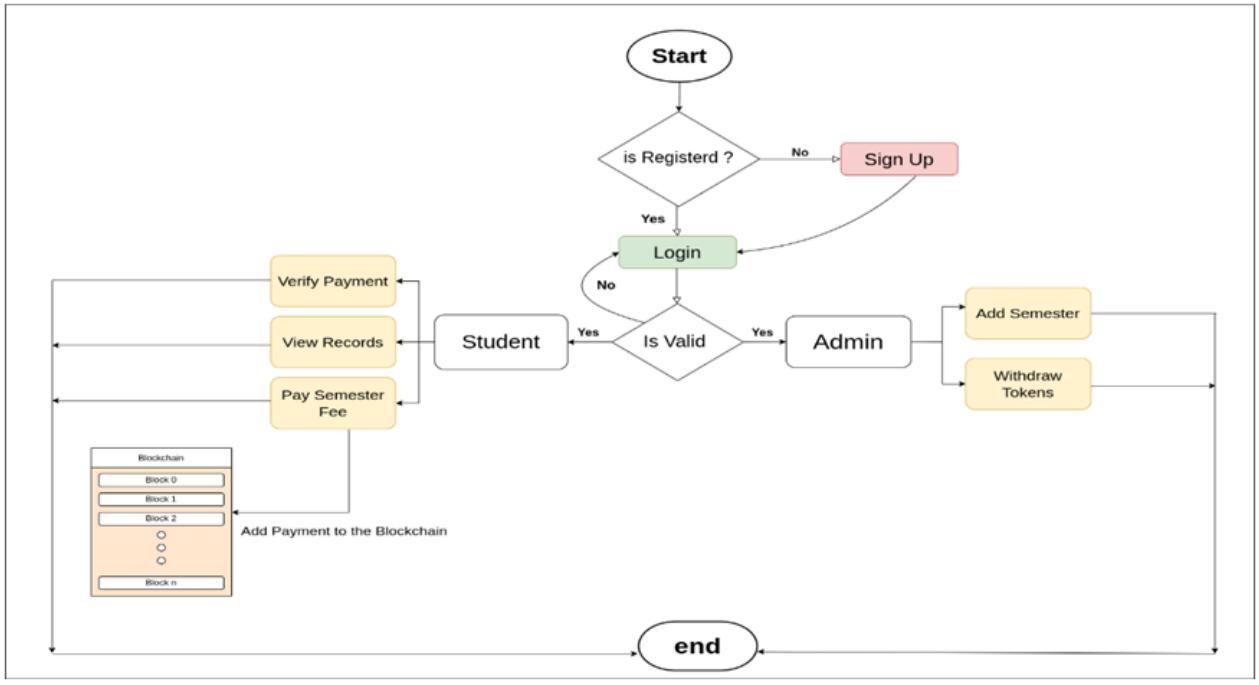
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

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Final Year Projects 2022 of 18SW

FAKE NEWS DETETCTION WITH ML

ABSTRACT:

Social media has been a serious problem with huge negative influence on both politics and culture. With the rise of social media and online platforms, individual can easily broadcast fake news which poses a threat to stability of society. Fake news has weakened a public trust in governments, technology and business. The extensive spread of fake news can have serious consequences in the society. For example, the misinformation on the cure of covid may lead to the misuse of drugs which has not been proved to be safe and effective. As such as research in the detecting fake news is high importance for the society. The methodology we are using we propose to use a machine learning ensemble approach for the automated classification of news articles. To improve the accuracy of fake news hybrid model is designed by using Linear Regression (LR), Support Vector Machine (SVM), Decision Tree (DS) and Naïve Bayes (NB) algorithms. Initially, we collected data from the Kaggle. A Python Flask framework is used to create a webpage that will allow you to put the news content in text area and a predict button for processing it through model. In conclusion, we will be able to justify the performance of the model by putting new data.

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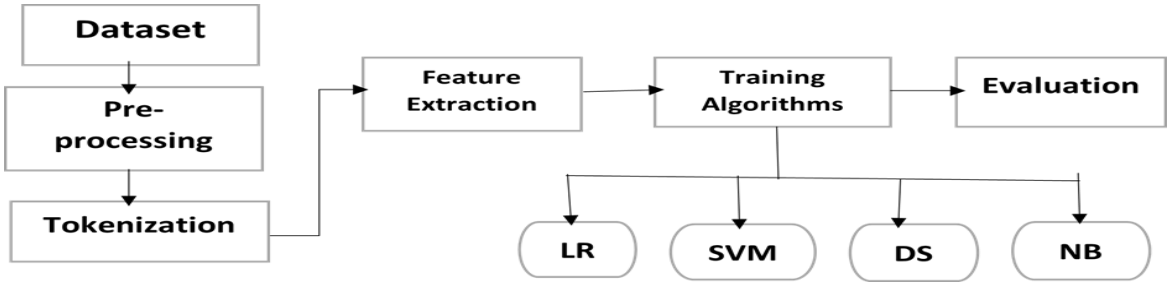
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

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Decentralized Educational Payment System Using Blockchain Technology

ABSTRACT:

A decentralized payment network is a system that allows users to exchange money without relying on a third party to make the network safe and operational. By applying this technology, a decentralized computer system based on Blockchainis deployed allowing any transaction involving educational institutions to be completed using a digital system. This means that payments can be made from anywhere in the country. This simple transaction aids in the development of a secure payment system for all users. During the implementation process, a coin is created and a digital wallet is associated with it. Teachers, students, and staff have a wallet in which they store their coin's unique address. Each user has access to the number of coins in their wallet as well as their value. Users of the system can buy and sell coins through wallet applications and websites using bank account services and other services such as JazzCash, Easypaisa, and others. A website will also be provided that will show the detail/ledger information about each transaction (such as the sender's and receiver's wallet addresses, the amount, the date, and time) as well as the sender's name and details (Sender Name: Anees Hussain, Status: Student, Institute: MUET Jamshoro, Id: 18swXX, Receiver Name: AA) and also there will be a mapping option which shows transfer and distribution of crypto money in a form of a map. This information will be accessible to the public and also the government so that they can keep eye on it.

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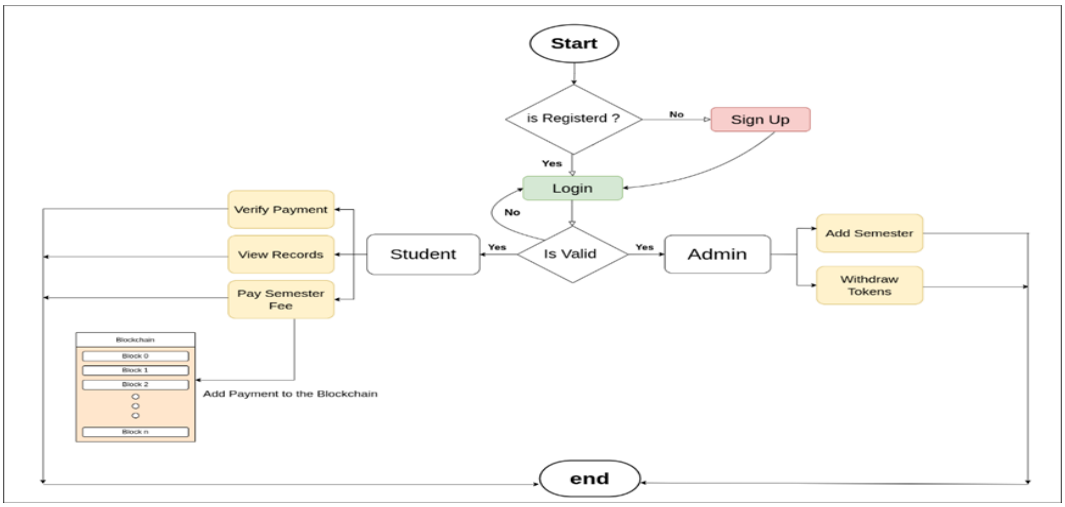

SUPERVISED BY:

Dr. Isma Farah Siddiqui

Honest.

ABSTRACT:

Honest. is a review and ratings-based social media application where you can rate, review and share your experience with any product or service. You can follow your friends and family to find out which products and services they are using and recommend.

You can give your friends a high-five if you had a similar experience. Let your friends know which products and services you highly recommend or would stay away from. You could be saving them from a bad decision!

You can discover top trending products and services that are recommended by the community from the trending feed of the app. Products and services that meet the golden mark are the ones you should be getting your hands on.

If you need a second opinion regarding a particular product or service, you can create a Rating Card to get a second opinion from your followers or the community. Your followers or members of the community can provide their honest opinions by contributing a rating to your Rating Card. The average rating will be displayed on the Rating Card.

You can create groups to consolidate ratings and reviews for your favorite products or experiences. Join groups to connect with other like minded individuals who love the same things you do, and help each other by contributing honest reviews.

GROUP MEMBERS:

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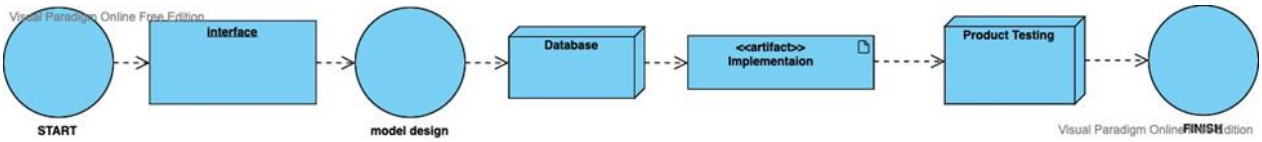
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. NaeemMahoto

This Project is funded by _self funded__

Identifying and detecting emotions from Music Videos via ensemble of audio and video features

ABSTRACT:

The primary objective of this project is to teach a machine about human emotions, which has become an essential requirement in the field of social intelligence, also expedites the progress of human machine interactions. The ability of a machine and act accordingly has a choice of great interest in today's world. The future generation of computers thus must be able to interact with human being just like another. In this project we will detect and identify the emotions of peoples from the music videos. The model will detect emotions from Music videos by enabling the audio and the video features. We will detect the emotions based on audio as well as facial expression of the Music video. The output will be the both from the audio file as well as from facial expressions.

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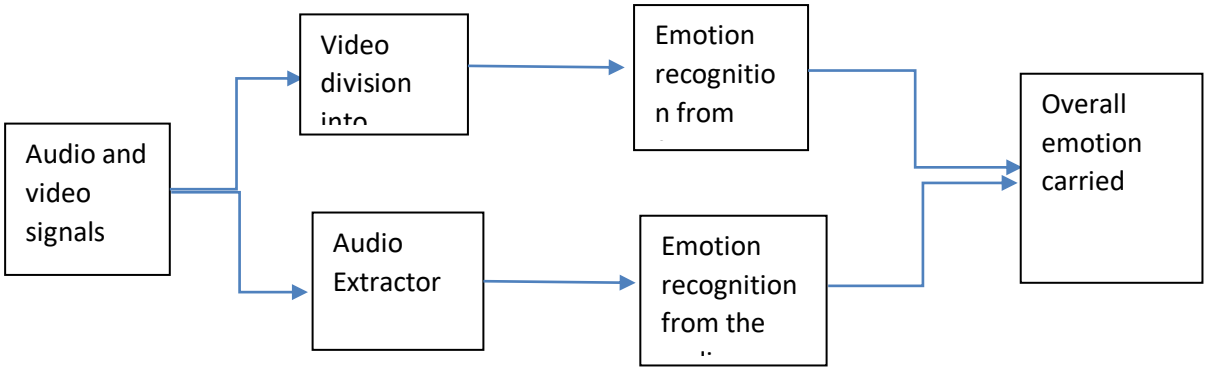
SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Final Year Projects 2022 of 18SW

Dr. NaeemMahoto

Cassava leaf diagnosis

Abstract

As the second-largest provider of carbohydrates in Africa,cassava is a key food security crop grown by smallholder farmers because it can withstand harsh conditions. At least 80% of household farms in Sub-Saharan Africa grow this starchy root, but viral diseases are major sources of poor yields. With the help of data science, it may be possible to identify common diseases so they can be treated.

Existing methods of disease detection require farmers to solicit the help of government-funded agricultural experts to visually inspect and diagnose the plants. This suffers from being labor-intensive, low-supply and costly. As an added challenge, effective solutions for farmers must perform well under significant constraints, since African farmers may only have access to mobile-quality cameras with low-bandwidth.

we introduce a dataset of 21,367 labeled images collected during a regular survey in Uganda. Most images were crowdsourced from farmers taking photos of their gardens, and annotated by experts at the National Crops Resources Research Institute (NaCRRI) in collaboration with the AI lab at Makerere University, Kampala. This is in a format that most realistically represents what farmers would need to diagnose in real life.

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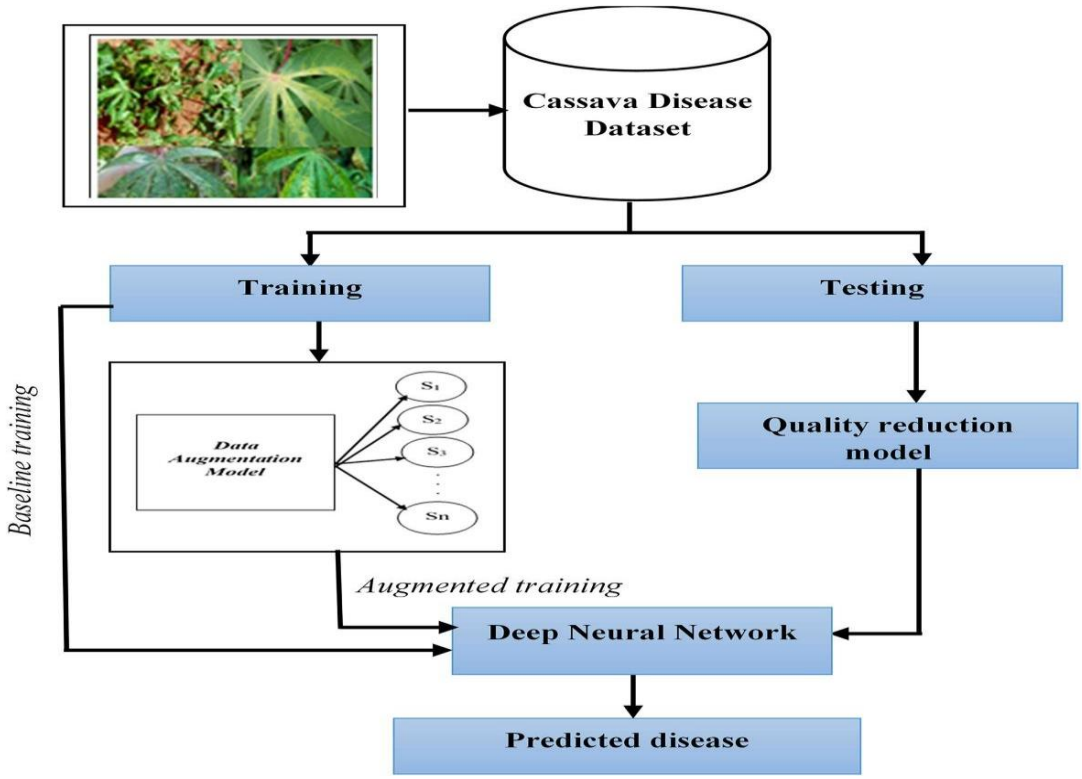

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