

FINAL YEAR PROJECTS 2023

Department Of Software Engineering
Mehran University Of Engineering & Technology



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Chairman

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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 application ranging from insurance and banking to healthcare and national security.

Our department's vision is to produce professionals who have a mastery of principles, 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 in 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 problem areas ranging from healthcare to business and commerce. I would like to express my gratitude to all faculty members for their valuable suggestions and supervision to the final year students.

KaamSay - Hire Labour in 3 Taps! (Mobile and Web)

Abstract:

According to The News International, the labor market is considered ‘underdeveloped’ in Pakistan. Work conditions are unsafe, and collective bargaining is quite weak. Workers can’t find work efficiently.

On the customer side, there are very less people in Pakistan who can afford a full-time worker, but they need workers for some tasks or on an hourly basis.

The goal of KaamSay is to mitigate poverty and to create a platform where customers and laborers can get connected with each other within a few seconds. As the world is being pulled towards the flux of technological advancement, we have provided the best user-friendly app like various apps in the country to achieve this goal. According to the research conducted by Muhammad Zaheer Khan & Amtul Hafeez (Economic Research-Ekonomiska Istraživanja, Volume 30, 2017 - Issue 1), unused labor is the source of the economic problems within the country which affect the inflation and finance of the state. Furthermore, Nikki R. Keddie points out the major labor problems within Pakistan in “The Journal of Asian Studies ([The Journal of Asian Studies](#), [Volume 16](#), [Issue 4](#), [August](#) 1957, pp. 575 – 589) which are rising as we are rapidly advancing towards industrialization. But aside from all these problems, civilians find it hard to find labor, and laborers have difficulty earning a living. In short, we found the gap between both and are aimed to fill it out by introducing this application and web portal. Simply sign up and figure everything out on your own time without bothering your friends and family or your schedule. Since KaamSay saves your time!

KaamSay is a platform based on a mobile app as well as a website. The app is developed on Flutter and for the backend, Firebase is used. The website uses the MERN Stack Development stack.

KaamSay targets the following United Nations Sustainable Development Goals:

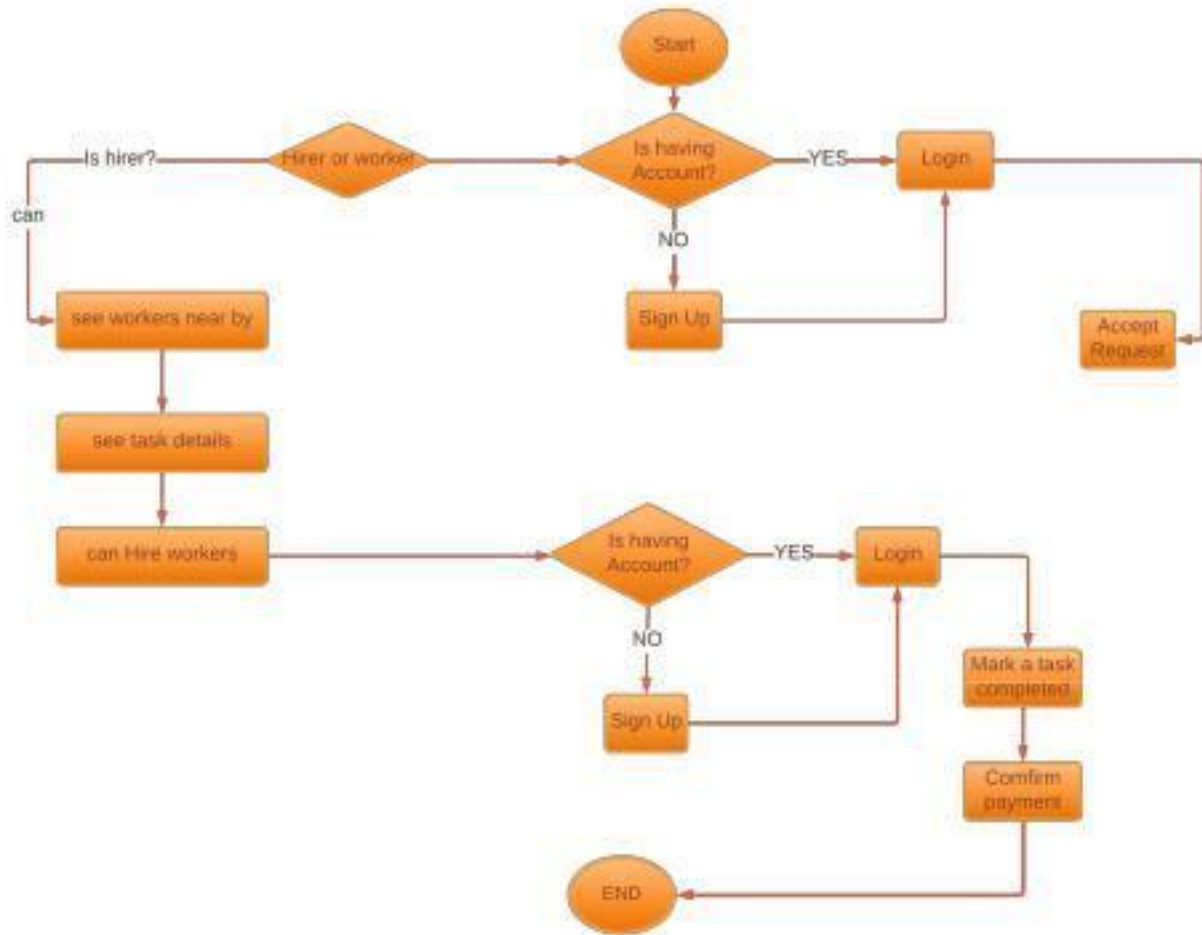
- 1: Goal #1: No Poverty
- 2: Goal #5: Gender Equality
- 3: Goal #8: Decent Work & Economic Growth

GROUP MEMBERS:

Rashid Wassan 19SW57

GulWish Dilawar 19SW39

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Naeem Mahoto

A smart concept of digitization of restaurant businesses which impacts on ease and economy

Abstract:

Introduction:

It is predicted that the degree of uncertainty about the length of the delay and an individual's need state would influence his or her perception of a delay and evaluation of the restaurant service. This directly results in major losses in business for the restaurant owners. Our idea can be beneficial for both customers and businesses. Businesses can retain their customers by providing better services, and the customers will not have to waste their time waiting for the order to get ready.

Problem:

Customer satisfaction is important because it is usually related to whether customers will repurchase a product (Katz, Larson & Larson, 1991). Many factors influence customer satisfaction. In the restaurant business, waiting time is an important determinant. Dube, Renaghan, and Miller, (1994) claim waiting time will affect customers' repeat-purchase intention to restaurants. Moreover, newly opened restaurants have less idea of the market, and what items they should have on their menu.

Solution:

SayFood is a mobile app that basically allows the customers to order their food from any registered restaurant from home. Also, restaurants will have their own dashboard with which they can easily check their most selling items. They can also keep track of what the customers are searching for on our app, and they can advertise their related items on the customers' feed. Along with it, the dashboard will contain a smart recommendation system to provide smart insights and feedback to the restaurant owners to improve their menus. Our recommendation system will show the restaurants which they have searched most of the time, and also the meals they are interested in. Our payment gateway will ensure the validity of the order and provide ease of payment to the customers.

Proposed SDCs:

SDC 1: No Poverty

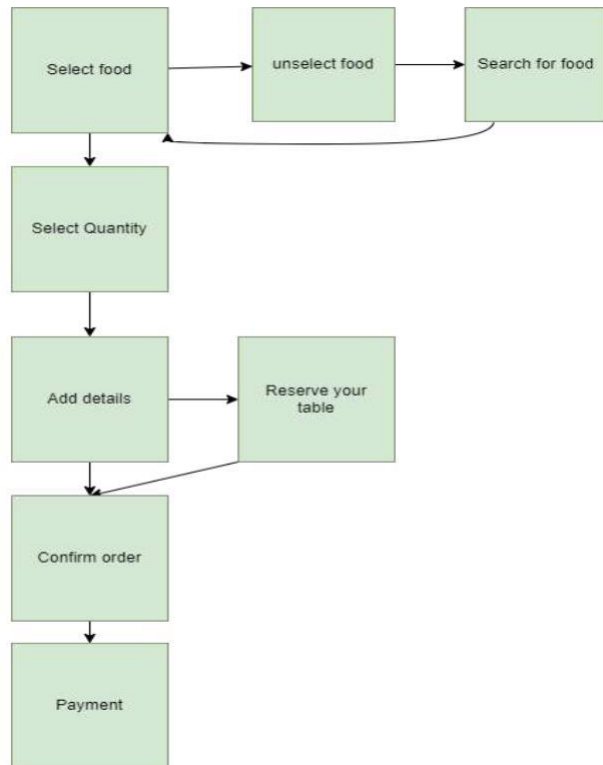
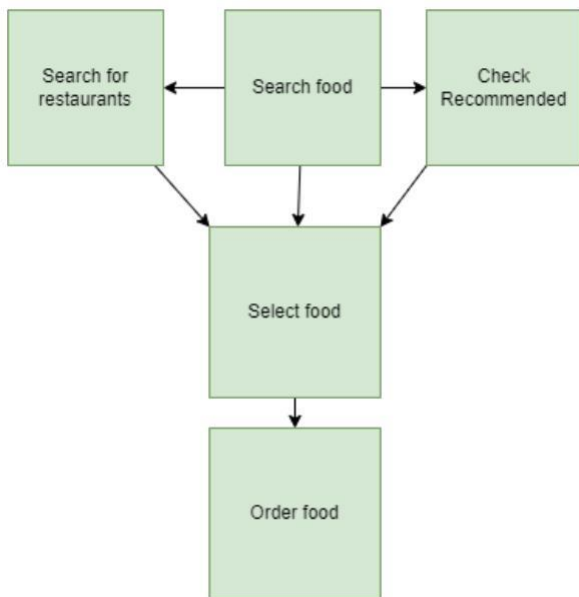
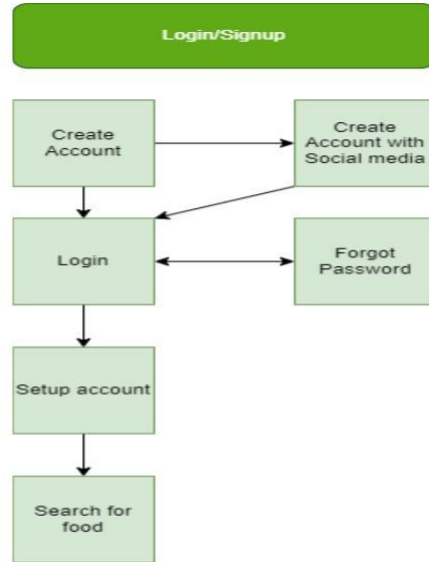
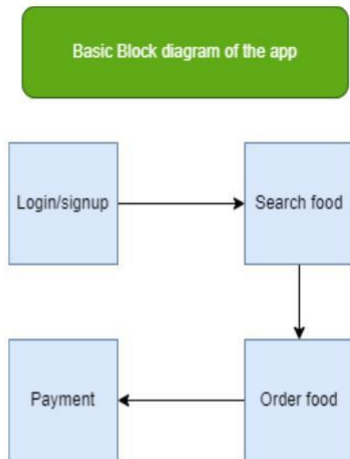
SDC 2: Good Jobs and Economic Growth

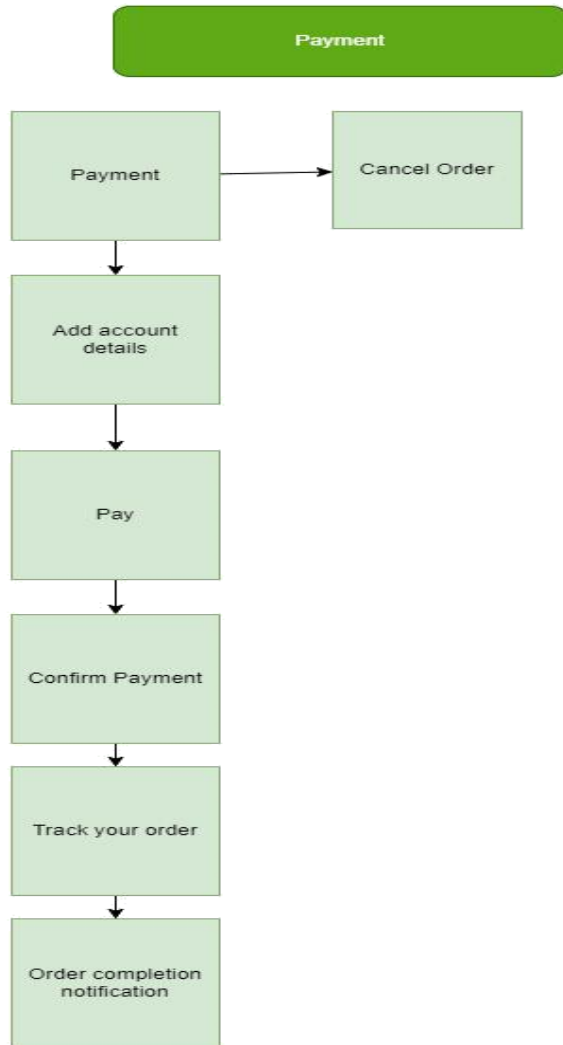
Technologies used: Flutter, Python, Firebase and MongoDB

Team:

Tabish Memon 19SW15 (GL)
Shumaim Liaquat 19SW25

Block Diagram:





Supervisor: Dr Naeem Ahmed Mahoto

TeachMe

ABSTRACT

We develop a mobile app named as TeachMe that has features of online classes, and online submission of attendance. The mobile app may also contain other tabs for uploading video tutorials, notes, and books. It may have a discussion forum where students can discuss their queries with teachers.

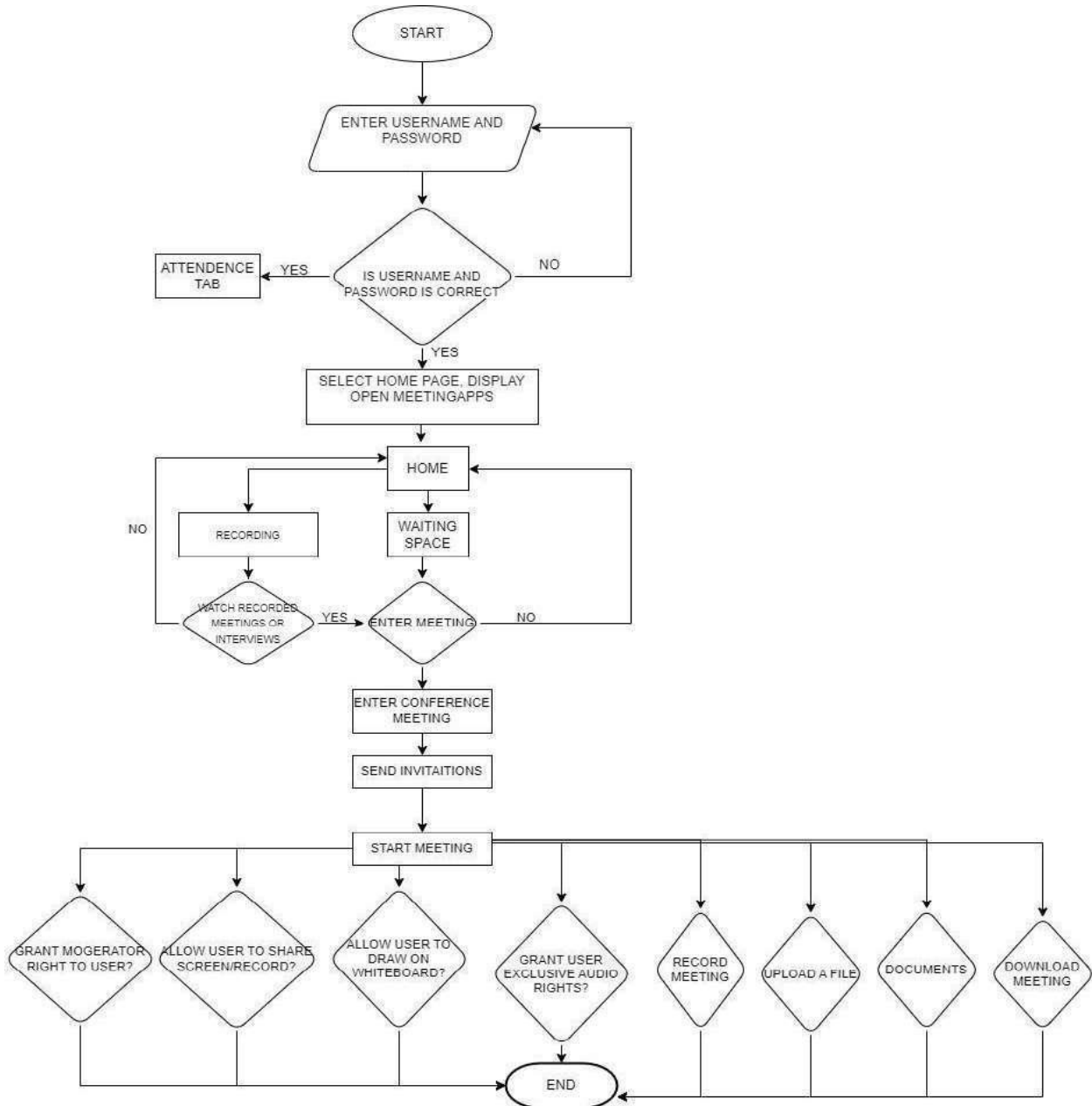
Since we know that virtual teaching is the need of the hour and if we pave the way for the development of a platform that provides the full fledged functionalities of virtual teaching along with its other associated tasks and processes then it will reduce the time and cost multiple times. Other than this, we develop this system using Flutter, Firebase, and VS Code. Due to these technologies, the app is platform-independent and easily compatible with other systems. Also, the app complies with SDG goals 4 and 8 as it paves the way for quality education and decent work & economic growth.

Consequently, TeachMe is a time-saver, cost-efficient, and lightweight app providing a virtual platform for teaching and its related processes. Besides, the app is not restricted to a particular number of users or platforms, it can be scaled up or scaled down depending on the number of users and the app is executable on frequently used platforms such as Windows, macOS, and Linux. Thus, it will not only resolve issues but also digitalize the teaching processes by providing multiple functionalities in one app

GROUP MEMBERS:

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SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY: Dr. Sania Bhatti

CO-SUPERVISED BY: Roshan Kumar

DEPARTMENT MANAGEMENT SYSTEM

ABSTRACT:

This project is aimed at developing an application that automatically generates timetables for the software department. The creation of Timetable is a well-known issue that affects all educational institutions. The conflict between staff members' preferences is precisely where the issue arises. For each semester, departments are required to create timetables, which is an extremely time-consuming task. Barriers must be removed in order to create an accurate and high-quality timetable, including access to classrooms, students, professors, courses, and time slots. These irritating elements add to the difficulties of a similar production. The system will automatically create a timetable for each semester of classes based on the submitted data. A solution must be found for the problem of timetable generation that satisfies the stated set of limitations. A timetable is a temporal arrangement of a number of lectures, classrooms, lecturers, and time slots that satisfies all applicable requirements.

Students and staff can view the automatically generated schedule using this app, and they will also get reminders about classes.

The application will feature circulars, events, job/internship possibilities, and news and announcements related to the software department. There will be a forum for students where they may post questions and faculty can respond. Through the application, students may also examine their marks for the courses related to their semester.

SUSTAINABILITY GOAL:

QUALITY EDUCATION

In terms of global sustainability goals our project addresses "Quality Education" as it provides a platform where all the students(freshies and seniors) and faculty members can connect and coordinate equally without any need of CRs, from where students are aware if there will be any changes in timetable, students can connect with seniors and discuss their semester projects, along with this different career opportunities will be shared by teachers, it also eliminates all discrimination issues as the whole department is under the App sharing the knowledge and leads

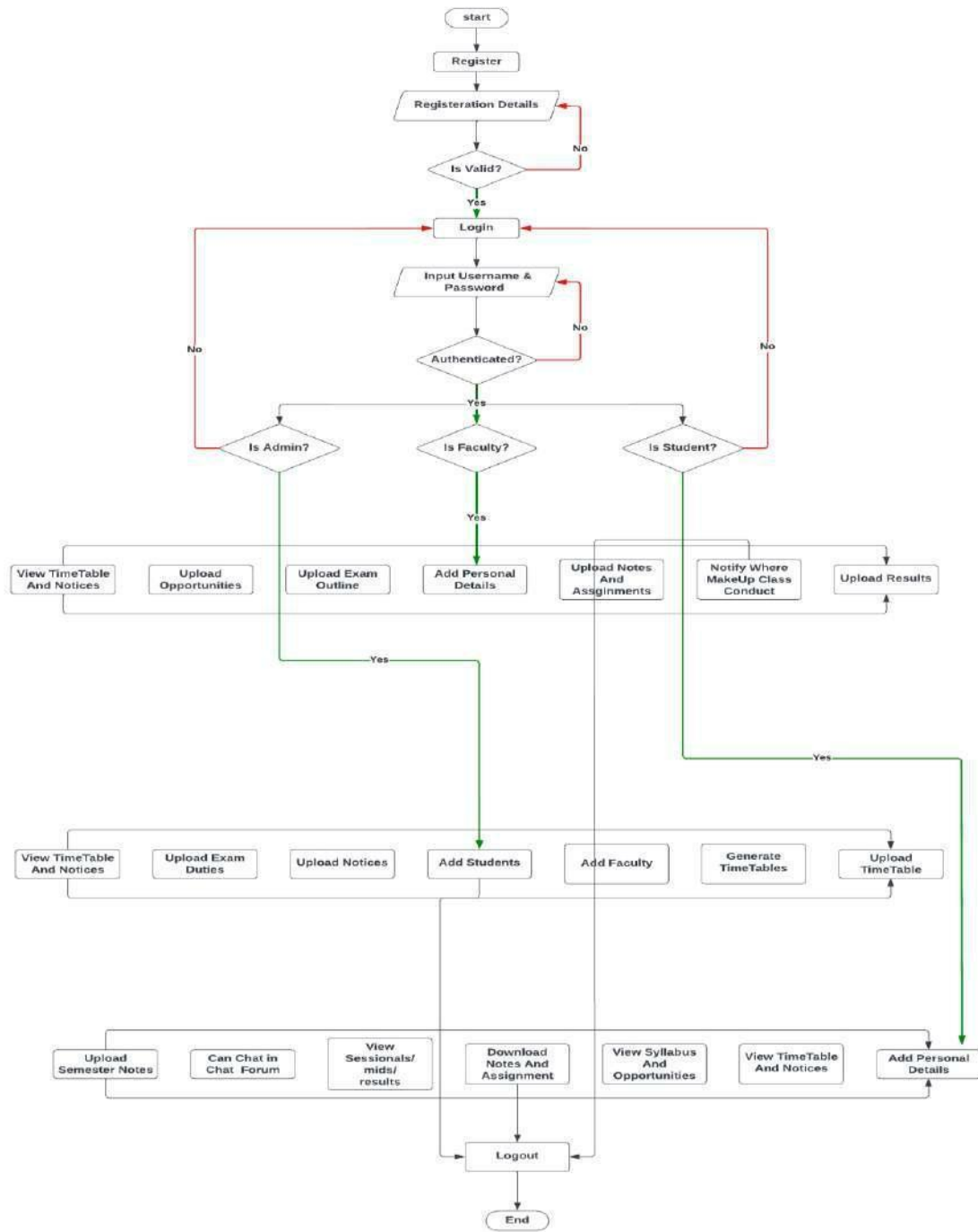
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towards productivity. For the faculty the app provides an auto generated timetable, and shares the duties details of teachers in examinations. so, the resources and time wasted in this part now will be utilized in managing other quality stuff for students.

GROUP MEMBERS:

- Usama Nayab (Lead) 19SW07
- Ilsa Athar Naeem 19SW03

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Sania Bhatti

HK ANITVIRIUS SOFTWARE

ABSTRACT

Problem :

As you know Security is getting just a myth day by day. Today no one can say with surity that he is secure in this digital world, Black Hat Hackers are getting Strong day by day, therefore we decided to make an Advance Antivirus Software that willll protect users against critical and dangerous viruses, worms, trojans, and ransomware. Our main goal is to secure the systems from the current attacking methodologies of Black Hat Hackers.

Solution:

We are developing Antivirus Software ,it will play the major role in defending and Protecting the Data and Systems form internal and external threats. As Data is of great importance to many organizations, Our Software will help them out in Protecting their data from hackers.

Our Mission is to take our Antivirus to the next level so that it can compete in the Market, For that purpose we will going use i.g Signature Based Detection and Behavior based Detection which is advance type of Detection .

Signature-based detection is a method that uses a database of known malware signatures to identify and flag potentially harmful files.

Behavior-based detection, on the other hand, analyzes the behavior of a program to determine if it exhibits any characteristics commonly associated with malware.

Functionaliy:

HK Antivirus software, originally designed to detect and remove viruses from computers, can also protect against a wide variety of threats, including other types of malicious software, such as key-loggers, browser hijackers, Trojan horses, worms, rootkits, spyware, ransomware.

Sustainability Goals

Sustainable Community ;

Our goal behind the development of HK Antivirus is to provide sustainable environment to the community so that they can do their daily digital work without the concern of security issues, as for many businesses and organizations data security is their priority as well as the confidentiality of online transactions is of quite important to maintain in order to stay protected against online theft by Malicious Hackers, indeed all these necessities our HK Antivirus play a major role.

As today every organization is facing Cyber attacks in face of virus, trojen, worms and ransomware attached with reliable files and software, here comes our HK Antivirus who will not just match the signatures for malware detection rather it will also check the behaviour o f the files and software in the system and in case If it found a file or software with malicious intent then as it will move particular file in Quarantine, this is something different from other present Antivirus Software's.

And In this way we are achieving our Goal of Sustainable Communities.

Group Members:

Lead: Haris Abdul Ghaffar(19SW23)

Member: Khemchand (19SW11)

Supervisor :

Dr. Qasim A. Arain

SEIM SOLUTION FOR ENTERPRISE

ABSTRACT

SIEM stands for Security Information and Event Management. It is a software solution that collects and analyzes data from a variety of sources, including network devices, servers, and applications, to give you a unified view of your organization's security posture. SIEM solutions are used for security threat detection, incident response, compliance management, and more. Features such as real-time monitoring, event correlation, and reporting are typically included.

SIEM is a technology which is used to keep track the records of system log files. The log files play an important role because it carries every single time stamps when the user has logged in the system. The SIEM tools is helpful because it helps us in threat detection, centralized management, better management of logs. It is very hard to keep an eye on all the log files. The SIEM solves this problem by normalizing all the log files in a one particular place through which an normal user can also check the logs. It can be used for threat detection as we can set a limit of particular number on the user that how much time he could login and after that a alarm could be set which beeps and aware the admin.

The structure of SIEM is defined as first we collect the data from various sources as much as we could. There could be various number of resources used for this. After the collection process the data is turned into the normalized form and arranged in an sequence order. The correlation is also part of it where this component analyzes the data and correlates events from different sources to provide a more complete picture of a security incident.

Prerequisites required to develop and maintain SEIM solution are Firewall, IDs, switch and server and the tools require are: Microsoft oxide. Splunk on admin dashboard data analytics.

SUSTAINABILITY GOALS:

- **Security & Risk**

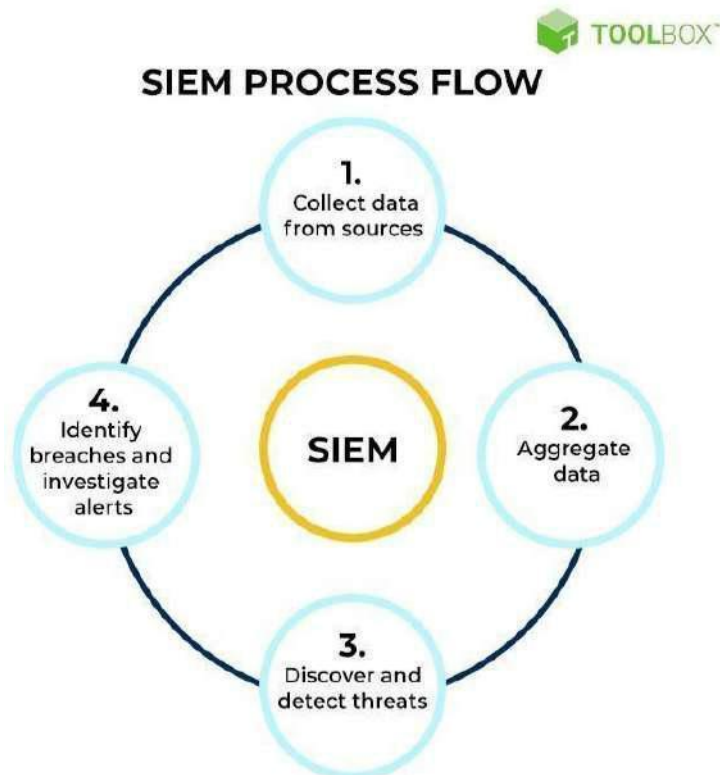
With the evolution of the technology the day-to day cyber-attacks have increased in a very large numbers. Every new day we get to know about some different vulnerabilities so for securing the students and teachers data we have provided a secure login panel which could not be taken down easily.

Group Members:

Lead: Faisal Khan (19SW21)

Member: Ritik Advani (19SW103)

FLOW DIAGRAM



Supervisor :

Dr. Qasim A. Arain

CO-SUPERVISOR:

Waqar Ahmed (currently working as an Security Analyst, Karachi)

Arms Inventory Management

ABSTRACT

Inventory management, a critical element of the supply chain, is the tracking of inventory from manufacturers to warehouses and from these facilities to a point of sale. The goal of inventory management is to have the right products in the right place at the right time. This is a python-based tool that will be used by armory retail stores across the globe to handle and maintain their inventory in an organized manner. This study is based on direct data gathered from store owners as well as secondary data gathered from journals, books, articles, annual reports, and websites. This project looks at sales control, inventory management, and how to deal with business abnormalities. It examines the capacity to add new sales, update products and sales details, and see existing ones. It allows for faster operation by recording and automating manual processes.

Key benefits:

- Better Inventory Accuracy
- Better Relations with Vendors and Suppliers
- Increased Profits
- More Organized Warehouse in the store.
- Better Customer Experience.

SUSTAINABLE DEVELOPMENT GOALS:

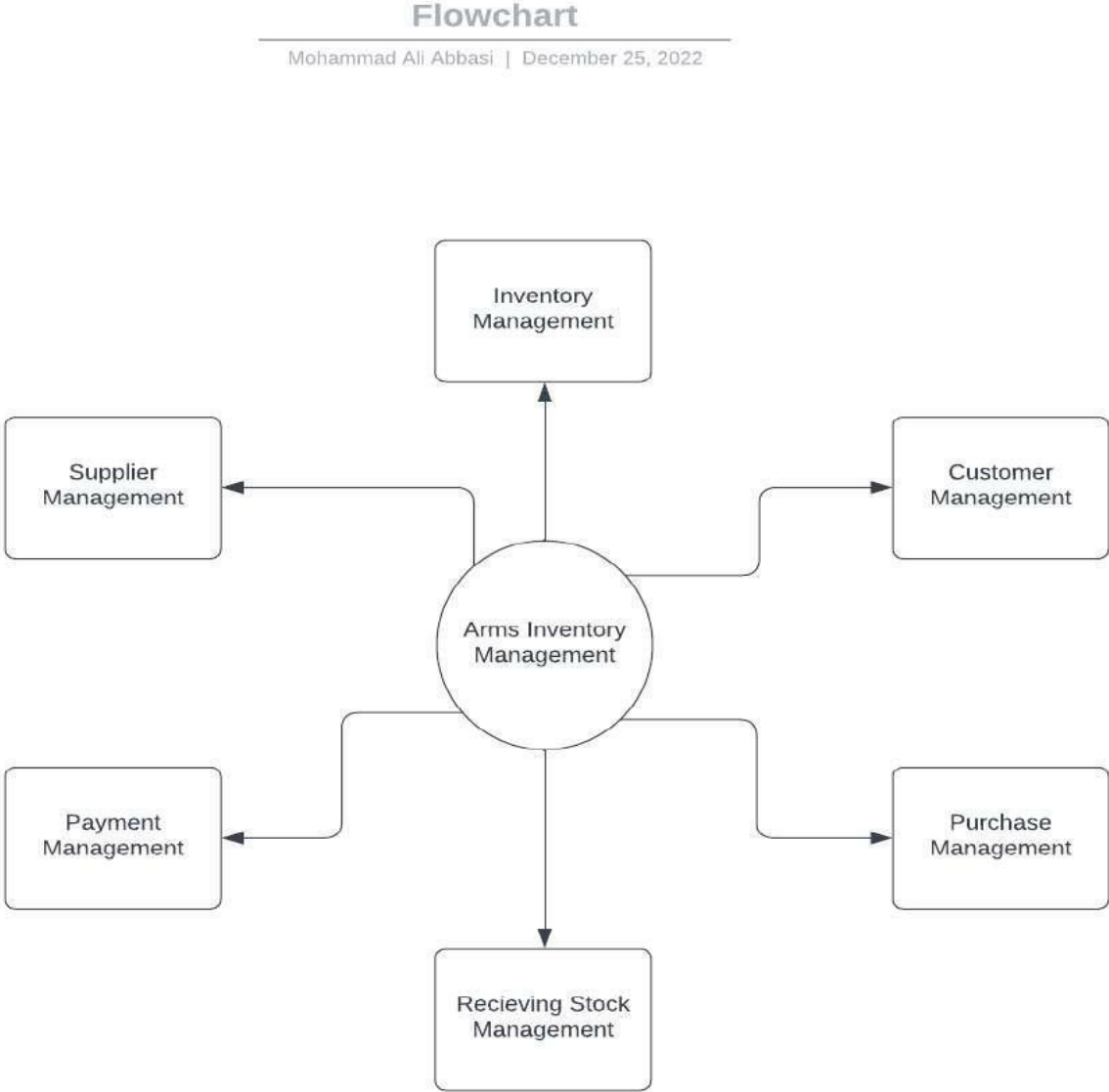
- Responsible Consumption
- Peace and Justice

[mehwish](#)

GROUP MEMBERS:

- | | | |
|-----------------|---------|--|
| ● Muhammad Ali | 19SW59 | abbasimohammadali95@gmail.com |
| ● Mehwish Nawaz | 19SW133 | 8173@gmail.com |

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Qasim Ali Arain

Augmented Reality Based Online Shopping Store

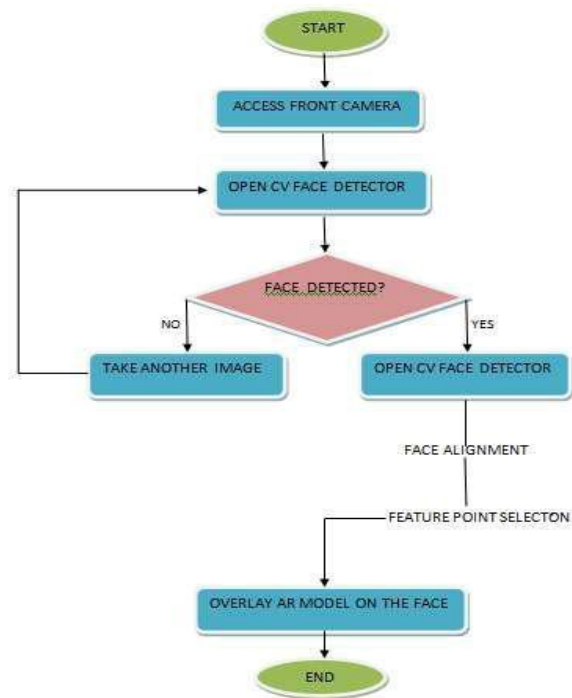
ABSTRACT

Now a days, most of people because of busy schedule and because of the reason living in remote areas doesn't to go to shop to get their products they prefer the online shopping to save their time, as we all know time is money. Most people who want to do shopping when ever want to buy a new product of their choice they have to go to shops to get a new one because they will not be satisfying until they check the product by wearing or checking it as they want to know if they look good on them or not. Here we have a great solution for this problem people can shop online their favorite products, can check online by 3d view and augmented reality how they will look on them if they are looking beautiful in them if they look elegant. This will let our customers to purchase their favorite products at their door step. We are using 3d model view and augmented reality for our project. How it will work in our project we will access the front camera and our customer will wear an Augmented Reality models this will lead them to choose what products they want. Then another plus point is that if they don't want to buy the product they can also use the 3d view to see all the 360 view of the product exactly when we go to shops and hold the product and go through all the minor details of the product that we want to buy. Our website is also user-friendly that gives an interactive look to attract and fascinates new customers. Our proposal fits within the category of Decent Work And Economic Growth, which is the 8th Sustainable development goal. Our objectives are full and productive employment, decent work for everyone, and long-term economic expansion. Through rebalancing, technological advancement, and innovation, the promotion of advancement policies that support productive activities, the creation of respectable jobs, entrepreneurship, creativity, and innovation, as well as the systematization and modernization of micro, small, and medium-sized businesses, will help to increase economic productivity.

GROUP MEMBERS:

Rumeesa Iftikhar (GL)	19SW38	19sw38@students.muet.edu.pk
Hajira Fatima	19SW125	19sw125@students.muet.edu.pk

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Mohsin Memon

CO-SUPERVISED BY:

Sir Samiullah Shah

NLP Based Product Review Analysis on Low Resource Roman Urdu Language

ABSTRACT

With the spread of e-commerce platforms, it becomes extremely difficult for the customer to choose the right product from a large number of products, and different websites based only on his/her own experience, product picture and meta-data. Worldwide, 89% of customers read reviews before making a purchase. 94% of customers have avoided a company due to bad reviews. Customer's reviews present a rich source of information that has an enormous impact on the purchasing decision of the potential consumers, but reading all of the available reviews is a hard task and time-consuming. This problem needs to be addressed.

This project will involve developing a Machine Learning framework or model that will classify the product reviews according to their sentiment. This project will utilize Roman Urdu based reviews dataset as it is based on Pakistan's context and on many local online purchasing sites such as Daraz, FoodPanda, priceOye etc. the reviews are mostly in Roman Urdu. (Possible tools: Python and its libraries).

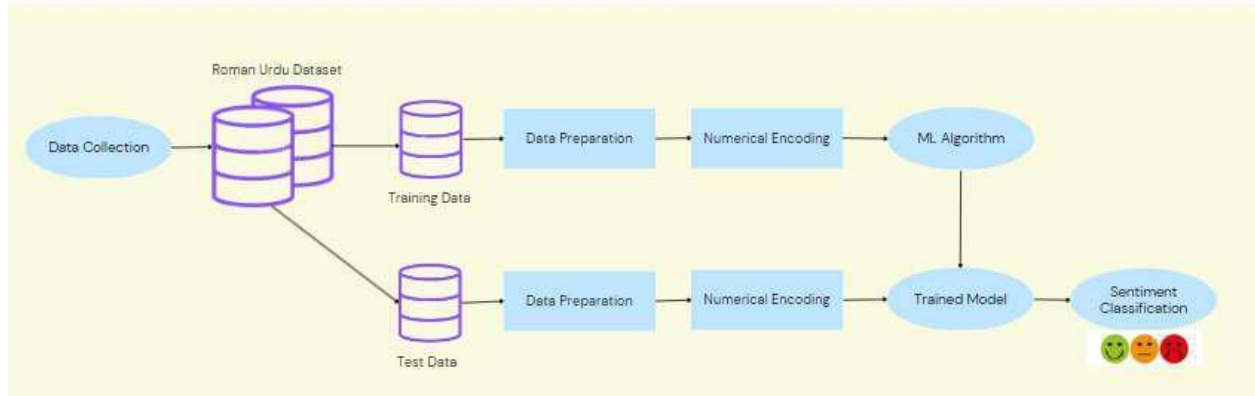
SUSTAINABLE DEVELOPMENT GOALS:

The Sustainable Development Goal that maps with the project is the 12th one that is **RESPONSIBLE CONSUMPTION** as product reviews that are valuable information are utilized in the process of decision making while purchasing a product. We will be utilizing minimal resources while computations.

GROUP MEMBERS:

- Afsa Riaz (GL) 19SW01 afsa.riaz123@gmail.com
- Fariha Naeem 19SW13 farihanaeem2206@gmail.com

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr. Mohsin Memon

CO-SUPERVISED BY:

Ma'am Amirita Dewani

Smart waste-sorting and recycling classification system using image Processing in Machine Learning

ABSTRACT:

Climate change and air pollution are current issues in Pakistan. It is the second-fastest country in South Asia to urbanize, and it has the second-highest pollution levels in the world. According to a different study, the Government of Pakistan believes that 87,000 tons of solid garbage are produced each week in the region. The buildup of solid waste in metropolitan areas is a major worry that, if not effectively handled, could lead to environmental pollution and be dangerous to human health. A smart garbage management system is necessary given Pakistan's growing number of smart cities. Because garbage production is increasing daily and temporary measures to regulate it have not been very successful. To manage a range of waste products, it's important to have an advanced/intelligent waste management system. The process of separating waste into its many components is one of the most crucial parts of waste management, and it is typically carried out manually by hand-picking. We provide an intelligent waste material sorting system to make the procedure simpler. The approach suggests managing trash properly by separation in order to reduce dangers to our health and ecosystem. There isn't currently a good, lucrative mechanism for classifying rubbish. Our goal is to appropriately divide the garbage while minimizing physical labor. Since it is highly challenging to develop a waste separation process that classifies waste with 100% accuracy and 0% loss, our goal is to boost the efficiency of garbage processing solutions and to classify harmful trash with recyclable rubbish. Convolution Neural Network (CNN), a machine learning algorithm, are utilized as the model in this study and can be applied to a dataset of photographs of trash. This technology guarantees the best waste management practices and will expedite and more accurately separate garbage. This technology is the initial step in creating an intelligent, hygienic, and manageable urban environment around us.

Sustainability goals:

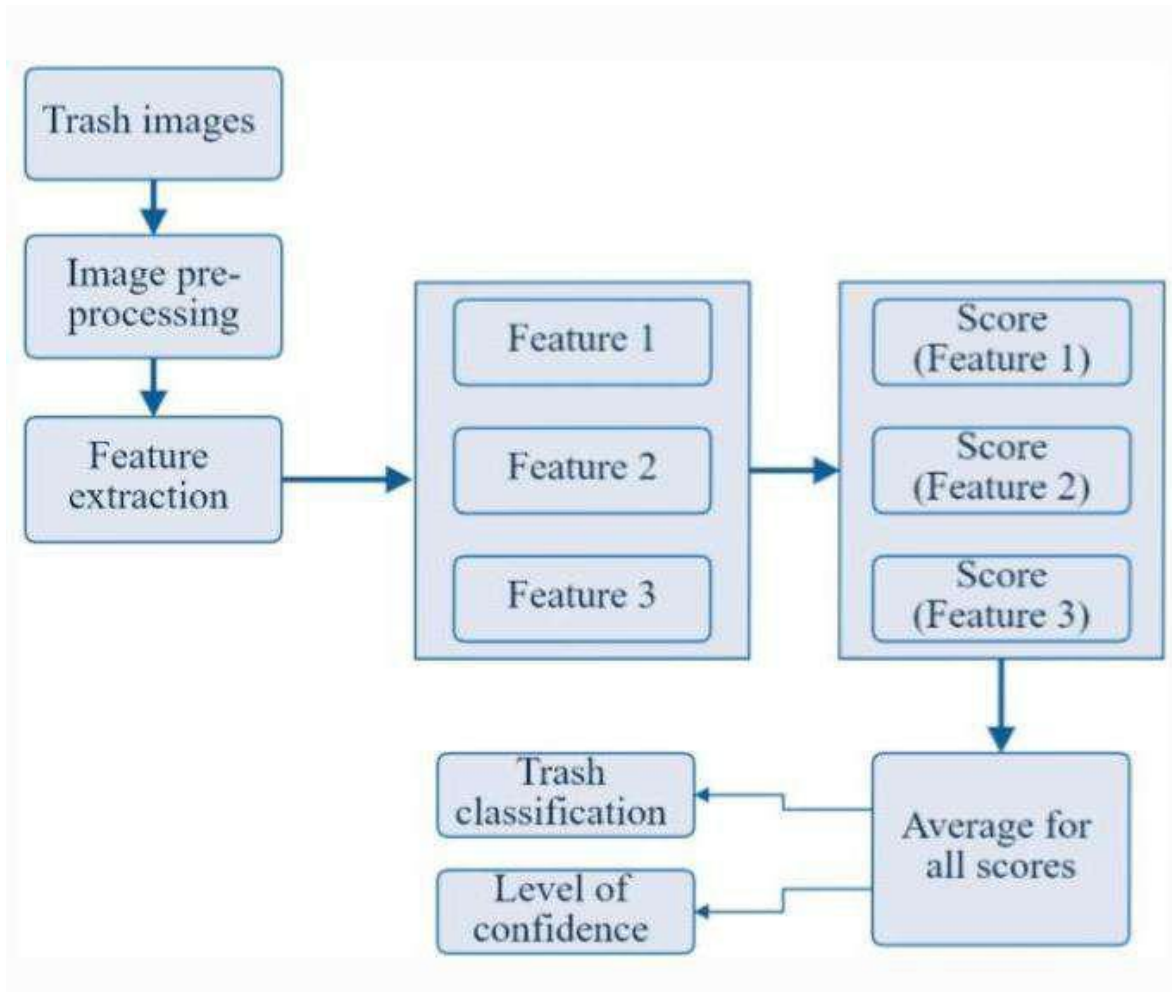
- ✓ Sustainable cities and Communities.
- ✓ Climate Action.
- ✓ Life on Land.

Team Members

Lead: Farwah Shaikh 19SW56

Member: Shanzay Arain 19SW77

Work Flow Diagram



Supervisor:

Dr. Moshin A. Memon

Co-Supervisor:

Sir Owais Raza.

RentPayy

ABSTRACT:

Introduction:

RentPayy is a multi-category service that caters the purpose of renting properties, hostels, hotels, transportation and even people who are skilled in their respective fields. RentPayy provides a platform for the owners to list in their places for rent and its users to find a desired one in no time. This startup, when developed, will increase its domain, and will further expand to travel tickets, marketplaces and much more.

Problem Statement:

Renting a mainstream property could be a hassle for anyone who's looking for it. According to our current survey.

Below are the problems that are faced by people who are looking for it.

- Searching the desired location
- Accommodations
- Transportation
- Internet Service
- Security

Provided Solutions:

RentPayy acquire only those properties and those owners who are up to our Standards. We make sure that the property is up to the mark so that our customer base is satisfied. RentPayy establishes a Rating method through which the properties are rated and hence it is easy for the user to acquire his/her desired property. RentPayy's team is always available for our user base if they face any kind of problem regarding accommodations, transportation and the remaining problems listed above. Our team will look forward to the problem and will solve it as soon as possible. RentPayy's main source of revenue is by Google AdSense, Featured advertisement and Subscription plan.

Revenue Methods:

Google AdSense:

Google provide 1.5\$ per 1500 hundred impressions on website. There is an estimated 30% window for the impression on the coming traffic.

// Below is the Revenue generated through our website/application in a span of 1 year.

1st Month:

Active Users: 500

User may click: 150 times

Revenue: 0.15\$

6 Month:

Active Users: 5000

User may click: 1500

Revenue: 1.5\$

1st Year:

Active Users: 10000

User may click: 3000

Revenue: 3\$

Featured Ads:

After 3 months of our service, RentPayy will introduce Featured Ads option that will allow the Owners to feature their properties on our application and on our website. This will enable them to boost up their ad, which in result, will be more profitable for him. For this feature ad, RentPayy will charge a commission fee. The feature plan will be available in three diverse types of packages.

For a Week:

750 RS/Advertisement

For 15 Days:

1250 RS/Advertisement

For a Month:

2000 RS/Advertisement

Subscription Plan:

After 6 months of launch, RentPayy will introduce a Subscription plan that will charge the owner 10% commission per booking/accommodation.

Impact:

The main purpose of RentPayy is to make it easy for everyone to rent a place or list their place anytime they want and without any hassle or difficulty.

Not only that, but we will also enable our users to hire working professionals so that it becomes easier for them to hire anyone and anytime they want. We want to make the renting market as big as the buying and selling one. The window here is huge. With the right steps, we can enable everyone to rent anything with just a few clicks.

Sustainability Goal:

RentPayy wants to establish an efficient service that enables its users to adapt to things that are, in real life, quite complex but easy when they take it through us. Here are some of the ways RentPayy can help in building a sustainable society.

1. Promoting the sharing economy: By renting out items that are not frequently used, the service can help to reduce the number of resources needed to produce new goods, which can ultimately help to conserve natural resources and reduce waste.
2. Supporting local businesses: RentPayy can collaborate with local businesses and entrepreneurs to promote their products and services, which can help to boost the local economy.

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3. **Creating jobs:** Our service can generate employment opportunities for people in the local community through the development, marketing, and maintenance of the service.

4. **Reducing traffic and pollution:** Encouraging people to rent items instead of buying them new can help to reduce the number of vehicles on the road, which can help to lower traffic congestion and air pollution.

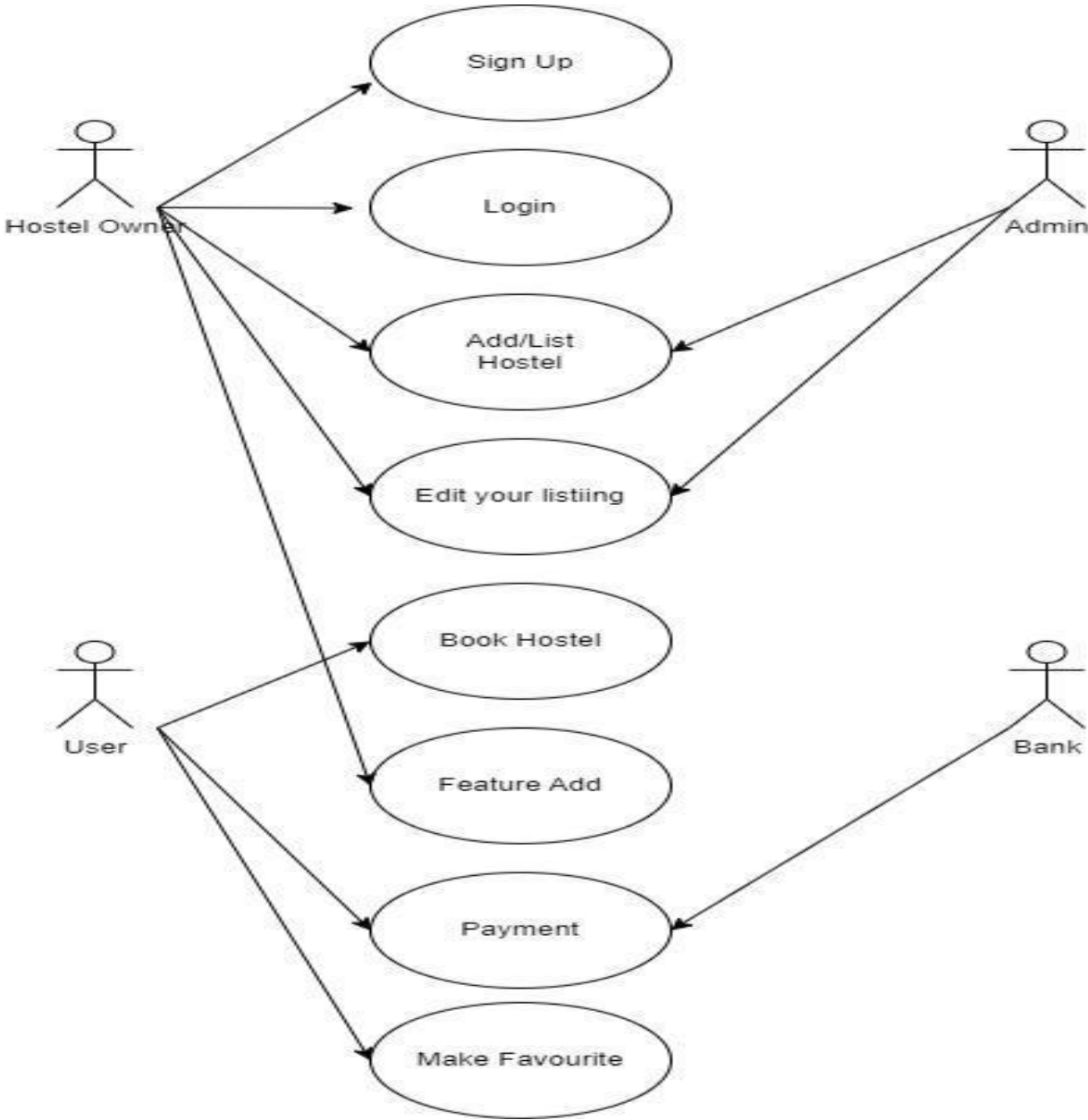
5. **Providing access to goods:** The service can make a wide range of products available to people in the local community who might not otherwise be able to afford them, this can improve quality of life.

Group Members:

Lead: Bilal Hassan (19SW124)

Member: Abdul Ghaffar (19SW128)

Workflow:



Supervisor :

Dr. Isma F. Siddiqui

“Decentralized Medicine Donation System”

Abstract:

Life expectancy in Pakistan is 67 years old, six years lower than global life expectancy. There are many causes for this, but Pakistan’s high healthcare costs are one (Transparency International Pakistan, 16 December 2020). They are also a major financial burden on millions of households. The poor people don’t focus on their health-related issues because of the expensive medicines that lead to an earlier death. We took a short survey from the local community and found that the remaining dosage of medicine expires in nearly 80% of people after recovering from the disease. So, we come up with a “Decentralized Medicine donation system” that is a non-profit platform for donating and accepting Medicines.

The main purpose of this system is to prepare a portal for the collection of unused medicines that can be further utilized by people and unused/new medicines can be donated by People to people, People to NGOs, and vice versa. The needy person can accept the medicine by searching on the website/App if they find that relevant medicine they can contact the donor or the NGO that owns the medicine.

Sustainable Development Goals:

1. Towards good health:

A decentralized medicine donation system could potentially contribute to good health in several ways:

Improved access to healthcare: By using a decentralized donation system, it may be possible to ensure that donated medical supplies and medications are distributed to those who need them, regardless of their location or socioeconomic status. This could help to improve access to healthcare for people who may not otherwise have access, potentially leading to better health outcomes.

Timely distribution of donations: The use of blockchain technology could help to streamline the process of tracking and distributing donations, potentially reducing the amount of time it takes for donated items to reach their intended recipients. This could be particularly important in emergency situations or in areas with a high demand for medical supplies, as it could help to ensure that donated items are used as quickly as possible.

Quality control: By using blockchain technology to verify the authenticity of donated items, it may be possible to ensure that only high-quality, effective medical supplies and medications are distributed to those in need. This could help to improve the overall quality of healthcare available to recipients and potentially lead to better health outcomes.

2. Goal toward poverty

A decentralized medicine donation system could potentially be used to address poverty in several ways:

Improved access to healthcare: By using a decentralized donation system, it may be possible to ensure that donated medical supplies and medications are distributed to those who need them most, regardless of their location or socioeconomic status. This could help to improve access to healthcare for people living in poverty, particularly in underserved or remote areas.

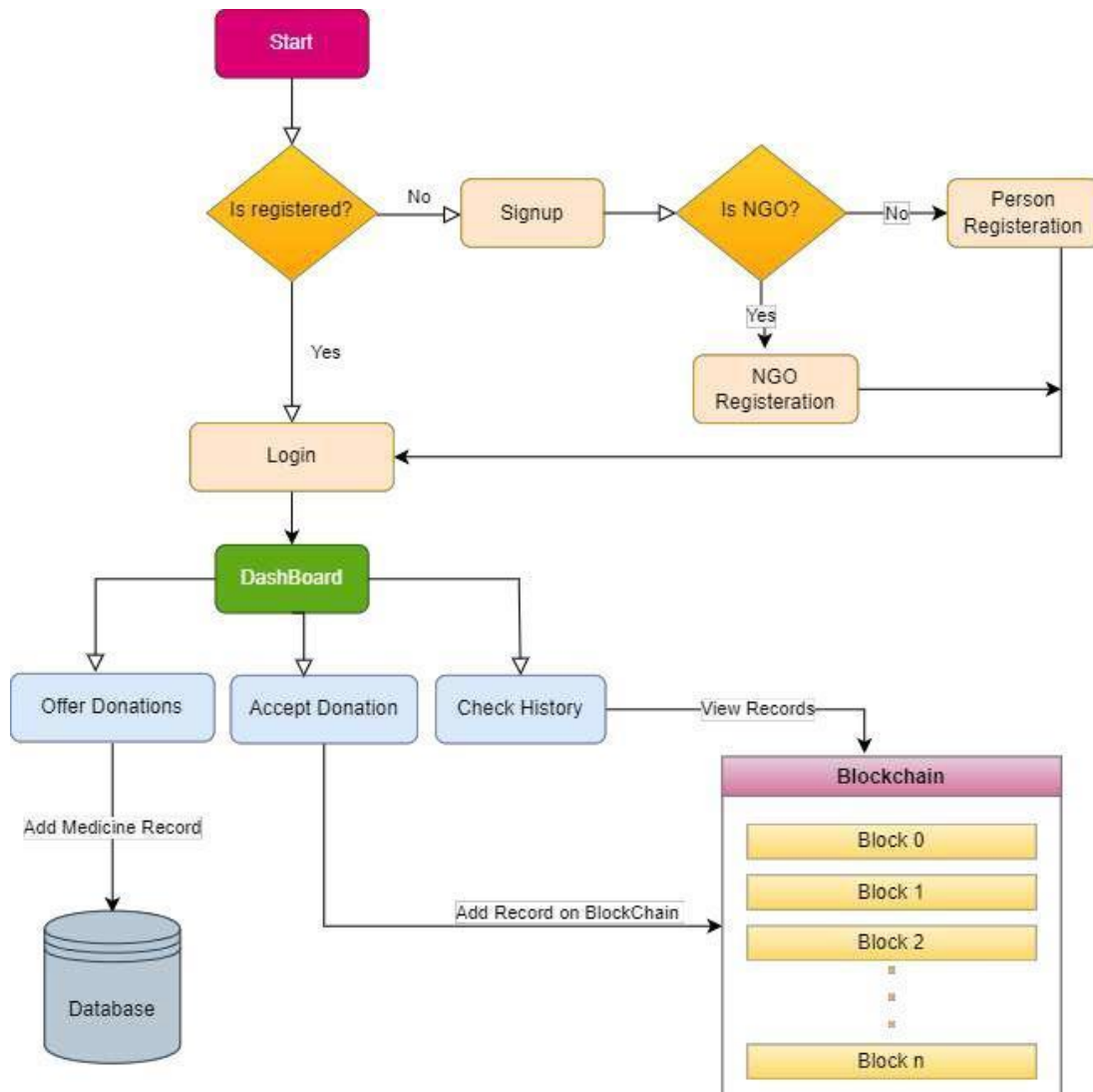
Reduction of waste: By using a decentralized donation system, it may be possible to reduce the amount of wasted or expired medical supplies and medications, as the system could help to ensure that donated items are distributed to those who need them in a timely manner. This could help to make the most efficient use of donated resources and reduce the overall cost of providing healthcare to those in need.

Increased transparency and accountability: The transparent record-keeping provided by blockchain technology could help to ensure that donated medical supplies and medications are being used as intended and are reaching their intended recipients. This could help to increase accountability and reduce the risk of fraud or mismanagement within the donation system.

Group Members:

Muhammad Saad(G.L)	(19SW10)	Saadkhanzada12311@gmail.com
Noor Ahmed Shaikh	(19SW24)	noorshaikh51027@gmail.com

Workflow Diagram:



Supervisor: Dr. Isma F. Siddiqui

Co-Supervisor: Engr. Kamran Khan (Sapphire)

IoV based Point tracking and Behavioral reporting system

Abstract:

The project , IoV based Point Tracking and Reporting System, mainly focuses on the development of cross-platform mobile application along with Internet of Vehicles and Machine Learning which deals with the transportation problems and behaviour of students and drivers in vehicles/points.

- The main motive of this application will be to provide time of arrival of bus, departure of bus, route and stops of bus, providing live tracking on map, if a bus is

bus, traveler will be notified once the bus is at nearest stop to traveler.

Also, users can see student count in a point/bus, so that he/she should wait or not.

- Another major feature of this project is Behavior Analysis System and to implement this, a camera will be used for image processing and detecting unethical or unusual

This system will be made with the help of GPS tracker using WiFi based on Arduino which will help in live tracking and a camera for automated behavior detection which will be implemented using algorithmic machine learning models.

- The case study has been done for Mehran University Students Bus and the app is targeting the students and routes within the MUET campus.

Sustainability Goal

Infrastructure & Innovation: Our fyp project, point tracking and behavior reporting system, is mainly construct of two major infrastructures.

The first being developed for tracking purposes using different components creatively like using central internet providing mechanism used by the trackers and other major components to broadcast data like point coordinates to the database.

The behavior reporting system, the second and most innovative foundation of our project, is mainly achieved by using high end cameras and machine learning models, which will detect body gestures, facial expressions, and broadcast the data using central internet provided system.

Talk of the current points infrastructure then there ain't any strict point timings, student count in a point, real time point tracking, stops clearly displayed, and the most important of all is behavior reporting in a point.

we are intending to develop a system, backed by the guidance of our supervisor, which will tackle all the corresponding problems students face today.

Group Members:

Lead: Muhammad Waiz (19SW52)

Member: Hammadullah (19SW71)

Diagram



Supervisor: Dr Isma Farah Siddiqui

Co-Supervisor: Mr. Afnan Sadhayo

SM Salon System

Abstract:

A saloon management system is a website that manages the appointment scheduling functionality. This system connects users and Salon in an online platform where user can browse salon and their services. Users can also write and read reviews of the salon and its management. Salon management system helps the industry to fill this void in such a way that is on-demand, easy to use, and effective. The final product will be a functioning web application that can handle use cases like user account registration, login/logout, appointment scheduling, writing, and reading review for specific salon.

Introduction

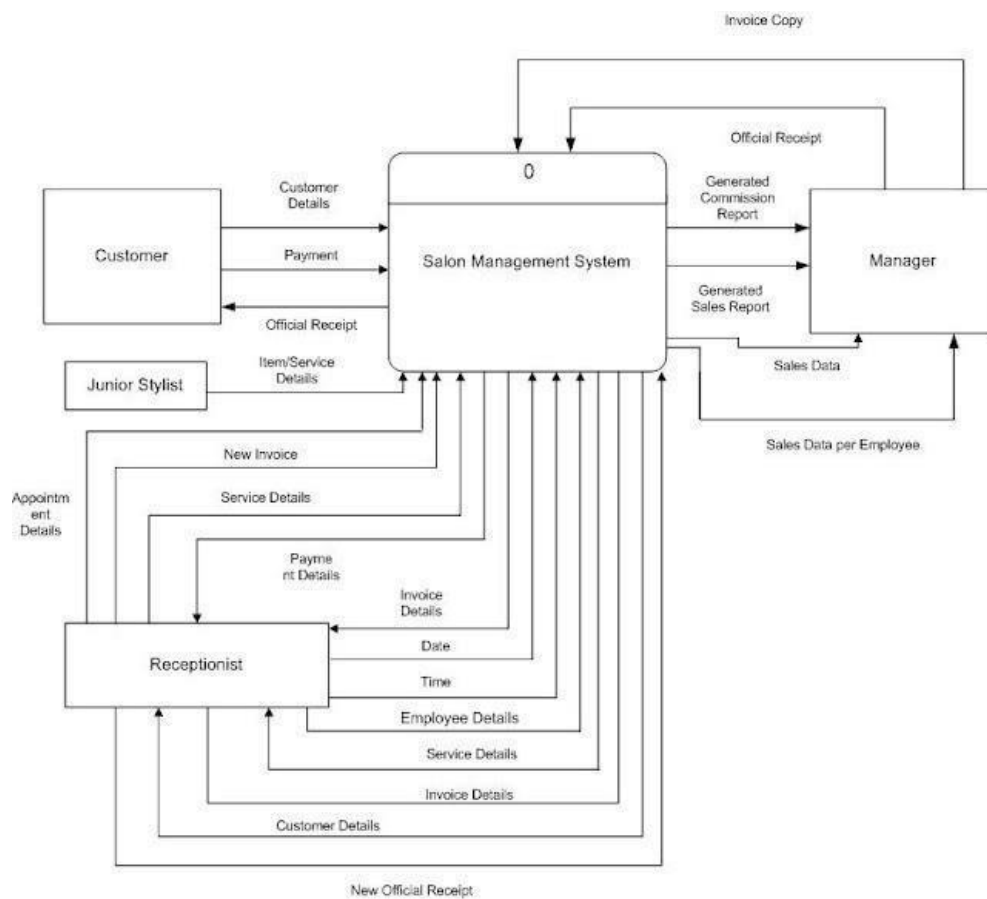
Today is the era of digital technology and the development of technology. The rise of the INTERNET gives a boost in the digital field and Pakistan is also accepting it and runs many movements like easypaisa, jazzcash and many more. The growth of internet users is increasing day by day and we are well aware of the advantage of the internet. At present, many people run their businesses without any physical setup of their business like digital marketing agency, digital marketing, and many more. There are various types of online websites available, ranging from online E-commerce websites (AMAZON), online trip booking websites (MAKE MY TRIP), online food delivery systems (FoodPanda). On the other hand, the grooming and beauty business are experiencing growth in the coming year. A beauty salon is an establishment dealing with cosmetic treatments for men and women. Other variations of this type of business include hair salons and spas. Using this platform user can view all the salons which are partner with our salon management system and also view their services. Like foodpanda.com.pk serve a similar need in the restaurant industry, but our system bring clients and salon together online. When customers search the salon then the system will show all the available salons on their locations and if by chance the time you have searched is not available then it will also show the next vacant slots on our system which is registered with our platform on that location. It will be useful for customers because now they have their bookings with the slots available. It will also remove all the paperwork as the owner will have access to all the customers' details and their records to serve them better. Online Payments to promote cashless transactions as it is more secure and trustworthy from both sides. In this project, MySQL and Java Spring are used to back the interface with strong database functionality and for Frontend React JS, HTML, CSS and JavaScript are used. This project will target the major web browser like Google Chrome, Firefox, and Safari as the initial platform for our version. As beauty and fashion become a great trend disregarding the age limit and gender. All the Salon Owners are relying on their Customers; who visit Salons to fulfill their own beauty needs. This system is designed for students studying at different colleges and universities. Students have limited time for their grooming because of the schedule of classes, projects and assignments, and many extracurricular activities. After booking their appointment in the saloon there is no need to stand in the queue just reach there in the allotted time and students will get the service without any delay or waiting in the saloon.

Group Members:

Lead: Sundar Kumar (19SW79)

Member: Mustafa Ghafoor (19SW66)

Project Diagram (Data flow)



Final Year Projects Of 19 SW

Supervisor :

Sir.Salahuddin Saddar

An alert and ranking system to identify high risk patient

Abstract: Use patient clinical data to determine the severity of their disease and create an alerting system that can notify administrators of such patients and rank such patients as high-risk/top- priority.

The system will comprise of a web application and possibly a mobile app that will store and display patient history, treatment, and vitals. Based on the data of the vitals and the treatment the system will prioritize patient treatment. An alert system will also notify when the patient needs immediate care.

Sustainability goal: Good health

Group Members:

Lead: Dilpat Rai (19SW29)

Member:Nawal Rai(X-97)

Supervisor: Sir. Naveen kumar

Online Charity Based System

Introduction:

As we all know, charitable giving is an example of donating cash, products or time to the pathetic, either directly or by methods for the magnanimous confidence or other admirable motivation. Altruistic giving as a rigorous demonstration or the obligation is mentioned as alms or contributions. The name comes from the clearest articulation of the ideals of a noble cause; give recipients of that method they need to endure. Crushed especially for the most part there are those who are crushed or stuck and those who are weakened or damaged considered as suitable recipients of a good thing. Individuals who cannot sustain themselves and occasionally need external methods of assistance "hobos", directly asking for help from strangers experienced open Several congregations see the noble cause as a gift to different individuals. from within their assembly. Although it supports those with which they are almost connected man is now and then called a good thing—as in the true sentence “A good thing begins at home’—regularly a noble thing means providing for those who are not related, pobeidient devotion and similar conditions for the support of loved ones. Sure, treating those found with the provider as if they were needs from the outside a good thing prompted the saying "cold as a noble cause" Provision of his family members as if they were outsiders, without affection. Most Good Thing types are concerned with providing necessities, e.g. food, water, clothing, medical services, and shelter, yet may be different activities proceeded as a good reason: visiting the detainee or domestic, recovery hostages, vagrant learning, even social development. Gifts cause it.

Abstract:

This research paper generally summarizes the activities carried out in the proposal and implementation of a web-based charity management system. This charity management is a non-profit organizational system in which it does not rule organization and donors can come and request funds and donate them materials such as fabrics, hospital equipment, etc. These goals create online payment, creation of login and registration page, appointment booking, authorization users to cancel appointments and even let them go through funding and a different donation system. The design of the project was then constructed for visualization achieving these goals using Unified Modeling Language, Entity diagrams Relationship diagram and data flow diagram. In the implementation part of this project methodology was used for the development of this project. Visual Studio Professional was also used as Integrated Development Environment (IDE), developed using the Block chain and ethurium based platform The requirements were tested best using the following format

Team:

19SW120,19SW72

SUPERVISED BY:

Sir. Salahuddin Saddar

IntelliSite AI: The Intelligent Web Designer

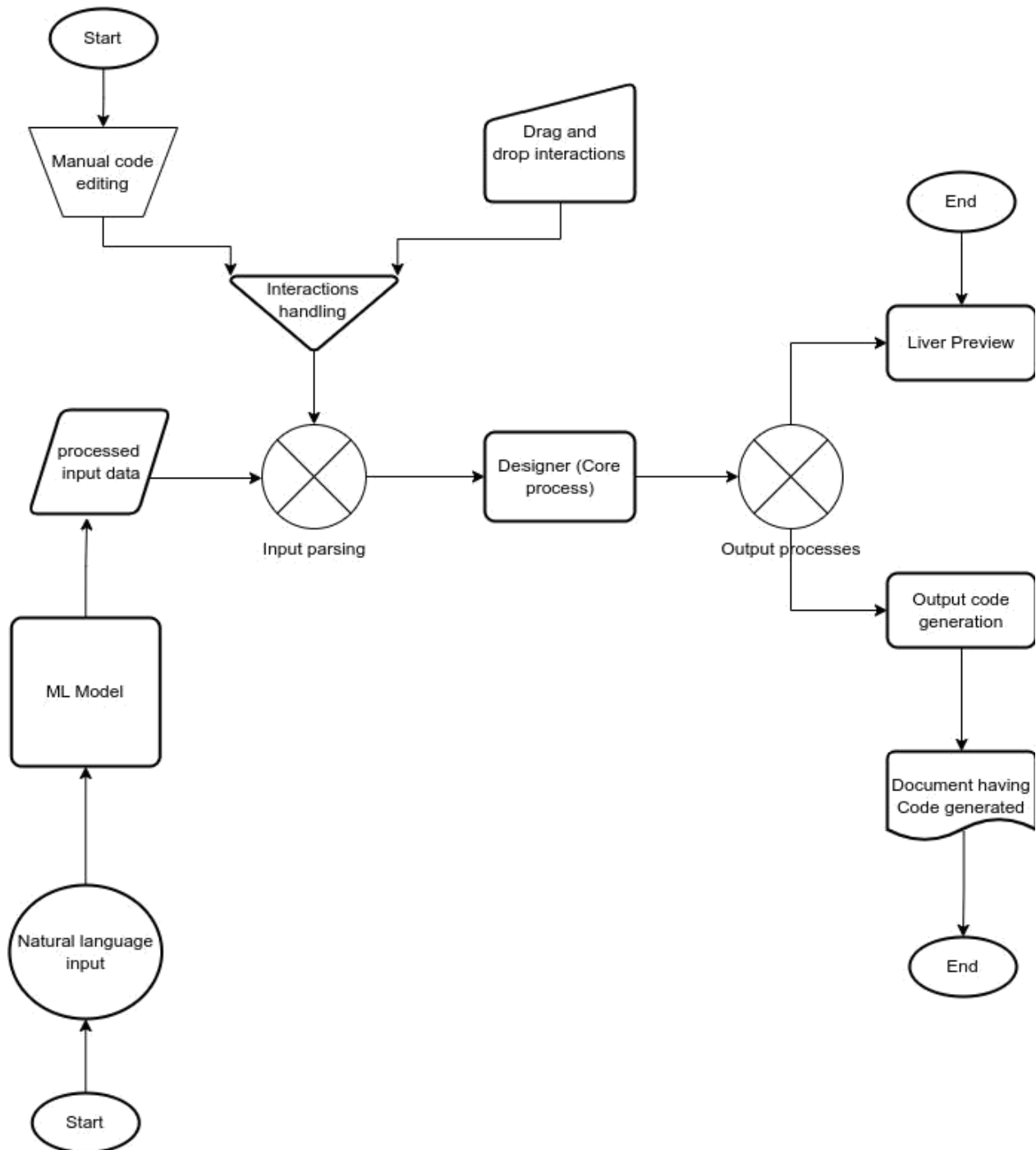
ABSTRACT

Development of huge front-end designs especially in a website requires the developer to see the output of written code as immediately as possible. During this process, the developer has to go through different applications including design applications like Figma and Adobe XD, browser tabs that contain online docs of the library in which the developer is coding, the tab that shows the output of the code, and different other tabs. In order to tackle this problem for freelance or enterprise developers, an Intelligent Web Designer will be developed. It will enable the design of a web page, writing its code, and generating its content efficiently and quickly. It will have a chatbot with which the user will interact and type commands in natural language. An interactive graphical user interface will be enabled the developers to design a web page by dragging and dropping the components on the canvas. Using this web app, the developer will be able to see the code and changes in it instantly, without waiting for the code to be compiled. This will not only save time for the developer that is wasted in the recompilation of code with every little change but will also reduce the number of open applications in the workspace. This way, the developer will be free from the overhead of managing a lot of applications, browser tabs will be saving huge time and the designs will be less error-prone. It will encounter Industry, Innovation, and Infrastructure Sustainable Development Goal (SDG), by providing developers with a new way of developing web apps using natural language commands support. Due to its intelligent chatbot feature, it will also save time that is wasted in understanding already-written code. The user will simply chat in natural language and the problem will be solved immediately.

GROUP MEMBERS

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SYSTEM WORKFLOW DIAGRAM



SUPERVISED BY:

Dr. Areej Fatemah Meghji

CO-SUPERVISOR:

Engr. Sharmeen Abid Shaikh

Deep Learning Convolutional Neural Network for Tomato Leaf Disease Detection and Prediction.

ABSTRACT

Plant or crop diseases are responsible for global economic losses in the reduction of quantity and quality of agriculture. Humans depend heavily on agriculture, which is the main source of prosperity. Crop production has faced several difficulties as a result of the different plant diseases that farmers must deal with. Disease identification at an early stage and its prevention before spreading into other parts of the plant is a challenge even for the expert's eye. Nine typical tomato illnesses are identified using an effective deep-learning algorithm. In order to identify tomato illnesses, a residual neural network technique is used.

Our application will detect tomato disease and predict and provide remedies for its prevention. This application will be capable of detecting tomato diseases using image processing techniques based on Image segmentation, clustering, and open-source algorithms. Using this application, the image of a tomato's leaf will use an algorithm that automatically detects and addresses the issues using OpenCV, Machine learning, and Deep learning techniques. Based on this disease, it will provide a remedy that will help with the detected disease. Using a chatbot, users will directly search for that particular disease in a few minutes using the web-scraping method and Natural Language Processing. The goal of this project is crucial to maximize agricultural productivity, cut expenses, and minimize crop loss.

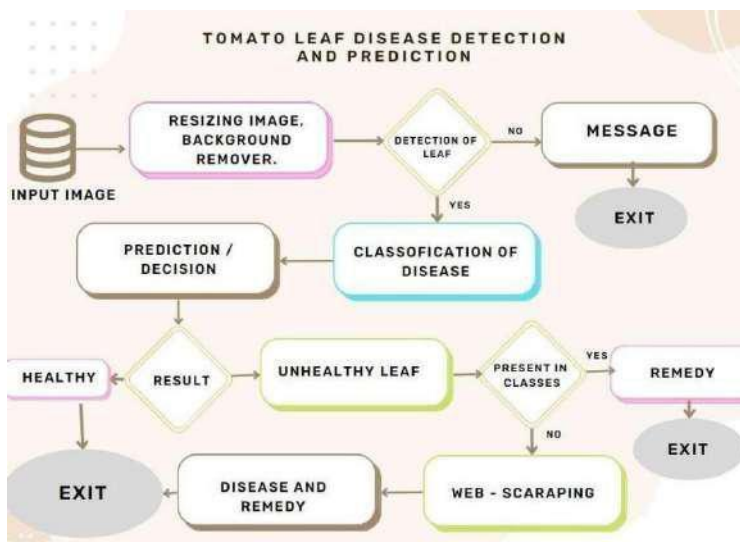
GROUP MEMBERS:

- Saba Saeed 19SW53 sabasaeed410@gmail.com
- Sana Faiz 19SW83 sanafaiiz1122@gmail.com

SUSTAINABLE DEVELOPMENT GOALS:

The Sustainable Development Goals that map with the project is the 3^o, 8*, and 12^o which are GOOD HEALTH AND WELL-BEING, DECENT WORK AND ECONOMIC GROWTH, and RESPONSIBLE CONSUMPTION AND PRODUCTION are utilized as the detection and prediction of tomato leaf.

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

- Dr. Areej Fatemah

Co-SUPERVISED BY:

- Sir Sarim Sikander (Data Scientist)

BOOK MANIA E-COMMERCE WEB BASED RECOMMENDATION

ABSTRACT

Book Mania is a web-based e-commerce recommendation system that enables users to find and buy all kinds of books online as well as buy and sell books. The Book Mania recommendation system uses a variety of methods to give buyers useful suggestions. The three most frequently used techniques for having a significant impact using search engines are association mining, collaborative filtering, and content filtering. This system employs collaborative filtering as its methodology. Collaborative filtering is a method for giving users recommendations on various products by gathering information about their preferences. If two users have similar preferences for one product, it is more likely that they will have similar opinions on other products than with a different user at random. The system creates a list of books that users are most likely to be interested in reading after asking them to rate books and select their favorite categories. The customer and admin modules make up the bulk of this website. Additionally, the website would have standard features like a product filter, a product search option, a responsive website user interface, etc. .

SUSTAINABLE DEVELOPMENT GOALS:

Purposed book mania e-commerce web-based recommendation system adhere to the Sustainability Goal 4(quality education) because it will boost customer happiness by improving the functionality of the sales service and will also help the clients learn more about how to handle or solve challenges in life. It is a digital copy of a printed book that can be read on a computer or a handheld device. The suggested book suggestion system would be able to make recommendations for books that are pertinent to the user's search query or book topic, giving them more possibilities. Because there are more options available than in the past, this project will give users a better browsing experience. User can buy book easily by making online payment. This system saves the precious time of customer and very efficient to use.

GROUP MEMBERS:

- Anber Sattar(GL) 19SW33 19SW33@students.muet.edu.pk
- Unza Sheikh 19SW113 19SW113@students.muet.edu.pk

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

- Dr. Areej Fatemah Meghji

AI-based Chabot using NLP

ABSTRACT

Our project is basically a Chatbot that is based on AI using Natural language processing, this Chabot is configured to adhere to Islamic banking business (a system of banking that complies with Islamic law also known as Shariah law) in which customers can ask questions related to **Shariah**, For example, If a customer deposits his or her money in the bank and customer receives 1000 per month benefit from the bank because of depositing money in the bank, and now the customer wants to know that the additional money he receives from the bank is it haram or not. Such types of questions will be asked by the customers and then this Chatbot gives the answers to those questions with Islamic references concerning the financial laws of Islam. As this project is AI-based so for that we will implement the concepts of Machine learning techniques known as Natural language processing (NLP) and we will create its Front end in any suitable programming language.

SUSTAINABLE DEVELOPMENT GOALS:

Our project covers some sustainability goals which are numbered as 1, 2, 8, 10, 12, and 16.

Goal 1: No Poverty

Our app provides answers to the one who may want to take loan from bank w.r.t sharia which he/she may use for any business purpose, i.e. it'll ultimately reduce poverty.

Goal 2: No Hunger

Poverty and hunger are related, as there would be minimized poverty, so does the less hunger.

Goal 8: Good Jobs and Economic Growth

When the asked questions will be answered there would be economic growth because the Islamic laws regarding the banking system lead to financial growth.

Goal 10: Reduced Inequalities

By answering confusing questions related to sharia, will reduce inequalities faced by many Muslims.

Goal 12: Responsible consumption and Production

Muslim investors will get their answers about how their money would be used or consumed and whether the given profit will be in accordance with the Islamic Sharia or not. In that way, responsible consumption and production goal can be achieved.

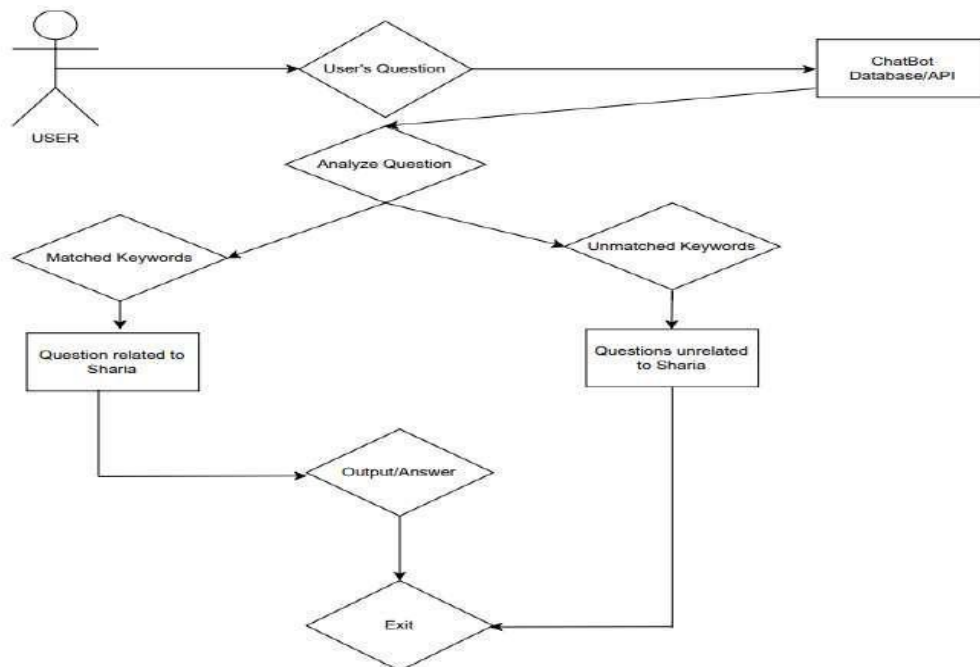
Goal16: Peace, Justice, and Strong institutions

The training data of our app contains strict rules and laws of Islamic Sharia Banking System which will provide peace and justice to individuals. The interest-based banking systems impact badly on the economic growth of a country or institutions whereas interest-free banking systems aim for stable financial growth of a country or institutions.

GROUP MEMBERS:

- MUHAMMAD ASHRAF 19SW19 19sw19@students.muett.edu.pk
- SADAR HAKIM ALI 19SW18 19sw18@students.muett.edu.pk

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY: DR. SHEHRAM SHAH

CO-SUPERVISED BY: WAQAR-UL-AZIZ CEO WAMPTSOL HYDERABAD.

Capture and Notify the Students who violate the Institute Rules

ABSTRACT

When talking about an academic institute then the main important thing about institute is health and safety of individual and for that every academic institute has their own rules and regulations. The students are not allowed to have/take some restricted items in the institute. The possession of restricted items may include taking weapons and act of smoking in the academic institutions. If they don't avoid these activities, institute will take action about the concerned student. But there raise an issue if we solve the problem manually as spying each students all the time would be difficult and seems unethical. How to capture the student's illegal activities in whole institute? The manual concept of capturing those students would be costly as more security staff would be needed. Many developers are working on face recognition and object detection using machine learning and image processing but still there has no app to detect the illegal object with face of the person and should provide some details of that student which helps to identify the individual. So that's why we want to develop a desktop App that solves the problem in simple and in less expensive way and also solves the problem of more security personnel. Our app will consist of two screens, first screen will recognize the face of the students that doing illegal activities like smoking, weapons and second screen will show the student's detail Like Roll No, Name, Department Name and the act this way we can be sure of safety and health concerns of individual. The uniqueness of our app is to detect the illegal activities with face of the student and show the details of that student. The proposed application is less expensive, has simple UI and is perfect for the institutions for capturing the students who violates the institute rules and laws.

Technologies:

- Python (OpenCV or Tensorflow)
- Deep Learning (CNN etc.)
- Data Mining Tools
- Database (SQL)

SUSTAINABLE DEVELOPMENT GOALS:

The project fulfils 4 following Sustainable Development Goals out of total 17 goals.

GOOD HEALTH AND WELL BEING:

Our project fulfils the SDGs' goal about good health and well-being, as the project aims at capturing the students violating institution rules like smoking which causes fatal diseases.

RESPONSIBLE CONSUMPTION AND PRODUCTION

Achieving economic growth and sustainable development requires that we urgently reduce our ecological footprint by changing the way we produce and consume goods and resources. So the consumption of prohibited items must be captured and notified to the institution.

CLIMATE ACTION:

Smoking is not only injurious to the consumer but also it pollutes environment and a student sitting beside the one who violates institution (one who is smoking) may also get affected.

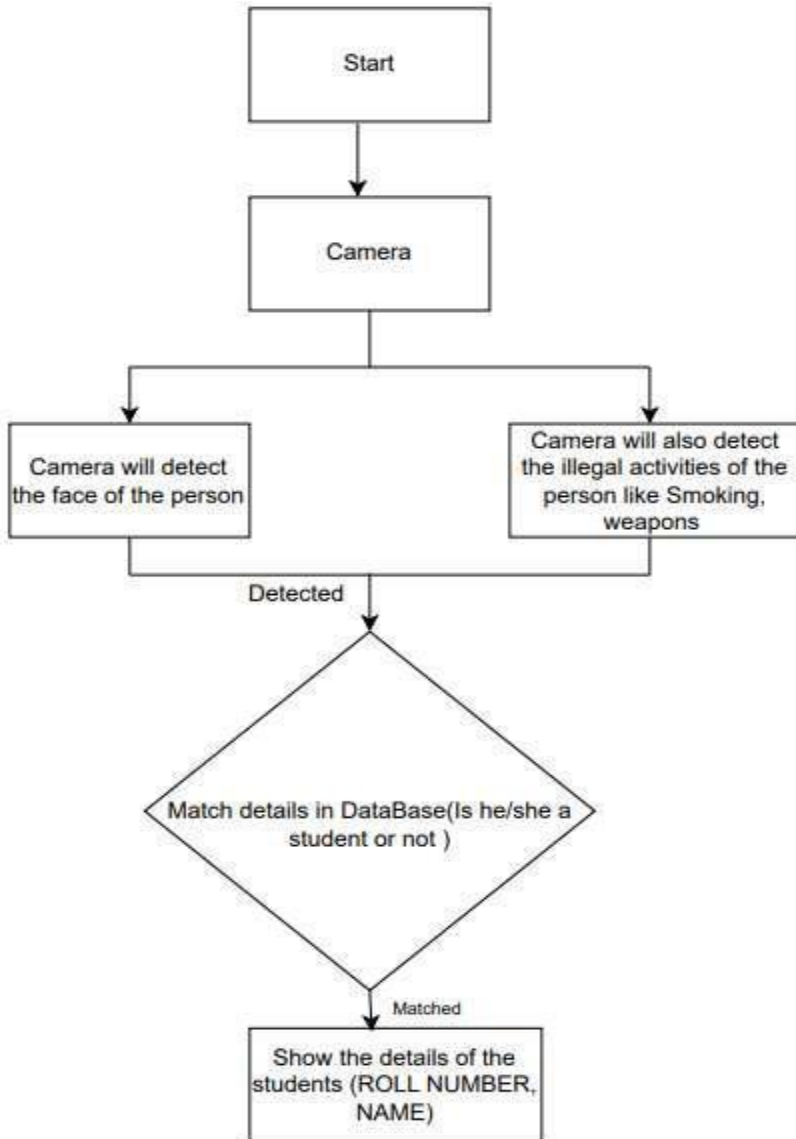
PEACE JUSTICE AND STRONG INSTITUTION:

The project fulfils this goal in a way that if a student violate university rule, strict action like fine, penalty or suspension can be imposed on such student.

GROUP MEMBERS:

- Fahad (GL) 19SW17 19sw17@students.muet.edu.pk
- Muhammad Ibrahim Rahpoto 19SW12 19sw12@students.muet.edu.pk

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Dr Shehram Shah

CO-SUPERVISED BY:

Waqar-ul-Aziz CEO WAMTSOL Hyderabad

Posture detection using different computer vision & machine learning techniques

ABSTRACT

Problem Statement:

The human body is a blessing from the god that has been given to us. To keep our body and mind healthy & strong, we do some form of exercise. But the problem here is that when someone starts their fitness journey, either by starting weight training or doing yoga, they don't know the correct form or posture of the exercises or yoga poses they do. But now you would argue that they can get a trainer who guides them through their journey & that is a completely valid point. However, most of us cannot afford that luxury and aside from that there can be other reasons too, one of which can be the unavailability of the trainer.

Our purposed solution:

So basically, our purposed solution is a mobile application that will help the users detect and evaluate their posture with the help of their cell phone camera while doing different exercises as well as while doing yoga poses.

The working of the app will be simple. The user will open our app, select the exercise or the yoga pose they are doing, then the user's posture will be thoroughly detected with the use of their mobile's camera and after evaluating the user's posture according to the specified exercise or the yoga pose, user will be shown the result, and suggestions or resources to help them improve their technique/posture of that exercise or yoga pose that they selected.

The technologies that will be used are flutter, computer vision techniques & different machine learning models.

SUSTAINABLE DEVELOPMENT GOALS:

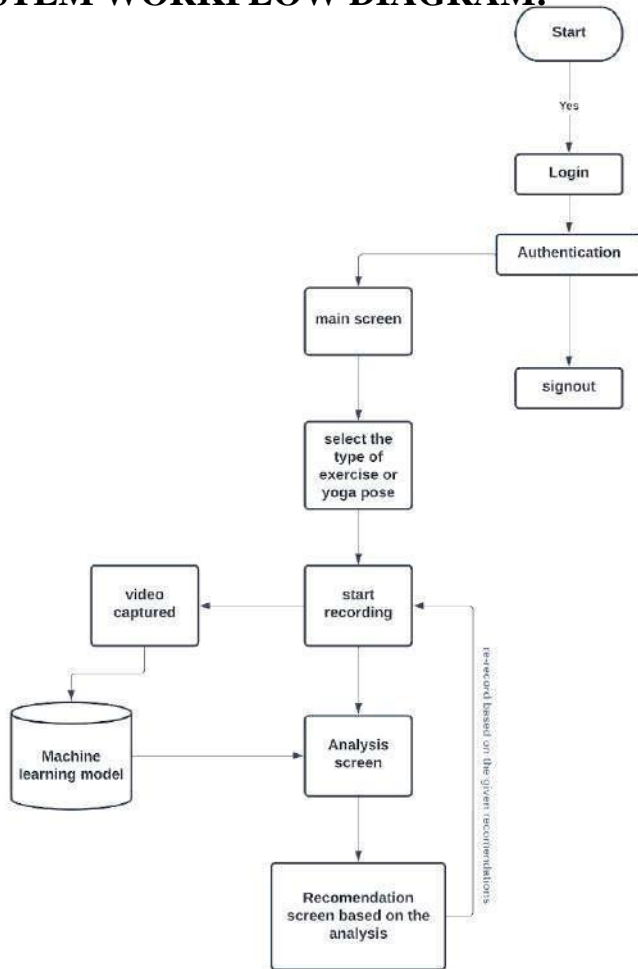
Our app promotes and achieves good health and wellbeing sustainability goals. By providing feedback on posture and form during body weight exercises and yoga poses, this app helps users improve their technique and reduce the risk of injury. This could also encourage users to engage

in regular physical activity, which is associated with a variety of health benefits and can contribute to overall sustainability by promoting individual well-being.

GROUP MEMBERS:

- Meer M. Muazzam 19sw114
- Faiz Ali 19sw111

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY: Dr. Sherhram Shah

EASE.AI

ABSTRACT:

The world is expanding at a faster rate than usual, we no longer need to rely on time-consuming traditional methods to complete our daily tasks. The time spent writing something can be saved and used to do something that will benefit us more in other ways. Our website is entirely concerned with the generation of blogs, which can take hours to complete manually. This website will be influenced by the most well-known content generation tools, such as copy.ai and jasper.ai, which are used to generate content such as blogs, articles, emails, social media posts, and so on.

This will be a web-based project that will generate content using the OpenAI GPT-3 model. Generative Pre-trained Transformer 3 (GPT-3; stylized GPT·3) is an autoregressive language model that uses deep learning to produce human-like text. Given an initial text as prompt, it will produce text that continues the prompt. It applies machine learning to generate various types of contents, including stories, code, legal documents, and even translations based on just a few input words.

A user should be able to sign up and login to our website first. Then he or she can enter the title of the blog that the system should generate. For example, if a user enters the topic "Poverty in Pakistan," the system should be able to generate the entire blog with the appropriate context in a matter of minutes. As such apps already exist, the new feature that we want to include is that it should be plagiarism-free. The system should constantly generate new data so that no two people have the same thing.

SUSTAINIBILITY GOALS

Ease AI is a web based project that will generate content using the OpenAI gpt3 model in order to save users' time by writing effective blogs, emails, and articles in a few steps within seconds rather than searching the web and then composing it. It would be completely independent of plagiarism, so users would not have to deal with the hassle about being caught with copied material. We are attempting to avoid duplication, so each time a user enters a title for their content, they will receive a different result.

Our project is primarily concerned with two long-term objectives: quality education and decent and economic growth. It is a social enterprise that will eventually generate its own revenue as a private company by increasing website traffic.

Ease.AI is a business editor's dream. It's similar to hiring a ghostwriter, but without the expense and hassle of hiring and managing someone else to write your content.

This project is focused on achieving financial sustainability and organizational sustainability. The financial sustainability of our project is dependent on internal funding sources. This could include revenue-generating activities such as membership fees and website visits.

Organizational long-term survival: As we want to establish a long-lasting website that will still be there in 10 years. This can also be accomplished through internal means such as revenue-generating activities or membership fees.

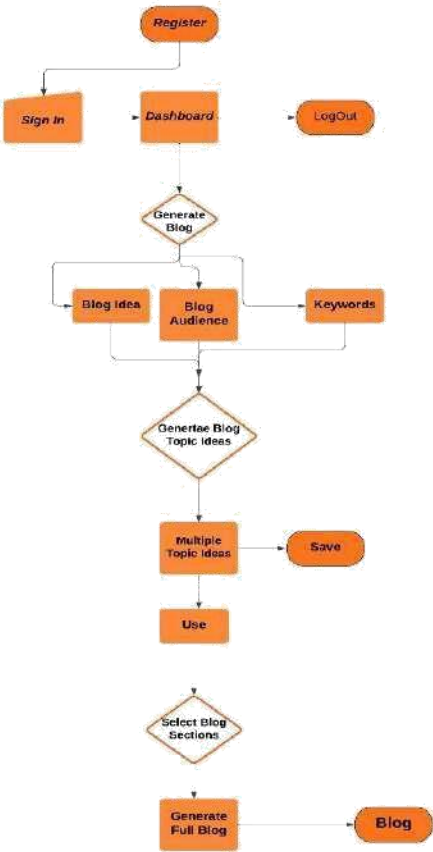
Group Members:

Lead: Suman Manwani (19SW35)

Member: Ramsha Daudpota (19SW50)

STREAM WORKFLOW DIAGRAM

Diagram Key
● No
● Yes



SUPERVISED BY:

Engr. Shafiya Memon

E-VENT: AN APP BASED SOLUTION FOR BOOKING SERVICES FOR EVENTS

ABSTRACT

The current rise of tech services has resulted in many people being entirely dependent on various applications and websites to meet their fundamental necessities. Be it food delivery, health services, medication, room services or anything you can name, has an app for it already.

Contemplating that, this application will be a sigh of relief for people who want to acquire any services required to plan any intimate or big fat event. **E-vent** will be a single platform integrating all the event planners and individual vendors for their service, allowing users to relax and enjoy their most joyous events without having to rush in order to find individual vendors or service providers.

E-vent proffers everything a customer needs for an event, whether it be a venue or banquet, photographers, caterers, florists, decorators, card printers, or the full event planners, all just a click away. Customers can simply register and find each service with ample options to pick from, according to their will and budget and can also contact service providers via the chat feature for negotiation and inquiries. **E-vent** aims to provide the best rated services for events and cater to the needs of consumers as well as providing event-planning startups and freelancers, a platform to get recognized; and the opportunity to top the market.

SUSTAINABLE DEVELOPMENT GOALS:

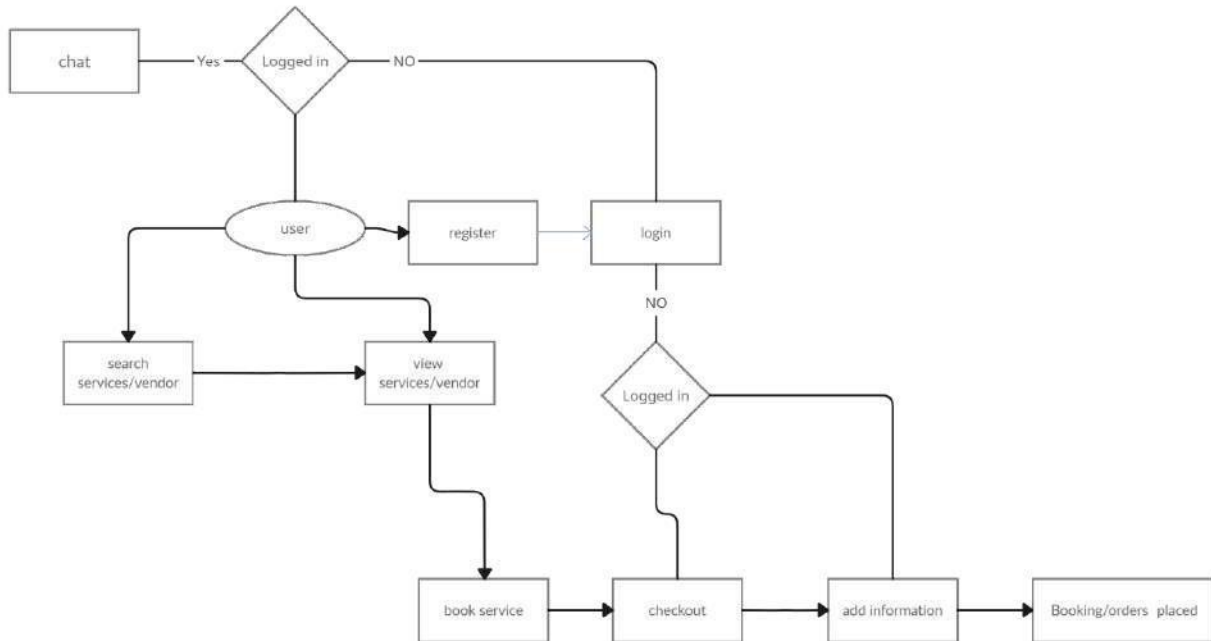
- **Decent work and economic growth:** By providing a platform for vendors and encouraging event planning startups to endorse their services and acquire more customers, E-vent strives to attain economic growth E-vent targets to completely
- **Industrialization, innovation and infrastructure:** innovate the event planning industry and simulate an infrastructure that is more sustainable, provided now most of the population has access to mobile network

GROUP MEMBERS:

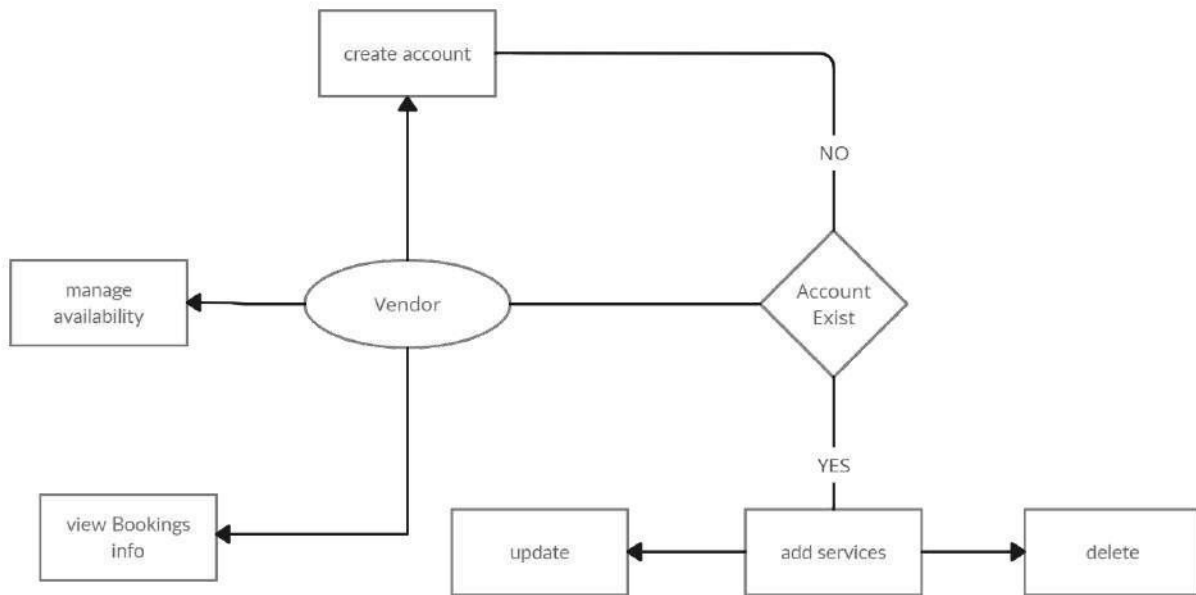
- Aliza Aziz 19SW02 (G.L) alizaanxari08@gmail.com
- Anosha Fatima 19SW04 atimaanosha48@gmail.com

SYSTEM WORKFLOW DIAGRAM:

Customer System Flow:



Vendor System Flow:



SUPERVISED BY:

Engr. Shafiya Qadeer

CO-SUPERVISED BY:

Engr. Mehran Memon

MEDICO. (Online Pharmacy and Healthcare)

ABSTRACT:

Our project aims to bring healthcare closer to people living in rural areas where access to quality medical services and facilities may be limited. Our focus is on providing medication and online consultations with licensed doctors, so that patients in these areas can receive prompt and effective medical care from the comfort of their own homes. The medication will be delivered to their doorstep, eliminating the need for them to travel long distances to obtain it. The online consultation platform will allow patients to communicate directly with a doctor and receive a diagnosis, advice and treatment plan. This will be especially beneficial for individuals who face transportation difficulties or for those who live in remote areas. We believe that this project will help bridge the gap in healthcare access and provide a much-needed solution for rural communities. Our goal is to make healthcare more accessible, affordable, and convenient for everyone, regardless of where they live. By providing quality medical care to those in rural areas, we hope to improve the overall health and well-being of the community. In addition to improving healthcare access, our project also has a strong focus on affordability. Many rural residents often face financial constraints and are unable to afford the cost of travel to see a doctor or to purchase necessary medication. With our project, they will be able to receive the medical care they need without incurring additional expenses. The online consultation platform will be designed to be user-friendly and accessible, so that even those who are not technically savvy can easily use it. Our team will also provide support and assistance to help users navigate the platform and make the most of the services offered.

We understand that healthcare is a critical need, and we are dedicated to providing the best possible service to those in rural areas. Our team consists of experienced healthcare professionals and technology experts who are passionate about improving the quality of life for rural communities. We are committed to working closely with local healthcare providers and organizations to ensure that our project is well-received and meets the needs of the community. We believe that this project has the potential to make a significant impact and bring about positive change for rural communities.

Good Health:

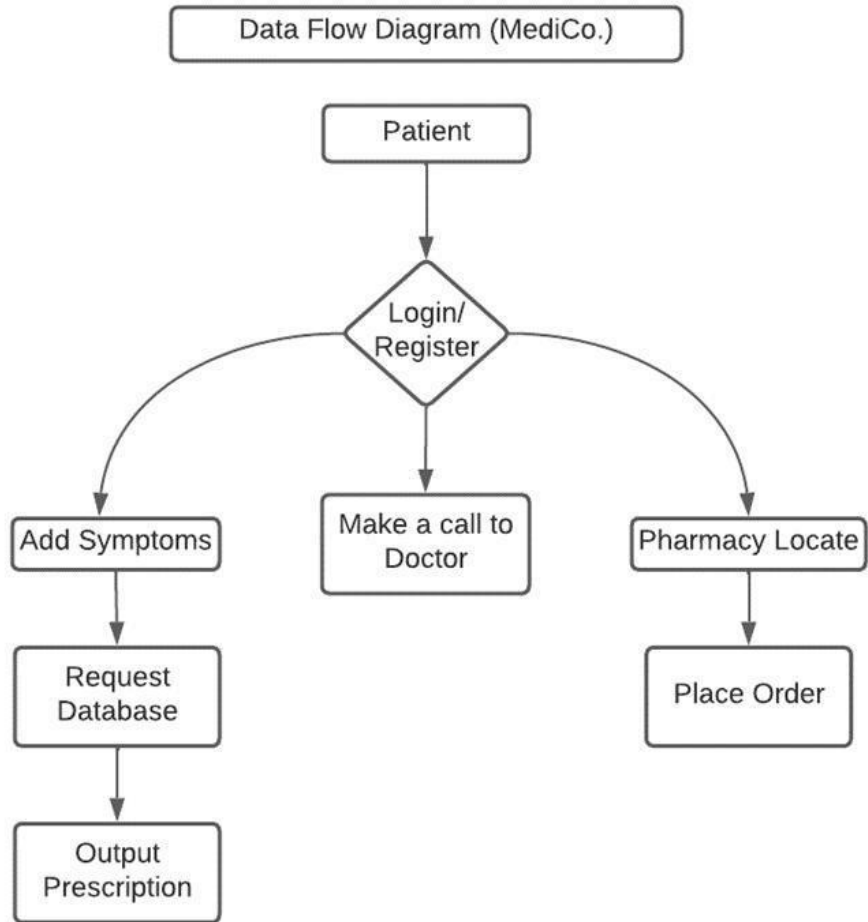
Our project includes the sustainability goal which is to provide good health to the patients. Patients can input their symptoms in the application which would give them near-accurate output about what medicines to intake, also they can consult the doctor whenever they want. In this way, the patient could get a good health.

Team Members:

Lead: Ali Raza Lalani (19SW101)

Member: Sameer Khowaja (19SW49)

Data Flow Diagram:



Supervised by: Ma'am Shafiya Qadeer Memon

HEALTH MONITORING WITH DIET AND FITNESS RECOMMENDATION SYSTEM

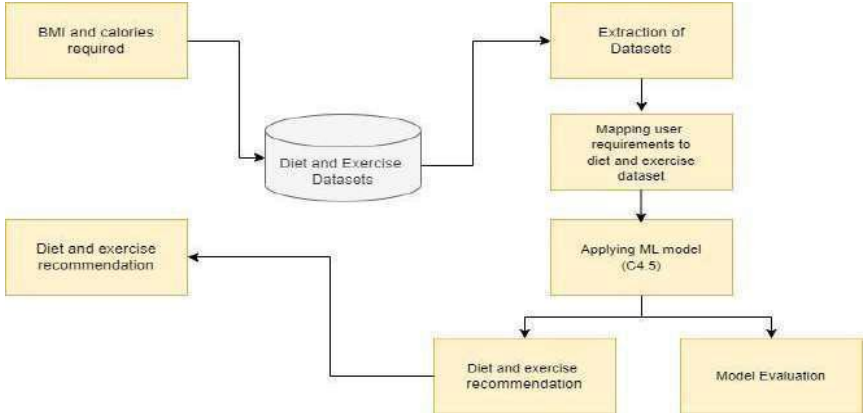
ABSTRACT

As we look around, we notice every other person is being diagnosed with a certain kind of disease this is because nowadays people are too much busy with their hectic routine and busy schedule that they don't follow proper diet or exercise for healthy living. Hence, we propose a system that aims at improving the health of an individual especially those suffering from Diseases such as Diabetes, Blood pressure, or Thyroid through proper diet and fitness. The system consists of two modules one for Health Monitoring and the other for diet and Exercise Recommendation. In the Health Monitoring module, the system would suggest follow-up sessions until the reports come normal. For Diet and Fitness Recommendation, the algorithm that is used is a Decision tree for classification. To be precise, C4.5 is used to give recommendations of diet and exercise. A C4.5 Decision tree will help recommend and determine if a particular food item and exercise should be given to a particular individual or not with respect to our customized datasets. It is a personalized healthcare recommendation system that consists of diet and exercise mainly considering user's profile and accordingly the food items are suggested. A user interacts with the system by adding body details like height, weight, age, gender, lifestyle, activity level. User will provide details to calculate BMI (Body Mass Index) and Calories Requirement Calculation. The food item varies for fitness goals. But the purpose of our diet and fitness recommendation is to make sure that it is adaptable and practical to users. The work presented lies in the field of Machine Learning. We are designing a system which recommends suitable and updated diet and exercise plan to individuals based on the credentials like height, weight, age, activity level, using the Machine Learning technique i.e. C4.5 decision tree algorithm. C4.5 is a predictive model and can be used for recommendation. Our system aims at helping people to acquire a healthy lifestyle. This brings WHO 'Good Health' (third) development goal into consideration which focuses ensuring healthy lives and promote well-being for all at all ages.

GROUP MEMBERS:

Arsam Fayyaz(G.L)	19SW46	19sw46@students.muet.edu.pk
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WORKFLOW DIAGRAM:



SUPERVISED BY:

Engr. Memoona Sami

CO-SUPERVISED BY:

Pir Hamid Mir

E-Mech

ABSTRACT

Basically, our idea is to develop a cross platform application which would allow users to share their location and all “in close proximity” mechanics would appear on our application. Just in case, if any user don't have Internet facility, then our app will also provide them with a helpline number through which they can contact our team and send us their location, so that we can help our customers in locating the nearby service provider mechanics, then our system will send a request to the mechanics in close proximity for reaching out to customer and help them. The tools and technologies used in this project will be **Flutter** for a cross platform app and along with that, either **Firebase** or **NoSql** database. After installing this application, you will be provided with 2 possible choices, “**REGISTER AS A CUSTOMER**” or “**REGISTER AS A SERVICE PROVIDER**”. After that, our app will have 3 types of services “**MECHANICS**”, “**PUNCTURE MENDING**” or “**PETROL REFILLING**” but our main focus for initial stage is only the “Mechanics” service. It would be developed on same architecture of Careem, Uber and other similar applications like this.

ADDED FEATURES/MODIFICATIONS:

The features that we have added are safety measures added to ensure the safety of our clients. We will be making a dummy where if a client does not have internet access, then the client must call our helpline number and after that, their location can easily be fetched from the police tracking system which is integrated. Another safety feature added is that our customer's location and other details will be sent to police which will be done automatically in case if anything goes wrong. Other features added are: if a user has enabled their location service, so their live location can be traced so in case if they stop somewhere for let's say, more than 20 to 30 mins, automatically we will start to investigate just for their safety by sending them notifications or sending them emails just like Foodpanda does. These are our initial modification ideas, many more features might get added once we move on to the next phase in the development process.

SUSTAINABLE DEVELOPMENT GOALS:

- 1. More jobs and economic growth:** Our application connects our customers with the service providers that are automotive mechanics and other workers, which will provide opportunities to those service providers who don't have many customers or who don't earn much, we will be helping them to earn more money so that can take care of their family. We

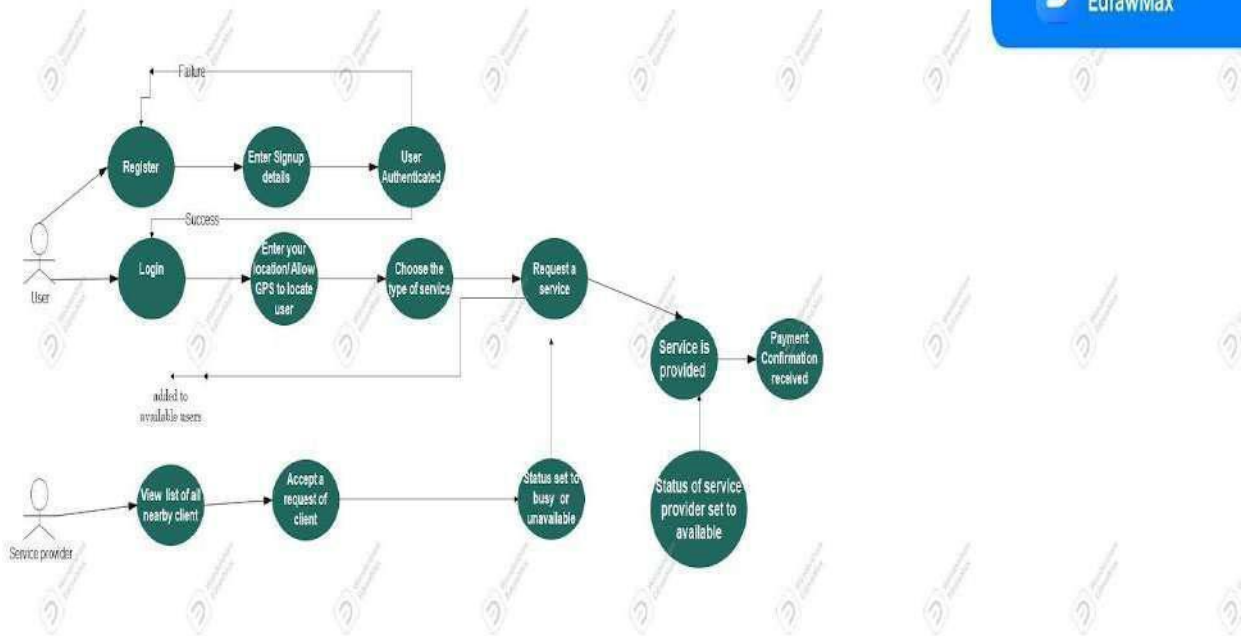
will also be hiring professionals to handle our services and manage the business, which will result in more jobs and more economic growth.

- 2. Peace and Justice:** Our main motive for creating this application is to maximize the security of people and promote peace and we will be achieving this goal by making sure people get help almost immediately in case of an emergency vehicle breakdown.

GROUP MEMBERS:

- Badal Nanik Ram (Leader). 19SW22
- Chaudhary Faisal Khalil(Member). 19SW109

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY: Ma'am Memoona

ResCommunity:

A mobile app for local community issues

ABSTRACT

Our community app is designed to bring people together and facilitate connection and support within local neighborhoods. Through a user-friendly interface, users can post and discussion forums specific to their community. It allows users to interact with each other, exchange information, and participate in community events and activities. The app features a newsfeed where users can post updates, photos, and videos, as well as a messaging system for private communication and profile for users which will be restricted. It also includes a directory of local businesses and a calendar of events, making it a useful resource for discovering and participating in activities within the community. Overall, a community mobile app helps to build a sense of connection and belonging within a community, fostering a sense of belonging and engagement.

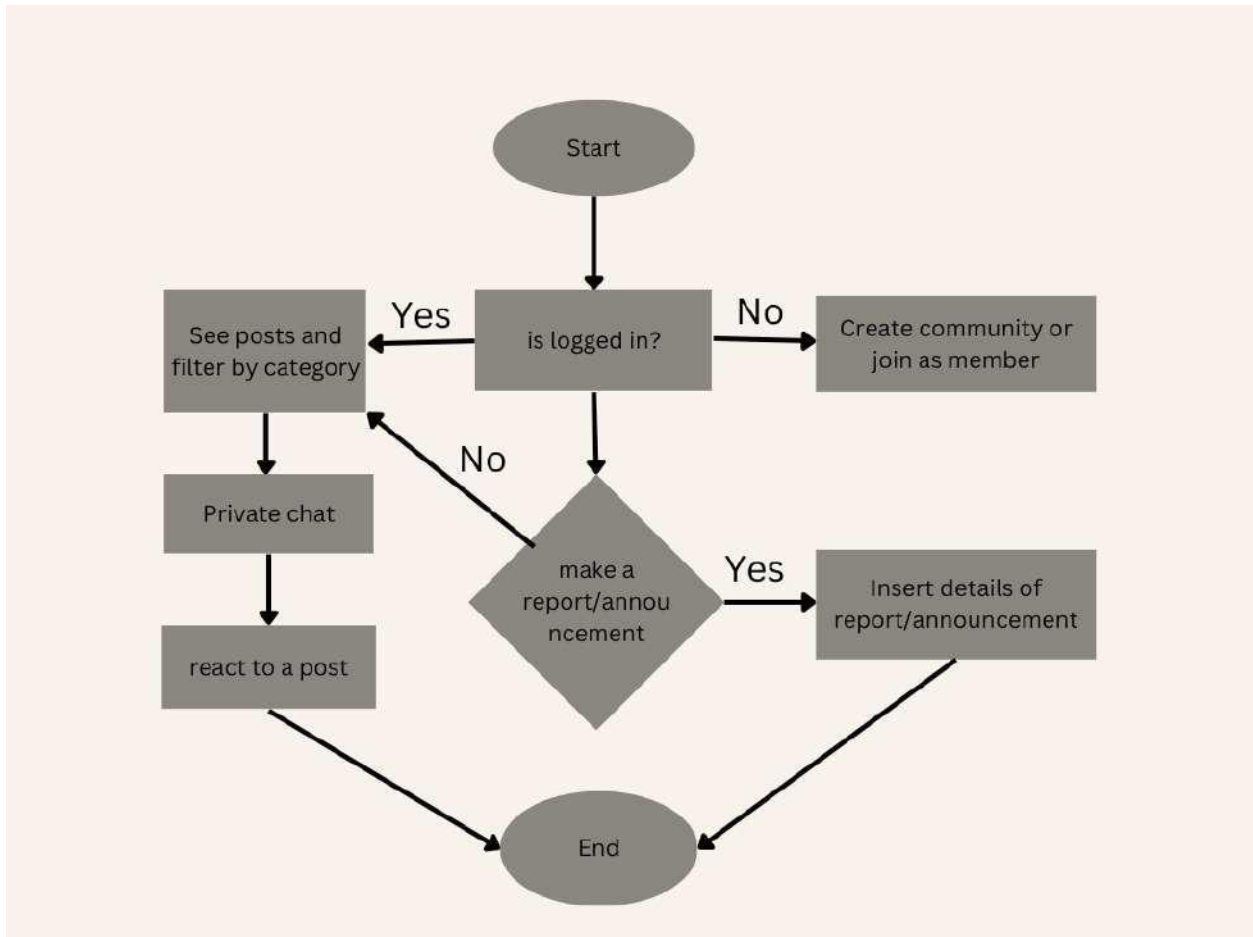
SUSTAINABLE DEVELOPMENT GOALS:

Peace and justice are essential to the well-being of human societies. The goal of our project is to make peace and justice in the society by arising the issue/event/report/news alert in the society and community. Which will be solved by the secretary and the society members. Which makes the society safe for everyone.

GROUP MEMBERS:

- | | | |
|---------------------|--------------|------------------------------|
| ● Amrat | 19SW43 (G.L) | 19sw43@students.muet.edu.pk |
| ● Ibadullah Shahzad | 19SW119 | 19sw119@students.muet.edu.pk |

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Engr: Memoona Sami

RealEstate Online

ABSTRACT:

This project is based on economic growth. It is mainly based on buying and selling of properties which helps a lot in economy and economic growth and with the help of internet it is really efficient and useful. This Project Real Estate Online focuses on the cross platform mobile application which provides the whole experience of Real Estate as an online application without any physical interaction required. It can be used as a renting app or a property can be purchased. The programming languages that are used in this project are Dart, a Framework of Flutter, The Google Fire Store.

This application provides 2 interfaces for buyers and sellers. For Buyers/Tenants, the main goal is to shortlist the apartments/homes according to user needs with the information users provide. Google maps will be used to find the best apartment according to their budget, Area, Services, Needs of users. It will use the Intensity colors in Google maps to determine the price range of properties available for rent/sale on the map (red being the most expensive and green being the ideal price range for the budget). Another Searching method is to find the Properties within a certain area. For suppose a 1 km radius it will show all the properties in the radius and give the list of available properties to show and choose from with all the details available.

It also provides features such as online chat box for the communication of buyers and sellers, online rental agreement, online payment methods, an option to Bargain/Counter offers.

For Sellers Interface, a seller can provide details about his property such as Dimensions, Price of the property (can be varied according to the bargaining feature), Location and other minor or major details.

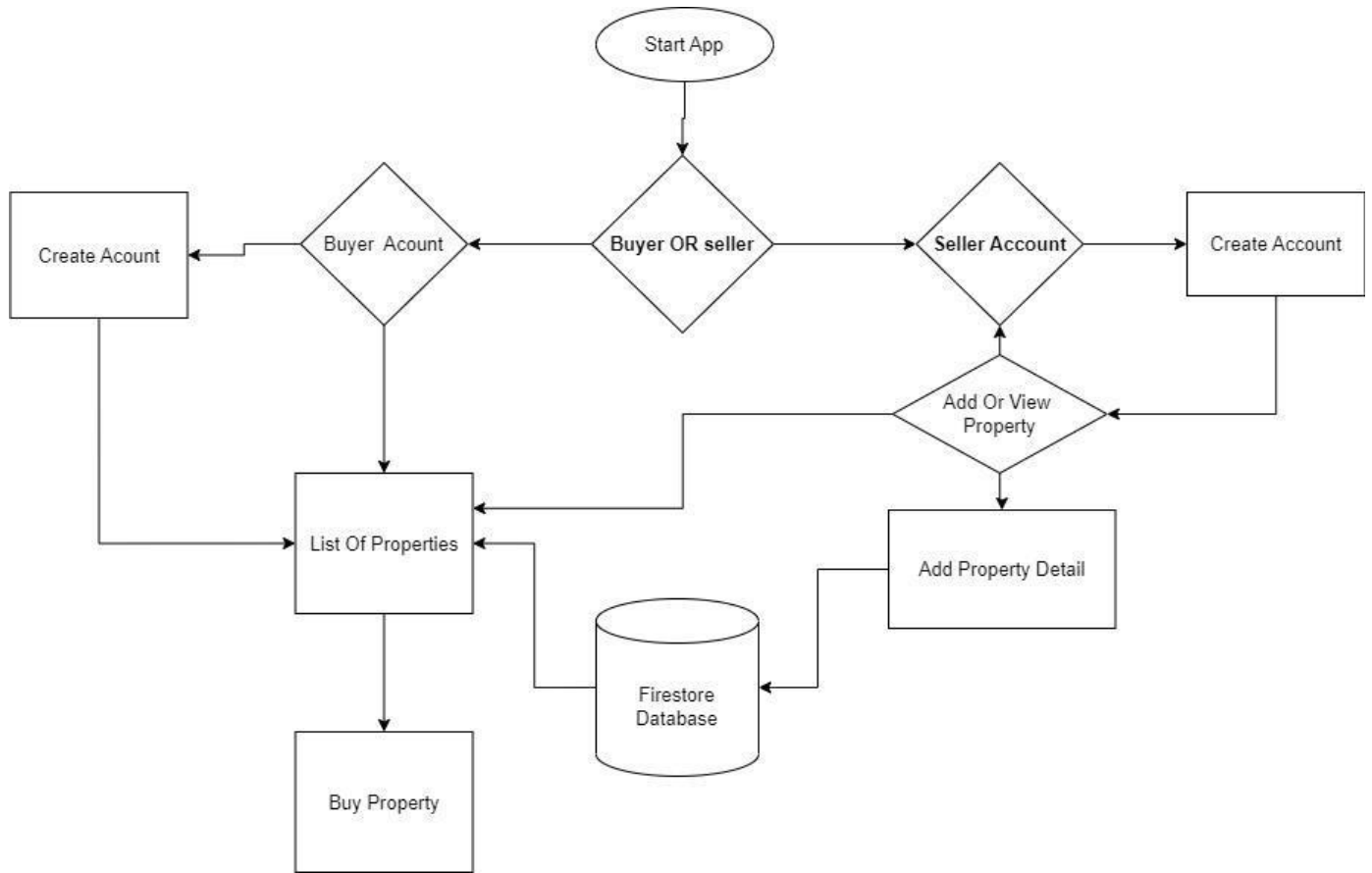
Another feature for renting an apartment is that after the dealing is done the application takes online payments of the rent, complains about the apartment, any repairing requests.

Group Members:

Lead: Syed Sahir Shah (19SW74)

Member: Awais Memon (19SW75)

WorkFlow Diagram



Supervisor :

Mr. Junaid Baloch

Co Supervisor :

Miss Pirah Junaid Memon

Customizable And Algorithmic Forex Trading Bot

ABSTRACT

As of 2021, the forex market is 5.3 trillion-dollar industry and everyone wants to get their share but is not as easy as it is portrayed. The most common mistake that novice traders are cursed with is their emotion when their own money is on the stake, and they make desperate decisions which turn out to be bad ones most of the time and their whole account is liquidated in matter of seconds and they still don't understand.

With the use of Machine learning and algorithmic models our project aims to mitigate this problem by taking traders' eyes from the screen and taking human emotion out of the equation. With our project every trader will have access to every trading opportunity that comes, and they won't have to do anything but they must convert their strategy into a model so that they may get mental satisfaction that the trade is being done using their logic and not any others so they may trust the system to trade for them.

This project is going to give novice traders a fighting chance against the market because human mind cannot comprehend this ever-changing market price action and this bot is going to account for all the variables that are important to be accounted for. Our project not only accounts for the technical variable but also the fundamental variable like world news and GDPs of countries and much more which gives prediction stretching months in advance.

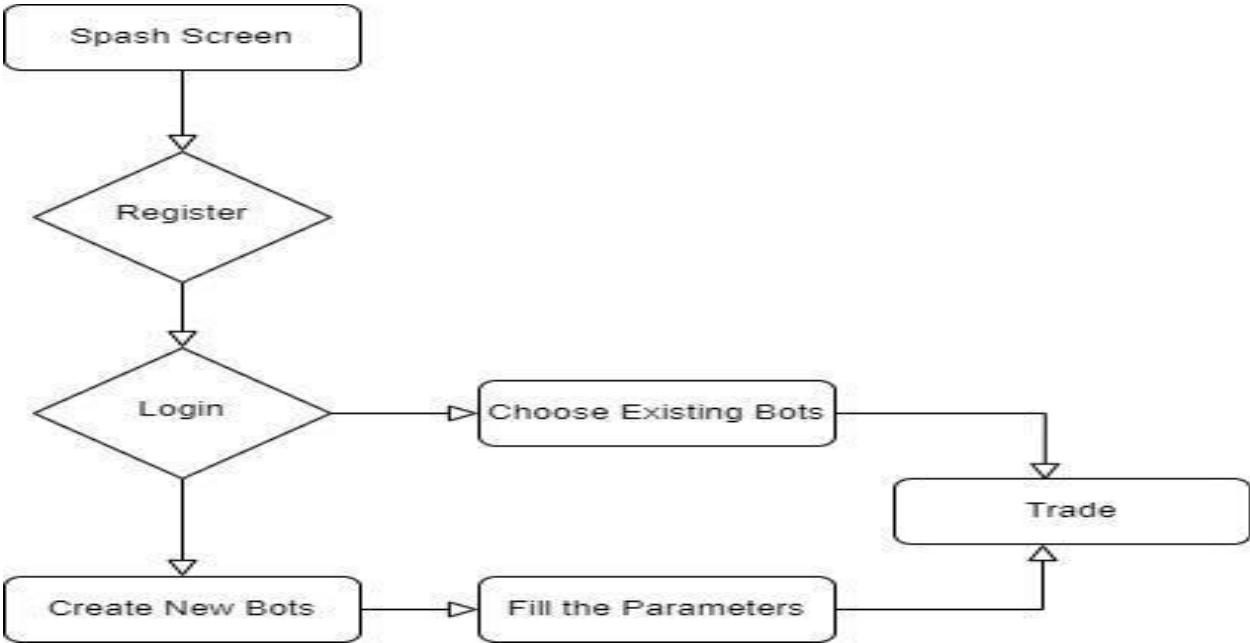
Forex trading is not a small task. It is a cognitively intensive task and a high stress environment which has made many traders lose their cognitive function to some degree due to this high stress and we are trying to give peace back to forex traders. What is the point of earning that much money and not being able to enjoy it with others.

Technologies: Python, React Native, Cloud, Firebase, Machine Learning, Neural Networks.

GROUP MEMBERS:

- Yaseen Ali (GL) 19SW14 19sw14@students.muet.edu.pk
- Ahsan Illahi 19SW107 19sw107@students.muet.edu.pk

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

- Engr: Junaid Baloch

A Web Based System Application for Documents Dispatch (Inward & Outward) management in the Directorate of Finance, MUET, Jamshoro

ABSTRACT:

This project is based on development of new automated system for documents dispatch (inward and outward) management. This area of study comes under the 8th Goal which is “Decent Work and Economic Growth” from the 17 Goals of Sustainable Development Goals (SDGs) introduced by the United Nation’s Department of Economics and Social Affairs.. During Internship it has been observed that operational activities of the Directorate of Finance of MUET Jamshoro like book-keeping and accounting is automated which has been made by an already appointed software developer which is working since 2015, we have thoroughly worked on that software during the period of internship and observed that their system is quite enough and fulfilling the almost all standardized requirements of the department for recording the financial transactions, summarizing the data and making various financial statements and reports for submitting to the all stake holders like Higher Education Commission (HEC) Islamabad, Sindh Higher Education Commission (SHEC), Internal and External Auditors, Federal Board of Revenue (FBR) / Sindh Revenue Board (SRB) etc. Recently, the Directorate Finance of MUET Jamshoro has also introduced the online student’s fee collection system. However, one area where the most of complaints of departments, sections, faculty members, employees and students were observed that is documents or files Inward and Outward system in the directorate, due to manual entries in the books / registers which is not only time taking but this system is also not in a position to provide timely and valid information regarding to find out the various nature of approvals, bills and claims of internal and external customers.

The object of this project is to resolve the above mentioned problem by developing a new computerized system on Python Program Language. At the beginning a questionnaire will be designed to collect the data regarding to get feedback from staff of Directorate of Finance as well as some teaching and administrative departments to know their satisfaction level on existing Inward and Outward system. The designed questionnaire will be contained in following three parts.

Part-A: In this part questions will be asked from the employees of Directorate of Finance, as well as some teaching and administrative departments MUET Jamshoro regarding the demographic information of the employees like: Name, designation, age, gender, religion, marital status, level of education etc.

Part-B: In this part questions will be asked from the employees of Directorate of Finance, MUET Jamshoro as well as some teaching and administrative departments regarding to know their satisfaction level on existing Inward and Outward system.

Part-C: In this part questions will be asked from the employees of Directorate of Finance, MUET Jamshoro regarding to know which kind of software they desire for Inward and Outward system.

On the basis of feedback of the employees on the existing working system a web based application/software for documents inward and outward management of the Directorate of Finance MUET Jamshoro will be made to resolve the problem. After development of software a pilot testing will be made by installing system in the Directorate of Finance, MUET Jamshoro, if they required any changes in the features of the software the same will be updated, however, after satisfaction of developers and Directorate of Finance final version will be handed-over.

The expected outcome of this project will be to improve the working efficiency of the Directorate of Finance and after successfully implementation the same application can be used in the all Offices and Departments of the MUET Jamshoro.

TECHONOLOGIES

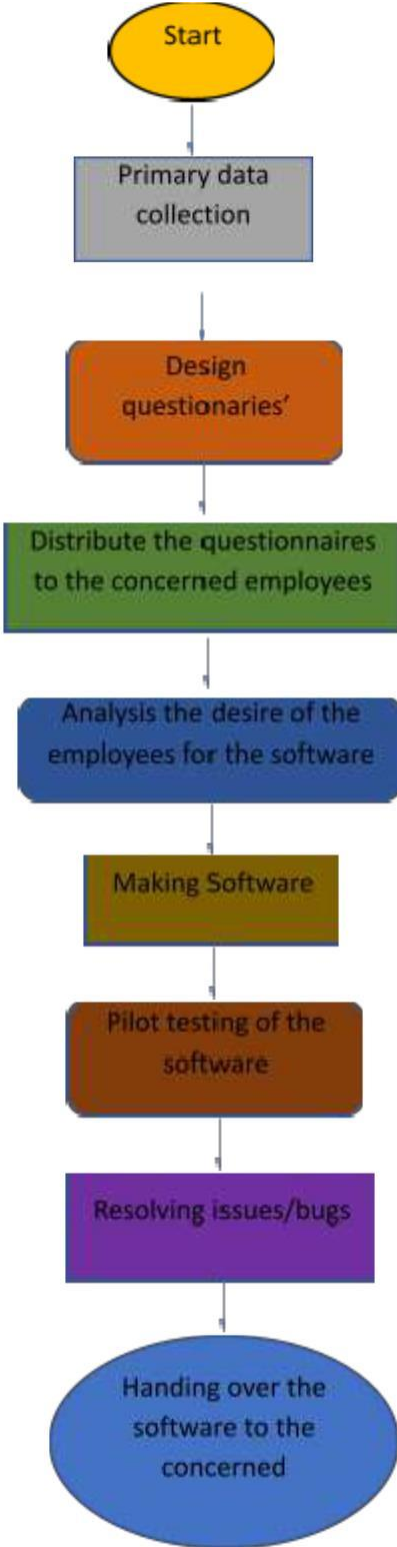
PYTHON, CSS, HTML

Submitted by:

Maham Ansari(G.L) Roll No.19-SW-76

Preety Roll No.19-SW-132

Workflow chart



Supervisor:

Engr. Muhammad Junaid Baloch,
Assistant Professor, Software Engineering Department, MUET, Jamshoro

Automatic Braking System using Machine Learning

Abstract:

Automatic braking may be a safety technology that automatically activates the vehicle's brake, to the point, when necessary. Systems can vary from pre-charging brakes to slowing the vehicle to reduce damage. Nowadays, some advanced and updated systems completely take over and stop the vehicle before a collision happens. An automatic braking system is an important and crucial part of safe technology for automobiles, which allows the vehicle to automatically slow down, or in emergency case; completely stop, prior to any collision with another vehicle, pedestrian, or an obstacle of some sort.

This can be achieved by either adding an ultrasonic wave emitter on the front side of the automobile, or a more technical and autonomous way can be applied; machine learning. Ultrasonic wave emitters can be a little less accurate because of it being incapable of determining whether the obstacle is an ongoing vehicle or a tree or a normal human being, thus an AI model is predicted to be more accurate in terms of classification and braking.

By adding a camera on the front of the vehicle, we can get a live stream of the front obstacles. Using OpenCV and deep learning, we can easily detect any kind of obstacle, whether it is a human, a car/bike or anything. That data is fed to the microcontroller attached, which in return applies the necessary action based on the output of the model. For the sake of accuracy, a small wave emitter can be added to measure the distance between the automobile and the obstacle.

Sustainable Development Goal: Goal 3: Good Health and Well-being (Road Safety Considerations)

Keywords: ADAS, Obstacle Detection, OpenCV, Deep Learning,

Microcontroller.

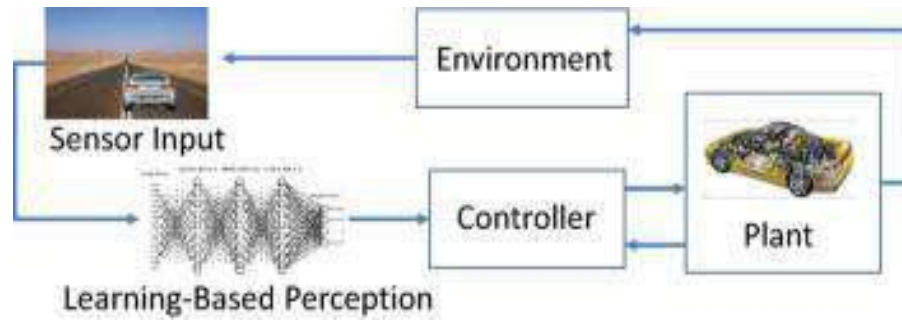
Team Members:

Lead: Mehtab (19SW27)

Member: Kashif Hussain (19SW115)

Workflow Diagram:

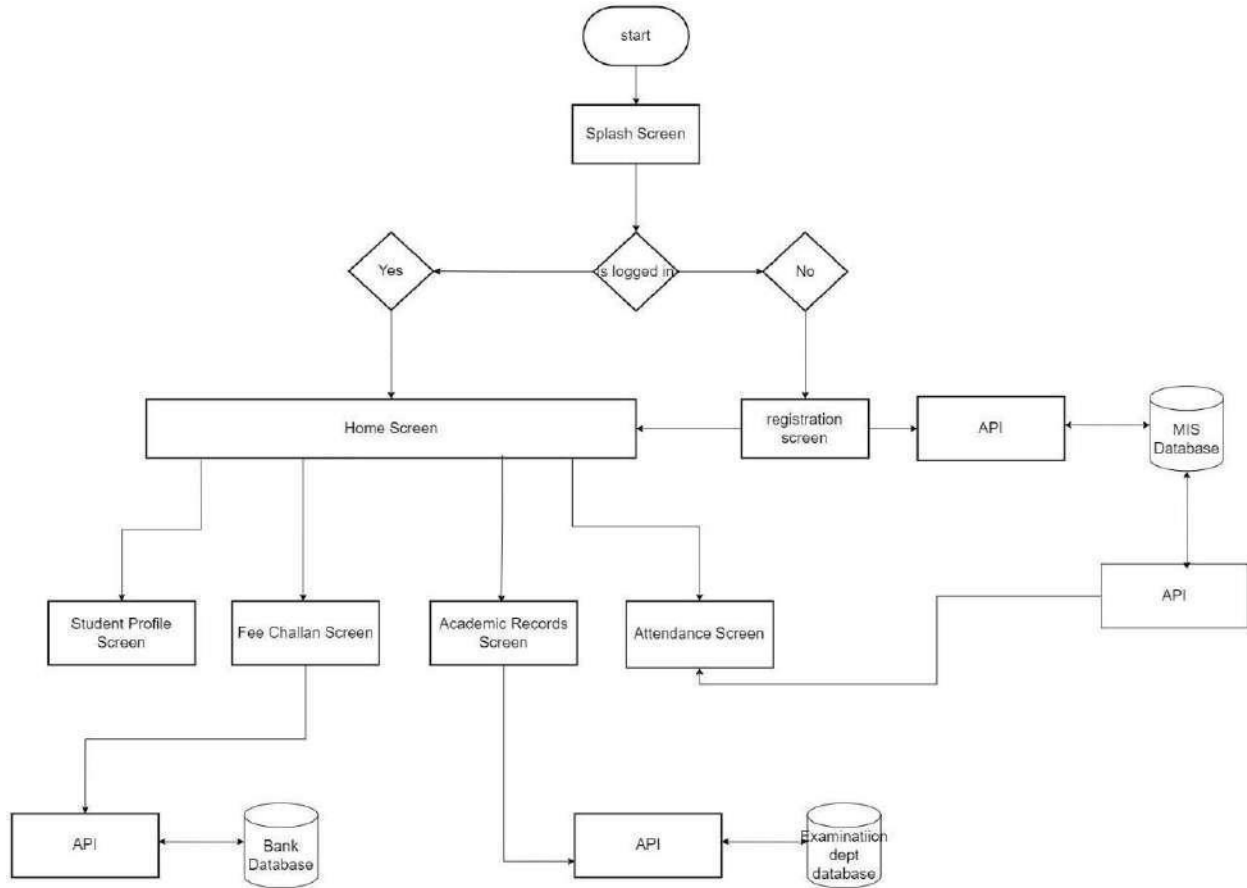
1. Camera data is processed using OpenCV
2. Data is fed as input to the model
3. Model provides output as the obstacle if present otherwise nothing.
4. That output is fed to microcontroller (the vehicle) to act accordingly.



Supervisor: Sir Zubair Sangi

Co-supervisor: Sir Parkash Sargani

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

- Sir Zubair Sangi

TUTOR APP WITH LEARNING MANAGEMENT SYSTEM

ABSTRACT

We live in a world, where almost everything has been made easier and smoother through technology and the advent of AI allows us to find things personalized very easily. Education is being made more and more easy due to the advent of more and more learning platforms.

The practice of hiring private tutors has been in existence in Pakistan for a long time but in recent times it has grown widely. But finding suitable tutors relevant to your subjects in sufficient time can be troubling and studying in an institution doesn't grant you the same attention to your studies as an individual as they tend to focus on a group of students at a time. For tutors, it can be time consuming to manage and monitor their students progress, or give them assignments and quizzes quickly. And often tutors will have too many students because of which they might not be able to create a personalized learning environment for their every student. For this we have proposed a mobile application platform that allows students to find a tutor close to their location. The platform also allows said tutors to monitor a students progress and manage content, quizzes for his classes. The platform will have a rating and recommendation system which will allow students to find teachers based on their preferred learning styles and related subjects/fields. we are also creating tabs for uploading assignments and taking Quizzes so a student can easily upload their assignment and give quizzes. we also add an authentication system for the attendance of students. so we know that students taking classes are not. and students join the class through online video conference one teacher to one student at a time and the teacher manages student progress related to their score in tests and grade.

Sustainability Goals

1. Quality Education:

Our app provides an alternate way of getting and spreading education in a more fluent and easy manner.

2. Good jobs and Economic growth:

This app also provides a way of earning for those who qualified people that are unemployed. It is great opportunity for graduates or even students to earn money through online tutoring.

Technologies:

Flutter, Firebase, Tensorflow

Group Members:

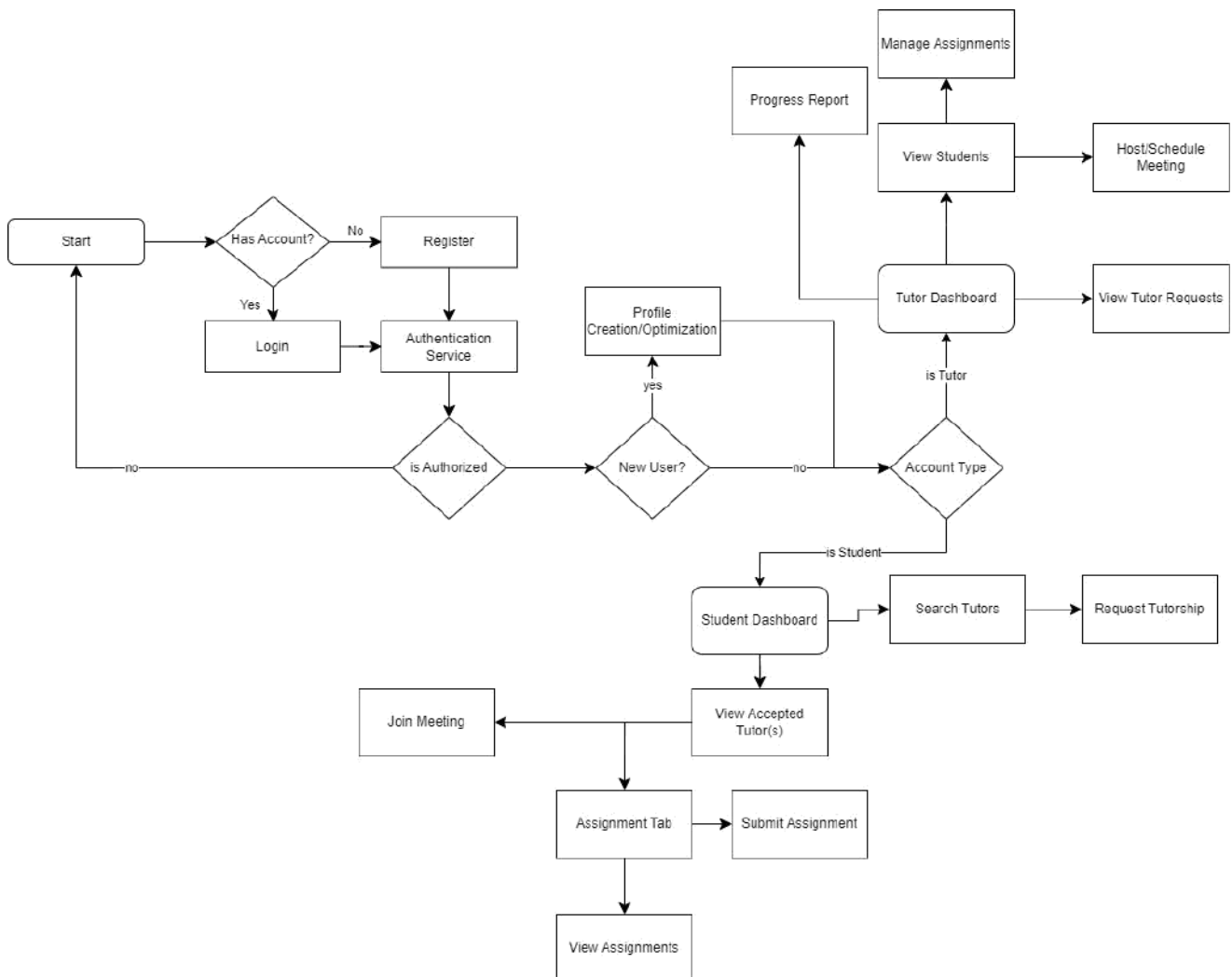
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Amrat Kumar 19SW112

19sw112@students.muett.edu.pk

General App Workflow



Supervised by:

Mr. Zubair A. Sangi

Co-Supervisor:

Mr. Shahnawaz Bhurt

Consultant:

Systems LTD

FitMess

ABSTRACT:

We have heard the statement "Health is Wealth" over and over again, but it was the pandemic that truly showed us the true essence of that statement. Being healthy is a crucial factor for human beings to survive, but not many people know how to take initiatives to be healthier versions of themselves, especially in the region of South Asia, mainly because of the lack of awareness. Therefore, in order to help people become healthier, we present to you FITMESS, an all-in-one mobile application that will help the user make healthier decisions and adopt and adhere to healthier habits.

Physical Health can be mainly determined by two factors: food and exercise. A person's 80% of health depends on his food intake, while the rest of his health is dependent on his exercise habits and other factors. Through Fitness, the user can count his TDEE (Total Daily Energy Expenditure) and decide to cut, bulk, or maintain his weight. The user can then log his daily food and water intake and exercise and check whether he is meeting his daily caloric goals or not. Whatever the user's goal is, the app will help in achieving that by maintaining a newsfeed that consists of articles, workouts, recipes, and other related stuff in accordance with the user's goals.

This app, Fitness, is specially designed for the South Asian region. There are no such applications available that allow South Asian audiences to log the food they eat daily. The options for desi cuisine are very limited and not nearly as accurate as they should be in other international food logging apps. Which is why we will be creating our own dataset, which will help our South Asian audience log food more conveniently.

To sum everything up, Fitness is an all-in-one health and fitness app that will help people make better food and exercise choices by educating them about their nutritional and caloric needs and also by providing them with a platform efficient enough to adopt a healthier lifestyle and maintain it.

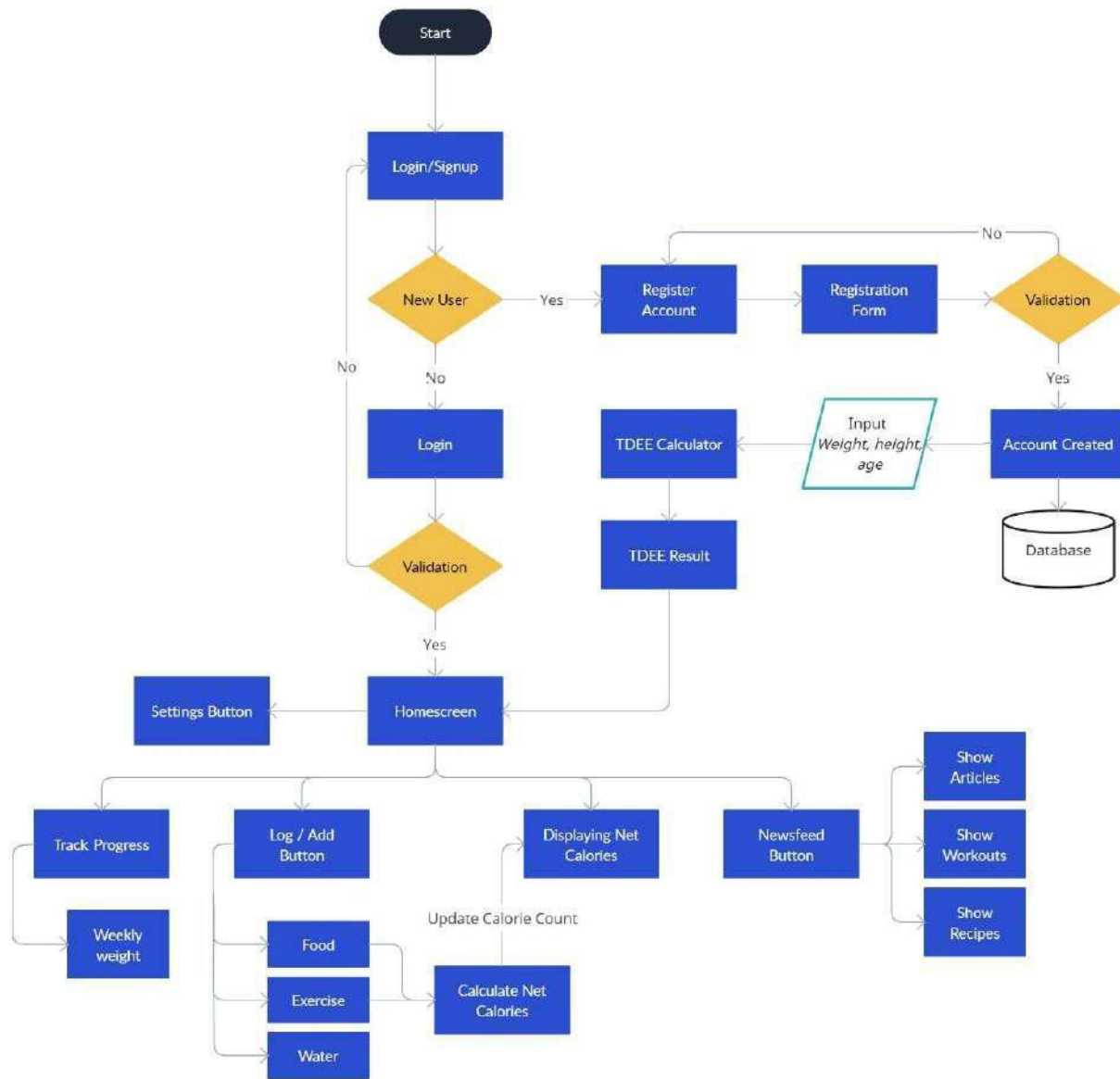
Group Members:

- Palwasha Imran 19SW06 palwasha.khan.2001@gmail.com
- Marya Baloch 19SW20 maryabaloch7@gmail.com

Sustainability Goals:

Fitness conforms with one of the seventeen sustainable development goals, i.e. Good health and well being. Our app promotes prioritizing health and overall well being of an individual by spreading awareness and also by providing the means to stay on track with one's health goals.

System Workflow Diagram:



Supervised by:

Dr. Anoud Abdullah

Co-Supervised by:

Engr. Owais Raza

Emotic-E

ABSTRACT

The growth in modern technology made way for the introduction of e-learning, to go side by side with physical learning or even replace it. E-learning systems offer new opportunities for students to reinforce academic development and to improve accessibility to education. E-learning also enables the dissemination of valuable academic information to all users regardless of where they are situated. However, one of the challenges faced by e-learning systems is the lack of emotion in students' learning process, and the students' learning effect due to the separation of time and space between students and teachers. The proposed solution is the implementation of emotion recognition model in e-learning, that builds an intelligent e-learning system called Emotic-E based on the model. The model uses Convolutional Neural Network (CNN) to identify and analyze the students' facial images, and to finally classify the emotion.

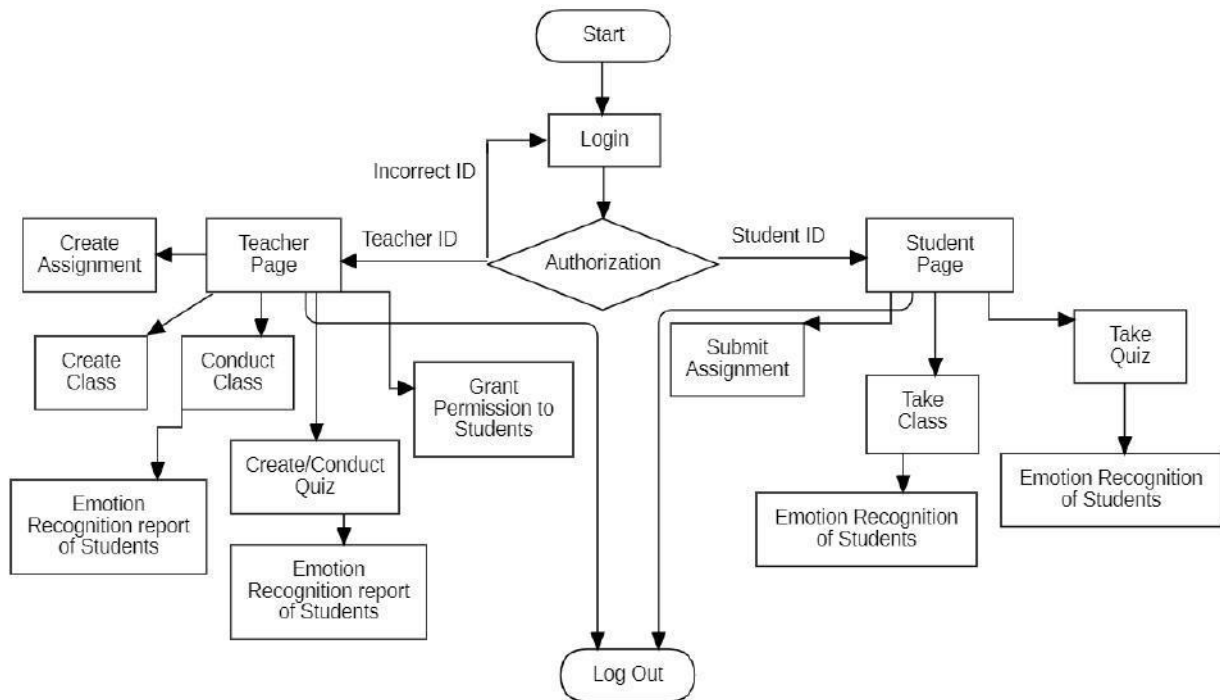
SUSTAINABLE DEVELOPMENT GOALS:

Emotic-E will accomplish 3 Sustainability Development Goals i.e. No Poverty, Quality Education, and Industry, innovation and infrastructure. Our Project will achieve No Poverty by providing jobs and opportunities to people who are good at teaching but do not have resources to reach any school for teaching. Quality Education will also be provided by our project as Emotic-E will try to improve the quality of education using emotional recognition of students. Industry, innovation and infrastructure will also be attained by our project as we will increase job opportunities and decrease incoming poverty by growing students with skills so they can earn and create job opportunities for highly qualified teachers.

GROUP MEMBERS:

- Abu Zar Bhatti 19SW36 abuzarmuhammad123@gmail.com
- Shahzad Khan. 19SW118 shahzadkhanali6@gmail.com

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

- Dr. Anoud Abdullah

CO-SUPERVISED BY:

- Sir Owais Raza

DressSew

ABSTRACT:

Most people prefer a specific tailor to sew their dresses. The problem is that to manage customer orders (measurements, advance deposited, etc.) the tailor has to do the paperwork because there's no specific platform that can help a tailor to manage this data and can help a customer to know the status of his dress remotely. In short, there's no specific platform that connects both the tailor and the customer. So, The DressSew is an application that reduces the communication gap b/w a tailor and a customer by connecting them via app. It provides a platform where a tailor can manage the dresses he has to sew, to communicate with his all customers using this single platform and a customer can hire a tailor to sew his dress and can check status of his dress. A tailor can be assessed with reviews/previous work and can be categorized as gents/ladies or both dress tailor. A digital store will be there where customers/tailors can buy good variety of clothes and other garments like laces, buttons etc. The data (measurements) used in the application can be collected physically as well as online within application. Although it's easy to say but there will be some difficulties while data collection like the customer can't come at shop then an agent can be sent by tailor to capture measurement details or in online option, we can collect it from customer while registration.

DressSew will be helpful for tailors to manage orders, and it would be helpful to the customers in a way that they can check the status of their dress on their phone, so they don't need to make rounds of tailor's shop again and again to confirm if their dress is ready. Also, if they want a modification in an already made dress, they can contact their preferred tailor within app to do their job.

Sustainability Goals: DressSew conforms to the Sustainable Goal 9(Industry, Innovation, and Infrastructure) as it is digitalizing the tailoring work. With the help of this app, customers can easily know availability of desired tailor which ultimately will save their time. Moreover, tailors can manage orders online, which will reduce their manual work and, they can publish offers and discounts to attract customers.

TECHNOLOGIES: Flutter, Firebase.

GROUP MEMBERS:

- ❖ Zohaib Hassan 19SW42 zohaibsoomro006@gmail.com
- ❖ Syed Ahmed Shah 19SW44 ali.sain334@gmail.com

SYSTEM WORKFLOW DIAGRAM:

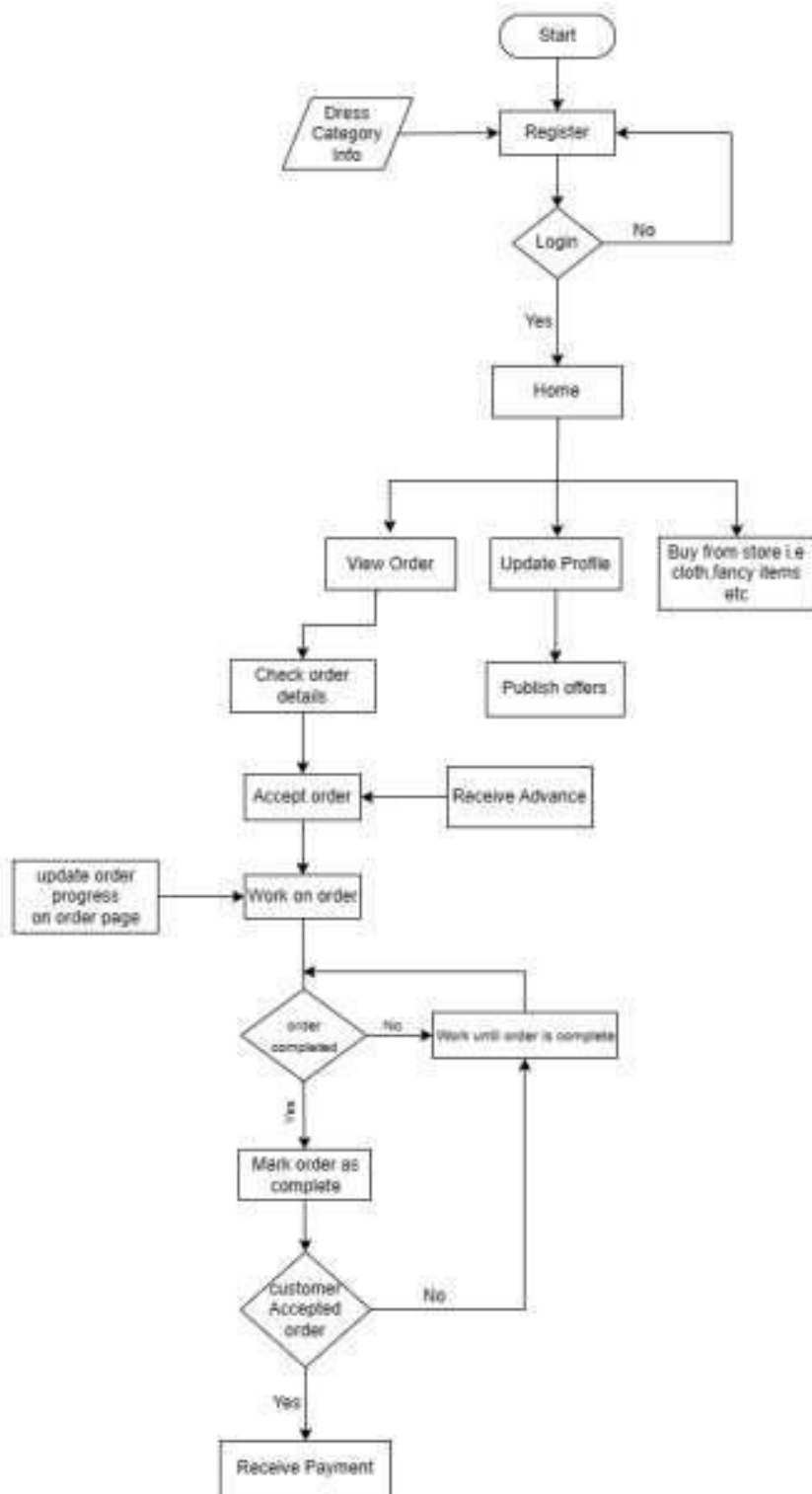


Figure 1. DressSew app Tailor Workflow Diagram.

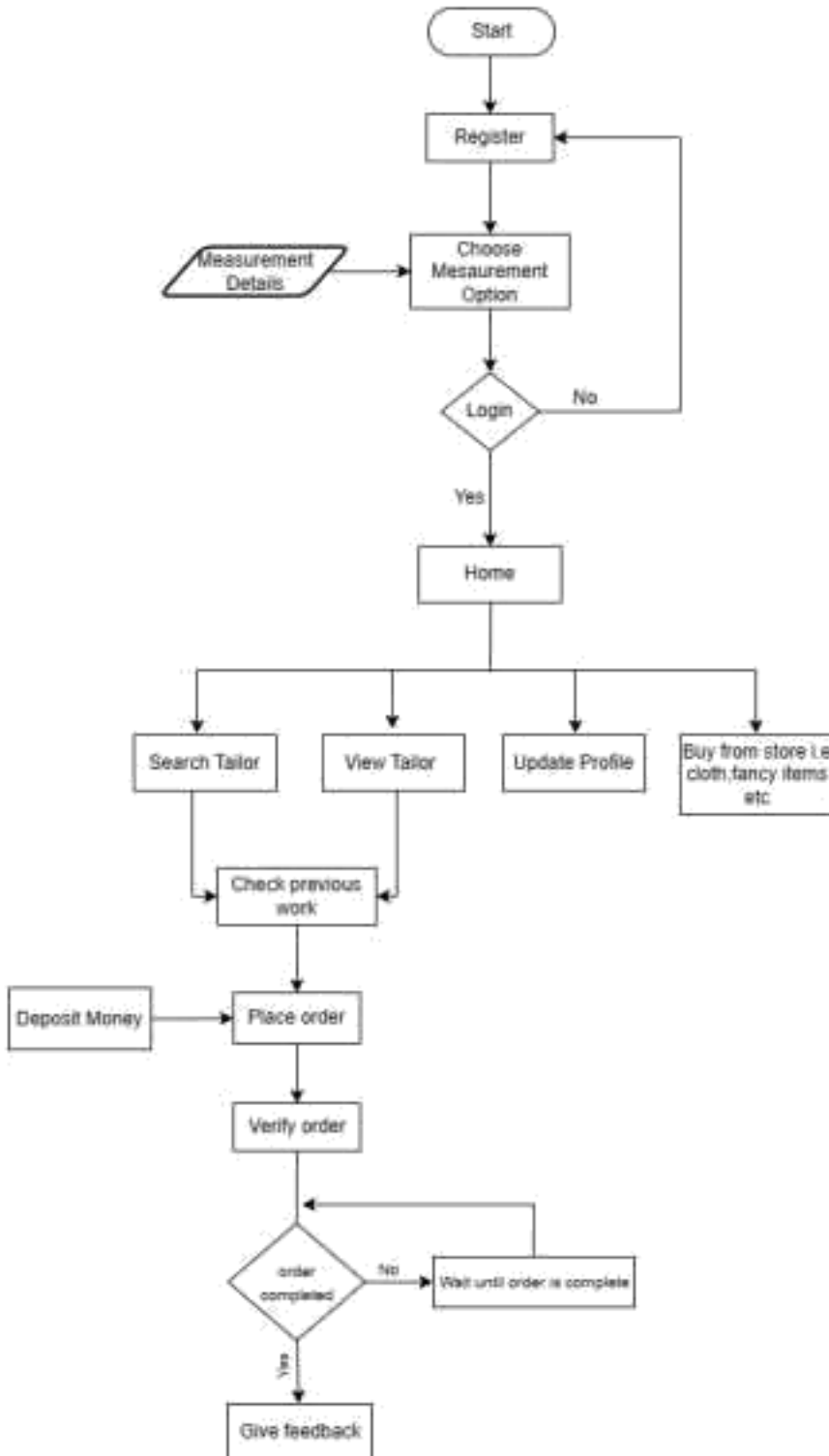


Figure 1. DressSew app Customer Workflow Diagram.

SUPERVISED BY:

❖ Dr. Anoud Abdullah

Blockchain-based Loan Management System with Smart Contracts Abstract

Abstract:

Our Loan Management System based on blockchain with smart contract securely shares the details about transactions by organizing the network, this action prevents fraud in the system.

In this system, the admin can log in/log out from the system. They have the authority to view, approve, block and delete the customers and manage their requests for a loan. The list of all the customers can be viewed by the admin those who have requested approval from the admin and a contract will be created. The loan amount can also be transferred to the customer.

The system will list down all the customers who have successfully received loans and their payoff details to the admin. All the transactions done by the customers can be viewed by them. Dashboard contains all the information about cirrus core and wallet details of customers and the admin and they can view all the feedback of all the customers.

The customer will need to register to log in to the system to apply for a loan. The system will display the reminder of the pay-off date. The customer can request a loan by sharing all their details such as the reason for a loan, amount, duration of pay-off, personnel and income details. The contract details and the transaction loan amount details can be viewed by the customers.

All the transaction history can be viewed and the customer can share their feedback with the admin. In this project, the front-end involves Html, CSS, and JavaScript(React js) and the back-end involves blockchain smart contracts(solidity) The IDE used will be Visual Studio Code and the database will be Firebase.

It will encounter Industry, Innovation, and Infrastructure Sustainable Development Goal (SDG), by providing the new way of giving the loan through blockchain based application which lowers the likelihood of third-party manipulation. Furthermore, the absence of a mediator saves money.

Group Members:

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Hasnain Seelro	19SW67	seelrohasnain@gmail.com

Supervised by:

Dr. Rabeea Jaffry

Co-Supervisor:

Dr. Ayesha Junejo

DEEP LEARNING FRAMEWORK FOR FETAL HEALTH PREDICTION FROM FETAL PLANES ULTRASOUND IMAGES

Abstract

Ultrasound imaging is usually performed for prenatal care to examine the fetus health and diagnose potential anomalies in advance. Deep learning (DL), a subfield of Artificial intelligence (AI), is revolutionizing the world by providing cutting-edge and low-cost solutions to various healthcare problems. Therefore, we propose to leverage the power of DL to propose an optimized framework for predicting the fetus health via a fetal screening ultrasound images dataset. The proposed DL framework will efficiently process and utilizes the dataset to predict the fetus health.

Keywords: Fetal health, Deep Learning (DL), e-health, Ultrasound Imaging

Introduction

As the global population has been rapidly increasing, the pregnancy ratio is also increasing by about 89% in improvised countries and 11% in developed countries, respectively. During pregnancy, the mother and the fetus face many difficulties and the fetal health is greatly affected by the maternal attributes. According to a survey report, around 290,000 women have been reported to face extreme difficulties in 2017 during pregnancy and childbirth. As per an estimate, about 2.8 million pregnant women and newborns die every year, or 1 in every 11 seconds, mostly of preventable causes. Maternal mortality is particularly high in developing countries accounting for almost 99% of the maternal deaths. Hence, **child mortality reduction is one of the significant Sustainable Development Goals (SDG)s as it reflects human progress.** Various countries are working towards reducing the child mortality rate along with the maternal mortality rate during and following pregnancy and childbirth. Ultrasound imaging is usually performed for prenatal care to examine the fetus health and diagnose potential anomalies in advance. According to statistics, about 60-70% of fetus anomalies can be diagnosed via ultrasonography, whereas 30-40% are diagnosed after childbirth.

GROUP MEMBERS:

- Munsif Raza 19SW55
- Adil Saleem 19SW51
- Saqlain Mustafa 19SW81

SYSTEM WORKFLOW DIAGRAM:

The schematic diagram of the proposed DL framework for fetal health prediction from ultrasound images is depicted in Figure 2.

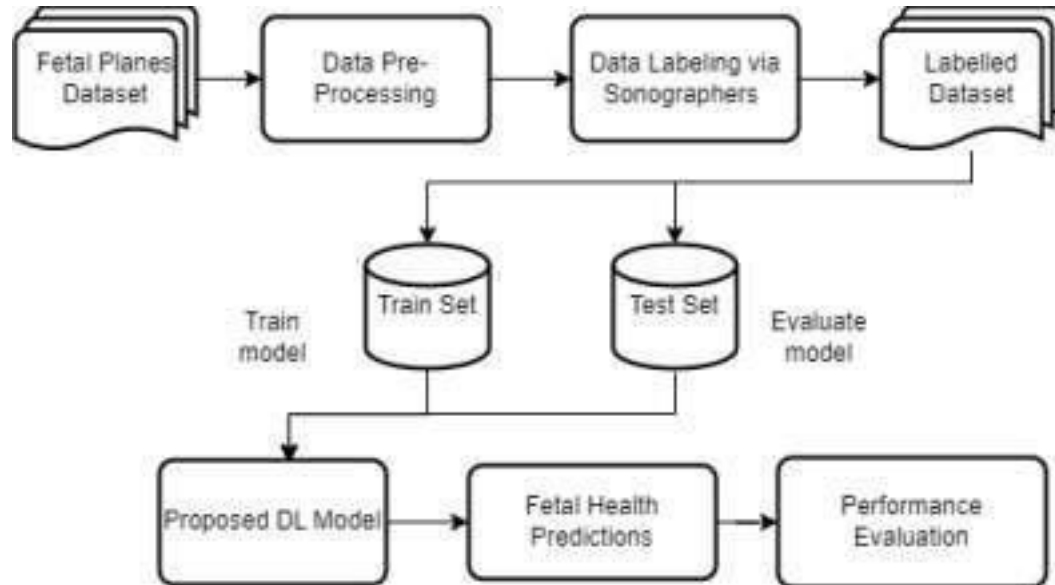


Fig 1 Proposed DL

Framework for Fetal Health Prediction from Fetal Planes Ultrasound Dataset

As seen from Figure 2, we shall utilize the fetal planes dataset to directly infer the fetal health from ultrasound images. To achieve this task, we shall select a dataset and shall get them labelled into healthy or non-healthy classes via sonographers. The data pre-processing will involve resizing the images to 150×150 for faster model training and rescaling the image pixel values in the range of $[0,1]$ for normalization. The final dataset will be classified into healthy or unhealthy classes and will be split into train and test data subsets via 80:20 train: test split. The training data will be used to train a simple CNN for predicting the fetal planes.

SUPERVISED BY:

- Dr. Rabeea Jaffari

CO-SUPERVISED BY:

- Dr Areej Fatemah

KManager

ABSTRACT

KManager is a software project management tool which to help project teams to plan a project and track and manage the projects to achieve the defined project goals within the time. It also helps team members to collaborate effectively and accelerate the projects to meet the specified constraints. Keeping track and taking the best decisions are important factors at every stage of a project. Nowadays everything is going to be remote and online so tools like KManager are rare gems that help a lot of businessmen in managing the budget and time efficiently. It is very simple and easy to use for managing complex software projects. Provides user and admin panel to every workspace administrator. There are a lot of other sophisticated features.

GROUP MEMBERS:

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SUPERVISED BY:

- Dr. Rabeea Jafari

Spot Holder

Abstract:

It's a hectic and irritating issue for vehicle owners to find parking spots, they mostly end up either wasting their time while looking for parking spots or they just don't go to crowded places just because of parking issues.

Keeping this issue in mind we thought of a solution which is basically providing people the facility of booking parking spaces for their vehicles.

This application will let people book parking spaces before arriving there so that they can avoid the hecticness of searching for empty spots.

The application will be developed by using the latest cross-platform "Flutter" so that it can be used by different operating system users. The firebase will be used to store the data and perform validation.

Google Maps API will be used for navigating the places and the user.

Technologies: Flutter, Firebase, Google Maps

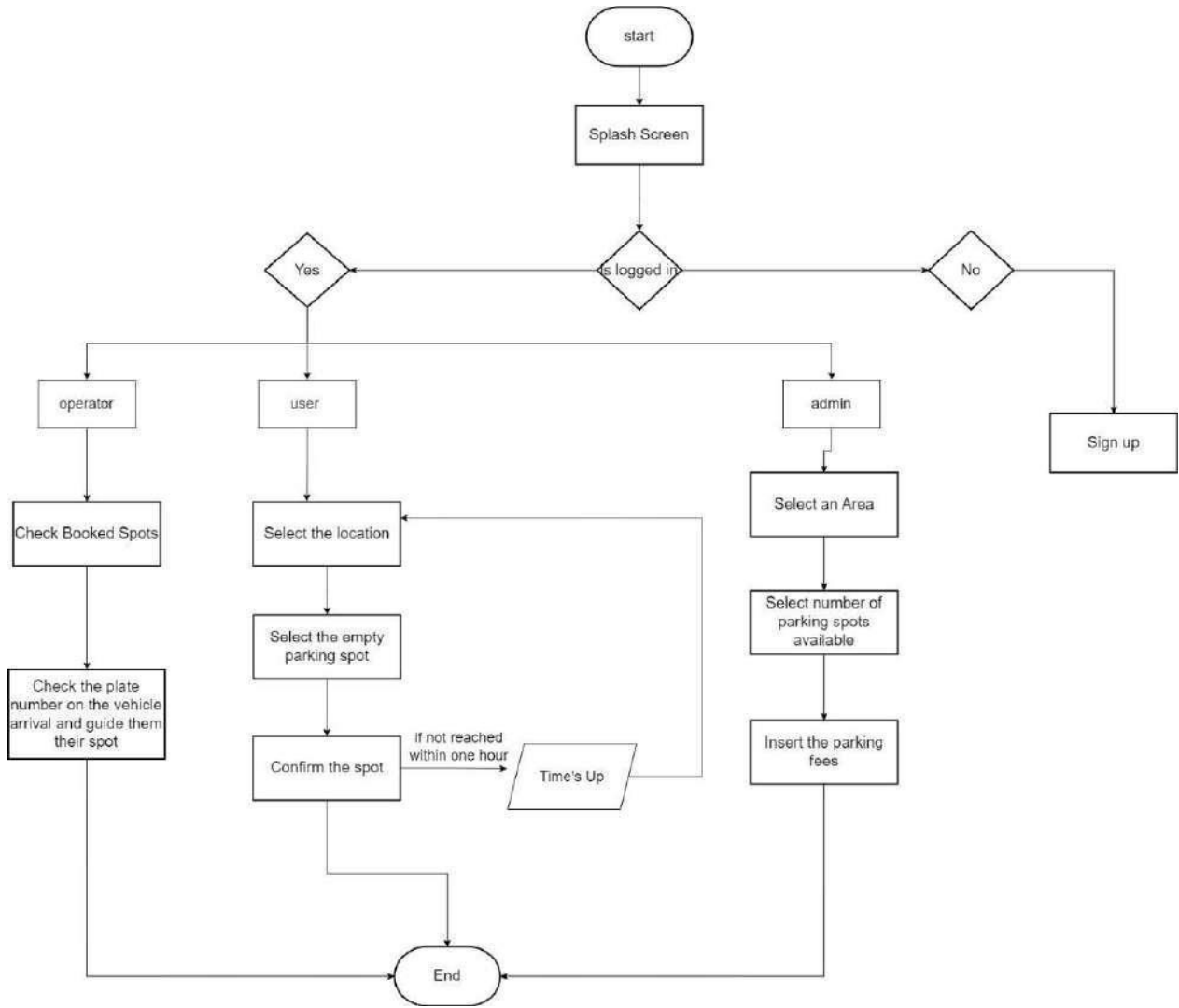
Sustainability Goal:

This project will add to **Responsible Consumption** as the fuel and time consumed on cruising for parking will be saved.

Group Members:

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System workflow diagram



Supervised By:

- Ms. Mariam Memon

Co-Supervised By:

N/A

Web Using Microservices Architecture

Abstract:

If you are building a large-scale application that may have thousands of functionalities and as you know more functionalities equals more code. So, you may follow the modularization concept but still, what you deploy on the server is the single entity (war, jar files). This is what is known as a monolithic application. These applications have problems of scalability, a single bug may down the whole application, and if you make an update in any part of the application you need to redeploy the whole application. Simply, every single change in any module of the application affects the whole application. What if you split your application into a single independent module, each one is independent of others and can interact with each other using HTTP protocol. Each module is a small service known as a **microservice**. The concept of microservices addresses all the issues discussed above. We will develop a website that will illustrate how microservices work and how different models in this type of application interact with each other. Our website will have at least 2 to 3 modules and show how this architecture is better than monolithic applications.

Group Members:

19SW84

19SW68

Supervisor:

Ma'am Mariam Memon

Reliable Safety App

Abstract

People are facing a lot of physical harassment in public places such as workplaces, street, bus etc. We need a safety system for our safety measures in public places. Reliable Safety application is a best application for females, males, senior citizens and anyone who needs help in an emergency situation. As a social infrastructure, emergency safety system aims increased rescue rate. Since emergency situation is reported verbally nowadays, it's very difficult to identify the victim and the emergency location and hence, the golden time is wasted. Smartphone is a complex device that has various sensors of various functions. Recently, with the advent of the finger scan sensor, users are able to not only capture facial images and record voices. In this study, we propose a fingerprint transmitter -based sensor emergency reliability safety system, which utilizes various smartphone sensors. This system minimizes the time waste by automatically locating emergency spot and identifying both the victim and reaching out to its immediate family at least, in case of dead mobile battery. The front-end involves Dart and the back-end involves SQLite. Here, the IDE used is Android Studio. Our System will help the user to reach out to their family and police who can navigate their current location and also capture image. This project is based on the flutter framework.

Keywords: ransmitter fingerprint sensor, Location, Image Capture, contact with police and family

GROUP MEMBERS:

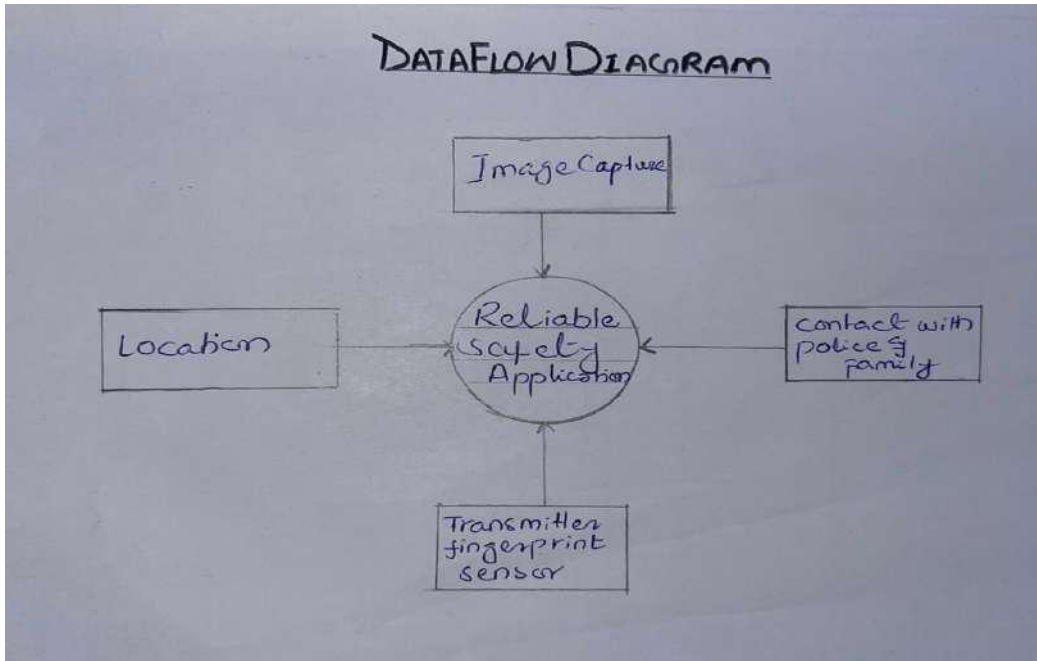
- Sara Ameer Ali 19SW110
- Ayesha Aijaz 19SW135

SUSTAINABLE DEVELOPMENT GOALS:

16. Peace and Justice:

Our application is for safety purpose and for peace of mind. For example: nowadays we can easily share our location with family, friends & police and just in case we got in trouble so they can rescue us by the help of our location tracing. Also, we have some sort of proof too like image capture that I was there at that time and can prove my point. It is a safe application.

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Ma'am Mariam Memon

CO-SUPERVISED BY:

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Sabika Nasir

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REDUCE FOOD AND CLOTHES WASTAGE APPLICATION USING FLUTTER

ABSTRACT:

The amount of food waste is done inside marriages, functions, and parties. There are some online businesses too which provide food to your doorstep in one click but there is also an issue in which food is wasted in a huge proportion. This is one of the common problems which can turn into a big hurdle in the coming future if not taken into focus now. Also, some of the restaurants cook food in bulk amounts which are mostly thrown away. How about if instead of wasting food we can help and share this food which might be a necessity for many people. Also about the cases in which many individuals are left with many clothes which are not used by them but are good enough to be worn. Our focus is to provide an online platform where without any problem one can donate food and clothes and we can deliver them to the needy ones.

Our purpose while building this application is to target those parties where there is food wasted in major amounts like restaurants. Food provided by donors can include anyone like organizations, people from home can also provide their food. The next party we would target would be NGOs, they can help people by feeding them food and clothes which will be provided by the donor. Food provided by donors can be marinated or uncooked too, they can provide us food in whatever form they like. Our application which donors will get linked through us to the NGOs and we will act as ADMIN in our application.

This application will have details provided by the donors regarding leftover food and clothes they want to donate. Then we will let the NGOs know regarding the placement of food and clothes and if they want to get it delivered to them. In this way, both parties, the donors and the NGOs won't have any issues regarding food and clothes parcels. We will also provide our riders for providing parcels from donors to NGOs. Our application also includes a Feedback form through which you can suggest to us what things we miss and what should get updated. The sustainability goal is also covered in our project: No poverty and No hunger.

1. No Poverty:

Our project includes the first sustainability goal, in which we focus on eliminating poverty from our environment in all its forms.

As we will provide the needy ones with food which will be provided to them through the NGOs. This will help in reducing the number of poverty cases in our environment.

2. NO HUNGER:

Our application will highlight the area where everyone should have a safe, nutritious, and sufficient amount of food.

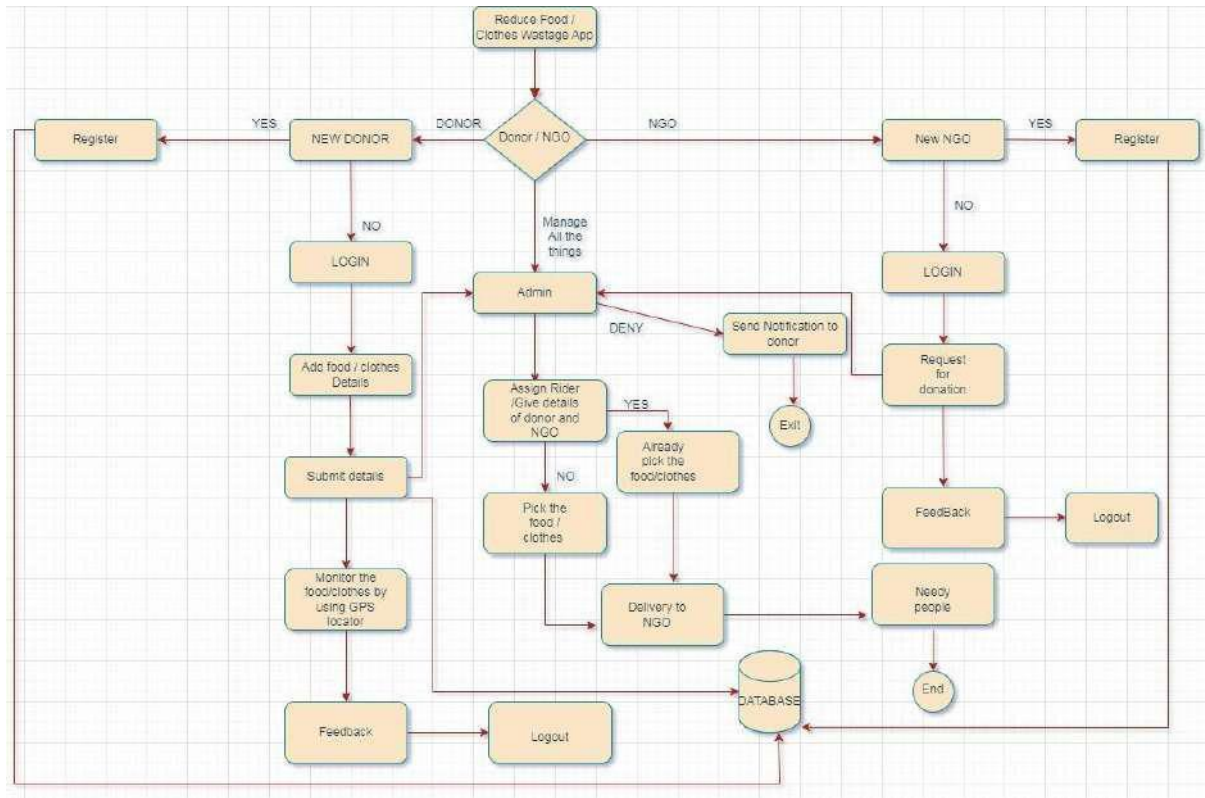
Millions of people lose their lives because of consuming unhealthy, rotten, and not fresh food. Our application focuses on this goal and we provide our people with fresh food. This includes providing uncooked food or food which is raw and can be used after some time and will not be dangerous to our people.

GROUP MEMBERS:

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FlowChart /WorkFlow:



SUPERVISED BY:

ENGR RABIA IFTIKHAR

CO-SUPERVISED BY :

MS.HIBA SHAH, ASSISTANT COMMISSIONER, KARACHI EAST

Muet Application

Abstract:

This project is targeted towards students and advisors. FYP portal will allow students to register their final year projects online and advisors will be able to correspond to students request, edit and upload students grades and student final year project will be easier to manage. The manual process of registration FYP is not efficient as it requires meeting with advisor (who may be on leave) and fill in the form manually, further the process after registering FYP on portal is time consuming and sometimes it can take weeks. Time manageability is another problem as some times advisors with available slots. The goal is not just to make FYP project registration easier and efficient, but to design a complete portal that will help students and advisors in their journey.

On the competition, we expect our project to perform following tasks

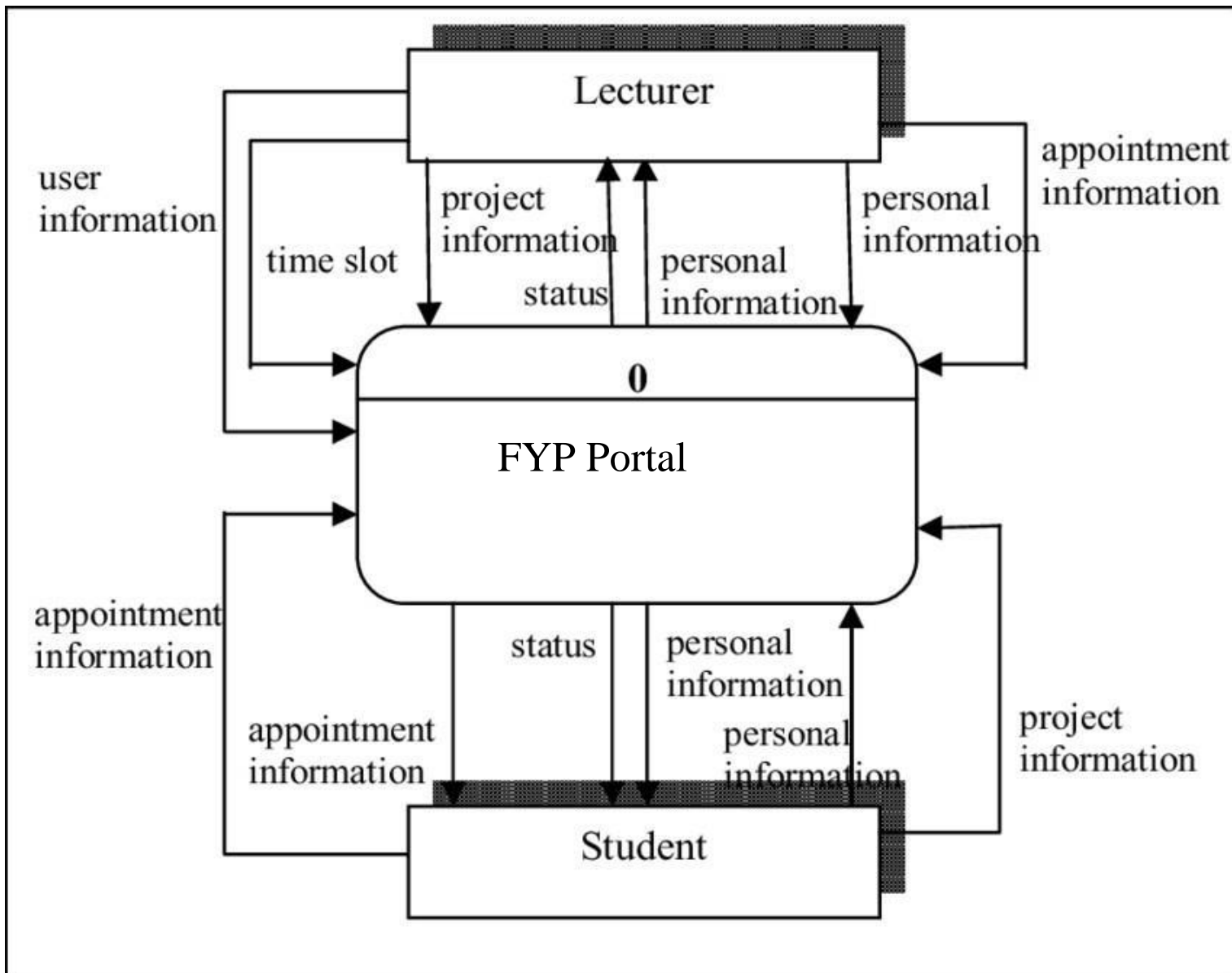
- Allow students and faculty to login.
- Show names of available advisors to students.
- Submissions of online form to advisor
- Show students's form
- Accept or decline
- Show list of available advisors to students
- Show online grades
- Show presentation dates
- Online Presentation request

Group Members:

Lead: Faraz (19SW60)

Member: Asadullah (19SW62)

Project Diagram (Data flow):



Supervisor :

Ms.Rabia Iftikhar

Cloud Gaming Platform

Abstract:

Nowadays everyone loves to play games, but it is not easy to take time out of our busy schedule to play games and not everyone has the amount of money or time to keep such a system working.

But Cloud Gaming is the solution for all of these problems because anyone can play games without spending a lot of money and time. It provides the portability to go around different places and play games anywhere and anytime. It is just like playing games on a mobile device but much better because mobile games have certain limitations. Certainly, Cloud Gaming is the future as it clearly the path where future technology is moving and all the big tech giants are investing.

How it will work is that it will start from the website where the user will buy a token or credits first and then they will have the ability to play games . Then they will be asked to link their game to store accounts such as Steam, Epic games, Ubisoft Connect. Then they will be given the list of games which they would have in their accounts which will include all the free games along with VR and Motion games as well. Then when the game would be chosen by the user it would be executed on a computer running on a cloud server from where it would be streamed directly to the host/ user's pc just like Netflix but in this case the user would be sending his input signal from his machine to the cloud which would make the playable.

In the end the user will be able to run high-end pc games and VR games. which require expensive machine but he will be able to play on his low-end laptop or computer with just the requirement of an stable internet connection with at least 10 mbps bandwidth which in this current time is not so hard to get and in the future with 5G technology arriving the cloud gaming will become even more easily accessible.

Sustainability Goals:

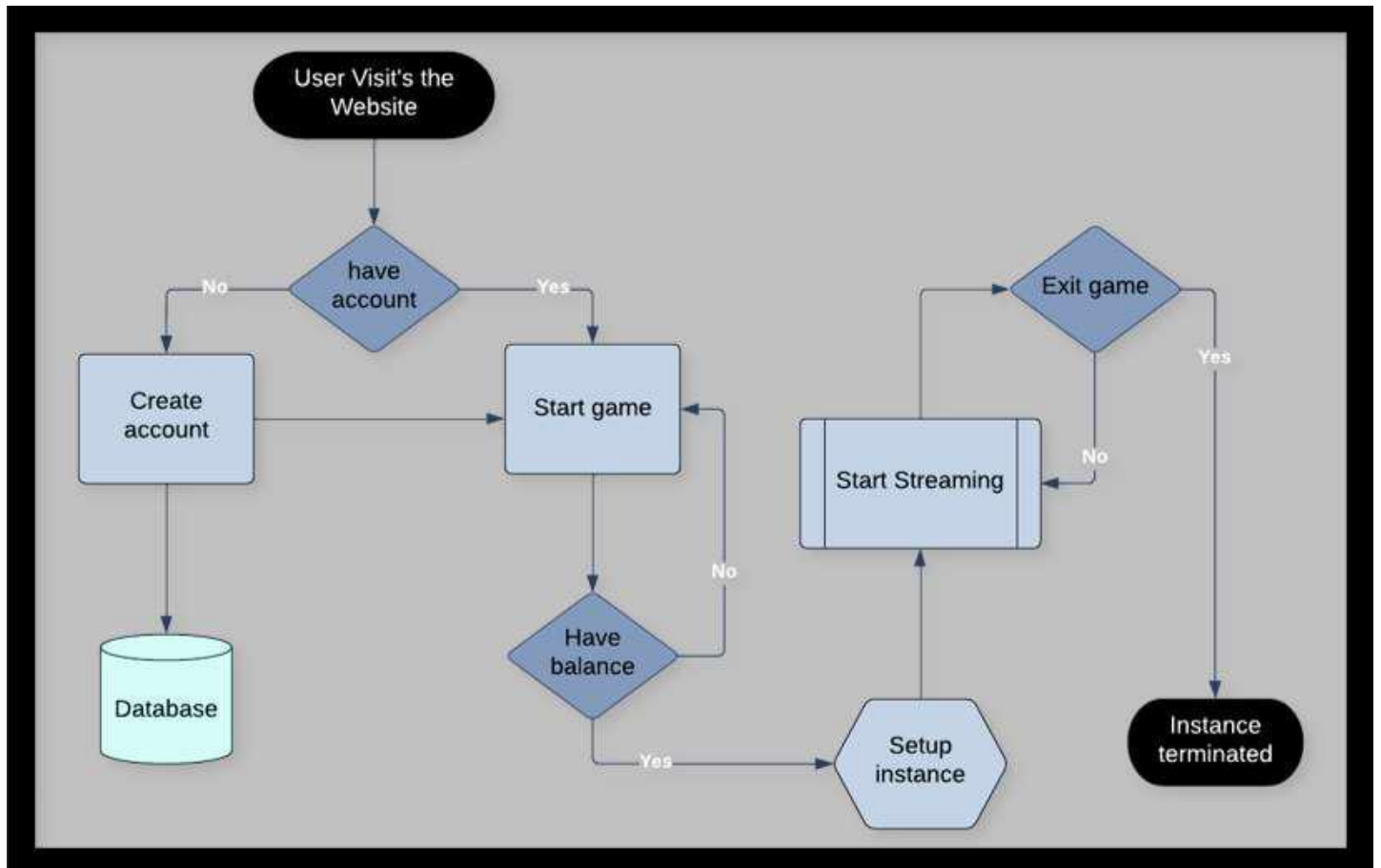
Our project fits or completes the sustainability goal number 8 which is decent work and economic growth. As we will make our project which is a cloud gaming platform. It will require maintenance, availability, performance management security and other aspects that need to be up to date so that it can work smoothly. So, for that we will hire people for different aspects as mentioned above which will create jobs and decent work. If our project is successful and we turn it into a business. Through different taxes and job creation that will impact in our economic growth as well. So, in this way our project fulfills the 8th sustainability goal.

Group Members:

Azlan Malik(G.L) (19SW138)

Fahad Chandio (19SW136)

Workflow Diagram:



Supervisor: Ms.Rabia Iftikhar

Online Lawyer Consultation

ABSTRACT

Lawyers are a need of every person, organization or any industry in today's world. The problem arises in finding good and suitable lawyers according to everyone's individual needs. A lot of times, lawyers are hard to find because of their little to no exposure. Lawyers have to work years and years in their field to get a little recognition. This is a big problem because a lot of times good lawyers aren't that well known.

So what if we make a platform for lawyers. Where only certified lawyers can make a profile. Each lawyer will be ranked accordingly. Users can find the lawyer best suited for their needs, interests, type of case and in particular city they're looking for. If a user is unable to find the lawyer he desires, the user will put out a short request on the website with a short summary of the lawyer he needs. The lawyers who seems fit for the job, will then be able to get back to the user with their offer.

SUSTAINABLE DEVELOPMENT GOALS:

Good Jobs and Economic Growth:

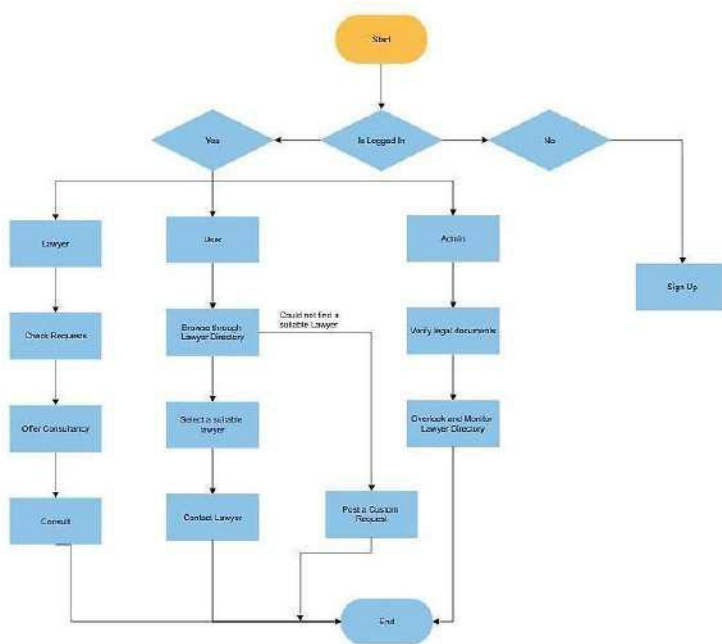
The website provides more exposure to the lawyers who are relatively new in finding more opportunities to get clients, hence forth creating more jobs and helping the economy grow.

It helps users find suitable lawyers according to their needs and budget. Making the platform economic friendly for all types of users, while also giving lawyers more clients and jobs opportunities respectively.

GROUP MEMBERS:

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SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

Mr. Mansoor Samo

DevOps Implementation

ABSTRACT:

Software Development Life-cycle has been a very challenging system to automate in the scenarios when continuous integration and development is needed. With the increasing complexity of software projects over the period of time, change management with proper build and release cycle is much needed due to dynamic requirements of clients.

A project goes through multiple stages before going live on the production channel. These stages require proper communication and coordination skills. It can be a nightmare for modern firms to do all that process manually since it requires a lot of human labour and expertise.

Thankfully, a project's build and release cycle can be automated as we have the concept of DevOps available with a lot of tools helping in the process of implementation.

Our aim is to develop a website with proper DevOps implementation in the development flow, the website will be an open-source project on GitHub, demonstrating the implementation of itself. Talking about the contents of the website, we will be documenting all the DevOps steps involved from writing code to making it live with automated updates on code commits.

The ultimate goal will be to make the DevOps learning easier for freshers and spreading the awareness about it meanwhile breaking the stereotypes and busting myths about the concept of automating the deployment process.

Group Members:

Lead: Abdul Wahid (19SW58)

Member: Bilal Bukhari (19SW131)

Supervisor :

Mr. Naveen Kumar

Driver Drowsiness Detection System Using Deep Learning:

ABSTRACT

Problem statement:

Driver's inattention might be the result of a lack of alertness when driving due to driver drowsiness and distraction. Driver distraction occurs when an object or event draws a person's attention away from the driving task, that is decreased driving performance, longer reaction time, and an increased risk of crash involvement.

Our proposed solution:

The solution of the problem is we will make an app which will detect the drowsiness of the driver and when drowsiness is find out then it will ring an alarm to awake the driver or we can say that it will make driver more attentive .First it will take pictures of the driver and then it will apply machine learning algorithms and models to recognize the drowsiness and at last it will ring an alarm

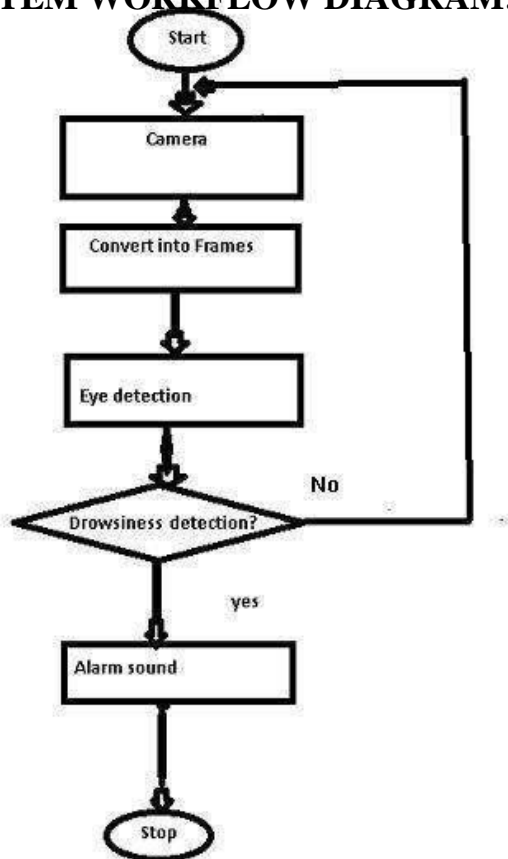
SUSTAINABLE DEVELOPMENT GOALS:

Our app promotes and achieves good health and wellbeing sustainability goal, The purpose of the drowsiness detection system is to aid in the prevention of accidents passenger and commercial vehicles. The system will detect the early symptoms of drowsiness before the driver has fully lost all attentiveness and warn the driver that they are no longer capable of operating the vehicle safely. This device will not, however, guarantee that the driver will be fully awakened and that an accident will be avoided. It is simply a tool for improving driver safety, focusing primarily on long-haul truck drivers, night time drivers, people driving long distances alone or people suffering from sleep deprivation

GROUP MEMBERS:

- Abdul Wajid :19SW117
- Pawan Khatri: 19SW32

SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY: Sir Salahuddin Saddar

CUSTLOTHERS

ABSTRACT

The present study investigates the preference of online shopping over physical stores concerning elevated experience of our targeted customers. We created a website that serves the customers' needs by bringing them in touch with the latest fashion while keeping in mind their physical attributes such as height, shape etc. Our website allows the customers to have full control over customisation; it will enable one to obtain an article however a person pleases, contrast, colour, style, etc. The highlights of the website are the tabs which provide customers their desired articles in accordance with their shape, complexion, and height with the help of latest studies. In addition to these options, we offer another critical yet significant tab where customers can customise their clothes with the touch of trends around the world (ex. Article of the year/month, colour of the season, bag of the month etc). Our motive is to serve our patrons the best by keeping them in touch with the fashion around the world while making them feel comfortable in their own skin. Our website is very user friendly.

SUSTAINABLE DEVELOPMENT GOALS:

Our sustainability goal is **Industry, Innovation, and Infrastructure**. Innovation is another area in the fashion industry that we tend to focus on. It involves new ideas that improve lives in some ways. This can include making as many areas of the fashion industry sustainable as possible.

GROUP MEMBERS:

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SYSTEM WORKFLOW DIAGRAM:



SUPERVISED BY:

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