Web & Mobile Based Distributed Lost and Found Service

A Project presented to the National University in partial fulfillment of the requirement for the degree of Bachelor of Science (Hon's) in Computer Science & Engineering

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Session: 2017-18

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Daffodil Institute of IT, Dhaka
Under National University Bangladesh
Submission Date: 04.09.2023

APPROVAL

The Project "**Web Based Distributed Lost and Found Service**" is submitted to the Department of Computer Science & Engineering, DIIT under National University of Bangladesh in absolute fulfillment of the requirements for the degree of Bachelor of Science (Hon's) in Computer Science and Engineering and approved as to its style and content.

..... **.....**

Examiner **Examiner**

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Department of CSE (DIIT)

DECLARATION

I affirm that the project work titled "**Web Based Distributed Lost And Found Service**" being submitted in partial fulfillment for the degree of **B.Sc. (Hon's) in Computer Science & Engineering** is the original work carried out by me. It has not formed the part of any other projectwork submitted for any degree or diploma, either in this or any other University.

Submitted by

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Registration no: 17502004990

Session: 2017-18

ACKNOWLEDGEMENTS

I would like to express my profound gratitude to Almighty Allah. With the blessing of Almighty Allah I have successfully planned my project.

My sincere thanks to **Dr. Mohammed Shakhawat Hossain**, Associate Professor and Principal,DIIT who has allowed me to do this project and encouragement given to me.

I also like to thank my Project Supervisor **Moumita Akter**, Lecturer, Department of Computer Science & Engineering, DIIT, Dhaka, for her valuable guidance and support to meet the successful completion of my project.

My heartiest thanks **Md. Imran Hossain**, Lecturer & Coordinator, Department of Computer Science & Engineering, DIIT, Dhaka, for his patronage and giving me an opportunity to undertake this Project.

I express my gratitude to **Saidur Rahman**, Lecturer, DIIT, Dhaka, for having provided us the facilities to do the project successfully.

I express my gratitude to **Safrun Nesa Saira**, Lecturer, DIIT, Dhaka, for having provided us the facilities to do the project successfully.

I express my gratitude to **Poly Bhoumik**, Lecturer, DIIT, Dhaka, for having provided us the facilities to do the project successfully.

I express my gratitude to **Nusrhat Jahan Sarker**, Lecturer, DIIT, Dhaka, for having provided us the facilities to do the project successfully.

I express my gratitude to **Mizanur Rahman**, Lecturer, DIIT, Dhaka, for having provided us the facilities to do the project successfully.

I express my gratitude to **Md. Mushfiqur Rahaman**, Lecturer, DIIT, Dhaka, for having provided us the facilities to do the project successfully.

Last but not the least I extend my sincere thanks to my family members and my friends for their constant support throughout this project.

ABSTRACT

In computing, a web application or web app is a client–server software application which the client or user runs in a application or software. Web based lost and found distributed service is a client server software application. The project is designed using a client-server model. The main features of the web application include an authentication, registration and login system, a lost and found listings page where the user can enter the information about the lost and found items. The application is an online lost and found web portal with an interactive user interface. It is a user-friendly web application which is created using web programming languages connected to the database. The users can update the contact information and change the password. To better business and a good relation with users having a system will be more convenient for clients and admins. By providing an admi**n** management system, we can easily provide these solutions to the owners and the clients.. By using this system user easy to service each other. I think "**Web Based Distributed Lost And Found Service "** will create a new era in the field of business.

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Chapter: 1

Project Introduction

1.1 Introduction

The goal of any system development is to develop and implement the system cost effectively. Lost and found software is a centralized platform for managing items that have been lost or found. This tool helps users create a network of lost and found items digitally to help businesses manage these occurrences more efficiently. Lost and found software typically helps businesses that attract a large number of customers or employees, such as large corporations, airports, shopping malls, and hotels. Lost and found software streamlines the process of returning lost items to owners by storing and organizing data related to lost and found items. Many tools offer a customer-facing database with search capabilities and images to increase the return rate of lost items. Lost and found software also increases efficiency for professionals responsible for lost and found items with its organizational aspects such as item labeling and item categorization. The data are well protected for personal use and makes the data processing very fast. [6]

Web-services provide a standard means of interoperating between different software applications running on a variety of platforms and/or frameworks. Web applications use web documents written in a standard format such as HTML and JavaScript, which are supported by a variety of web browsers. Advantages of web-based distributed databases are easy maintenance and updating, reusability and modularity, distribution of data update and security. The architecture used for the web-based distributed database is the Client/Server model. In this model, client sends request to the web server. The request is then transferred to the database server [8].The results are sent back to the web browser in the client side after the database server processes the requests by the clients. In this project, we designed and build a lost and found web application with basic functions like the lost and found portals available online: user registration, login/logout, changing user password, posting lost stuff, posting found stuff, admin login.

1.2 Objective

The main objective of our project is return the owners their lost items. Find their lost stuff more quickly. Less harassment only use the apps and find things. The distributed systems is represented by resource sharing , concurrency and transparency. Also this project have face detection system. The project is designed using a client-server model. The main features of the web application include an authentication, registration and login system, a lost and found listings page where the user can enter the information about the lost and found items. Keeping in mind some security issues, the users cannot delete any items. The reason was some users may delete the items just to mess around. This privilege is given to the admin only.[7] The application also allows the users to update the listed items if needed. The users can update the contact information and change the password.

1.3 Scope of Project

Implementation of easy to used application. Recovery of lost identification documents. Report lost and found items through a smartphone. Save items to a database on the server. It will also help in saving time and improve on security purposes. Protection of valuable data and information. Advantages of web-based distributed databases are easy maintenance and updating, reusability and modularity, distribution of data update and security.

1.4 Summary

It can be concluded that the web application provides basic features and functions such as user registration, login and authentication, a lost and found listings page, an update contact information page, an admin login account with full privileges. The implementation of different phases is functioning as expected. Test cases were performed on different operating systems, browsers and platforms to ensure that the application was functioning correctly on all the above. A few more features that can be introduced to the web application include text alerts and email forwarding to the students when their lost stuff is found and returned to the ASI lost and found office, a slightly better user interface for the listings page specifically a separate lost and found page and a good encryption algorithm for the authentication purpose. The web application should be able to automatically shoot an email or a text message to the cell phone on just one click on the application by the admins. For future work, I would like to introduce this feature to the web interface and make changes to the existing application so that it is more user friendly.

Chapter: 2

Background Analysis

2.1 Background Study

Now-a-day's web based distributed lost and found software is a common software for all of us. Each and every organization needs lost and found software to manage all the work done in the organization. Also the difficulty of finding lost property. Before starting the work I have done some study such as which type of company it is, what they want in the software every person who has lost precious thing in the Kingdom of company whether he is citizen, resident, visitor, pilgrim. There have Save time and effort to find the lost things. There is a no government website or software lost and found. To be a website or software under agencies governmental. Lost a wallet lost documents or lost a car found an identity or wallet and could not find a way to contact, found the missing person does not worry Whatever it has lost or what have found it through the website or software you can find what you lost and posting what found. If lost national identity must make a police report and wait ten days and if do not find the identity within 10 days can extract the identity and After ten days will receive the new national identity maybe identity found by someone and cannot communicate with him . I will explain my project in this document it will take a time to implement this project in reality and found things by getting information also communicate with loser but i believe it will benefit the people in the long run.[4]

2.2 Existing System

Production is one of those ubiquitous, generic terms that so often seems to creep into conversations about business and economics as a more formal way to say "making things". Yet as anyone experienced in one or more manufacturing industries can attest to, production is heavily nuanced: by industry, by company, by plant, and even by product line. Managing these manufacturing processes, from raw materials through finished product, is therefore an incredibly intricate, time-consuming, and more-oft-than not frustrating task, just like in an experiment to create predictable results in a complex system. Modern manufacturers are fortunate to live in the age of digital transformation, where options for Production System tools are multiplying at an impressive rate. With such an evident business case, the biggest challenge manufacturers face is deciding which manufacturing execution system best suits their production. Production is highly flexible, because each project is usually significantly different from the one before it, even if the project's size and expense and high degree of customization, project manufacturing can take an extremely long time to complete. A good process planning system should provide consistently same process plan for same set of input data. Inaccuracies in process plans and corresponding information in greatly undermine the integrity of the system. This project is a website or software where will helping each person inside campus or some fixed zone, Find personal property lost or dissemination the lost property for example, if you find something lost such as a wallet or mobile this site will make it easier for you to search for its owner, Through this site, we can announce the missing people like children and elderly people or may be cat, it will help pilgrims to search for lost items. Also have project scheduling, system analysis.

system design, use case diagram etc. Furthermore, have some entity relationship diagram how do action entity and attributes. Thus, have admin panel and user panel.[8]

2.3 Limitation of Existing System

This project is able to work only on desktop system and android devices. User will not be able to use it on IOS. Some of the functionalities in the android application are limited. Internet connection is compulsory. Above 4000 user can't use the app or software at a time.

Nowadays most of us go somewhere to visit place and sometimes we forget our valuable item at that place. This is very stressful for every owner. There are many platforms but sometimes they neither submit lost items nor return item to its exact owner. Some platforms are paid which are not suitable for some users. Our project is based on web as well as on android. Both owner and finder will register themselves. User needs registration before performing any operation. After registration and login owner can search his item and can also see all lost items. We have provided form to finder for providing information regarding the lost item, he will also give the geographical location of that particular place from where he found the item similarly owner will also give the location where he lost the item. Both owner and finder can chat with each other for verification. Owner will mark item found in his profile after he has found his lost item. Software breakage, that is, later increments may require modifications to earlier increments. Programmers may be more productive working on one large system than on a series of smaller ones. Some problems are difficult to divide into functional units (modules), which can be incrementally developed and delivered. Also client don't the trace of founder information because of security purpose.

Chapter: 3

HARDWARE ANALOGY and SOFTWARE

3.1 Requirement Analysis

This is automated lost item and found system named as LINR that avoids language barriers by providing a short description of the item entered by the finder which is stored in a database in any lost item notification message communicated to the owner concerning the item [2]. The lost item notification message also tells language used by the reporting party when placing the lost item report, and may also include an indication of the geographic location where the lost item report originated. There are many drawbacks in this system. The major drawback of this system is when owner will submit its information about the lost item after submitting, he/she does not know the status of his item as this system avoids language barriers because all type of lost information is handled by the system.

3.3.1 Admin requirements and System requirement:

Admin requirement:

- Admin will add, edit any product.
- Admin can maintain whole system.
- Admin can add, edit and delete user ids.
- Admin can delete spam messages.
- Admin can generate user's report.
- Admin can edit or delete e-mail ids.
- Admin can log in by username and password.

System requirement:

- A from needed to add, edit and delete e-mails.
- It needed to add, edit user profile.
- It needed to add, edit and delete subjects.
- It maintains whole security.
- It needed to supported whole system.
- It needed to needed to edit or delete user profile.

3.2 Hardware Analysis

The hardware listed by no means a minimum requirement to run the system, but rather a base limit for running the system smoothly and comfortably. This is also considering the potential amount of traffic may go through the server.

Hardware Requirement:

Mobile phone: Android or Ios,

Desktop

Hardware requirement for client:

Mobile phone: Android or Ios, Desktop.

3.3 Software Analysis

Software analysis and design includes all activities, which help the transformation of requirement specification into implementation. Requirement specifications specify all functional and non-functional expectations from the software. Software analysis and design is the intermediate stage, which helps human-readable requirements to be transformed into actual code.

Software Requirement:

Web Server

Xampp Server

Database Engine

Hive

Database Tool

MySQL Administrator

MySQL Query Browser

Designing Tools

Text Editor: Android Studio

Flutter Sdk,

3.4 Benefits of the System

The App for lost and found has some great features. Pictures of the items can be added. This allows for easier identification. If a person claims lost items this information will be posted on the site. There can be auto match features posted for items and for the claims. If needed a report on the data can be formulated for various purposes.[2]

This program is easy to use and will not cost a lot of money. The subscription fee is low and this will include the entire university. There are no fees for transactions or posting the items. There is no fee to maintain this site. When the program is updated and new features become available they will be provided at no extra cost.

There are many benefits to both the students and the university when they decide to use the App. There are lost and found management teams that will match the claim with pictures as

well as descriptions of the items. This will reduce the chance of the wrong person picking up the lost item. Everything that is found will be posted with the location that the items was found and the location on the campus where it is being kept. This program will increase the rates at which the items are returned to their owner. This will reduce the amount of storage space that is needed to keep the lost items. The data will be up to date. If something is returned to the owner as soon as this is posted in the system it will be updated and the post will be taken down. Students are able to access this program on their mobile device. This makes it easy to look for their lost items while they are on the go or even between classes. Easy Searching. App makes it easy for a student to search for their lost items. They are able to search by category or by the keyword. They can use other search options or even the date so they can quickly locate their item. This lost and found system can help a university assist student in getting their belongings back. This program is easy to use and easy to maintain. Students can visit their website and search the lost and found. They will be able to know where their lost item is located so they can get it back without a hassle.

Chapter: 4

ANALYSIS and DESIGN

4.0 Project Model

This project is used by "Project model" because the waterfall model is a classical model used in system development life cycle to create a system with a linear and sequential approach. It is termed as waterfall because the model develops systematically from one phase to another in a downward fashion [4]. This model is divided into different phases and the output of one phase is used as the input of the next phase.

4.1 Agile method

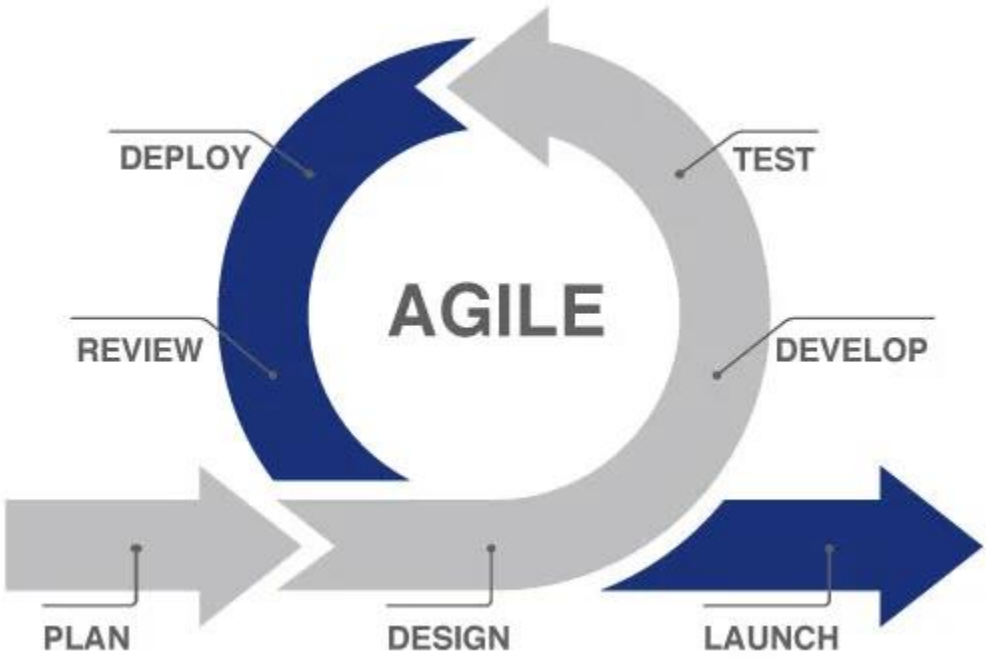

Figure 4.1: Agile method

4.2 Workflow Diagram :

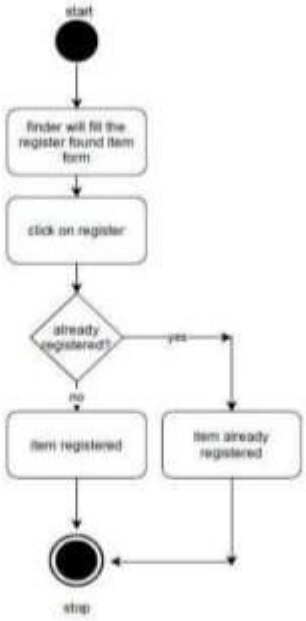

Figure 4.2: Workflow diagram

4. 3 Flow chart Diagram:

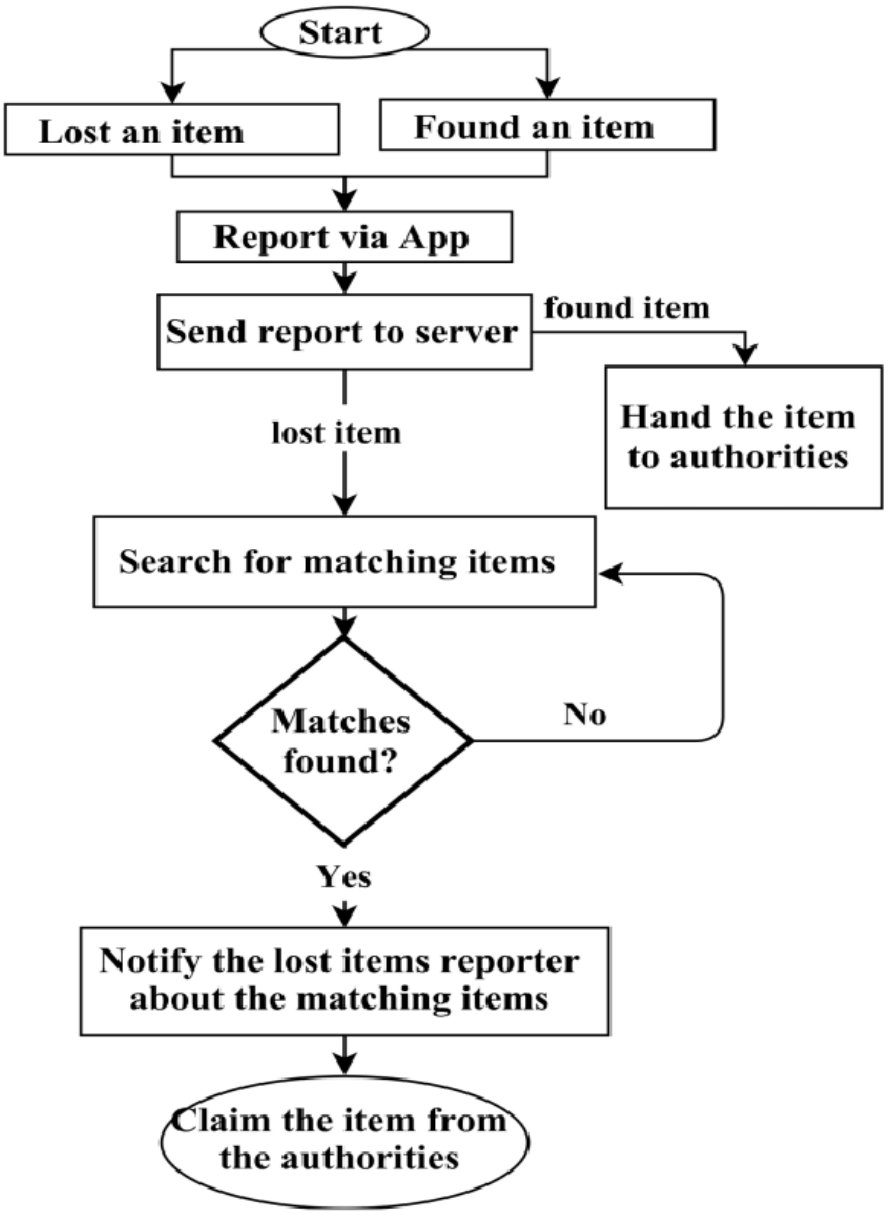

Figure: 4.3 Flowchart of the system

4.4 Entity Relationship Diagram (ERD)

ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships.

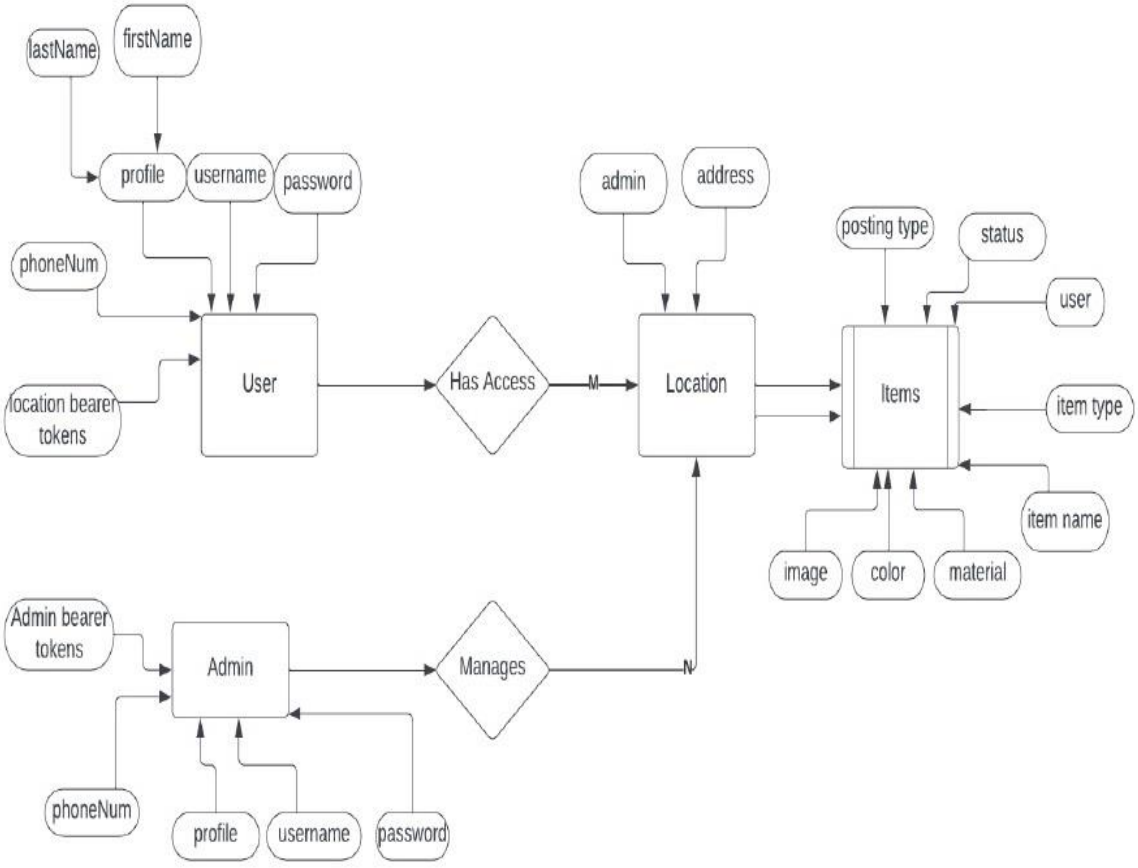

Figure 4.4 ER Diagram

4.5 Use Case Diagram

A use case diagram is a way to summarize details of a system and the users within that system. It is generally shown as a graphic depiction of interactions among different elements in a system. Use case diagrams will specify the events in a system and how those events flow, however, use case diagram does not describe how those events are implemented. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by the other types of diagram as well.[2]

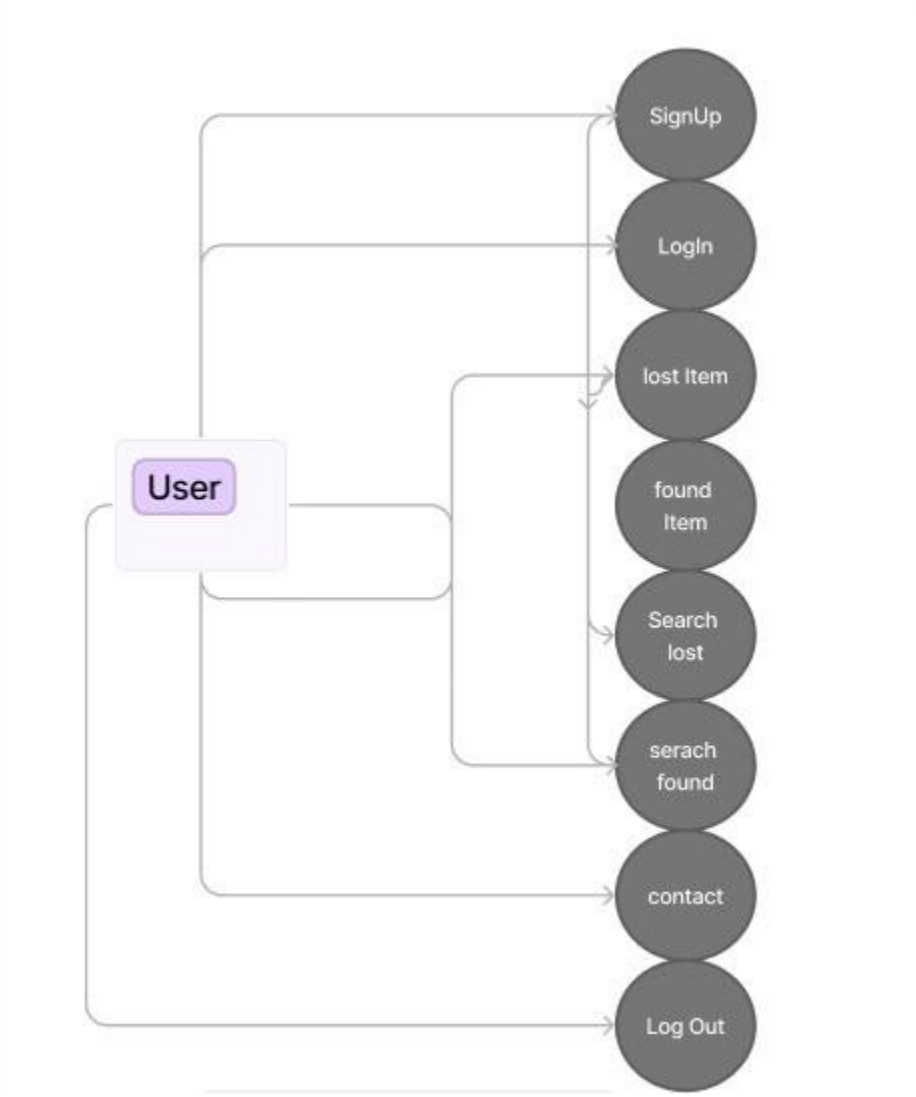

Figure 4.5 Use Case Diagram

4.6 Data Flow Diagram

A Data Flow Diagram (DFD) is a graphical representation of the "flow" of data through information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. DFDs can also be used for the visualization of the processing (structured design).

A DFD shows what kind of information will be input and to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of process or information about whether processes will operate in sequence or in parallel (which is show on a flowchart).

A context level DFD of the system is given below:

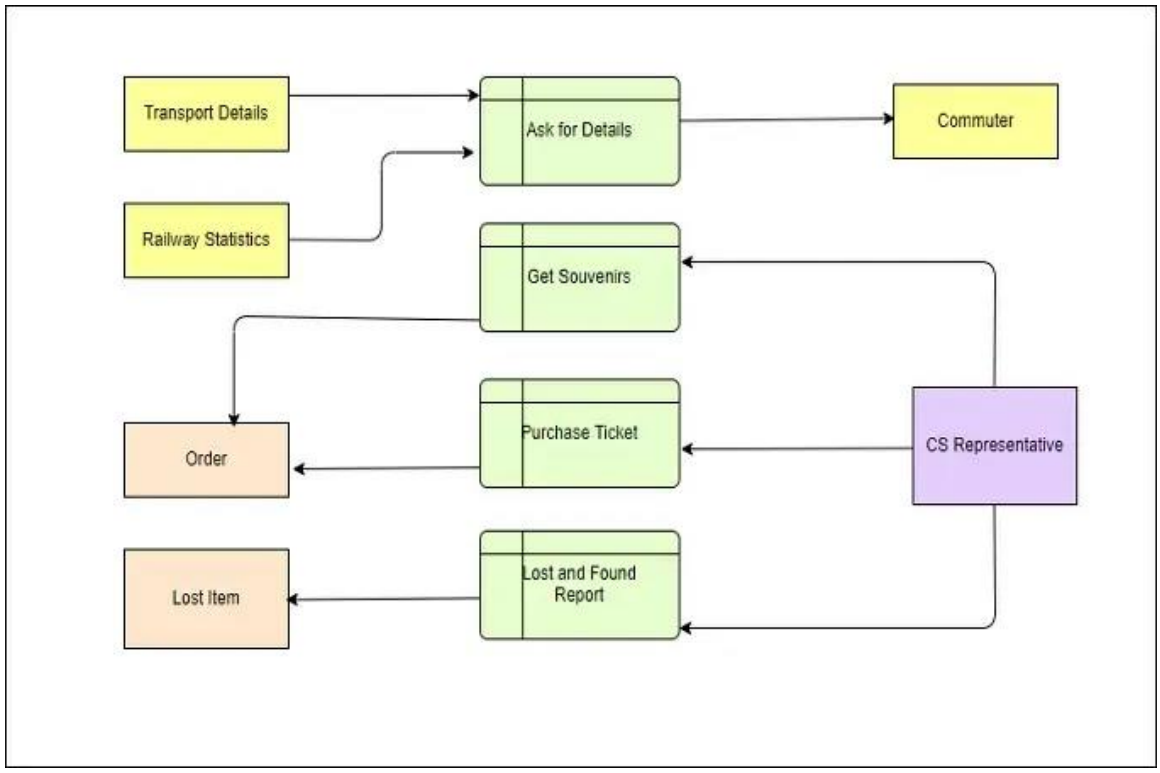

Figure 4.6.1 Context Level DFD 0

Level 1 DFD

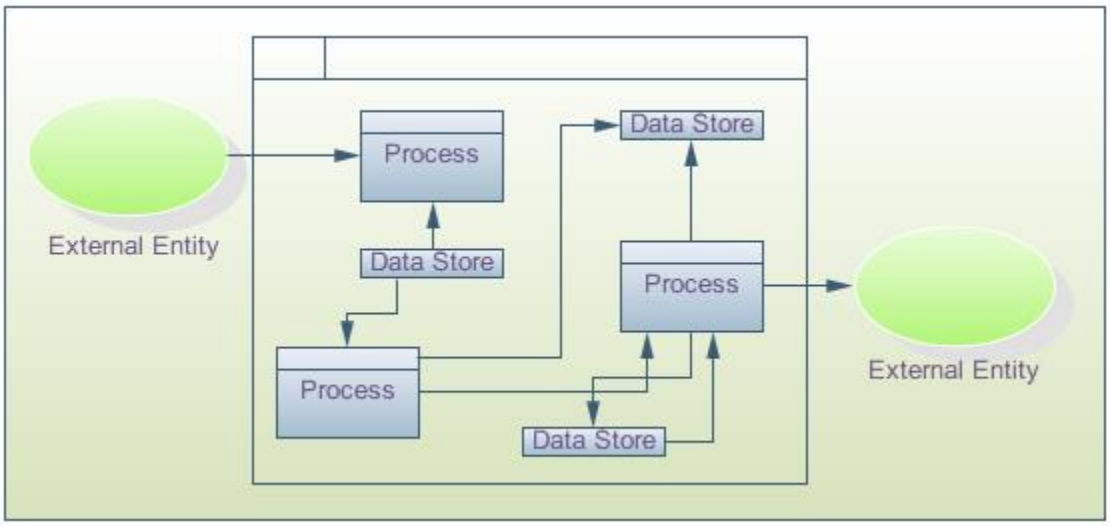

Figure 4.6.2: DFD Level 1

4.7 Activity Diagram

Activity diagram is another important diagram in UML to describe the dynamic aspects of the system. Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. In the external, I use activity diagrams for the description of those business processes that describe the functionality of the business system. Activity diagrams are often used in business processes modeling. They can also describe the steps in a use case diagram.

Figure 4.7 Activity Diagram

Chapter: 5
Implementation

5.1 Output

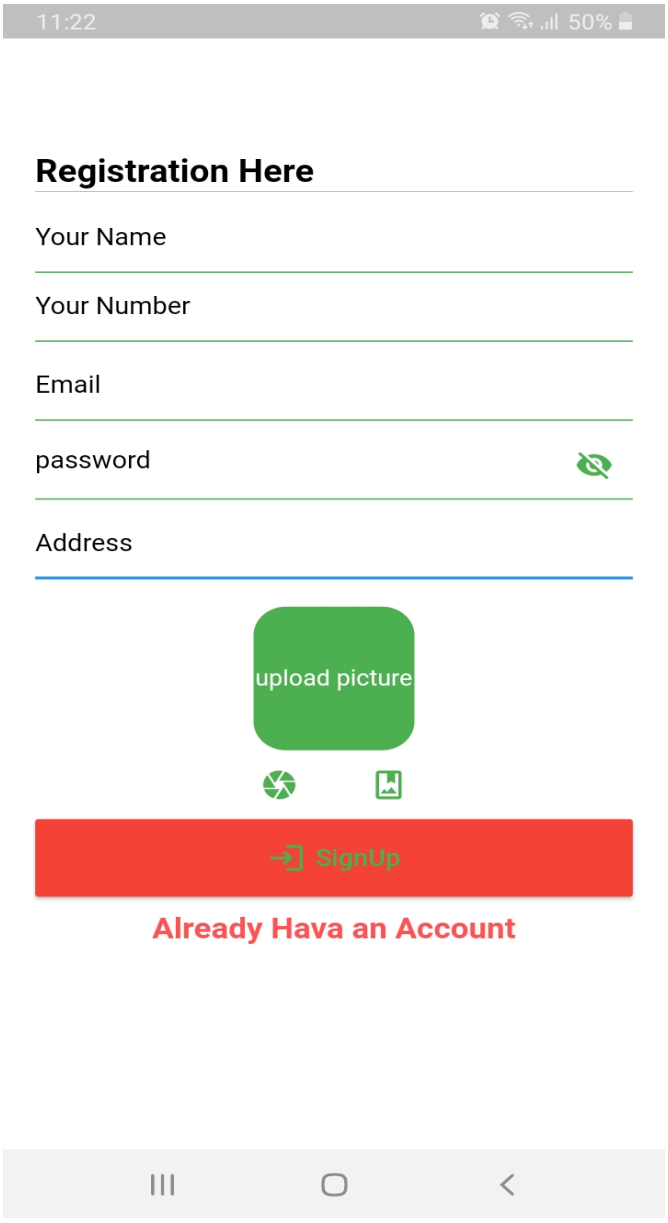

Figure 5.1: Registration page

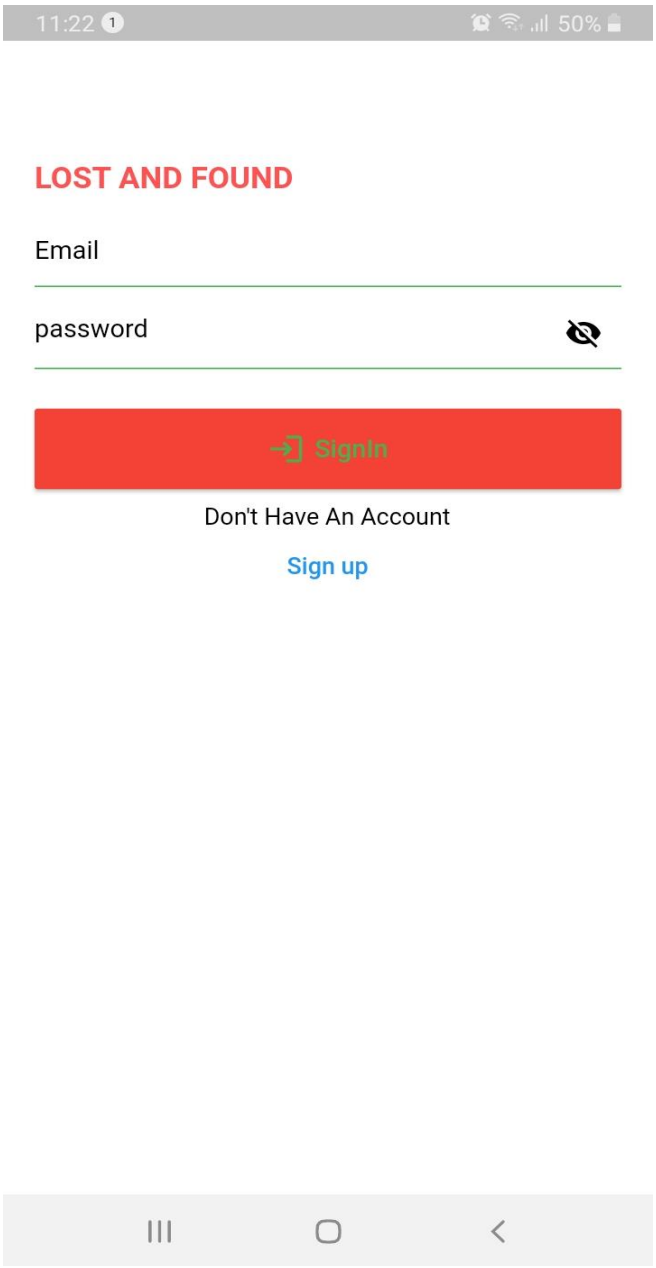

Figure 5.2: Login page

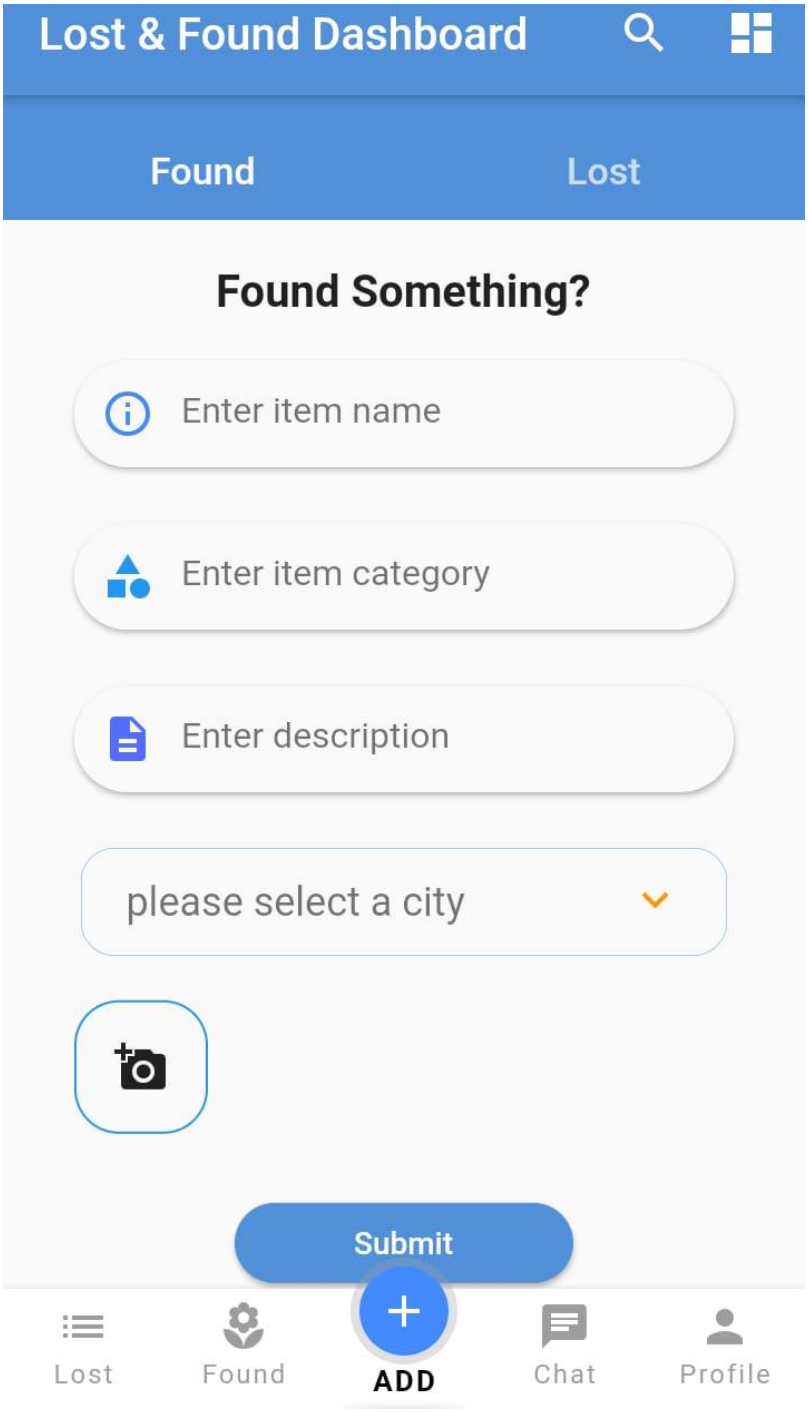

Figure 5.3: Dashboard

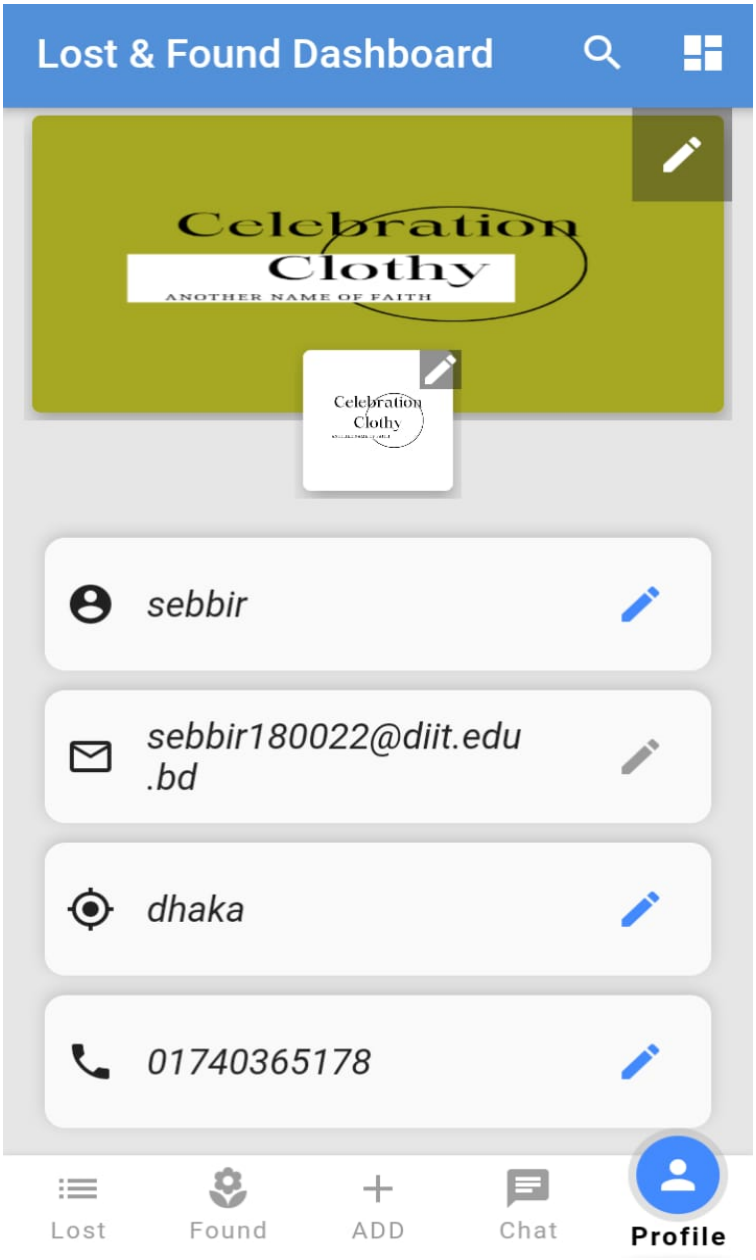

Figure 5.4: Profile page

Chapter: 6
Future Enhancement and Limitation

6.1 Future Enhancement:

We took into consideration the main trends which are affecting all industries, including the arrival services:

Increasing use of connected and mobile devices such as smartphones, tablets and wearables. Growing interest of the end-customers to be in charge, to be able to do things themselves. Standardization of the systems used for a better system compatibility and data integration for more business intelligence. Lost & Found operations of the future will not be limited to the arrival hall of the airport, but will also extend on the plane and outside the airport. Agents' tasks, and especially the back office ones, will be more and more automated thanks to the growing intelligence of the connected systems (DCS, bag sorter, internal system, etc.)[3]. Passenger will be offered a wide range of possibilities to declare and track their delayed bag so that each of them can use the one he finds the most adequate.

6.2 Limitation:

In this lost & found system, everybody needs to register and login to use the system. Users can view some of the web pages without login. Users can search for lost and found issues without login. But they cannot post any lost or found issues without signing up and logging in.

Internet connection must be needed otherwise it is not accessible.

Chapter: 7
Conclusion

7.1Conclusion:

People are missing all the time all around the world. The number of missing people is rising every single day. So, the necessity of lost & found services has risen as it's not possible for police or other authorities to tackle this problem alone. We have analyzed and researched some solutions and found that online-based solutions will be the best in this situation. Nowadays, people greatly rely on the internet for everything. From groceries to tele-medicine, banking to online transactions, everything is being done online. So, for this problem we also need an online solution. It's not feasible for people to look for their missing near and dear ones by walking on the road. But our system is very beneficial for all kinds of people. If anyone goes missing and their relatives post about the missing person online with all the necessary details, then everyone may keep their eyes open to find the missing person. If found, they can also post in our system so those who are lost can easily connect with the missing person. This web-based application will create a connection between lost and found people. That's why we think our lost & found system is an innovative system and will provide a lot of help to society. As mentioned above at 4.9, image processing will be added in our system, so that if anyone finds an underage child or physical or mentally challenged person or any old person who are unable to tell their name or any other information, the person who found can just click a picture and post in our system and also can search in the missing section using image. We will also make the system automatically send messages and emails to the users if the system found some matching result with the lost or found issue that the user created.

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Reference format for journal paper:

[1]Jon ro, and George H. John. (2007), " subset selection" AI,80-82.

Reference format for Book :

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[8] Allan, Richarz retrieved date:[10,February, 2020], online content

Appendix:

```
class _SignInPageState extends State<SignInPage> with
SingleTickerProviderStateMixin{


 final TextEditingController _nameController = TextEditingController();
 final TextEditingController _numberController = TextEditingController();
 final TextEditingController _emailController = TextEditingController();
 final TextEditingController _passWordController = TextEditingController();
 final TextEditingController _addressController = TextEditingController();


 final auth = FirebaseAuth.instance;


 void registerUser({required String email, required String password}) async {


  if(globalKeyForm.currentState!.validate()) {
    await auth.createUserWithEmailAndPassword(
        email: email,
        password: password
    ).then((value) => {
      postDetailsToFireStore()
    }).catchError((e){
     print(e);
    });
  }
 }


 postDetailsToFireStore() async{
```

```
  FirebaseFirestore firebaseFireStore = FirebaseFirestore.instance;

  User? user = auth.currentUser;
  UserModel userModel = UserModel();

  userModel.email = user!.email;
  userModel.uid = user.uid;
  userModel.name = _nameController.text.toString();
  userModel.phoneNumber = _numberController.text.toString();
  userModel.address = _addressController.text.toString();

  await firebaseFireStore.collection("users")
      .doc(user.uid)
      .set(userModel.toMap());

  Navigator.push(context, MaterialPageRoute(builder: (_) => AddScreen()));
}

final globalKeyForm = GlobalKey<FormState>();
bool _obscureText = true;
final ImagePicker _picker = ImagePicker();

XFile? image;

List<XFile>? images;

fromCamera() async {
  image = await _picker.pickImage(source: ImageSource.camera);
```

```
  setState(() {

  });
}

fromgellry() async {
  image = await _picker.pickImage(source: ImageSource.gallery);
  setState(() {});
}

pickmultiImages() async {
  images = await _picker.pickMultiImage();
  setState(() {

  });

}


fromGellary () async {
  image = await _picker.pickImage(source: ImageSource.gallery);
  setState(() {
  });
}

@override
Widget build(BuildContext context) {
```

```
Size size = MediaQuery.of(context).size;
return Scaffold(
  backgroundColor: Colors.white,
  body: Stack(
   children: [
    //
    Padding(
     padding: const EdgeInsets.symmetric(horizontal: 20.0),
     child: ListView(
      children: [
       SizedBox(height: size.height*0.1,),
       RichText(
        text: const TextSpan(
          children: [
           TextSpan(text: 'Please Fill-Up the ',style: TextStyle
            (color: Colors.redAccent,fontWeight: FontWeight.bold,fontSize:
20),),
           TextSpan(text: 'Form',style: TextStyle
            (color: Colors.green,fontWeight: FontWeight.bold,fontSize: 20)
           ),

          ]
        ),
       ),
       const SizedBox(height: 7,),
       Form(
        key: globalKeyForm,
        child: Column(
         children: [
```

```
TextFormField(
  validator: (value){

if(value!.isEmpty){
```