AUTO SILENT APPLICATION BASED ON SELECTED LOCATION

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AUTO SILENT APPLICATION BASED ON SELECTED LOCATION

SUHAIB SAMEER RAHEEM

A thesis submitted in fulfilment of the
requirements for the award of the degree of
Bachelor of Computer Science (Software Engineering)

School of Computing
Faculty of Engineering
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DECLARATION

I declare that this thesis entitled *"AUTO SILENT APPLICATION BASED ON SELECTED LOCATION"* is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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DEDICATION

This thesis is dedicated to my father, who taught me that the best kind of knowledge to have is that which is learned for its own sake. It is also dedicated to my mother, who taught me that even the largest task can be accomplished if it is done one step at a time.

ACKNOWLEDGEMENT

While preparing this report, I was guided by some people who helped me to achieve the biggest benefit understanding and determine the right implementation of my study. In addition, I would like to thank my supervisor Mr. Karzan for his contribution, help, and guides. Also, I would like to thank my UTM supervisor for her contribution towards me. To all thanks for your guides and support and wish me better luck.

ABSTRACT

The purpose of my study is to improve an application that help most lecturers, employees, and even students to silence their phones automatically and only once for each area. This application will use access to your phone GPS throw the application maps to silent an area once you select it on the map. Another feature is that the user can silence their phones based on the time schedule if the area is out of the map or they don't want their phones to be silent the whole time in that area. The real-world issue that motivated me to create this application is that most of us have experienced this kind of issue while being in work, or in an important interview, or in class while giving a lecture, or even being a student. This application is an android phone application since the real problem is based on the phone. The rest of this report will definitely introduce you to my statement and implementation. this report will containing software methods and tools that support the selected topic of software development process. This tools will help to construct the system diagrams and interface design. the system will be tested below as well, with proper testing methods as{ use case testing, black box testing, and white box testing}. this paper will provide some of the proposed system code in chapter five.

ABSTRAK

Tujuan kajian saya adalah untuk menambah baik aplikasi yang membantu kebanyakan pensyarah, pekerja, dan juga pelajar untuk menyenyapkan telefon mereka secara automatik dan sekali sahaja untuk setiap kawasan. Aplikasi ini akan menggunakan akses kepada GPS telefon anda membuang peta aplikasi untuk menyenyapkan kawasan sebaik sahaja anda memilihnya pada peta. Ciri lain ialah pengguna boleh menyenyapkan telefon mereka berdasarkan jadual waktu jika kawasan itu berada di luar peta atau mereka tidak mahu telefon mereka senyap sepanjang masa di kawasan itu. Isu dunia sebenar yang mendorong saya untuk mencipta aplikasi ini ialah kebanyakan kita pernah mengalami isu sebegini semasa berada di tempat kerja, atau dalam temu bual penting, atau dalam kelas semasa memberi syarahan, malah menjadi pelajar. Aplikasi ini adalah aplikasi telefon Android memandangkan masalah sebenar adalah berdasarkan telefon. Selebihnya laporan ini pasti akan memperkenalkan anda kepada kenyataan dan pelaksanaan saya. laporan ini akan mengandungi kaedah dan alatan perisian yang menyokong topik proses pembangunan perisian yang dipilih. Alat ini akan membantu untuk membina rajah sistem dan reka bentuk antara muka. sistem akan diuji di bawah juga, dengan kaedah ujian yang betul seperti{ ujian kes guna, ujian kotak hitam dan ujian kotak putih}. kertas kerja ini akan menyediakan beberapa kod sistem yang dicadangkan dalam bab lima.

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LIST OF ABBREVIATIONS

IOT	-	Internet of Things
UML	-	Unified Modelling Language
GUI	-	Graphical User Interface
PSM1	-	Project Sarjana Muda 1
OS	-	Operating System
PSM2	-	Project Sarjana Muda 2
UTM	-	Universiti Teknologi Malaysia

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Chapter 1

Introduction

1.1. Introduction

In a certain point we all have meetings to attend or places to work in, and one of the things we need to do before entering the meeting or entering that place is making our cellphones silent. Because were highly recommended to respect that place or the other people in that place. The usual way is to make our phones silent before entering that place, but have you ever forgot to make your phone silent. It usually rings when we forget to make them silent. We all have other concerns that might make us unaware of making out phones silent. The current problem is do we always have to make our phones silent? The answer is yes for the current moment. Then what do you think the solution is. In this project am going to develop an application that make your cellphone silent based on GPS and calendar. In the app you will be able to locate a place on the GPS like for example the university and every time you enter the university your cellphone will be silent automatically. Or you can assign your current week meetings on the calendar and the phone will be silent on that time.

1.2. Problem background

A person has a meeting in a place with other coworkers. The meeting starts and in the middle of the presentation the phone rings. for some of us but at that moment his thoughts got scattered. For a moment he felt shy of the current accident. A lecturer is giving a lecture in the university. Before the class starts, he asks the students make their phones silent but he forgets to make his silent. The class starts and while he's giving the lecturer his phones rings. The same lecturer who made his phone silent in the university he gets off to home, his kid calls him but his phone silent. Technically

the usual way of silent your phone is manually done; my application will convert it to automatic concept whenever the user enters an area.

1.3. Project aim

The aim of this project is to develop an efficient android auto-silent application that can switch your phone silent once you enter an area based on the maps provided in the application. Also, focusing on maintaining the system with the required materials I have to achieve a high level of development. Another aim is to give a proper design that interact with the user feelings in a good way. Also, by Providing Timely Updates/Communication in the future because I would like to keep this application for myself after proposing it to you. The last thing is focusing on is include all the important materials about the application provide all necessary icons pages and backups that a user may need while using my application.

1.4. Objectives

The objectives of the project are:

i. To analyze the system requirements and the system introduced above.
ii. To design an application that serves the user needs and focus on producing a user-friendly design based on the elicited requirements.
iii. To develop an application that can help the user on their daily task based on the system requirement and the application design
iv. To test the system with appropriate testing techniques (functionality testing, recoverability, performance, stability, reliability, security, usability)

1.5. Scopes

In this project am trying to achieve the biggest benefit for the users by offering them a proper application that they can use in their normal day life. Simply the program is an application that can mute itself based on a targeted area on the application map, if you enter this area the phone will be silent automatically. Also, you can schedule a certain time in your mobile phone and the application will mute itself at that time. The purpose of the program is that some of us forget to mute their phones when they go to a meeting or going to al masjid or elsewhere and in such places, we don't want our phones to wring because it's going to be embarrassing for us. For example, someone has a meeting in a specific place, instead of muting his phone which he might forget, he only has to select that place on the application map and the phone will be silent as he/she enter that area. "He can select the location on his phone by using the maps provided in the application". So, when you reserve an email or a phone call you can go to the application- open the maps- select the place you have meeting in- and save, when you enter the location, your phone will be silent. The aim of this program is serving the community and employers by giving the application that might make their normal life tasks easier.

1.6. Importance of the Project

This system is developed to make you tide your rotten more by specifying the places and time on your timetable. I believe everyone including myself we need such an application, because we all have meeting and jobs that required us to have our phones silent while attending. For example, when a lecturer attends the university, he/she need his/her phone to be silent and, they also might have to attend a meeting on other places but they got the instruction a week before the meeting so all what they need to do is to sign in and select that area on the application maps once they enter that map the phone will be silent.

1.7. Report Organization

So far, I have discussed the introduction, problem background, project aim, objectives, scope and importance of the project. In the next chapter I will be discussing literature review (introduction, inter-organization, current system analysis, compare between current system, literature review on tech used and chapter summery). after literation review i ll be discussing chapter three methodology. and the chapter four design and Constance. and after that chapter five implementation and testing. and the last chapter will be conclusion.

Chapter 2

Literature Review

2.1. Introduction

We all been in a situation when we forget our phones on general mode, it causes some of us embarrassment among others in the same room or in that place. The system I have proposed, will provide the user with the necessary features, to solve this issue. this chapter will provide an insight of my system and other system that have the same concept as mine, to provide a clear idea of my system to the reader. The system will work based on location and time schedule to make your phone silent on that specific time or location. The other systems will help me to consider what is needed to include in my system, also what will be needed to improve within my system. This will provide a clearer idea on how to improve my system and what user really need of my system. This chapter will maintain inter organization case study, which contain the survey data for the requirement gathering, also it will contain the current system analysis which discuss three current systems that look similar to my system, also a compare between these three systems and there pros. Lastly the literation review on technology used will take place to introduce the reader technologies that will be involved to provide my system.

2.2. Inter organization case study

In order to get the best result on the user needs I had to gather the user requirement the based on that requirement analysis I will determine whether the users are welcoming my system or not, below I created a survey and send it for many users, I got 18 responses on it and here are my data. this survey was taking by qaiwan international university students.

According to the results from the survey the majority of the users:

1- never used such a software or seen any software similar to the one proposed
2- the majority of the users are actually having problems with their phones when it rings in their employment areas

The majority of the users support my idea of having such a system and they believe it would serve them

2.3. Current System Analysis

This section will contain a briefing introduction to discuss three existing systems that might have a similar idea of my project. Cared with a conclusion I made after testing these systems.

2.3.1. Auto silent

Auto silent is an application that enable the user to silent his/ her phone based on scheduled time, it means you have to enter the times that you want your phone to be silent in. There are few features that this application provide, like set time to silent your phone, deletes previous time you set, add new time and set your phone whether to silent or vibration mode. You can also set title for the time you want your phone to be silent in like “pray time or class time” so it’s easier for you to justify the time later. Also, there is a side menu when you can send feedback or request help or share. These are all the features provided on this application.

The positive points of this application its quite simple and functional also it has a user-friendly interface. The negative points are it provide you with only not many

features like only silent your phone on a specific time you set. the application link (https://play.google.com/store/apps/details?id=com.vickyapps.autosilent&hl=ar&gl=US)

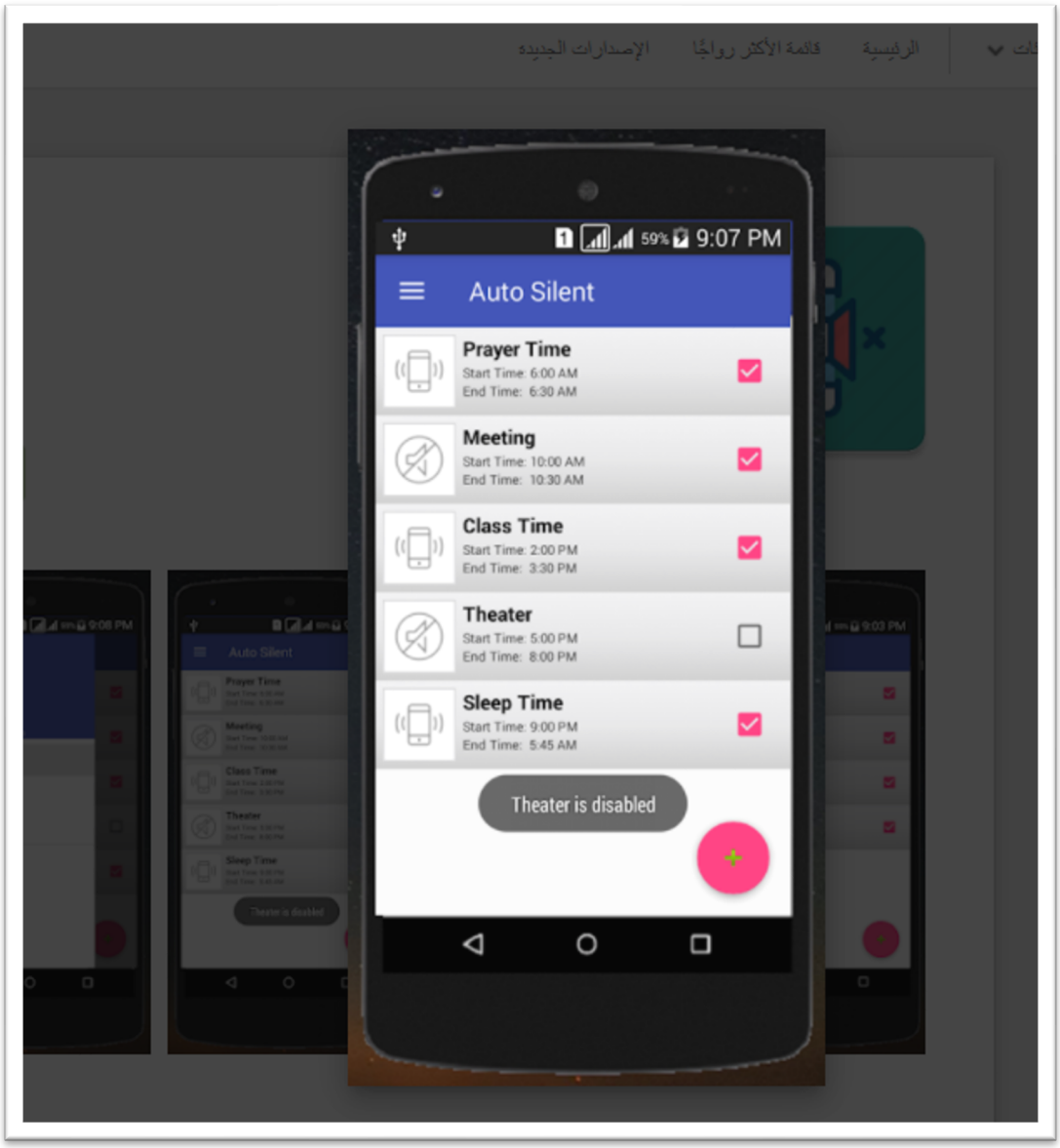

Figure 2-1 SCREENSHOT {Auto silent}

2.3.2. Auto silent phone by location

This application provides the user with only few features. First of all, this application is different that the first one. This application is based on GPS, you select

an area on the application maps and once you enter this area your phone will be silent. The features this application provide are quite few, a map and a button to set your auto silent on and off and it send you notifications when your phone is silent. The positive points about this system well am not sure if this system has positive points but it's quite simple to use by anyone. The negative points are, I have tested the system it's not quite functional and reduce the battery pretty fast. Also, it's a quite pore application it has only few features.

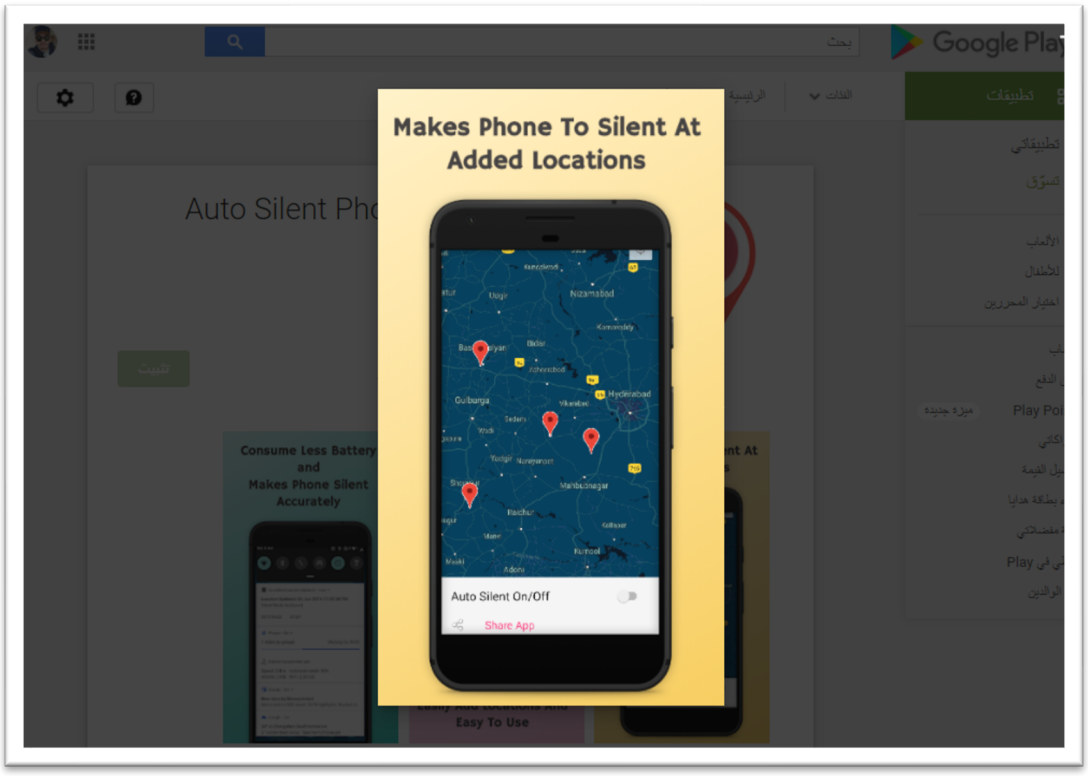

Figure 2-2 SCREENSHOT {Auto silent phone by location}

2.3.3. Polite: automatically silent your phone

This application is quite similar to the first application it enables the user to silent his/her phone based on time schedule but the difference between this application and the first one "auto silent" is that this application give you direct access to the calendar. This will help you also to set the day and time you want your phone to be silent in. other features a set time to silent your phone and set whether its silent or

vibration and also set calendar days to set your phone silent. The positive points on this application, it's quite functional you can set your time and days to silent your phone. The negative points are that the application interface is a bit boring you feel like using a pretty old phone when you use it.

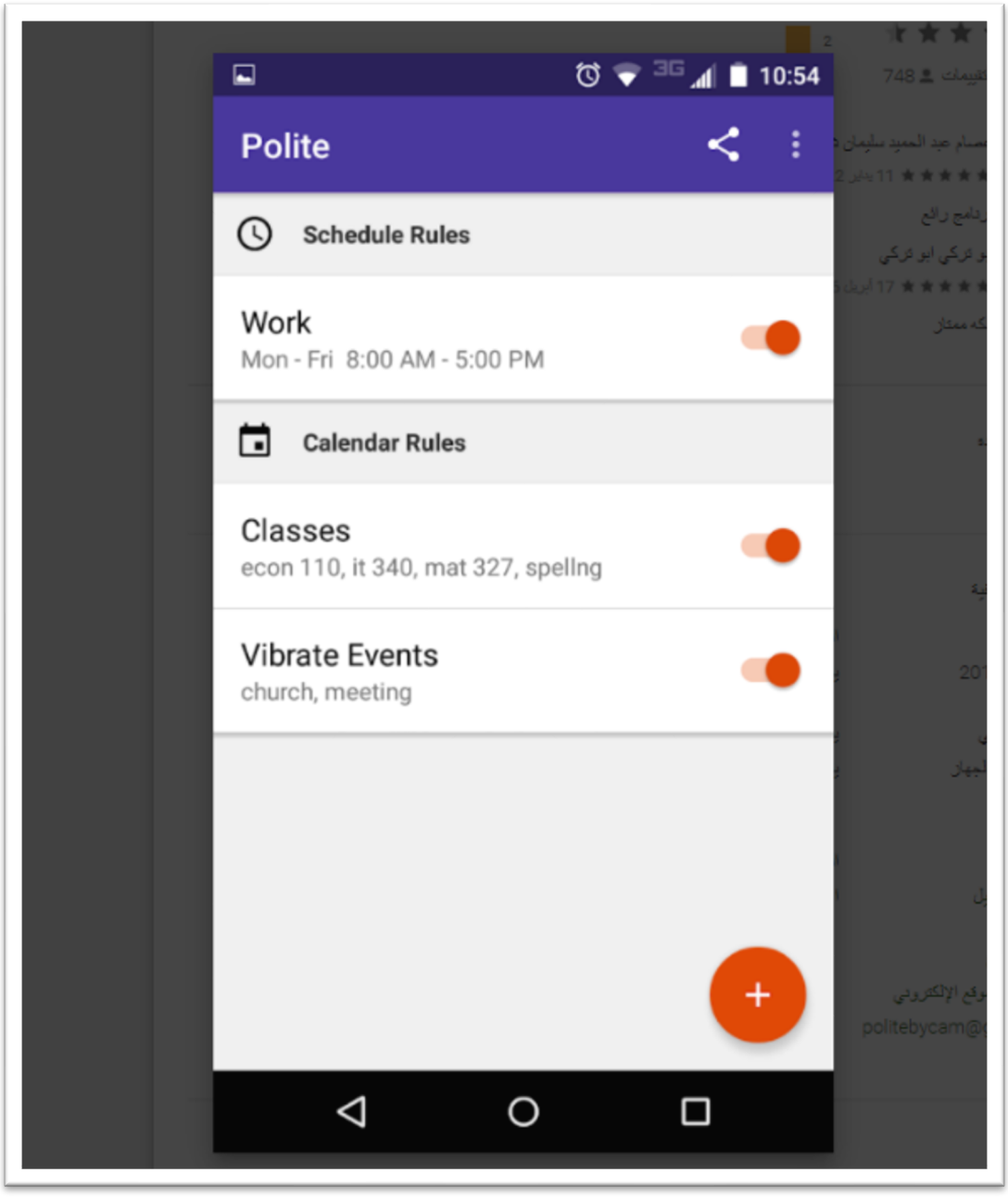

Figure 2-3 {Polite: automatically silent your phone}

2.4. COMPARISON BETWEEN EXISTING SYSTEMS

This section will contain comparison between the three systems that were explained earlier. Based on features that are provided and the system functionality as well.

Table 2-1 {COPERSISION BETWEEN EXCITING SYSTEMS}

Features & functionality	Auto silent	Auto silent phone by location	Polite automatically silent your phone
Silent phone based on GPs	No	Yes	No
Silent phone based on time schedule	Yes	No	Yes
Provide notification to the user	No	No	Yes
Simple and easy to use (not complex) User friendly interface	Yes	Yes	Yes
Android mobile application	No	No	No
Provide user support	Yes	Yes	Yes
Languages used	Yes, Only English	No Only English	No Only English

These are the **bad characteristics** I need to avoid in my system

1- Not fully functional application
2- Not including the needed features for the user
3- Creating a complex application
4- Not providing enough languages
5- Not providing system support for the users
6- Old boring not user-friendly interface

Necessary characteristics to include in my system:

1- Enable the user to silent their phone based on location and time schedule.
2- Provide user friendly interface with the most modern techniques.
3- Mobile application only for android.

4- Provide technical support for the user.
5- Provide three languages English/ Kurdish/ Arabic.
6- Provide offline mode with downloaded maps.
7- Include database to save locations and scheduled times.
8- Add feedback field to help the user with a better service.

2.5. Literature Review ON Technologies Used

These are the technologies that will construct my application. A briefing introduction is provided for each technology just to introduce the reader to the technology and the reason why I picked that technology.

2.5.1. Database

Firebase technology allows developers to create mobile and online applications. It started off as a stand-alone business in 2011. Google bought the platform in 2014, and it is currently their main product for app creation.

2.5.2. Mobile Framework

Flutter is a cross platform you code in one repository that can handle both mobile OS which is IOS and android without recode for any of them, also It helps produce the smooth, crisp experience you typically only see with native applications, there are other platforms ether than flutter to use like react native but the reasons why am going to use flutter is Flutter provides complete freedom when it comes to developing user interfaces, independent of platform. The framework accomplishes this

by displaying widgets using its own rendering engine. Many cross-platform solutions have the identical appearance on iPhone and Android, which is a concern.

2.5.3. Servers

Google Play and formerly Android Market is a digital distribution service operated and developed by Google. It is the official app store for Android certified devices, allowing users to browse and download apps developed using the Android SDK and publish them via Google.

2.6. Chapter Summary

So far in this chapter I have discussed the interview where I have explained the content of my report and the process am going throw to revel my progress to you after the review, I have discussed the current system analysis where I brought and explained the systems that are similar to the system am going to develop after that I have discussed the comparison between the current systems where I have compared between the systems I have analyzed. Then I have reviewed the LR review on technology used where I have mentioned the technologies, I will use to build my application. This is all for this chapter I hope I did well.

Chapter 3

METHODOLOGY JUSTIFICATION

3.1. Introduction

As a developer we are frequently hustling with the evolving transformation, i.e., “how software program receives built.” Moreover, programming developers face countless alternatives to place sources into new technology, platforms, and particularly qualified & highly-priced staff that could or might not get connected with income and performances. As for such gaps we refer to software development methodology, that help us making a conventional discussion platform and characterize how information is swapped among colleagues working on the same project. Also Sticking to an appropriately characterized methodology empowers a project to give better estimates of our current development progress. my software “silent me” will determine the suitable software developing methodology I will reveal the final cover of my system, also it will help me deduct the complexity of my chosen system. After along search and studding of all the software development methodologies I have a slight idea of the most suitable one to involve in my system.

3.2. Methodology Choice and Justification

To run or manage your project efficiently, as a Software engineer you need to choose the software development method that best suits your needs. All methods have their strengths and weaknesses and have been developed for a variety of application scenarios. As for my chosen system I would rather to choose AGILE development method. The main reason why I have chosen Agile is that Agile software development methodology refers to the ability to make and work on changes. This is a long-term endurance method for adapting to changing climates. According to the creators of the

Agile Manifest, it means the ability to adapt and respond to change. In other words, agile is an iterative way to handle both software development and project management, relying on consistent planning, learning, improvement, collaboration, and early delivery. Their ultimate goal is to evoke adaptive response to change. Also, on any process of the development progress agile makes it possible for you to make changes or separate the main tasks to sub tasks.

3.2.1. Pros of Agile Software Development Methodology

a) Agile offers a great product because it includes short iterations, easy testing and bug-free support.
b) It provides room for innovative enhancements and changes in software management.
c) Direct customer response and consistent input leave no room for guesswork.
d) The budget is very well planned

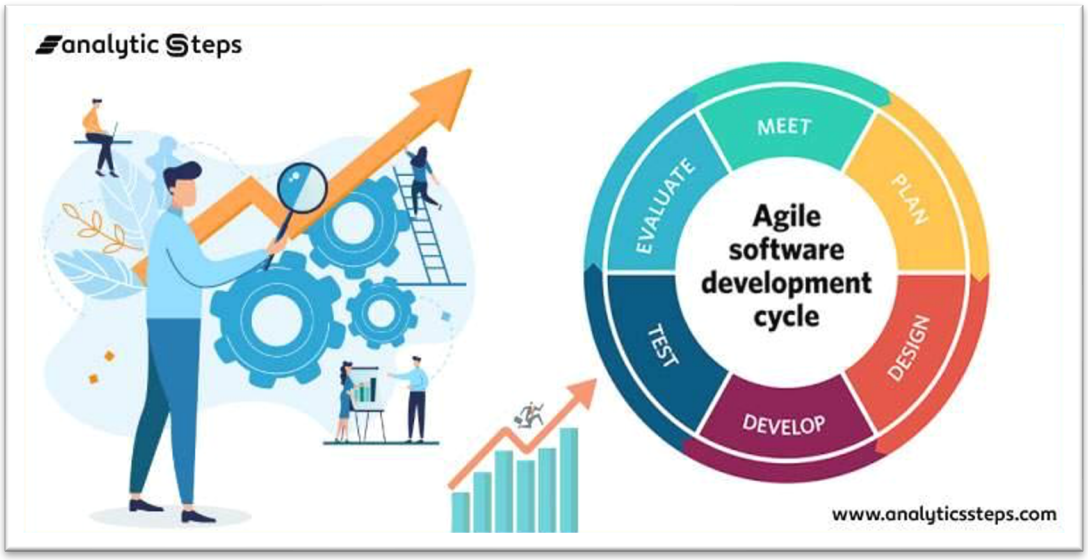

Figure 3-1 AGILE METHODOLOGY

As shown in the above figure we can separate each of our development progress into sub tasks to reduce complexity and establish good quality of our final product.

3.3. Phase within the chosen methodology

As mentioned, the Agile software development life cycle consists of six phases. Let’s examine each of these Agile phases in more detail.

3.3.1. Requirements

Software requirements are a description of the features of the target system. Requirements convey user expectations for software products. The requirements are obvious or hidden from the customer's point of view, known or unknown, expected or unexpected. There are two main requirements for any software under development “functional requirements” and “nonfunctional requirements” the functional requirement (FR) is a description of the services that the software must provide. Describes a software system or its components. this could be computation, data manipulation, business processes, user interactions, or other specific features that define the features that the system is expected to perform. The nonfunctional requirements (NFRs) define system attributes such as security, reliability, performance, maintainability, scalability, and ease of use. These act as constraints or limitations on the design of the system across various backlogs. Guarantees the ease and effectiveness of the entire system.

3.3.2. Design

Software design is the process by which an agent uses a set of primitive components and is constrained to create specifications for software artifacts aimed at achieving a goal. Software design usually involves solving problems and planning software solutions. There are many designs software's I can use to design my system like: sketch, adobe XD, marvel, proto.io and other design software's.

3.3.3. Development and coding

Development and coding goal is to implement the instruction set in a way that is understandable and optimal for the machine. Development is about providing and maintaining the actual product. Development involves the process of creating a complete package for end-user pleasure and satisfaction.

3.3.4. Integration and testing

Integration testing (sometimes called integration and testing, also abbreviated as I & T) is a software testing phase in which individual software modules are combined and tested as a group. Integration tests are performed to assess the suitability of a system or component for a given functional requirement.

3.3.5. Implementation

The process of introducing and integrating software applications into a business process. software must be evaluated and selected for needs, budgets, potential

benefits, barriers, etc. before implementation. Once the solution is selected, you can start implementing.

3.3.6. Review

A software review is a process or meeting in which a software product is inspected for comment or approval by a project contributor, manager, user, customer, user representative, or other stakeholder.

3.4. Design modeling

3.4.1. Use case diagram

A use case diagram is a diagram of a user's potential interactions with the required system. A use case diagram shows the different use cases and different kind of users a system has and is often accompanied by other sort of diagrams as well. Use cases are represented by either circles or ellipsis.

3.4.2. Activity diagram

A process diagram or activity diagram is a graphical representation of an activity's workflow and step-by-step actions, supporting selection, iteration, and concurrency. In UML, process diagrams are intended to model data flows that intersect both computational and organizational processes, as well as related activities.

3.4.3. Sequence diagram

A sequence is a type of UML class diagram that provide the interaction of elements over a time sequence and depicts the objects and classes contained in a programming scenario and the sequence of messages exchanged and transferer between the objects to properly execute the scenario.

3.4.4. DFD (data flow diagram)

A data flow diagram depicts the flow of data between several business operations. It's also a graphic representation of the information flow that's used to move data from input to output. It describes business operations in a straightforward and accessible manner, without emphasizing on computer system details.

3.4.5. ERD (entity relationship diagram)

An entity relationship diagram (ERD), often called an entity relationship model, is a graphical depiction of relationships between people, objects, places, concepts, and events in an information technology (IT) system.

3.4.6. System architecture diagram

An architecture diagram is a system diagram that abstracts the overall structure of a software system as well as the interactions, constraints, and boundaries between its components. It's a crucial tool since it gives you a bird's-eye perspective of the software system's physical deployment as well as its evolution path.

3.5. Design tools

There are a lot of designing tools for software modeling but the one I prefer and the one I have been using since I started software ENG is “drow.io”. It’s an amazing designing tool that give you the freedom to adjust your design the way you like to. Also, it has all the features you need to design the software modeling.

3.6. DESCRIBING THE TECHNOLOGY OR TOOLS USED TO DEVELOP THE SYSTEM

- Data base: Firebase technology allows developers to create mobile and online applications. It started off as a stand-alone business in 2011. Google bought the platform in 2014, and it is currently their main product for app creation.
- Mobile framework: Flutter is a cross platform you code in one repository that can handle both mobile OS which is IOS and android without recode for any of them, also It helps produce the smooth, crisp experience you typically only see with native applications, there are other platforms ether than flutter to use like react native but the reasons why am going to use flutter is Flutter provides complete freedom when it comes to developing user interfaces, independent of platform. The framework accomplishes this by displaying widgets using its own rendering engine. Many cross-platform solutions have the identical appearance on iPhone and Android, which is a concern.
- Servers: Google Play and formerly Android Market is a digital distribution service operated and developed by Google. It is the official app store for Android certified devices, allowing users to browse and download apps developed using the Android SDK and publish them via Google.

3.7. SYSTEM REQUIRMENT ANALYSIS INCLUDING HARDWARE AND SOFTWARE

Software requirements analysis are the requirements that software requires to improve the quality of a software or hardware of a product. There are several activities involved in analyzing Software requirements. Some of them are given below:

The minimum requirements to run android OS on a device is the same requirements to run my application. The requirements are

Table 3-1 {SYSTEM REQUIREMENTS HARDWARE AND SOFTWARE}

Hardware & software details	Minimum requirements
CPU speed	Quad core 1.2 GHZ
RAM	2GB
Main camera resolution	>3 MP
Internal storage	16GB
External storage	Micro SD (up to 64 GB)
Location	GPS functional
Connection	WI-FI and 4G connection

3.8. Chapter Summary

So far in this chapter I have discussed the introduction when I explained the development methodology in general and then I explained methodology choice and justification in that part I explained why I chosen agile and the I explained the phases within the chosen methodology in that part I explained agile 6 phases of software development and after that I described the tools and methods I will use to develop the system and the I explained the system requirements analysis for software and hardware. That was all for my chapter thanks.

Chapter 4

Requirements Analysis and Design

4.1. Introduction

Since chapter one, two, and three are done, and these chapters contain the basic intro to my project, here in this chapter you will find me starting with putting my idea on the paper. the first thing to do is to transfer the idea from your mind to the paper which is the most important step. So, starting requirement analysis will demonstrate my idea about my project. The requirement analysis part will contain use case, sequence diagram, and activity diagram. After finishing with requirement analysis, the reader and the evaluator will have an idea of how my project will be. Then after finishing with the requirement analysis, also this chapter will dig into the design part where am going to introduce the DFD (data flow diagram). The DFD will help me maps out the flow of information for any process in my system. Then after that, this chapter will contain the database design which will contain the ERD (entity relationship diagram). This graphical representation will depict the relationship between objects and entities within my system. Just before the summary this chapter will propose the interface design for you which contain the application full design including navigation and bottoms and body pages of my application. At the end of this chapter, you will find the summary which will contain a briefing conclusion of this chapter.

4.2. Requirements Analysis

4.2.1. Use Case

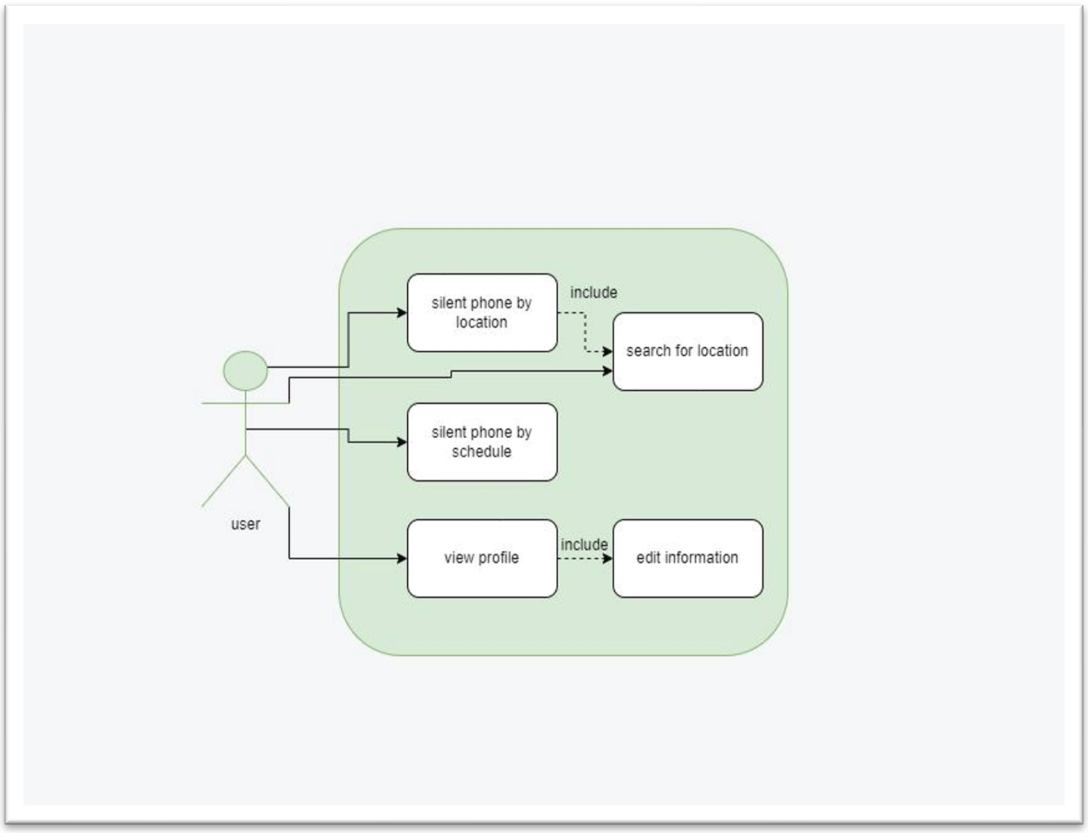

Figure 4-1 USE CASE

This use case will briefly introduce the reader to the first impact of my system. In the use case diagram, the reader will find the summarize details of the system, and how the user will properly interact with it.

4.2.2. Activity Diagram

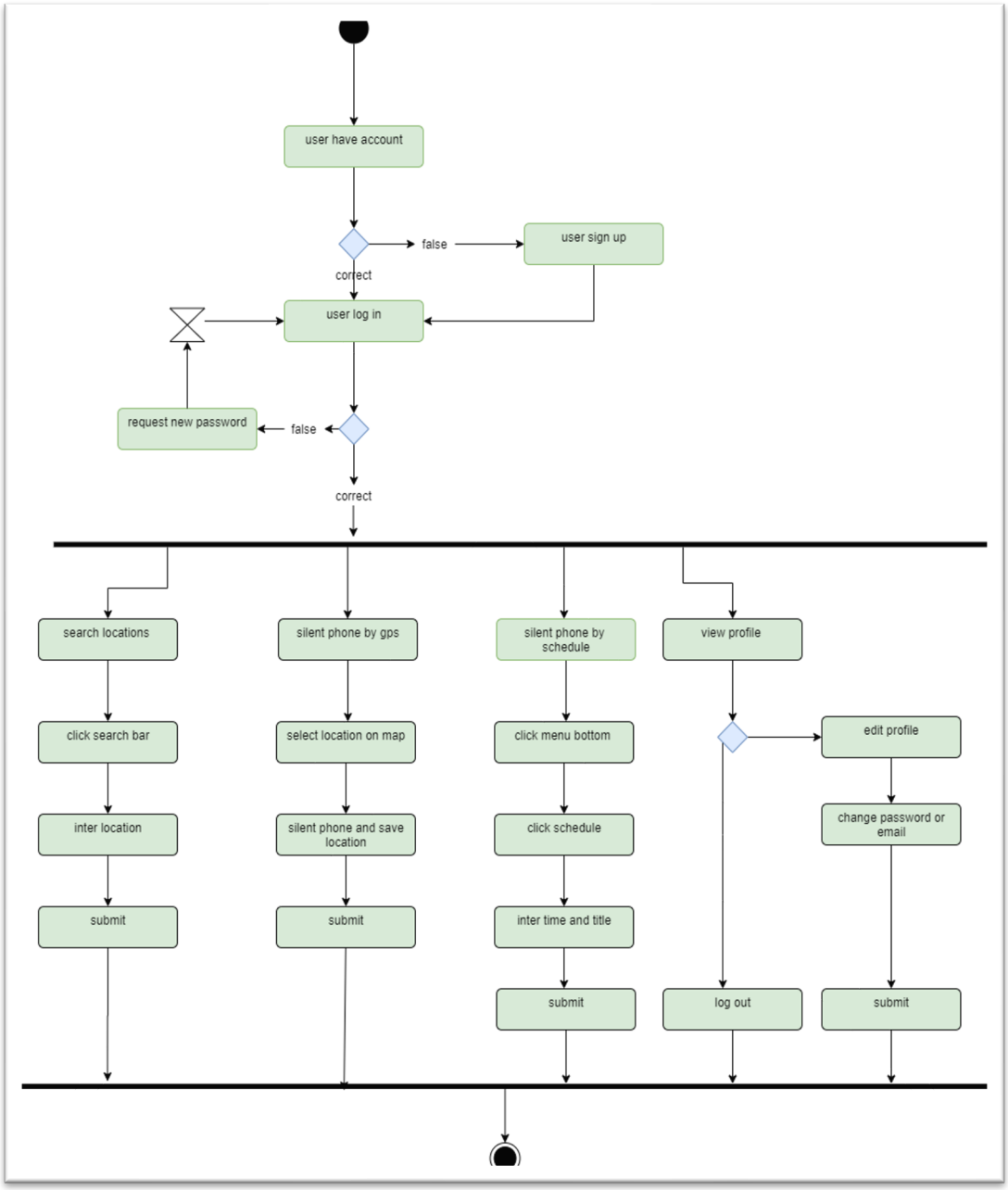

Figure 4-2 ACTIVITY DIAGRAM

To describe the system processes it's better to use activity diagram. This progress of actions will defiantly show the reader how each action of the system is cared, and how these activities transferer to one system.

4.2.3. Sequence Diagram

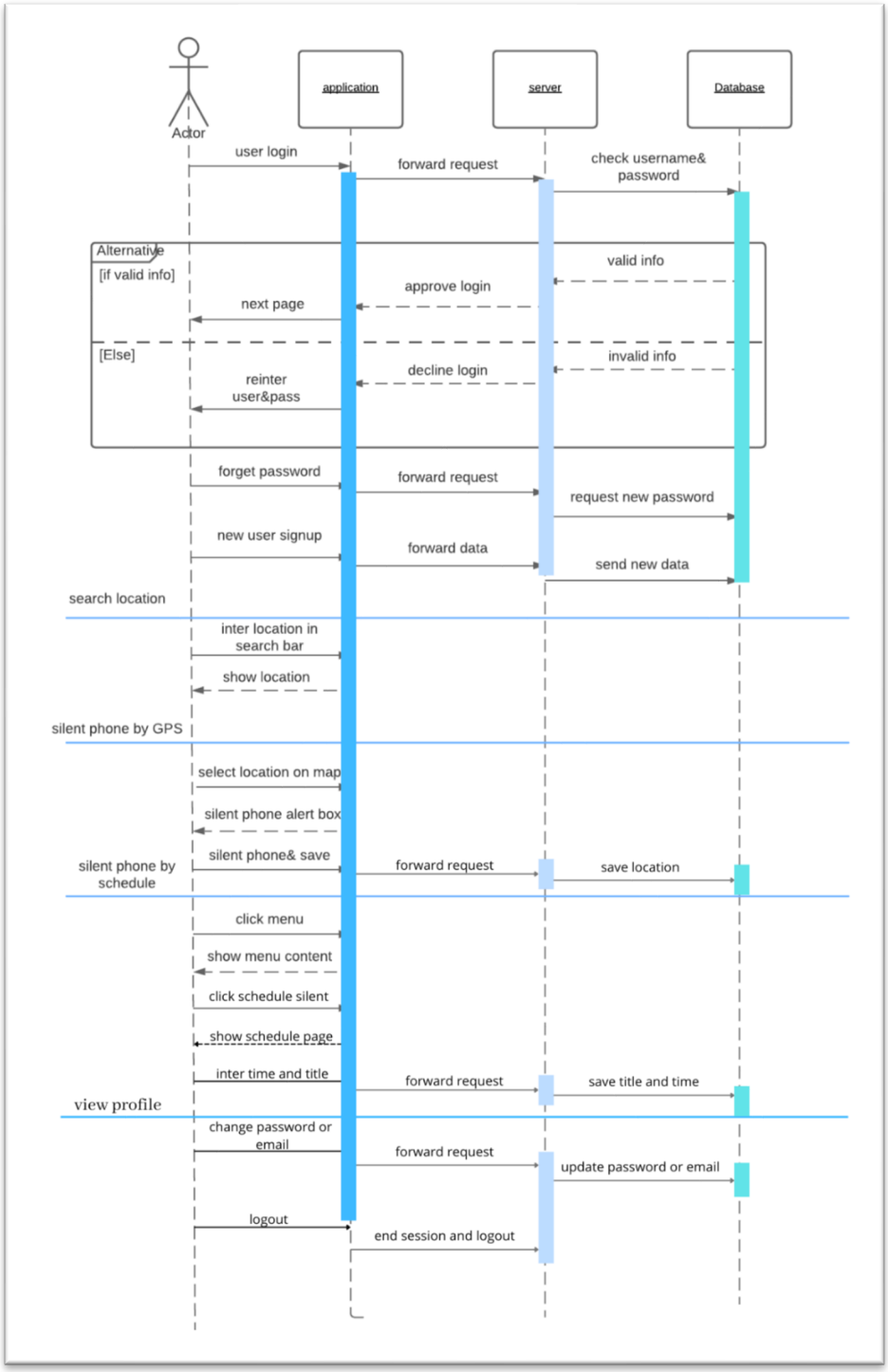

Figure 4-3 SEQUENCE DIAGRAM

In this section (sequence diagram) you will find me illustrate how each case of my system use case diagram works separately. The system is divided to frontend which

I mentioned as application, back end which is the server, and the data base. And the actor is the user who control how the system work.

4.3. Design

4.3.1. Traditional DFD

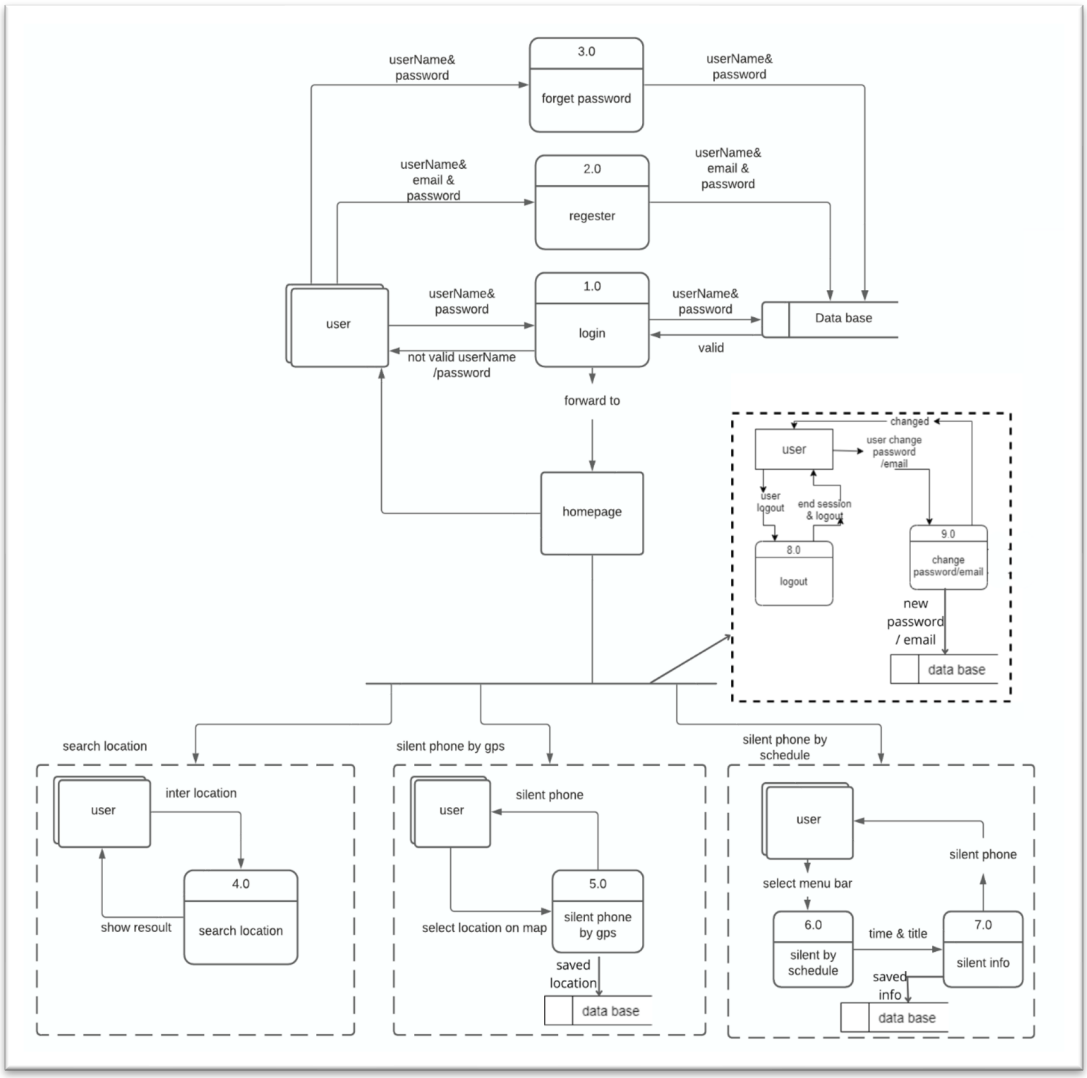

Figure 4-4 DFD

4.3.2. Architecture Style Birds-Eye View

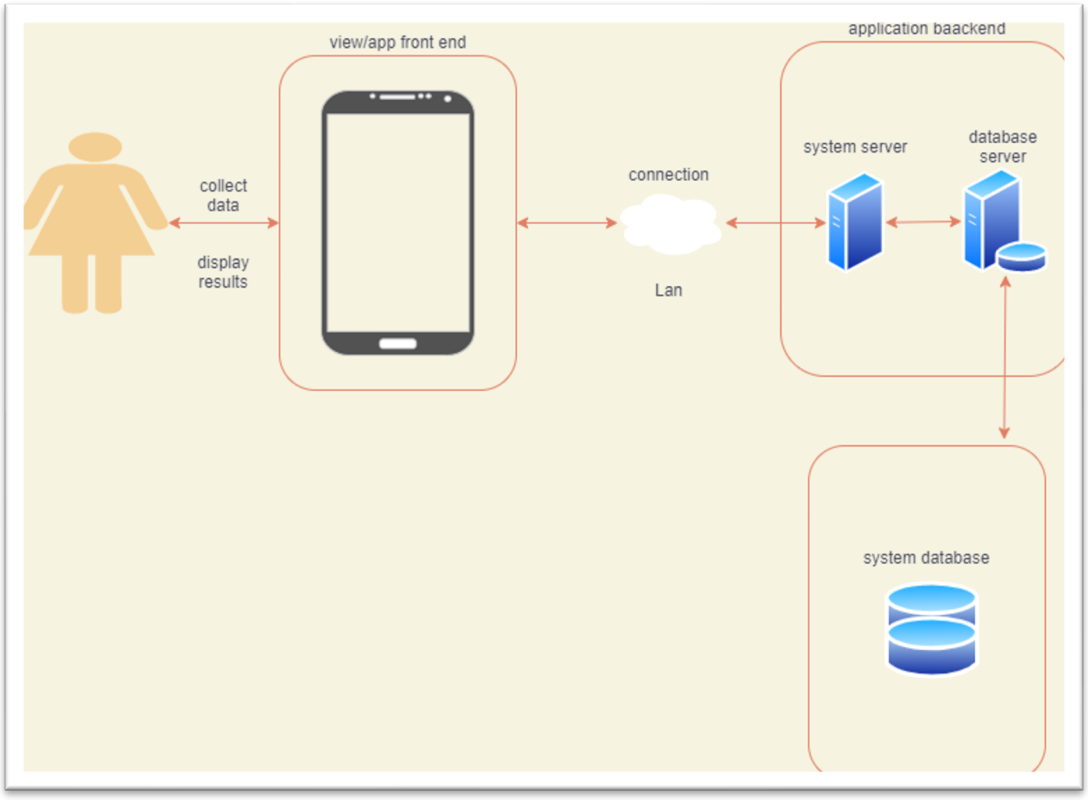

Figure 4-5 SYSTEM ARCHITECTURE

4.4. Database Design

4.4.1. Entity-Relation Diagram

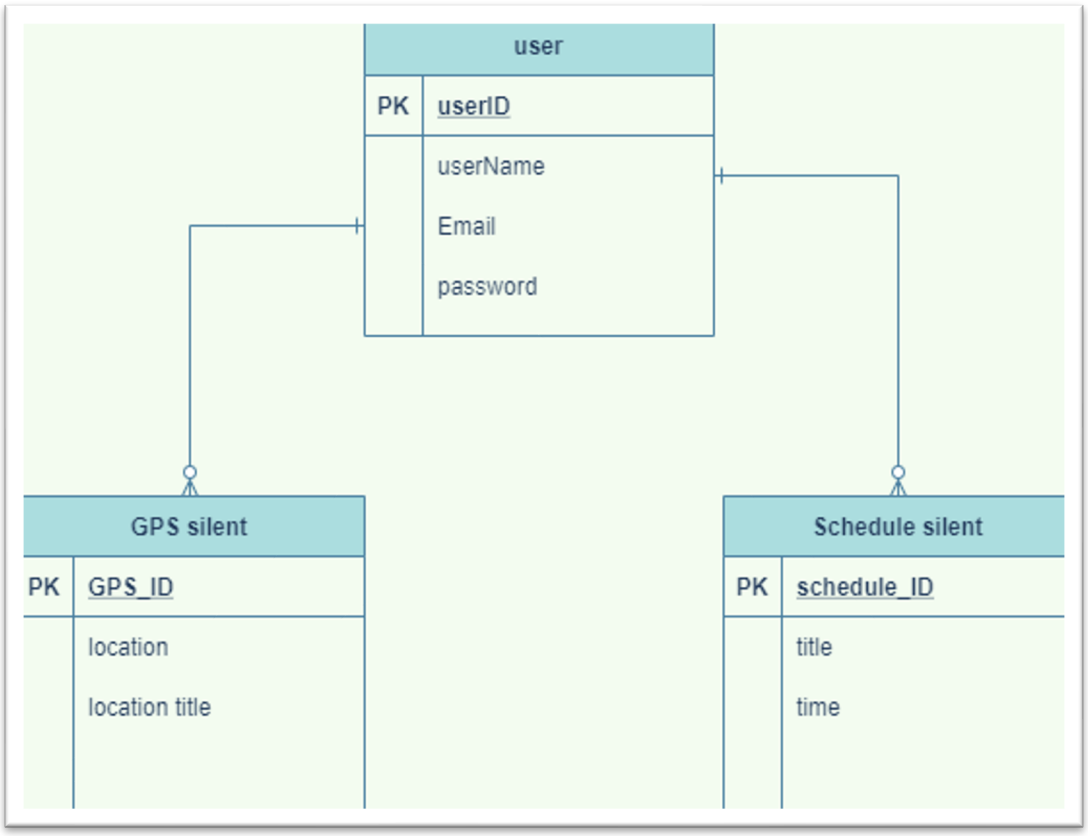

Figure 4-6 ERD

4.5. Interface Design

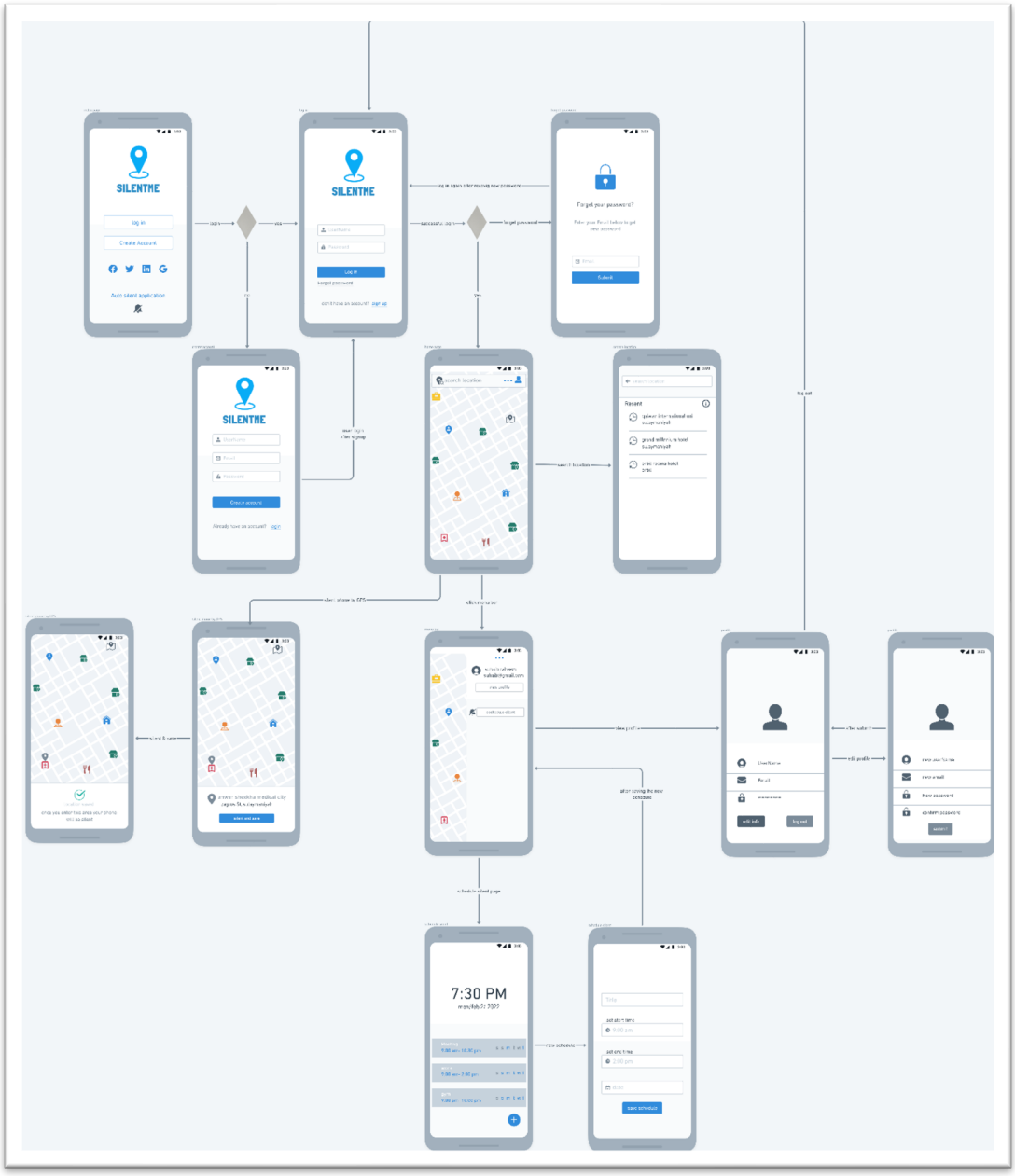

Figure 4-7 Interface

4.6. Chapter Summary

In this chapter I have discussed the requirement analysis and the design of my application, which is the beginning of the application development basic fundamentals.

This chapter consist a constant material that may not be changeable since I started the process of constructing the application. In conclusion this chapter will be the foundation of my future application. Materials included in this chapter are requirement analysis, data flow diagram, entity relationship diagram, and interface design. I hope that I covered all the requirements for this chapter.

Chapter 5

Implementation, and Testing

5.1. Introduction

This chapter will discuss the result of the whole system and the testing phases that have been performed in my system (auto silent your phone based on GPS). The methods of testing that have been performed are 1. Black box testing, which is a technique for evaluating software applications' functionalities without having access to their underlying code structure, implementation details, or internal routes. 2.White box testing, which is a method of software testing where the internal structure, design, and code of the software are examined to ensure input-output functionality and to enhance design, usability, and security. 3.User testing, User testing is the process by which actual users who carry out certain actions under actual circumstances test the usability of a website, app, product, or service. The system is tested to ensure that the system meets the requirements and objectives of the proposed system.

5.2. Coding of System Main Functions

The system has many functionalities all are written in dart language. here is the main functionality in my system.

```
void signIn(String email, String password) async {
  if (_formKey.currentState!.validate()) {
  await _auth
    .signInWithEmailAndPassword(email: email, password: password)
```

```
    .then((uid) => {
     Fluttertoast.showToast(msg: "login success"),
   Navigator.of(context).pushReplacement(
       MaterialPageRoute(builder: ((context) => Homescreen())))// remove semecolum
  } )
   .catchError((e) {
  Fluttertoast.showToast(msg: e!.message);
  });
}}
```

Figure 5-1 log in function

```
void signup(String email, String password) async {
   if (_formKey.currentState!.validate()) {
     await _auth
         .createUserWithEmailAndPassword(email: email, password: password)
         .then((value) => {postDetailsToFirestore()})
         .catchError((e) {
       Fluttertoast.showToast(msg: e!.message);
     });
   }
  }
```

Figure 5-2 signup function

```
postDetailsToFirestore() async {
   FirebaseFirestore firebaseFirestore = FirebaseFirestore.instance;
   User? user = _auth.currentUser;
   UserModel userModel = UserModel();

   userModel.email = user!.email;
   userModel.uid = user.uid;
   userModel.username = userEditingController.text;
   userModel.password = passwordEditingController.text;

   await firebaseFirestore
       .collection("users")
```

```
      .doc(user.uid)
      .set(userModel.toMap());
  Fluttertoast.showToast(msg: "account created successfully :");
  Navigator.pushAndRemoveUntil(
      (context),
      MaterialPageRoute(
        builder: (context) => Homescreen(),
      ),
      (route) => false);
}
```

Figure 5-3 post details to firebase function

This function is used to send data to firebase to store them and then push the user to home page.

```
void initState() {
  super.initState();
  FirebaseFirestore.instance
      .collection("users")
      .doc(user!.uid)
      .get()
      .then((value) {
    // ignore: unnecessary_this
    this.loggedInUser = UserModel.fromMap(value.data());
    setState(() {});
  });
}
```

Figure 5-4 institute function

This function fetches the user data from firebase to the user profile.

```
changePassword() async {
  try {
    await currentUser!.updatePassword(newPassword);
    FirebaseAuth.instance.signOut();
    Navigator.pushReplacement(
      context,
```

```
      MaterialPageRoute(
        builder: (context) => Loginscreen(),
      ),
    );
    ScaffoldMessenger.of(context).showSnackBar(SnackBar(
     backgroundColor: Colors.black26,
     content: Text("Your Password has been change.. Login again! "),
    ));
  } catch (error) {}
}
```

Figure 5-5 edit profile function

This function allows the user to change their password in the edit profile page.

```
//search autoconplete input
          Positioned(  //search input bar
            top:10,
            child: InkWell(
              onTap: () async {
               var place = await PlacesAutocomplete.show(
                      context: context,
                      apiKey: googleApikey,
                      mode: Mode.overlay,
                      types: [],
                      strictbounds: false,
                      components: [Component(Component.country, 'np')],
                              //google_map_webservice package
                      onError: (err){
                        print(err);
                      }
                    );
                  if(place != null){
                      setState(() {
                        location = place.description.toString();
                      });
                    //form google_maps_webservice package
                    final plist = GoogleMapsPlaces(apiKey:googleApikey,
                          apiHeaders: await GoogleApiHeaders().getHeaders(),
```

```
                    //from google_api_headers package
                );
                String placeid = place.placeId ?? "0";
                final detail = await plist.getDetailsByPlaceId(placeid);
                final geometry = detail.result.geometry!;
                final lat = geometry.location.lat;
                final lang = geometry.location.lng;
                var newlatlang = LatLng(lat, lang);
                //move map camera to selected place with animation
mapController?.animateCamera(CameraUpdate.newCameraPosition(CameraPosition(target:
newlatlang, zoom: 17)));
              }
```

Figure 5-6 schedule silent function

1. Login Page

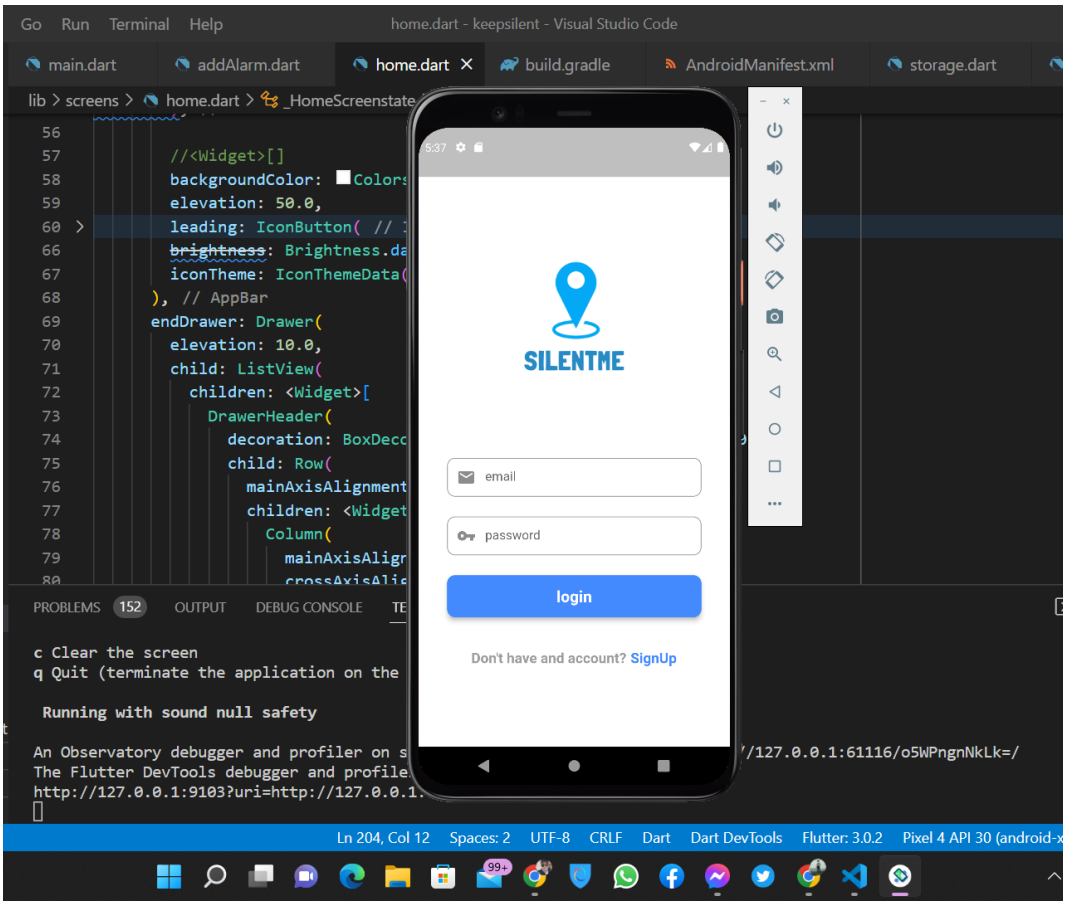

Figure 5-7 Login Page

2. Sign Up Page

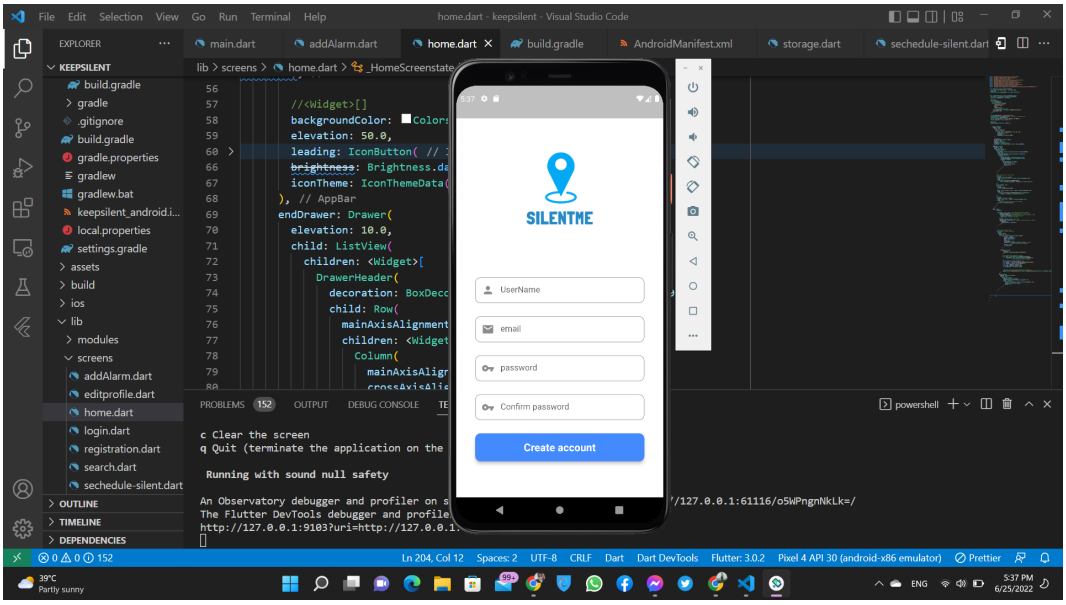

Figure 5-8 Sign Up Page

3. Home Page

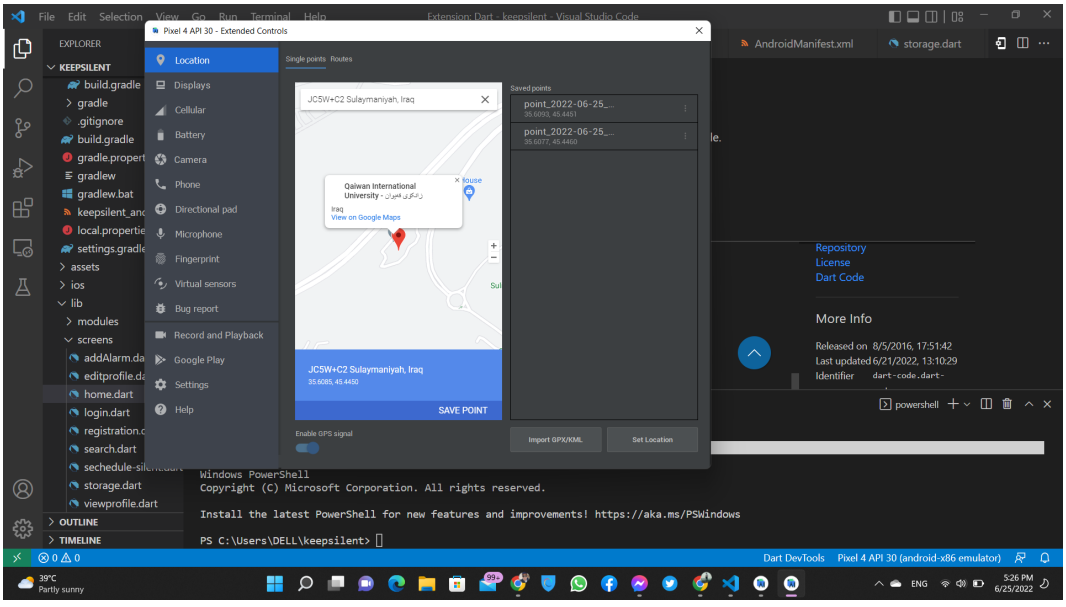

Figure 5-9 Home Page

4. View Profile Page

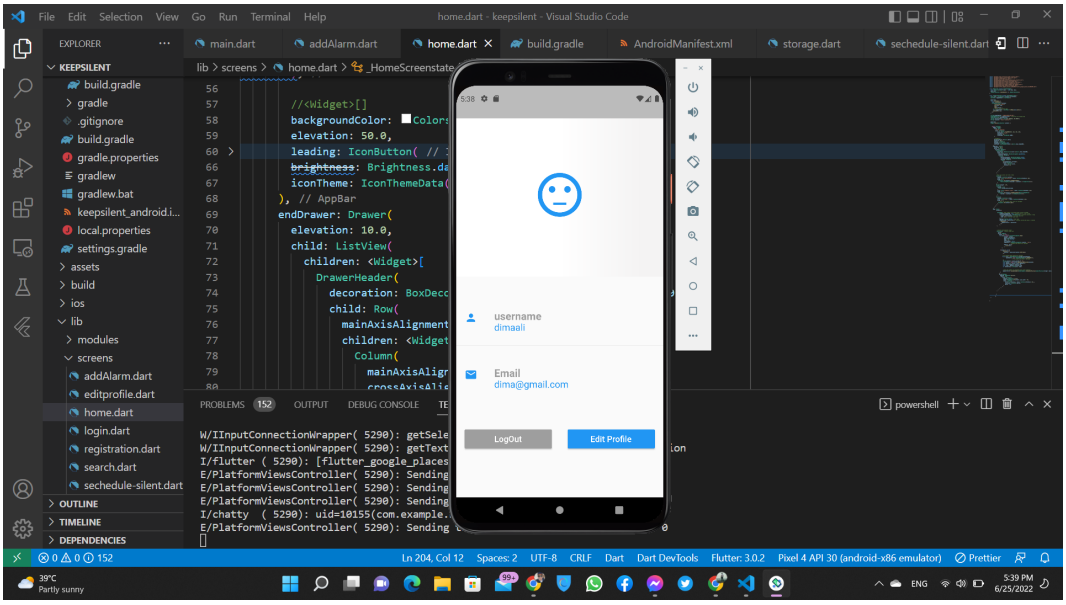

Figure 5-10 View Profile Page

5. Edit Profile Page

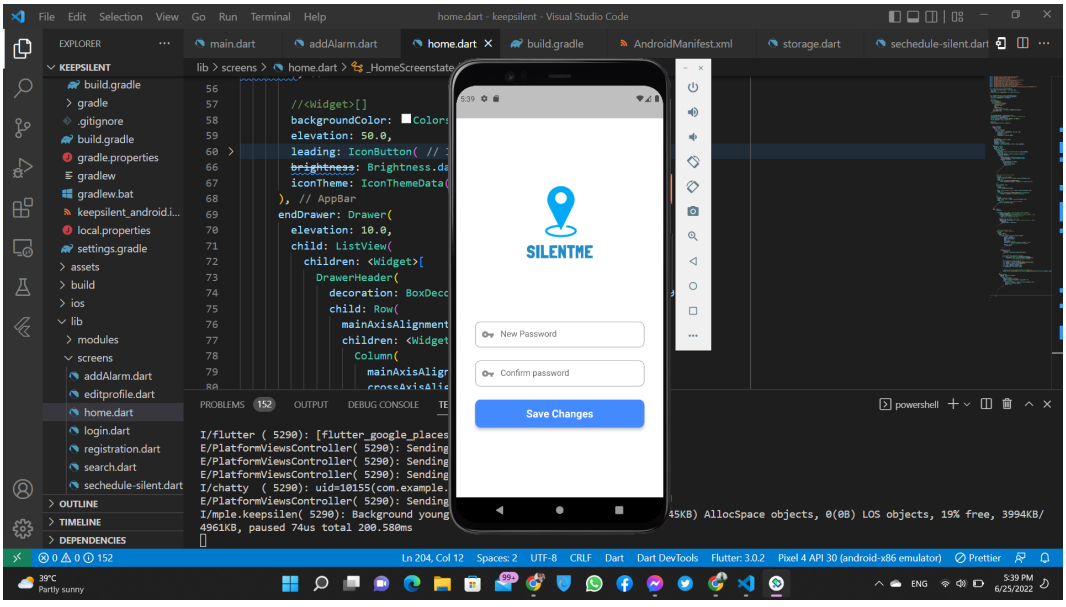

Figure 5-11 Edit Profile Page

6. Schedule Silent

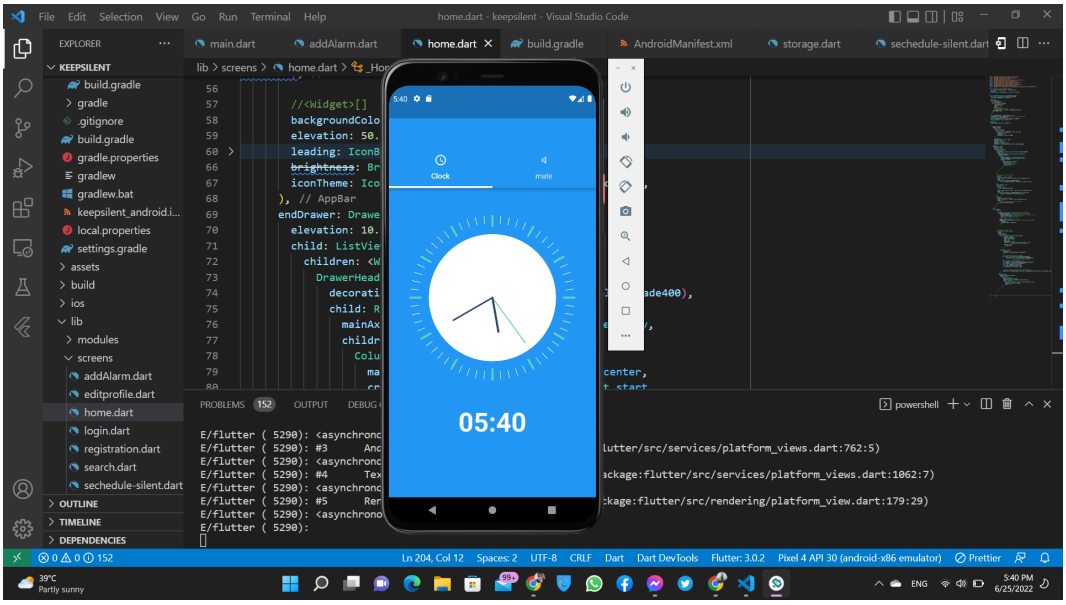

Figure 5-12 Schedule Silent

7. Search Location Page

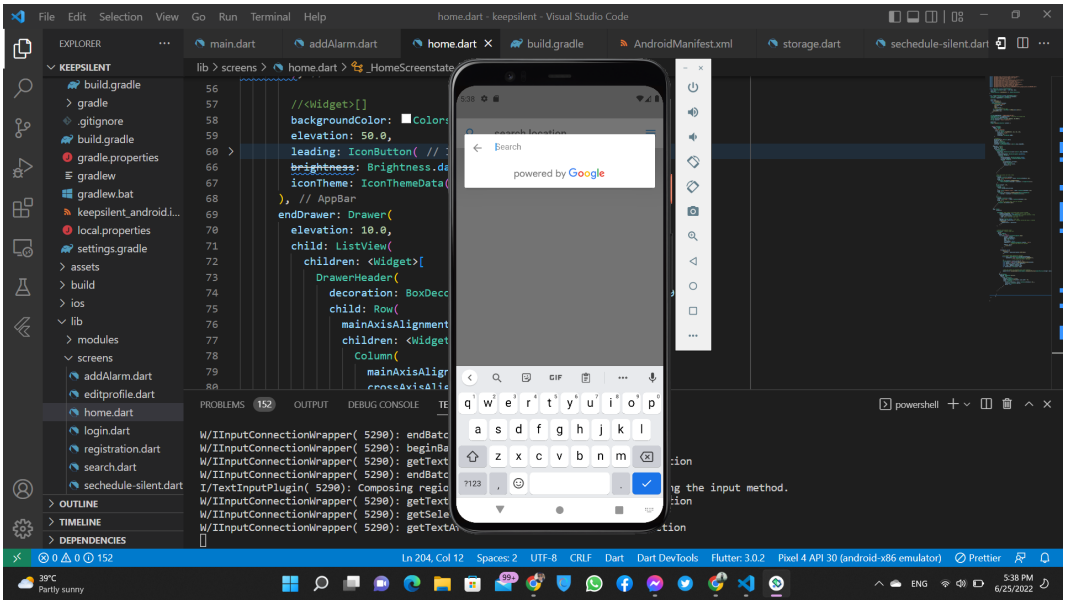

Figure 5-13 Search Location Page

5.3. Testing

5.3.1. Black-Box Testing

Black box testing, which is a technique for evaluating software applications' functionalities without having access to their underlying code structure, implementation details, or internal routes. Below I'll be testing each use case individually.

Test case user login:

Table 5-1 Test case user login

Use case	Login
Use case description	The user login page, that requires the user to enter email and password to login
System flow	I. Enter email II. Enter password III. Click login
Input	I. User email/ string II. User password/string
Output	Login to the system dashboard
Error message	In case the user enter a wrong information the system will show him an alert message I. For email field : please enter your email II. For password field: enter a valid password

Table 5-2 Test case user login Result

Input	Expected output	Actual output	Result
Valid email and valid password	Successful login	Successful login	Pass
Valid email and invalid password	Error message: enter a valid password	Error message: enter a valid password	Pass

Invalid email and valid password	Error message: please enter your email	Error message: please enter your email	Pass

Test case user sign up:

Table 5-3 Test case user sign up

Use case	Sign up
Use case description	The user sign up page, that requires username, email, password, confirm password to register new user
System flow	I. Enter username II. Enter email III. Enter password IV. Confirm password V. Click sign up
Input	VI. Enter username/ string VII. Enter email/ string VIII. Enter password/ string IX. Confirm / string
Output	Register user in the database and login to the system dashboard
Error message	In case the user enters wrong information the system will show him and alert message I. For email field: please enter your email II. Enter a valid password III. Confirm password: password doesn't match

Table 5-4 Test case user sign up Result

Input	Expected output	Actual output	Result
Valid username Valid email and valid password Valid confirm password	Successful login	Successful login	Pass
Valid username Valid email and invalid password Valid confirm password	Error message: enter a valid password	Error message: enter a valid password	Pass
Valid username Invalid email and	Error message: please enter your email	Error message: please enter your email	Pass

valid password Valid confirm password			
Valid username Valid email and valid password Invalid confirm password	Error message: password doesn't match	Error message: password doesn't match	Pass

Test case view profile:

Table 5-5 Test case view profile

Use case	View profile
Use case description	This field shows the user his own information that are stored in the database
System flow	I. Login/ signup II. Click menu button III. Select view profile
Input	No data input/ select view profile from menu
Output	No data output/ view user profile data
Error message	No error message

Table 5-6 Test case view profile Result

Input	Expected output	Actual output	Result
Click view profile	Show view profile page	Show view profile page	Pass

Test case edit profile:

Table 5-7 Test case edit profile

Use case	Edit profile
Use case description	This field allows the user to edit his personal information/change the password

System flow	I. Signup/ login II. Click menu button III. Select view profile IV. Lick edit profile button V. Enter new password VI. Confirm new password VII. Click submit
Input	I. New password/ string II. Confirm password/ string
Output	New user password
Error message	If the user doesn't enter a password and click submit, the system will show message: enter a valid password

Table 5-8 Test case edit profile Result

Input	Expected output	Actual output	Resault
Enter valid password and valid confirm password	Password changed successfully	Password changed successfully	Pass
Valid password and invalid confirm password	Password doesn't match	Password doesn't match	Pass

Test case search location:

Table 5-9 Test case search location

Use case	Search location
Use case description	This field allows the user to search for any location on the map
System flow	I. Login/signup II. Enter any location in the search bar III. Click search
Input	I. Location name/ string
Output	I. The wanted location
Error message	No error message

Table 5-10 Test case search location Result

Input	Expected output	Actual output	Resault
Enter location name	Show location details	Show location details	Pass

Test case silent location:

Table 5-11 Test case silent location

Use case	Silent location
Use case description	This field allows the user to mute a certain area/place on the map
System flow	I. Login/ signup II. Select place on map III. Click silent
Input	No data input
Output	No data output/ silent a certain area/place
Error message	No error message

Table 5-12 Test case silent location Result

Input	Expected output	Actual output	Resault
Select area on map to silent phone in that area	Silent phone in the selected are	Phone doesn't switch to silent mode	Fail

Test case schedule silent:

Table 5-13 Test case schedule silent

Use case	Schedule silent
Use case description	This field allows the user to enter a date and time to silent their phones on that time
System flow	I. Login/signup II. Select menu button III. Select schedule silent IV. Click on mute V. Click on the floating button

	VI. Enter title, date and time VII. Click on mute
Input	I. Title/ string II. Date/ double III. Time/ int
Output	Scheduled silent
Error message	No error message

Table 5-14 Test case schedule silent Result

Input	Expected output	Actual output	Resault
Enter title, date, and time to schedule silent mode	Phone switch to silent mode on that date and time	Phone doesn't switch to silent mode	Fail

5.3.2. White Box Testing

1. Login function

```
void signIn(String email, String password) async {  —----------------> function name
   if (_formKey.currentState!.validate()) {
   await _auth
     .signInWithEmailAndPassword(email: email, password: password)
    .then((uid) => {
     Fluttertoast.showToast(msg: "login success"),
   Navigator.of(context).pushReplacement(
      MaterialPageRoute(builder: ((context) => Homescreen())))// remove semecolum
  } )
   .catchError((e) {
  Fluttertoast.showToast(msg: e!.message);
  });
}
  } ---------------------------------> function end
```

Table 5-15 Login function

Unit testing	This function is functional and used as it's meant to be.
Integration testing	this function is only used in login page user can't enter the system without this function.

2. Sign up function

```
void signup(String email, String password) async {----------------------------> function name
   if (_formKey.currentState!.validate()) {
     await _auth
         .createUserWithEmailAndPassword(email: email, password: password)
         .then((value) => {postDetailsToFirestore()})
         .catchError((e) {
       Fluttertoast.showToast(msg: e!.message);
     });
   }
 }-------------------> function end
```

Table 5-16 Sign up function

Unit testing	This function is functional and used as it's meant to be.
Integration testing	this function is only used in signup page with the post details to firebase function together.

3. post details to firebase function

```
postDetailsToFirestore() async {
   FirebaseFirestore firebaseFirestore = FirebaseFirestore.instance;
   User? user = _auth.currentUser;
   UserModel userModel = UserModel();

   userModel.email = user!.email;
   userModel.uid = user.uid;
   userModel.username = userEditingController.text;
   userModel.password = passwordEditingController.text;

   await firebaseFirestore
       .collection("users")
```

```
        .doc(user.uid)
        .set(userModel.toMap());
    Fluttertoast.showToast(msg: "account created successfully :");
    Navigator.pushAndRemoveUntil(
        (context),
        MaterialPageRoute(
          builder: (context) => Homescreen(),
        ),
        (route) => false);
  }
```

Table 5-17 post details to firebase function

Unit testing	This function is functional and used as it's meant to be.
Integration testing	This function is only used in signup page with the signup function together.

4. initstate function

```
void initState() {
    super.initState();
    FirebaseFirestore.instance
        .collection("users")
        .doc(user!.uid)
        .get()
        .then((value) {
      // ignore: unnecessary_this
      this.loggedInUser = UserModel.fromMap(value.data());
      setState(() {});
    });
  }
```

Table 5-18 initstate function

Unit testing	This function is functional and used as it's meant to be.
Integration testing	This function is used to view the user information in the profile page

5. edit profile function

```
changePassword() async {
   try {
     await currentUser!.updatePassword(newPassword);
     FirebaseAuth.instance.signOut();
     Navigator.pushReplacement(
       context,
       MaterialPageRoute(
         builder: (context) => Loginscreen(),
       ),
     );
     ScaffoldMessenger.of(context).showSnackBar(SnackBar(
       backgroundColor: Colors.black26,
       content: Text("Your Password has been change.. Login again! "),
     ));
   } catch (error) {}
 }
```

Table 5-19 edit profile function

Unit testing	This function is functional and used as it's meant to be.
Integration testing	This function is used to change the user password in the edit profile page

6. search location function

```
//search autoconplete input
          Positioned(  //search input bar
            top:10,
            child: InkWell(
              onTap: () async {
                var place = await PlacesAutocomplete.show(
                      context: context,
                      apiKey: googleApikey,
                      mode: Mode.overlay,
                      types: [],
                      strictbounds: false,
                      components: [Component(Component.country, 'np')],
                            //google_map_webservice package
                      onError: (err){
                        print(err);
```

```
            }
          );
        if(place != null){
            setState(() {
              location = place.description.toString();
            });
           //form google_maps_webservice package
           final plist = GoogleMapsPlaces(apiKey:googleApikey,
                apiHeaders: await GoogleApiHeaders().getHeaders(),
                        //from google_api_headers package
            );
            String placeid = place.placeId ?? "0";
            final detail = await plist.getDetailsByPlaceId(placeid);
            final geometry = detail.result.geometry!;
            final lat = geometry.location.lat;
            final lang = geometry.location.lng;
            var newlatlang = LatLng(lat, lang);
            //move map camera to selected place with animation

mapController?.animateCamera(CameraUpdate.newCameraPosition(CameraPosi
tion(target: newlatlang, zoom: 17)));
          }
```

Table 5-20 search location function

Unit Testing	this function is functional and used as it's meant to be.
Integration Testing	this function is used return places information that the user is searching for in the search bar in homepage

5.4. Chapter Summary

In conclusion this chapter is the most essential part of the fyp2 project. This chapter summarizes the achievement of my project implementation. In this chapter also testing was discussed to support my implementation progress. For the testing I have used Black Box Testing and White Box Testing to test the whole software. I believe these two methods have determined the functionality of my application.

Chapter 6

Conclusion

6.1. Introduction

After finishing five chapters that contain the context construction of my project. In these five chapters I have proposed the system problem background, objectives scope, literation review, system analysis, methodology and justification, and requirement analysis and design. also, the system implementation and testing. Let's dig in more details.

Chapter one

In chapter one the system introduction was produced, which contain the problem background, where you can find the real-life issue that my system idea came from. After that the project aim take place were the reader can find the purpose of my system development. In that chapter the objectives were explained, the objectives contain the facts of a set of information that construct my project. After that scope was cared to the reader. The scope simply explains what is included and what is excluded in this project. After that in my words I briefly explained the importance of this project, and how it would serve the community. finally, the reader would find the project Gant chart which should have contained the project development timeline.

Chapter two

In chapter two the literation review was delivered, this chapter contain, inter organization case study where I created a survey to support the requirement gathering method for this section, here is sample of the survey I took.

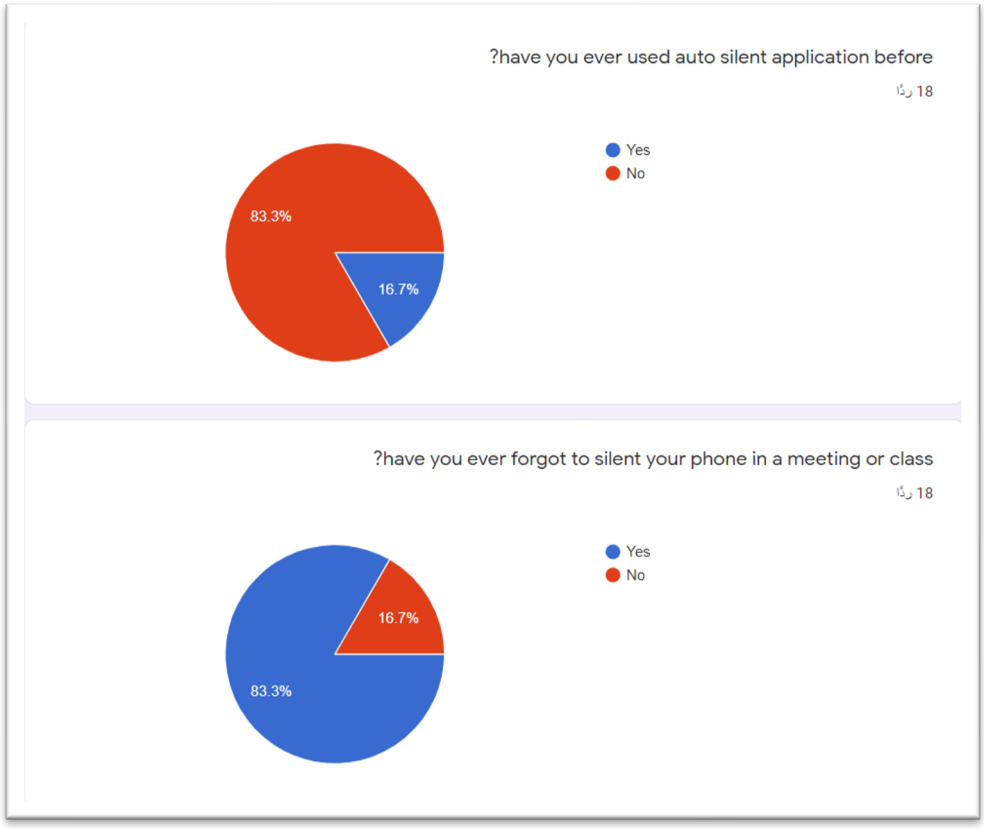

Figure 6-1 Survey

These data from the survey were really supportive for me to carry on my idea. Another section that was cared in chapter two was current system analysis this section was to compare between an exciting other system rather than mine, and what features this system provide for the user, my impact of these systems, and the features am going to include in my system that were not provided in that systems. Finally, the literation review on technology used determined what am I supposed to include of technologies in my system, for example my system will be developed with flutter.

Chapter three

In chapter three system development was described, this chapter include methodology choice and justification. This part explained what methodology I will use to develop my system, as for my choice I picked agile. After that the phases of the chosen methodology, agile phases. After that the report contained the description of tools used to develop the system. Tools such as data base tools, front end development tools, backend development tools. The final section was system requirement analysis

including hardware and software. This section included the basic requirements to run the application including both hardware and software.

Chapter four

Chapter fore was the first chapter where I transfare my idea into real work. In chapter four the paper starts with requirements analysis, which contain the system use case, activity diagram, sequence diagram and after each diagram there is an explanation of why this is used. The next section included the design, where the traditional DFD was proceeded to add more Clarification the project. After that database design was proposed that included the entity relationship diagram that explain the database entities and the relationship between them. Lastly the interface design was conducted to show how the application look like in real life.

Chapter five

In chapter five I have discussed the implementation of my project, and what has been done for this project and what hasn't been done. This chapter also called the system testing methods for all the system functionality and User interface as well. this chapter was the core chapter for the project of fyp2. by reading this chapter you will have a bright insight of my project and my total idea.

6.2. Achievements

Findings based on literation review

- The main achievements that I conducted, was transferring my idea into a real software project by implementing each step of the required instructions of the project.

- Another achievement is how I implemented the literation review to provide a similar concept to the one I had in my head.
- One other achievement is how to maintain every simple detail of your idea and implement all these points in one project with order to make the reader understand each detail of my statements.
- Providing a good quality design and detailed diagrams for supporting the same idea I had when I started is another achievement for me.
- The last achievement is transferring the idea into a real application.

6.3. Completed objectives

- To design an application that serve the user needs and focus on producing a user-friendly design based on the elicited requirements.
- To develop an application that can help the user on their daily task based on the system requirement and the application design
- To test the system with appropriate testing techniques (functionality testing, recoverability, performance).

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Effective Use of Gantt Chart for Managing Large Scale Projects

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International Journal of Computer Technology and Electronics Engineering (IJCTEE) Volume 2, Issue 4, August 2012

https://reqtest.com/requirements-blog/requirements-analysis/

https://www.lucidchart.com/pages/landing/dfd-software?utm_source=google&utm_medium=cpc&utm_campaign=_chart_ol_allcountries_mixed_search_brand_bmm_&km_CPC_CampaignId=1208550 1864&km_CPC_AdGroupID=115189961974&km_CPC_Keyword=%2Blucid%20chart%20%2Bdata%20%2Bflow&km_CPC_MatchType=b&km_CPC_

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Use Case Diagram Similarity Measurement: A New Approach

Published in: 2019 12th International Conference on Information & Communication Technology and System (ICTS)

ISO TC184 SC5. ISO/IEC 62264-1: Enterprise-Control System Integration Part 1: Models and Terminology. ISO, 2003. User and Task Analysis for Interface Design JoAnn T. Hackos and Janice C. Redish

Appendix A
Gantt chart

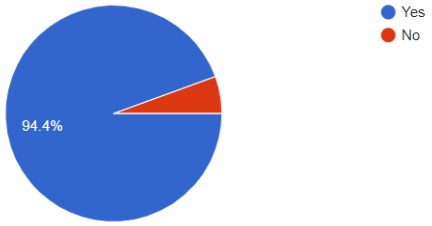
project phases	oct 2021	nov 2021	dec 2021	jan 2022	feb 2022	mar 2022	apr 2022	may 2022	jun 2022
initial planning									
planing									
requirements									
analyze & design									
implementation									
testing & evaluation									
deployment									

Appendix B

Survey

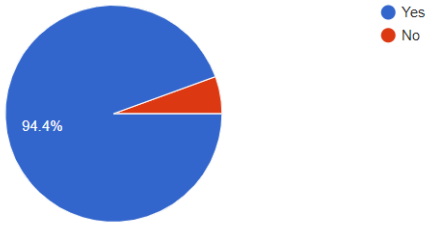
? do you have cellphone

18 ردًا



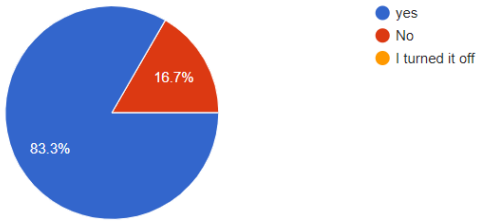
?do you use silent mode on your phone

18 ردًا



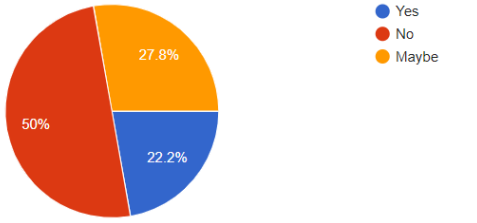
?do you silent your phone when you are at work or university

18 ردًا



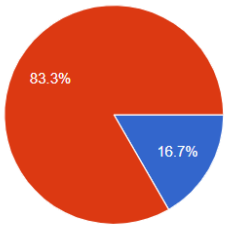
?is it ok with you if your phone rings while you're in work or class or meeting

18 ردًا



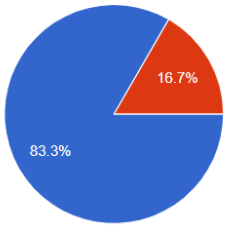
?have you ever used auto silent application before

18 ردًا



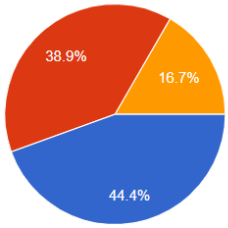
?have you ever forgot to silent your phone in a meeting or class

18 ردًا



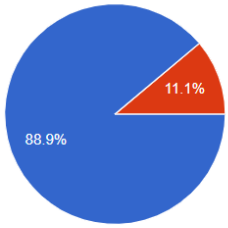
?do you find it disrespectful if someone phone rings in a meeting

18 ردًا



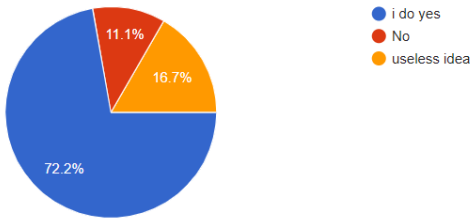
?have you ever forgot you phone on silent mode

18 ردًا



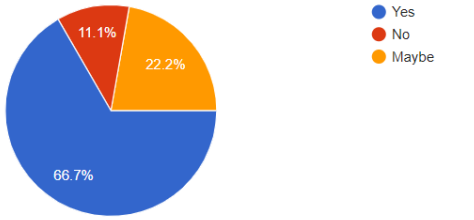
do you recommend an application that automatically silent your phone when you enter and ? area

18 ردًا



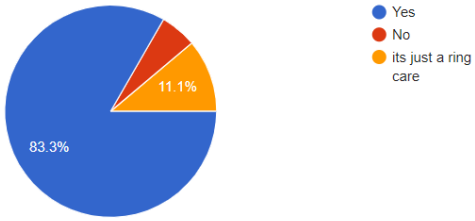
?if you find such an application would you use it

18 ردًا



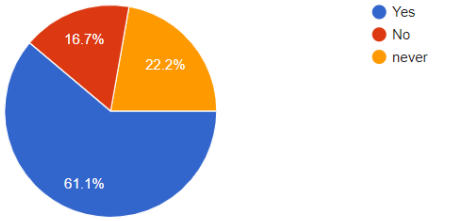
? do you think its an important matter to have your phone on silent mode

18 ردًا



? have you ever ben embarrassed by your phone ring

18 ردًا



Appendix C

SRS

Revision Page

a. Overview

This current version contains everything that the other versions contained, Ihave also included the prototype for the silent me app.

b. Target Audience

I only have one user for the system

- Normal Users

c. Version Control History

Version	Primary Author(s)	Description of Version	Date Completed
Version 1.0	suhaib sameer	chapter one	
Version 2.0	suhaib sameer	chapter two	
Version 3.0	suhaib sameer	chapter three	
Version 4.0	suhaib sameer	chapter four	
Version 5.0	suhaib sameer	chapter five	
Version 6.0	suhaib sameer	fyp1 submission	
Version 7.0	suhaib sameer	reviewing fyp1 comments	
Version 8.0	suhaib sameer	chapter five(implementation) final justification for fyp2	

Table of Contents

3.1.3 Software Interfaces

3.1.4 Communication Interfaces

3.2 System Features

3.2.1 Module <Name of Module1>

3.2.1.1 UC001: Use Case <Name of Use Case1>

3.3 Performance Requirements

3.4 Design Constraints

3.5 Software System Attributes

3.6 Other Requirements

1.0 Introduction

1.1 Purpose

The main purpose of System Requirement Specification (SRS) documentation that we are creating is to describe the detailed description of the silent me application based on functional and non-functional requirement relating to silent phone based on gps and time schedule. It will explain the aim and the features of the system and how the system will react to its input and the interfaces of the system. this system that I have created is for the public community which can use our system to make their job easier.

1.2 Scope

In this project am trying to achieve the biggest benefit for the users by offering them a proper application that they can use in their normal day life. Simply the program is an application that can mute itself based on a targeted area on the application map, if you enter this area the phone will be silent automatically. Also, you can schedule a certain time in your mobile phone and the application will mute itself at that time. The purpose of the program is that some of us forget to mute their phones when they go to a meeting or going to al masjid or elsewhere and in such places, we don't want our phones to wring because it's going to be embarrassing for us. For example, someone has a meeting in a specific place, instead of muting his phone which he might forget, he only has to select that place on the application map and the phone will be silent as he/she enter that area. "He can select the location on his phone by using the maps provided in the application". So, when you reserve an email or a phone call you can go to the application- open the maps- select the place you have meeting in- and save, when you enter the location, your phone will be silent. The aim of this program is serving the community and employers by giving the application that might make their normal life tasks easier.

1.3 Definitions, Acronyms and Abbreviation

Acronym	Definition
silent me	*silent me application*
URD	*User Requirements Definition*
GPS	*Global Positioning System*
GMD	*Goal Model Diagram*
DB	*DataBase*

1.4 References

https://play.google.com/store/apps/details?id=me.camsteffen.polite&hl=ar&gl=US

Effective Use of Gantt Chart for Managing Large Scale Projects

Pankaja Pradeep Kumar.**Cost Engineering;**

Morgantown Vol. 47, Iss. 7, (Jul 2005): 14-21.

Impact of Agile Methodology on Software Development Process Gaurav Kumar, Pradeep Kumar Bhatia

International Journal of Computer Technology and Electronics Engineering (IJCTEE) Volume 2, Issue 4, August 2012

https://reqtest.com/requirements-blog/requirements-analysis/

1.5 Overview

The rest of the document consists of an As-is Process study that includes the purpose of the system and the swimlane model. The model will show how I am going to demonstrate the user requirements and things that the users have to get through another

feature that this system has. The system will also include database to Store registered users data. Also, the system will convert the work of manual switching to silent mode every time you want to silent your phone to automatically switched when you enter an area or a certain time.

2.0 Overall Description

This section is a description of the android system which is silent me app, the program is an application that can mute itself based on a targeted area on the application map, if you enter this area the phone will be silent automatically. Also, you can schedule a certain time in your mobile phone and the application will mute itself at that time. The purpose of the program is that some of us forget to mute their phones when they go to a meeting or going to al masjid or elsewhere and in such places, we don't want our phones to wring because it's going to be embarrassing for us.To be able to do all those functionalities the users need to reach the minimum requirement for the application , they need to have a an android mobile, also that devices have to support GPS in order for the user to search by location for the places to silent there phones The system doesn't need a large database system because the only thing that it stores is the info of the users details the server could be a cloud-based server, and finally the system will have a very friendly user interface so the users will be able to go through the whole system easily and understand what to do also to be able to navigate very naturally.

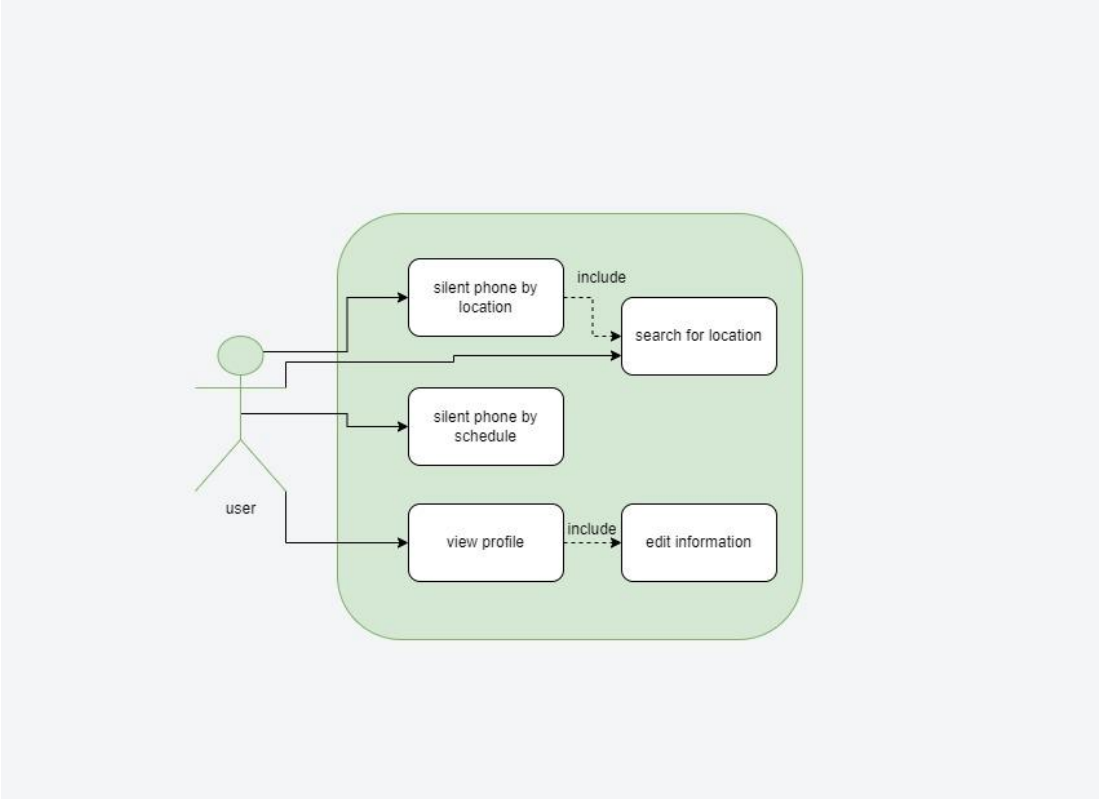


FIGURE 1 USE CASE DIAGRAM

2.1 Product Perspective

This system will allow the user to silent the phone only once a time. This will help lecturers, students and employes. The system is not complex at all once the user is logged in the can see the map on the home screen there is an app bar that has a search icon. The user can search for any location and silent their phones in that location. Also, there is a profile page that allows the user to see their personal information and they can change this information later on in edit profile page. Another feature is schedule silent that will allow the user to silent their phones in a certain time and date. by entering a title and a specific time and date and your phone will be silent then on that date.

2.1.1 System Interfaces

android phone base system that will allow the user to use the application
google map that will allow the user to find any location and silent their phone in that location
time zone library that will help the user in scheduling the silent phone
firebase database that will store the users information.

2.1.2 User Interfaces

login page: that allows the user to log in into the system
signup page: that allows the user to register in the system
home page: where the user can silent their phone based on GPS and the map is provided.
search location page: the user can search for any location in this page
view profile page: user personal information in this page also edit profile
schedule silent: this page will allow the user to silent their phones on specific date.

2.1.3 Hardware Interfaces

the silent me is an application in order to access this application the user need to have an android phone with android system above 8.2. the system should have internet connection and active GPS to run the application.

2.1.4 Software Interfaces

The system will have a database system for the database system I have used firebase which is a website that can handle data flows between the user and the application that Ihave created.

2.1.5 Communication Interfaces

The application can be accessed via the internet the user will have to have internet access in order to access the application and also the database will be online also so if the system monitor want to access the database, they will have to have internet access.

2.1.6 Memory

For the database like we have mentioned I will use firebase for the database as a storage for saving data and this storage have different plans according to the use of the application, for example if I had more user or a lot of users on the website I have to pay more or change the plan of the database because firebase has different plans according the usage of the application the starting storage for the database will be 100GB because I have to get the user Requirements in order to increase or upgrade the plan for the database.

2.1.7 Operations

There are many operation that the user will go through like mentioned in section 2.1.2 but there are some special cases that the users will go through like for example if the user has typed the wrong address of email or the user won't be able to register or login into the system and of the user has remained on the application for a long period of time the user will be timeout from the system and they will have to reload the page

this feature will add more security for the application and the users will benefited a lot from this feature.

2.1.8 Site Adaptation Requirements

The system is doesn't have high security level any user can access the application by interesting any email and a certain password.

2.2 Product Functions

users will be able to see google maps in the application and also they can see their own information in the profile page. Also users can search for any location and get full information of that location. also there is a clock in the application. the application does not have any verifications once you logged in you can use the application.

2.3 User Characteristics

There is only one type of user that can use the application. random users they can have full access to the application and its features.

2.4 Constraints

1. any user can have fully access to the application.
2. Only english language users can use the application.
3. The login information shall be verified immediately.

5. silent me will be built with Graphical User Interface (GUI).
6. The load time for the user interface screen shall take no longer than five seconds.
7. silent me shall consume very little of primary memory.
8. silent me shall have an internet connection to be run.

2.5 Assumption and Dependencies

1. One assumption about the product is that it will mostly be used on mobile phones that should have enough performance. If the device does not have enough hardware resources available for the product, there may be scenarios where the product cannot work properly.
2. Another assumption is that GPS components in all devices work in the same way. If the devices have different interfaces to the GPS, the product needs to be specifically adjusted to each interface.
3. The system is assumed to run only one android device, since it's an application where every device with internet access can access the application.

2.6 Apportioning of Requirements

Version 1 of the system is available only in English. In the case that the project is delayed, there are some requirements that could be transferred to the next version of the application and in version 1 the users will not be able to get direction on the website that will be added in the future.

3. Specific Requirements

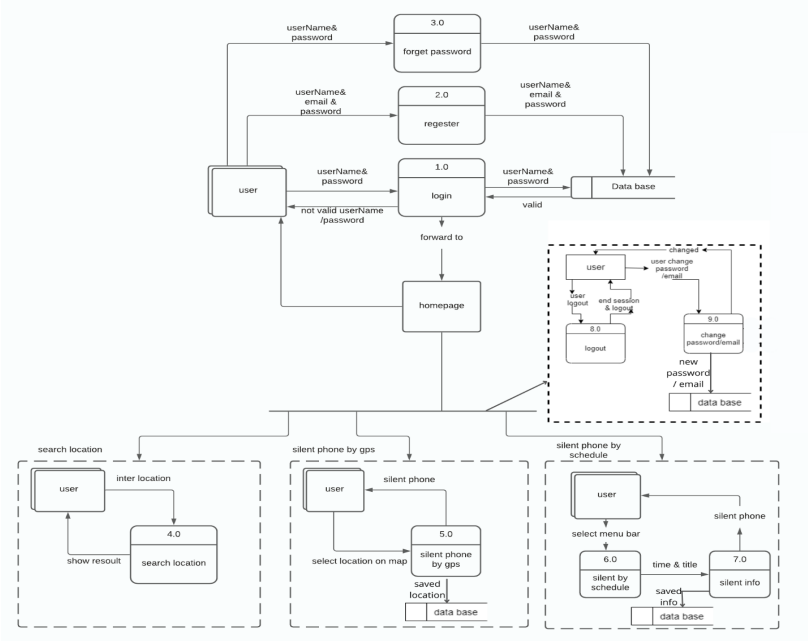


figure DFD

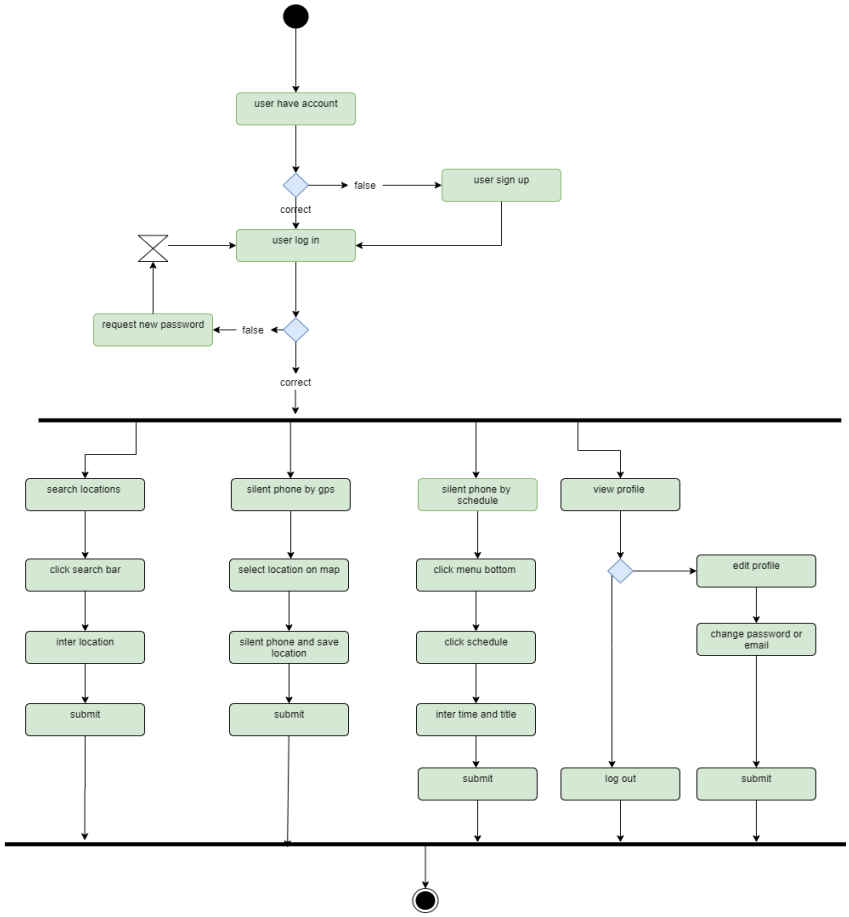


figure Activity diagram

3.1 External Interface Requirements

3.1.1 User Interfaces

the system is an application that can mute itself based on a targeted area on the application map, if you enter this area the phone will be silent automatically. Also, you can schedule a certain time in your mobile phone and the application will mute itself at that time. The purpose of the program is that some of us forget to mute their phones when they go to a meeting or going to al masjid or elsewhere and in such places, we don't want our phones to wring because it's going to be embarrassing for us.To be able to do all those functionalities the users need to reach the minimum requirement for the application , they need to have a an android mobile, also that devices have to support GPS in order for the user to search by location for the places to silent there phones The system doesn't need a large database system because the only thing that it stores is the info of the users details the server could be a cloud-based server, and finally the system will have a very friendly user interface so the users will be able to go through the whole system easily and understand what to do also to be able to navigate very naturally.

3.1.2 Hardware Interfaces

The minimum requirements to run android OS on a device is the same requirements to run my application. The requirements are

Hardware details	Minimum requirements
CPU speed	Quad core 1.2 GHZ
RAM	2GB
Main camera resolution	>3 MP
Internal storage	16GB
External storage	Micro SD (up to 64 GB)

Location	GPS functional
Connection	WI-FI and 4G connection

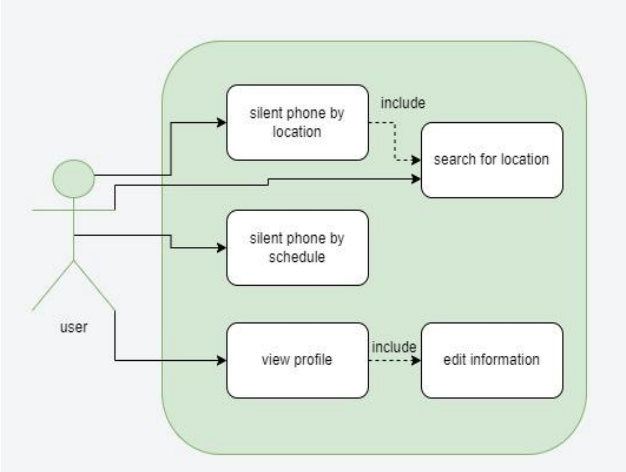
3.1.3 Software Interfaces

The system will have a database system for the database system I have used firebase which is a website that can handle data flows between the user and the application that Ihave created.

3.1.4 Communication Interfaces

The application can be accessed via the internet the user will have to have internet access in order to access the website and also the database will be online also.

3.2 System Features



3.3 Performance Requirements

- Users should be able to create accounts and log in into the system.
- Users should be able to update their profile information
- Users should be able to see the google map.
- Users should be able to search for location by a particular location
- Users should be able to use the devices GPS to access their location
- Users should be able to view any place location on the map
- users should be able to schedual silent mode

3.4 Design Constraints

- Users can’t see location inages
- Users can’t edit there username or email only password
- Users can’t use the map without internet

3.5 Software System Attributes

• Reliability:

This system is designed to have a very simple database just to cater the exact need of normal application. It is tested for all the constraints at the development stage.

• Availability:

This system will be available only for android apps and it is available for every country.

• Security:

the system security is quite low any user can use the app

• Maintainability:

There will be no maintenance required for the software. The database is provided by the
end-user and therefore is maintained by this user.

• Portability:

The system is very portable as it is an application running on a google app store which every android device has .

3.6 Other Requirements

- Usability: The interface should use terms and concepts.
- Efficiency: The system must provide easy and fast access without consuming more cost.
- Reliability: Users should never be surprised by the behavior of the system and its easy to use stored data.

Appendix D

STD

Revision Page

a.Overview

This current version contains everything that the other versions contained, Ihave also included the prototype for the silent me app.

b.Target Audience

I only have one user for the system

- Normal Users

c. Version Control History

Version	Primary Author(s)	Description of Version	Date Completed
Version 1.0	suhaib sameer	chapter one	
Version 2.0	suhaib sameer	chapter two	
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Version 5.0	suhaib sameer	chapter five	
Version 6.0	suhaib sameer	fyp1 submission	
Version 7.0	suhaib sameer	reviewing fyp1 comments	
Version 8.0	suhaib sameer	chapter five(implementation) final justification for fyp2	

Introduction

Test documentation is documentation of artifacts created prior to or during software testing. It assists the testing team in estimating testing effort, test coverage, resource tracking, execution progress, and so on. It is a comprehensive set of documents that allows you to describe and document test planning, test design, test execution, and testing results.

Purpose

The purpose of test documentation is two fold. For starters, it provides testers with reliable data on which to plan and execute. Second, it keeps connected project participants (the development team, designers, marketing, and product owners) up to date on the status of the project.

Scope

Protecting/Security has a lot of procedures and methods, and we are focusing on the Application security and using the method of implementing the system login method as one of the methods.

Definitions, Acronyms and Abbreviation

Acronym	**Definition**
silent me	*silent me application*
URD	*User Requirements Definition*

GPS	*Global Positioning System*
GMD	*Goal Model Diagram*
DB	*DataBase*

System Overview

1) Attachment of test documentation to requirements.. All test data is stored in the same application, and each test is linked to a master test plan and a specific requirement.

2) Test documentation is kept separately. In these cases, all test data is centralized and accessible to the entire testing process. Typically, test scripts/notes are stored alongside the test plan and organized by release.

3) The test data is kept on some kind of a certain methodology. When development and business analysts use the same process, this can lead to collaboration.

4) Test documentation is saved alongside code. I've seen cases in an integrated environment where test data is stored in the same source control as the code, and tests are linked to pieces of code but not built.

Test Cases, Data and Expected Results

1.1 Test TC001 for Module <Module1>: <Search location (UC001)>

This test contains the following test cases:

UC001_01: Search for location

Test Case ID	Input data	Expected result	Actual result	Pass / Fail
TC001_01_01	55	no valid result	Unsuccessful	Fail
TC001_01_02	erbil	valid result the location place	successful	pass
TC001_01_03	adc@4	no valid resaul	Unsuccessful	fail

1.2 Test TC001 for Module <Module3>: <Edit profile (UC003)>

This test contains the following test cases:

UC003_01: change password

Test Case ID	Input data	Expected result	Actual result	Pass / Fail
TC003_01_01	myname	enter a valid password at least one digit	Unsuccessful	Fail
TC003_01_02	myname123	valid change password	successful	pass
TC003_01_03	myname@82	valid change password	successful	pass

UC003_02: confirm password

Test Case ID	Input data	Expected result	Actual result	Pass / Fail
TC003_02_01	different than pass	ur password doesn't match	Unsuccessful	Fail
TC003_02_02	same password	successful change password	successful	pass

1.3 Test TC001 for Module <Module4>: <Schedule Silent (UC004)>

This test contains the following test cases:

UC004_01: enter Title, Time, date

Test Case ID	Input data	Expected result	Actual result	Pass / Fail
TC004_01_01	fill all the fields	successful schedule silent	Successful	pass
TC004_01_02	not entering a date	please enter a date	Unsuccessful	fail
TC004_01_03	not setting time	please enter a Time	Unsuccessful	fail
TC004_01_04	not setting Title	please enter a Title	Unsuccessful	fail