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CHAPTER - 1

INTRODUCTION

1.1 PROJECT OVERVIEW

Patients may often fail to comply with their medicate on whether it was from forgetting to take the medicine, from taking medicine at the wrong time or even from taking too much medicine. Therefore, there are many systems such as reminder, alarm, and so on to remind patient. We have focus on those patients who having difficulty to take medication on time, we tried to design and to aid patients with managing their medical prescriptions, through a reminder app they will use to look at and manage their medications. The Pill Reminder will facilitate users to require the right medication on time. This system provides a real time monitoring system that allow related people to monitor the patient's activity remotely.

1.2 PURPOSE

There are various medication systems which are in use currently. They depend on various stages and ideas. It is made available on mobile phones such as personnel digital assistance. It is a mobile application that gives Graphical User Interface to design drug schedules and alarm system to remind the patients, about time and other details.

CHAPTER-2

LITERATURE SURVEY

2.1 EXISTING PROBLEM

Medications usually need to be taken in specific doses at set intervals. Missing doses or timing doses incorrectly can cause medical complications. Medication management can include everything from using devices that issue reminders to patients to take their medications to filling pill cases for patients and marking the lid of each compartment to indicate when the contents need to be taken. Treating the elderly who often take multiple medications simultaneously to treat different conditions and symptoms.

2.2 REFRENCES

Paper 1: Internet-of-Things and Smart Homes for Elderly, Healthcare: An End User Perspective.

Author: Debajyoti Pal, Suree Funilkul.

Publication: King Mongkul's University of Technology, Thonburi, Bangkok, Thailand.

Year: 2017

Paper 2: Implementation of smart monitoring system with fall detector for elderly using IoT technology.

Author: Norharyati Harum.

Publication: Technical University of Malaysia Malacca.

Year: 2018

Paper 3: Fog IoT for Health: A New Architecture for Patients and Elderly monitoring.

Author: Abdessamad Assila.

Publication: University of mons, Belgium.

Year: 2019

Paper 4: HABITAT: An IoT Solution for Independent Elderly.

Author: Andrea Galassi, Marina Barbiroli.

Publication: ARCES- Advanced Research Center On Electronic Systems “Ercole De Castro”, University of Bologna,Italy.

Year: 2019

Paper 5: Personal Assistance Device for Independent Senior Citizens/Patients.

Author: A.Yuvaraja, B.N.Gunasekhar Reddy.

Publication: International Journal of Recent Technology and Engineering (IJRTE).

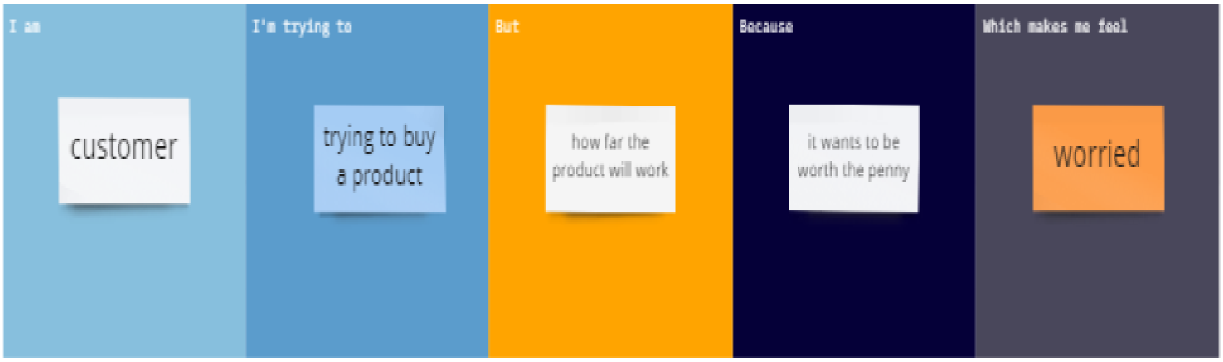
Year: 2020

2.3 PROBLEM STATEMENT DEFINITION

Social isolation and loneliness are among the important factors for the degradation of the life quality as the persons’ aging process advances. These factors can have a pronounced effect on the general health and are caused by the decrease in social interaction by the person with the friends, family and ex-co-workers groups.

On the other hand, the software and hardware technologies has reached a maturation point where the electronic assistants can acquire information from the user through camera images, as well as to communicate with the user by means of natural voice language. In this context, a model for the adoption of electronic intelligent assistants by the elderlies has been proposed in previous work.

In the current work, it is assessed the possibility of using the current consumer assistants to implement the proposed model. Several assistants are analyzed assessing their functionalities assist the elderly in strengthening their social bond with people.



I am	I'm trying to	But	Because	Which makes me feel
customer	trying to buy a product	how far the product will work	it wants to be worth the penny	worried

CHAPTER - 3

IDEATION AND PROPOSEDSOLUTION

3.1 EMPATHY MAP CANVAS

It is a simple, easy-to-digest visual that captures knowledge about a user’s behaviors and attitudes. It is a useful tool to help teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user’s perspective along with his or her goals and challenges

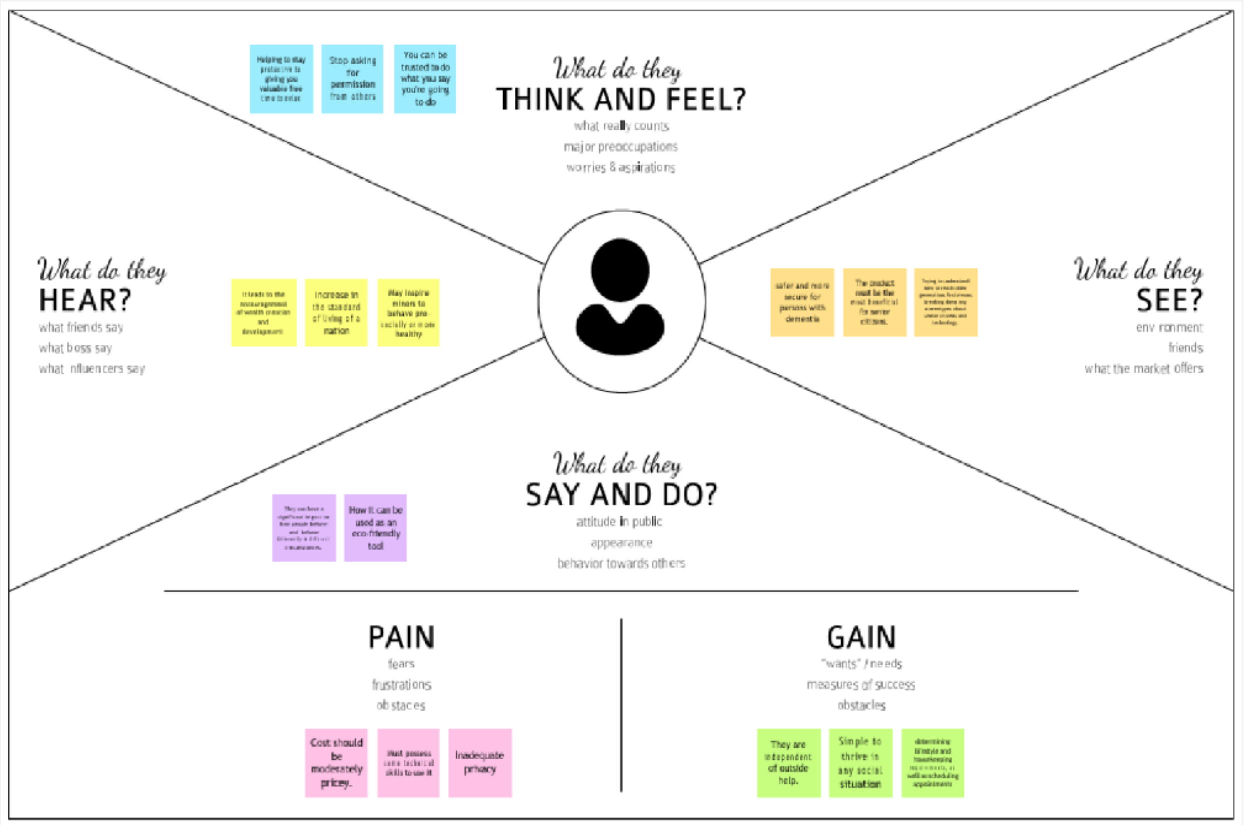

Helping to stay productive by giving you valuable free time to relax
Stop asking for permission from others
You can be trusted to do what you say you're going to do
What do they
THINK AND FEEL?
what really counts
major preoccupations
worries & aspirations
What do they
HEAR?
what friends say
what boss say
what influencers say
It leads to the encouragement of wealth creation and development
Increase in the standard of living of a nation
May inspire minors to behave pro-socially or more healthy
safer and more secure for persons with dementia
The product must be the most beneficial for senior citizens.
What do they
SEE?
environment
friends
what the market offers
They can have a significant impact on how people behave and behave differently in different circumstances.
How it can be used as an eco-friendly tool
What do they
SAY AND DO?
attitude in public
appearance
behavior towards others
PAIN
fears
frustrations
obstacles
Cost should be moderately pricey.
Must possess some technical skills to use it
Inadequate privacy
GAIN
"wants" / needs
measures of success
obstacles
They are independent of outside help.
Simple to thrive in any social situation
determining lifestyle and housekeeping requirements, as well as scheduling appointments

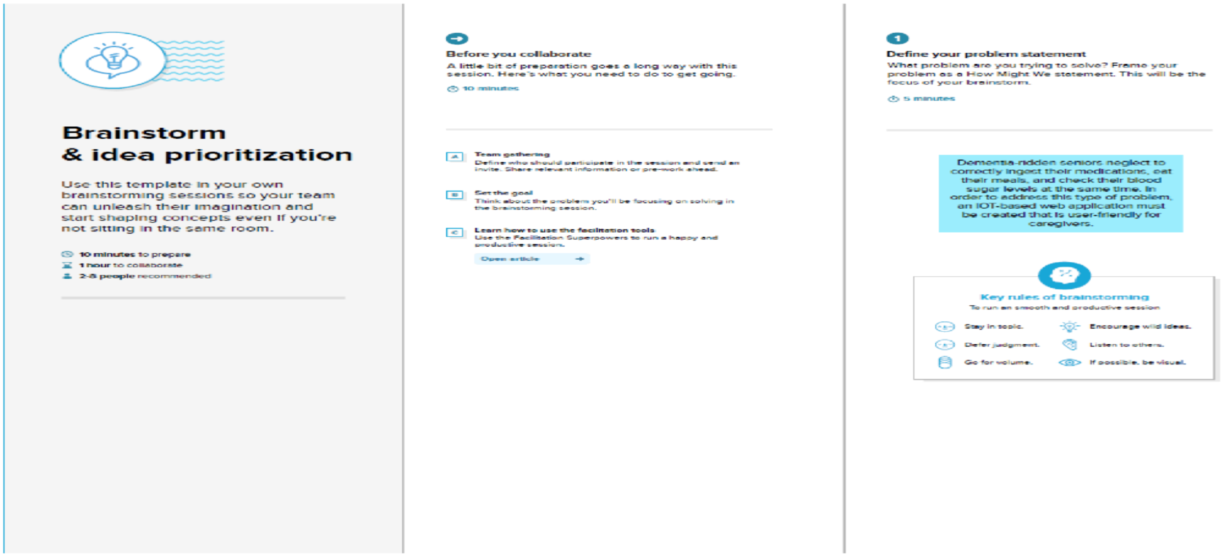
Figure 3.1. Empathy Map

3.2 IDEATION & BRAINSTORMING

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creativethinking process that leads to problem-solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich number of creative solutions.

STEP-1 TEAM GATHERING, COLLABORATION AND SELECTING THE PROBLEM STATEMENT

This step includes the formation of a team, collaborating with the team by collecting the problems of the domain we have taken and consolidating the collected information into a single problem statement.



Brainstorm
& idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

10 minutes to prepare
1 hour to collaborate
2-8 people recommended

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

A **Team gathering**
Define who should participate in the session and send an invite. Share relevent information or pre-work ahead.

B **Set the goal**
Think about the problem you'll be focusing on solving in the brainstorming session.

C **Learn how to use the facilitation tools**
Use the Facilitation Superpowers to run a happy and productive session.

Open article →

1 **Define your problem statement**

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

Dementia-ridden seniors neglect to correctly ingest their medications, eat their meals, and check their blood sugar levels at the same time. In order to address this type of problem, an IOT-based web application must be created that is user-friendly for caregivers.

Key rules of brainstorming

To run an smooth and productive session

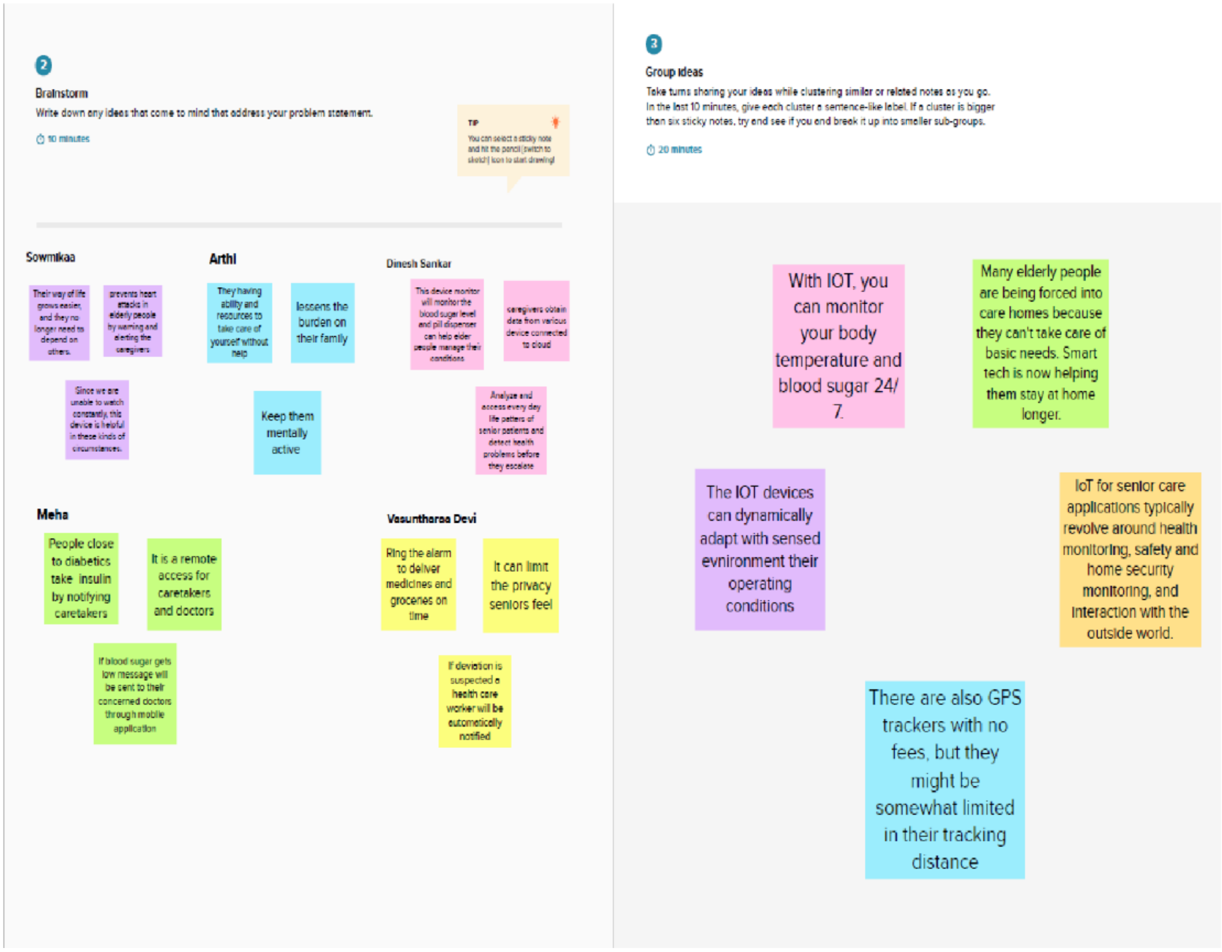
Stay in topic.
Encourage wild ideas.
Defer judgment.
Listen to others.
Go for volume.
If possible, be visual.

Figure 3.2. Ideation And Brainstorming

STEP 2 : BRAINSTORM, IDEA LISTING AND GROUPING

As part of the brainstorming process, teammates list their own unique solutions to the problem statement that has been formulated. Each distinct thought has been valued and given its own cluster.

The team then deliberated before creating Cluster A, which contained the ideas that had received the most votes overall, and Cluster B, which contained the concepts that were least necessary.



2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

TIP

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

Sowmikaa

Their way of life grows easier, and they no longer need to depend on others.

prevents heart attacks in elderly people by warning and alerting the caregivers

Since we are unable to watch constantly, this device is helpful in these kinds of circumstances.

Arthi

They having ability and resources to take care of yourself without help

lessens the burden on their family

Keep them mentally active

Dinesh Sankar

This device monitor will monitor the blood sugar level and pill dispenser can help elder people manage their conditions

caregivers obtain data from various device connected to cloud

Analyze and access every day life petters of senior patients and detect health problems before they escalate

Meha

People close to diabetics take insulin by notifying caretakers

It is a remote access for caretakers and doctors

If blood sugar gets low message will be sent to their concerned doctors through mobile application

Vasuntharaa Devi

Ring the alarm to deliver medicines and groceries on time

It can limit the privacy seniors feel

If deviation is suspected a health care worker will be automatically notified

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

With IOT, you can monitor your body temperature and blood sugar 24/7.

Many elderly people are being forced into care homes because they can't take care of basic needs. Smart tech is now helping them stay at home longer.

The IOT devices can dynamically adapt with sensed evnironment their operating conditions

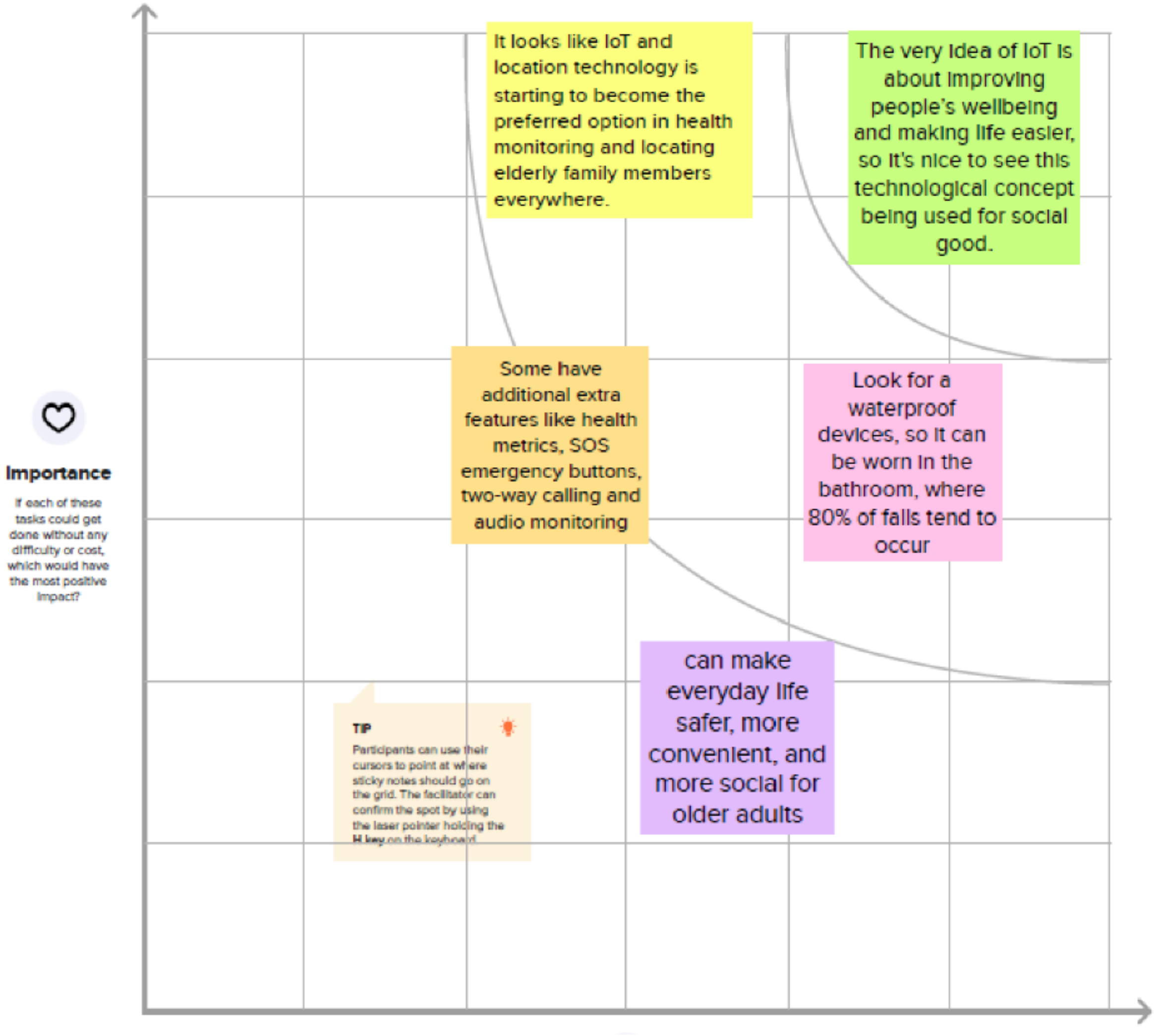
IoT for senior care applications typically revolve around health monitoring, safety and home security monitoring, and interaction with the outside world.

There are also GPS trackers with no fees, but they might be somewhat limited in their tracking distance

Figure 3.3. Brainstorm, Idea Listing and Grouping

STEP 3: IDEA PRIORITIZATION

This step includesthe process of listing necessarycomponents to come up with the working solution and making a hierarchy chart by prioritizing the components based on importance, say from the higher being backend and lower being the user interfacing components.



It looks like IoT and location technology is starting to become the preferred option in health monitoring and locating elderly family members everywhere.

The very idea of IoT is about improving people's wellbeing and making life easier, so it's nice to see this technological concept being used for social good.

Some have additional extra features like health metrics, SOS emergency buttons, two-way calling and audio monitoring

Look for a waterproof devices, so it can be worn in the bathroom, where 80% of falls tend to occur

can make everyday life safer, more convenient, and more social for older adults

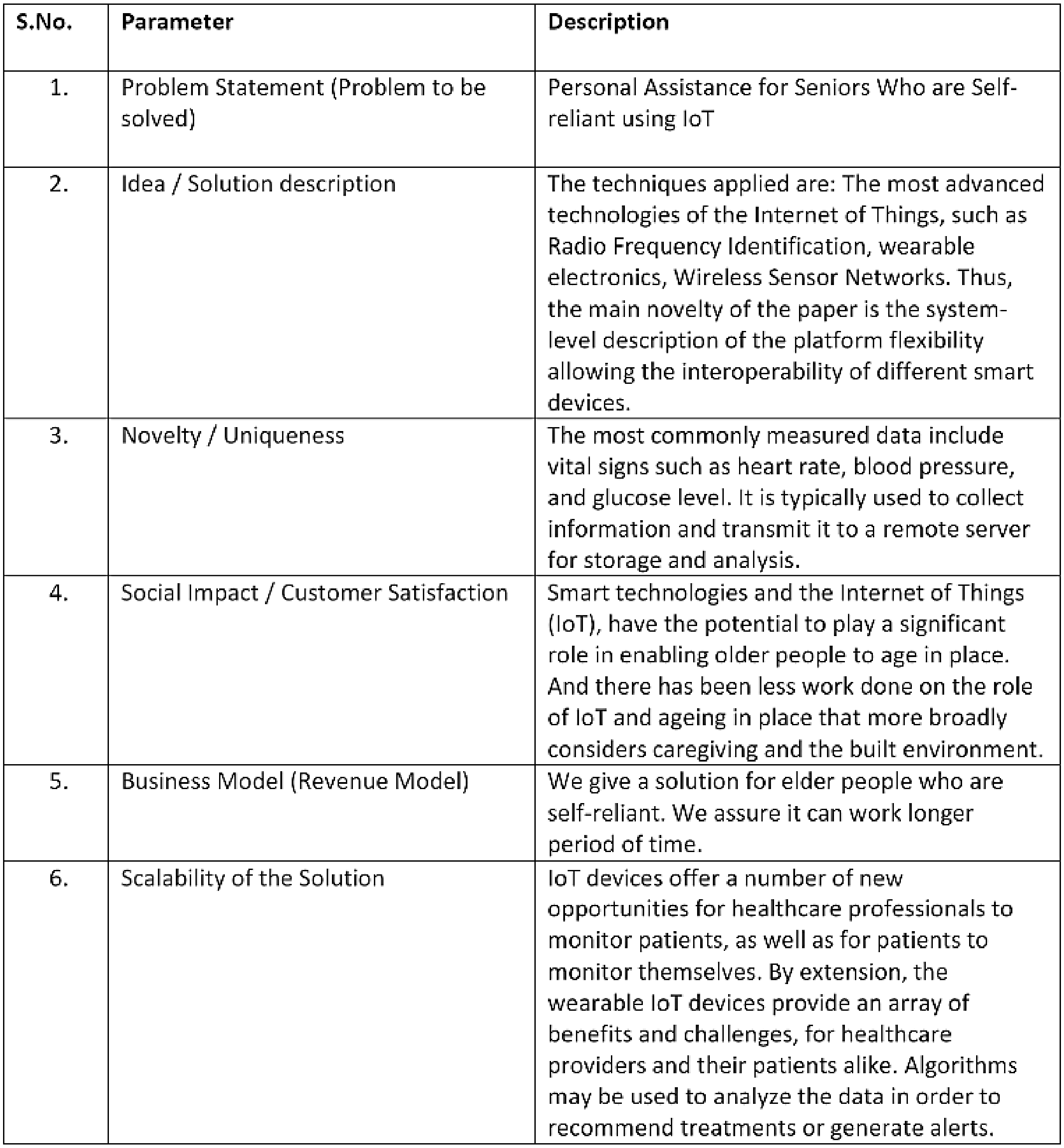
TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.

Importance
If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

Figure 3.4. Idea Prioritization

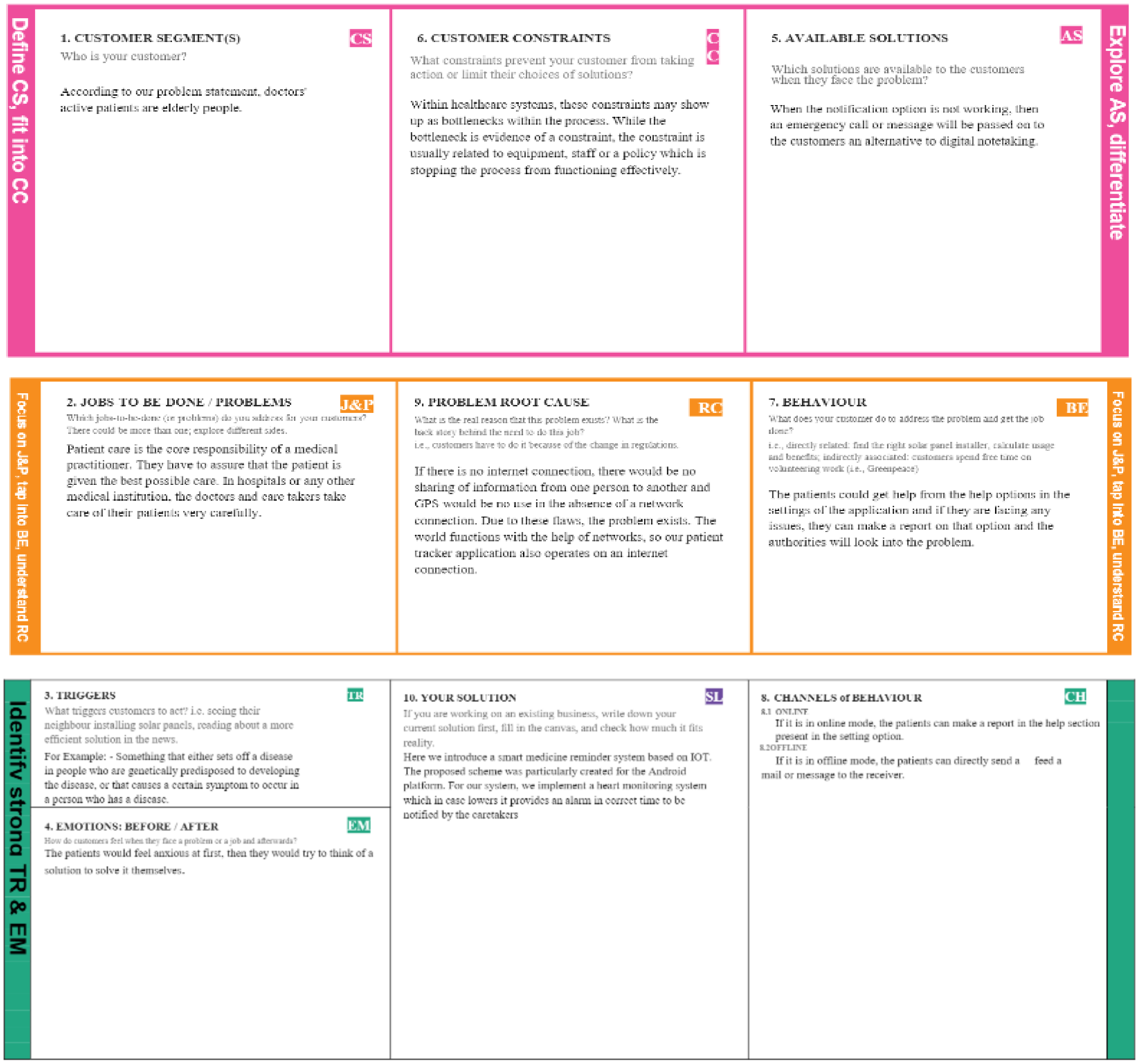
3.3 PROPOSED SOLUTION



S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Personal Assistance for Seniors Who are Self-reliant using IoT
2.	Idea / Solution description	The techniques applied are: The most advanced technologies of the Internet of Things, such as Radio Frequency Identification, wearable electronics, Wireless Sensor Networks. Thus, the main novelty of the paper is the system-level description of the platform flexibility allowing the interoperability of different smart devices.
3.	Novelty / Uniqueness	The most commonly measured data include vital signs such as heart rate, blood pressure, and glucose level. It is typically used to collect information and transmit it to a remote server for storage and analysis.
4.	Social Impact / Customer Satisfaction	Smart technologies and the Internet of Things (IoT), have the potential to play a significant role in enabling older people to age in place. And there has been less work done on the role of IoT and ageing in place that more broadly considers caregiving and the built environment.
5.	Business Model (Revenue Model)	We give a solution for elder people who are self-reliant. We assure it can work longer period of time.
6.	Scalability of the Solution	IoT devices offer a number of new opportunities for healthcare professionals to monitor patients, as well as for patients to monitor themselves. By extension, the wearable IoT devices provide an array of benefits and challenges, for healthcare providers and their patients alike. Algorithms may be used to analyze the data in order to recommend treatments or generate alerts.

3.4 PROBLEM-SOLUTION FIT

The Problem-Solution Fit simply means that you have found a problem with your customerand that the solution you have realizedfor it solves the customer’s problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why



Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Who is your customer?

According to our problem statement, doctors' active patients are elderly people.

6. CUSTOMER CONSTRAINTS CC

What constraints prevent your customer from taking action or limit their choices of solutions?

Within healthcare systems, these constraints may show up as bottlenecks within the process. While the bottleneck is evidence of a constraint, the constraint is usually related to equipment, staff or a policy which is stopping the process from functioning effectively.

5. AVAILABLE SOLUTIONS AS

Which solutions are available to the customers when they face the problem?

When the notification option is not working, then an emergency call or message will be passed on to the customers an alternative to digital notetaking.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS TO BE DONE / PROBLEMS J&P

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

Patient care is the core responsibility of a medical practitioner. They have to assure that the patient is given the best possible care. In hospitals or any other medical institution, the doctors and care takers take care of their patients very carefully.

9. PROBLEM ROOT CAUSE RC

What is the real reason that this problem exists? What is the back story behind the need to do this job?
i.e., customers have to do it because of the change in regulations.

If there is no internet connection, there would be no sharing of information from one person to another and GPS would be no use in the absence of a network connection. Due to these flaws, the problem exists. The world functions with the help of networks, so our patient tracker application also operates on an internet connection.

7. BEHAVIOUR BE

What does your customer do to address the problem and get the job done?
i.e., directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e., Greenpeace)

The patients could get help from the help options in the settings of the application and if they are facing any issues, they can make a report on that option and the authorities will look into the problem.

Focus on J&P, tap into BE, understand RC

Identifv strona TR & EM

3. TRIGGERS TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

For Example: - Something that either sets off a disease in people who are genetically predisposed to developing the disease, or that causes a certain symptom to occur in a person who has a disease.

4. EMOTIONS: BEFORE / AFTER EM

How do customers feel when they face a problem or a job and afterwards?

The patients would feel anxious at first, then they would try to think of a solution to solve it themselves.

10. YOUR SOLUTION SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.

Here we introduce a smart medicine reminder system based on IOT. The proposed scheme was particularly created for the Android platform. For our system, we implement a heart monitoring system which in case lowers it provides an alarm in correct time to be notified by the caretakers

8. CHANNELS of BEHAVIOUR CH

8.1 ONLINE

If it is in online mode, the patients can make a report in the help section present in the setting option.

8.2OFFLINE

If it is in offline mode, the patients can directly send a feed a mail or message to the receiver.

Figure 3.5. Solution Fit

CHAPTER - 4

REQUIREMENT ANALYSIS

4.1 Functional Requirements

FR No.	Functional Requirement (Epic)	Sub Requirement (Story/Sub-Task)
FR-1	User Requirements	Medical Protection Health Information System Monitor Patient Status, Temperature and Blood Pressure, Pulse rate checking System.
FR-2	User Registration	Manual Registration Registration through Web Page Registration through Form Registration through Gmail
FR-3	User Confirmation	Confirmation via Phone Confirmation via Email Confirmation via OTP
FR-4	Payment Options	Cash on Delivery Debit Card/Credit Card Net Banking Paytm Wallet and UPI
FR-5	Product Delivery and Installation	Door Step Delivery Take Away Free Installation
FR-6	Product Feedback	Through Web Page Through Phone Calls Through Google Forms

4.2 Non-Functional Requirements

Usability

- ➢ Have a clear and self-explanatory manual
- ➢ Easy to Use

Security

- ➢ Application has to be secured with 2 step authorization
- ➢ Passwords and passkeys will be assigned as per the users need.

Reliability

- ➢ Hardware requires a regular checking and service
- ➢ Software may be updated periodically
- ➢ Immediate alert is provided case of any system failure.

Performance

- ➢ The Application must have a good interface
- ➢ The System Provides acknowledgment in just one second once the patient's
- ➢ Information is checked

Availability

- ➢ All the features will be available when the user requires.
- ➢ It depends on the patients need and the user's customization.

Scalability

- ➢ The product has to cover all the space of isolation wards irrespective of the size or area of a medical field

CHAPTER - 5
PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS

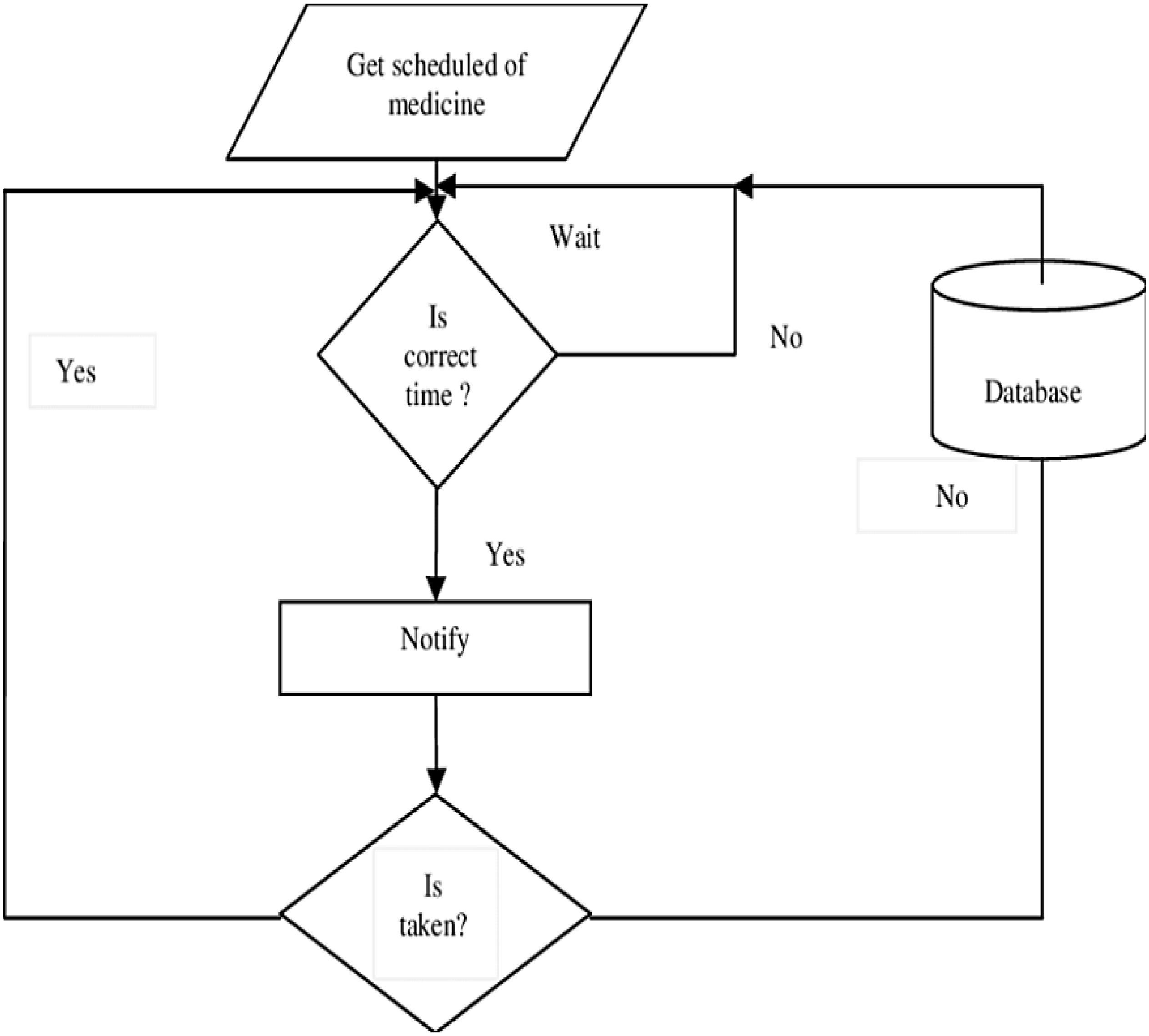


Figure 5.1. Data flow Diagram

5.2 SOLUTION AND TECHNICALARCHITECTURE

Solution architecture is the process of developing solutions based on predefined processes, guidelines and best practices with the objective that the developed solution fits within the enterprise architecture in terms of information architecture, system portfolios, integration requirements and many more.

It can then be viewed as a combination of roles, processes and documentation that are intended to address specific business needs, requirements or problems through the design and development of applications and information systems.

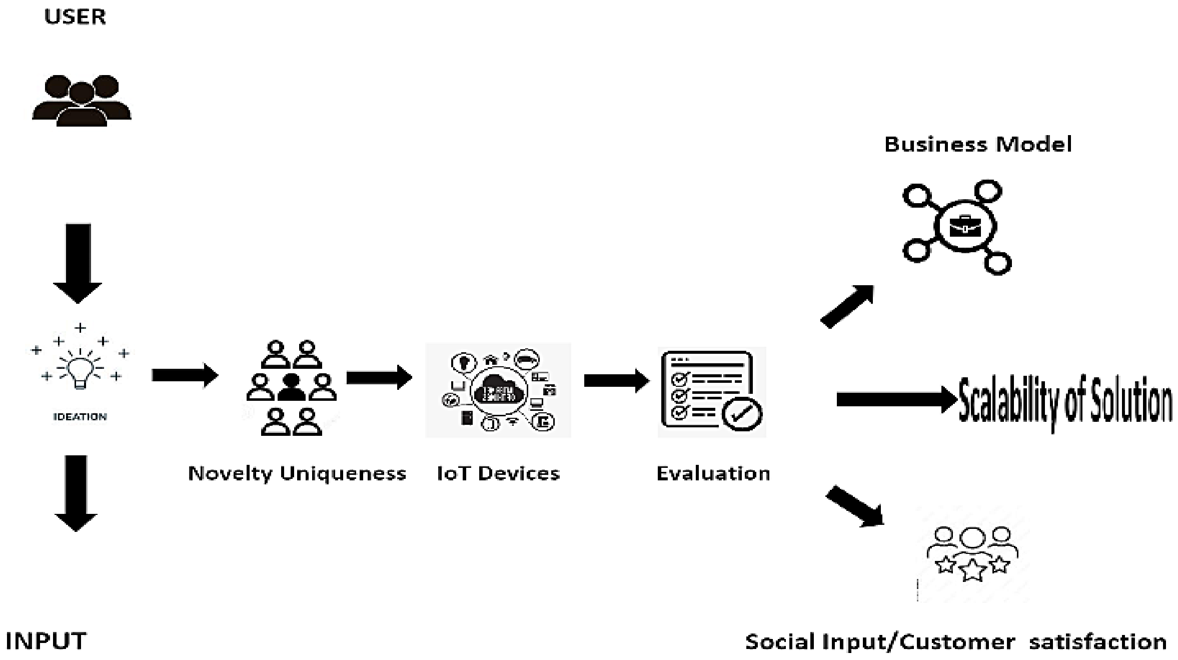


Figure 5.2.1 Solution Architecture

Technical Architecture is a form of IT architecture that is used to design computer systems. It involves the development of a technical blueprint with regard to the arrangement, interaction, and interdependence of all elements so that system-relevant requirements are met.

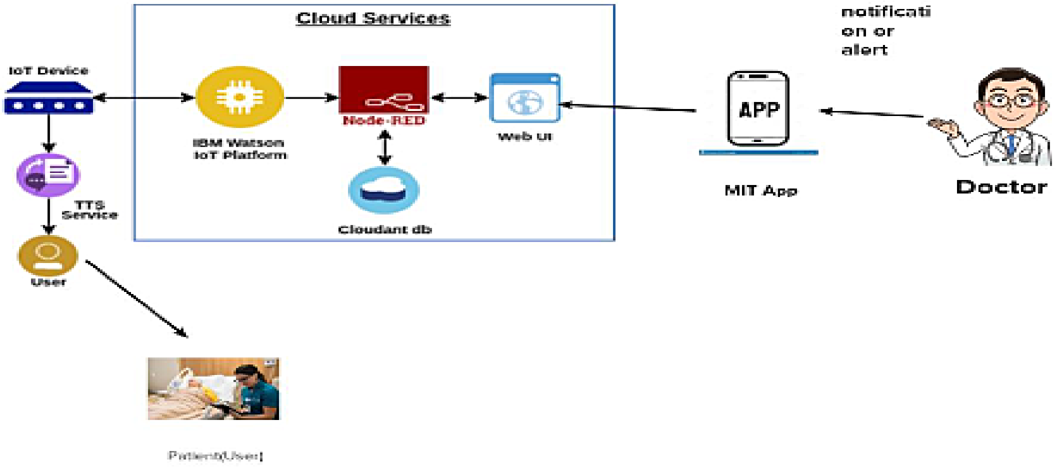


Figure 5.2.2 Technology Architecture

5.3 USER STORIES

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Sprint 1	IBM Watson IoT Platform	USN-1	Creating device,board and generating data.	I want to Take Medicineson time	High	Sprint-1
Sprint 2	Storing Data Using node-red	USN-2	Storing data in IBM Cloudant DB	My patient medication time and prescription should be in the database list	High	Sprint-2
Sprint 3	Frontend in Web	USN-3	Creating Frontend for User to use the medicine remainder WEB	My patient needs to take medicines on time	Medium	Sprint-3
Sprint 4	Backend in Web	USN-4	Design the block of backend for the WEB	I want to take my tablets on time by voice command	Low	Sprint-4

CHAPTER - 6

PROJECT PLANNING AND SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION

SPRINT 1

. The Sprint one involves the making of Frontend (login page).

- The login page involves both register and login form.
- We have a database for this page (login page).
- The login page was created using language like HTML, CSS, JAVASCRIPT and also includes PYTHON frame works like FLASK, WERKZEUG.
- The database is stored in the IBM cloud (Cloudant Database).

SPRINT 2

- The second sprint involves the database storage of the user Login an dthe dashboard page
- The Database are stored using IBM Cloudant db
- The stored database is used to store the data of the user login and dashboard page
- We have created as database for login page like First name, Last name, G-mail, Password
- And created a database for dashboard page like Person's Name,

Medicine Name, Person’s Age, Person’s Phone Number.

And to connect the data in the backend we had used python programming

SPRINT 3

• The Sprint Three involves the making of a Twilio setup, which is used to send messages to the patient as per the pre-defined note and time set by the caretaker.

• To send a new outgoing message from a Twilio phone number to outside number:

• Make an HTTP POST to your account's Message resource

• You can post directly to the API with Curl.

• When creating a new message via the API, including the parameters To, From, and Body.

To

This parameter determines the destination phone number for SMS messages. Format this number with a ‘+’ and a country code, e.g., + 911234567890.

From

From specifies the Twilio phone number, short code, or Messaging Service that sends this message. This must be a Twilio phone number that you own, formatted with a '+' and country code, e.g., +911234567890. **SPRINT DELIVERY SCHEDULE**

Body

The `Body` parameter includes the full text of the message you want to send, limited to 1000 characters

SPRINT 4

The fourth sprint involves the work of creating an interface of the product that is used by the caretaker to set the data and time and to send   body of the message.

- This program in involves the backend for setting the SMS to notify for the caretaker
- So, basically the program works based on the Twilio setup which we have to get a number from Twilio and configure to connect and set up to the frontend
- And the backend was also connected by using node.js for to render web page faster and create highly dynamic applications.

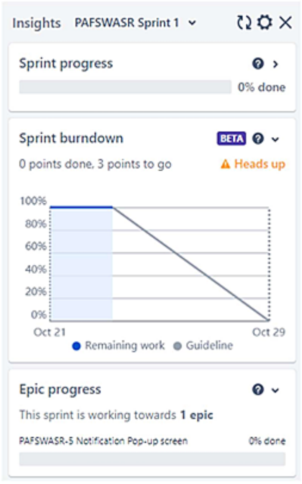
6.2 SPRINT DELIVERY SCHEDULE

Sprint	Functional Requirement (Epic)	User Story Number	User Story/Task	Story points	Priority	Team Member
Sprint-1	IBM Watson IOT Platform	USN-1	Creating device, board and Generating Data	2	High	Dinesh Sankar G.K
Sprint-2	Story Data Using node-red	USN-2	Storing the data in IBM Cloudant DB through node-red functions	1	High	Arthi V
Sprint-3	Frontend in App	USN-3	Creating the frontend for users to use medicine remainder app in MIT App inventor	2	Low	Vasuntharaa Devi K
Sprint-4	Backend in App	USN-4	Designing the block of backend for the app in MIT App inventor	2	Medium	Sowmikaa K

Table 6.1. Sprint Delivery Schedule

6.3 REPORTS FROM JIRA

Burndown chart


Insights PAFSWASR Sprint 1

Sprint progress

0% done

Sprint burndown BETA

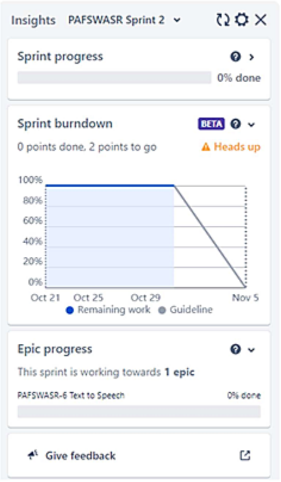
0 points done, 3 points to go

⚠ Heads up

Epic progress

This sprint is working towards **1 epic**

PAFSWASR-5 Notification Pop-up screen 0% done


Insights PAFSWASR Sprint 2

Sprint progress

0% done

Sprint burndown BETA

0 points done, 2 points to go

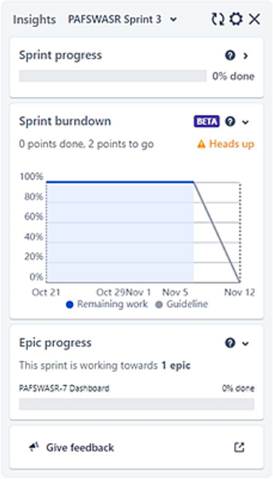
⚠ Heads up

Epic progress

This sprint is working towards **1 epic**

PAFSWASR-6 Text to Speech 0% done

Give feedback


Insights PAFSWASR Sprint 3

Sprint progress

0% done

Sprint burndown BETA

0 points done, 2 points to go

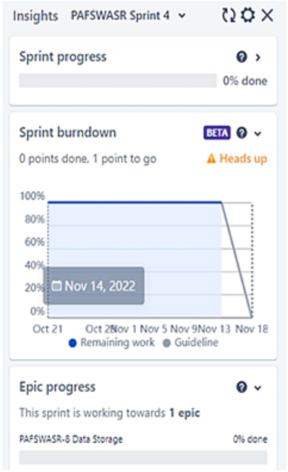
⚠ Heads up

Epic progress

This sprint is working towards **1 epic**

PAFSWASR-7 Dashboard 0% done

Give feedback


Insights PAFSWASR Sprint 4

Sprint progress

0% done

Sprint burndown BETA

0 points done, 1 point to go

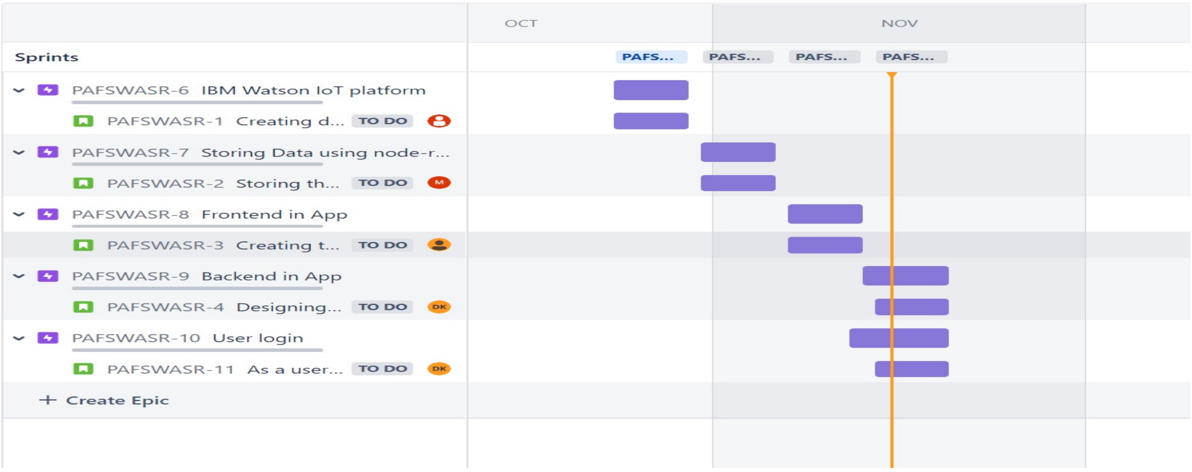
⚠ Heads up

Epic progress

This sprint is working towards **1 epic**

PAFSWASR-8 Data Storage 0% done

Road Map



Sprints

PAFSWASR-6 IBM Watson IoT platform

PAFSWASR-1 Creating d... TO DO

PAFSWASR-7 Storing Data using node-r...

PAFSWASR-2 Storing th... TO DO

PAFSWASR-8 Frontend in App

PAFSWASR-3 Creating t... TO DO

PAFSWASR-9 Backend in App

PAFSWASR-4 Designing... TO DO

PAFSWASR-10 User login

PAFSWASR-11 As a user... TO DO

+ Create Epic

Figure 6.2. Road Map

CHAPTER - 7
CODING AND SOLUTIONS

7.1 FEATURE 1

You may create any app, game, or plugin using Visual Studio using the language of your choosing. Learn about the features that will increase your output, enhance the quality of your code, and increase team agility.

Features of VS Code:

Python

Virtual Platform

Code

```
{
"contributes": {
"languages": [
{
"id": "abc",
"extensions": [".abc"]
}
],
"grammars": [
{
```

```
"language": "abc",
"scopeName": "source.abc",
"path": "./syntaxes/abc.tmGrammar.json"
}
]
}
```

7.2 FEATURE 2

Python 3.7 easier access to debuggers thanks to a new built-in breakpoint () With data classes, create simple classes Access to module properties that can be changed improved type hinting support enhanced timing capabilities.

Features of Python 3.7:

- The breakpoint () Built-In.
- Data Classes.
- Customization of Module Attributes.
- Typing Enhancements.
- Timing Precision.

Code

```
from twilio.rest import Client
import keys
client = Client(keys.account_sid,keys. auth_token)
message = client.messages.create(
body="Take a Pill!",
from_=keys  .twilio_number,
to=keys.my_phone_number
)
print(message.body)
account_sid ='AAA'
auth_token = 'AAA'twilio_number ='+19123456789'
target_number ='+9112345678902'
```

7.3 DATABASE SCHEMA

In this Project, we used Physical Database Schema. Physical schema is a term used in data management to describe how data is to be represented and stored (files, indices, et al.) in secondary storage using a particular database management system (DBMS)

Schema Login

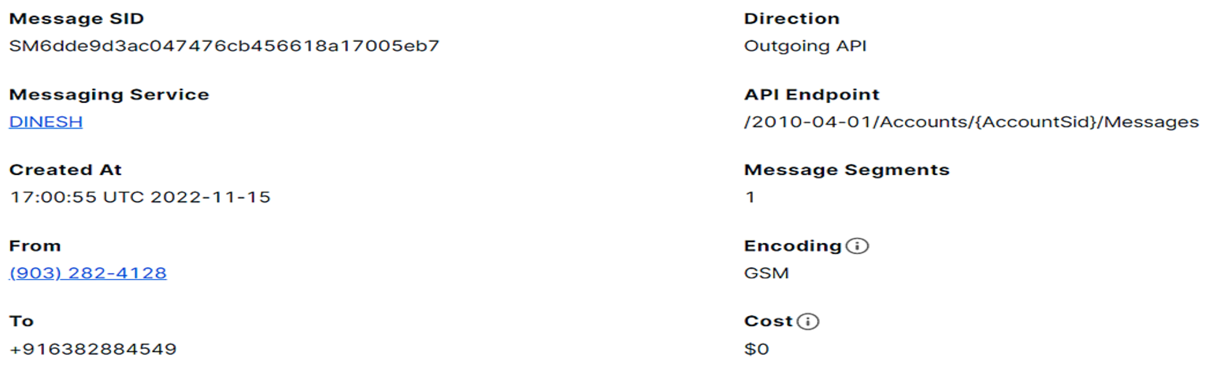
```
from turtle import st
from flask import Flask, render_template, request, redirect, url_for, session
from markupsafe import escape

import ibm_db
try:
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=764264db-9824-
4b7c-82df-
40d1b13897c2.bs2io90l08kqb1od8lcg.databases.appdomain.cloud;PORT=32536;
SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=gxf16
367;PWD=XDYrStX6HN1EWZGp","","")
 print("Successfully connected with db2")
except:
 print("Sorry.. Unable to connect : ", ibm_db.conn_errormsg())
 app = Flask(_name_)
```

CHAPTER - 8

TESTING

8.1 TEST CASES

A test case might be created as an automatedscript to verifythe functionalityper the original acceptance criteria. After doing manual exploratory testing, QA testers might suggest other functionalities be added to the application as well as updatedtest cases be incorporated in the automated test suite.



Message SID
SM6dde9d3ac047476cb456618a17005eb7

Messaging Service
DINESH

Created At
17:00:55 UTC 2022-11-15

From
(903) 282-4128

To
+916382884549

Direction
Outgoing API

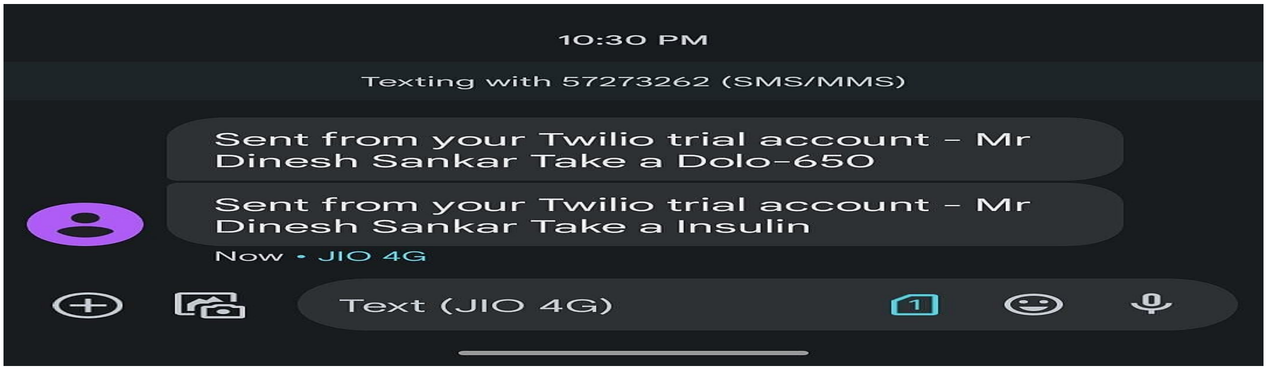
API Endpoint
/2010-04-01/Accounts/{AccountSid}/Messages

Message Segments
1

Encoding
GSM

Cost
$0

Table 8.1. Test Case



10:30 PM

Texting with 57273262 (SMS/MMS)

Sent from your Twilio trial account - Mr Dinesh Sankar Take a Dolo-650

Sent from your Twilio trial account - Mr Dinesh Sankar Take a Insulin

Now • JIO 4G

Table.8.2. Test Report

8.2 USER ACCEPTANCE TESTING

- User acceptance testing: They do not follow medical advice for certain older individuals, take fewer pills per day than recommended, miss taking their medication entirely, or adhere to their prescription regimen improperly.

- Patients overdose on prescription medication, take too little of it, or take the wrong pharmaceutical type, according to improper dosage testing (for example, drops instead of pills.)

- Patients either forget to take a tablet or dose, in which case they take it twice, or they take it without remembering (double-dose). Both varieties have a high potential for injury.

- Patients fail to promptly refill their prescriptions.

- When it comes to complicated therapies that involve numerous drugs, patients become confused.

- As you can see, these problems have the potential to become a significant health danger, but happily, they can be quickly fixed with a medication management app.

CHAPTER - 9

RESULTS

Performance Metrics

In this paper, medication, its scheduling have been well focused which is good to enhance efficiency of prescribed drug and lower economic element. For home health care, numerous technology have advanced as review considered. Numerous monitoring technologies have been found to enhance the current home health care methods, leading to the development of home health monitoring systems. The monitoring system may include a sensing component and a wireless module, both of which must be secure in order to prevent message corruption and loss of health-related data. The Internet of Things (IoT) is essential for facilitating connection between the two devices. By using messaging standards and communication protocols, we may safely transmit crucial health-related messages. Data from sensors can be stored effectively in an open source IOT cloud.

The advantage of digital storage is that it makes it easier and faster to retrieve data in an emergency for safe health. The RFID will work well for user personal identity and encryption/decryption needs.

CHAPTER - 10

ADVANTAGES AND DISADVANTAGES

ADVANTAGES

- Significant improvement of the quality of life for your elders.
- Enables early diagnosis of diseases which leads to early treatment.
- Increase the chances of eradicating diseases due to early detection.
- Allows your elder to maintain a healthy, balanced diet.
- Your elder’s efficiency and productivity can be maintained.
- Enables your loved ones to be physically and mentally fit.
- Regular health monitoring and checkup provided by this care service can save you from expensive medical costs in the long run.

DISADVANTAGES

- Remote patient monitoring does have some drawbacks, such as its reliance on technology that not all patients can afford.
- RPM Requires New Practice Software.
- Data Reliability Can Be Affected with Improper Use.
- Remote Patient Monitoring Is Reducing Readmission Rates.
- Cost in Time and Resources.

CHAPTER – 11

CONCLUSION

Nowadays, using smart phones and mobile applications are increased dramatically, so developing mobile applications in health services (especially self-care) can create the desired effect in the community. Although there are various medication reminder mobile applications, a native mobile application is essential that is developed on the basis of the specialists’ ideas in this field. In addition to remind the medication administration time and dose the project helps private users and their connected caretakers by procuring the medication details from the caretaker and securely processing the data for the desired result of SMS alerts. Senior citizens are properly monitored by their caretakers and thus, caretakers can make sure that their patients are taking the right medicines at the right times without delay. With this solution, the problem can attain an economic and easily usable way to overcome the difficulties faced by senior citizens. Thus, the result of our system provides fast curing of patient health by using our advantageous system.

CHAPTER - 12

FUTURE SCOPE

The project can be enhanced with many other features that can serve senior citizens even better. The product currently is a simple basic version which can only send SMS alerts on time. Some other additional features that are planned to beincorporated with this existing product are listed below:

- The dashboard can be made more versatile for the caretakers to manage patient's medicine intake time and to monitor how it changes every day, by this a new or speculated time can be scheduled individually.

- The system can be enhanced with a smartwatch or health devices so that the health conditions can be continuously connected with the hospitals, and doctors to supervise and help them during emergencies.

- The system can relate to hardwareproduct that stores and automatically opens the container and alerts with a voice message

- The system can further relate to the medical shop so that the hardware system automatically senses the tablet counts and alerts the medical shop to deliver the medicine.

CHAPTER - 13

APPENDIX

13.1 SOURCE CODE

CLIENT

```
 require('dotenv').config() const accountSid =
'process.env.AC68528e40bc184643b139c184b25865b8'; const authToken =
'006bbbf4bdeea577f5bc43624e0e4e4c'; const client =
require('twilio')(accountSid, authToken); const cron = require('node-cron'); const
moment = require('moment');

console.log(`Medication Reminder started at ${moment().format
('DD/MM/YYYY HH:mm')}`);

// Trigger every day at 20h05 pm cron.schedule('05 20 * * *', async () => {
// Inital data of dates (start and end date) let startDate = '08/03/2022'

// Reminds you during 20 days          let endDate = moment(startDate,
'DD/MM/YYYY').add(20, 'days');

 console.log(startDate, endDate);

// Set new dates for the new cycle          if (moment().isAfter(endDate)) {
for (let i = 0; i < 100000; i += 1) {
 if (moment().isAfter(endDate)) {
 // if 20 days have passed, set a pause for 7 days
 startDate = moment(startDate, 'DD/MM/YYYY').add(27,
'days').format('DD/MM/YYYY')
 endDate = moment(startDate, 'DD/MM/YYYY').add(20, 'days')
 } else {
 break;
 }
 }
 }
 // Send the reminder
 if (moment(startDate, 'DD/MM/YYYY').isBefore()) {
  client.messages
 .create({
  body: 'Take your medication',
  from: 'MEDREM',
  to: '+911234567890',
 })
 .then(message => console.log(message.sid));
 }
 });

 {
```

```
"cells": [
{    "cell_type": "code",
 "execution_count": 1,
 "metadata": {},
 "outputs": [],
 "source": [



 "import time \n",
   ] },
   {   "cell_type": "code",
  "execution_count": null,
   "metadata": {},
    "outputs": [],
    "source": [     "notification.notify(\n",
    "title = \"Reminder\",
     \n",
  "message =\"Have Medicine\",\n",
  "timeout  = 10)
    \n",
  "time.sleep(60*60*3)"
  ]
  }
  ],
  "metadata": {
```

```
 "kernelspec": {
 "display_name": "Python 3",
 "language": "python",
 " name": "python3"    },
 "language_info": {
 "codemirror_mode": {
 "name": "ipython",
 " version": 3    },
 "file_extension": ".py",
 "mimetype": "text/x-python",
 "name": "python",
 "nbconvert_exporter": "python",
 "pygments_lexer": "ipython3",
  },
 "vscode": {
"interpreter": {
 "hash":
 }
 }
 },
"nbformat": 4,
"nbformat_minor": 4}
```

SERVER:

```
from turtle import st from flask import
```

```
Flask, render_template, request, redirect, url_for, session
from markupsafe import escape

import ibm_db try:
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=764264db-9824-
4b7c
82df
40d1b13897c2.bs2io90l08kqb1od8lcg.databases.appdomain.cloud;PORT=32536;
SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=gxf16
36;SE
7WD=XDYrStX6HN1EWZGp",",") print("Successfully connected with db2");PE
except:
print("Sorry.. Unable to connect : ", ibm_db.conn_errormsg())

app = Flask(__name__)

@app.route('/')
def home():
return render_template('home.html')

 # register oda submit action
 @app.route('/register',methods = ['POST', 'GET'])
 def register():
 if request.method == 'POST':
```

```
 fname = request.form['fname']
 lname = request.form['lname']
 email = request.form['email']
 password = request.form['password']

 sql = "SELECT * FROM user WHERE email =?"
 stmt = ibm_db.prepare(conn, sql)
 ibm_db.bind_param(stmt,1,email)
 ibm_db.execute(stmt)
 account = ibm_db.fetch_assoc(stmt)

 if account:
 return render_template('home.html', msg="You are already a member, please
  login using    your details")
 else:
  _sql = "INSERT INTO user VALUES (?,?,?,?)"
  prep_stmt = ibm_db.prepare(conn, insert_sql)
  ibm_db.bind_param(prep_stmt, 1, fname)
  ibm_db.bind_param(prep_stmt, 2, lname)insert
  ibm_db.bind_param(prep_stmt, 3, email)
 ibm_db.bind_param(prep_stmt, 4, password)
 ibm_db.execute(prep_stmt)
return render_template('home.html', msg="Student Data saved successfully..")
@app.route("/login", methods=["POST"])
def login():
 print("-------------------------")  print("Inside login entrance")
 email = request.form.get("email")
 password = request.form.get("password")
 sql = "SELECT * FROM user WHERE email = ?"
 stmt = ibm_db.prepare(conn, sql)
 ibm_db.bind_param(stmt, 1, email)
 ibm_db.execute(stmt)
account = ibm_db.fetch_assoc(stmt)
if not account:
return render_template('home.html', msg="You are not yet registered, please sign
up
using your details")
else:
print("+=================================+")
print(account)
print("+=================================+")
print("Inside login")
if(password == account['PASSWORD']):
email = account['EMAIL']
 name = account['FNAME']
 print("Going to redirect to dashboard")
 return redirect(url_for('dashboard'))
 else:
 return render_template('home.html', msg="Please enter the correct password")


@app.route('/dashboard')
```

```
def dashboard():
        return render_template('dashboard1.html')

@app.route('/')
def batch():
return render_template('dashboard1.html')
@app.route('/getdata',methods=['post'])
def data():
if request.method == 'POST':
firstname = request.form['firstname']
medicine = request.form['medicine']
message = request.form['message']
age = request.form['age']
time = request.form['time']
day = request.form['day']
gender = request.form['gender']
phone = request.form['phone']

 insert_sql = "INSERT INTO user1 VALUES (?,?,?,?,?,?,?,?)"
 prep_stmt = ibm_db.prepare(conn, insert_sql)
 ibm_db.bind_param(prep_stmt, 1, firstname)
 ibm_db.bind_param(prep_stmt, 2, medicine)
 ibm_db.bind_param(prep_stmt, 3, message)
 ibm_db.bind_param(prep_stmt, 4, age)
 ibm_db.bind_param(prep_stmt, 5, time)
 ibm_db.bind_param(prep_stmt, 6, day)
 ibm_db.bind_param(prep_stmt, 7, gender)
 ibm_db.bind_param(prep_stmt, 8, phone)
 ibm_db.execute(prep_stmt)
 return render_template('dashboard1.html', msg="Data saved successfully..")

'''
  @app.route('/meddetail', methods = ['POST','GET'])
  def meddetail():
  if request.method == 'POST':

  firstname = request.form['firstname']
 medicine = request.form['medicine']
 message = request.form['message']
 age = request.form['age']
 time = request.form['time']
 day = request.form['day']
 gender = request.form['gender']
 phone = request.form['phone']

 insert_sql = "INSERT INTO meddetail VALUES (?,?,?,?,?,?,?,?)"
 prep_stmt = ibm_db.prepare(conn, insert_sql)
 ibm_db.bind_param(prep_stmt, 1, firstname)
 ibm_db.bind_param(prep_stmt, 2, medicine)
ibm_db.bind_param(prep_stmt, 3, message)
 ibm_db.bind_param(prep_stmt, 4, age)
 ibm_db.bind_param(prep_stmt, 5, time)
 ibm_db.bind_param(prep_stmt, 6, day)
 ibm_db.bind_param(prep_stmt, 7, gender)
 ibm_db.bind_param(prep_stmt, 8, phone)
 ibm_db.execute(prep_stmt)
 return render_template('dashboard1.html', msg="Data saved successfully..")
 '''

if __name__ == '__main__':
app.run()
```

13.2 GitHub & Project Demo Link

Content	Link
GitHub	**https://github.com/IBM-EPBL/IBM-Project-38672-1660384268**
Project DemonstrationVideo	**https://youtu.be/6nZUO8ztNug**

CHAPTER - 14

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5. Personal Assistance Device for Independent Senior Citizens/Patients, A.Yuvaraja, B.N. Guna Sekhar Reddy. International Journal of Recent Technology and Engineering (IJRTE).2020