Team ID:PNT2022TMID34709

PersonalAssistance for Seniors WhoAre Self-Reliant

1. Introduction

1.1. Project Overview:

An app is built for the user (caretaker) which enables him to set the desired time and medicine. These details will be stored in the IBM Cloudantt DB. If the medicine time arrives the web application will send the medicine name to the IoT Device through the IBM IoT platform. The device will receive the medicine name and notify the user with voice commands.

1.2. Purpose:

Sometimes elderly people forget to take their medicine at the correct time. They also forget which medicine He / She should take at that particular time. And it is difficult for doctors/caretakers to monitor the patients around the clock. To avoid this problem, this medicine reminder system is developed.

2. Literature survey:

Advanced information technology, joined to the increasing use of continuous medical devices for monitoring and treatment, have made possible the definition of a new telemedical diabetes care scenario based on a hand-held Personal Assistant(PA). This paper describes the architecture, functionality and implementation of the PA, which communicates different medical devices in a personal wireless network. The PA is a mobile system for patients with diabetes connected to a telemedical center. The software design follows a modular approach to make the integration of medical devices or new functionalities independent from the rest of its components. Physicians can remotely control medical devices from the telemedicine server through the integration of the Common Object Request Broker Architecture (CORBA) and mobile GPRS communications. Data about PA modules'usage and patients'behavior

evaluation come from a pervasive tracing system implemented into the PA .The PA architecture has been technically validated with commercially available medical devices during a clinical experiment for ambulatory monitoring and expert feedback through telemedicine. The clinical experiment has allowed defining patients' patterns of usage and preferred scenarios and it has proved thePersonal Assistant's feasibility. The patients showed high acceptability and interest in the system as recorded in the usability and utility questionnaires. Future work will be devoted to the validation of the system with automatic control strategies from the telemedical center as well as with closed-loop control algorithms.

2.1. Existing problem:

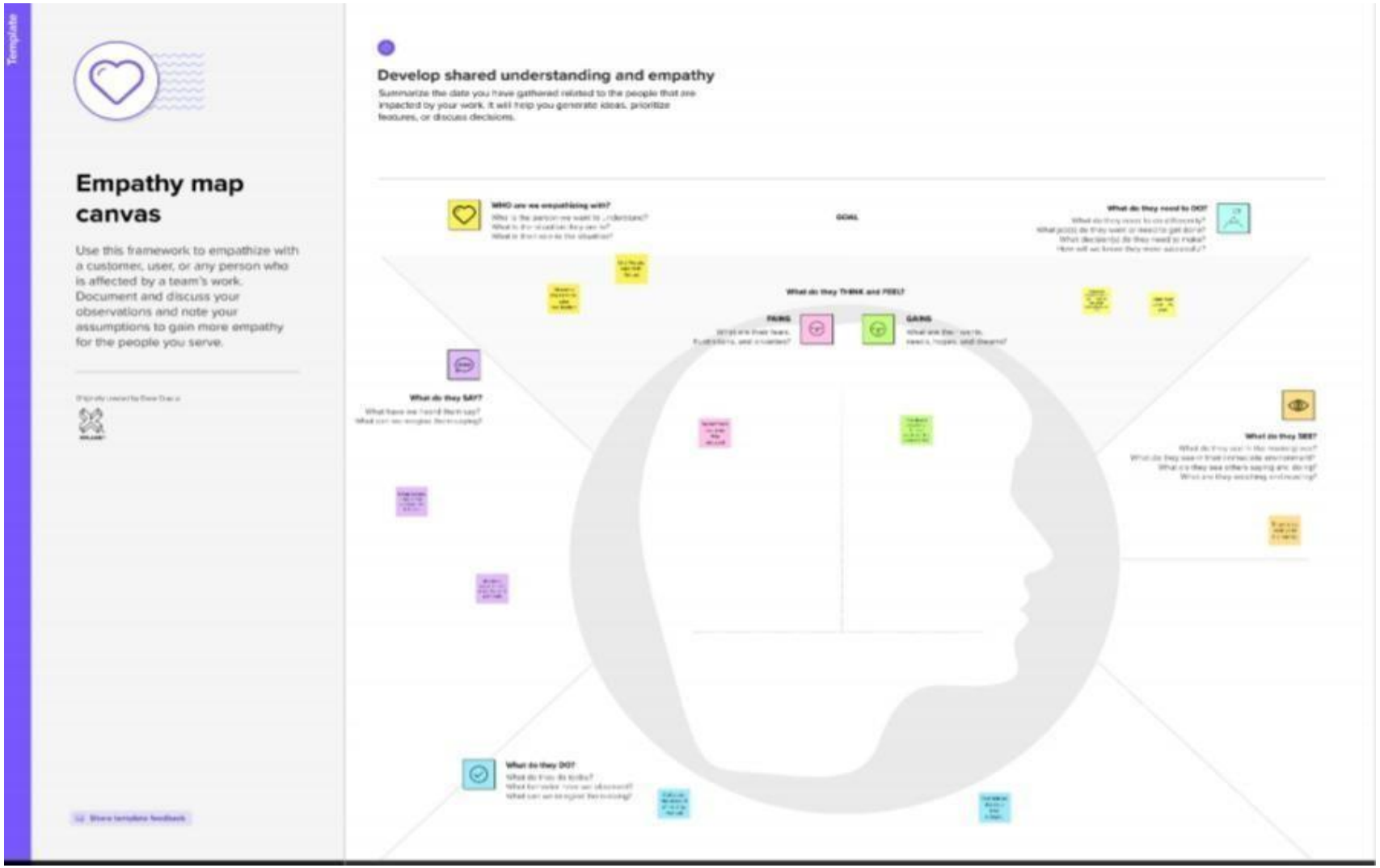
Elderly people let slip the medications at the correct time and the existing solution for this problem is setting reminders or using pill boxes, calendars, PersonalAssistance. Though the solutions give reminders, the voice commands or assistance given by this system is more efficient.

2.2. Problem statement definition:

Skipping medicines can be serious for some medical health conditions; Sometimes elderly people forget to take their medicine at the correct time . They also forget which medicine one should take at that particular time. And it is difficult for doctors/caretakers to monitor The patients around the clock.

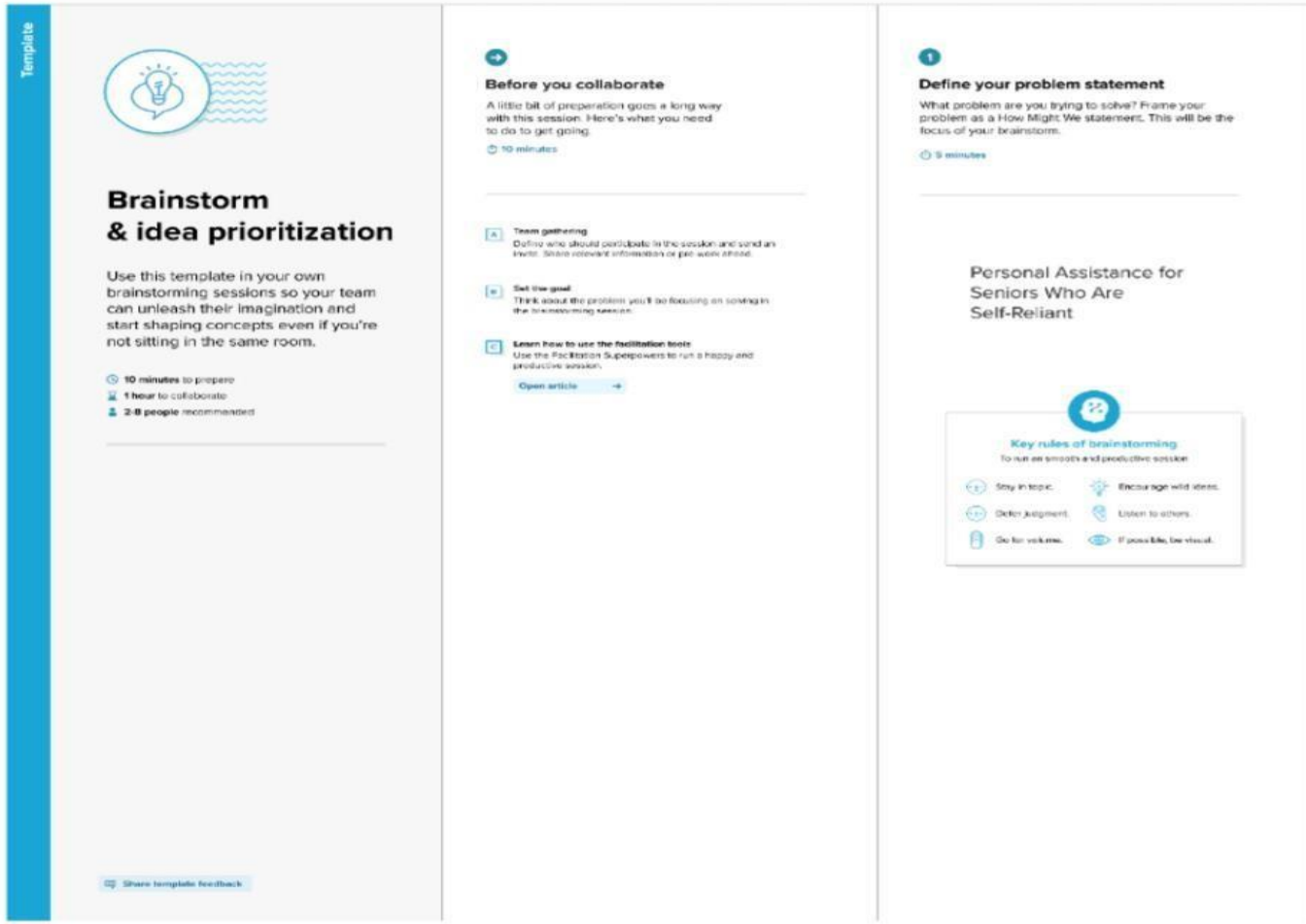
3.Ideation phase & Proposed solution

3.1 Empathy map

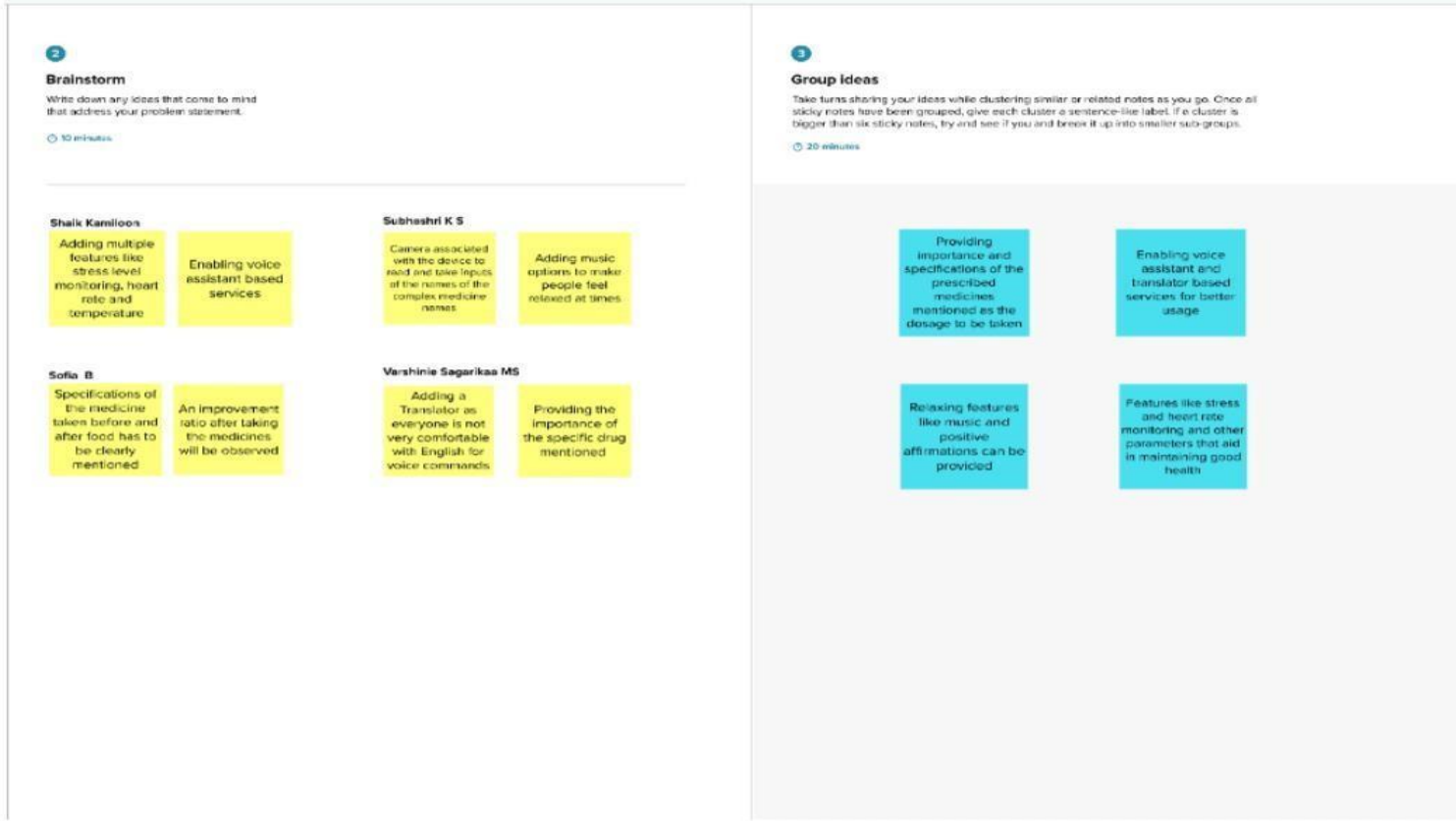


3.2 Ideation & Brainstorming

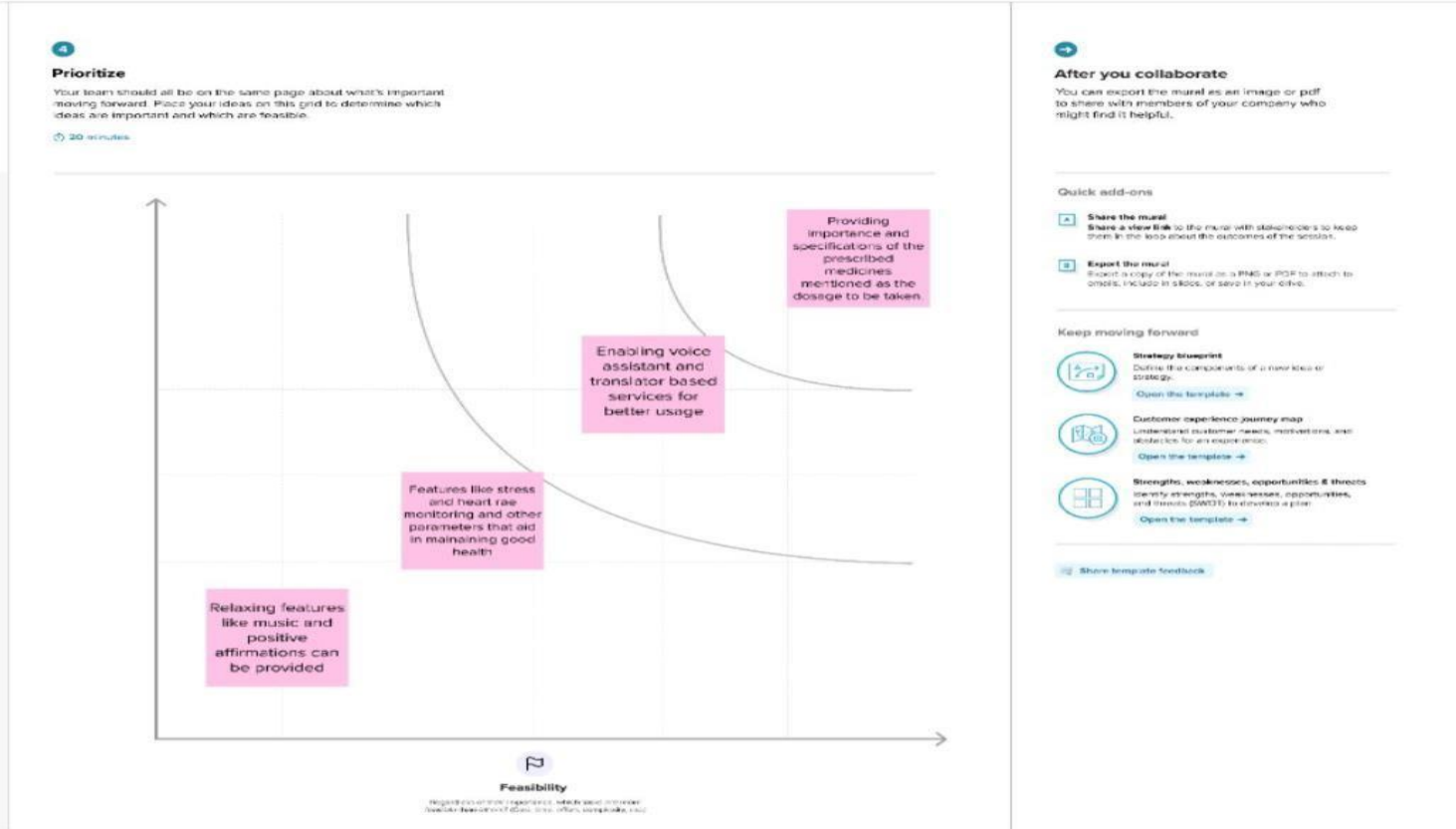
Step-1: Team Gathering, Collaboration and Select the Problem Statement



Step-2: Brainstorm, Idea Listing and Grouping



Step-3: Idea Prioritization



3.3Proposed Solution

S.No	Parameter	Description
1.	Problem Statement	Most of the time due to number of work for the people as well as regarding age and some disease which leads to forget the basic things among daily routine. If the patient sufferings from the disease where it is compulsory to take medicine at proper time, in this paper we have review the technology of home health care system among them a medicine reminder system and some improvement regarding authentication have well focused.

2.	Idea	Effective Medication Reminder ideas for Seniors who are self reliant 1.Build a Morning or Bedtime Routine. 2.Set Up Timed Reminders. 3.Wear a Trendy Reminder Device. 4.Take Meds With Your Meals. 5.Make Medicine Bottle Labels. 6.Find Pill Sorting Services. 7.Get Reminders via Mobile App. 8.Set Up Smart Home Reminders.

3.	Novelty	A pill reminder is any device that reminds users to take medications. Traditional pill reminders are pill containers with electric timers attached, which can be preset for certain times of the day to set off an alarm.

4.	Social Impact	This Medicine remainder had a positive impact on the health and social well-being of seniors who are self reliant many direct and indirect benefits were identified. Both patients and carers had positive attitudes towards using the device. Self-reported benefits included: reminders for medications and appointments improved adherence and disease control; increased independence and productivity; and for those living alone, the device helped combat their loneliness and low mood
5.	Business Model (Revenue Model)	Through the devices We gain revenue from selling the medicine remainder system to hospitals,medical health centre and even in old age homes and also gain profit by having partnership with pharmaceutical Companies.

6.	Scalability of the solution	As the model is integrated with cloud software,we can update the user experience without reinstalling a model and the person can keep a reminder up to the year.

3.4Problem Solution Fit

Project Design Phase-I - Solution Fit Template

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Define CS, fit into

1.CUSTOMER SEGMENT(S)

CS

A segmentation of the senior market is presented based on two dichotomous variables: social and professional activity/inactivity. The resulting four groups are labeled socially active employees, socially passive employees, socially active retirees and socially passive retirees.

6. CUSTOMER CONSTRAINTS

technologies such as patient tracking and smart home devices can automate tasks and processes to support seniors. Implementing IoT devices, such as wearables, telemedicine and smart home devices, can bring peace of mind to families and loved ones and safer living conditions for seniors.

5. AVAILABLE SOLUTIONS

By leveraging Innominds' advanced connected devices services, they were able to monitor living patterns to track normal activity patterns, monitor overall health based on the patterns as well as anomalies, and send notifications to the caregivers whenever the rule is triggered.

Explore AS, differ

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

2. JOBS-TO-BE-DONE / PROBLEMS

- Privacy of Data. Privacy is the biggest challenge with IoT, as all the connected devices transfer data in real-time. Personal data can be hacked if this end to end connection is not secure. ...
- Accuracy. Accuracy issues may come due to handling such massive data in real-time.
- Cost.

9. PROBLEM ROOT CAUSE

RC

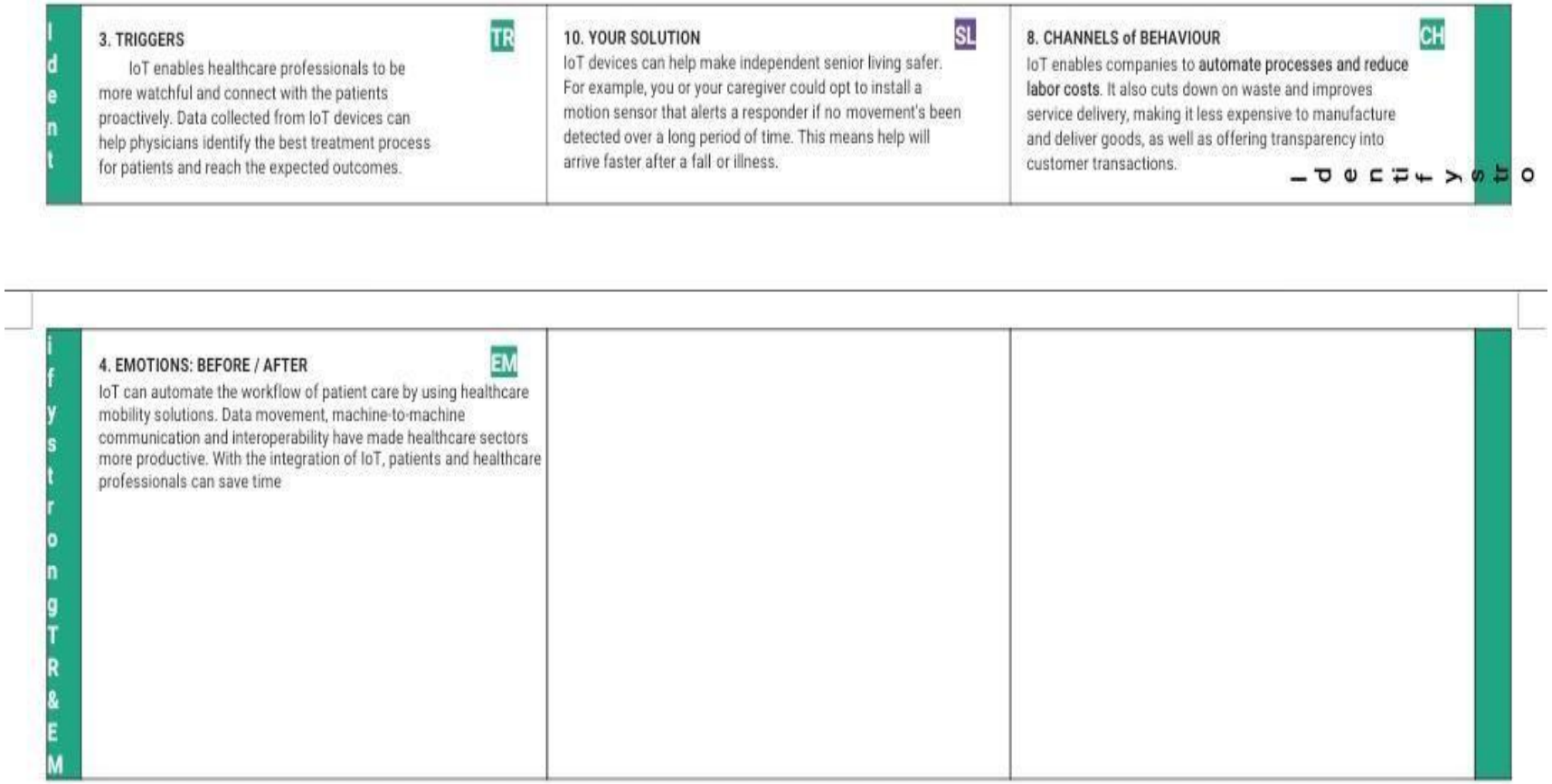
Most IoT devices lack end-to-end secure connection and adherence to data security protocols and standards. Ambiguity around regulation makes data more susceptible to cybercriminals that can hack into systems to steal sensitive health information.

7. BEHAVIOUR

BE

Improving Your Mental and Physical Well-Being
Another benefit of technology for seniors is that it can **help improve cognition and memory skills**. There are several online "brain games" that can help seniors stay mentally sharp.

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



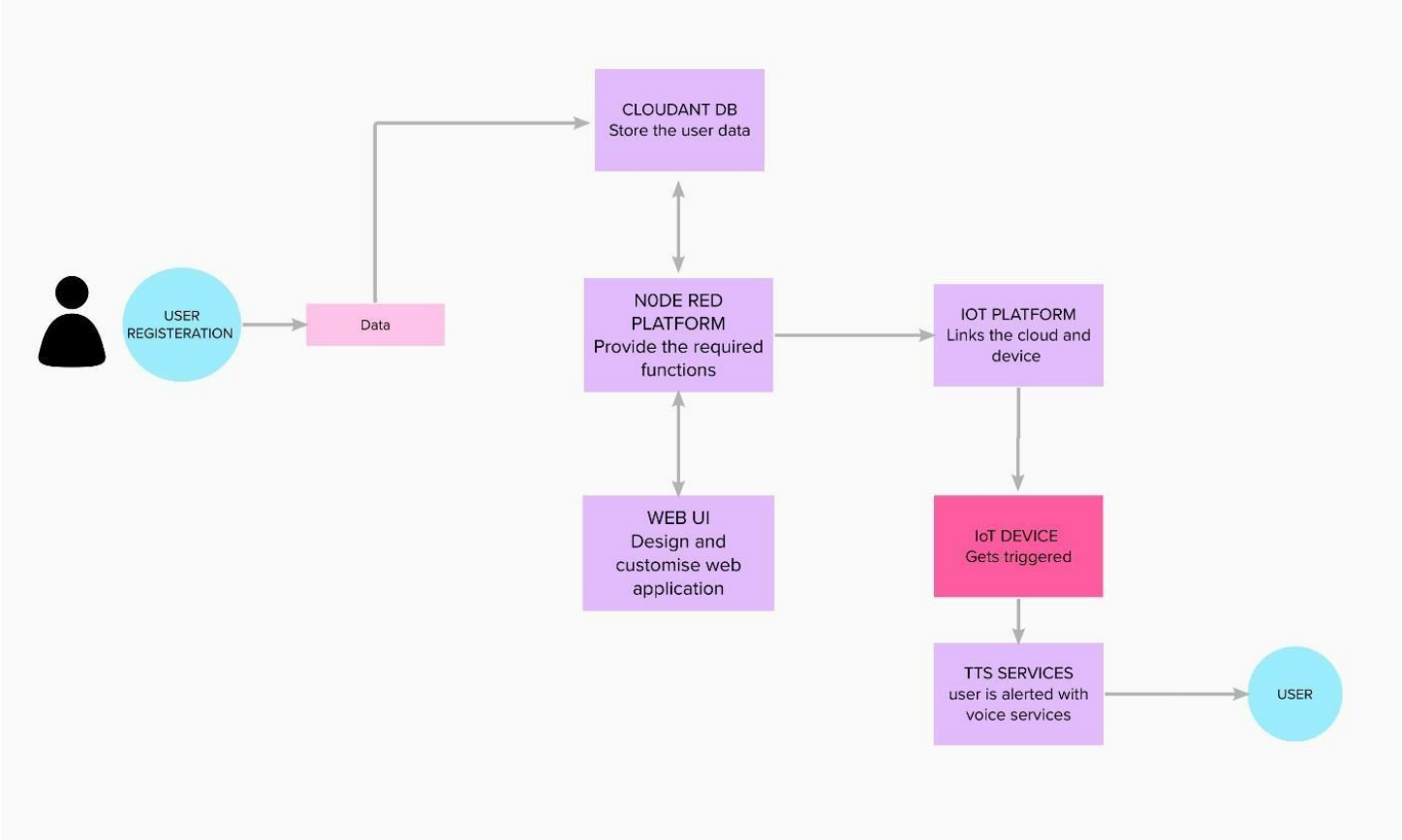
4.1 Functional Requirements:

FR NO.	**Functional requirements**	**Sub requirements**
FR-1	User registration	Registration has been done through the form in our Application.
FR-2	User confirmation	Confirmation has been done within our Application.
FR-3	Data Management	All the data's are stored in the cloud and retrived when it is needed
FR-4	Internet Connectivity	Users should have a stable internet connection to access the Application.
FR-5V	User Input management	All the user's data are gotten with the help of a text field in the dashboard in the app

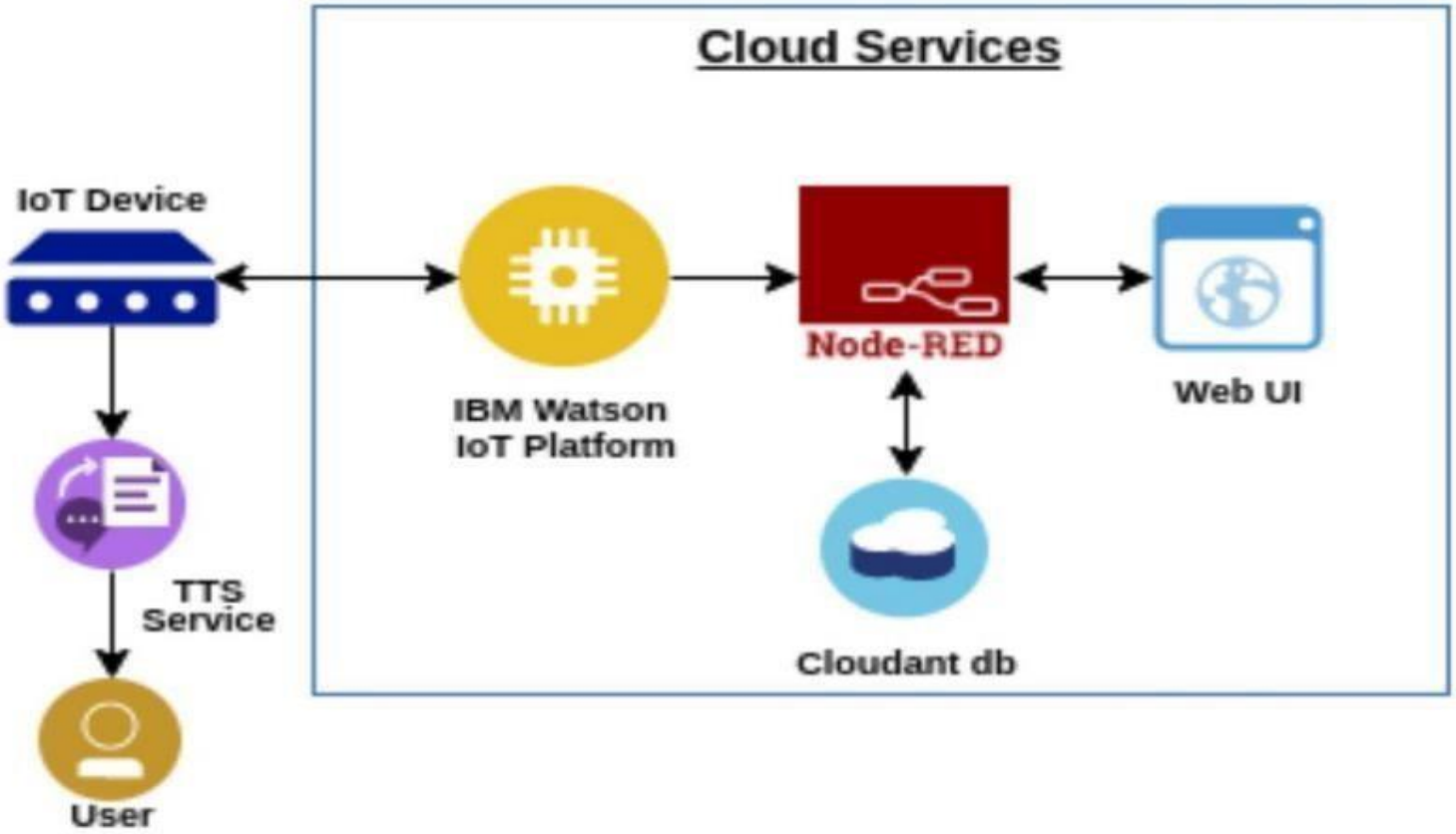
FR-6V	Acknowledgement	All the data are stored in the cloud via the app and acknowledgment will be given to the user.

5.Project Design

5.2DataFlowDia



5.2 Technical architecture



6.Sprint Planning And Schedule

6.1 Sprint Delivery Schedule

Sprint	Functional Requirement (Epic)	User Story Number U	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	A.Amala Hershini S.Diana N.Ajasha K.Abisha
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	A.Amala Hershini S.Diana N.Ajasha K.Abisha

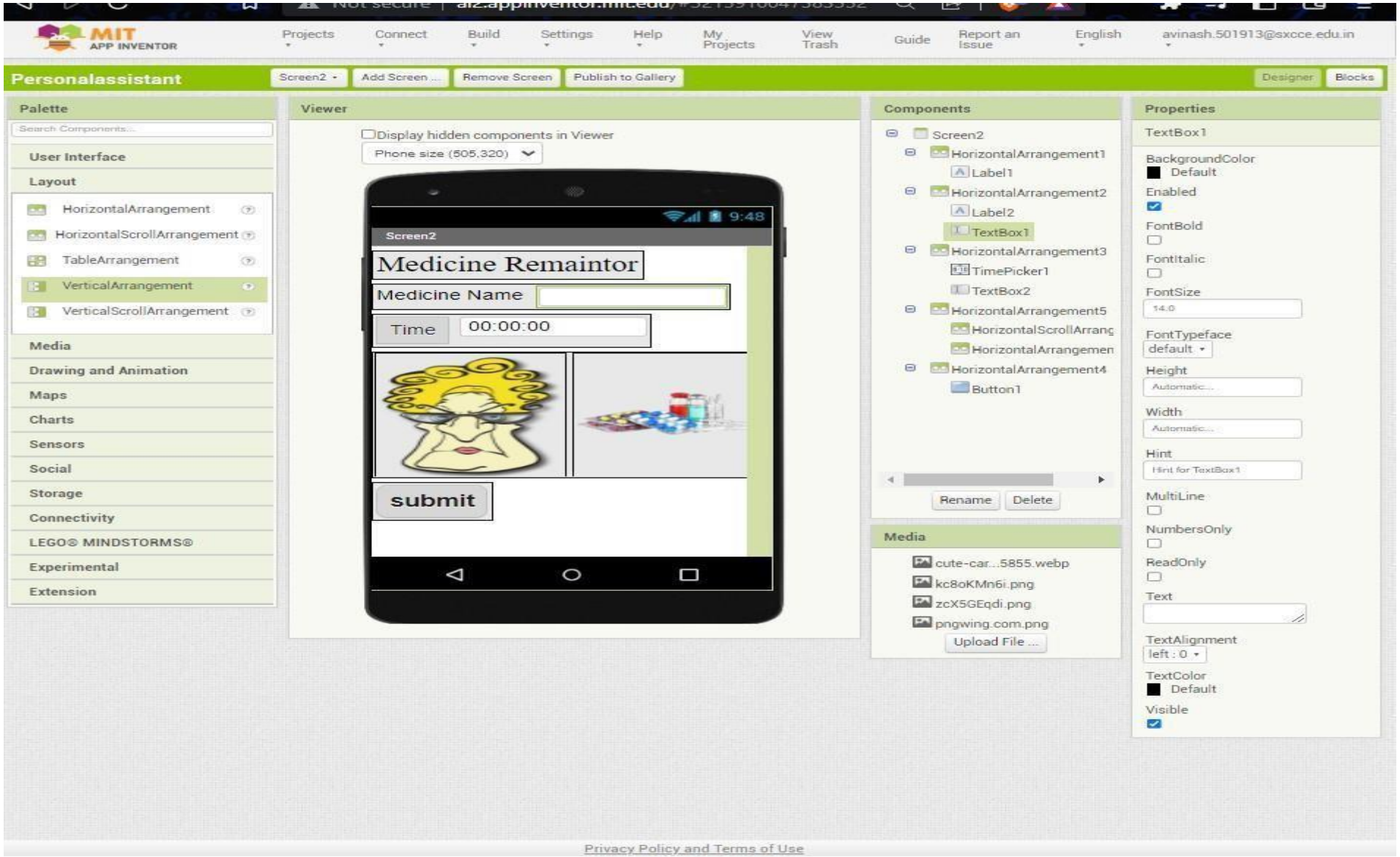
Sprint-2		USN-3	As a user, I can register for the application through Facebook	2	Low	A.Amala Hershini S.Diana N.Ajasha K.Abisha
Sprint-1		USN-4	As a user, I can register for the application through Gmail	2	Medium	A.Amala Hershini S.Diana N.Ajasha K.Abisha
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	A.Amala Hershini S.Diana N.Ajasha K.Abisha
	Dashboard					

6.2 Tracker, Velocity & Burndown Chart

Sprint	Total Story	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)

Sprint-1	20	6 Days	2 Nov 2022	8 Nov 2022	20	29 Oct 2022
Sprint-2	20	6 Days	4 Nov 2022	10 Nov 2022		
Sprint-3	20	6 Days	07 Nov 2022	13 Nov 2022		
Sprint-4	20	6 Days	12 Nov 2022	18 Nov 2022		

7.Testing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Projects
Connect
Build
Settings
Help
My Projects
View Trash
Guide
Report an Issue
English
avinash.501913@sxcce.edu.in
Personalassistant
Screen2
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Palette
Search Components...
User Interface
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HorizontalArrangement
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Screen2
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Label2
TextBox1
HorizontalArrangement3
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TextBox2
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Properties
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BackgroundColor
Default
Enabled
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FontSize
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default
Height
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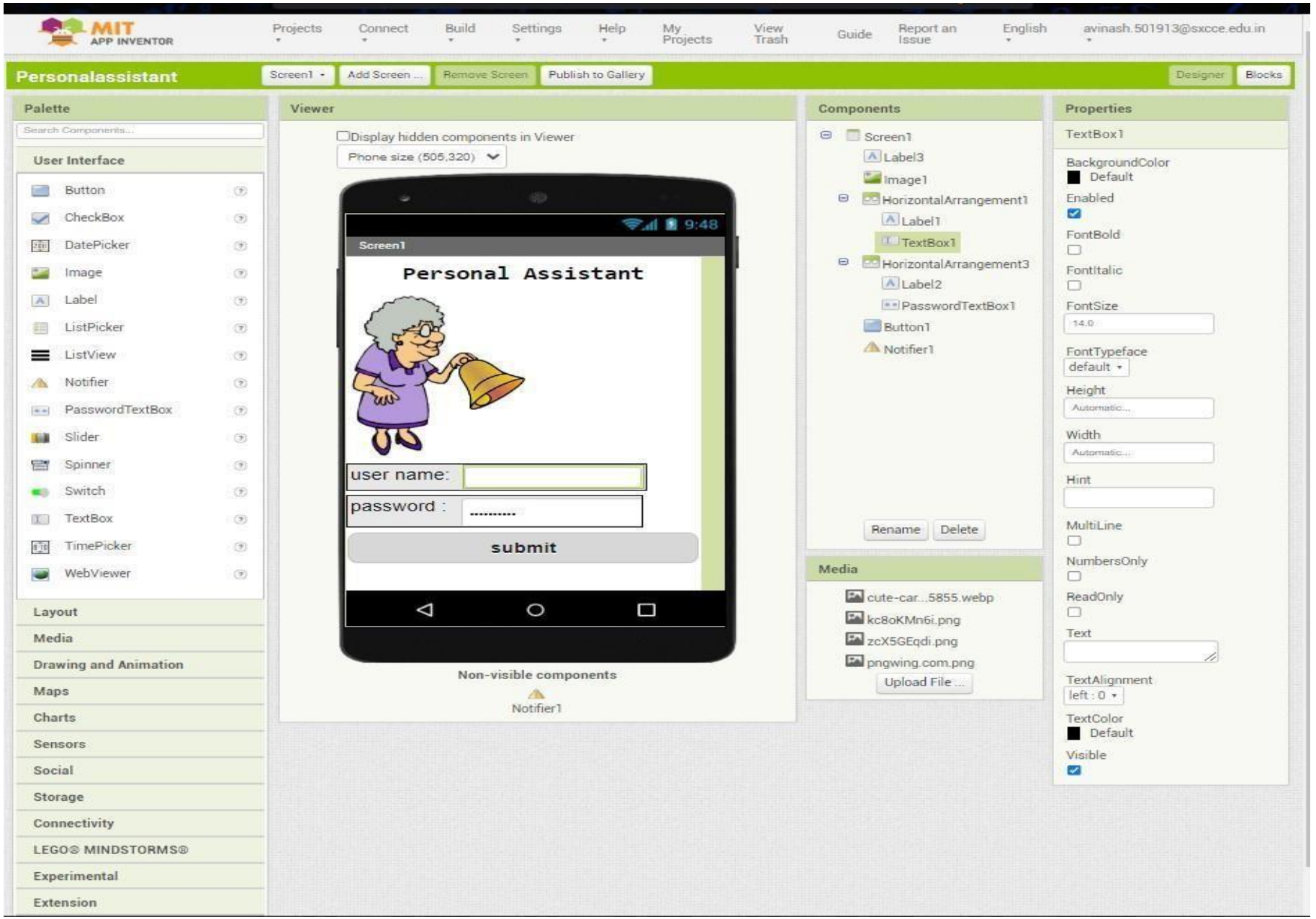
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Personalassistant
Screen1
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Palette
Search Components...
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
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Slider
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TimePicker
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Drawing and Animation
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Experimental
Extension
Viewer
Display hidden components in Viewer
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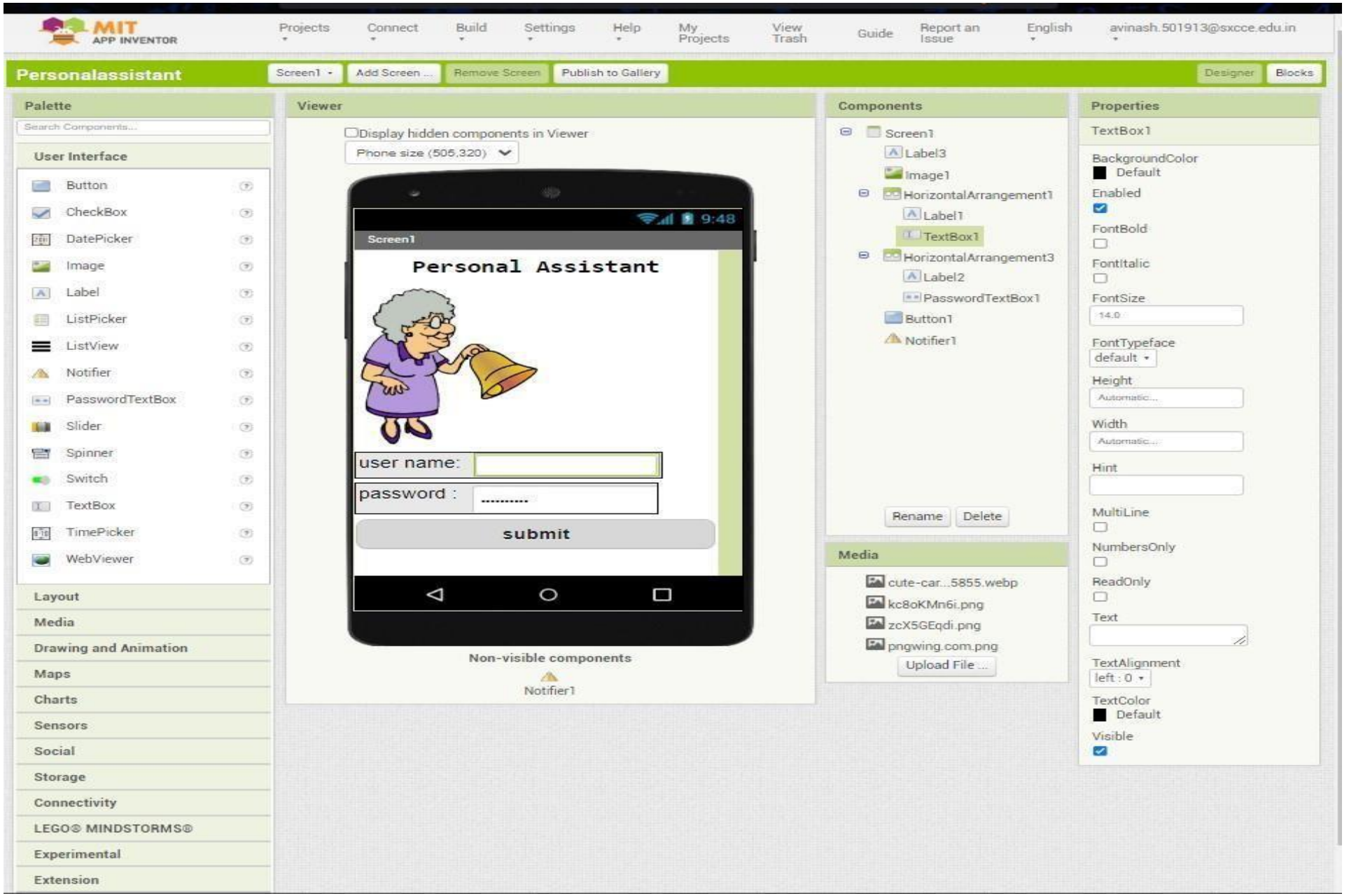

8.Conclusion

Thus, the Project offers the elderly people, a personal assistant which helps to remainders them Consume medicine at the particular time. By which skipping medicine can be avoided.

9.Future Work

The project can be further developed by bringing into the feature of informing the medicine name during the notification. The voice assistance which is given can be customized by adding the user's voice or the caretaker’s voice. Further the mobile application can update medicines by taking voice commands as an input from the user.

10.Reference

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