

Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID00365
Project Name	Project - Personal Assistance for Seniors Who Are Self-Reliant
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	In this modern era people may find difficult to spend time with the elderly people in their house also they don't find time to take care and monitor the elderly people in the house. About 40% of people aged 65 or older have age associated memory impairment—in the United States, about 16 million people. Only about 1% of them will progress to dementia each year. As most of the old aged people suffer from memory impairment issue, they might not even remember to take up their medications, which is a serious dilemma because this might even cause a severe health issue to them. So, we address this problem and came up with a solution of developing an automated reminder system which assists the elderly people by reminding them to take their medication at the right time.
2.	Idea / Solution description	We plan to build a web application interface using Node Red that would enable caretakers to provide the medicine name and time at which the medication should be provided as an input. This web application is bounded with the IBM Cloudant database service where the medication data and time will be stored. The web application is interfaced with the IoT device which is used to control the Sound actuators. The IoT device is integrated with web application by means of IBM Watson IoT platform. The IoT devices are realized in the project with the help of TinkerCad or any other similar IoT-supported simulation software. The data is sent as the input. The Web application Continuously monitors the time and checks with input data. When the time is identical with the input time it pushes a message through the IoT devices realized via simulation. The Sound actuators perform the Text to Speech Transition Service by which the output will be converted as an audio signal. The audio signal can be easily understandable and reminds the user to take his/her medication on time.
3.	Novelty / Uniqueness	Our motive in this project is to assist the elderly people by reminding them to take their medications on time. A step ahead we would like to bring in another innovation that makes this project even better by introducing the Bone Conduction Methodology that helps blind old people to interpret their surroundings ahead of them. Bone conduction is the conduction of sound to the inner ear primarily through the bones of the skull, allowing the hearer to perceive audio content without blocking the ear canal this allow the

		users to hear audio content while maintaining situational awareness. This has also been acknowledged by NASA in their press release where the astronauts in space could communicate with one another in the absence of gravity by using Bone Conduction phones. Normal person could perceive sound vibrations because of cochlea in ear canal. Deaf persons cannot perceive as their cochlea could have been damaged. Bone conduction phones principle is implemented in the piezoelectric transducers that convert electrical signals(voltage) into vibration signals(mechanical). This can be incorporated with the help of sound amplifiers powered by microcontroller interfaced with transducers.										
4.	Social Impact / Customer Satisfaction	Old people often find it difficult to remember important things especially when they suffer from illness, it further deprives their ability to remember important things. They begin to depend on others to help them but no one can be there for them around the clock to old people often find it difficult to remember important things especially when they suffer from illness it further deprives their ability to remember things. They become dependent on others to help them but no one can be there for them around the clock to assist them. Old patients need to take up prescribed medicines on time but they eventually forget and it further aggravates their health issues. In this modern era people may find difficult to spend time with the elderly people in their house also they don't find time to take care and monitor the elderly people in the house. About 40% of people aged 65 or older have age associated memory impairment—in the United States, about 16 million people. Only about 1% of them will progress to dementia each year. As most of the old aged people suffer from memory impairment issue, they might not even remember to take up their medications, which is a serious dilemma because this might even cause a severe health issue to them.										
5.	Business Model (Revenue Model)	<table><tr><td>KEY PARTNERS<ul style="list-style-type: none">ELECTRONICS INDUSTRIALISTSCLOUD SERVICE PROVIDERSINNOVATORSINVESTORSPRIVATE CARE TAKER AGENCIES</td><td>KEY ACTIVITIES<ul style="list-style-type: none">ALGORITHM AND APP DEVOLEPMENTHIGH QUALITY HARDWARE COMPONENTSMARKETING OUR INNOVATIONKEY RESOURCES<ul style="list-style-type: none">CLOUD PLATFORMS.COMMERCIAL PRODUCTSR&D TEAM</td><td>VALUE PROPOSITION<ul style="list-style-type: none">USER FRIENDLY INTERFACE.EASILY PORTABLEAFFORDABLE MAINTENANCEIOT BASED AND VERY CONGENIAL</td><td>CUSTOMER RELATIONSHIP<ul style="list-style-type: none">EXCELLENT PRODUCT SERVICEASSURED WITH WARRANTYCHANNELS<ul style="list-style-type: none">RESEARCH PAPER AND INDUSTRIAL PUBLICATIONSDIRECT SALESE COMMERCE</td><td>CUSTOMER SEGMENTS<ul style="list-style-type: none">GOVERNMENT AIDED NGO'S.SENIOR CITIZENSPRIVATE DAY CARE AGENCIES.TARGETING ALZYMER PATIENTS.PEOPLE WHO COULD'NT AFFORD CARE TAKERS CAN ALSO AVAIL OUR PRODUCT, WHICH IS CHEAPER THAN OTHERS.</td></tr><tr><td colspan="3">COST STRUCTURE CLOUD STORAGE - 3000 EQUIPMENTS - 1000 WEB DEVELOPMENT - 4000 DIGITAL MARKETING - 1750 PRODUCT RETURNS - 5000 MISCELLANEOUS - 2000</td><td colspan="2">THE BUSINESS MODEL REVENUE STREAMS • PRODUCTION COST OF BASIC MODEL- INR 1500 • MARKET PRICE FOR BASIC MODEL: INR 2000 • 25% PROFIT MARGIN</td></tr></table>	KEY PARTNERS <ul style="list-style-type: none">ELECTRONICS INDUSTRIALISTSCLOUD SERVICE PROVIDERSINNOVATORSINVESTORSPRIVATE CARE TAKER AGENCIES	KEY ACTIVITIES <ul style="list-style-type: none">ALGORITHM AND APP DEVOLEPMENTHIGH QUALITY HARDWARE COMPONENTSMARKETING OUR INNOVATION KEY RESOURCES <ul style="list-style-type: none">CLOUD PLATFORMS.COMMERCIAL PRODUCTSR&D TEAM	VALUE PROPOSITION <ul style="list-style-type: none">USER FRIENDLY INTERFACE.EASILY PORTABLEAFFORDABLE MAINTENANCEIOT BASED AND VERY CONGENIAL	CUSTOMER RELATIONSHIP <ul style="list-style-type: none">EXCELLENT PRODUCT SERVICEASSURED WITH WARRANTY CHANNELS <ul style="list-style-type: none">RESEARCH PAPER AND INDUSTRIAL PUBLICATIONSDIRECT SALESE COMMERCE	CUSTOMER SEGMENTS <ul style="list-style-type: none">GOVERNMENT AIDED NGO'S.SENIOR CITIZENSPRIVATE DAY CARE AGENCIES.TARGETING ALZYMER PATIENTS.PEOPLE WHO COULD'NT AFFORD CARE TAKERS CAN ALSO AVAIL OUR PRODUCT, WHICH IS CHEAPER THAN OTHERS.	COST STRUCTURE CLOUD STORAGE - 3000 EQUIPMENTS - 1000 WEB DEVELOPMENT - 4000 DIGITAL MARKETING - 1750 PRODUCT RETURNS - 5000 MISCELLANEOUS - 2000			THE BUSINESS MODEL REVENUE STREAMS • PRODUCTION COST OF BASIC MODEL- INR 1500 • MARKET PRICE FOR BASIC MODEL: INR 2000 • 25% PROFIT MARGIN	
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6.	Scalability of the Solution	<p>Our product has commercial value and can be quickly scaled into profitable business with the help of available latest technologies. We have identified the critical customer segments that we will be targeting at first that are ready to buy so that we can build our customer base along with high profit margin and then will move onto lower segments of the market and not just that, by also directing sales as a manufacturer by reaching out our sales to pharmaceuticals more like a collaboration with them and bolster our sales and also by enticing the economical customers into buying our product. A step ahead we can also try to sell the product to distributors and clinics as a suggestion mentioned in the prescription list of patients while they buy their medicines. This allows us to connect to our customer base more personally. So that is how we plan to pitch our idea into the market as entrepreneurs with the resources and opportunities provided by IBM.</p>
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