

# IDEA PROPOSAL FORMAT

## E-Yantra Ideas Competition - 2018

**Title: All Time Generic Medicine Machine (ATM)**

### **Abstract:**

All time medicine vending machine is a machine that will vend generic medicines prescribed by the government doctors for emergency purposes. The medicines that will be available in the vending machine do not require any prescription and anyone can take it in case of emergency.

This machine can be installed in villages, societies, schools etc. Where they can easily take out medicines free of cost and they do not have to visit the hospital for some diseases like fever, sugar, blood pressure etc.

### **Introduction/Motivation:**

Too many people in India die due to lack of availability of medicine in time or in affordable cost. Problem increases when need of some medicine is urgent and drug-stores are not open or drug is not available in stock, especially during night times. In remote and rural areas, this is critical issue to have medicine availability within the patient's reach. So we want to make a machine that can vend medicines to the patients in case of emergency.

### **Literature Survey/Prior Artwork:**

After researching about the issue we realise that this system is not new but what we see here is that they have made it as a commercial vending machine but we are here trying to make it for emergency purpose through which patient can get

medicine for free and they don't need any prescription. We are trying to add some other features that are different from present models. We want to add a SOS button and the user interface is android application.

### **Problem Statement:**

The problem that we face is lack of availability of medicines when the drug stores are not open or the drug is not available in stock especially during night time and in case of emergency.

### **Hardware requirements:**

- DC motor
- Motor driver
- Encoders
- ARM M0 microcontroller board
- Bluetooth module
- Coils for vending mechanism
- GSM module
- Android tablet for display

### **Software requirements:**

- STM 32 cube MX
- STM32 Flash loader demo
- X-CTU
- Android studio
- Keil MDK 5

## **Implementation:**

### **User interface**

There will be an android app as the user interface that will help the patient to select the medicines according to the symptoms of the disease that will be displayed on the app. Then the signal will be received by the ARM microcontroller through the Bluetooth module.

### **Microcontroller**

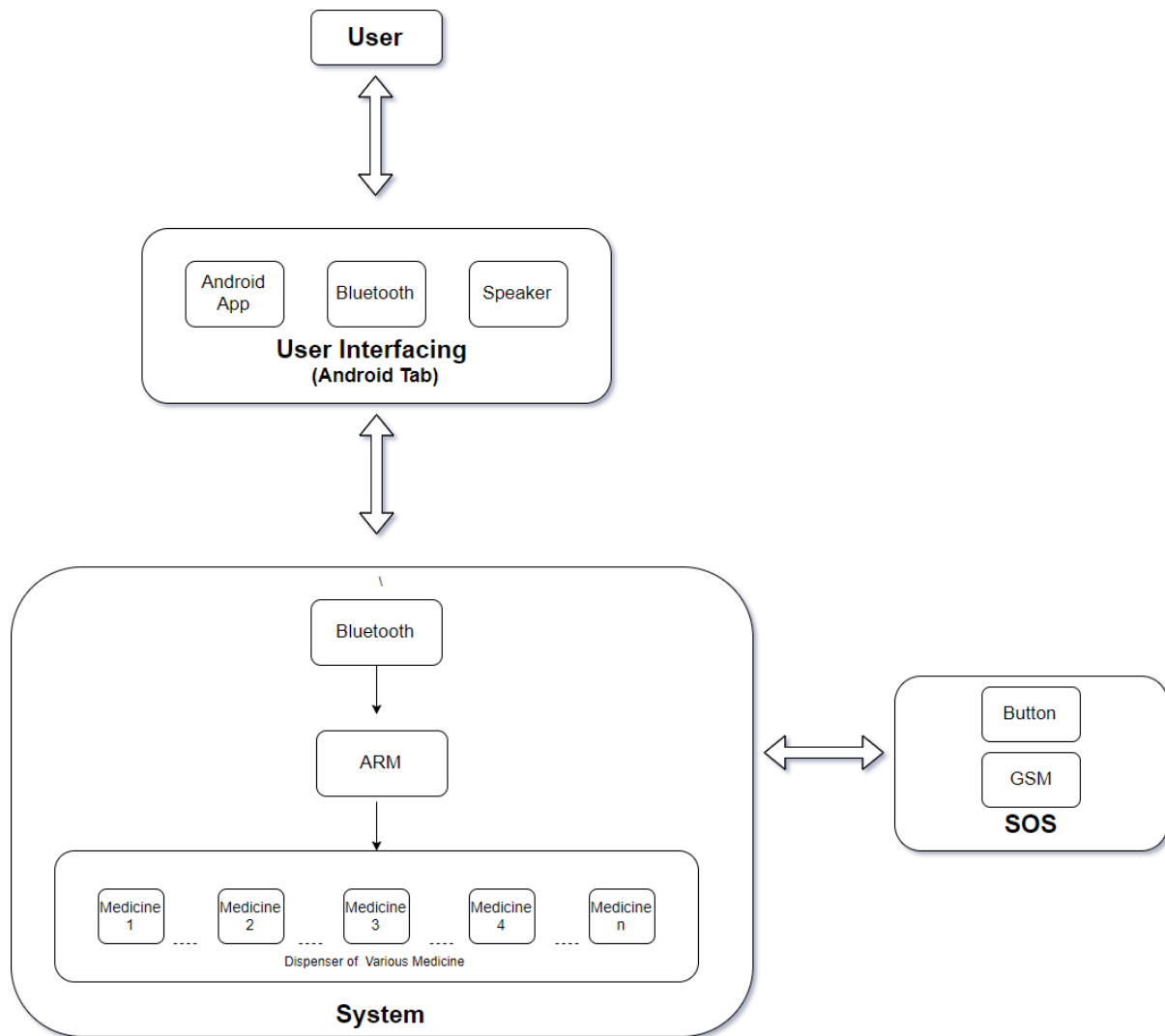
The microcontroller that we will be using is ARM M0 which will be the main part of the system. The signal from the android app will be received by the microcontroller through Bluetooth module and then according to the signal the microcontroller will set ON the motor which will rotate the coil.

### **Encoder**

The encoder will be used to stop the motor after the medicine has been dispensed by the machine.

### **SOS button**

This SOS button will be an emergency button when the patient is having a critical situation or there is an accident in the locality people can just push this button and a message will be sent to the nearest hospital about the medical emergency so that they can act upon it.



## **Feasibility:**

The vending mechanisms that we will be using is already been implemented in the general vending machines so it is highly feasible. And the controller that we will be using is ARM microcontroller, which is an industrial grade microcontroller so it also increases the feasibility of the system.

## **References:**

1) Knewron, "Any Time Medicine Vending Machine-Project Concept", 2013

[http://india.efyexpo.com/wp-content/uploads/2013/03/\\_2%20Any%20Time%20Medicine%20-%20Project%20Concept.pdf](http://india.efyexpo.com/wp-content/uploads/2013/03/_2%20Any%20Time%20Medicine%20-%20Project%20Concept.pdf)

2) International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE), March 2015

<http://ijarece.org/wp-content/uploads/2015/04/IJARECE-VOL-4-ISSUE-3-703-705.pdf>