

Purpose (or Rationale) behind the development or construction of the exhibit.

The Purpose Or the motive behind this model is to reduce the human effort and time. This is an automated Coffee and Tea machine which can take all the ingredients by its own and can perform the Tea Or Coffee making Process automatically without any human effort. Tea or Coffee is something that we wanted almost 3-4 times in a day and it is a need of every individual and it is a matter of every household. The lower cost and new types of features made it a very good machine for every household. And it is made possible to use this Model in every household. It reduces human effort and human capital and provides a best cup of Tea or Coffee which make it a very useful thing for the busy persons.

It has been also tried to make this machine for the blinds as well as physically handicapped peoples as now they don't have to be dependent for at least this small thing that can fill joy in them.

It is also made for the old people who are unable to do work now and a warm cup of tea or coffee would make them feel happy and now they don't have to be dependent for a cup of tea or coffee on others in this busy life of people.

THIS MODEL DEALS WITH THE REAL PROBLEM THAT IS FACED BY EVERY PERSON IN REAL LIFE. IT IS NOT BASED ON ANY THEORETICAL PROBLEM OR HYPOTHETICAL PROBLEM. IT IS SOLVING A GENUINE AND REAL LIFE PROBLEM IN THIS VERY MOMENT.

✓ The scientific principle involved

IT IS TOTALLY BASED ON
MICROCONTROLLER PROGRAMMING
AND LOGICAL PROGRAMMING

C++ Language is used for the
programming

Print of the whole program is attached
with the writeup

HOW THE IDEA CAME??



I wanted to make something that is common in every household. Tea or Coffee is something that is required Mostly by every individual. Getting a cup of tea or coffee is always considered as a botheration. But now no one has to bother about anything. They are getting there solution here. Starting from a working Man to an Old person everyone can enjoy the profit from it.

HOW IT IS HELPING THE SOCIETY??

It is reducing human labour and making the life more easier and convenient. It can save times of persons who are very busy in their schedules.

⇒ **FOR DISABLED AND HANDICAPPED PERSONS (for Blind persons also)**

It has got features for disabled and handicapped persons also. A Wireless remote is made for disabled and handicapped persons.

Blind, disabled and handicapped persons can use the given remote for Ordering Tea or coffee from the Machine. Blind persons can reach to the Machine by Listen to the Sound Effects that would be created after the coffee is made. This will not only help them with Tea or Coffee but will also motivate them to do best in their lives and will give them ray of hope. At least Now they don't have to depend on anyone for a cup of tea or coffee.

⇒ **FOR OLD PERSONS**

Tea or coffee is something that is required by almost every old person. They get very angry when they cannot make it themselves or they have to depend on someone for a cup of tea or coffee.

Being Busy in life, Peoples cannot get sufficient time to fulfil the demand for their older love ones. Now old persons don't have to depend on someone for their tea or coffee , they can just get their tea or coffee by just pressing a button on Remote and they can enjoy their Warm Tea or coffee Anytime, Anywhere without bothering anyone at all.

⇒ **Hard Winter Days**

It is really hard to get up also in Winter Days. We Want Our Coffee without doing anything. Now they don't have to get up and make the milk them boil it then bla bla... all they have to do is press a Button , That's all. And Here it is , Coffee is Ready.

What is Arduino??

Arduino is an open-source electronics platform based on easy-to-use hardware and software.

Arduino boards are able to read inputs - light on a sensor, a finger on a button and turn it into an output - activating a motor, turning on an LED. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so you use the Arduino programming language (based on Wiring), and the Arduino Software (IDE), based on Processing.

Construction

- Arduino uno is used as the brain of the machine.
- Servo of sugar and coffee with their respective bases are connected to the arduino pwm Outputs.
- In total 6 servos (sugar, sugar base, coffee, coffee base, valve, voice instructor) are connected to arduino with servo input pins.
- Rectifiers are used to provide uninterrupted supply of 5 volts.
- Working of getting out water at some height is based on pascal law.
- Pressure is applied on a confined amount of fluid (milk, water) in return the fluid applies a pressure and due to that pressure fluid comes out.
- Relays are used to operate devices with different potential working.
- For input soft switch is made by combination of MOSFET and RELAY.
- Input is taken in the form of resistance value. Potential difference is converted into resistance value by placing a led in front of a ldr.
- Plastic cutter Knife is used to cut the fibre in required sizes.

- Miniature Circuit breaker is used as switch in order to Protect the Machine and housing connections.

APPLICATIONs

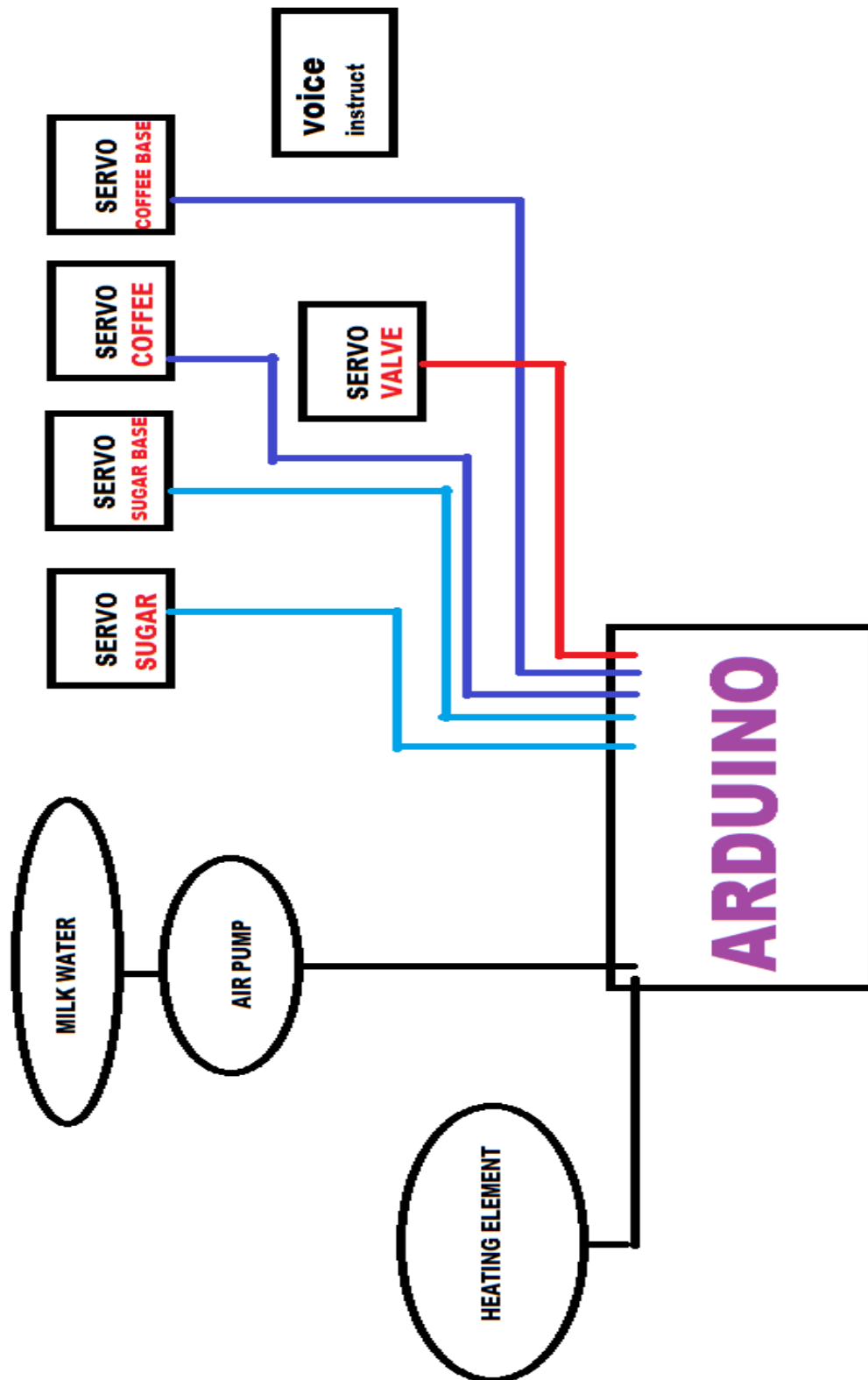
- ✓ Can be Used in every Household
- ✓ Can be Used in Malls
- ✓ Can be Used as Coffee Dispenser
- ✓ Can be Used by Disabled persons
- ✓ Can be Used by Soldiers (specially)
- ✓ Can be Used by the Person who Loves Coffee
- ✓ Can be Used Probably Everywhere till where we can think

References

I was eager to make something that can be used in every household. A thing that will help a person wherever he is in the requirement of this. A thing that can help a person 3-4 times a day. And after a lot of thinking I reached to something and that is "Automated Coffee Machine". Coffee or tea is something that is required by almost every person and for at least 2 times a day. So I choose this to make

I don't use any references; I just used my own creativity. The Whole Idea is new and I claim the Originality of My Model.

Illustration



PROCESS (At a Glance)

- ✓ *Taking every part at their natural positions*
- ✓ *Milk comes into the heating element*
- ✓ *Heating starts*
- ✓ *Exhaust Fan clears the 'in machine vapours'*
- ✓ *Coffee comes right in align with the coffee cup*
- ✓ *Coffee falls*
- ✓ *Valve Opens*

