Design of Coffee Cup for Alerting (Vibrations & buzzer) blind people

The project aims in designing a system which is capable of alerting the blind people about the coffee level in the cup placed at coffee machine. This system helps the blind people a lot in knowing the amount of coffee inside the cup and alerts the user before it is over flown.

This system makes use of a coffee level indicator which helps in knowing the level of coffee in the cup (low or mid or high), and a buzzer to alert the user depending on the level of coffee in the cup.

The controlling device of the whole system is a Microcontroller. The coffee level indicator and buzzer are interfaced to the Microcontroller. The Microcontroller gets information about the level of coffee in the cup through coffee level indicator which is to be placed in the cup. The Microcontroller processes this information and buzzers the alarm system depending on the level of coffee in the cup so that the user can take necessary actions before it is over flown. The Microcontroller is programmed using Embedded C language.

The main objectives of the project are:

1. Designing a system that is useful for blind people.
2. Alerts depending on coffee level.

The project provides the following learning's:

1. Coffee level indicator.
2. Interfacing Coffee level indicator to Microcontroller.
3. Buzzer.
4. Interfacing Buzzer to Microcontroller.
5. Conversion of AC supply to DC supply.
6. Embedded C language.
7. PCB design.

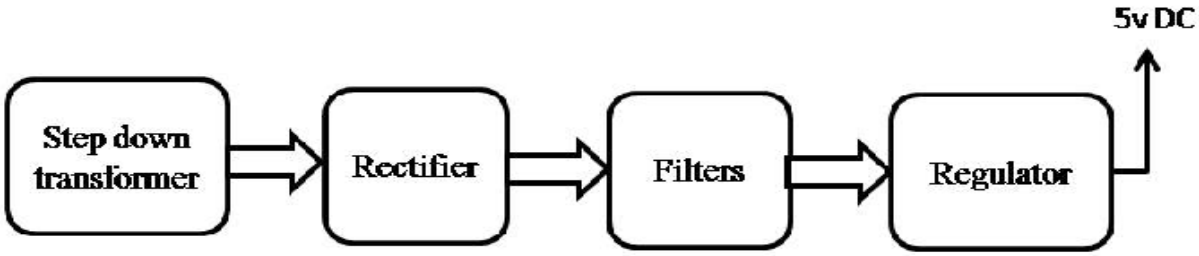
The main building blocks of the project are:

1. Regulated Power Supply.
2. Microcontroller.
3. Coffee level indicator.
4. Buzzer driver.
5. Buzzer.
6. Reset.
7. Crystal oscillator.
8. LED indicators.

Software's used:

1. PIC-C compiler for Embedded C programming.
2. PIC kit 2 programmer for dumping code into Micro controller.
3. Express SCH for Circuit design.
4. Proteus for hardware simulation.

Regulated Power Supply:



Block diagram:

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