**A PREPAID WATER METER USING SMARTCARD**

**AIM:**

The main aim of the project is to supply the water based on prepaid card and user time period.

**PURPOSE:**

The purpose of the project is to stop the wastage of water and implement prepaid bill to municipality department.

**MOTOR CONTROL SECTION:**

**MICRO CONTROLLER**

**AT89S52**

**POWER SUPPLY**

**LCD DISPLAY**

**(16 X 2 LINES)**

**SMART CARD READER**

**RELAY**

**RTC**

**KEYS**

**MOTOR PUMP**

**MAX 232**

**Power Supply:**

**STEP DOWN**

**TRANSFORMER**

**BRIDGE**

**RECTIFIER**

**FILTER**

**CIRCUIT**

**REGULATOR SECTION**

**DESCRIPTION:**

Water supply and control is a very huge and vast network in any city and maintaining and running it takes a lot of effort. In large cities and industries where supply and distribution tanks are at a large distance from water control station, it is very difficult situation to monitor and control the water tanks. Extra manpower and time is needed to do this work. By using this project wastage of water can be controlled and can save the water. This project is also helpful for the municipality for paying the water bills using smart card reader.

Here in this project we are proposing a system that how to save water and payment of water by prepaid billing, we are designing a system with time based auto turn ON or OFF motor pump using simple and low cost device.

In this project we have a smart card reader to read the prepaid cards of the user. The user has to recharge the card and maintain sufficient amount so that he /she can use the water. First we need to place the smartcard in smartcard reader and it will read by micro controller, if it have sufficient amount then we can turn on the water pump using keys. Microcontroller will switch ON the circuit and motor pump will ON. If the card does not have sufficient balance then motor will not turn ON. RTC is used to set the time for water supply to turn ON or OFF.

**HARDWARE COMPONENTS:**

1. Microcontroller (AT89S52)
2. LCD Display (16x2 lines)
3. Max 232
4. Smart card reader
5. RTC
6. Keys
7. Relay
8. Motor pump

**SOFTWARE TOOLS:**

1. Kiel U vision
2. Express PCB
3. ISP

**ADVANTAGES:**

1. Industrial applications
2. No range limitation
3. Anyone can access

**APPLICATIONS:**

1. Industrial applications
2. Home application
3. Heavy load carrier belts

**RESULT:**

Hence we implemented a prepaid water control circuit system for water supply based on time.