

الآية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

إِذْ كَفَرَ الْكُفْرَاءُ إِذْ أَسْلَمُوا مِنْكُمْ إِذْ أَنْزَلْنَا إِلَيْنَا الْكِتَابَ  
أَنْتُمْ أَعْلَمُ بِمَا كَفَرُوا

صَدَقَ اللَّهُ الْعَظِيمَ

سورة البقرة الآية ( 32 )

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# **DEDICATION**

**To my Family**

**With love**

## **ABSTRACT**

With the rapid development that happens in the world; it was necessary to take advantage of available technologies to serve human. Water is one of the basic factors of the life for the human; it must be rationalization of consumption. Automatic meter reading helps in the rationalization and distribution of water consumption for user each according to his need. The proposed system is very accurate in the extraction and calculation of bills. It allows the water company to remote control for the water meter in consumer premises. The system uses GSM network to connect water meter with water company. An arduino microcontroller uses as control basis, its issued appropriate command according to the input readings. The system automatically separates the water from the user if the amount of water prepaid ended.

## المستخلص

مع التقدم و التطور السريع الذي يحدث في العالم كان لابد من الإستفادة من التقنيات المتاحة لخدمة الانسان. الماء احد العوامل الأساسية لحياة الانسان و لابد من ترشيد إستهلاكه. العدادات اللاسلكية أوتوماتيكية القراءة و التحكم تساعد في توزيع وترشيد استهلاك الماء للمستخدمين كل حسب حاجته. النظام المطروح دقيق جدا في إستخراج و حساب الفواتير, يتيح لشركة المياه التحكم عن بعد في عدادات الماء لدى المستخدمين. يستخدم النظام تقنية النظام العالمي للإتصالات المتنقلة لربط العدادات مع شركة المياه, المتحكم الدقيق أردوينو أساس عملية التحكم يصدر الأوامر المناسبة حسب القراءات المدخلة اليه. النظام يفصل الماء تلقائيا من المستخدم عند انتهاء كمية الماء المدفوعه مقدما.

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# LIST OF ABBREVIATIONS

GSM	Global System Mobile
AMR	Automatic Meter Reading
DC	Direct Current
EEPROM	Electrically Erasable Programmable Read Only Memory
GPRS	General Packet Radio Services
SMS	Short Messages Service
WAMRS	Wireless Automatic Meter Reading System
SIM	Subscriber Identity Module
CDMA	Code Division Multiple Access
TDMA	Time Division Multiple Access
IEEE	Institute of Electrical and Electronic Engineering
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
ETSI	European Telecommunications Standard Institute
USB	Universal Serial Bus
PLC	Programmable Logic Controller