Sl. No.	Variable to be monitored	Its Importance
1	Temperature	Affects all plant metabolic functions.
2	Humidity	Affects transpiration rate and the plant's thermal control mechanisms.
3	Soil moisture	Affects salinity, and pH of irrigation water
4	Solar Radiation	Affects photosynthetic rate, responsible for most thermal load during warm periods

Table:1. Importance of different parameters

Step # 2: Identify leadership skills.

- Another important factor in comparison with the control is a strategy that should be followed.
- The easiest way is to use a threshold sensor, which use a direct effect on the actuator.
- For example, exceeds the control temperature in the greenhouse heaters, curtains, and the allowable limits given. Sensor sensing principle is shown in the below figure 1
- The brightness can be set to four positions. As the light intensity decreases the lamp can be activated. And further reduce light output to control the second and so on. This ensures that the plants do not have enough sun in the winter or air.
- More complex control strategies based not only on the current values of variables, but also the history, including the tax system to change settings.

Step # 3: Determine hardware and software.

It is very important that the operating system functions are set before you decide to purchase the software and hardware. to the model chosen:

- Increase the measured values (data subsystem) and controlled devices (suspension), changing business needs and production growth cannot be met in the future.
- Provide a flexible and easy to use interface.
- In order to ensure the accuracy and durability of the sound. The decor is always a choice of software necessary hardware to support the software selection.
- Moreover, the efficiency, the choice of system should include factors such as reliability, support group experience (positive and negative) and cost

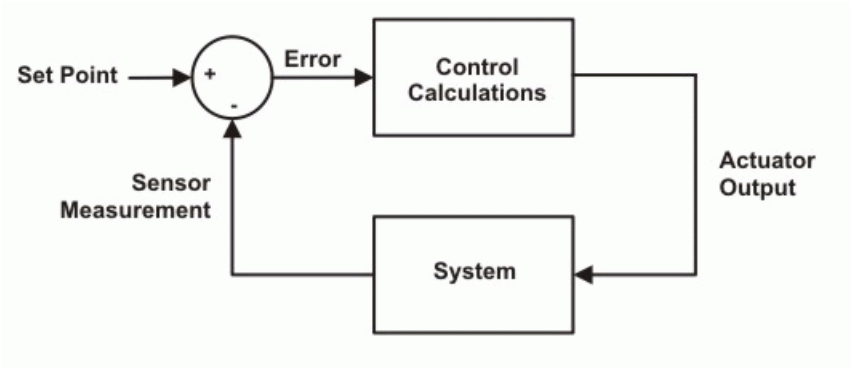

Fig .1: Sensing Principle

IV. SYSTEM PROPOSED FOR CONTROLLED UNIT

All the major blocks of subsystem included connection for each module consists of a block diagram of temperature sensor, humidity sensor, soil moisture, light sensor, CO2, LPC2148 ARM processor, GSM (SIM300) controls the relay device MAX232 level converter is set to a personal computer. In this application, the system is designed for

monitoring and regulating the relative unit and ensures a safe operation limit. Detailed Description of the blocks that are set put in the system

4.1. Advanced RISC Machine V7 LPC2148

LPC2148 ARM-7 high-performance 32-bit RISC microprocessors expansion Palach 512 kilobytes of programming on-chip Flash ROM System (ISP) and In-Application Programming (IAP), 32 KB of RAM, an interrupt controller, two 10-channel 14 bit ADC, a USB 2.0 full speed device controller, two UART complete modem interface. Two serial interfaces, I2C, SPI, two serial ports, two 32-bit timers, watchdog timer, PWM unit, a real-time clock with an optional battery backup Brown discovered circle Purpose I / O pins CPU clock up to60 MHz crystal oscillator, and PLL on the chip chip. The layout of LPC 2148 is shown in below fig 2. Due to its small size and low power consumption, LPC2148 is ideal for applications where miniaturization is a key requirement, such as access control and point of sale. Serial communication interface of 2.0 full-speed USB device, multiple UART, SPI, SSP I2C bus, and on-chip SRAM 8 KB to 40 KB for these devices is very good communication gateways and protocol converters, software modems, voice recognition, and down-market image, which provides a large buffer memory and high performance computing. Several 32-bit timers two 10-bit (s), ADC, 10-bit DAC, PWM-channels, and 45-speed GPIO lines with a maximum of nine external edge or level sensitive interrupt pins of the microcontroller that is capable operating system. [7] [8].

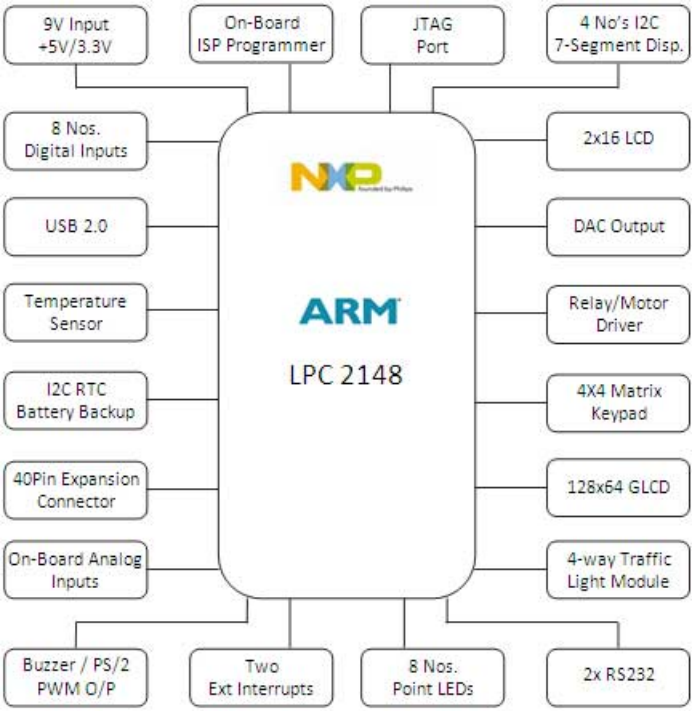

Fig 2: Advanced Risc Machine Layout

4.2. Incalescence Sensor.

LM35 series is exactly the Incalescence [temperature] sensors in the integrated circuit, the output voltage is linearly proportional to the temperature in degrees Celsius (° C). LM35 thus has an advantage over linear temperature sensors, because the user is not a large constant output voltage for Celsius scale exercise. Characteristics are as follows. [4]

- The first graduated in degrees Celsius (centigrade)
- Linear scale + 10.0 mV / ° C
- The accuracy guaranteable 0.5 ° C (+ 25 ° C)
- full rated -55 ° C to + 150 ° C range
- Suitable for outdoor applications
- trim Low-cost wafer level

The seventh task of 4-30 volts humidity sensor (HS-SY-220) The modules converts the relative humidity of the output voltage. The humidity sensor is designed to work with 5 V DC, 0-60º c 30-90º C and an output voltage relative humidity of 1980 mV ± 25 ° C, relative humidity of 60%. [5]

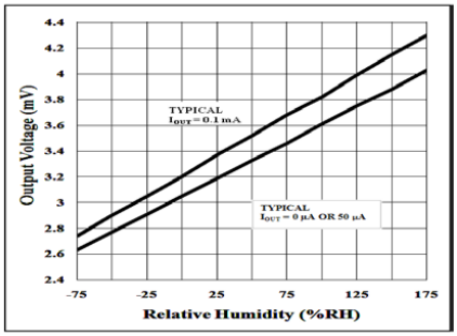

fig .3: Incalescence Calibration

4.3. VH400 Sensor

The ground floor consists of two fluid detection sensors cheap (metal rods or just galvanized nails) stood a t a distance, some insulation. They are used to detect the moist soil. Two pieces of wire, each with 2 "long and ½" tape end. One end of each wire wound around the head of each nail. Treating a large amount of welding speed wire nails. The resistance of two-finger pinching can be determined in the groundwater in the soil. but the water a higher conductivity .It uses two sensors on the flow by measuring the soil and moisture. But the country will produce conductive (low-resistance), while the conductivity of the dry soil is low (less resistivity)

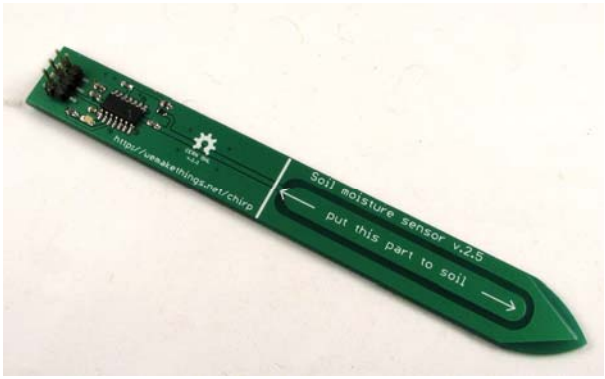

fig 4. VH400 Sensor

4.4. Photo conductivity based LDR [6]

Two cadmium sulfide (CdS), with a spectrum of reactions on the photoconductive human eye. Drug resistance decreases with increasing light intensity. Applications have smoke detectors, automatic lighting control and batch counting and alarm systems.

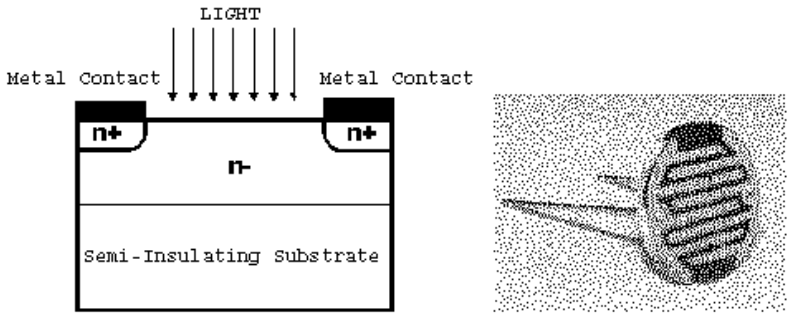

Fig.5 Photo conductive based LDR

4.5. GSM modem and PC

GSM modem is a specialized type of modem that accepts a SIM card, and operates over a subscription to a mobile operator, just like a cell phone. From the viewpoint of the mobile operator cellular modem looks like a

mobile phone. [10] GSM modem can be dedicated to devices with serial, USB or Bluetooth, or perhaps a mobile phone that the functionality of a GSM modem, the modem. Here is the SIM 900A modem. The personal computer is a programmable machine that input, storage receives and manipulates data and produces output in a usable form[11]. Personal computer, a desktop computer, a laptop computer. Capturing data is permanently done LPC2148 ARM7 processor in a personal computer. These data were taken in the software to update the computer database in Visual Basic, and can automatically generate graphs.[12]

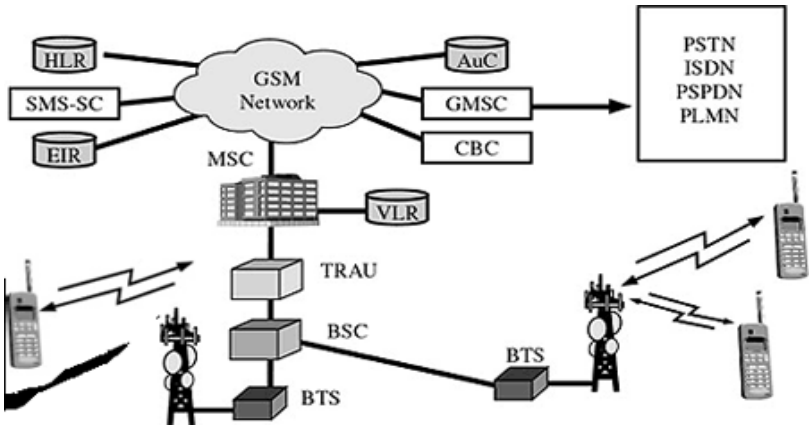

Fig 6. Global System Module Layout

V. DESIGN OF EQUIPMENT AND SOFTWARE

The entire system structure shown in Figure . A number of parameters that the temperature, humidity, light, and the sense of providing "the output voltage of the same values.[13] This signal is derived from the reference channels LPC2148 analog data processor. It is digitized with the help of integrated 10-bit ADC data on LPC2148 processor and compared with predetermined data for each change of state or value of those limits. so the system accountable institutions (i) SMS sent via GSM modem / phone consent to a message to send to monitor the microprocessor in / out system. organ (s) ", and you can see the status and needs machine.[14] The measured values are displayed on the PC for further analysis charts. program developed in C integrated Visual Basic. Measurement and control graphs have more variables variable green bone structure: Figure is a part of the control server crisis process. Paper handling two things that need to manage and maintain via the GSM network to the server. To this end, introduced the two checks, after it is of great importance that the message can be found in the GSM system.
This reduces the effective work of a person "spam" junk SMS as a promotional SMS[15]

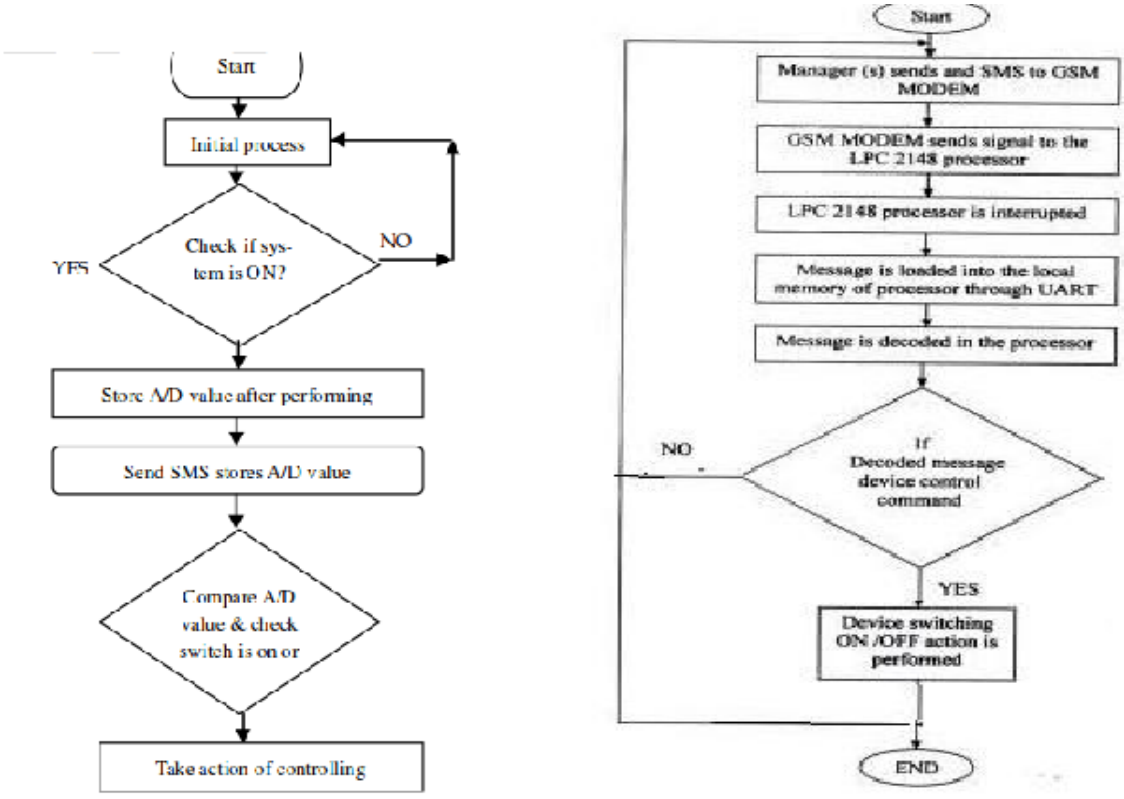

Fig 7. Working flow chart fot the proposed system

VI. CONCLUSION

The system is designed and run each server using a simple SMS worldwide home via the GSM network for continuous monitoring of Green house . The development process can be a very profitable investment, since they can improve in greenhouses the use of the use of resources. GSM networks operate in the design of this system allows our greenhouse, productive, and to adapt to the current social and economic constraints Morocco is the level of development and economic nations, which correspond consumer society. Our company consists mainly of surgical optimization methods (SMS) to understand the true face climate Morocco parameters and irrigation for agriculture and strengthen the "special breeders, often illiterate. This system, which is a simple SMS, you can start and stop the various actors, as well as knowledge of the greenhouse conditions for GSM networks anywhere.

REFERENCES

[1] Ken Wieland, "Spreading the World" Telecommunications Magazine International Edition in October 2004. Highlights of numbers.
[2] Ciubotaru Petrescu-B Chiciudean D Cioarga Stănescu R D, "Wireless Telemetry Solutions team monitoring product groups" of three Joint Symposium on Computational Intelligence Applied Romania-Hungary (steal) 25 • May 26, 2006
[3] Trever Martin, stakeholders Guide to Philips ARM7-Based Microcontroller C Eng Miee in February 2005
[4] National Semiconductor Corporation, LM35 specification, actual temperature sensors Celsius, Atmel Databook
[5] SY-HS-220-document [6] http://www.biltek.tubitak.gov.tr/gelisim/elektronik/dosyalar / 40 / LDR_NSL19_M51.pd
[6] Trever Martin, stakeholders Miee Guide Philips ARM7-Based Microcontroller in February 2005
[7] http://www.nxp.com/documentts/data_sheet/LPC2148.pdf
[8] The technology Dr.S.S.Riaz Ahamed.Role ZigBee datalink in the future. Journal of Theoretical and Information Technology Application, Vol.5 No. 2, pp 129-135 2005
[9] Puneet Gupta, SMS: How, what and where Developer Network Wireless.
[10] Adedjouma A.Ş., Adjovi G. L. and B. Again Degbo System 2006 Remote control car lock and geographic location, based on GPS and GSM, GSM. African Journal for Research in Computer Science and Applied Mathematics, Vol. 1, p. 1-8. Advantec Co., 1994 PC user manual 812PG LabCard PCL driver software.
[11] Baille A., C. and N. 2001. Impact Kittask Katsoulas greenhouse microclimate laundering and distribution of energy crops. Journal of

Agricultural and Forest Meteorology, Vol. 107, pp. 293-306.
[12] Benghanem M. 2009. Measurement of meteorological data from the wireless data acquisition system. Journal of Applied Energy, Vol. 86, pp. 2651-2660.
[13] Bouchikhi Eddahhak B. A. Mr. Harzli N. May 2004. The role of sensors and measuring climatic parameters of irrigation water in the greenhouses of the age of science and technology, Cadiz, Tangier
[14] Bouchikhi B. Harzli M. 2005. Design and construction of the acquisition system and climate parameters in the greenhouse. Chema & Phys. News, Vol. 22, pp. 45-54.
[15] El Fadl of Kherrak A. H., J. and H. Claustriaux Mounhim 1996 Computer Aided greenhouse climate management and the impact on the culture of melons a region of Souss. God Choukr R. (eds.). dog breeding in the Mediterranean region. Mediterranean Notebooks options Vol. 31, pp. 99-108.