

CONTROLLING DEVICES IN HOME USING WIRELESS SENSORS AND TOUCH SCREEN

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Abstract - In the present years, the utilization of touchscreens going on increased drastically. Today's home automation goes on the far side straightforward programmable thermostats to systems that tell our carpets need clean up. If we are able to imagine it, computers will program it. Home automation system is essentially a home system that uses touch screen panel or remote to manage different home appliances, temperature management and video surveillance. Home Automation may be having things around our home happen automatically. We got designed and enforced such a system with a resistive touch screen. so as to attain this, slightly panel is interfaced to the microcontroller on transmitter aspect that sends switch ON/OFF commands to the receiver wherever connecting loads. By touch the specified part on the touch screen panel, the loads can be turned switch ON/OFF remotely through wireless technology.

Key Words: Touch screen, Wireless sensors

1. INTRODUCTION

Home computerization has been an element of science fiction composing for numerous years, yet has turned out to be viable in the mid twentieth Century with the far reaching presentation of power into the home also, the quick progression of data innovation. Home computerization system (HCS) make our home condition more secure, vitality efficient, less expensive to keep up and ideally sparing our time. It can likewise be helpful for elderly individuals and physically disabled candidates. Nonetheless, in most home today, you can find easily a few basic types of robotization, for example, Garage entryway openers, Water system or sprinkler control frameworks, Remote Controls, Motion actuated lights, Security frameworks, Programmable indoor regulators, Programmable light clocks and numerous others. On the off chance that we need to keep going, we can toss in dishwasher, garments washers and microwaves, autos, dryers, broilers, lights and switches. This record is goes on and on. The full record is constrained to creative energy and a family's way of life. Have numerous names like "keen homes", "robotics homes" what's more, "secure homes".

The main existing of this project is to developing of a home computerization system using a touch panel based to control panel. As technology is a helping to the homes are also convey to the smart. The present homes are slowly changing from standard switches to control of the centralized system, to involve switch of the touch screen. Currently, typical wall

switch situated in several a part of the house create it difficult for the user to nearby close to them to operate. That the projected technology can be helpful for the senior or physically unfit candidate's. Home computerization system provides a less complicated resolution with Touch screen technology. Touch screen management panels also are designed for business, industrial and medical systems

2. METHODOLOGY

In this project, resistive touch screen is utilized as they are ordinarily less expensive to deliver, less delicate, vigorous and has diminished visual lucidity than their capacitive partners. Resistive touch show recognizes and sense particular touch area when the two electrically-charged layers of the touchscreen are squeezed together with physical power at a particular point. Switch on/off and reset catch are there. Numerous modes have been depicted like morning, lunch, night and night (this can be characterized by family utilization). At that point the lighting control, fan, switches, lights, there is a volume up/down catch moreover 8051 microcontroller, Resistive touchscreen, 74HC595 shifter, Relays, Burg strips, Encoder, Decoder, LCD, Voltage controller IC 7805, zig-bee, Resistors and Capacitors have been utilized. RGB - LEDs can be utilized for us to comprehend whether the apparatus is on/off. A6276 was particularly intended for LED-show applications. It can be empower by utilizing Wi-Fi, so we have especially composed a transmitter side, received side and a power supply circuit. This gives us leeway of a "sans wire" home. Keeping in mind the end goal to accomplish this, a touch board is interfaced to the microcontroller on transmitter side which sends ON/OFF summons to the beneficiary where loads are associated. By touching the predefined divide on the touch screen board, the heaps can be turned ON/OFF remotely through remote innovation. Recreation has been finished utilizing keil and Proteus 7.0 reproduction programming and PCB planning has been finished utilizing ultium. To have a network, one can utilize remote control, zigbee or GSM module. The framework actualizes the remote system utilizing ZigBee RF modules for their effectiveness and low power utilization and low distance also. Further, the project can be improved by utilizing GSM module interfaced to the control unit. Thusly, the client can control home apparatuses by sending a SMS. Preferred standpoint of utilizing this innovation is that there is no range confinement when contrasted with RF innovation or remote association. This project has been tried using blubs on the heap side. One can even utilize fans which

needs a engine driver IC. The project could incorporate a unique mark scanner or then again voice acknowledgment. When an approved individual touches the screen, it opens and you can roll out improvements. Points of interest of utilizing a home robotization framework is accommodation, adaptability, genuine feelings of serenity, autonomy of area and brought together control. Disadvantage could be high cost of proprietorship, absence of heartiness, poor sensibility, and trouble accomplishing security.

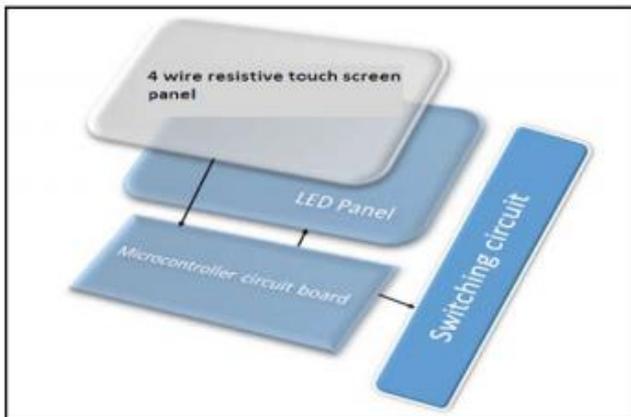


Fig -1: Flow of the circuit

In this transmitter and receiver sections we are arrange the components like bulb and fan power connection also. They are use in touch panel arrange in the 3 devices we take one touch panel and they arrange some range in touch panel they write in touch panel like device one and device two and device three they three components are mainly depend on the relays. Relays behavior like switch mode once we on the one device and the relay is on mode and when put in off mode they off mode same time using the three devices we on the 3 devices at the same time then off also same time.

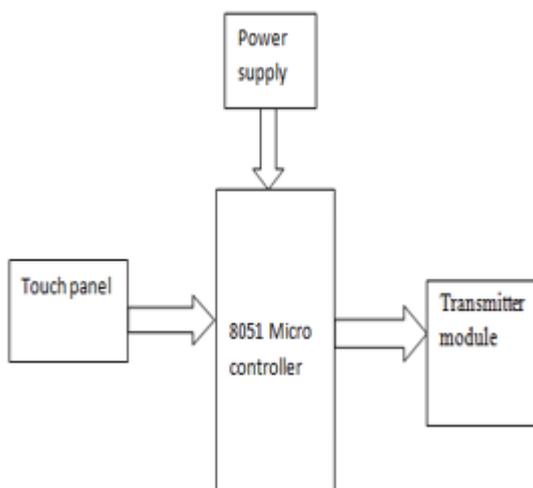


Fig -2: Transmission Section

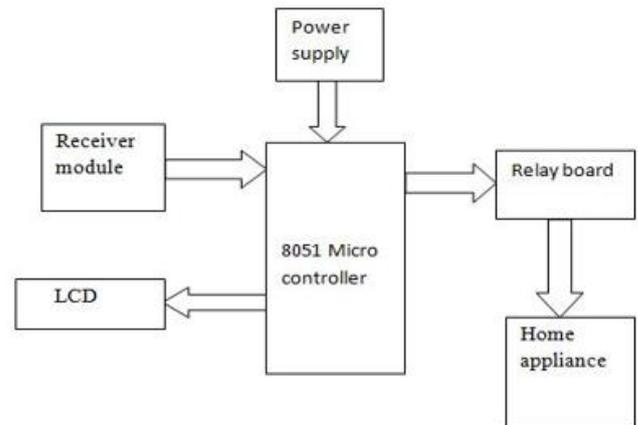


Fig -3: Receiver Section

3. RECENT TRENDS

A completely computerized home that works as indicated by our responses and dispositions. It could even have SMS. For instance, when we content "Getting back home" to our home, it will set up the temperature of our home, AC/warmers can be empowered and our most loved music can be on. It could have different features like interruption finder, smoke finder, and vitality administration. At the point when any family member gets back home, we can get a SMS.

4. CONCLUSION

Automation is turning into the most essential factor to present an computerized condition in all homes. It has been utilized over the globe. It has had its benefits and negative marks. However, clients are most eager to adjust this innovation. It can be adjusted and planned by prerequisites. The significant burden is that individuals dislike for Computer controlling their lives and furthermore that it takes after a schedule. Notwithstanding, these new advancements are still in beginning times with a absence of vigorous guidelines making similarity issues influencing their unwavering quality. Another issue is that these frameworks are not completely acknowledged by conclusive clients, particularly the old and incapacitated people the ones that need it the most. In any case, it would be the need of the future and will get a gigantic change the everyday life of each person

REFERENCES

- [1] James Gerhard, Home Automation and Wiring, McGraw Hill Professional, 1999.
- [2] Myers, Brad A. et al (2004) "Taking handheld devices to the next level". IEEE Computer Society, December 2004. pp. 36-45

- [3] A.J. Bernhem Brush, Bongshin Lee, Ratul Mahajan, Sharad Agarwal, Stefan Saroiu, Colin Dixon*, Home Automation in the Wild: Challenges and Opportunities, CHI2011
- [4] "HomeAutomation"https://en.wikipedia.org/wiki/Home_automation (Accessed 25 August 2015)
- [5] Alkar, A.Z. ; Hacettepe Univ., Ankara, Turkey ; Buhur, U., An Internet based wireless home Automation system for multifunctional devices, IEEE,2005.
- [6] Yash Inaniya, Naresh Kumari and Urvashi Luthra, Home Automation System Using Capacitive Touchscreen, IJERA, June, 2014
- [7] Nazmul Hasan, Abdullah Al Mamun Khan, Nezam Uddin, Abu Farzan Mitul, Design and Implementation of Touchscreen and Remote Control Based Home Automation System, ICAEE, 2013.
- [8] V.Sathya Narayanan, S.Gayathri, Design of wireless home automation and security system using PIC microcontroller, IJCAES, 2013.
- [9] Lihua Deng, Research of Intelligent Home Control System, International Conference on Electrical and Control Engineering, 2010
- [10] Khusvinder Gill, Shuang-Hua Yang, Fang Yao, and Xin Lu ,A ZigBee-Based Home Automation System, IEEE Transactions on Consumer Electronics, Vol. 55, No. 2, MAY 2009.