

GSM BASED HOME AUTOMATION

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ABSTRACT

GSM has been around for at least 2 decades now. Being such a robust cellular network system, the current networks are still based on it. Living in the information age; almost everyone has a cell phone, may it be a basic phone or a smart phone. Everyone can utilize this technology and SMS is one of the most popular and essential.

The goal of the project “GSM Based Home Automation” is to program and construct a circuit where 4 different devices can be controlled via SMS. This is achieved by using a GSM Modem connected to a PIC16F877A which controls an array of relays that controls the 4 devices. The GSM Modem acts as a medium where an SMS is received and is read by the PIC. The PIC then determines the content of the SMS and will control the relays accordingly. Not only that, the user will be notified when a device is successfully turned on or off. The relay circuit can handle devices from AC power sources and DC as well.

The programming is done in C with the MikroC Pro Compiler environment. It is programmed to only respond to the specified SMS commands. Testing by stages is then done to make sure the circuitry is operating individually, and then as a whole integrated circuit. Problems faced in the project and its solutions are also discussed along with its validity, limitations and improvements. The progress of the project is then summarized while discussing what improvements can be added to it in the future with proper resources. The final circuit works 100% as intended without errors and defects.

Further elaborations of the project are included in the report.

Keywords: GSM, PIC, Home Automation, Modem, SMS