Generally, appliances used in our home are controlled with the help of switches. We aim to design a home automation system that will be based on DTMF technology. Not only one can control home appliances from anywhere, but it also reduces the waste of electricity. This system is very low cost compared to other technologies like GSM. Whatever appliances we are dealing with, in our daily life, we want to control them without physically moving to the control unit. We use many different types of communication in control applications to control home appliances, industrial appliances, and other types of automation. There are two types of communication that we generally use - one is wired and another one is wireless. In wireless communication, we transmit signals wirelessly, like using radio frequency (RF), and in wired communication in which we use wires like copper wire.

In this project “DTMF Based Home Automation System” we are going to control our home appliances wirelessly. In Mobile Controlled Home Automation using DTMF, a smart logic control based on embedded systems has been implemented. The DTMF-based home automation is controlled by mobile signals. DTMF tone frequencies are advantageous because they allow telephones to indicate which number is being pressed by its operator. DTMF frequencies are more practical and less expensive to implement than the previous signaling method used by rotary telephones.

The advantage of DTMF is controlling home appliances from anywhere. It reduces wastage of electricity when we forgot to switch off the lights & fans and go outside. By using DTMF we can get a quick response and it is highly reliable and fast efficient. By using a single key, we can control multiple devices. The applications of DTMF keypads almost include mobile phones and landlines. Therefore, this keypad is used for recognizing the dialed number by the caller in the telephone exchange rooms. The DTMF decoder differentiates the tones of DTMF & generates the binary series equal to a key pushed in a keypad of DTMF.

The DTMF method defines four additional digits: “A”, “B”,” C” & “D”. Most of the systems today do not use those digits. DTMF (Dual Tone Multi-Frequency) decoder module is commonly used to control robots with a mobile phone, it is also used in different kinds of home automation projects where mobile dial pad input is required. This module works as a tone decoder that uses its 3.5 mm audio connector socket to get the input audio signal. It is popularly used for mobile and fixed telephone voice dialing and recording-related functions.