

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY,  
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**A Project Report on**

**"SpyBot"**

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The DTMF keypad is laid out in a 4×4 matrix, with each row representing a *low* frequency, and each column representing a *high* frequency. Pressing a single key (such as '1' ) will send a sinusoidal tone for each of the two frequencies (697 and 1209 hertz (Hz)). The original keypads had levers inside, so each button activated two contacts. The multiple tones are the reason for calling the system multifrequency. These tones are then decoded by the switching center to determine which key was pressed.

### 1.3 INTRODUCTION TO GSM

**GSM (Global System for Mobile communications:** originally from *Groupe Spécial Mobile*) is the most popular standard for mobile phones in the world. Its promoter, the GSM Association, estimates that 80% of the global mobile market uses the standard. GSM is used by over 3 billion people across more than 212 countries and territories. Its ubiquity makes international roaming very common between mobile phone operators, enabling subscribers to use their phones in many parts of the world. GSM differs from its predecessors in that both signaling and speech channels are digital, and thus is considered a *second generation* (2G) mobile phone system. This has also meant that data communication was easy to build into the system.

The ubiquity of the GSM standard has been an advantage to both consumers (who benefit from the ability to roam and switch carriers without switching phones) and also to network operators (who can choose equipment from any of the many vendors implementing GSM). GSM also pioneered a low-cost (to the network carrier) alternative to voice calls, the Short message service (SMS, also called "text messaging"), which is now supported on other mobile standards as well.