**MICRO CONTROLLER BASED SECURITY**

**SYSTEM USING SONAR**

**ABSTRACT:**

The problem facing many institutions like museums and banks is that of security round the clock. Security guards are expensive and burglars have learned to evade conventional security devices like infrared beams, thermal sensors etc. The use of SONAR in a security system, as used in our project, is a novel idea, and as far as we could determine, extremely difficult, if not impossible, to evade. The infrared beams have the disadvantages of covering just a limited area in a room

and to cover a whole room requires many of these beams. This makes this technology very expensive. It is also by no means foolproof and can be evaded by experts as has been so ably demonstrated in so many Hollywood films. Temperature sensors can also be evaded as they can either be made extremely sensitive and risk false tripping of the alarm due to changes in ambient temperature or made less sensitive at the risk of allowing evasion.

The use of SONAR offers us many advantages. It is nearly foolproof, albeit it be at

the expense of being extremely sensitive to the point that the only way to avoid

tripping of the alarm is to make sure that the room it is covering is free from any

movements. In this project we have designed and developed a unique security system

that utilises the capabilities of microcontroller and a special purpose SONAR

module. It is also extremely cost-effective when compared to similar systems

currently in use.

**BLOCK DIAGRAM:**

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