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**E-Cradle for Infant Care**

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**Introduction:**

# There is a need to develop a new low cost indigenous electronic cradle because the existing cradles are imported and costly. This paper presents the design and implementation of a new indigenous low cost E-Baby Cradle that swings automatically when baby cries, for this it has a cry analyzing system which detects the baby cry voice and accordingly the cradle swings till the baby stops crying. The speed of the cradle can be controlled as per the user need. The system has inbuilt alarm that indicates two conditions – first when the mattress is wet, which is an important parameter to keep the baby in hygienic condition, second when baby does not stop crying with in a stipulated time, which intimated that baby needs attention. This system helps parents and nurses to take care of babies without physical attention. RFID tags are also attached to baby’s wrist or leg which helps in tracking baby’s movements.

**Description:**

Parents in the present world are busy in their professional life, so they do not get sufficient time to take care of their babies. It may be expensive for the household to afford a nanny. Today’s woman has to manage home along with their office work simultaneously. After long working hours, they have to take care of the home along with the baby. They may not get enough time to swing the cradle manually and sooth the baby.

**Working:**

The system is microcontroller based that is being designed is aimed to help parents and nurses in infants care. Features being:

1. Cradle starts swinging automatically when baby cry and swings till the baby stops crying.

A sound detector is interfaced to the controller which senses sound when baby cries and activates the controller with its digital output.

1. Sounds an alarm when mattress gets wet.

A temperature sensor kept under the bottom cover where the baby sleeps can sense the temperature all time and sends analog signals to the inbuilt ADC of the RL78 controller. The digital data can be continuously monitored. A reduction in temperature indicates the wetness in the cover.

The controller can be made to activate an alarm, so that his/her cover be changed.

1. Sounds an alarm if baby cries for more than a stipulated time indicating that baby needs attention.
2. GSM interface sends SMS to android based handsets to get the attention of parents/nurses.

#### Advantages:

#### 24/7 security and peace of mind for mothers and staff.

#### Prevents kidnap in hospitals.

#### All time protection even if the baby moves around without being noticed by elders, since if it goes near any electric items the sensors help in sending alarms.

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