ಮಮತೆಯ ತೊಟ್ಟಿಲು (MAMATHEYA THOTTILU) REAL TIME BABY CRADLE WITH SMART ASSISTANCE USING IOT

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Introduction:

Many parents are unable to devote sufficient time to infants on account of office work or being short-handed. Additionally, there are also many first time parents, who lack experience in raising children. Infants, on the other hand, demand constant attention and care. Simple methods to immediately calm the agitated infants need to be devised. Hence, there is a need to assist parents in taking care of their infants by providing them with a single product which would monitor their infants at all times, send notifications in case attention is required, raise alerts in case of emergency situations and provide real time interaction between parents and infants. The first verbal communication of new born baby with the world is baby's cry. Infant crying is a biological alarm system. An infant crying signal is the attention call for parents or caregivers and motivates them to alleviate the distress. There is a need to develop a new low cost indigenous electronic System because the existing mechanical systems are imported and costly. Emotion based technique has been implemented. Based on the emotions nothing but the child is crying then a message is sent to the parents.

Objectives:

The main objective is to monitor and soothe the baby automatically. The main idea of the product is to lessen the burden of mother is in present era of technology where machines and robots are being used in almost every filed of life. It save the time of parent .It is make easy for working women to handle baby. Designing a system which monitors baby body temperature and increase the pillow temperature according to mothers body temperature and intimation in times of baby cry. Intimation to mobile phone. Vibration sensor to detect the baby fall. Whenever the baby cries the cradle will swing. Based on the emotions(child crying) message will be sent to the parents. Whenever baby cries it plays the voice of mother . The main feature of our product is to soothe and entertain the babies when their parents are not near to have a check on them and softly rock the cradle when they cry . It also has an integrated mobile toy and communication with parents through their mobile phone .Provides a smart solution for child

care industry and many day care centres that result in reduction of labour costs .Help working women balance their work and domestic chores. Creates a positive impact on society as women can continue their childcare and can take part in the development of the nation .Can help to more closer to UN sustainable development goal gender equality. Plays our role to achieve a global digital future.

Methodology:
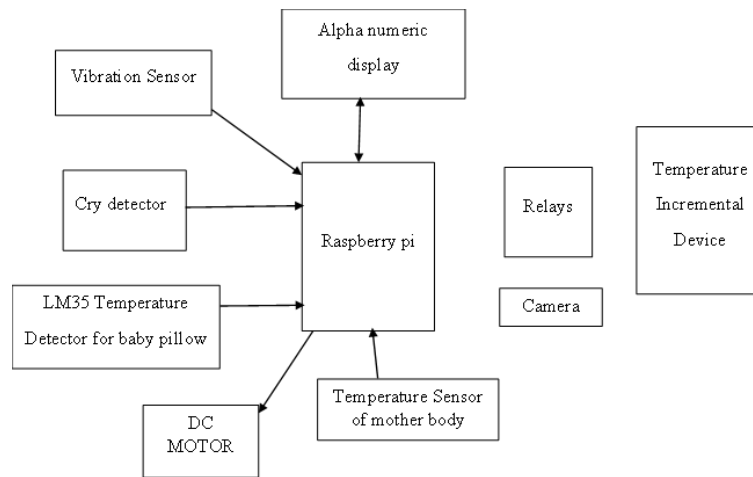
The system is microcontroller based that is being designed is aimed to help parents and nurses in infants care. System starts playing mothers voice automatically when baby cry and stops till the baby stops crying. A sound detector is interfaced to the controller which senses sound when baby cries and activates the controller with its digital output. 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. Sounds an alarm if baby cries for more than a stipulated time indicating that baby needs attention. Wi-fi interface sends alert to android based handsets to get the attention of parents/nurses. An ALCD is interfaced to the controller which keeps displaying the status as messages. Whenever the baby cries the cradle will swing. CNN Algorithm is used to record the emotion of the child based on if that the child is crying an message will be sent to the parents. Here we use Heartbeat sensors, Vibrate sensors, Sound sensors, temperature sensors, and moisture sensors .System starts playing mothers voice automatically when baby cry and stops 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. 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 controller. The digital data can be continuously monitored. A reduction in temperature indicates the wetness in the cover

Result:

A smart cradle with a baby monitoring system over IoT has been designed and fabricated to monitor a baby's vital parameters, such as crying condition, humidity, and ambient temperature. Node MCU was used as the main controller board in the project's circuit design, because it had a built-in Wi-Fi module, which enabled the implementation of IoT concept in the developed system. The demand of IoT was achieved by using the Node MCU due to its simplicity and open-source nature. Red meranti wood was used as the material to build the baby's cradle, because of its general use in woodworks and due to its workability. Improvements were made during the enhancement phases to ensure that the research outcomes achieved the objectives. The finished prototype was tested by using a mobile phone with a baby crying ringtone, which was placed in the cradle. When the mobile phone rang for a few seconds, the cradle started swinging because of the system's assumption that the baby was crying due to the detected sound. A notification was sent to the mobile phone of the user to signal that the baby is crying. The temperature and humidity of the surroundings were determined, and the mini fan was turned on if the measured temperature was above 28 ◦C. With the aid of Node MCU, the parents can control the baby cradle and mobile apps or an Internet-connected computer.

Scope Of Future Work:

The main feature of our product is to soothe and entertain the babies when their parents are not near to have a check on them and softly rock the cradle when they cry . It also has an integrated mobile toy and communication with parents through their mobile phone .Provides a smart solution for child care industry and many day care centers that result in reduction of labor costs .Help working women balance their work and domestic chores. Creates a positive impact on society as women can continue their childcare and can take part in the development of the nation .Can help to more closer to UN sustainable development goal gender equality. Plays our role to achieve a global digital future.