IOT BASED SAFETY GADGET FOR CHILD SAFETY MONITORING AND NOTIFICATION

FACULTY MENTOR : Dr. B.Bhuvaneshwari
TEAM ID **:** PNT2022TMID52822

TEAM MEMBERS

- Bavithra Ganesh S - 1904072
- Guhan T - 1904079
- Jayapreethi U - 1904081
- Jeevaraj M - 1904082

PROBLEM STATEMENT

- The safety and security of children is a major problem in the current era. The children are too young to take care of themselves. We cannot monitor the children at all times in school, play area, and outside place.
- The crime rate is day by day increasing. Schools need high surveillance for ensuring the safety among children. Smart phones are playing major role for ensuring the safety, where some mobile based applications provide alert systems. During the emergency, mobile apps alert the caretakers of children. The literature shows that location tracking devices are available in the market, but it does not provide the complete solution to the problem.

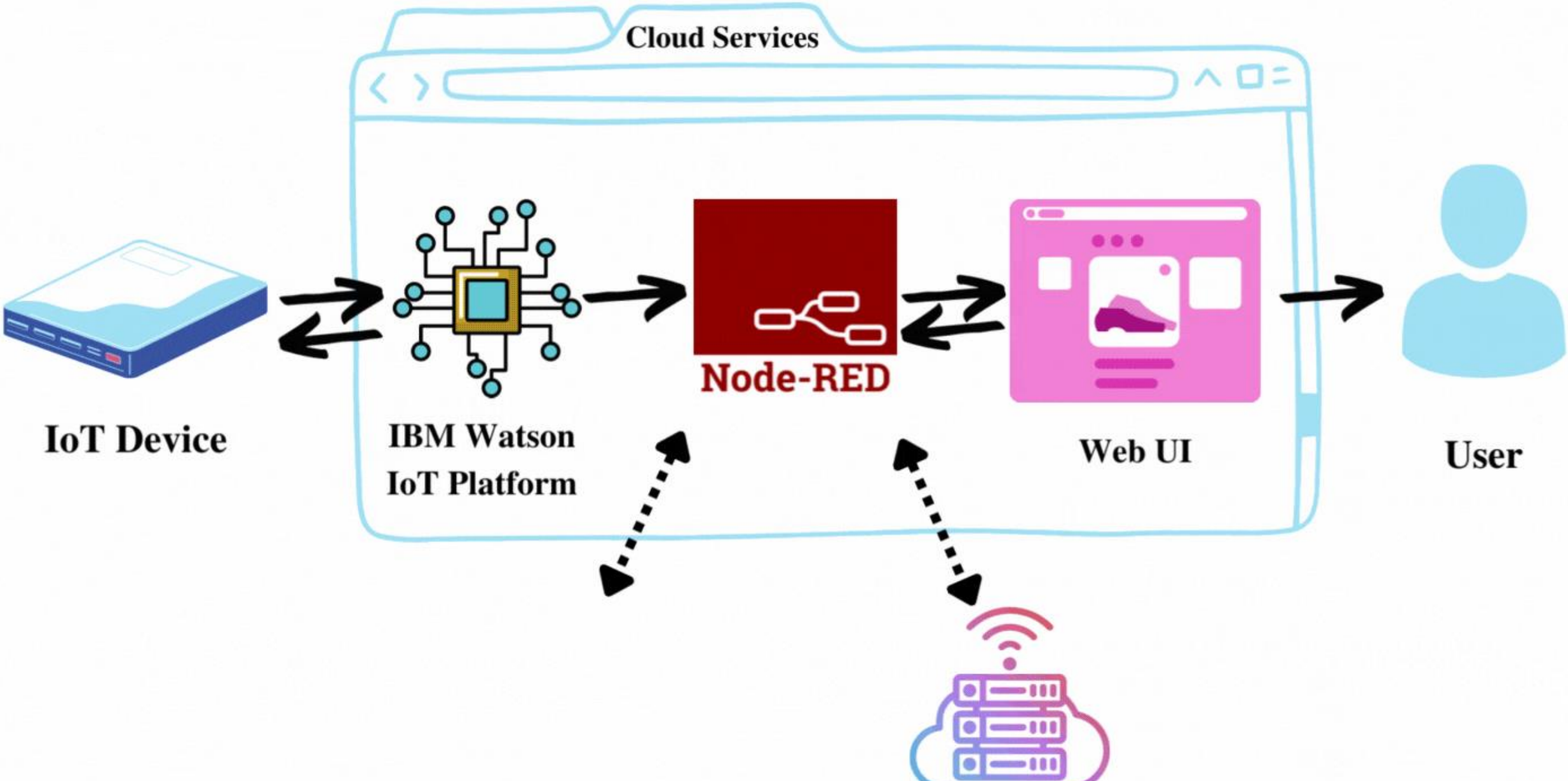
EXISTING SOLUTIONS

- A system developed using LinkIt ONE board programmed in embedded C and interfaced with temperature, heartbeat, touch sensors and also GPS, GSM & digital camera modules that automatically alerts the parent/caretaker by sending SMS, when immediate attention is required for the child during emergency. If any abnormal values are read by the sensor then an SMS is sent to the parents mobile and an MMS indicating an image captured by the serial camera is also sent.
- Parental android app is developed to manage and track the device anytime. Smart gadget device is always connected to parental phone which can receive and make phone calls and also receive SMS on gadget via GSM module.

INFERENCE FROM EXISTING SOLUTION

- IoT-based child security smart band can assists parents to monitor their children remotely.
- In case situations happen, notifications will be sent to parents so that actions can be taken.
- The proposed device is not robust enough and does not contain sufficient functions to operates like a mobile phone.

BLOCK DIAGRAM



LITERATURE SURVEY

S.NO	TITLE	MODEL / TECHNIQUES USED	MERITS/ DEMERITS	OUTCOMES
1.	Baswaraj Gadgay; D.C Shubhangi; Company Maheshwari **"Remote child health monitoring system and personal safety"** 2021 IEEE International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS)	IoT and Cloud Management services are used	The bus's location through GPS, indicating that the youngster has been safely entered into the bus and school.	The Technical point of this task is to have an ordinary correspondence between the kid and parent through the gadget which helps in finding the area
2.	Bannuru Ranjeeth; B. Srinivasa Reddy; Y. Manoj Kumar Reddy; S. Suchitra; B. Pavithra **"Smart Child Safety Wearable Device"**2020 International Conference on Electronics and Sustainable Communication Systems (ICESC)	GPS module is used to track the child	This gadget empowers association between the youngster and parent through the WIFI module cooperation utilizing IoT.	The parent can get to the kid data intermittently by interfacing through this gadget.

LITERATURE SURVEY

S.NO	TITLE	MODEL / TECHNIQUES USED	MERITS/ DEMERITS	OUTCOMES
3.	Jijesh J.J;Suraj S;Dileep Reddy Bolla; Sridhar N K;Dinesh Prasanna A "**A method for the personal safety in real scenario**" 2016 International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS)	ESP32 integrate with GPS and GSM module	The gadget provides an alarm system, call for help, and electric shock to get rid of the attacker.	With the help of advanced technology individuals can make use of a simple gadget which can be used whenever they are in unpredictable circumstances to establish connectivity between police and family.

OUR IDEA

- To enable tracking of the child’s location and capturing of data remotely such as temperature, pulse, respiratory rate, quality of sleep and many more. To show the child's actual data with reference values.
- To enable sending of notification if the child is out of location or when the device realizes abnormal conditions/situations. To trigger the alarm and enable automatic video recording whenever the emergency button is pressed. Then, emergency notification along with real-time video will be sent to and display in the parents' mobile apps. To develop a prototype of IoT wearable smart band connected to parents’ mobile apps so that they can monitor the actual condition of children at anytime and anyplace.