

A Protective Intelligent Assistance for Children to Safeguard from Sexual Abuse

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Abstract— One of the significant social issues winning in our nation is sexual misuse of kids. It is covered in mystery and there is connivance of hush around the whole subject. It is an ideal opportunity to perceive this issue and take therapeutic measures. Absence of experimental proof, subjective data on measurement of youngster mishandle, tyke's hotel ounce and disregard makes it hard to address this issue if kidnapping happens. To maintain a strategic distance from these disadvantages, the framework will be planned with biometric unique finger impression sensor for robotized check, interfaced with that uses GPS and SMS service found in shrewd cellular telephone including use of pinhole camera and siren. The planned framework will indentify to trap the paedophile with legitimate confirmations and the casualty can be safeguarded instantly after the risk.

Keywords— GPS, GSM, Fingerprint sensor, Arduino Uno, pinhole camera.

I. INTRODUCTION (HEADING 1)

Child abuse is a serious threat to our society, as it affects the people who are below the age of eighteen and causes adverse effects in the society. The world health organisation reports that, 150 million girls and 73 million boys under 18 have underwent forced sexual intercourse or other kind of sexual harms, though this is certainly unappreciable in our society. It is reported that 53.22% of children below age of eighteen have faced one or the other forms of sexual abuse. Doctor at AIIMS and Safdarjung Hospital say that several of these unfortunate children have been violated with tube light, bulb holders, nail polish bottles, nails, spoons etc. Many of the victims have died and others physically scarred in addition to being mentally distressed for life. So design of a protective mechanism to safeguard these innocent kids is the need of the time.

II. LITERATURE REVIEW

Khaing Blemish Htwe and Zaw Min Htun .et.al(2015), proposed outline and execution of bank locker security framework in light of unique mark detecting circuit and RFID per user. The fundamental objective of this framework is to plan a locker security framework utilizing RFID and Unique mark. In this framework, just verified individual can open the entryway. A security framework is actualized containing entryway locking framework utilizing detached kind of RFID which can actuate, confirm, and accept the client and open the entryway continuously for secure access. The benefit of utilizing uninvolved RFID is that it capacities without a battery and aloof labels are lighter and are less costly than the dynamic labels. This framework comprises of unique mark per user, microcontroller, RFID per user, and PC. The RFID per user peruses the id number from detached. The unique mark sensor will check approaching picture with selected information and it will send affirming signal for C# program. In the event that both RFID check and unique finger impression picture affirmation are coordinated, the microcontroller will drive entryway engine as indicated by sensors at entryway edges. This framework is more secure

than different frameworks in light of the fact that two codes insurance technique utilized.

Al-Mazloun, E. Omer, M.F.A. Abdullah(2011)et.al, As of late numerous instances of missing youngsters between ages 14 and 17 years are accounted for. Folks dependably stress over the likelihood of seizing of their kids. This paper proposes an Android based answer for help folks to track their youngsters continuously. These days, most cell telephones are furnished with area administrations abilities permitting us to get the gadget's geographic position progressively. The proposed arrangement exploits the area administrations gave by cell telephone subsequent to the majority of children convey cellular telephones. The versatile application utilize the GPS and SMS administrations found in Android cellular telephones. It permits the guardian to get their tyke's area on a constant guide. The framework comprises of two sides, kid side and parent side. A guardian's gadget primary obligation is to send a solicitation area SMS to the kid's gadget to get the area of the kid. Then again, the youngster's gadget principle obligation is to answer the GPS position to the guardian's gadget upon solicitation.

Priyanka Shah, 2 Ruta Gadgil (2012) et.al, proposed Area Based Update Utilizing GPS For Versatile (Android) . Despite the fact that area based update applications have been generally prototyped, there are few results with respect to their effect on individuals: how are they utilized, do they change individuals' conduct and what components impact value the most. Mobile phones give a convincing stage to the conveyance of area based updates inside of a client's regular common connection. We show necessities for area based updates coming about because of a subjective study performed at little zone in the city, and expand how these outcomes are impacting continuous outline of a more complete area based update framework. In this paper we propose a construction modeling of area based administrations which utilizes GPS. Inside of the structural engineering, we talk about the

difficulties for setting administration, administration trigger component and inclination based administrations.

III. EXISTING SYSTEM

Pepper Spray: It is something as straightforward as its name, and is a standout amongst the most prevalent self-preservation instruments the world over. The utilization of this splash makes breathing troublesome and swells the veins in the eye, making them close.

Smart phone: On the off chance that you are utilizing a PDA, then utilize that to shield yourself from any assault. Download applications, as Vith U, My Frenzy Alert, SOS Crisis, Worldwide SOS, bSafe, Assault Caution SMS, and so on that can send your area alongside a message to your crisis contacts.

Anti-molestation jacket: This is yet another wear that sends stun waves on distinguishing the undesirable advances. This gadget too is a brainchild of youthful Indian creators. Nishant Priya and Shahzad Ahmad, understudies of National Establishment of Style Innovation, composed the 'counter attack coat', which is accessible in both denim and acrylic.

Buzzing antirape device: This blessed messenger wing, humming antirape gadget will make a 90 decibel caution sound when pulled. The gadget can be held tight any sack and cellular telephone.

Anti-rape necklace: now, this is one device that can be hanged on any bag and mobile phone.

Anti-rape wear: New York-based organization outlined ultra-tight running shorts, voyaging shorts, and clothing for ladies. They are "impervious to pulling, tearing and cutting".

IV. HIGHLIGHTS OF PROPOSED WORK

The aforementioned assault preventive systems which are being used implied for older folks who think about the mischief transpiring. Utilization of pepper splash, switch, Portable Applications electric stun coat and so forth won't be suitable for children. They will be not in a position to utilize them. They are too little to be taught educate every one of these systems and to be told to utilize them. Be that as it may, our proposed canny innerwear will give its own particular SOS siren regardless of the fact that the youngster herself stays silent when anyone will touches her innerwear with the inspiration of sexual attack. Besides a large portion of the kid attack is situational event. At whatever point they hear some alert or noisy siren the minute they touch the innerwear of the child, they attempt to flee from the spot first. Along these lines, thusly a quick save hand arrives for a tyke. The message alarming framework alongside the GPS tracker office will further improve the security of the kid when this sort of attack event in no man's region. The mother or the educator at a school will be cautioned instantly before the circumstance goes more regrettable.

V. PROPOSED DESIGN AND WORKING PRINCIPLES

Block Diagram:

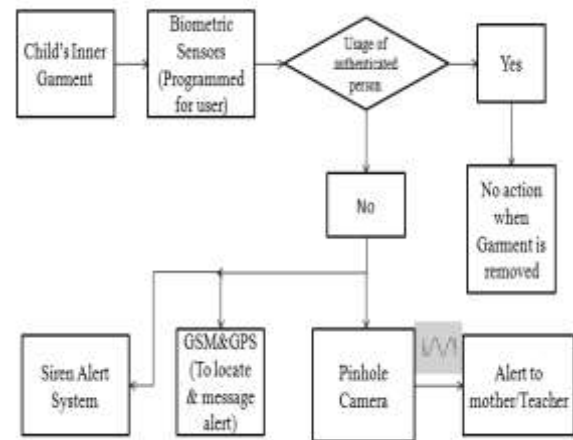


Fig1: Block Diagram of Proposed Design

Usage of finger print sensor in the buckle used in inner garment, will help us to know whether it is removed by an authenticated or unauthenticated person and this entire system will be obscured and impalpable. When the unauthenticated person tries to remove the buckle, that is when the fingerprint does not match with feed authenticated finger print, following actions take place spontaneously. Siren alarm rings, which will make the paedophile sense a threat, so that, he/she will leave the child in haste. If child is in threat of abduction, our system will generate a message and call alert to authenticated person. By the usage of GSM module, the phone

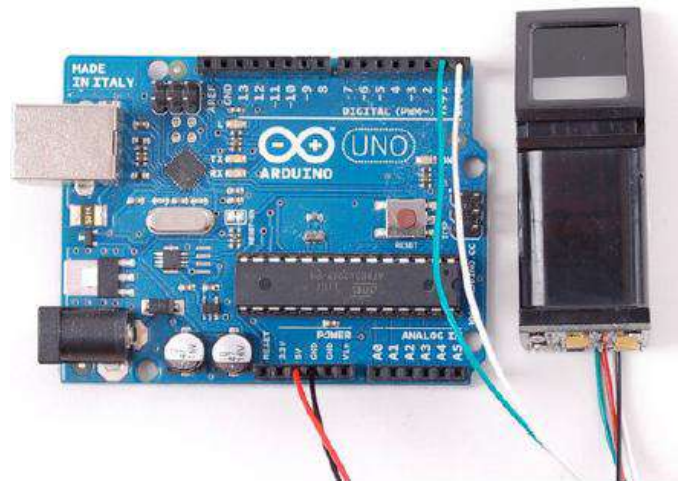


Fig2: Arduino with Fingerprint Sensor

numbers of authenticated persons are fed in the system. These authenticated numbers will receive the message and call alert with a delay. It will be the phone numbers of parents/Teacher/Baby sitter of the child. This system will be reprogrammable, so that the authenticated numbers can be deleted from the memory and can be changed as per the desire.

The call and message alert will be generated continuously till the authenticated attend or view the message respectively. If the authenticated persons do not respond to the alerts, the system will automatically will bring this alert

message generate the same alerts to police stations/child helpline/child rescue teams. All these operation will take place extemporaneously. After analysis of many situation, from different abduction cases, children were not rescued and underwent the sexual abuse because of few reasons, which were common and prominent. Having this in consideration, We have interfaced a pin hole camera, in the system which will take continuous snap shots, when the system identifies the unauthenticated fingerprint. This image will be stored in the memory of the system, which will help retrieve the images, for later use. These images can be used as proofs and paedophile can found and punished judicially, and the fingerprint will also serve as a strong proof to identify the victim.

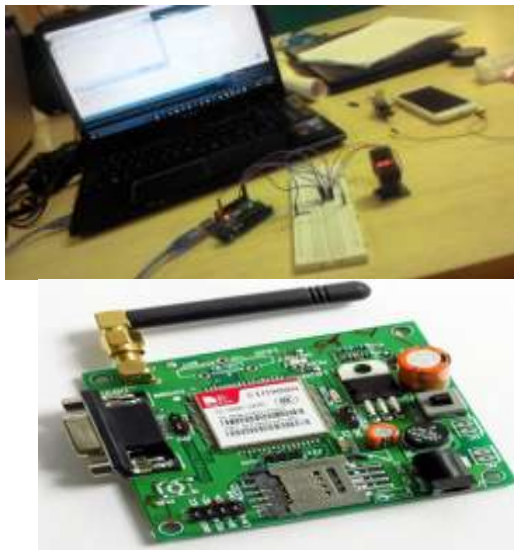


Fig3: SIM900 GSM/GPRS Module

Though the threat is known by the parents, it is significant to know the location of the child. To sort out this problem, we have included GPS system, which will send a link to smart phones of the authenticated people. The link will have the details about the latitude and longitude of the location of the child also will show the location and to rescue the child immediately.



In other situation, if the parents/other authenticated persons reach the location with delay, and if the paedophile elopes from the place, he/she cannot be identified and punished as there is no proof. This was the reason paved way for the paedophile to escape from the loop without any punishment as there was proper proof.

VI. CONCLUSION & FUTURE SCOPE

The most advantageous concept is that only the authorized person can use the sensor. As the authenticated finger print is programmed, malpractice can be avoided completely. By using this mechanism child abuse can be reduced in real time efficiently. The future can be made to minimize the size of the system and to generate the operations at faster rate than the existing system. The future work can also include recording of video files when the system senses the use of an unauthenticated person and can store the file in memory for retrieval.

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