



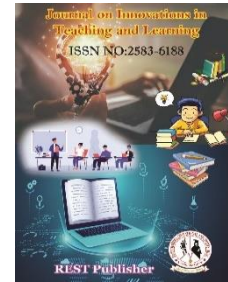
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Analysis of Child Safety Monitoring System using the SPSS Method

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Abstract: A wearing children's safety system functions as a smart gadget. Accurate and exact real-time location can be used to identify a child's surroundings. This system includes an ambient temperature display, an SOS light, and a distress buzzer. It aids them in locating their child. The system is simple to design. The programmer is designed to establish an approach that is user-friendly on both sides. GPS-equipped smart phones should be available to both parents and kids. The child's location, call history, message history, and communication via their smartphone are all tracked using this software. Safety monitoring systems use a person, rather than a mechanical system (safety monitor), to warn when roofs are six feet or more below the lowest level and are in danger of falling. A safety supervisor must be a competent person to recognize fall hazards and warn workers about them. The device has IoT tracking and a GSM module that allows you to monitor the child at all times. It has countless sensors connected to a CPU and is used to detect the right signals like heart rate, temperature and other dangers and alert the parents. A programmer called system monitoring software keeps track of, logs, and examines all levels of the IT ecosystem's system resources, from operating systems and electronics to the underlying system applications and services, to running user software. At the top Today, 80% of all child abuse cases reported around the globe. The remaining 26% were boys, with 74% being girls. In this world, a daughter goes missing every 40 seconds. Children If one's children's future is the foundation of one's nation, is affected, it affects overall development Nation. Due to abuses, children's emotional and mental stability is affected Destroying and future endeavors. The things that happen to these defenseless kids are not their fault. Parents are therefore accountable for raising their own children. But, since their children's future and career are not considered, parents are compelled to want for money. So, it is challenging to understand them. There are kids everywhere. We offer a setting in our system where this issue is able to be resolved effectively. It makes it simple for parents to follow their kids in real time as if they were close to them and they focus on their own business without any manual intervention. Ratio studies are statistical analyses of data from appraisals and property valuations. Nearly all states utilize them to produce quantitative measure of the proportion of current market price about which individually estimated taxable property is appraised as well as to offer assessment performance indicators. Evaluation parameters taken as Temperature sensor, Pulse sensor, GPS, GSM and Web camera. The Cronbach's Alpha Reliability result. The overall Cronbach's Alpha value for the model is .658 which indicates 66% reliability. From the literature review, the above 50% Cronbach's Alpha value model can be considered for analysis. Software Engineering Defect Prediction the Cronbach's Alpha Reliability result. The overall Cronbach's Alpha value for the model is .658 which indicates 66% reliability. From the literature review, the above 50% Cronbach's Alpha value model can be considered for analysis.

Keywords: Temperature sensor, Pulse sensor, GPS, GSM and Web camera.

1. INTRODUCTION

In essence, kids cannot grumble to their guardians about the difficulties they encounter on a regular basis. They are too young to understand what is actually happening to them. Parents find it challenging to identify when their kids are being abused. Every child must have access to an unsupervised real-time monitoring system to guard against attacks. The values gathered from each sensor, including the temperature rate sensor, the metal detection sensor, and the GPS location value, are used in this system to determine the child's location and warn the appropriate parents using GSM [1]. A concept of a child surveillance apparatus with authentic video streaming and change detection is needed in light of the aforementioned information. The prototype of the youngster monitoring system can satisfy parents' desire to keep an eye on their children by utilizing a Raspberry Pi microcomputer that has been outfitted with a motion module. Also, parents can easily get to the system online through a web with authentication features, allowing them to keep an eye on their kids and prevent

unauthorized users from abusing it [2]. Continuous glucose monitoring (CGM) enables the best treatment choices for diabetic patients by providing the most information regarding alterations in blood sugar levels throughout the day. It also gives details on the kind, scope, length, frequency, and causes of changes in blood glucose levels. In comparison to strict glucose monitoring, continuous monitoring provides more information regarding blood glucose levels at all times, which is classified as three to four glucose scans per day [3]. Fundamental elements needed to develop the application to safeguard kids from undesirable circumstances. To the aforementioned sensor parts, a blood pressure sensor can be connected to detect the baby's heart pressure (BP) and aid in decision-making. The sensor can alert the parent to take care of the youngster if the child's blood pressure levels are elevated or low [4]. A cross-sectional study of schoolchildren is being conducted the Child Health Minimum Response (CHMS), which consists of 20 local or regional health services, was developed in the Netherlands. take part each year. The purpose of CHMS is to deliver statistics on children's health status at the national level. In the 1991–1992 academic year, the first CHMS survey included a section on respiratory issues. The following queries must be addressed [5]. The accuracy of a real-time blood glucose test monitor's glucose readings is a critical consideration when assessing its usefulness. In a previous article, we investigated the reliability of The Gluco Watch G2 Biographer (Cygnus, Redwood City, CA) and the continuous hyperglycemia tracking system (CGMS; Medtronic Minimed, Northridge, CA) (4) are two examples.) in type 1 diabetic children. This article's objective is to provide information on the Free Style Navigator CGMS's accuracy in paediatric patients [6]. The major goals PRAMS is to encourage the collection, analysis, and publication of high-quality demographically data for the purpose of creating policies and programmers to reduce maternal and infant mortality. PRAMS data are used by government agencies, charity medical institutions, state medical facilities, and academic scholars inform the creation of new programmers and policies, assess the effectiveness of current programmers and policies, develop educational resources for the general public and health care providers, and advance public health. Information [7]. For up to 3 consecutive days, 5-minute subcutaneous glucose measurements are recorded with the Medtronic Misbranded Continuous Glucose Tracking System (CGMS). The CGMS allows for accurate evaluation of actual glucose fluctuations during the day and night and provides a relatively non-invasive technique to examine intra- and inter-individual alterations in the likelihood of hypoglycemia (19). When premature type 1 diabetes patients were receiving standard insulin treatments, we used the CGMS to detect characteristics and risk factors for hypoglycemia [8]. The clinical importance of variations between capillary (= reference) and grid sensor glucose levels of various zones is determined using monitoring systems. While values in ranges A and B are regarded as acceptable and have little to no impact on clinical outcomes, those in zones C and D are regarded as risky and may influence clinical outcomes with potentially dangerous repercussions (zone E) Calculations were also made for the device diabetes (capillary BG 180 mg/dL) % [9]. Since many years ago, using glucometers to gauge capillary blood sugar levels is useful for identity blood glucose levels all around the world. Children and teenagers with diabetes may experience pain from this intrusive procedure, particularly if they must check their blood sugar numerous times per day while fasting, which in Jeddah in 2016 lasted for 15 hours per day. Risk of dehydration, ketoacidosis, hypoglycemia, et hyperglycemia [10]. This study aimed to examine the effects of the coronavirus lockdown on children with T1DM who were using an asthma inhaler and a live glucose system to monitor in regard of glycemic fluctuation, treatment needs, and meal amounts and routines. A similar length of time before the lockdown and a 30-minute period during lock were contrasted in order to directly examine each of these elements [11]. Many asthmatic kids do not receive sufficient asthma treatment, which raises healthcare expenditures and reduces parental productivity. Adherence concerns are a contributing factor. Successful medication adherence programmers can help control asthma and cut costs. Sending actual When a drug is missed, sending text messages through cell phone system is an excellent option. The main goal of this study was to ascertain how a real-time medication metered (RTMM) system with wire affected adherence to hydrocortisone because real-time text messaging's impact on children with asthma is unknown (ICS). Studying how RTMM affected patient outcomes, quality of life, and medication cost-effectiveness was a secondary goal [12]. The HES A&E dataset has several categories for different sorts of injuries. Hence, in order to whenever possible improve damage classification, we looked at primary diagnostic fields. In a subgroup of more than 12,000 patients, for instance, the combined "other" harm group, the leading diagnosis for many other unintentional injuries was "poisoning and overdose." They were assigned to a brand-new category called "venom" [13]. Several studies of young people with diabetes have reported the severity of type-2 diabetes, particularly during breakfast. In the Hyperglycemia Control and Complications Study, seven-point glucose levels monitoring after breakfast revealed more severe hypertension in both cohorts [14]. The Continuous Blood Glucose Monitoring System was given FDA approval in the United States in June 1999. (CGMS; Misnamed Inc., Sylmar, CA, USA). With a total of 288 glycemic records every day, the gadget enables for the examination of glycemic profiles over a 72-hour period. It can recognize glycemic fluctuations, which makes it the ideal tool for figuring out 24-hour glycemic trends and profiles. It should be noted that the CGMS only permits the measurement of the patient's glycemic readings after the information is processed either by computer. Allowing individual users to view their own data, in our opinion, will raise the danger of treating hypoglycemia or hypotension excessively [15]. Patients with CF have glucose deficits when compared to total glycemia measured by an OGTT or continuous glucose monitoring system (CGMS). A technological advancement that is very helpful in the management of pediatric TM is CGMS. We discuss our observations with CGMS recording at 3 days in CF patients who have early glucose shortages in comparison with data from OGTT and potential relationships with patients' clinical condition [16]. For sensors attached to the GSR, between the SG - FST measured value as assessment points. Similar to the first simulated calibration, 87.0% and 87.8% of evaluation sites for sensors attached to GSR and 89.7% and

89.8percent of the total number of plus for sensors attached to the Argus Samsung were also inside Zone A. With minimal testing or one iterative simulated calibrate, appraisal points within zones A + B improved to >98% for the both tests [17].

2. MATERIAL AND METHOD

Temperature sensor: The electrical impulses that thermostats send out are used as measurements. The voltage or current produced by sensors made of two metals is measured by the voltage across the diode terminals. resists when the temperature changes. The temperature rises as the voltage does. Power plants, industries, and a variety of other settings and gear are all monitored using temperature sensors. Water temperature in reservoirs & boreholes is measured using temperature sensors. Also, they can be used to illustrate how temperature affects dams and variations in pressure. Any space heating application needs a temperature sensor because it can use the feedback it provides on the process's temperature to monitor or manage it.

Pulse sensor: The phase transformation in a blood artery brought on by the heart's pumping action is known as a pulse wave, and the detectors that tracks this volume change is known as a pulse sensor. When exercising or actively reading, for example, having the heart rate information is really useful. Yet, figuring out heart rate is a difficult task. A buzzer is used to address this problem. Merely place your finger over the sensor, and it will track the change in light intensity brought on by capillary dilation to determine the rate of your heartbeat.

GPS: Users can get positioning, navigation, and timing (PND) services from the US-owned Global Positioning System (GPS). The system is the user component, the control sector, and the workspace section are each divided into three pieces. Currently, GPS has been employed to map forests, harvest fields by farmers, and navigate by aeroplane pilots on the ground as well as in the air. In order for military applications and rescue crews to find people who need help, positioning systems are essential.

GSM: The Global System for Mobile Telecommunication (GSM) standard was developed by the European Telecoms Standards Institute (ETSI) to establish the protocols for third (2G) digital mobile networks used by mobile devices such as tablets and cell phones. While LTE is the next-generation wireless network primarily for cellular networks, GSM is the traditional radio communication method used in mobile devices. High speed data transfer and LTE are mutually exclusive. GSM and LTE both support data transfer, but GSM just supports data transmission. Three primary interrelated subsystems make up the GSM architecture, and they all communicate with users via some sort of network interface. Access Point The group of subsystems consists of Business Support Storage system (BSS), Network Switching Subsystem (NSS), and Integrated Delivery Subsystem (OSS).

Web camera: A webcam is a video camera made to stream or record footage over a network computer, etc. They are mostly used in security, google plus, live streaming, and video telephony. Typically, a webcam is a digital video device that is integrated into a computer. Sending pictures online is its primary purpose. It is frequently used for image recording and instant messaging services. Please take note that the directions for this cam are brand-spiced to access your microphone or camera, Choose Webcam from the app selection by selecting All Applications from the Start button. Whenever the Camera app opens, tap Change photo in the upper right corner to switch between your available cameras. civic and may vary according on the brand and product. To access any webcam or camera, click the Start button, All Apps, and then select Camera first from list of applications. To switch between your different cameras when any Camera app launches, tap Change picture in the upper right corner if you have more than one.

Method: Basic Analytic, Multivariate Big data, Growing Business Analytics, and Statistical Monitoring SPSS Statistical IBM a statistic created by a software program is a package crook research. A set of generated statistics is Crook Research is for a long time SPSS Inc. Produced by, IBM purchased it in 2009. Versions after 2015 use the IBM SPSS Statistics icon. The name of the software program is to start with social Became the Statistical Package for Science (SPSS) Reflects the real marketplace, then information SPSS is converted into product and service solutions Widely used for statistical evaluation within the social sciences is an application used. pasted into a syntax statement. Programs are interactive Directed or unsupervised production Through the workflow facility. SPSS Statistics is an internal log Organization, types of information, information processing and on applicable documents imposes regulations, these jointly programming make it easier. SPSS datasets are two-dimensional Have a tabular structure, in which Queues usually form Events (with individuals or families) and Columns (age, gender or family income with) to form measurements. of records Only categories are described: Miscellaneous and Text content (or "string"). All statistics Processing is also sequential through the statement (dataset) going on Files are one-to-one and one-to-one Many can be matched, although many are not in addition to those case-variables form and by processing, there may be a separate matrix session, there you have matrix and linear algebra on matrices using functions Information may be processed.

3. RESULT AND DISCUSSION

TABLE 1. Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
Temperature sensor	90	4	1	5	282	3.13	.115	1.093
Pulse sensor	90	4	1	5	270	3.00	.131	1.245
GPS	90	4	1	5	291	3.23	.133	1.264
GSM	90	4	1	5	294	3.27	.119	1.130
Web camera	90	4	1	5	297	3.30	.158	1.495
Valid N (listwise)	90							

Table 1 shows the descriptive statistics values for analysis N, range, minimum, maximum, mean, standard deviation Temperature sensor, Pulse sensor, GPS, GSM and Web camera this also using.

TABLE 2. Frequencies Statistics

		Temperature sensor	Pulse sensor	GPS	GSM	Web camera
N	Valid	90	90	90	90	90
	Missing	0	0	0	0	0
Mean		3.13	3.00	3.23	3.27	3.30
Std. Error of Mean		.115	.131	.133	.119	.158
Median		3.00	3.00	3.00	3.00	3.00
Mode		3	3	3	3	5
Std. Deviation		1.093	1.245	1.264	1.130	1.495
Variance		1.196	1.551	1.597	1.276	2.235
Skewness		-.429	.321	-.043	-.260	-.098
Std. Error of Skewness		.254	.254	.254	.254	.254
Kurtosis		.047	-.794	-.900	-.198	-1.484
Std. Error of Kurtosis		.503	.503	.503	.503	.503
Range		4	4	4	4	4
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5
Sum		282	270	291	294	297
Percentiles	25	3.00	2.00	2.00	3.00	2.00
	50	3.00	3.00	3.00	3.00	3.00
	75	4.00	4.00	4.00	4.00	5.00

Table 2 Show the Frequency Statistics in Child Safety Monitoring System. Temperature sensor, Pulse sensor, GPS, GSM and Web camera curve values are given.

TABLE 3. Reliability Statistics

Cronbach's Alpha Based on Standardized Items	N of Items
.658	5

Table 3 shows the Cronbach's Alpha Reliability result. The overall Cronbach's Alpha value for the model is .658 which indicates 66% reliability. From the literature review, the above 50% Cronbach's Alpha value model can be considered for analysis.

TABLE 4. Reliability Statistic individual

	Cronbach's Alpha if Item Deleted
Temperature sensor	.587
Pulse sensor	.656
GPS	.536
GSM	.591
Web camera	.614

Table 4 Shows the Reliability Statistic individual parameter Cronbach's Alpha Reliability results. The Cronbach's Alpha value for Temperature sensor .587, Pulse sensor .656, Global Positioning System. 536, Global System for Mobile communication .591 and Web camera .614 this indicates all the parameter can be considered for analysis.

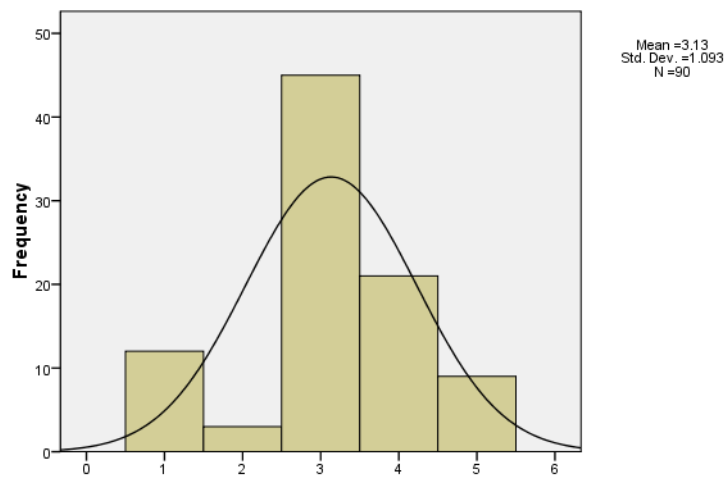


FIGURE 1. Temperature sensor

Figure 1 shows the histogram plot for Temperature sensor from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Temperature sensor except the 2 value all other values are under the normal curve shows model is significantly following normal distribution.

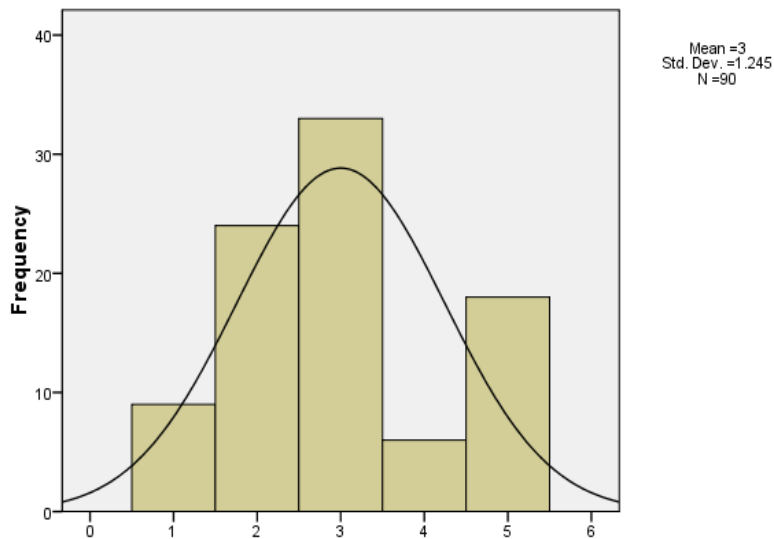


FIGURE 2. Pulse sensor

Figure 2 shows the histogram plot for Pulse sensor from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Pulse sensor except the 2 value all other values are under the normal curve shows model is significantly following normal distribution.

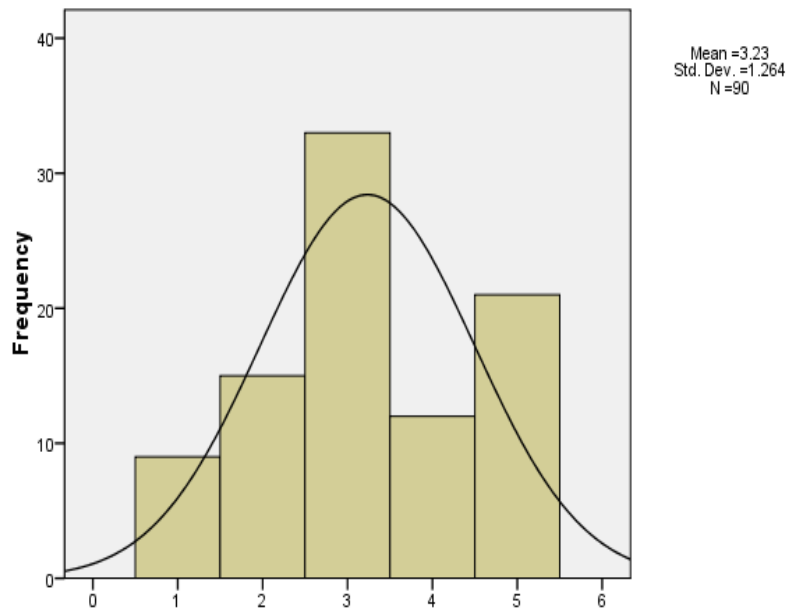


FIGURE 3. Global Positioning System

Figure 3 shows the histogram plot for Global Positioning System from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Global Positioning System except the 3 value all other values are under the normal curve shows model is significantly following normal distribution.

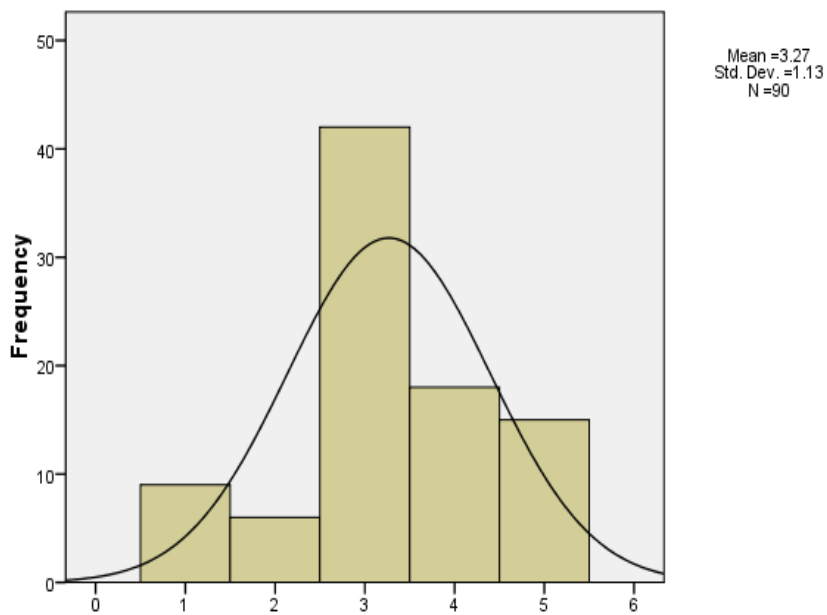


FIGURE 4. Global System for Mobile communication

Figure 4 shows the histogram plot for Global System for Mobile communication from the figure it is clearly seen that the data are slightly Left skewed due to more respondent chosen 3 for Global System for Mobile communication except the 2 value all other values are under the normal curve shows model is significantly following normal distribution.

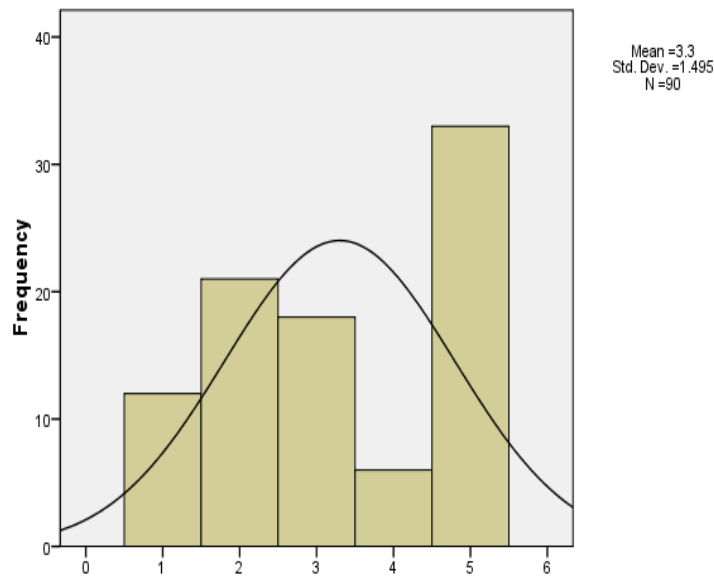


FIGURE 5. Web camera

Figure 5 shows the histogram plot for Web camera from the figure it is clearly seen that the data are slightly Right skewed due to more respondent chosen 5 for Web camera except the 2 value all other values are under the normal curve shows model is significantly following normal distribution.

TABLE 5. Correlations

	Temperature sensor	Pulse sensor	GPS	GSM	Web camera
Temperature sensor	1	.149	.368**	.407**	.264*
Pulse sensor	.149	1	.214*	.096	.290**
GPS	.368**	.214*	1	.499**	.319**
GSM	.407**	.096	.499**	1	.172
Web camera	.264*	.290**	.319**	.172	1
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Table 5 shows the correlation between motivation parameters for Temperature sensor. For Global System for Mobile communication is having highest correlation with Pulse sensor and having lowest correlation. Next the correlation between motivation parameters for Pulse sensor. For Web camera is having highest correlation with Global System for Mobile communication and having lowest correlation. Next the correlation between motivation parameters for Global Positioning System. For Global System for Mobile communication is having highest correlation with Pulse sensor and having lowest correlation. Next the correlation between motivation parameters for Global System for Mobile communication. For Global Positioning System is having highest correlation with Web camera and having lowest correlation. Next the correlation between motivation parameters for Web camera. For Global Positioning System is having highest correlation with Global System for Mobile communication and having lowest correlation.

4. CONCLUSION

A wearing children's safety system functions as a smart gadget. Accurate and exact real-time location can be used to identify a child's surroundings. This system includes an ambient temperature display, an SOS light, and a distress buzzer. It aids them in locating their child. The system is simple to design. The programmer is designed to establish an approach that is user-friendly on both sides. GPS-equipped smart phones should be available to both parents and kids. The child's location, call history, message history, and communication via their smartphone are all tracked using this software. Today, 80% of all child abuse cases reported around the globe. The remaining 26% were boys, with 74% being girls. In this world, a daughter goes missing every 40 seconds. Children If one's children's future is the foundation of one's nation, is affected, it affects overall development Nation. Due to abuses, children's emotional and mental stability is affected Destroying and future endeavors. The things that happen to these defenseless kids are not their fault. In essence, kids cannot grumble to their guardians about the difficulties they encounter on a regular basis. They are too young to understand what is actually happening to them. Parents find it challenging to identify when their kids are being abused. Every child must have access to an unsupervised real-time monitoring system to guard against attacks. The electrical impulses that thermostats send out are used as measurements. The voltage or current produced by sensors made of two metals is measured by the voltage across the diode terminals. resists when the temperature changes. The temperature rises as the voltage does The phase transformation in a blood artery brought on by the heart's pumping action is known as a pulse wave, and the detectors that tracks this volume change is known as a pulse sensor. When exercising or actively reading, for example, having the heart rate information is really useful Users can get positioning, navigation, and timing (PND) services from the US-owned Global Positioning System (GPS). The system is the user component, the control sector, and the workspace section are each divided into three pieces. The Global System for Mobile Telecommunication (GSM) standard was developed by the European Telecoms Standards Institute (ETSI) to establish the protocols for third (2G) digital mobile networks used by mobile devices such as tablets and cell phones. A webcam is a video camera made to stream or record footage over a network computer, etc. They are mostly used in security, google plus, live streaming, and video telephony. Typically, a webcam is a digital video device that is integrated into a computer. Ratio studies are statistical analyses of data from appraisals and property valuations. Nearly all states utilise them to produce quantitative measure of the proportion of current market price about which individually estimated taxable property is appraised as well as to offer assessment performance indicators. Temperature sensor, Pulse sensor, GPS, GSM and Web camera. The Cronbach's Alpha Reliability result. The overall Cronbach's Alpha value for the model is .658 which indicates 66% reliability. From the literature review, the above 50% Cronbach's Alpha value model can be considered for analysis.

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