1. **INTRODUCTION**

**1.1 ABOUT THE PROJECT**

“Offline Mobile Tracking” is an android application developed to locate the lost mobile phones even if someone steels it and changes the sim card. The new sim id and number can also be tracked. Tracking is present to upload this data to the cloud back end created in Google app engine. Modern cell phones might construct [Global Positioning System |GPS receivers] which is a network of satellites that is utilized under same trend and yet with great speed. A few of the modern cells and method might be permitted to track the cell if at all it is switched off. Even the cells are able to get the secondary batteries implemented to permit to track when the battery is taken out. This app is designed also to do some location based services such as the current position using Google map Api v2, Intelligent smart phone in which we can predefine some locations and the task associated with the locations. For an example we can set an alert to pay the electricity bill when we pass by the electricity office or an alert to meet a friend etc. Also we can set some accident alerts because in the highly populated countries like India people lost their lives due to the unavailability of proper medical facilities at right time. This app is programmed to intimate the accidents using some predefined mobile numbers.

**1.2 OBJECTIVES OF THE PROJECT**

The main objective of this project is to to locate the lost mobile phones even if someone steels it and changes the sim card. The new system overcome difficulties and demerits of the existing system.The proposed properties of the system are:

* Interactive and user friendly environment.
* Provides accident alerts to the specified mobile number.
* Provides location based service like Intelligent sensor.

**2. SYSTEM ANALYSIS**

**2.1 SYSTEM STUDY**

In this phase the problem is identified and alternative solutions are evaluated and the most feasible solutions are recommended.

**2.1.1 EXISTING SYSTEM**

This phase of study deals with the effort to study the existing system that is more used in the organization, for which the new system is proposed. It involves the use of various methods of data acquiring of existing system. The methods that we used for this purpose are;

* Observation
* Using the existing system
* Review of the documents
* Interviews
* Discussions

A lost mobile phone is probably top of the worst things that we could imagine. Anyone can simply intrude in your privacy such as your email, Facebook and even the bank account details and the hub of all other data. And of course it always helps having your mobile locked with a password, but there are many ways to bypass it and access your data, whether you are on iPhone or Android. In olden days, when our mobile is lost, we can’t locate the mobile phones easily. Then we contact with police station to detect it, so that the cyber cell detects it. It takes a lot of time for such procedures. In some cases, it can’t be detected. Also in some occasions we are not able to remember the things exactly what we want, so some times some important things may be missed. Also in highly populated countries like India people lost their lives due to the unavailability of proper facilities at right time.

Drawbacks of existing system:

* More manpower
* Time consuming
* Lack of information
* Lack of accuracy

**2.1.2 PROPOSED SYSTEM**

The main objective of the system is to make more sufficient and highly user friendly system. Now mobile tracking maintains the present place of the cell phones. To track the phone, it should and no need to activate even a call. i.e. we can locate the lost mobile phones even if someone changes the sim card. The new mobile number also can be tracked. Tracking is present to upload this data to created in the cloud back end created in the Google App engine. Modern cell phones might construct GPS receivers which is a network of satellite that is utilized under the same trend and and yet with great speed. A few of the modern cells and might be permitted to track the cell if at all it is switched off. Even the cells are able to get the secondary batteries implemented to permit to track when the battery is taken out. Using this app, also can do some location based services such as the current position using Google map Api v2, Intelligent smart phone in which we can predefine some locations and the task associated with the locations. For an example we can set an alert to pay the electricity bill when we pass by the electricity office or an alert to meet a friend etc. In order to save the lives of people in the highly populated countries, people lost their lives due to the unavailability of proper medical facilities. So we can use this use this application, so that we can set some accident alerts to some predefined numbers.

Advantages of Proposed System are**:**

* Reduce manpower
* Easy and user friendly
* Information availability
* User satisfaction

**2.2 MODULE SPECIFICATION:**

* Admin
* User

**Administrative module:**

Administrator can easily manage the software. He/ she can view the feedback of the members in the website and also can make changes according to the feedbacks from the users.

**User:**

User can view the website to locate the lost phones, also can identify the location using Google map and add feed backs to the site. This app also helps to do some location based tasks also when the user is in an emergency, this app also helps to send accident alerts and so on.

**2.3 SYSTEM SPECIFICATION**

The aim of requirement analysis and specification phase is to understand the exact requirements of the customers and to document them properly. We want to collect all the relevant information of the customer regarding the product to be developed with a view to clearly understanding the customer requirements. The proposed system is developing with Android platform using Java and JSP as front end and SQLite and Cloud as back end using Android OS.This system uses the following configurations.

**Software Specification:**

The proposed system requires the following software for it to be operational.

Front End : Java, JSP

Back End : Cloud, SQLite

Language : Java, JSP

Operating System : Android OS

**Hardware Specification:**

Minimum hardware requirements for the system are:

Processor : Pentium Dual-Core

Memory : 1 GB RAM or higher

Processor Speed : 782 MHz

Keyboard : Any compatible one

Mouse : Any compatible one

Printer : Standard

**2.4 FEASIBILITY STUDY**

One must know what the problem is before it can be solved. Feasibility study is a proposal according to the workability, impact on the organization, ability to meet users’ needs and efficient use of resources. One of the important outcomes of the preliminary investigation is the determination of the feasibility of the system.

Feasibility study identifies, describes and evaluates the candidate system and selects the best system for the job. The objective of a feasibility study is not to solve the problem but to acquire a sense of its scope. It is carried out to select the best system that meets performance requirements.

Three key combinations are involved in the feasibility study:

1. Economic feasibility
2. Technical feasibility
3. Behavioral feasibility

**Economic Feasibility**

Economic analysis is the most effective method for evaluating the effectiveness of the candidate system. Economic analysis gives a picture of various costs, benefits and rules associated with each alternative system.

Though the initial cost of installation is expensive, in long run it is beneficial, because of the gain in reduction of manpower and nil requirement of stationary like paper, pen etc. Additional benefit is that it is not time consuming. So based on above considerations the system is cost effective, economical, efficient and fault proof when compared with the existing system.

**Technical Feasibility**

Technical feasibility centers on the existing system and to what extend it can support the proposed system. Technical feasibility study is a study of hardware and software requirements. It involves financial consideration to accommodate technical enhancement. All the necessary technology existing and few things which are not available now can be acquired easily to implement the newly proposed system.

* Data keeping capacity of the proposed equipment to be used for the system are enough.
* Data retrieval for the various enquires are fast enough technically, according to the proposed hardware .
* The proposed system is very easy in use, database security is very high, easy in access, and reliability and accuracy are enough.

Considering the above facts the proposed system is fully technically feasible.

**Behavioral Feasibility**

The system is very user friendly. The users can handle the system with ease and little training. It reduces several drawbacks of the existing system. The proposed system is accurate, speedy and dependable. There is no much effort in using this software.

All these considerations make the proposed system behaviorally feasible.

**3.ABOUT SOFTWARE REQUIREMENT**

**FRONT END:**

**3.1 JAVA**

Java Soft, an operational company of sun Microsystems, spend years developing a high-powered programming language for the 90’s beyond. Java delivers on promise by being most robust, easy-to-use, and versatile programming language available today. It includes the best aspects of earlier programming languages such as C and C++, allows you to create powerful applications, has features such as built-in multimedia capabilities that make creating multimedia presentations easier than ever, and leaves out those things we all hated about C and C++ like multiple inheritance, operator overloading, and pointers.

The best news about Java is that it is object oriented and architecture neutral. The promise of object oriented programming (OOP) is the capability to reuse code. But, as C++ programmers will tell you, good intentions do not mean a lot when it comes to reuse of C++ code. With Java, on the other hand, you can realize the benefits of code reuse immediately. You no longer have to develop separate applications for different platforms. With Java, you can develop a single applications that is immediately usable on multiple platforms. Imagine the countless hours you will save by being able to develop a single application usable on windows, UNIX, and Macintosh systems.

For the entrepreneur or individual programmer, Java’s platform independence allows you to develop powerful applications for operating systems you may never have worked with.

This means that if you own a software-development or Internet-related business, whether it is a one person operation or a conglomerate, you will be able to reach new customers and new markets. In an age when everyone is looking at the bottom line, a technology that allows you to sell more, do more, and reach larger audiences is certainly something worth investigating.

Furthermore, by allowing you to use the programming environment you are the most comforts with java empowers you, the programmer. This is true whether you have a limited technical skill or expert knowledge of computers. If you have a working knowledge of another programming language, you will find that Java is surprisingly easy to learn.

Therefore, to ensure that Java is easy to understand and use, Java is modeled after C and C++. Java also borrows extensions from objective C. these extensions allow for extremely dynamic method resolution. This makes it very easy for current C, objective C, and C++ developers to transition of data.

Any programmer who has ever had problems with pointers and memory management should rush to embrace Java with open arms. Java gets rid of pointers, automatically manages memory for you, and even features a garbage-collection routine that runs in background.

In distributed environments, such as the World Wide Web, strict security mechanisms are essential-businesses simply cannot risk compromising their systems. The developers of the Java programming language knew this. They developed Java to be most secure programming environment you will find anywhere. Java doesn’t just fix security loopholes, it eliminates them, which makes Java the perfect language for programming on the web.

Java is first and foremost an object-oriented programming language. Many programmers are surprised when they discover how easy it is to follow sound object-oriented design practices with Java. The following sectors give you a better understanding of what java offers.

**3.2 JAVA SERVER PAGES** (**JSP**)

It’s a technology that helps software developers create dynamically generated web pages based on HTML, XML, or other document types. Released in 1999 by Sun Microsystems,[3] JSP is similar to PHP, but it uses the Java programming language. To deploy and run JavaServerPages, a compatible web server with a servlet container, such as Apache Tomcat or Jetty, is required

JSP can be used independently or as the view component of a server-side model view controller design, normally with JavaBeans as the model and Java servlets (or a framework such as Apache Struts) as the controller. This is a type of Model 2 architecture. JSP allows Java code and certain pre-defined actions to be interleaved with static web markup content, with the resulting page being compiled and executed on the server to deliver a document. The compiled pages, as well as any dependent Java libraries, use Java byte code rather than a native software format. Like any other Java program, they must be executed within a Java virtual machine (JVM) that integrates with the server's host operating system to provide an abstract platform-neutral environment. JSPs are usually used to deliver HTML and XML documents, but through the use of Output Stream, they can deliver other types of data as well. The Web container creates JSP implicit objects like page Context, servletContext, session, request & response.

The popularity of JavaServer Pages has meant that it is being used quite frequently in developing high-traffic web apps. And, this is causing performance bottlenecks as one tries to add more users and transaction load on your JavaServer Pages application. Although JavaServer Pages application can scale very nicely to multiple web servers, the database server cannot. The main reason for the database becoming a bottleneck is that while it is possible to add more and more servers to the JavaServer Pages application server farm, one cannot do the same at the database tier. This results in limited scalability at the data tier. It is possible to remove these JavaServer Pages Servlets performance bottlenecks by using a distributed cache for storing the frequently used data.

**BACK END:**

**3.3 CLOUD DATABASE**

* A cloud database is a database that typically runs on a cloud computing, such as Amazon EC2, GoGrid, Salesforce and Rackspace. There are two common deployment models: users can run databases on the cloud independently, using a virtual machine image, or they can purchase access to a database service, maintained by a cloud database provider. Of the databases available on the cloud, some are SQL -based and some use a No SQL data model. Most database services offer web-based consoles, which the end user can use to provision and configure database instances. For example, the Amazon Web Services web console enables users to launch database instances, create snapshots (similar to backups) of databases, and monitor database statistics.
* Database services consist of a database manager component, which controls the underlying database instances using a service API. The service API is exposed to the end user, and permits users to perform maintenance and scaling operations on their database instances. For example, the Amazon Relational Database Service's service API enables creating a database instance, modifying the resources available to a database instance, deleting a database instance, creating a snapshot (similar to a backup) of a database, and restoring a database from a snapshot.
* Database services make the underlying software stack transparent to the user - the stack typically includes the operating system, the database and third-party software used by the database. The service provider is responsible for installing, patching and updating the underlying software stack.
* Database services take care of scalability and high availability of the database. Scalability features differ between vendors - some offer auto-scaling, others enable the user to scale up using an API, but do not scale automatically. There is typically a commitment for a certain level of high availability (e.g. 99.9% or 99.99%).

**3.4 SQLite**

SQLite is a relational database management system contained in a C programming library. In contrast to other database management systems, SQLite is not a separate process that is accessed from the client application, but an integral part of it.

SQLite is ACID-compliant and implements most of the SQL standard, using a dynamically and weakly typed SQL syntax that does not guarantee the domain integrity.

SQLite is a popular choice as embedded database for local/client storage in application software such as web browsers. It is arguably the most widely deployed database engine, as it is used today by several widespread browsing, operating systems, and embedded systems, among others. SQLite has many bindings to programming languages. The source code for SQLite is in the public domain.

Unlike client-server database management systems, the SQLite engine has no standalone processes with which the application program communicates. Instead, the SQLite library is linked in and thus becomes an integral part of the application program. The library can also be called dynamically. The application program uses SQLite's functionality through simple function calls, which reduce latency  in database access: function calls within a single process are more efficient than inter-process communication. SQLite stores the entire database as a single cross-platform file on a host machine. SQLite read operations can be multitasked, though writes can only be performed sequentially.

**4. SYSTEM DESIGN**

**4.1 Input Design**

Depending upon the output required the inputs hat needed to produce these outputs are determined. The next step is to decide how the data is captured; one-way is to fill the data on forms. The next step is to convert the data into machine-readable form; this is termed as data entry. The final is for a computer programs to rad this data into memory in order to process it: this last step is called Data input.

There are many ways of capturing, entering or inputting into the computer. Most systems capture data on forms as transactions are made. These data then goes through the data entry and data input stages. The method selected by weighing the following factors against each other.

* Cost

If special equipment is required to implement a particular choice of method, it is verified whether extra cost can be justified by expected benefits.

* Accuracy

Verification is made whether it is critical that the needed to be 100% accurate.

* Time

The time Constraints for data entry considered.

* Controls

Controls are ensured that the data is accurate and complete. Controls usually take the form of verification by people and validation by software.

**4.2 Output Design**

The output design is files updating. This involves adding new records, modifying or deleting exiting records. The problem of input design is to think a way of getting source data into the computer’s memory, where it can be processed. We must be careful to include controls along the way to ensure that, as far as possible, the data that ends up in memory is accurate. Inaccurate data cannot be processed to produce reliable or valid results.

The most important thing about any system s what produces is. A system is judged to be a success or failure depending on whether it’s produced is useful or not. So it is critical that we first specify what is required from the system. Once this has been done, we can concentrate on what is required to produce this output.

On decision, this needs to be made, which medium to use for a particular output. The main media are;

* Print, Used for reports and for a permanent listing of the file contents.
* Video display used for temporary output, usually responses to queries.
* Disk, used for storing data files, these files normally used for output and input.

Other factors consider to designing output are usage, quality and cost. These three factors are closely related. Output is sent can be divided into two ways internal and external. Internal usage refers to use by employers within the organization whereas external output is designed for people outside the organization.

**4.3 DATA FLOW DIAGRAMS**

**4.3.1 INTRODUCTION TO DFD**

A Data Flow Diagram is a network that describes the flow of data and processes that change, or transform, data throughout the system. This network is constructed by use a set of symbols that do not imply a physical implementation. It is a graphical tool for structured analysis of the system requirements. DFD models a system by using external entities from which data flows to a process, which transforms the data and creates, output-data-flows which go to other processes or external entities or files. Data in files may also flow to processes as inputs.

There are various symbols used in a DFD. Bubbles represent the processes. Named arrows indicate the data flow. External entities are represented by rectangles and re outside the system such as venders or customers with whom the system interacts. They either supply or consume data. Entities supplying data are known as sources and those that consume data are called sinks. Data are stored in a data store by a process in the system. Each component in a DFD is labeled with a descriptive name. Process names are further identified with a number.

DFD’s can be hierarchically organized, which help in partitioning and analyzing large systems. As a first step, one Data Flow Diagram can depict an entire system, which gives the system overview. It is called Context Diagram of level 0 DFD. The Context Diagram ca be further expanded. Thus successive expansion of a DFD from the Context Diagram to those giving more details is known as leveling of DFD. Thus a top down approach is used, starting with an overview and then working out the details.

The Data Flow Diagram shows the logical flow of a system and defines the boundaries of the system. For a candidate system, it describes the input (source), outputs (destination), database (files) and procedures (data flow), all in a format that meet the user’s requirements.

**Rules for constructing a Data Flow Diagram**

1. Arrows should not cross each other
2. Squares, circles and files must bear names.
3. Decomposed data flow squares and circles can have same time.
4. Choose meaningful names for data flow
5. Draw all data flows around the outside of the diagram

To construct a Data Flow Diagram we use certain symbols, each one has a meaning.

**Basic Data Flow Diagram Symbols**

A **data flow** is a route, which enables packets of data to travel from one point to another. Data may flow from a source to a process and from data store or process. An arrow line depicts the flow, with arrow head pointing in the direction of the flow.

**Circles** stands for process that converts data in to information. A process represents transformation where incoming data flows are changed into outgoing data flows.

A **data store** is a repository of data that is to be stored for use by a one or more process may be as simple as buffer or queue or sophisticated as relational database. They should have clear names. If a process merely uses the content of store and does not alter it, the arrowhead goes only from the store to the process. If a process alters the details in the store then a double-headed arrow is used.

A **source or sink** is a person or part of an organization, which enters or receives information from the system, but is considered to be outside the contest of data flow model.

Bubbles or a curved rectangle represents the process and arrow indicates the dataflow. External entities are represented by rectangles and outside the system such as users and customers whom the system interacts. They either supply or consume data. Entities supplying data are known as source and those that consume data are called links. Data are stored in a data store by a process in the system. Each component in a DFD is labeled with a descriptive name. Process name are further identified with number. Context level DFD is draw first. Then the process is decomposed into several elementary levels and is represented in the order of importance.

A DFD describes what data flow (logical) rather than how they are processed, so it does not depend on hardware, software, and data structure or file organization.

A DFD methodology is quite effective; especially when the required design is clear and the analyst need a notation language for communication. The DFD is easy to understand after a brief orientation

**4.3.2 DATA FLOW DIAGRAMS**

**LEVEL 0**

Intelligent Tracker

Request Response

User

User

**LEVEL 1**

Login

validation

Intelligent

Tracker

User

**LEVEL 2**

Level 2.1

Password validation View Tracking

User

1.0

Tracking

1.0.1

Tracking



Level 2.2



Admin

1.1

View

Feed Back

**5.TABLE DESIGN**

**REGISTRATION:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Type** | **Description** | **Constraints** |
| Name | varchar | Name |  |
| User name | varchar | User name |  |
| Password | varchar | Pass word |  |
| Mob no: | Int | Mobile number |  |
| e-mail | varchar | E-mail address |  |

**TRACKING:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Type** | **Description** | **Constraints** |
| Latitude | Float | Latitude of position |  |
| Longitude | Float | Longitude of position |  |
| IMEI | Int(40) | IMEI number |  |
| Locname | Char | Location name |  |