EMERGENCY ALERT SYSTEM ON ANDROID MOBILE PLATFORM

TINTU GEORGE

12PCA015

A Project Report Submitted to

Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore-641043

In Partial fulfillment of the Requirements for the

Master's Degree in Computer Applications

March- 2015

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Signature of the Supervisor **Signature of the Head of the Department**

Signature of the External Examiner

eQuadriga Software

Trichy
23-03-2015

To Whom It May Concern

This is to certify that **TINTU GEORGE [Reg:12PCA015]** pursuing **III MCA** from Avinashilingam University has successfully completed her final year project "**Emergency Alert on Android Mobile Platform**" in our concern eQuadriga Software from **DECEMBER 2014 to March 2015** during this period her performance is found to be good and hard working.

R. Hariharan

Hariharan.R
Manager – EFS

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Last but not least, I take pride to thank my parents and family members for their support encouragement and kind blessings and also to my well-wishers, friends who have helped us during the course of the project work and have made it a great success.

SYNOPSIS

The basic idea of this project is to help the user in emergency situations like Accident, Blood Bank, Fire etc… In an emergency the alert along with the user's location will be sent to the police station, fire force, Ambulance Service and Hospitals through a button click.

The use of this project is that every action can be completed with minimal number of taps, which makes the application easier to use in an uncomfortable or threatening situation.

This application can be installed in android smart phones. This project has two panels namely admin and the user. First the user has to register in the website. Public who want to use this system should register through the website and they can download the android application.

The next step is to download the android application. If the user is at any dangerous situation the user can send emergency alerts to the authority. The authority receives the information. It display the basic details including the user name, address along with the user's lat long number in the authorities information display.

CONTENTS

1. INTRODUCTION

The project **"Emergency Alert System on Android Mobile Platform"** helps the user to register personal details and download the android application from the website with all the rights to use.

The main aim of this project is to save the human life. Human life is precious and valuable. The main advantage of this project is that it user friendly and affordable to everyone.

Here we introduce an application which ensures the protection of human life. This helps to identify and call on resources to help the one out of dangerous situation this reduces risk and brings assistance when we need it and help us to identify the location of the one in danger. . By installing this application in the android Smartphone the user can send complaints and also seek for help, and if any problem occurs then the user can send location using GPS.

The product is an android application that possesses modules of GPS and is capable of sending alert to the above authorities. It has modules of global positioning system (GPS), global system for mobile communication (GSM)**.** Upon activation the unit sends basic information about user, with current location to the above mentioned authorities. The monitoring station receives the information. The current location is marked on the Google map. The authority can monitor the user location and takes necessary actions.

1.1 OBJECTIVES OF THE PROJECT

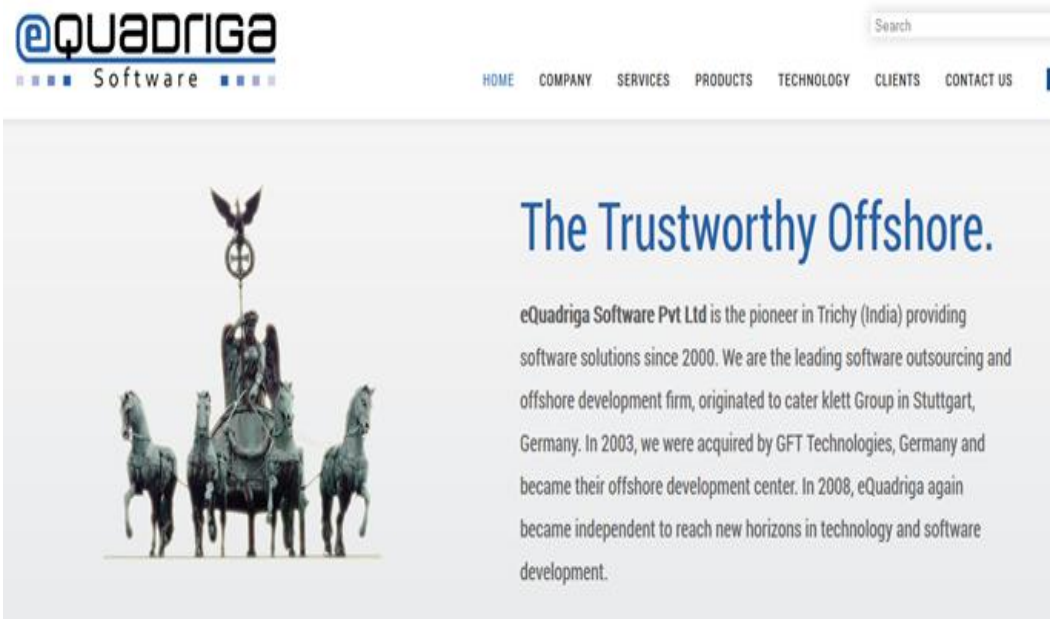
The main aim of this project is to help the user in emergency situations like Accident, Blood Bank, Fire etc… In an emergency the alert along with the user's location will be sent to the police station, fire force, Ambulance Service and Hospitals through a button click.

The use of this project is that every action can be completed with minimal number of taps, which makes the application easier to use in an uncomfortable or threatening situation.

By using this project we can handle the emergency situation by sending an emergency alert to the police station, fire force, Ambulance Service and Hospitals through one button click.

1.2 ABOUT THE ORGANIZATION

eQuadriga software Pvt Ltd is an Information Technology Company specializing in Web Development, E-Commerce Applications, and Mobile Application, Face book Application and Software development. It is a young and dynamic company, providing a highly professional level of service in site design, internet application development, e-commerce and software solutions.



The company has been very choosy in selecting staff and associates and has over the period developed a strong network of IT professionals. Having a passion for "Excellence in Execution," experienced professionals and a sincere desire to service your specific needs, allows us to accomplish our objectives. eQuadriga has been surviving on performance.

It dedicated Professionals work round the clock, to satisfy customer needs. Equadriga is proud to say has been associated with Growth and would like to keep it that way. Its internal culture fosters mutually beneficial relationships with its clients and people. They take responsibility for their performance in every decision and action they take. Their expertise offers an ability to understand and drive the impact of customer satisfaction and loyalty on the bottom line. They are growth oriented, risk inclined, decentralized in decision making, biased towards action, performance driven, inspirational and strive to identify things which, when made better, improve people's lives.

2 SYSTEM CONFIGRATION

2.1 SOFTWARE SPECIFICATION

Front end	:	JAVA and PHP
Back end	:	MYSQL
Operating system	:	WINDOWS 7
Mobile os	:	VERSION 2.3.6 GINGERBREAD
IDE	:	ECLIPSE Indigo 3.7

2.2 HARDWARE SPECIFICATION

Processor	:	Intel Core i3 2.30GHz
Ram	:	2GB
Hard disk	:	500 GB
Android mobile	:	GT-S5360

2.3 SOFTWARE DESCRIPTION

Front End

Java

Initially the language was called as “oak” but it was renamed as “Java” in 1995. The primary motivation of this language was the need for a platform-independent (i.e., architecture neutral) language that could be used to create software to be embedded in various consumer electronic devices.

- Java is a programmer’s language.
- Java is cohesive and consistent.
- Except for those constraints imposed by the Internet environment, Java gives the programmer, full control.

Finally, Java is to Internet programming where C was to system programming.

Java has had a profound effect on the Internet. This is because; Java expands the Universe of objects that can move about freely in Cyberspace. In a network, two categories of objects are transmitted between the Server and the Personal computer. They are: Passive information and Dynamic active programs. The Dynamic, Self-executing programs cause serious problems in the areas of Security and probability. But, Java addresses those concerns and by doing so, has opened the door to an exciting new form of program called the Applet.

Java can be used to create two types of programs, applications and applets. An application is a program that runs on our Computer under the operating system of that computer. It is more or less like one creating using C or C++. Java’s ability to create Applets makes it important. An Applet is an application designed to be transmitted over the Internet and executed by a Java –compatible web browser. An applet is actually a tiny Java program, dynamically downloaded across the network, just like an image. But the difference is, it is an intelligent program, not just a media file. It can react to the user input and dynamically change.

Features of Java

- **Security**

Every time you that you download a “normal” program; you are risking a viral infection. Prior to Java, most users did not download executable programs frequently, and those who did scan them for viruses prior to execution. Most users still worried about the possibility of infecting their systems with a virus. In addition, another type of malicious program exists that must be guarded against. This type of program can gather private information, such as credit card numbers, bank account balances, and passwords. Java answers both these concerns by providing a “firewall” between a network application and your computer.

When you use a Java-compatible Web browser, you can safely download Java applets without fear of virus infection or malicious intent.

- **Portability**

For programs to be dynamically downloaded to all the various types of platforms connected to the Internet, some means of generating portable executable code is needed .As you will see, the same mechanism that helps ensure security also helps create portability. Indeed, Java’s solution to these two problems is both elegant and efficient.

- **The Byte Code**

The key that allows the Java to solve the security and portability problems is that the output of Java compiler is Byte code. Byte code is a highly optimized set of instructions designed to be executed by the Java run-time system, which is called the Java Virtual Machine (JVM). That is, in its standard form, the JVM is an interpreter for byte code.

Translating a Java program into byte code helps makes it much easier to run a program in a wide variety of environments. The reason is, once the run-time package exists for a given system, any Java program can run on it.

Although Java was designed for interpretation, there is technically nothing about Java that prevents on-the-fly compilation of byte code into native code. Sun has just completed its Just In Time (JIT) compiler for byte code. When the JIT compiler is a part of JVM, it compiles byte code into executable code in real time, on a piece-by-piece, demand basis. It is not possible to compile an entire Java program into executable code all

at once, because Java performs various run-time checks that can be done only at run time. The JIT compiles code, as it is needed, during execution.

- **Java Virtual Machine(JVM)**

Beyond the language, there is the Java virtual machine. The Java virtual machine is an important element of the Java technology. The virtual machine can be embedded within a web browser or an operating system. Once a piece of Java code is loaded onto a machine, it is verified. As part of the loading process, a class loader is invoked and does byte code verification makes sure that the code that's has been generated by the compiler will not corrupt the machine that it's loaded on. Byte code verification takes place at the end of the compilation process to make sure that is all accurate and correct. So byte code verification is integral to the compiling and executing of Java code.

PHP

PHP (recursive acronym for "PHP: Hypertext Preprocessor") is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

It is a powerful scripting language for creating dynamic websites. It has gained enormous popularity in the community as the free and efficient alternative to commercial competitors such as Microsoft's ASP. PHP is distributed under a license that makes the source code available to anyone.

Modern dynamic websites demand server-side scripting that tailors the content toward the visitor and his or hers preferencets. PHP allows its code to be embedded into html pages and offers rich scripting functionality that makes data processing fast and efficient. The extensive APIs for access to databases, XML, object layers such as COM, and much more, make PHP very a flexible platform for web development.

Syntax and naming of language elements are very similar to the highly popular languages Perl and C, which makes learning PHP convenient for the experienced programmer. PHP even offers object oriented programming for better modularity and reuse of code. PHP is often used together with the popular web server Apache on various operating systems. It runs within the server process, which makes it fast. It also supports ISAPI and can be used with Microsoft's IIS on Windows.

There are three main areas where PHP scripts are used.

- **Server-side scripting:** This is the most traditional and main target field for PHP. You need three things to make this work. The PHP parser (CGI or server module), a web server and a web browser. You need to run the web server, with a connected PHP installation. You can access the PHP program output with a web browser, viewing the PHP page through the server. All these can run on your home machine if you are just experimenting with PHP programming.
- **Command line scripting:** You can make a PHP script to run it without any server or browser. You only need the PHP parser to use it this way. This type of usage is ideal for scripts regularly executed using cron (on *nix or Linux) or Task Scheduler (on Windows). These scripts can also be used for simple text processing tasks.
- **Writing desktop applications:** PHP is probably not the very best language to create a desktop application with a graphical user interface, but if you know PHP very well, and would like to use some advanced PHP features in your client-side applications you can also use PHP-GTK to write such programs. You also have the ability to write cross-platform applications this way. PHP-GTK is an extension to PHP, not available in the main distribution.

PHP can be used on all major operating systems, including Linux, many Unix variants (including HP-UX, Solaris and OpenBSD), Microsoft Windows, Mac OS X, RISC OS, and probably others. PHP has also support for most of the web servers today. This includes Apache, Microsoft Internet Information Server, Personal Web Server, Netscape and iPlanet servers, Oreilly Website Pro server, Caudium, Xitami, OmniHTTPd, and many others.

So with PHP, you have the freedom of choosing an operating system and a web server. Furthermore, you also have the choice of using procedural programming or object oriented programming, or a mixture of them. Although not every standard OOP feature is implemented in PHP 4, many code libraries and large applications (including the PEAR library) are written only using OOP code. PHP 5 fixes the OOP related weaknesses of PHP 4, and introduces a complete object model.

With PHP you are not limited to output HTML. PHP's abilities include outputting images, PDF files and even Flash movies (using libswf and Ming) generated on the fly. You can also output easily any text, such as XHTML and any other XML file. PHP can auto generate these files, and save them in the file system, instead of printing it out, forming a server-side cache for your dynamic content.

One of the strongest and most significant features in PHP is its support for a wide range of databases. Writing a database-enabled web page is incredibly simple. We also have a database abstraction extension (named PDO) allowing you to transparently use any database supported by that extension. Additionally PHP supports ODBC, the Open Database Connection standard, so you can connect to any other database supporting this world standard.

PHP also has support for talking to other services using protocols such as LDAP, IMAP, SNMP, NNTP, POP3, HTTP, COM (on Windows) and countless others. You can also open raw network sockets and interact using any other protocol. PHP has support for the WDDX complex data exchange between virtually all Web programming languages. Talking about interconnection, PHP has support for instantiation of Java objects and using them transparently as PHP objects. You can also use our CORBA extension to access remote objects.

PHP has extremely useful text processing features, from the POSIX Extended or Perl regular expressions to parsing XML documents. For parsing and accessing XML documents, PHP 4 supports the SAX and DOM standards, and you can also use the XSLT extension to transform XML documents. PHP 5 standardizes all the XML extensions on the solid base of libxml2 and extends the feature set adding SimpleXML and XMLReader support.

Back End

MySQL is a relational database management system (RDBMS) which has more than 11 million installations. The programs run as a server providing multiuser access to a number of databases. It is popular for web applications and act as a database component of the LAMP, BAMP, SAMP, MAMP, and WAMP platforms (Linux/BSD/Mac/ (Open)

Solaris/ Windows-ApacheMySQLPHP/Perl/Python), and for open source bug tracking tools like Bugzilla. Its popularity for use with web applications is closely tied to the popularity of PHP, which is often combined with MySQL. Several high-traffic website use MySQL for its data storage and logging of user data, including Flicker, Facebook, Wikipedia, Google, Nokia and YouTube.

Scalability and Flexibility

The MySQL database server provides the ultimate in scalability, sporting the capacity to handle deeply embedded applications with a footprint of only 1MB to running massive data warehouses holding terabytes of information. Platform flexibility is a stalwart feature of MySQL with all flavors of Linux, UNIX, and Windows being supported. And, of course, the open source nature of MySQL allows complete customization for those wanting to add unique requirements to the database server.

High Performance

A unique storage-engine architecture allows database professionals to configure the MySQL database server specifically for particular applications, with the end result being amazing performance results. Whether the intended application is a high-speed transactional processing system or a high-volume web site that services a billion queries a day, MySQL can meet the most demanding performance expectations of any system. With high-speed load utilities, distinctive memory caches, full text indexes, and other performance-enhancing mechanisms, MySQL offers all the right ammunition for today's critical business systems.

High Availability

Rock-solid reliability and constant availability are hallmarks of MySQL, with customers relying on MySQL to guarantee around-the-clock uptime. MySQL offers a variety of high-availability options from high-speed master/slave replication configurations, to specialized Cluster servers offering instant failover, to third party vendors offering unique high-availability solutions for the MySQL database server.

Robust Transactional Support

MySQL offers one of the most powerful transactional database engines on the market. Features include complete ACID (atomic, consistent, isolated, durable) transaction support, unlimited row-level locking, distributed transaction capability, and multi-version transaction support where readers never block writers and vice-versa. Full data integrity is also assured through server-enforced referential integrity, specialized transaction isolation levels, and instant deadlock detection.

Web and Data Warehouse Strengths

MySQL is the de-facto standards for high-traffic web sites because of its high-performance query engine, tremendously fast data insert capability, and strong support for specialized web functions like fast full text searches. These same strengths also apply to data warehousing environments where MySQL scales up into the terabyte range for either single servers or scale-out architectures. Other features like main memory tables, B-tree and hash indexes, and compressed archive tables that reduce storage requirements by up to eighty-percent make MySQL a strong standout for both web and business intelligence applications.

Strong Data Protection

Because guarding the data assets of corporations is the number one job of database professionals, MySQL offers exceptional security features that ensure absolute data protection. In terms of database authentication, MySQL provides powerful mechanisms for ensuring only authorized users have entry to the database server, with the ability to block users down to the client machine level being possible. SSH and SSL support are also provided to ensure safe and secure connections. A granular object privilege framework is present so that users only see the data they should, and powerful data encryption and decryption functions ensure that sensitive data is protected from unauthorized viewing. Finally, backup and recovery utilities provided through MySQL and third party software vendors allow for complete logical and physical backup as well as full and point-in-time recovery.

Comprehensive Application Development

One of the reasons MySQL is the world's most popular open source database is that it provides comprehensive support for every application development need. Within the database, support can be found for stored procedures, triggers, functions, views, cursors, ANSI-standard SQL, and more. For embedded applications, plug-in libraries are available to embed MySQL database support into nearly any application. MySQL also provides connectors and drivers (ODBC, JDBC, etc.) that allow all forms of applications to make use of MySQL as a preferred data management server. It doesn't matter if it's PHP, Perl, Java, Visual Basic, or .NET, MySQL offers application developers everything they need to be successful in building database-driven information systems.

Management Ease

MySQL offers exceptional quick-start capability with the average time from software download to installation completion being less than fifteen minutes. This rule holds true whether the platform is Microsoft Windows, Linux, Macintosh, or UNIX. Once installed, self-management features like automatic space expansion, auto-restart, and dynamic configuration changes take much of the burden off already overworked database administrators. MySQL also provides a complete suite of graphical management and migration tools that allow a DBA to manage, troubleshoot, and control the operation of many MySQL servers from a single workstation. Many third party software vendor tools are also available for MySQL that handle tasks ranging from data design and ETL, to complete database administration, job management, and performance monitoring.

Lowest Total Cost of Ownership

By migrating current database-drive applications to MySQL, or using MySQL for new development projects, corporations are realizing cost savings that many times stretch into seven figures. Accomplished through the use of the MySQL database server and scale-out architectures that utilize low-cost commodity hardware, corporations are finding that they can achieve amazing levels of scalability and performance, all at a cost that is far less than those offered by proprietary and scale-up software vendors. In addition, the reliability and easy maintainability of MySQL means that database administrators don't

waste time troubleshooting performance or downtime issues, but instead can concentrate on making a positive impact on higher level tasks that involve the business side of data.

Operating System

Windows 7

Windows 7 is an operating system produced by Microsoft for use on personal computer, including home and business desktops, laptops, net books, tablet PCs, and media center PCs. Windows 7 is succeeded by Windows 8. Presentations given by Microsoft in 2008 focused on multi-touch support, an updated Windows shell with a new task bar, referred to internally as the super bar, a home networking system called Home Group, performance improvements.

Windows 7 includes improved globalization support through a new Extended Linguistic services API to provide multilingual support. Windows 7 includes a new networking API with support for building SOAP based web services in native code; new features to simplify development of installation packages and shorten application install times.

Android OS

Android is a Linux-based operating system designed primarily for touch screen mobile devices such as Smartphone and tablet computers. The Global Positioning System (GPS) is a space-based satellite navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. Google Maps is a web mapping service application and technology provided by Google which powers many map-based services, including the Google Maps website, Google Ride Finder etc.

3 SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

The existing system is used to give complaints to police station after the incident had occurred. So it takes long time to perform the actions. It will not help to take prevention or immediate action against the issue. The main limitation is that complaints can be given only after the incident occurred. The system does not have a monitoring station for checking updates from users. The system is benefitted only for an iPhones user. As it is very costly, normal people can't make use of it. There is no security software for human life. Hence the human face lot of problems in our society. If any threatening situation has occurred, it is not reliable to contact with authority at real time. Even mobile phone is not comfortable and is for all the authorized people.

The observation is helpful to understand and study the entire system. By observing, it is possible to understand the working of the existing system. It also validates the data gathered by other means. It also gave a better understanding about the poor working of the existing system.

Disadvantages

- Time consuming process by giving written complaints.
- It leads to consumption of time. Slow process for taking action against culprits.
- No monitoring station to help public
- Applications in iPhones are costlier

3.2 PROPOSED SYSTEM

In order to meet the short comings of the existing system, a new system is introduced. The proposed system is an application that can be installed in android smart phones. The proposed system has two panels. They are admin and the user. First the user has to register in the website. It consists of a website and an android mobile application. Public who want to use this system should register through the website and they can download the android application.

The next step is to download the android application. If the user is at any dangerous situation the user can send emergency alerts to the authority. The authority receives the information. It display the basic details including the user name, address along with the user's latitude longitude number in the authorities information display. The proposed system can be used by android Smartphone users. Through this application users can send the emergency alert in their dangerous situation.

This project is developed and designed to send emergency alert to keep us safe in a dangerous situation. It has modules of global positioning system (GPS), global system for mobile communication (GSM)**.** By sending the alert the authority can see the current location of the user by seeing the lat long address.

Advantages

- Faster responsiveness.
- Easy to use.
- It takes less time.
- Location transparency.
- No additional installation is needed.
- Reduction of crimes in the society and to take corrective actions against issues.
- Providing security to the public within less time.
- Location tracking is provided to find the location of the user.
- Easy to use by the user.
- Multi user system, data accuracy and flexibility are some other aspect.

3.3 FEASIBILITY STUDY

Feasibility study involves the analysis of the proposed system to find out its visibility. The project to be considered feasible only if the proposed system is useful. Thus the purpose of the feasibility is to gather and to analyze.

There are three types of feasibilities.

- Technical Feasibility
- Operational Feasibility
- Economic Feasibility

3.3.1 TECHNICAL FEASIBILITY

The Project "**Emergency Alert System On Android Mobile Platform**" has been developed with Frontend as android, Backend as MYSQL. The android is current growing technology. It does not require any specific platform to run the application. Due to avoid malware attack antivirus is needed.

3.3.2 OPERATIONAL FEASIBILITY

Proposed system is operationally feasible because it is supported by all persons and it is handled by other persons and who is now the system can maintain the system by getting knowledge about the processes in the system.

3.3.3 ECONOMICAL FEASIBILITY

The proposed system reduces the cost of the application because the suggest tool is cost free. It is easily to modify according to new trends and advanced techniques in the current technology.

4. SYSTEM DESIGN

4.1 INPUT DESIGN

To ensure that the input is understood by the user Input design is one of the most expensive phases of the operation of computerized system and is often the major problem of a system. A larger number of problem with a system can usually be traced back to fault input design and method. Needless to say, therefore that the input data is the life block of a system and has to be analyzed and designed with the most consideration.

The decisions made during the input design are:

- To provide cost effective method of report.
- To achieve highest possible level of accuracy.

System analyst decide the following input design details like, what data item to input, what medium to use, how the data should be arranged or coded data items and transactions needing validations to detect errors and at last the dialogue to guide users in providing input.

Input data of a system is that user's registration this is a one-time registration for one user. The users have to enter the name address and the mobile number. After registering the user can view the home page and seek for the emergency help if needed.

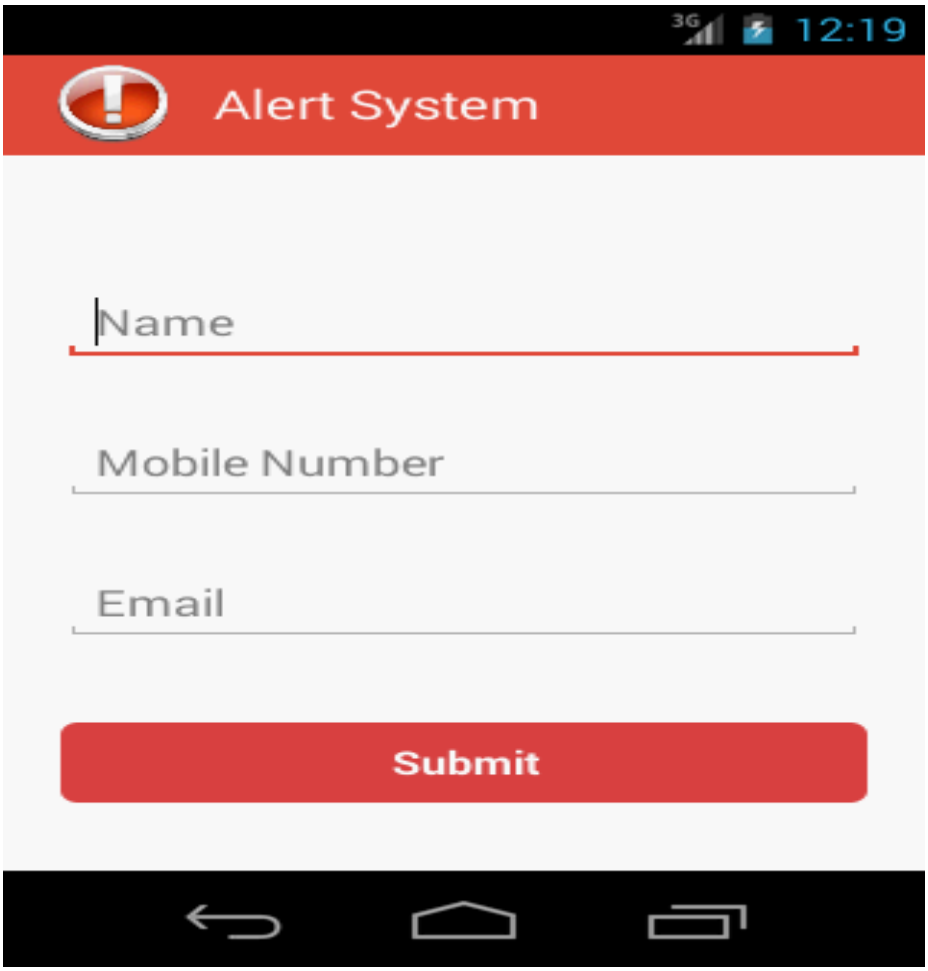


Figure 4.1 Input Screen for User Registration

- This is the input screen for the user to register their details in the website to download the application.
- The registered details of the user can be viewed only by the admin.

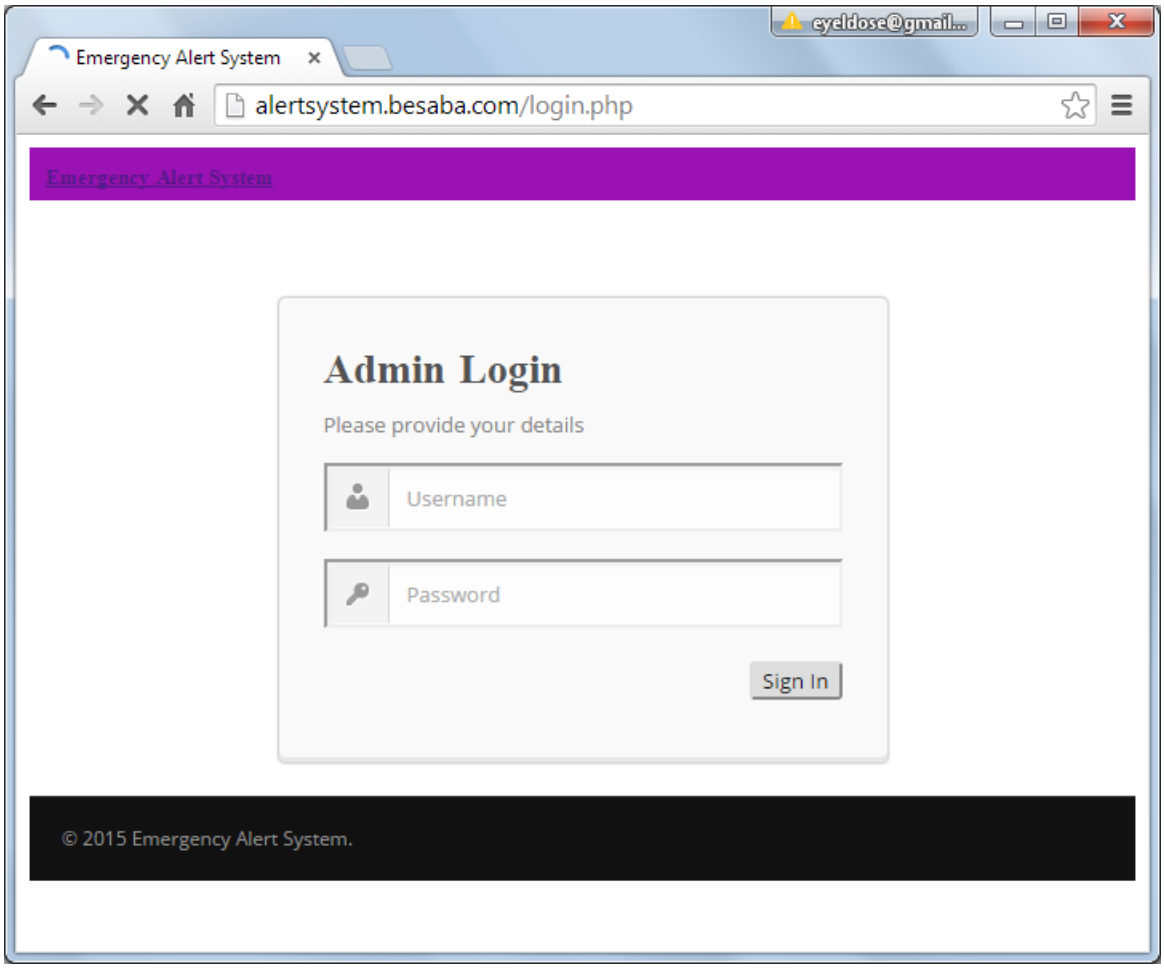


Figure 4.2 Input Screen for Admin Login

- This is the input screen for the admin to login.
- The admin can be view the registered user's details and their locations along with latitude and longitude address.

4.2. OUTPUT DESIGN

Output design generally refers to the results and information that are generated by the system. For many end users, output is the main reason for developing the system and the basis on which they evaluate the usefulness of application.

The objective of a system finds its shape in terms of the output. The analysis of the objective of a system leads determination of outputs. Outputs of a system can take various forms. The most common are reports, screen displays, and printed form, graphical drawing etc. the outputs also vary in terms of their contents, frequency, timing and format. The users of the output, its purpose and sequence of details to be printed are all considered. The output from a system is the justification for its existence. It the outputs are inadequate in any way, the system itself is inadequate. The basic requirements of output are it should be accurate, timely and appropriate in terms of content, medium and layout for its intended purpose. Hence it is necessary to design output so that the objectives of the system are met in the best possible manner. The outputs are in the form of reports.

In output design the admin can view from registered user’s details. Also the admin can view the registered user’s location and provide the emergency help using the latitude and longitude address.

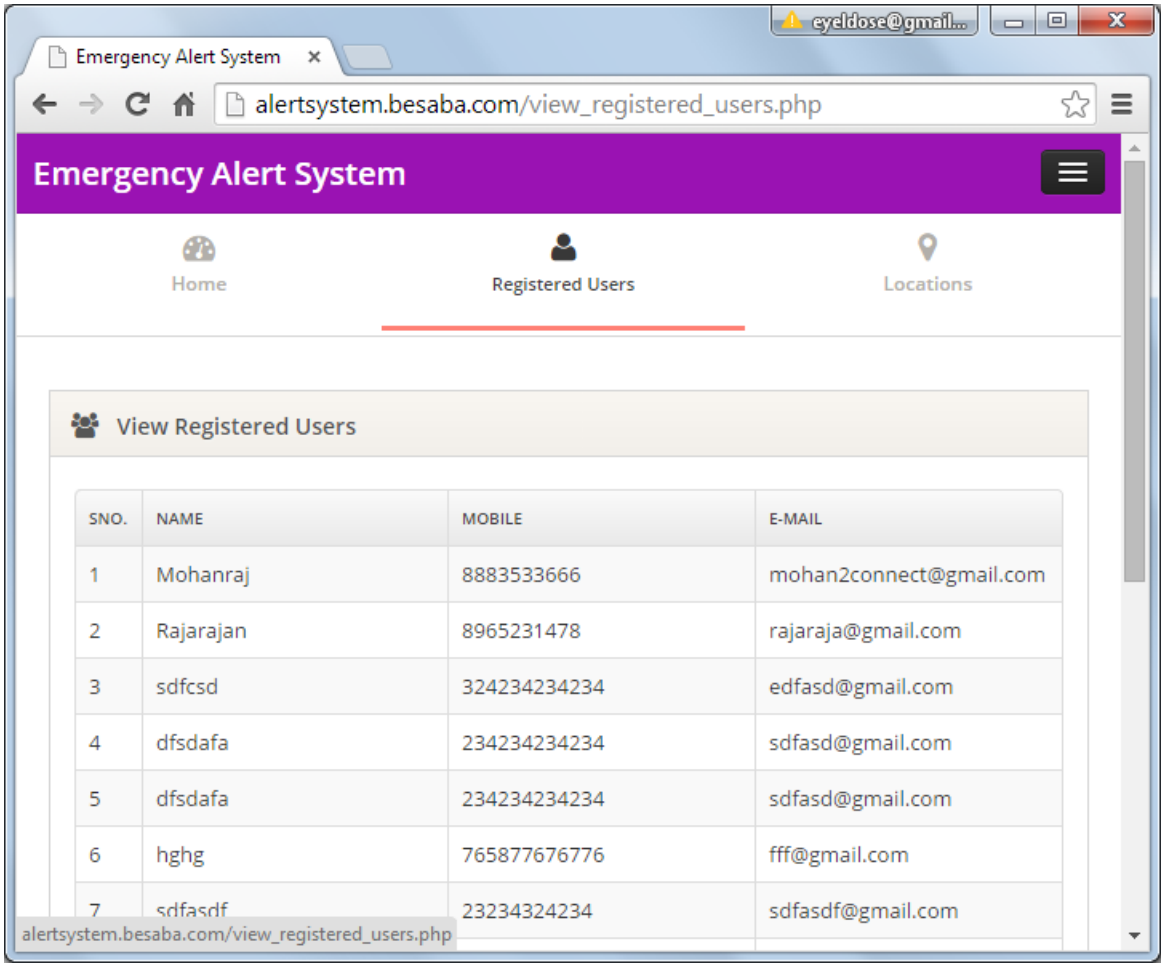


Figure 4.3 Output Screen for Registered User

- This is the output screen for the admin to view registered users.
- The admin can be view the registered user's details and their emergency location.

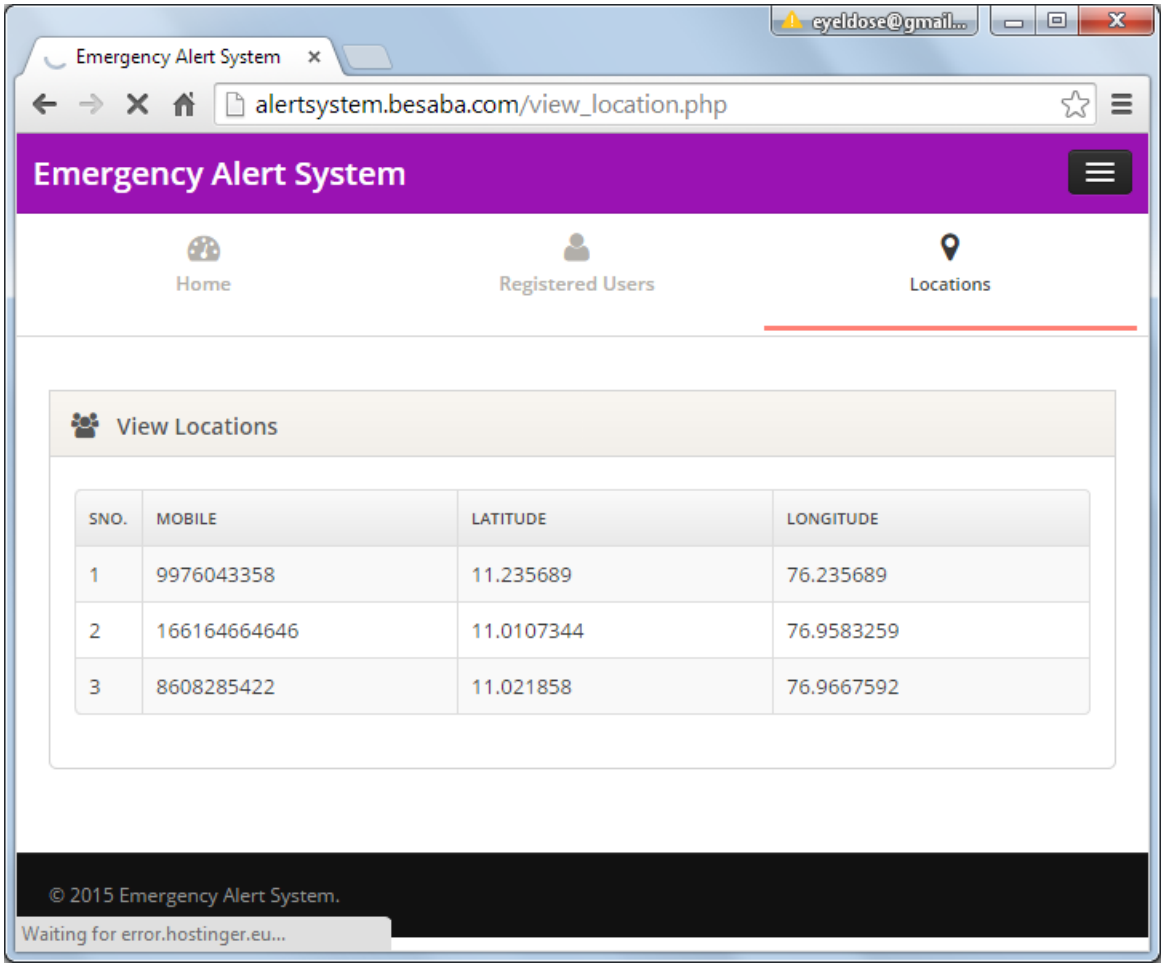


Figure 4.4 Output Screen to View Location of User

- This is the output screen for the admin to view location of the user.
- The admin can be view the location details of the user from where the alert has been sent.

4.3 DATABASE DESIGN

MySQL is an open source relational database management system. It is based on the structure query language (SQL), which is used for adding, removing, and modifying information in the database. Standard SQL commands, such as ADD, DROP, INSERT, and UPDATE can be used with MySQL.

MySQL can be used for a variety of applications, but is most commonly found on Web servers. A website that uses MySQL may include Web pages that access information from a database. These pages are often referred to as "dynamic," meaning the content of each page is generated from a database as the page loads. Websites that use dynamic Web pages are often referred to as database-driven websites.

5. SYSTEM DEVELOPMENT

System Development is a series of operations performed to manipulate data to produce output from a computer system. The principle activities performed during the development phase can be divided into a major related sequence. They are

- Internal
- External

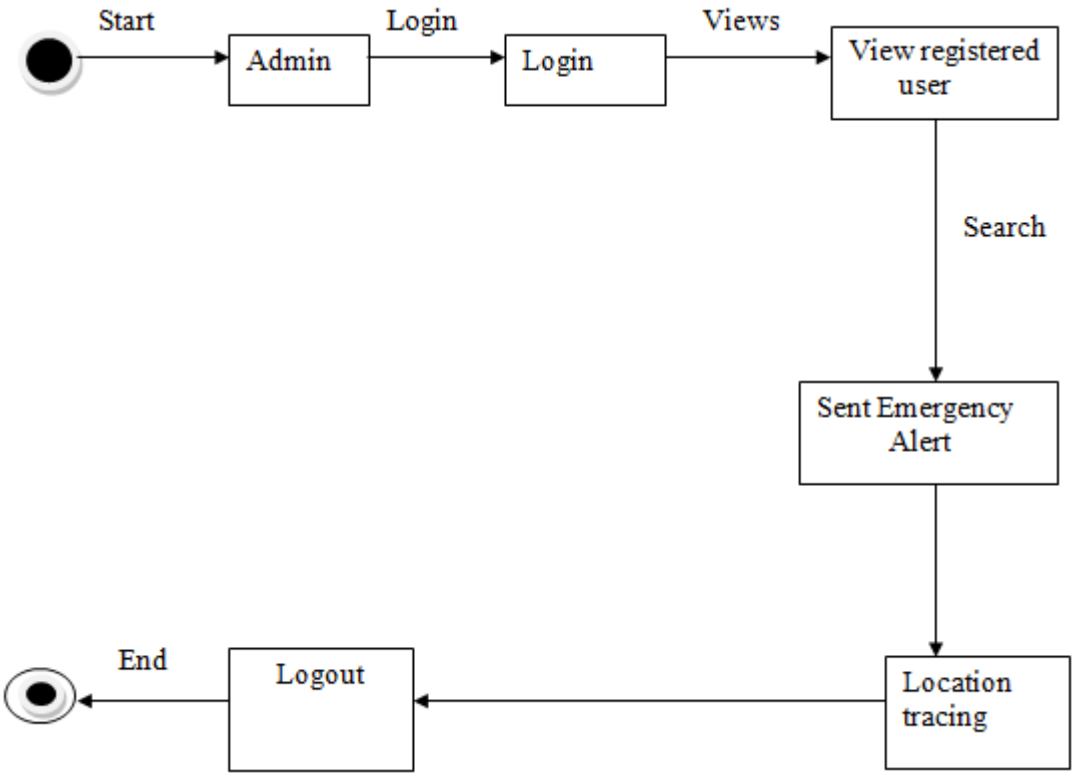
The major internal system development activities done for the system are computer program development and performance testing.

The major external system development activities done are planning and implementation

5.1 MODULES

The project has six modules

- User
- Admin
- Registration
- Emergency Scenarios
- Alert
- Location Identifier



5.1 Activity Diagram of Module

5.2 Module Description

1. User

The user module deals with registering the whole details in the website and downloads the android application from the website. User can use the android application by sending the emergency alert to the authorized peoples and the location of the user can be viewed.

2. Admin

The admin module controls the whole system. User can register only through admin. The user can login only through admin. The admin store the whole database of users. So the details can be viewed by the user in the application.

3. Registration

New user can enter the details and use this application. If the new user wants to use this application then the user has to register their personal details such as name, address, mobile number etc.

4. Emergency Scenarios

Emergency Scenarios in this module the user can send the emergency alert to the Police station, Ambulance Service etc. by a button click.

5. Alert

In this module any if emergency scenario occurs then the user can sent the alert by just clicking the button. The admin can find out the location of person using their latitude and longitude address.

6. Location Identifier

The location identifier module deals with finding the location of the user through GPS in the Google map. The admin can identify the location of the user and provide help to user. The authority can find out the current location of persons and take necessary action. By using the address the authority can trace out user’s location.

6. SYSTEM TESTING AND IMPLEMENTATION

6.1 SYSTEM MAINTENANCE

Maintenance plays a vital role. After systems have been verified, tested and implemented, they must continue to be maintained to ensure that they continued to perform correctly and that they can adapt to new requirement if needed. Ongoing monitoring or testing of system may need to be systematized to ensure that maintenance need are identified and met when necessary. Where systems are for extended users as another means to determine the need for maintenance and modification.

System maintenance is the last phase in the software Engineering process that eliminates errors in the working system during its work span and to tune the system to any variations in its working environment. The system requires maintenance as there may be changes and requirements in the organizational needs, government policies, hardware and software environment etc.

In system maintenance, an enormous mass of potential problems and cost lies under the surface. Software maintenance is of course, far more than fixing mistakes. Analysis's and programmers append for more time in maintaining the program then they do writing them. Few tools and techniques are available for maintenance.

Maintenance is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub-assemblies and finished product. It is the process of exercising software with the intent of ensuring that the software system meets its requirements and user expectations and does not fail in an unacceptable manner.

6.2 SYSTEM TESTING

Testing is vital to the success of the system. System testing makes a logical assumption that if all the parts of the system are correct, the goal will be successfully achieved. Inadequate Testing or non-testing may give wrong result. The familiar testing concept is as follows.

Testing is the process of checking whether the developed system is working according to the original objective and requirements. The system works according to the required specification. When the system is found working, test it with actual data check performance.

Objectives of Testing

The testing objectives are summarized as follows:

- Testing is a process of executing a program with the intent of finding an error.
- A successful test is one that uncovers an as-yet-undiscovered error.
- Tests should be planned long before testing begins.

Test Plan

Testing is one of the main parts of software development. An elaborate testing of data is prepared and the system is using test data. While doing testing, errors are noted and correction is made. Test case design focuses on a set of technique which meets all testing objectives, which are mentioned below.

- Testing is process of executing a program with the intent of finding an error.
- A good test case is one that has high probability of finding an as -yet undiscovered error.

Testing demonstrates that software function work according to the specification. In addition data collected from testing provides a good indication of software reliability and quality. Once the source code has been generated, software must be tested to uncover as many errors as possible before delivery to the user. In order to find the highest possible number of errors, tests must be conducted systematically and test cases must be designed

using disciplined techniques. Different types of testing methods are: Unit testing, Integration testing, Validation Testing.

Unit Testing

Unit testing focuses verification efforts on the smallest unit of software design of the module. Therefore unit testing is also known as “Module Testing”. Unit testing is first level of testing. During coding phase different modules are tested to determine the internal logic of the modules. In my project I have test registration module. This module will perform user can enter the personal details. Then data's are update to server. It perform different modules are tested.

Integration Testing

Integration Integrating testing is a systematic technique for constructing test to uncover errors associated with in the interface. In Integration testing, the unit testing modules are combined together and tested again. Integration testing addresses the issue associated with the dual problems of verification and program construction. After the software has been integrated a set of high order tests are conducted.

The main objective of this testing is to take unit tested modules and build program structure that has been dictated by design. During integration, Top-Down integration was followed, were modules are integrated by moving downward through the control hierarchy, beginning with the main program module.

Validation Testing

At the end of the integration testing, software is completely assembled as a packages, interfacing error have been uncovered and correction testing begin. Software validation is achieved through series of black box tests that demonstrate conformity with the requirements. A test plan outlines the classes of tests to be conducted and a test procedure defines specific test cases that will be used to demonstrate conformity with requirements. After validation test case has been conducted, one of two possible conditions exists:

- The function or performance characteristics conform for specification and are accepted
- A deviation from specification is uncovered and a deficiency list is created.

In this project validation test will perform if user can the details in registration form. If user can enter the invalid data it shows error message.

Functional Testing

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals.

6.2.1 Test Cases and Test Report

Unit testing

TEST CASE NO	TEST CASE	TEST CASE DESCRIPTION	EXPECTED RESULT	OBSERVED RESULT	RESULT PASS/FAIL
1.	Enter the user name and password	Check whether the valid user name and password.	The user name and password has to be accepted.	The user name and pass word has entered correctly.	Pass

6.2.2Integration Testing

TEST CASE NO	TEST CASE	TEST CASE DESCRIPTION	EXPECTED RESULT	OBSERVED RESULT	RESULT PASS/FAIL
1.	Enter latlon id	To Check the valid id report will be displayed within range.	To retrieve the location details within a specific id	The location details has been retrieved correctly and displayed	Pass

6.3.3 Validation Testing

TEST CASE NO	TEST CASE	TEST CASE DESCRIPTION	EXPECTED RESULT	OBSERVED RESULT	RESULT PASS/ FAIL
1.	Enter the admin name and password.	Check whether the valid admin name and password.	The admin name and password has to be accepted.	The admin name and pass word has entered correctly	Pass
2.	Enter the wrong username and password	Check whether if the user name can able to access the administrator rights	The user should not be able to access the administrator privilege	users are unable to access admin rights.	Pass

6.3 SYSTEM IMPLEMENTATION

Implementation is the most crucial stage in achieving a successful system and giving the user's confidence that the new system is effective and workable. Implementation of this project refers to the installation of the package in its real environment to the full satisfaction of the users and operations of the system.

Testing is done individually at the time of development using the data and verification is done the way specified in the program specification. In short, implementation constitutes all activities that are required to put an already tested and completed package into operation. The success of any information system lies in its successful implementation.

System Implementation is the stage in the project where the theoretical design is turned into a working system. The most critical stage is achieving a successful system and in giving confidence on the new system for the user that it will work efficiently and effectively. The existing system was long time process.

The proposed system was developed using Android Eclipse. The existing system caused long time transmission process but the system developed now has a very good user-friendly tool, which has a menu-based interface, graphical interface for the end user. After coding and testing, the project is to be installed on the necessary system. The executable file is to be created and loaded in the system. Again the code is tested in the installed system. Installing the developed code in system in the form of executable file is implementation.

The project execution was checked with live environment in Trichy. All around 50 users were registered and downloaded the application from website. The registered users result was mainly based on women's help and 25 users asked emergency help on ambulance service and for the police station regarding accident cases and theft. Also 5 registered users sought emergency help for blood using this application. The total feedback given from these users are satisfactory.

7. CONCLUSION

The project entitled **"**Emergency Alert System on Android Mobile Platform**"** which is currently developed and implemented using Android, Java, PHP and MySQL, can further be developed using new technologies. Here I conclude that this application is user friendly and every action can be completed with minimal number of taps, which makes the application easier to use in an uncomfortable or threatening situation.

The project has been successfully designed and implemented. The package was designed in such a way that future modifications can be done easily. The following conclusions can be deduced from the development of the project. Automation of the entire system improves the efficiency. This project provides a friendly graphical user interface which proves to be better when compared to the existing system. It gives appropriate access to the authorized users depending on their permissions. It effectively overcomes the delay in communications.

Updating of information becomes so easier. System security, data security and reliability are the striking features. The System has adequate scope for modification in future if it is necessary. Hence, Android once again proved to be a versatile operating system which allowed us to manipulate various inbuilt features of an Android mobile which made us to develop an intelligent application.

8. SCOPE FOR FUTURE ENHANCEMENTS

There is a scope for future development of the project “Emergency Alert System on Android Mobile Platform”. The world of computer fields is not static; it is always dynamic. The technology which is famous today becomes outdated the very next day. To keep on par with the technical improvements, the system may be further refined with further enhancements.

Enhancements can be done in an efficient manner. The software has been developed in such a way that it can accept modifications and further changes like adding automatically updated images in server. The software is very user friendly and in future any changes can be done easily and update the same with further modification establishment and can be integrated with minimal modification. Thus the project is flexible and can be enhanced at any time with more advanced features. The coding has been done cautiously so that any developer can follow the program easily with knowledge of the convention followed and hence it is easy to be maintained.

The software restructuring is carried out. Software restructuring modifies source code in an effort to make it amenable to future changes. In general, restructuring does not modify the overall program architecture. It also modifies to convert an electrical shock. It tends to focus on the design details of individual modules and on local data structure defined within modules. The android device can be change to wearable products like a watch, dollar of chains.

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7. www.tizag.com

10. APPENDIX

A. SYSTEM DESIGN DIAGRAM

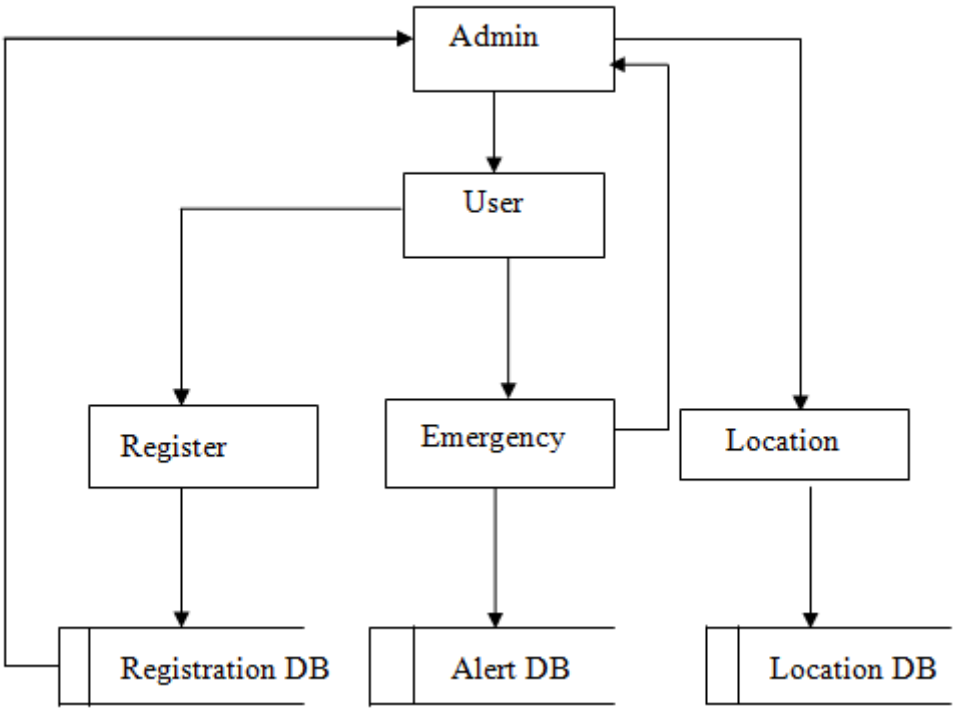


Figure A. System Design Diagram

B. DATA FLOW DIAGRAM

Level 1

Admin

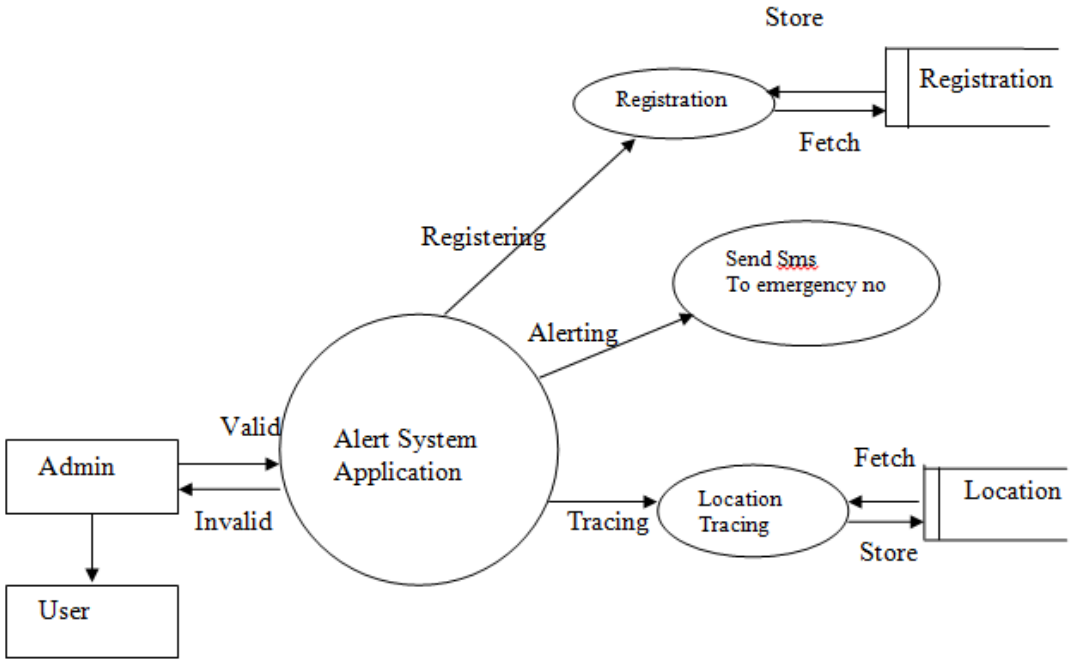


Figure B1. Data Flow Diagram Level 1

Level 2

User

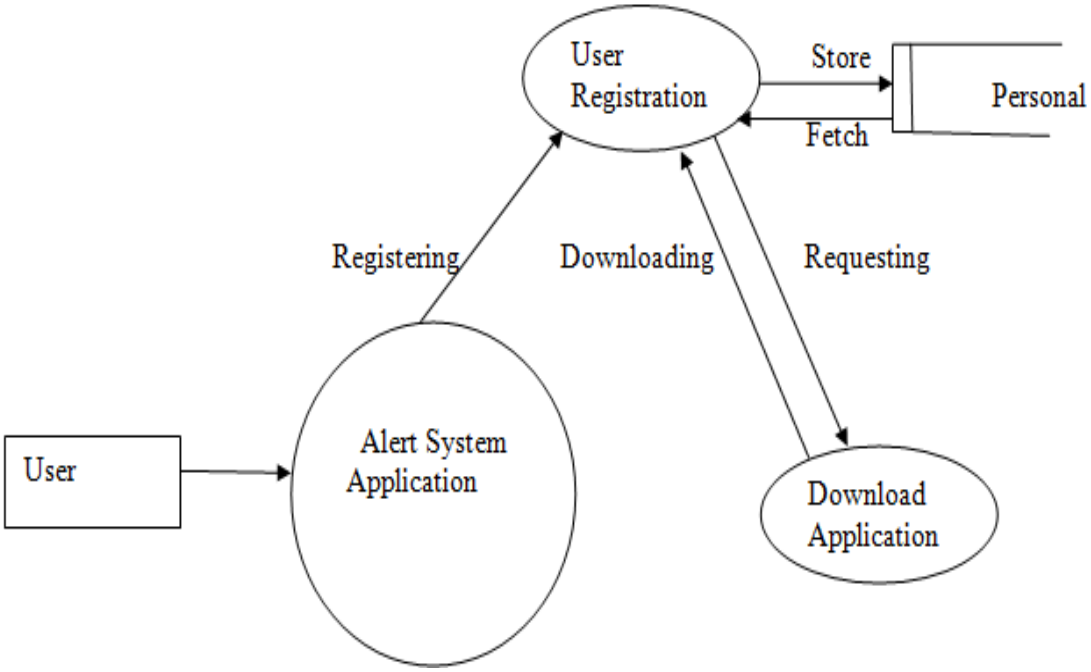


Figure B2. Data Flow Diagram Level 2

Level 3

Location

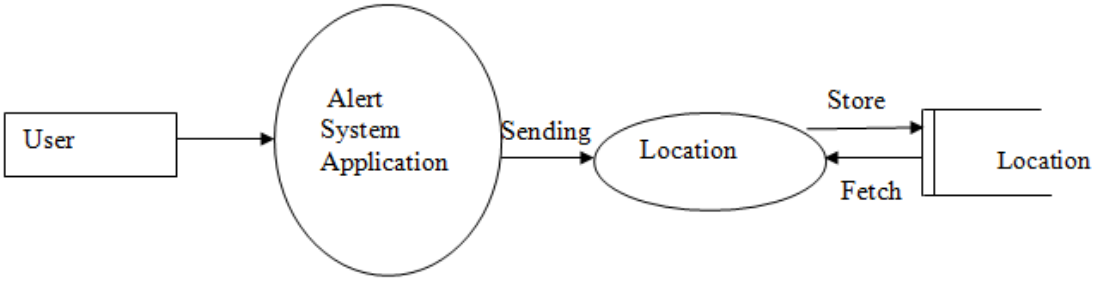


Figure B3. Data Flow Diagram Level 3

Level 4

SMS Alert

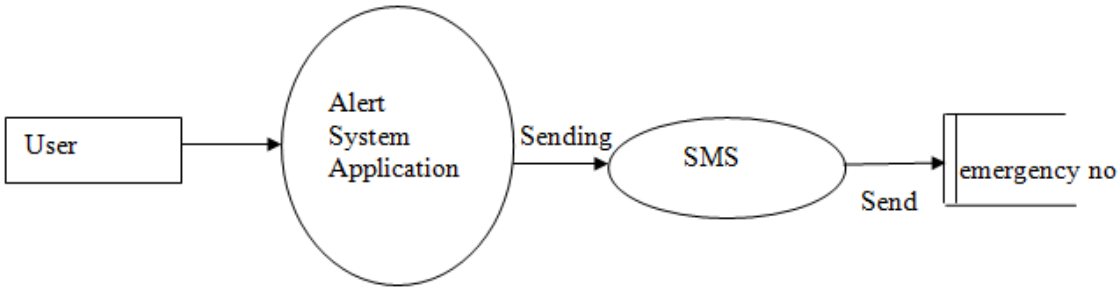


Figure B4. Data Flow Diagram Level 4

C. DATABASE TABLES

Table Name: Registration

Primary key: id

S.NO	Field Name	Data Type	length	Constraints	Description
1	id	Int	10	Primary key, Auto increment	User ID
2	Phone No	Varchar	100	Not Null	Phone Number
3	email	Varchar	100	Not Null	Email ID
4	imei	Varchar	100	Not Null	International Mobile Equipment Identity

Table C1 Registration

Table Name: Location

S.NO	Field Name	data type	length	Constraints	Description
1	Id	Int	10	Foreign key	ID
2	Lat	varchar	100	Not Null	Latitude
3	Lon	varchar	100	Not Null	Longitude
4	User_id	Int	10	Not Null	User id

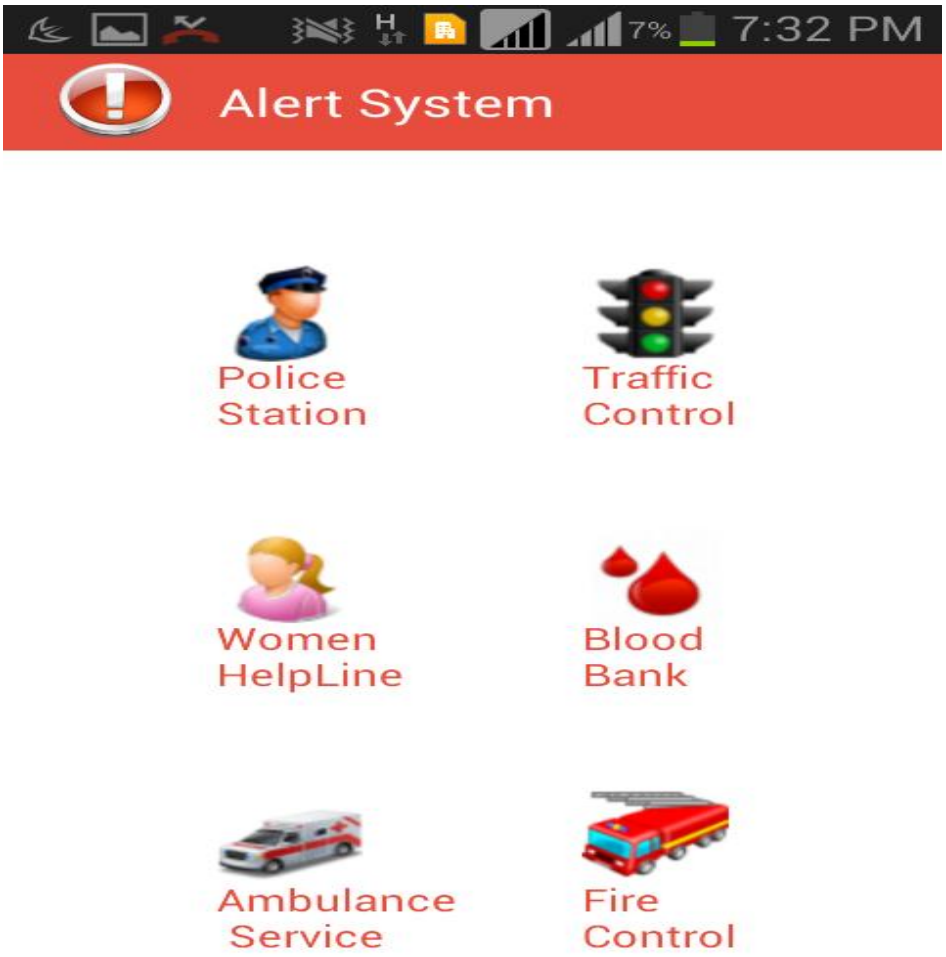
Table C3 Location

Table Name: Alert

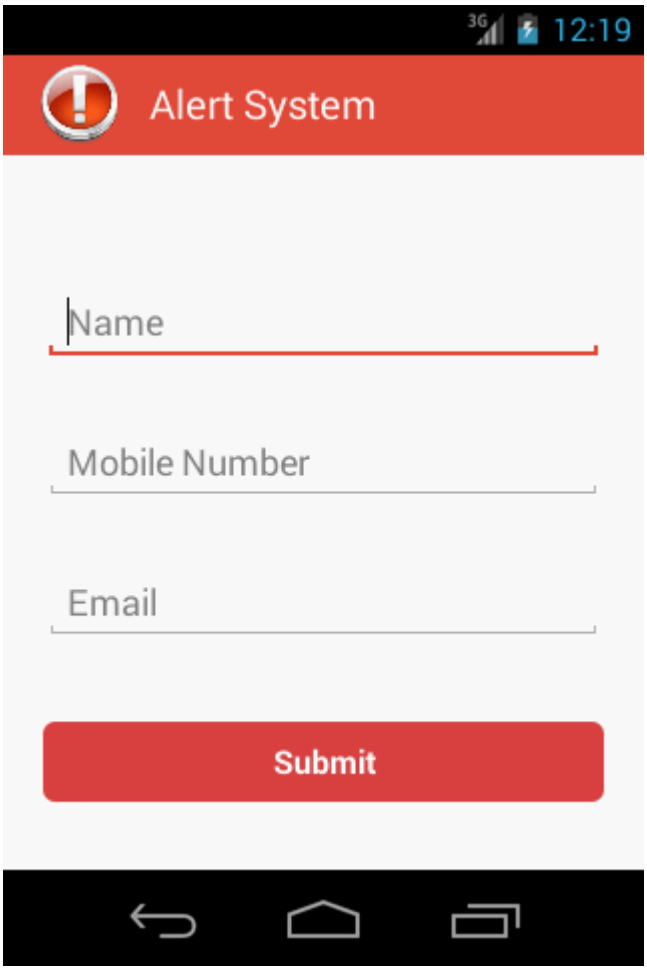
Sl.no	Field Name	Data Type	Size	Constraints	Description
1	Imei	Varchar	20	Foreign key	International Mobile Equipment Identity
2	Lat	Varchar	20	Not Null	Latitude
3	Lon	Varchar	20	Not Null	Longitude
4	Date	Date	-	Not Null	Date
5`	Time	Time	-	Not Null	Time

Table C2 Location

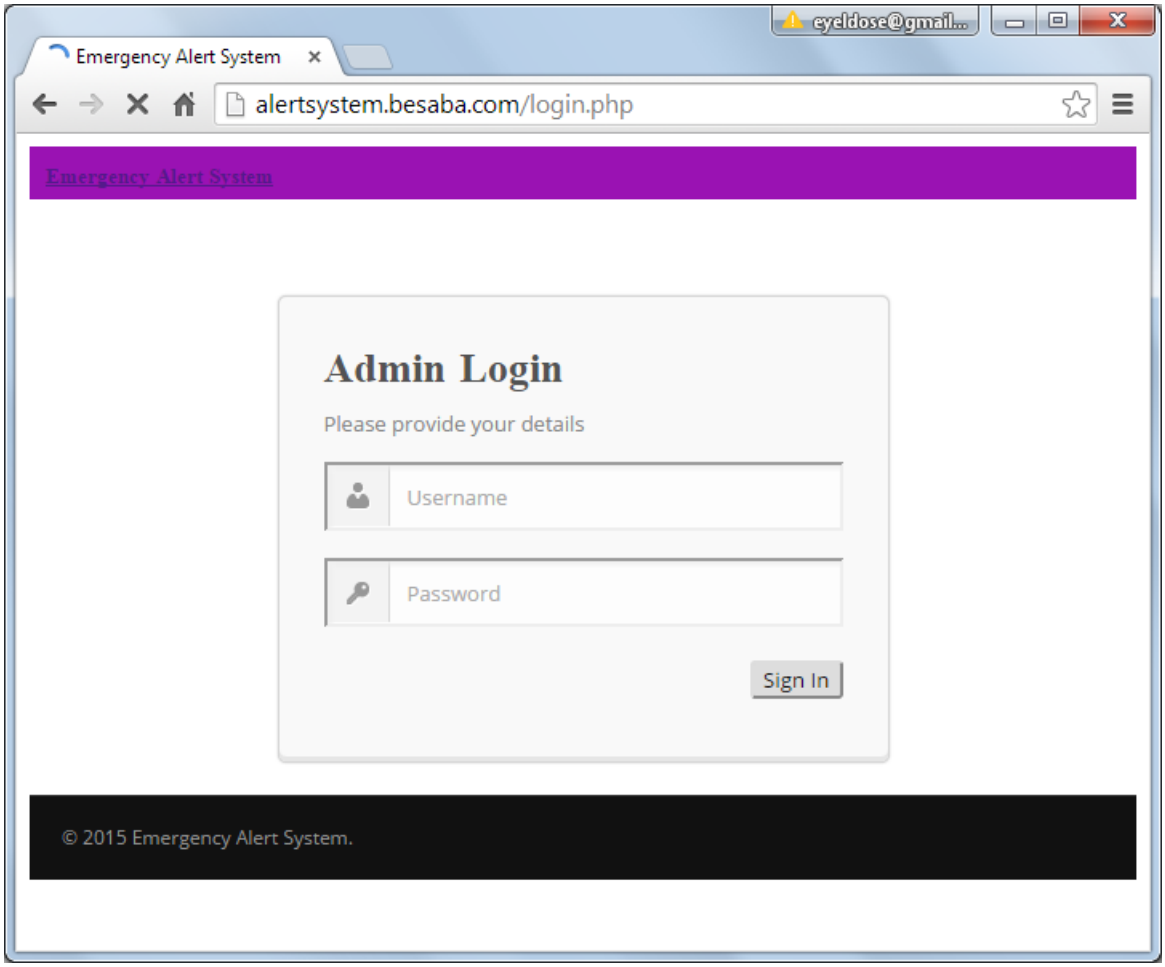
D. SCREEN DESIGN



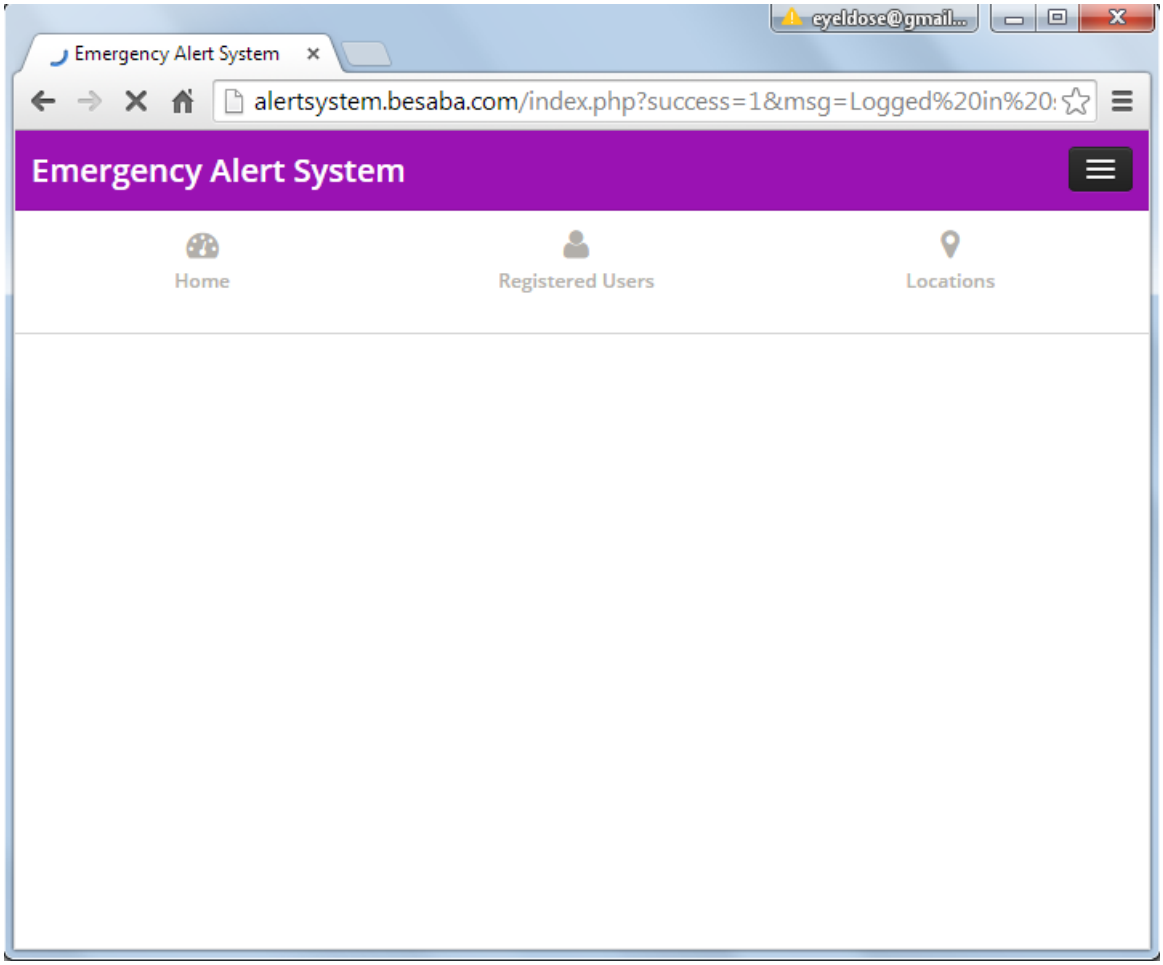
D.2 Registration



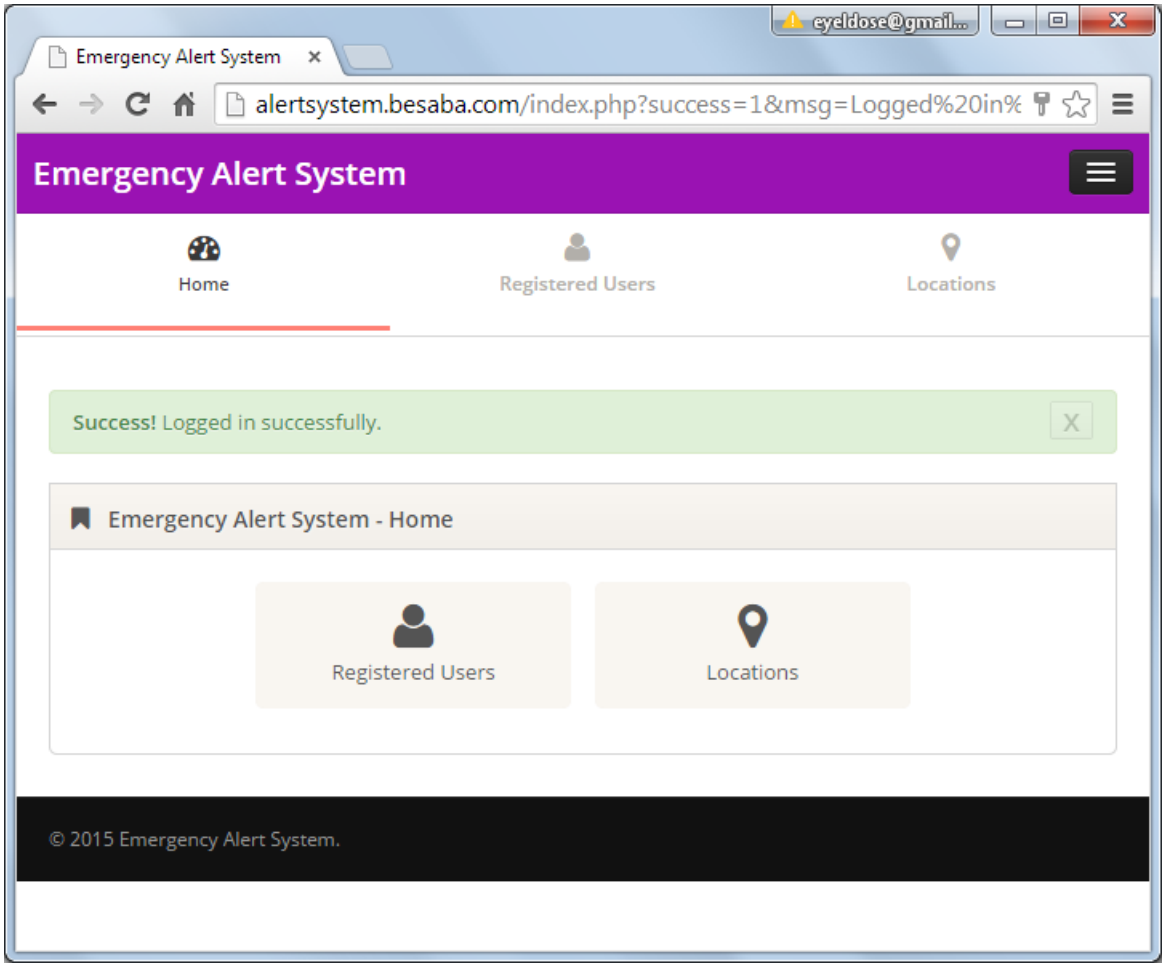
D.3 Admin Login



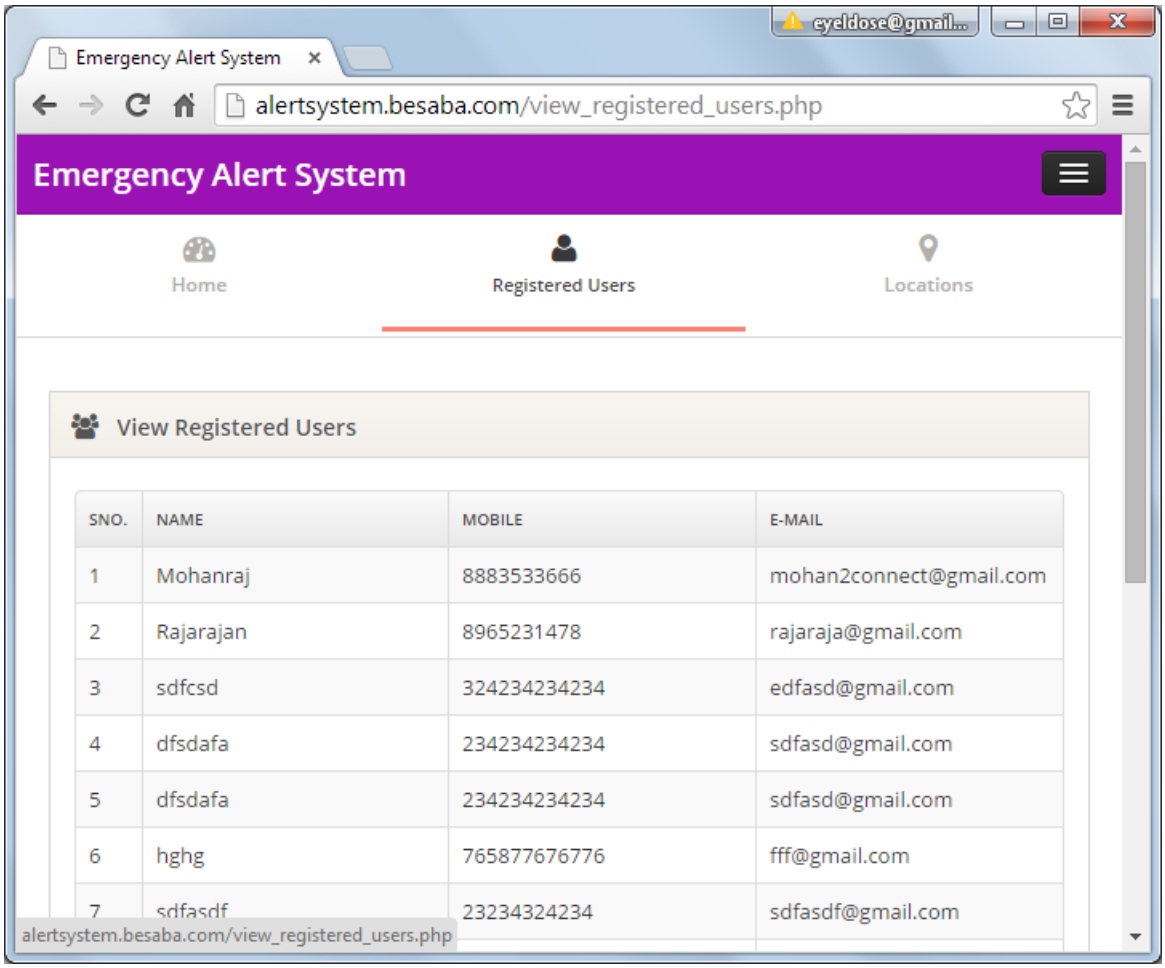
D.4 Home Page


eyeldose@gmail...
Emergency Alert System
alertsystem.besaba.com/index.php?success=1&msg=Logged%20in%20
Emergency Alert System
Home
Registered Users
Locations

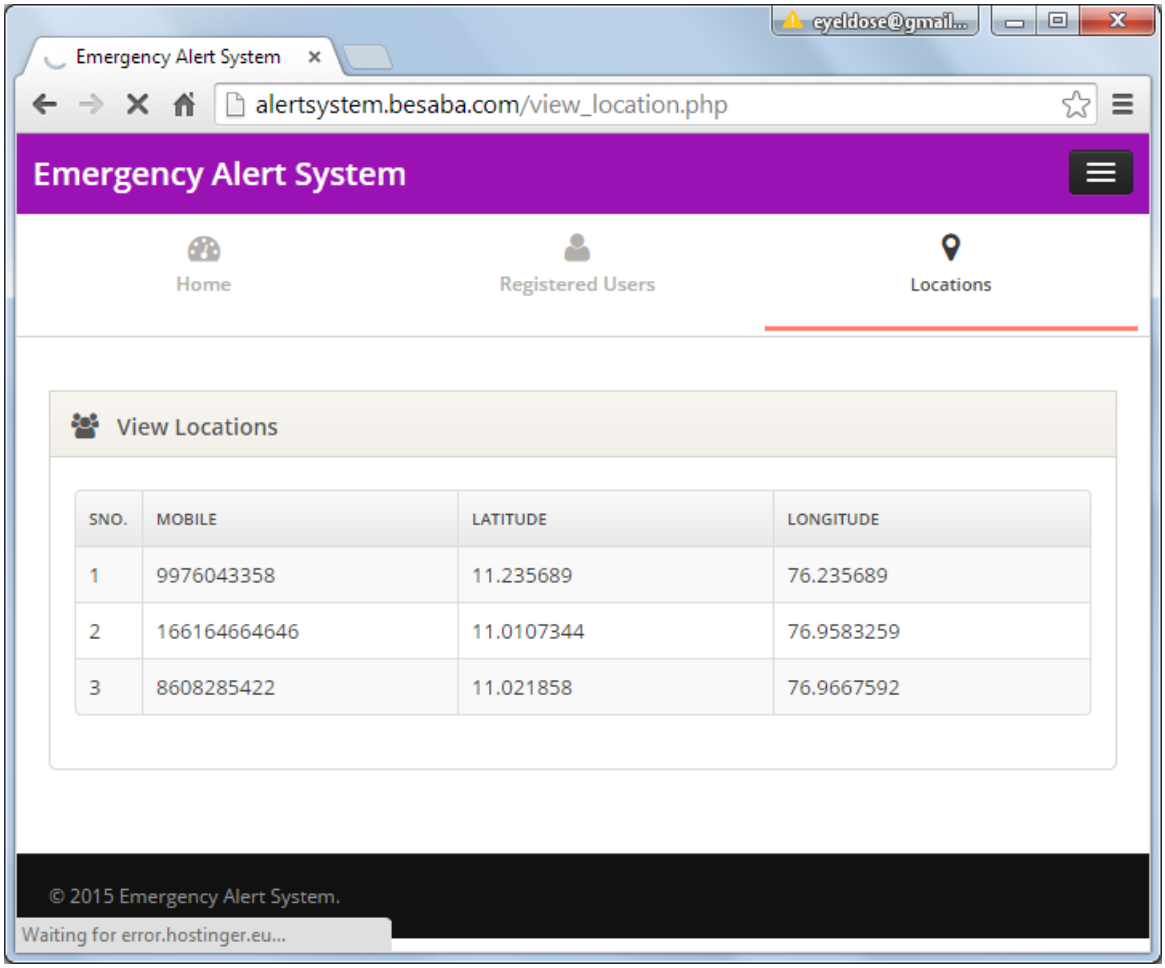
D.5 Home


eyeldose@gmail...
Emergency Alert System
alertsystem.besaba.com/index.php?success=1&msg=Logged%20in%
Emergency Alert System
Home
Registered Users
Locations
Success! Logged in successfully.
X
Emergency Alert System - Home
Registered Users
Locations
© 2015 Emergency Alert System.

D.6 Registered User



D.7 Location


Emergency Alert System
alertsystem.besaba.com/view_location.php
Emergency Alert System
Home
Registered Users
Locations
View Locations
SNO.
MOBILE
LATITUDE
LONGITUDE
1
9976043358
11.235689
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166164664646
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