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Wake Me Up: A novel approach for site dependent alarm

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Abstract: The main aim of the WAKE ME UP is an innovative approach an alarm in such a way that it should not turn off until the user wakes up and be active in his journey. It should compel the user wake up; so that the work won't be delayed and time can be saved it is an android application. Main aim of WAKE ME UP is to develop a innovative alarm. In present trend most of the work is done through system. Implementing app for alarm is very helpful to users based on their situation awareness who are in journey.
Key words: Wake me up, android application, situation awareness.

1. Introduction

The "Wake me up" is an android application. We are developing an alarm in such a way that it should not turn off until the user wakes up and be active in his journey.It should compel the user wake up, so that the work won't be delayed and lot of time can be saved.

1.1 Understanding

It does not compel the user to wake up. The user may turn off it and go to sleep. They don't have any puzzles to solve while the alarm is waking up the user. The user may be sleepy even after the alarm rings. It doesn't stimulate the user's intelligence.

1.2 Go ahead Idea

Here, alarm is designed in a unique way unlike all other alarms which are present in market. If a user is given a task until the task is accomplished the alarm will not turn off. The task will be such that it will stimulate user's intelligence. This alarm knows the public holidays and doesn't snooze on those days. If a person is sleeping in darkroom this alarm open the flash in torch mode and brightens the room by playing any music. If a person is travelling if he sets his destination then the alarm reminds him that he has arrived to a particular place where he want to reach.

This prototype creates a location based alarm service which enable the frequent travelers to initiate an alarm whenever and wherever it is needed thus improving the quality of life. The alarm can be viewed, deleted and edited by the mobile user without any contradiction in data updating. Google Play services used in the project so that the application can take advantage of the latest, Google-powered features such as Maps, Google+ together with automatic platform updates distributed as an APK through the Google Play store. This makes it faster for the users to receive updates and easier for the user to integrate the newest that Google has to offer.

We used the Seattle King County bus routes from One Bus Away project database. Many people use public transportation every day and our application can be easily used with the support from GPS and internet already on the Android phones. Any person who knows route number can use this application and set the alarm for the desired bus stop [1].

2. Related Work Done

One of the most prominent features to be taken care of in today's reckless pace of innovation is "Compatibility" of the application in various environments and paradigms. An application that provides a user friendly environment, which is compatible and efficient, is the need of the hour.

2.1 Requirements Specification File

The requirement specification document comprises of two prominent requirements. They are:

- Functional Requirements
- Non Functional Requirements

Functional Requirements

User Interfaces

The application concentrates on the online and communicates over the internet/intranet. A well connected internet connection either using a modem or cable or Wi-Fi or any other form should exist. TCP/IP

configured, http supported protocol configuration should exist. The client only requires a browser for communication. For Intranet requirement hubs/switches etc is a must. Software Interfaces

The incoming data to the product would be raw text data and images. The outgoing data would be the text and images. A database is maintained to store the text and URL information about the images. Ms-access/SQLServer/SQLite server is the database with a version of minimum 2003 as requirement. The server on the ISP requires tomcat web server. To execute or deploy the application JVM is required. A compatible browser is required to access the data from the client.

Non-Functional Requirements

Performance Requirements

Good band width, less congestion on the network. Identifying the shortest route to reach the destination would enhance performance.

Safety Requirements

No harm is expected from the use of the product either to the OS or any data that resides on the client system.

Product Security Requirements

The product is protected from un-authorized users from using it. The system allows only authenticated users to work on the application

Location based and recommendation system another system is developed called Personalized location based recommendation system [8]..

3. Implementation Methodologies

Technologies/Tools Used For the Implementation

- ✓ **Android studio**
- ✓ **Java Development Kit**
- ✓ **Sqlite**

Locations are usually represented in geospatial coordinates or civil addresses for tracking. By enabling to upload real time location and to create the content "on the spot", we can expect more variety of location-based services. [3]

Android:

It is a open source software platform and operating system for mobile devices Based on the Linux kernel Developed by Google and later the Open Handset Alliance (OHA) Allows writing managed code in the Java language.Android has its own virtual machine i.e. DVM (Dalvik Virtual Machine), which is used for executing the android application. Android is a free downloadable open source software stack for mobile devices that include an Operating system. Android os is developed under a code name based on dessert items.

Open Handset Alliance:

The open handset alliance (OHA) is a business alliance of firm to develop open standard for mobile devices. stanch to advancing open standards for mobile devices. Develop technologies that will significantly lower the cost of developing and distributing mobile devices and services. After so many desserts named version of android is going to offer something with even tastier dessert. The upcoming version of android 4.4 was KITKAT released on October 2013.

Native Libraries:

Android has its own libraries, which is written in C/C++. These libraries cannot be accessed directly. With the help of application framework, we can access these libraries. There are many libraries like web libraries to access web browsers, libraries for android and video formats etc.

Location Based Service (LBS) LBS is mobile service that has the capability to provide real time information based on the user's location. Geographical Information System (GIS) has been the heart of LBS in order to provide all the functionalities in LBS. They also open a new area for developers, cellular service network operators Locationbased services offers many merits to the mobile clients.[5].

Projection Level

Travelers may fail to foresee the future situation if mobile application does not provide the forecasting feature. According to, projection is defined as using information about the element's status and comprehension of the situation, then extrapolating this information forward in time to determine how it will affect future states [1]. Situation awareness involves being aware of what is happening in the vicinity, in order to understand how information, events, and one's own actions will impact goals and objectives, both immediately and in the near future. One with an adept sense of situation awareness generally has a high degree of knowledge with respect to inputs and outputs of a system, i.e. an innate "feel" for situations, people, and events that play out due to varying the subject can control. Lacking or inadequate situation awareness has been identified as one of the primary factors in accidents attributed to human error. Thus, situation awareness is especially important in work domains where the information flow can be quite high and poor decisions may lead to serious consequences. For example, piloting an airplane, functioning as a soldier, or treating critically ill or injured patients[7].

4. Design And Implementation

Designing Part:

Design patterns brought a paradigm shift in the way object oriented systems are designed. Instead of relying on the knowledge of problem domain alone, design patterns allow past experience to be utilized while solving new problems. Responsibilities to these classes are assigned based upon the obvious description of entities given in the problem description.

The missing piece here is of the lack of an analysis method that can help in identifying class definitions and collaborations between them which would be amenable to the application of interaction oriented design. There are two key issues here. First is to come up with good class definitions and the second is to identify good class collaborations.[4].

The second issue is to identify class collaborations. Techniques such as POT analyze interactions among different sets of classes as specified in the problem description. Such interacting classes are then grouped together to identify design patterns that may be applicable. However as mentioned earlier, only the interactions among obvious classes are determined currently. Other interactions involving abstract classes not present in the problem or interactions that become feasible due to different responsibility assignments are not considered. We present some techniques that enable the designer to capture some interactions as well.

To teach the students to design solutions which allow for more expressive actions and feedback about these actions, we had them experiment with a new method, called 'Interaction relabelling' [6].

4.1 System Architecture

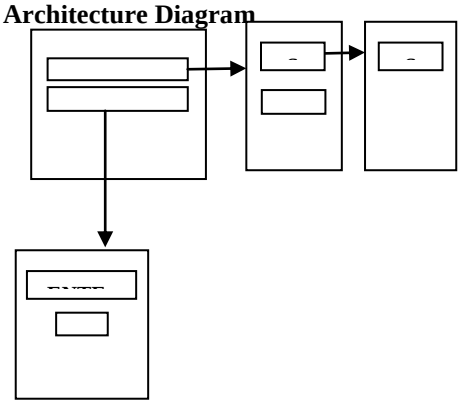
A **system architecture** or **systems architecture** is the conceptual model that defines the structure, behavior, and more views of a system. An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the structures and behaviors of the system.

System architecture can comprise system components, the externally visible properties of those components, the relationships (e.g. the behaviour) between them. It can provide a plan from which products can be procured, and systems developed, that will work together to implement the overall system. There have been efforts to formalize languages to describe system architecture, collectively these are called architecture description languages (ADLs).

One can think of system architecture as a set of representations of an existing (or future) system. It conveys the informational content of the elements comprising a system, the relationships among those elements, and the rules governing those relationships. The architectural components and set of relationships between these components that an architecture description may consist of hardware, software, documentation, facilities, manual procedures, or roles played by organizations or people.

In addition, people usually need to register to join a conference so a location server can easily get the participants' profiles. Hence, the server-centric mode is an economic way to handle location detection for big conferences. One of the key technological advances for the development of location-based applications is the use and availability of positioning systems.[4]

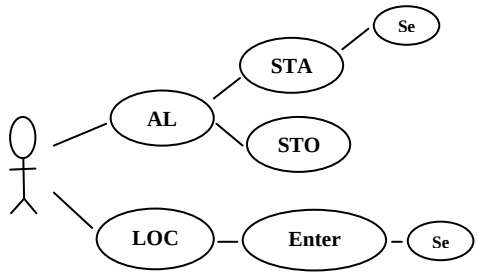
Architecture Diagram



4.2. Flow case Representation

- Providing a high level view of what the system does.
- Identifying the users (actors) of the system.
- Determining the areas needing human computer interfaces.

Flow Cases extend beyond pictorial diagrams. In fact, text based use case descriptions are often used to supplement diagrams, and explore use case functionality in more detail.



- Determine the relationships between the different data elements.
- Superimpose a logical structure upon the data on the basis of these relationships

4.3. Design Process

- **Determine the purpose of the database** - This helps prepare for the remaining steps.
- **Find and organize the information required** - Gather all of the types of information to record in the database, such as product name and order number.
- **Divide the information into tables** - Divide information items into major entities or subjects, such as Products or Orders. Each subject then becomes a table.
- **Turn information items into columns** - Decide what information needs to be stored in each table. Each item becomes a field, and is displayed as a column in the table. For example, an Employees table might include fields such as Last Name and Hire Date.
- **Set up the table relationships** - Look at each table and decide how the data in one table is related to the data in other tables. Add fields to tables or create new tables to clarify the relationships, as necessary.
- **Refine the design** - Analyze the design for errors. Create tables and add a few records of sample data. Check if results come from the tables as expected. Make adjustments to the design, as needed.
- **Apply the normalization rules** - Apply the data normalization rules to see if tables are structured correctly. Make adjustments to the tables

5. Integration And Taxing

5.1 Integration

Integration testing is one the important phase in software testing life cycle (STLC). With the fast growth of internet and web services, web-based applications are also growing rapidly and their importance and complexity is also increasing. Heterogeneous and diverse nature of distributed components, applications, along with their multi-platform support and cooperativeness make these applications more complex and swiftly

increasing in their size. Quality assurance of these applications is becoming more crucial and important. Testing is one of the key processes to achieve and ensure the quality of these software or Web-based products. There are many testing challenges involved in Web-based applications. But most importantly integration is the most critical testing associated with Web-based applications.

Location based reminder: User has an option to set any alarm or reminder based on location. They will feed the details as what they want to remember or to-dos at that location. So basically whenever they will visit that location then application wilm itself notify the user about the to-dos at that location

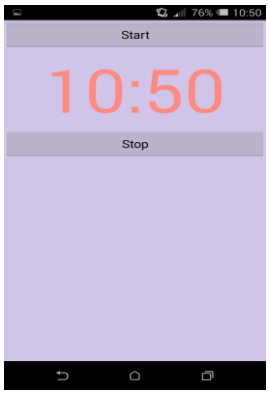
5.2. Strategy for Software Testing

Different levels of testing are used in the test process; each level of testing aims to test different aspects of the system.

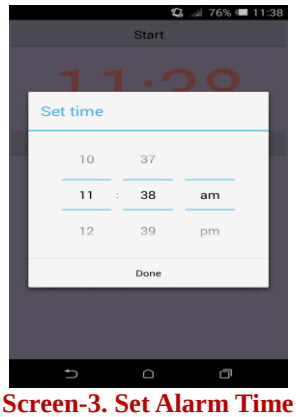
- The first level is unit testing. In this testing, individual components are tested to ensure that they operate correctly. It focuses on verification efforts.
- The second level is integration testing. It is a systematic technique for constructing the program structure. In this testing, many tested modules are combined into the subsystems which are then tested. The good here is to see if the modules can be integrated properly.
- Third level is integration testing. System testing is actually a series of different tests whose primary purpose is to fully exercise computer based system. These tests fall outside scope of software process and are not conducted solely by software engineers.

6. Results

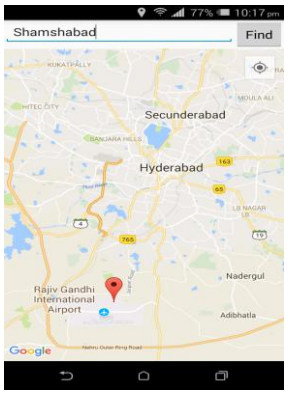
Screen-1. Home Screen



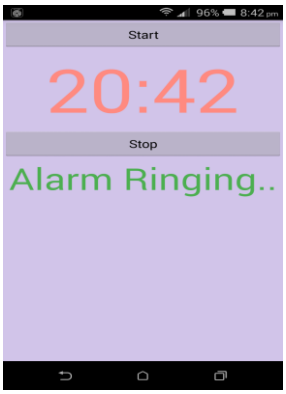
Screen-2. Click Start



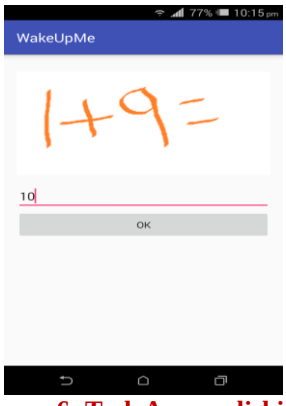
Screen-3. Set Alarm Time



Screen.4- Set Destination Location



Screen.5- Destination Reached



Screen.6- Task Accomplishing

7. CONCLUSION

The project was successfully completed within the time span allotted. Every effort has been made to present the system in more user-friendly manner. All the activities provide a feeling like an easy walk over to the user who is interfacing with the system. All the disadvantages of the existing system have been overcome using the present system of "Matrimonial" which has been successfully implemented at clients location. A trial

run of the system has been made and is giving good results.The system has been developed in an attractive dialogs fashion and the entire user interface is attractive and user friendly and suits all the necessities laid down by the clients initially. So user with minimum knowledge about the computers and the system can easily work with the system.

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