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Abstract:

This project is concerned about developing software for mobile devices to manage the personal information resources. This report describes the requirement, design and implementation along with the test strategies undertaken to develop software entitled, “Personal Information Manager” under the supervision of Mr. Pramod Parajuli, Head of Department of Information Management from St. Xavier’s College.

This report also includes the detailed requirement analysis, and design documents illustrating the different phases undertaken during the development of the above software.

Background

In the current scenario, mobile gadgets are getting more and more popular day by day. Mobile phones particularly these days has become a must have device. Besides the general use of conducting wireless communication, mobile devices these days are preferred by many people to store the required contact information and the note information with alarm signals. People carry their schedules and reminder notes with them wherever they go inside their mobile phones.

Mobile phones generally provide the feature of storing contact information and, also note and schedule organizing features. But while going through the most of the mobile phones it was realized that these features require many improvements such as avoiding meeting schedule collisions, collaborating day notes and task scheduler, and providing alternate search options for the convenience of the user to search for their personal information in their mobile phones.

These all concerns regarding the current mobile phone facilities to manage the personal information, initiated the need of better and improved software. “Personal Information Manager” is software being developed as a result of such need being developed.

Introduction

Personal Information Manager is the software developed for general mobile phones. It is a database based application which is responsible for storing the complete information of the contacts and also the information about different daily schedules of the user such that one has effective way of managing personal information. This application will also be responsible for making the user to avoid of the schedule collisions and to adjust the schedules.

Personal Information Manager is also facilitates the user with the choice of adding a birthday reminder while adding a contact information which also includes birthday information of the contact provided as optional. It provides the user with choices of searching the information with alternate choice options rather than just a single search method as per name.

It collaborates day note information with to-do task list i.e. is by adding the meeting and call notes to the tasks lists once it is added to the day note information. It does feature all other features of current mobile phones' information organizer i.e. is avoiding schedule for the past date.

Solution Outline:

Personal Information Manager is featured with the following solutions:

- Personal Information Manager is a mobile application with an interactive user interface developed using Netbeans IDE 5.5, for general color mobile phones.
- It allows user to store maximum 2 contact numbers for each individual contact.
- It allows user to search contact information by contact name, contact number and contact group.
- It allows searching the day notes by type of note and by the date of the reminder.
- It implements the simple file handling mechanism to store the information.

Requirement Study:

Most of the color mobile phones these days provide the feature of information organization in the forms of contact information, day notes and the to-do task lists. Since the need of personal information manager arose from the drawbacks of those existing information organizer, existing information organizer is obviously the appropriate and default area of study for the requirement analysis.

Requirement study was carried out by realizing the data flow in the existing system. Then the existing functions and the newly required functions for the new system were illustrated by using use-case diagram. Form-based functional description was used to describe those functions required.

Design Process:

Personal Information Manager is an application which is developed by using the functional approach. Since the major objectives of this system could be achieved by developing a functions working individually or together to meet such desired needs, function oriented design was followed for this software.

First the functions were categorized and classified into three components that included contact manager, day notes manager and task manager. Functions required for the desired objectives regarding each component were divided for those components.

Then the according the basic requirements those functions were combined wherever required to achieve the desired result.

Function-oriented design suited the requirements and as size of the application is also matter of concern, one source file with all desired functions was not a difficult choice to be made for this kind of application for mobile phones.

Implementation:

‘Java’ platform is used to implement this application since it being most widely supported platform by most of the existing system and also that java is dominant tool used to develop the mobile applications whether that is games or other software.

NetBeans IDE 5.5.1 is used as IDE tool to develop this java application.

Recordstores are being implemented to store the required information of contacts, day notes, and tasks.

Test Strategies:

This software or application being a function-oriented application with three different components that include contact manager, day notes manager and task manager, the software testing task is done for each component to verify the functions being used in each component.

For each component testing, the collection of functions such as add and search functions is tested together so as to verify if the component meets the desired requirements.

Test cases for each component testing are generated in such a way that it meets the desired output. The combination of functions inside a component form a path of operation with multiple outputs so, the testing strategy can also considered as path based testing for each component.

Conclusion & Future Work:

Personal Information Manager is java application that allows the user to manage their contacts, day notes and task schedules removing the possible drawbacks from the existing system. The design, implementation tasks have been carried out to meet the requirements which are verified by the testing phase.

With the increasing technology of mobile devices, the future works to be done would be to develop the information manager for larger size mobile devices managing not only contacts and day notes but also the multimedia contents.

Self Evaluation & Recommendations:

There might be some unknown or unidentified errors in the implementation portion so this application might not be fully error-free.

The suggested recommendations for the future development for this project would be:

- Play ringtones instead of beeps for alarm
- Manage contact pictures
- Make alarm generator a non dying thread running till the mobile has its power on

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Reference & Bibliography:

www.sun.java

NetBeans IDE Tutorials

Appendix

A: System Requirement Specification Document

B: Design Document

C: Software Testing