

“FindMe” A Mobile Application to Navigate to the Disremembered Parked Vehicle

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Abstract: There are chances that an aging person would sometimes forgets a word where he left his car keys where he parked his car or the name of a fellow he bumped into at the market. These small memory lapses happen as a person gets older and are normal part of the aging just like creaky knees and wrinkled skin. Today mobiles have become reality and usage of smart devices for different usage is increasing day by day. This study presents mobile application developed for Android devices that will keep record of a vehicle parked anywhere and will guide the owner of the vehicle to the parked place if he forgets the location of the parked vehicle using GPS and Google Maps.

Key words: Wi-Fi, motion and position sensors, Android studio, bumped, wrinkled skin, maps

INTRODUCTION

Memory is defined as the ability to encode, consolidate and retrieve information that has been learnt. Memory consists of three interdependent processes: encoding, consolidation and retrieval. In the process of encoding, new information inputs into neural circuits. This information is unstable and must be strengthened and transferred to long-term storage in the process of consolidation which this project will focus on. Finally, this information is retrieved from the areas of storage (Kandel *et al.*, 2000). The dementia is a general term for a decline in mental ability severe enough to interfere with daily life and loss is an example. Alzheimer's is the most common type of dementia. Currently, 30 million people worldwide suffer from Alzheimer's dementia and the World Health Organization projects that this number will triple over the next 20 years (Wimo *et al.*, 2006). The cumulative incidence of Alzheimer dementia has been estimated to rise from about 5% by age 70-50% by age 90, making it a very common disease (Hebert *et al.*, 1995).

The number and popularity of mobile applications is growing dramatically due to the accelerating rate of smartphones users. Mobile Cloud Computing (MCC) enables mobile devices to use resource providers other than mobile devices themselves to host the execution of mobile applications (Kim and Gelogo, 2013). The usage of mobile devices is growing fast (Roudaki *et al.*, 2015). In 2008, the number of smartphone subscribers was 15 million and that number almost doubled in 2009, reaching 26 million and is expected to grow to roughly 142 million by the end of this year, according to experts (HCC., 2013). Mobile phone subscriber numbers in the UAE grew 3.72% in the third quarter of this year to 16.98 million, mainly

driven by prepaid customers, according to Gulf News Statistics. The rapid growth of smart phones in the consumer market has led to easy access for various applications in business, entertainment, gaming and social-networking sectors on mobile devices (Chintapalli *et al.*, 2016). The numbers of available applications on the Android market as on December 16, 2013 are 900 K including low level and regular application and 9 K regular application are added every month (LaGanga and Lawrence, 2008). Evaluating the usability of smartphone applications is crucial for their success, so, developers can learn how to adapt them considering the dynamicity of mobile scenarios (Kronbauer *et al.*, 2012) and a systematic not only includes an examination of the range of available features and functions but also examines the usability of these applications (Flood *et al.*, 2011). The reinstallation of marketplace portals such as the App. Store on iOS, Play Store on Android and Market Place on Windows Mobile, popular smartphone platforms have made it easy for users to find out and start using many network-enabled Apps. quickly. The evolvement of smartphone and tablet technology puts knowledge literally into the hands of consumers and this is good news for marketers.

Android is a mobile operating system developed by Google, based on the Linux kernel and designed primarily for touchscreen mobile devices such as smartphones and tablets. Android's user interface is mainly based on direct manipulation, using touch gestures that loosely correspond to real-world actions such as swiping, tapping and pinching, to manipulate on-screen objects, along with a virtual keyboard for text input. According to IDC (2017) phone companies shipped a total of 344.3 million smartphones worldwide in the first quarter of 2017

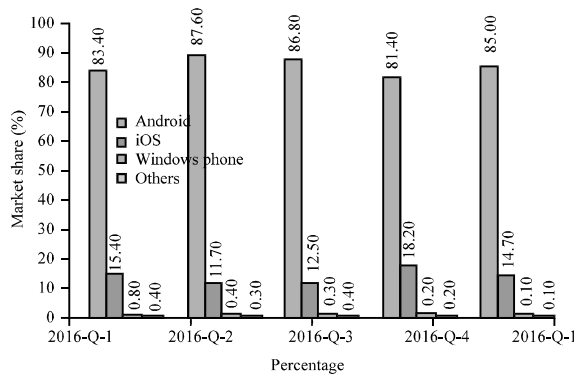


Fig. 1: Comparison of Android with other operating systems

(1-Q-17). In light of what might seem like a slowing market, consumers continue to show demand for smartphones and OEM flagship hype seems strong as ever. Worldwide smartphone shipments grew 3.4% in 1-Q-17 year over year which was slightly lower than IDC's previous forecast of 3.6% growth. The Android is leading the mobile phone operating system's market as shown in Fig. 1. The share of Windows Phones and other brands is very less as compared to the Android and iOS phone's market share. Therefore, the bars representing the share are not clearly visible in Fig. 1.

This study presents analysis and design of a mobile application to trace a vehicle parked somewhere if someone forgot after parking it. The mobile application is developed using Android Studio 2.3.3, that provides the fastest tools for building apps on every type of Android device.

MATERIALS AND METHODS

System architecture and processes: The detailed system architecture of the proposed system is shown in Fig. 2. This system comprises of two major modules which are listed:

- Save location and coordinates
- Retrieve location
- Navigate to location

The FindMe system has been successfully implemented using SDK Android tools which are freely available for the Android emulator that simulate like on a real device. The application can also be tested using this emulator. The FindMe application have the functional features such as track the user location using Google Maps, active notification of the stored data of location tracking, update the stored data automatically whenever

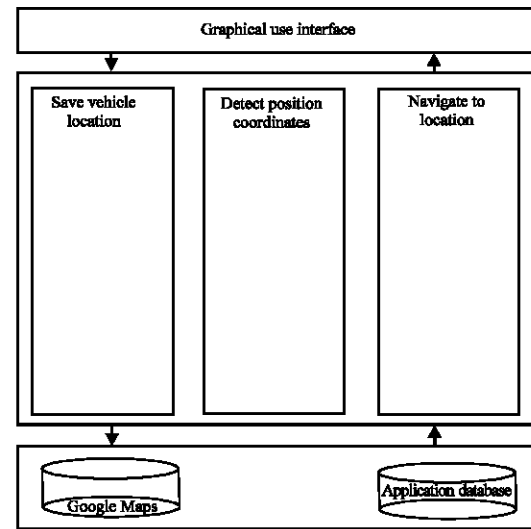


Fig. 2: System architecture

the users change their location or move after their vehicle and change the colors of its pin location the user is going wrong direction.

RESULTS AND DISCUSSION

A flowchart is a formal graphic representation of a logical sequence work or manufacturing process, organization chart or similar formal structure. The purpose of a flow chart is to provide people with a common language or reference point when dealing with a project or process. We present in the following lines flowcharts for saving and retrieving the location of parked vehicles. The flowchart of the saving the location of the parked vehicle in Fig. 3a and flowchart of retrieving the saved location is shown in Fig. 3b.

Graphical user interface: The Graphical User Interface (GUI) is a type of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, instead of text-based user interfaces, typed command labels or text navigation. The GUI of FindMe application are presented in Fig. 4ab.

When user clicks the "Save Location" button as shown in Fig. 4a, the FindMe application starts the GPS and Google Maps and save the location of the parked vehicle. If a user forgot the location of its vehicle then he clicks the "Retrieve Location" as shown in Fig. 4a. The FindMe application will start GPS and Google Maps and save location for the parked vehicle and navigate the user as shown in Fig. 4b. The navigation will intimate the user

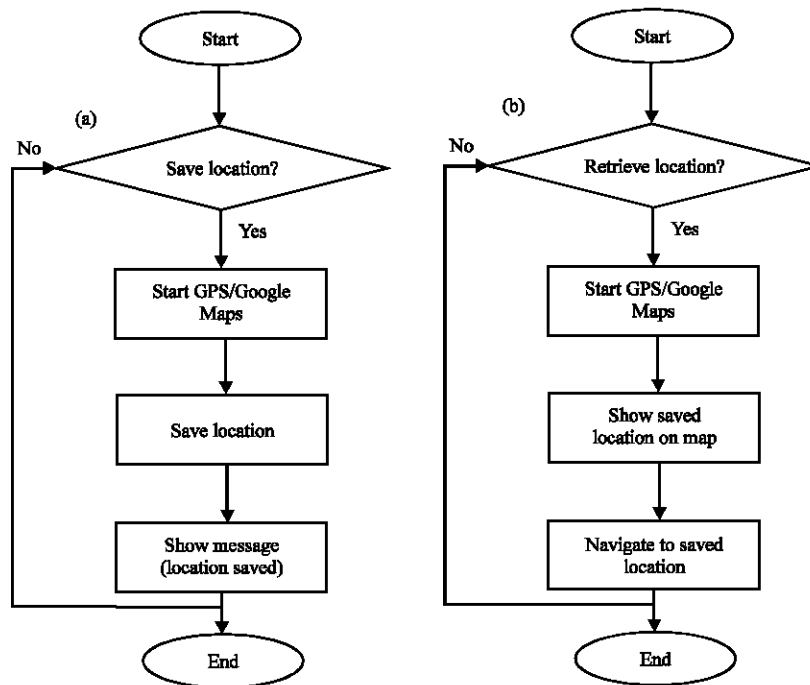


Fig. 3: a) “Save Location” flowchart and b) “Retrieve location” flowchart

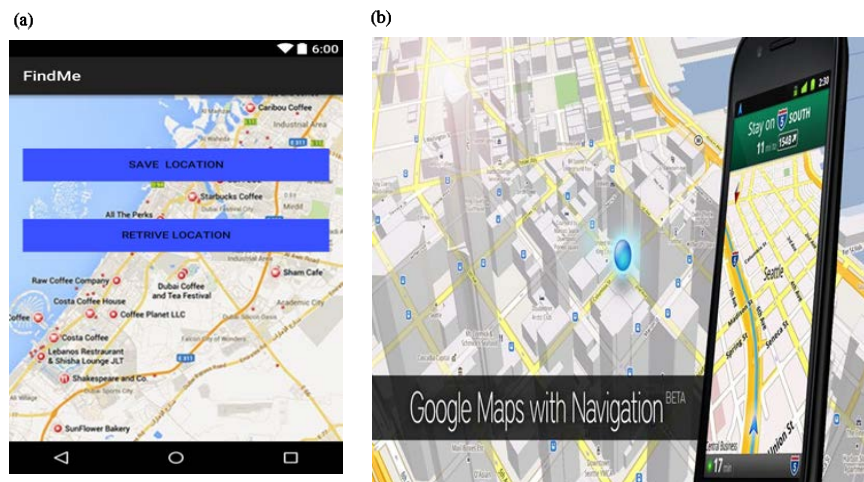


Fig. 4: a) Main screen of FindMe application and b) Navigation to the saved location

if s/he is going in wrong direction by ringing a beep. The FindMe application can save locations of multiple vehicles and provided the facility to share it with others if needed.

CONCLUSION

We have presented a novel application to navigate to a parked vehicle when a person forgets the location using Android based devices. This application can further be

enhanced for other OS based devices and platforms and can be embedded in the parking lots of huge shopping malls and metro stations. The future is for Internet of Things (IoT) and this application may become a base for applications tracing other objects.

ACKNOWLEDGEMENT

The researcher wish to acknowledge the support provided by the Al Ghurair University.

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