

# A Novel Based Android Smartphone Social communication Application Developments

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**BSTRACT** - Event-based mobile social networks (MSNs) are a special type of MSN that has an immanently temporal common feature, which allows any smart phone user to create events to share group messaging, locations, photos, and insights among participants. The emergence of Internet of Things and event-based social applications integrated with context-awareness ability can be helpful in planning and organizing social events like meetings, conferences, and tradeshows. This paper \_rst provides review of the event-based social networks and the basic principles and architecture of event-based MSNs. Next, event-based MSNs with Smartphone contained technology elements, such as context-aware mobility and multimedia sharing, are presented. By combining the feature of context-aware mobility with multimedia sharing in event-based MSNs, event organizers, and planners with the service providers optimize their capability to recognize value for the multimedia services they deliver. The unique features of the current event-based MSNs give rise to the major technology trends to watch for designing applications. These mobile applications and their main features are described. At the end, discussions on the evaluation of the event-based mobile applications based on their main features are presented. Some open research issues and challenges in this important area of research are also outlined.

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**INDEX TERMS** Mobile application, mobile social networks, mobile event guide, context-awareness, mobility, multimedia.

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## I. INTRODUCTION

In today's energetic worldwide business, the ability to be responsive and alert to technological changes is more significant than ever before. Information and the interactions around it has turn out to be the key asset of most businesses. New technology may present negative or positive for many businesses. As nowadays selling activities become much easier and simpler ever than traditional time by using the online system. The aims of people who tend to participate or involve in online business entrepreneur is to gain profit. Nonetheless they must ensure that their product is well known and recognize by the public. The online business was introduces by the internet as an innovative means of doing business in addition to making a profit. Competence entrepreneurs persist to discover ways to make use of the internet for their business purposes. Dissemination information of the product and goods is significantly required to help the business to promote or update their product. Looking into the new technology especially hand phone is no longer just a device to make call and sending message. It has been upgraded to become smarter and sophisticated with multi-function and application and the name also has changed to become „smartphone.“ Based on Jyoti, Sutee and Efpraxia (2014), *“A Smartphone is defined as a mobile device that allows users to make telephone calls, sends and receives emails, downloads files, provides an internet connection and uses applications”*. Smartphone application offers lots of benefits to online business nowadays. Notwithstanding, the universality of smartphone application has becoming as business and consumers' preferences as a way of interactive communication. Thus the objective of this paper is to focus on the good or positive impact from the use of smartphone application: WhatsApp and Facebook on the online business and to identify how it can assist in the online business to be developed successfully.

The remarkable development of social networking environ- ment and communication technologies has taken our society one step closer to ubiquitous communication whereby numer- ous devices can be connected to the internet anytime [1]. Mobile Internet of Things (IoT) [2], [3] is expected to rein- force the development and use of target social applications. For event-based activities there are recently developed online event-based applications such as Eventbrite, Meetup, Plan- cast and so on. Using these applications, users may recom- mend social events, such as casual gathering (e.g. bowling, movie, bike ride, and dinner party) and official activities (e.g. conferences, courses and meetings). On top of supporting representative

online social networking features (e.g. posting and sharing comments, videos and photos), these event-based applications also promote offline face-to-face social communications. [4]. The origin of social networks lies in the early 1990s when they were simple means of communication between people over the internet, such as forums, discussion groups, professional associations or other places where people could exchange ideas [5]. The tremendously increased interest in social networking and smartphones results in the emergence of Mobile Social Networks. Mobile Social Networks (MSNs) combines techniques in social science and wireless communications for mobile networking [6]. The MSN can be considered as variety of services such as data management exploiting the social relationship among mobile users.

Activities that are considered appropriate on social occasions are occurring all over the world as an important part of life and they are named as social events. These kinds of events (meetings, conferences, tradeshows, festivals, entertainment, and so on) have been organized and planned using paper-based program guides. We believe that it has not been more than five years since event planners and organizers started to use mobile devices as a replacement for the paper-based program guide. The rapid innovation and user adoption of sophisticated smartphone technology has certainly played a hand in the change. Yet, despite the emergence of mobile technology, the majority of events still use paper-based event guides and programs - this is about to change [7]. From these social events, large academic conferences/workshops attract researchers from academia and industry from all over the world [8]. Many such conferences/workshops have several tracks and sessions that runs parallel, or a number of poster papers presented at the same time. Therefore, it's essential that participants or attendees are able to communicate with each other to enable instantaneous information exchange by using event-based applications running on mobile phones (event-based MSNs).

Event-based social application continues to progress with technology products becoming cheaper, better, and easier to use. Innovation is sparking with new options and features. According to MPI's FutureWatch 2011 Survey [9] recent data, more than 80% of meeting professionals are using smartphones and other mobile devices in their careers. Taking this high adoption into account, yet relatively few have used mobile applications for their own meetings. Nowadays, we are seeing a very fast adoption of mobile applications for event-based social activities especially for meetings and conferences. Event-based MSNs will bring many tangible benefits to event planners, organizers, exhibitors and attendees, i.e., real-time distribution and access to all conference information, improved way-finding through interactive maps, floor plans and location-based services, alerts/conference messaging/updates, better analytics, enhanced attendee and exhibitor experiences and many more. Recently, several researchers, academicians and developers have devoted substantial effort in designing and developing diverse event-based MSN applications [11]. Consequently, numerous mobile applications have gradually been designed and developed for event-based social activities.

The purpose of this paper is to review event-based MSN services, technologies and applications and it covers four objectives: First, to present an overview of event-based MSNs with their principles and architecture [10]–[28]; second, to explore an event-based MSN technology elements such as context-aware mobility and multimedia sharing [29]–[81]; third, to present commonly used and available mobile applications for meeting, conferences and tradeshows; and fourth, to provide a discussion of these applications based on their main features and outline open issues for future research directions in the area. A number of researches have been conducted for presenting approaches and social networking applications for social events. However, to the best of our knowledge, none of the existing work surveyed event-based MSNs in detail.

The remainder of the paper is structured as follows: Event-based MSNs overview and the related basic principles and architectures are presented in Section II. Section III explores event-based MSN technology elements such as context-aware mobility and multimedia sharing. Section IV introduces several mobile applications or research projects in MSN for meeting, conferences, and tradeshows. Section V discusses some mobile event-based applications based on the main features and major technology trends to watch for the future application development. Section VI outlines some open issues and challenges. Finally, the paper closes in Section VII by providing concluding remarks.

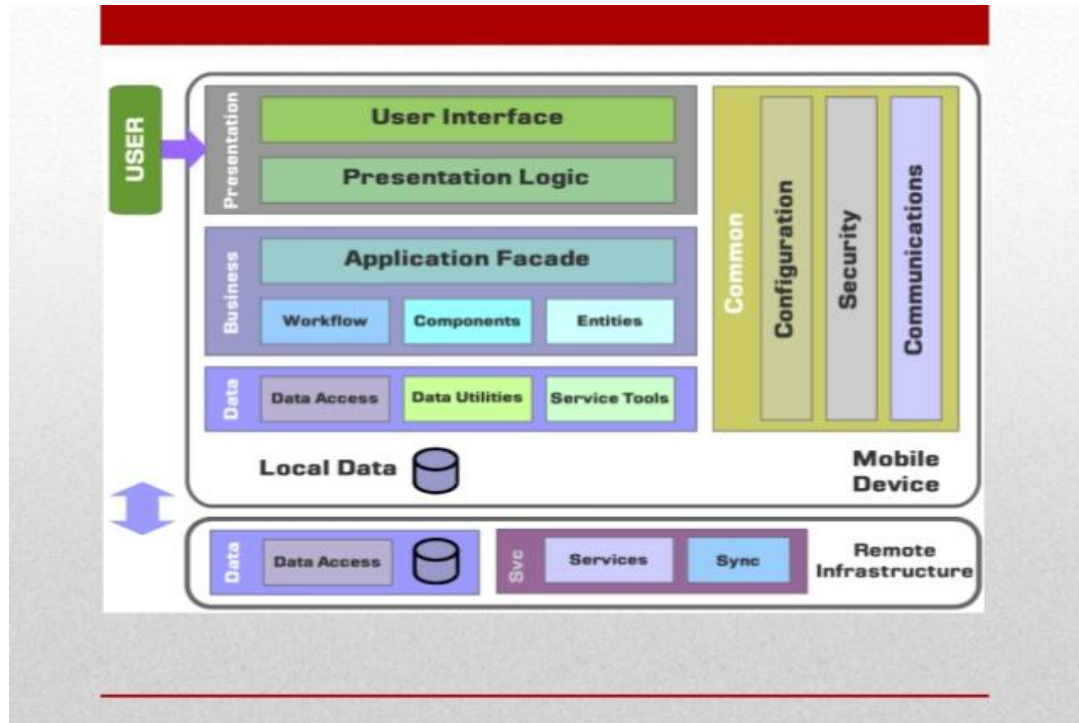


Fig 1. Android Mobile Application Architecture

## II. RESEARCH QUESTION

1. Is there any good or positive impact of the Smartphone application such as WhatsApp and Facebook on the social application group? of online process in one application
2. Is the Smartphone application such as WhatsApp and Facebook and more application group by the single application?

## III. STATEMENT OF THE PROBLEM

The rapid growth of new technologies globally, has led to studies and research to find possible approach in its application. One of the pivotal roles played in modern technology is the invention of smart phones. The smart phones are used as a means of communication since the social media plays a big role in socialization, especially through WhatsApp and Facebook; there is a need to extend that social aspect into inclusive situation of business opportunity. The indulgent of online business has been introduced in various ways. These ways have not been appropriate due to some factors affecting the online businesses in one way or the other. Therefore, there is a need of introducing solid solution in smart phones application such as WhatsApp and Facebook to enhance online business opportunity.

## IV. LITERATURE REVIEW

Smartphone's Applications in daily business in this day and age are mostly vital, to the point of dissimilar categories of business enable an assortment of requirements in the way of applications such as Google apps on android are above of the rivalry when it comes to smart phone applications. This is for the reason that the android operating system is an open source which has a variety of programs that any businessman can use to expand their business. Many more free applications can be downloaded for the purpose of doing businesses. Smartphone such as an iPhone or a Blackberry are necessary as they can assist business to run well and more competent.

Nowadays, Smartphone apps are important in providing information to other people especially consumer where it can be considered as consumer information systems (CIS). According to Chun, Chung, and Shin (2013), "Smartphone applications are developed by individuals, businesses, government agencies, the military, educational institutions, and any other organizations that want to use the technology to entertain, solve a problem, and fulfill a need". There are several types of

communication apps in smart phones which are message and e-mail clients, a platform for clients to do networking which function as a medium to communicate with their consumers.

Smartphone application is gaining popularity to surf for info among the people and it is no longer focusing on large national companies but local businesses, organizations and non-profits are finding successful ways to provide information or engage in sales and marketing activities using mobile content. Although the business can be seen on the desktop website, but it is more effective when the businesses engage with the viewer on the mobile website. For online business nowadays, any marketing advertising for the product can directly be promoted to all customers since they use their smart phones all the time. Customers can view their online shopping products online and purchase them from their Smartphone applications. Hwang (2012), mentioned that, people used to download application on their Smartphone's, and it shows how people are depending on these gadgets. Hwang mentioned that, the innovative technology via Smartphone's application may help the business to expand their product all over the world. Social networking is made easy at just one's fingertips to promote while taking and receiving order from customers around the world.

It is a fact that Smartphone's may overtake desktop computers for personal use because of the expansion of the application which is growing rapidly among the Smartphone users. With the sophisticated features on Smartphone's, they attract entrepreneurs particularly those who have the interest in the online business. The features and the functions of the smart phone itself help to represent the new frontier via the Internet and World Wide Web to advertise their product. Therefore, mobile app enables an online business to plan and focus on their sales growth. Karrigan (2011) has claimed that "Nearly 50 percent of

*Techno Metrica survey respondents believe they have been able to spend more time on growing business revenues due to their use of mobile apps. Fifty one percent of these small businesses say their firms are more competitive".* (p.3). Therefore, online business also can be categorized as small business, owners mostly have crucial of time in expanding their business, therefore by using smartphone applications, they can increasing their sales and revenue and at the same time they also can use it on the administrative functions.

Furthermore, online businessmen also see the smartphone as an opportunity for their business use. They are currently using the internet as their most valuable tool through creative innovation of advertisement on the product and the emergence of the 4G network will speed up adoption because of newer devices, faster speed, enhanced and more effective mobile apps that allow businesses to communicate with the public.

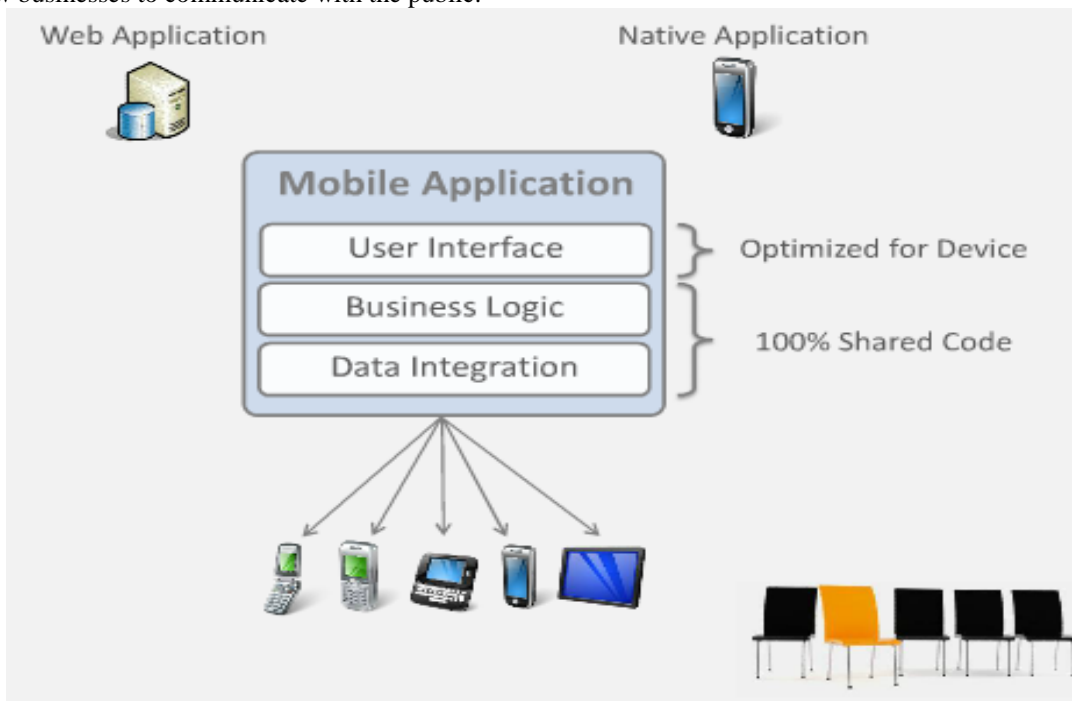


Fig.2. Mobile Application Process for Businesses

Advertisers believe that people are more likely to click on an advertisement that targets to their specific interests. Businesses owners are encouraged to produce alternate versions that provide beneficial functions in order to gain profit. As claimed by Kirk (2011) *“the app is basically given away or offered at a very low price and users of the app are exposed to advertising messages”*. The interactive advertising on mobile is expected to grow due to no charges being imposed on them whenever they try to promote their selling items. If the users of the app are in the right demographic profile or represent a good match between a producer’s product or service and their target market, this path can lead to higher profitability as well as the funding necessary to maintain and expand the business.

The advancement of the Smartphone apps definitely provides entrepreneurial opportunities. These opportunities however, like most other entrepreneurial opportunities require a sound business plan and which can be considered as part of business career. Far more than a little programming goes into making an app successful, a careful planning must be undertaken to identify opportunities and develop products that offer competitive advantages.

## V. RESEARCH METHODOLOGY

Experimental research method and Pearson correlation coefficient statistical measurements have been used to study how business work with new technology in today’s world.

Questionnaire, verbal interview and online survey had been distributed specifically to smart phone user as the specify group. The online survey and questionnaire was sent via email to two types of company which are private sector as well as government sector to study their behavior in using Smartphone to do online shopping, and for verbal interview it is conducted in the open environment by the researcher.



**Fig 3.Mobile Application Development**

The questionnaire and survey consisted combination of 10 questions with mix open ended, close ended and likert scale question and grouped into three respective parts which are demographic section of participants which includes basic information regarding respondents such as the gender of the participants, age and status. The second part focused on the experience of online shopping using Smartphone and the last part is participant’s satisfaction which has been rated by the respondent based on likert scale question.

We used two different approaches which are verbal interview based on the questionnaire and online survey. For verbal interview we asked participants based on the questions stated in the questionnaire which consisted of 10 questions including open ended, close ended and likert scale type, then we interpreted, rated, classified and grouped the different responses different results. For online survey, respondents received email and they needed to answer the same questions in the questionnaire and replied back to the researcher. At the beginning of the research all participants had given consent and all agreed without any forced to participate in this research.

## VI. FINDINGS ANALYSIS AND LIMITATION

By using SPSS (Statistical Package for Social Science) we evaluated result using Pearson product-moment correlation coefficient which was computed to assess the relationship between the frequent used of Smartphone by people and the accessible and effectiveness of a business promoted through smartphone application. There was a positive correlation between the two variables,  $r = 0.98$ ,  $n = 125$ ,  $p = 0.002$ . Overall, there was a strong, positive correlation between smartphone user and the effectiveness of a business through the new technology which is the smartphone.

Out of 100 targeted participants, about 65 participants got actively involved in this study by answering the questions and survey as well as responding to the question asked by the researcher. This group consisted of both gender male and female from different age groups between 20 to 50+ and covered different types of status such as housewives, university students, college student and public picked randomly at different places and time. The participants were also included locals and internationals. About 45% of the participant's responded to the online survey and another 55% responded through informal interviews conducted by the researcher.

From an overall view of the collected response, almost 88% agreed that they have knowledge on certain products via online browsing. Just look around us, people are addicted to smartphone up to the point that they don't put much attention to their surroundings. For example, everywhere we go we can see how people are so attached to their phones. Most of them are smartphone users who actively use smartphone to browse website, social networking, and get information about product through Facebook, WhatsApp group and so on. Advertising business product by using new technology gives easy access especially which using smartphone as it is effective and applicable in today's world. Through this finding we also found that the result supported our purpose of the study which is to see how people can benefit from the usage of smart phone and their positive reactions towards this new technology especially in social application to businesses. Limitation of this research might include the region covered which the research was only held in a city and not include other parts of state as well as rural areas.

## VII. CONCLUSION

In summary, through this paper we have examined how new technology can be a medium for successful business practice especially online business. Overall, the findings showed that new technology such as smartphone can help to develop business success and benefit the people. From the result which fully supports the objective of study it is shown that people are attached to smartphone so it is an advantage for business people to promote their product through this new technology to be more efficient and gain more profit for the business. Moreover, each smartphone is able to access to all applications provided where this allows business people to create their own application program to be used by consumer through which android operating system is an open source and has a variety of programs as anyone can develop for this device. This means that there are many more free applications as well as many standard ones for sale via the internet. Another benefit is that it can automatically sync with desktop computer which this is important to people who do business as they do not have to transfer data from smart phone to desktop in order to access as well as to record it.

In addition, to increase brand awareness, building relationships and grow business by using smartphone as a new technology is an advanced way in how business capitalize on the strategic profit gain. Growing popularity of this new technology can help in product promotion through text message advertising, create a smartphone application, and develop business website.

This application is compatible and accessible from smartphone and also by using social network to engage with mobile customer. The advantages for customer who do online shopping through their smart phone is they have plenty time to browse through and make comparison between products without any effort to bring computer or laptop and they just can browse through their smartphone. They even have wider selection and can get better price as well as can also view other customer feedbacks on the same product and obviously it is time saving for those who always claim that they been busy the whole day. This can be the advanced step for business people to promote their product creatively using this medium and it is also

important on how they convince the customer to buy their product by using this new technology of smartphone. In order for business people to survive in this rapidly advance new technological world which uses mobile online revolution, businesses need to be innovative by bringing up their popular digital channels in store to help enhancing their customer experience and also creating a dynamic, exciting and vibrant environment that will keep customer returning through their “door”.

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