

Leveraging Smartphone based Computing for Development: A Case Study of Kashmir Valley

Muneer Ahmad Dar
Research Scholar,
P.G. Department of Computer Science,
University of Kashmir

Javed Parvez
Senior Assistant Professor,
P.G. Department of Computer Science,
University of Kashmir

Abstract: Smartphones are transforming millions of people's lives for one major reason – the astonishing growth in cheap, often free, software applications, or apps as they have come to be known. A Smartphone is almost like having a small computer right in the palm of your hand. It provides access to information and opportunities for collaboration. Activities that work well on smartphones are often audiovisual projects, things that incorporate pictures and video. As more applications become available, the more useful smartphones will become. A Smartphone can be a productivity tool in almost every field of life potentially to Kashmir valley where underdevelopment and unfavorable conditions are unavoidable. This paper identifies how mobile technology is poised to revolutionize business opportunities, deploy efficient healthcare, imparting employment oriented education, efficient deployment of resources and manpower even in the unfavorable conditions in Kashmir Valley. Technologies like Android, Aakash Tablets which drastically changed the mechanism of teaching, manner in which students are using them and are used in cost-effective and efficient manner in Kashmir Valley, are also discussed in this paper.

Keywords: Smartphone; audiovisual; Software applications; apps; Android; Aakash Tablets.

I. INTRODUCTION

Smartphones have become indispensable part of our daily lives in recent years, since they are involved in keeping in touch with friends and family, doing business, accessing the internet and other activities. Andy Rubin, Google's director of mobile platforms, has commented: "There should be nothing that users can access on their desktop that they can't access on their cell phone" [1]. Growth in Smartphone sales is depicted in the figure below.

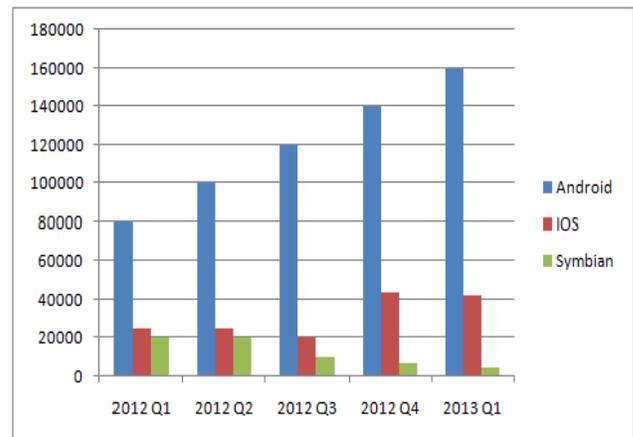


Fig. 1. Worldwide Smartphone Sales.

It indicates that smart phone sales are continuously on rise and more and more people are becoming dependent on these devices. As these Smartphones are going to outnumber the world's total population in 2014,

In this paper we analyze the usage of Smartphones for the development of Kashmir valley. In section II we identify the world wide usage of Smartphones. In section III we give the details of apps developed by Kashmiri students. In section IV we then have a detailed description of use of smartphones for the overall development of Kashmir Valley. Finally we draw our conclusions in section V.

II. Word Wide Smartphone Usage

A Smartphone is so much more than a phone. It's a web browser, an email device, and a social media portal. It can be a mini stereo, a gaming console, a GPS device, an alarm clock, and a shopping cart. The Smartphone has become a modern day Swiss Army knife, putting marketers not only in a multichannel environment, but a multi-purpose environment as well. According to a new survey from Prosper Mobile Insights, some 52.9% of Smartphone owners say they use all the functions of their Smartphone—to such an extent that they say, “It’s my life.” Another 30.4% say they use all the basic functions of their device, plus a few apps. And just 16.7% use their smart phones exclusively for calling, text messaging [4]. Three functions below, calling, texting and email provide a snapshot of the Smartphone applications used today by consumers and travelers.

A Smartphone is an intricate combination of a mobile phone and a computing platform, with high-speed connectivity and powerful computing ability. Therefore, the Smartphone has necessary components of the computing platform: an operating system, applications and hardware. Furthermore, as a personal communication device, the Smartphone also often has multiple communication capabilities and ability to store large amounts of sensitive user data [2].

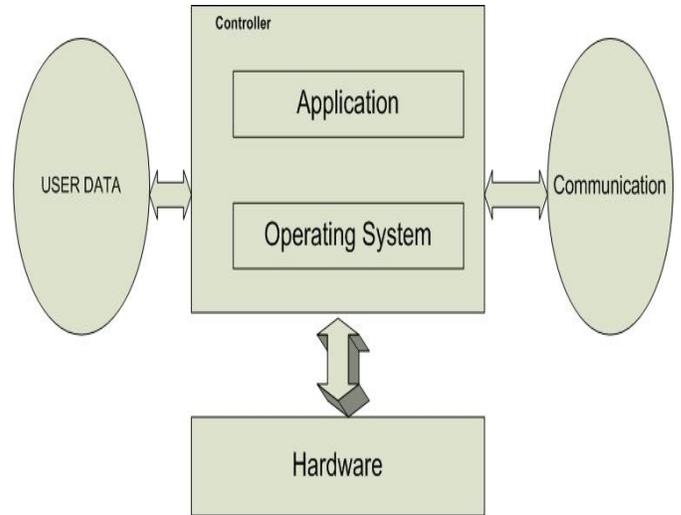


Fig.2: Common Smartphone Architecture [2].

The Word wide Usage of Smartphone for the Economic Development, Health Care, Education and other areas can be summarized in the following areas [7].

- Location-based services(LBS)
- Quick Response (QR) Codes and Barcodes
- Comparison Shopping
- Mobile Coupons
- Push Notification
- Apps: 56% percent of Smartphone owners have at least one shopping-related app on their phones, and 15% have more than six shopping apps currently on their phones [6].
- Smartphones put the Internet in the consumers pocket and the world at consumer's fingertip.
- Smart Phone Keeps You Sophisticated!: While traveling, 62 percent of travelers said they use their mobile devices to reach restaurants. Fifty-one percent check their flight status. Twenty-eight percent have checked into a restaurant, hotel or

attraction using their mobile device while on a trip.[8]

- An important application for Android OS regarding tourism is Trip Journal. Romanian software Trip Journal is an electronic journal that allows the user to keep important details about his travels, one of the most important functions provided by this route as GPS tracking and viewing position, saving the coordinates and make pictures with notes.[5]
- “Smartphone adoption around the world is skyrocketing, and is fundamentally changing the way people get travel advice,” said Mike Putnam, director of mobile product for Trip Advisor [9].
- Modern technology-aided learning is found in three stages ranging from conventional e-learning to m-learning to context-aware u-learning [3]

III. Apps Developed for Kashmir by Kashmiri Students

- DialKashmir
 - With over 500 contacts of government and private departments a one stop source for ‘essential information’.
- KashmirHeadlines
 - Keeps users updated with latest happenings and developments in Kashmir, besides giving information about tourist spots, religion, education and culture.
- AndroidSpy

- The Android Spy helps to track the current location of the mobile and save the call logs and sends to our Web application.

- Kill Genre.

- three-dimensional Android shooter game

IV. Smartphone & Development in Kashmir

The key areas wherein a Smartphone can play a vital role in the development of Kashmir are listed as under:

- **Business**

Curfew and Strikes are the main threat to business in Kashmir and It has continued from the last more than two decades with the result there has been a huge loss to the business. Our proposal for the usage of Smartphone in business is that we can develop some special apps for our customers so that they can purchase the goods through those apps. We can also push notifications to our customers through those apps like the latest offers and the comparison shopping can be done by our customers through these apps. All other latest technologies used by other countries like Location-based services (LBS), Quick Response (QR) Codes and Barcodes, Comparison Shopping, Mobile Coupons and Push Notification can be used in our valley.

- **Tourism**

The Smartphones are carried by most of the tourists travelling to different parts of the world. A survey about the travel planning process on their mobile devices reveals that 52% researched about restaurants, 46% read about destinations, 45% read traveler reviews, 42% booked or researched accommodations, and 34% booked or researched flights. If these many numbers of tourists are using the smartphones for finding restaurants, reading about destinations and booking of tickets, our hoteliers and the tourist guides

should be well aware of these usages so that they can give proper destination details and help tourists to book their hotels so that it can boost the tourism industry of Kashmir.

➤ Education

The increasing capabilities of mobile or smart phones are positioning them as the technology of choice, replacing PCs, for many users, especially college students. As such, the use of these devices must be contemplated as an inevitable learning tool available to higher education. With the launch of Aakash Tablet by Govt. Of India at a very cheap rate the students can get a great benefit and the teachers have to encourage the use of these tablets in their classes as it includes some interesting apps like Clicker App with the help of which the teacher can conduct Quizzes in their class rooms.

➤ Healthcare

Smartphones continue to evolve depending on user needs – from receiving or making calls, receiving or sending email and text messages, to mapping the location of a medical provider or hospital, searching for medical information, and even sending data from a medical device over short distances.

v. Conclusion

Smartphones, without a doubt, are the way of the future. With its pervasive acceptance and powerful functionality, is inevitably changing people's lives. The Valley is blessed with lot of talented developers who can make Kashmir specific apps in Android and those apps can be used for the overall development of our Kashmir Valley.

- [1]. Google bets on Android future.
<http://news.bbc.co.uk/2/hi/technology/7266201.stm>
- [2]. Hongwei Luo†‡, Guili He†, Xiaodong Lin§, and Xuemin(Sherman) Shen‡ “Towards Hierarchical Security Framework for Smartphones” First IEEE International Conference on Communications in China: Communications Theory and Security (CTS) 2012
- [3]. El-Hussein, M. O. M., & Cronje, J. C. (2010). Defining Mobile Learning in the Higher Education Landscape. *Educational Technology & Society*, 13 (3), 12–21.
- [4]. ExactTarget. (2011). Mobile Dependence Day, New Research finds reliance on smartphone driving changes in consumers' purchase habits. Retrieved June 13, 2011, from <http://www.exacttarget.com/company/news-and-press-releases/viewstory/smid/756/ArticleID/80.aspx>.
- [5]. hesseldahl, A. (2009, 18 March). What consumers cling to in lean times, Bloomberg Businessweek, Retrieved March 27, 2011, from <http://www.businessweek.com/technology/content/mar2009/tc20090317040642.htm>.
- [6]. Michaelson, L.K., Knight, A.B. & Fink, L.D., (2004), Team-Based learning: A transformative use of small groups in college teaching. Sterling, VA.: Stylus.
- [7]. Mutchler, Leigh A., Shim, J P. & Ormand, D. (2011). “Exploratory Study on Users' Behavior: Smartphone Usage” Proceedings of the AMCIS 2011.
- [8]. Oliver, E. (2010). The challenges in large-scale smartphones user studies. Proceedings of the 2nd ACM International Workshop on Hot Topics in Planet-scale Measurement, June 15-18, 2010, San Francisco, California.
- [9]. Schonfeld, E. (2011, 11 October). After 10 Million Total Downloads, TripAdvisor Launches, 20 City Guide Apps on Android. Retrieved September 12, 2011, from Techcrunch at <http://www.etag.org.uk/assets/technology%20market%20intelligence%20for%20tourism.pdf>.

References