

# Experimental Teaching Technique for Mobile Application Development

Ishtiak Ahmed, Ahmed Shehab Khan, Md. Yusuf, Syed Akhter Hossain

**Abstract**— For the extensive employ of smart phone and the heightening availability of huge quantity of effective and operable application pave the way to construct newer and newer opportunities and challenges in the sector of mobile application development. In order to determine the current state of wisdom and research, an extensive brush up and synthesis of the literature in mobile application development has been undertaken to identify and harness potential factors in implementation. This paper represents the findings of this review. It seeks to facilitate the inquiry into 'What is best possible case in teaching technique for mobile application development?' and 'Why is it necessary to teach a unique way?' and off course 'What will be the steps of student friendly teaching?' A central theme is identified as the need to develop overarching principles and realistic visions for mobile application development approaches, technologies to examine global trends. This paper advocates the development of a best-practice framework for teaching mobile application exploitation to guide future accomplishment and conceiving.

**Index Terms**— Mobile application development, mobile devices, Android, teaching application development, teaching tools, Teaching, mobile journalism, mobile application

## 1 INTRODUCTION

Developing mobile applications is quite challenging because such applications are developed on platforms such as Microsoft Windows or Linux but deployed on a totally different platform such as a BlackBerry Smartphone [1]. The enhancing availability of affordable mobile phone and shower of effective application acclaims both chances and challenges for instructive foundations and their teachers and learners.

## 2. TEACHING MOBILE APPLICATION DEVELOPMENT

In the era technological progress there are very high demands of mobile application development because world will be compressed in our pocket by mobile phone. The competition amongst mobile application developer is increasing day by day. Teaching mobile application should be done by sophisticated way because developer should represent the whole work of application in more or less 3 by 2 inches screen. So they need to visualize overall graphical interfaces and the interaction among them.

For that reason it is an appeal for the students/new developers that the teachers should be aware of the most recent technologies in mobile applications.

They should be concerned in sense of modern mobile application developments, most recent trends, most popular upcoming application development technologies and tools for developing upgraded user friendly applications. But it's a matter of sorrow that teachers of mobile application development normally depend on traditional lectures, training site and discussions in teaching the development units.

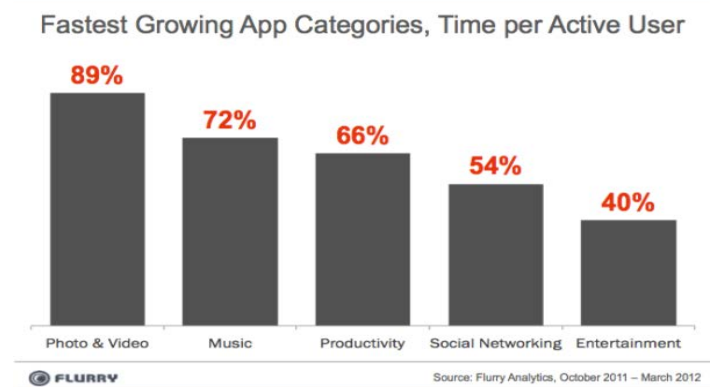
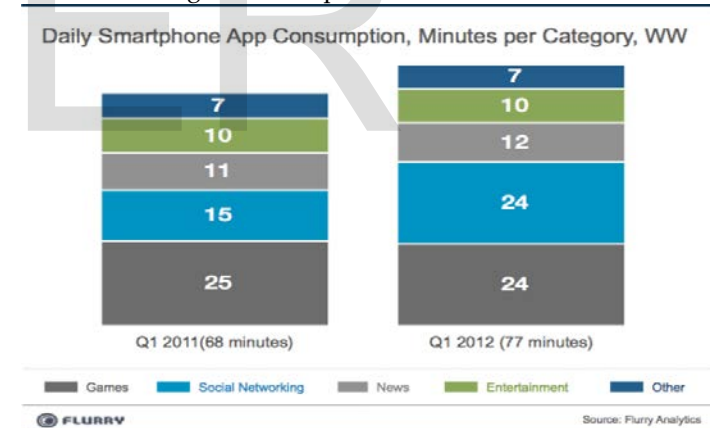


Fig 1 Fastest growing application and daily application consumption

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So an experimental approach is suggested to be promoted for mobile application development as a working level for learning and instructing to overcome this circumstance. Questions interlarded during the experiments intend to promote application development imagining among pupils, to assist them to talk about the outcome prevailed and to formulate final decisions. The basic feature of the approach is to give students the chance to learn the features of mobile application development, then to find out relationships among other language that they have already gone through.

The student should be given the knowledge of all the recent industrial evolution that is to take place in mobile application development industry to make them enthusiastic. In 2010 these 300,000+ applications were downloaded 10.9 billion times. IDC predicts that global downloads will reach 76.9 billion in 2014 and will be worth US\$35 billion [2]. In December 2011 the Android Market surpassed 400,000 application markets, doubling the number of available applications only in 8 months [3] and mobile application consumption will be increased tremendously [4].

After observing this stunning information, instructing mobile application development in a unique way to accomplish the growing requirements of consumers is crying need.

### **3. PROPOSED METHOD**

#### **3.1 Teaching the Behavior of Mobile Device**

While teaching mobile application it can be kept in mind that every mobile device possess some unique characteristics that will be programmed unequivocally which is not like conventional application development on desktop platforms from a different perspective and enforced more or less crucial strategies that will not be done in orthodox style.

Teaching mobile application development can be done as early as the first introductory programming course (or even earlier) or late in the curriculum in a specialized mobile computing course, a software engineering course, or even in the capstone project. I have taught across the curriculum [5]. The unique characteristics of mobile devices and the considerations that need to be taken into account will assist students to look at traditional application development on desktop platforms from a different perspective and apply some of the strategies in mobile application development to developing applications for other platforms.

#### **3.2 Deciding Working Environment and Tools**

At the very beginning the most challenging part of teaching mobile application development is setting up the working environment that may provide too friendly atmosphere to adopt the new technology as well as supply required software plugins or package which should be installed at the introductory level.

For such circumstances, a virtual machine may be created with full accompaniment of development environment so that scholars could just download and run it on their personal computers.

Student must know the basic features and foibles of application developing tools. Getting comfortable with various powerful but sometimes perplexing IDE is a big part of being productive in mobile application development. In other words, effective tool without student's productivity would be no fun at all. Students can get a good start by reading the pages covering development tool concepts. Get to know these concepts early on; otherwise the software menus and documentation will seem full of jargon.

#### **3.3 Deciding Application**

It must be decided perfectly what will be developed and what will be the advantages to make such type of application. Scholars must decide the problem definition and the scope of that application.

#### **3.4 Teaching and Making Comparison with other Language**

Scholars are taught to divide large application while writing large application if they write a large application, consider dividing it into a basic of applications and services. Smaller applications work more immediate than the large one and employ less resource. It will be seen that pairwise coding is better than single person coding. So, scholars should make a partner for effective coding. While teaching development language another thing should be kept in mind that teachers must compare the similarities of other language which are already known by the students. Students should point out the unique features that the language provides.

#### **3.5 Instructing Design**

Better user experience always attracts a large number of users. For that reason it is needed to specify layouts which can be changed easily and dimensions in resolution-independent units, not in pixels, which may be much bigger or smaller on screens with different resolutions. It is also necessary to check by the scholars that the application exploits considerably both in horizontal and vertical orientations.

#### **3.6 Providing Physical Device for Emulating**

Then, while running applications in an emulated or simulated environment allowing students to experiment with the physical devices that believes totally different and better experience [6].

#### **3.7 Instructing Application Testing**

After completing application development teachers need to instruct how to generate a stream of events, random inputs to check the application performance.

#### 4. EXPERIMENTAL OBSERVATION

We make a group to teach an Android based mobile application formally known as MOJO ultimate in experimental approach. For the very beginning we would like to introduce the application which will be deployed. We can propose mobile journalism to be journalism which can be characterized by maintaining in mobile context to capture audio/ video/ image and edit them and to send, publish journalistic material, like text, photos, audio, video or their combinations. To carry out with Mobile Journalism we must need a powerful Smartphone with Internet service. Mobile phone companies are investing billions of dollars in upgrading the capabilities of their devices and soon, we will see the results that would satisfy most journalists. The development of mobile journalism will perhaps move along with the development of online journalism. Of course, be it TV journalism, radio journalism, print journalism and it will soon gain the top most position in the media world.

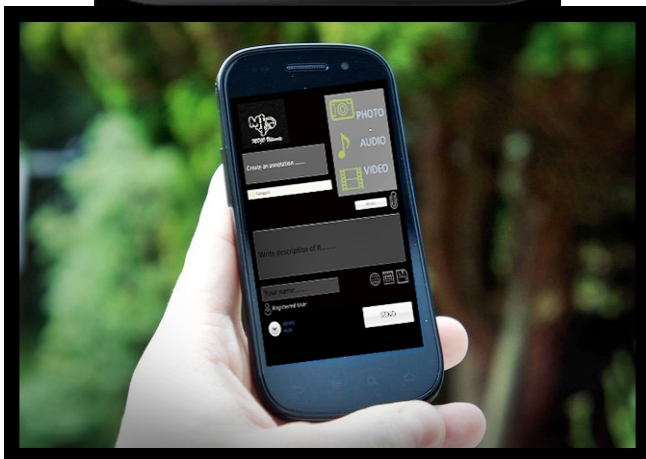


Fig 2 'MOJO ultimate' Graphical User Interface.

It's a voluntary work and whoever has a Smartphone and Internet connection can become a MOJO (Mobile Journalist). It's the fastest way to publish news throughout the world. It also will help people to publish and know about some unheard, unsung news that has never been telecasted lately. It's a process where people can upload their photos and videos as news by using their mobile applications to the web and this process certainly connect the mobile media with the web media. There are some ethical and legal issues over mobile journalism and people who are publishing news, should be careful of what they are posting and what will be its aftermath.

In this project, after completing problem definition phase scholars was taught the basic behaviors of the android phone like menu button, controlling, page navigation, touch sensitivity etc. They were learned how to write code in 'ECLIPSE JUNO' in JAVA, XML and emulate the code. They were highly appreciated to make their design simple, user friendly and attractive. On the other hand, scholars easily caught the differences and similarities among the language they were already instructed. It was seen that after providing physical device scholars found more enthusiasm to build this application and found out the desired result in time.

#### 5. CONCLUSION

The experimental teaching technique always provides better understanding for the pupils and simpler method of teaching for the instructors. The analysis of the outcomes revealed that the experimental approach is superior to the traditional in teaching mobile application development. Teachers encourage the experimental method which is facilitative to defeat various problems they often suffer in the traditional approach. This teaching technique lessens the required time for teaching and eliminates complexity that normally occurs in previous methods. In sum it can be said that proposed technique is much more effective for students and to this end, the contents of this paper are a 'work in progress', from which it is hoped further research can be derived.

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