

Mobile Monday (MoMo) Pakistan

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MoMo Pakistan Event held on 14th February, 2011

Mobile Monday (MoMo) event was held on Monday 14th Feb, 2011 in the faculty cafeteria, CIIT, Islamabad. Representatives from Alcatel-Lucent, Telenor, Ufone, ZTE, Warid, Wateen, ZONG, Mobilink, Huawei and ICT R & D Fund were invited. The event was lively due to the discussions between the faculty, students and representatives from industry.

Ten groups of students from Electrical Engineering and Computer Science departments presented their projects related to mobile applications. Their projects were appreciated by the representatives of the companies.

Representative from National ICT R&D Fund urged the participation of PSEB and PASHA group in this event as they are involved in development of mobile application and other related issues.

During the last MoMo event held on 10th January, 2011, representatives from some mobile operators

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Latest research Trends in Mobile Industry:

(By Dr. Mahmood Ashraf)

The convergence of gaming, TV, **mobile** and Internet has given new dimensions to Mobile Industry and Developers around the globe. Due to this convergence, the mobile subscriber base is growing at a scorching pace in Pakistan and has crossed the 100 million mark in subscriber base. In the last two months, Pakistan has become the fastest growing mobile market. As average revenue per user decreases from voice, and voice becomes commoditized, Telco's are increasingly looking at data as an additional revenue stream. The end users have also embraced Value Added Services (VAS) and it contributes between 5-10% of the revenues of different Telco's. Thus Mobile VAS has become an important element in the growth of mobile telephony in Pakistan.



Following Value Added Services are offered by Mobile Telco's in Pakistan:

- P2P: Person to Person SMS, mostly used.

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proposed/suggested that there should be some research on the issues relating to 3G and 4G implementation as Pakistan will be soon going to the implementation phase on 3G mobile networks.



For spring 2011 Semester, CIIT faculty has allocated the following projects related to 3G and 4G technology:

- Antenna Design for LTE Handset
- Antenna Design for 4G Terminals
- Evolution of GSM to mobile broadband 3G (HSPA) LTE, WIMAX: Comparison advantages, disadvantages and industry focus.
- Up-gradation/ Migration of existing networks to 4G and challenges in Deployment of next generation networks

Other projects related to mobile sector offered in the coming spring semester are the following:

- Antenna Design for UMTS Handset
- MIMO Antenna Design For Mobile Handset
- Performance analysis of Wi-Fi Networks
- Analysis of Different voice coders in Telecommunication Networks
- MIMO Antenna Design For Mobile Handset
- Design and Implementation of L1 Functionality for 3GPP LTE UE.

- Implementation and recital scrutiny of Wi-max using NS-2
- Wireless GSM based Tower(BTS) position control system
- CDMA mobile radio design
- Test Bench implementation of UMTS
- Development of wireless sensor network for medical case using zig - bee technology



All the projects are being supervised by CIIT faculty. However, there is a strong need of interaction of Industry with academia in these projects. If the industry/ telecom operators have interest in any of the above mentioned projects please feel free to contact the faculty so to make these project focused and purposeful.

It is also purpose of the MoMo event to help the industry through such projects so that their problems and issues could be resolved. ❖

- Ringtones downloads
- P2A & A2P: P2A (Person to Application) like news & updates, sports, music and Islamic; (A2P) Application to Person SMS like Fun services and Info services etc.
- Utilities and Social Services.
- Games & Data: Games download Data include download of wallpapers & logos.
- Internet Browsing and E-mail
- Others: Include MMS (Multi Media Messages).

It is interesting to note that most of the innovations are happening outside the mobile operators range and close to the user. In mobile sector, the users can be categorized into the following four areas based on their demands:

1. Communication Users
2. Entertainment users
3. Internet users
4. Social networking users

The target industries for the above mentioned users are:

- Mobile
- Internet
- Media (Content)

Based on the classification of the users and the target industries, following are the major areas where the present research can be focused:

- **User and Mobile Device**
 - User interface for small form factors (ergonomics)
 - Wearable computing
 - Value engineering i.e. cost reduction
 - Safety
 - Authentication using biometrics
 - Adaptive and Innovative applications like Traffic updates, high-speed toll payment, Electronic wallets, e-Payments.
 - Performance improvement which includes Reduction of resource requirements (e.g. CPU, battery, Cache etc.)

- Security (e.g. preventing virus attacks)
- Mobile databases and Location tracking

- **Mobile Infrastructure**

- Architecture, protocols, algorithms to cope with mobility, limited bandwidth, and intermittent connectivity
- Interaction between different layers of mobile/wireless systems
- Interconnection and internetworking of wired and wireless Networks
- Support for seamless mobility like Call continuation And Authentication
- Quality of service (specially for multimedia transmission)

- **Modeling Analysis and Simulation**

- Performance evaluation
- RF capacity simulation and analysis
- Traffic analysis
- Simulation and analysis of wireless protocols and standards
- Modeling and analysis of speech, audio and wireless transmission

- **Wireless Test beds for Technology evaluation**

- Tools for measurement, collection and analysis

- **Mobile agents**

- **Ad-hoc networks**

These are the major trends of research in Mobile sector but of course the research is not only limited to these areas. ❖



Students Project Displayed

A number of projects were presented in the MoMo event and were appreciated by the participants. Following is the list of these projects presented by the students of Electrical Engineering and Computer Science departments:

1. MMS Security Camera
2. Designing of Antenna for BROADBAND Jamming applications.
3. An Electrically Small Multiband Antenna for Wireless Applications.
4. Truncated Circular Edged Wide Band Micro Strip Patch Antenna
5. Compact Micro-strip Patch Antenna for WLAN/Zig-Bee/RFID/Wi-MAX/LTE Band 7 and On-Body Applications
6. Antenna Design for LTE Systems.
7. Antenna Design for LTE, Release 10 (Frequency Range: 850MHz)
8. Trapezoidal Printed Monopole Antenna with Bell Shaped Cut.
9. Position Guided Advertisements for Mobiles.



MoMo Pakistan Web Site:

As the MoMo event brings all the software developers, hardware engineers, Students, Faculty and the mobile operators on one platform, its web site is also regularly updated and used as a tool for future development in Mobile sector. Following are the MoMo Web sites:

www.mobilemonday.net.pk,

www.mobilemonday.net

MoMo Pakistan Web site can be used as a platform for professionals/experts to share their experiences and for young faculty/students to give comments/suggestions related to this event or mobile applications. Faculty and Students from other Universities are also welcome to Participate in this monthly event. ■

The Tentative date for next Mobile Monday event is Monday 14th March, 2011.

Other Events:

BMIP (August 14, 2011)

The Best Mobile Innovation Pakistan Award is an annual competition to promote innovations, new entrepreneurship as well as increase implementation of wireless related technology in Pakistan and in the world! For details about BMIP please visit: www.bmip.org

CEPEX 2011 (April 13 to 14, 2011)

The Department of Electrical Engineering, CIIT Islamabad holds this yearly event with the objective to blend together all the key elements of the two engineering spheres academia and industry. The core events of CEPEX are project exhibition, Symposium, Industrial Expo etc. ■

CONTACT DETAILS:

Mr. Ahsen Mirza (ahsenmirza@comsats.edu.pk)

Dr. Mahmood Ashraf Khan (mahmoodashraf@comsats.edu.pk)

COMSATS Institute of IT

Park Road, Chak Shahzad, Islamabad

Tel: 92-51-8318471, Fax: 92-51-8318499

URL: www.comsats.edu.pk

