SIGMOBILE FY'16 Annual Report

July 2015 – June 2016

The purpose of ACM SIGMOBILE is to promote research and development by bringing together researchers and practitioners and fostering interest in the mobility of systems, users, data, and computing. SIGMOBILE will address the above spectrum of topics, sharing one common theme - mobility. The group's technical scope reflects the emerging symbiosis of portable computers and wireless networks, addressing the convergence of mobility, computing and information organization, its access, services, management and applications.

In the past few years, mobile computing is a fast moving, topical, and exciting area of computer science and engineering. Supporting the mobile computing and wireless networking research community, SIGMOBILE sponsors multiple successful conferences and workshops (MobiCom, MobiSys, MobiHoc, SenSys, UbiComp, WUWNet, PerDis, and HotMobile) that are well attended by its members, and generating high-quality and widely cited publications. These are valuable services for SIGMOBILE's members and the community, resulting in a strong Special Interest Group, with about 700 members.

SIGMOBILE's Executive Committee (EC) comprises of

- Chair: Prof. Suman Banerjee (University of Wisconsin-Madison)
- Vice Chair: Prof. Lili Qiu (University of Texas at Austin, USA).
- Secretary: Dr. Alec Wolman (Microsoft Research, Redmond)
- Treasurer: Prof. Marco Gruteser (Rutgers University)

In addition, SIGMOBILE's leadership has introduced a number of new appointed positions to match the expanding activities and events of this community. They include:
- Editor-in-Chief (EIC) for SIGMOBILE's journal/newsletter for our members (Mobile Computing and Communications Review or MC2R), Prof. Eyal de Lara (Univ. of Toronto, Toronto, Ontario, Canada)
- Information Director: Dr. Sharad Agarwal (Microsoft Research) --- handles all content and communication from SIGMOBILE via websites, social media, and email.
- Digital Library Coordinator: Dr. Guanling Chen (University of Massachusetts Lowell, USA) --- coordinates issues related to publications from our conferences and workshops.
- Award Committee Chair: Prof. Edward W. Knightly (Rice University, USA) --- manages the various key awards that the community bestows.
- Outreach director: Dr. Thyaga Nandagopal (NSF, USA) --- assists authors of papers to broadly disseminate their work to the general public.
- Video director: Shweta Jain (Rutgers University, USA) --- supports video recording of talks at major conferences.

Awards

SIGMOBILE has a number of awards that it bestows of community members every year. In addition to the Outstanding Contributions Award (OCA) for career-long achievements, the Rockstar award for early career achievements, a Distinguished Service Award for service to the community, and various best paper awards at the leading conferences, SIGMOBILE introduced two new awards this year --- the Test of Time award for publications in any venue that appeared at least 10 years prior, and the ACM SIGMOBILE Doctoral Dissertation Award for best PhD work in the field.

Some of the notable award winners are mentioned below.

Outstanding Contributions Award: Prof. Mario Gerla (UCLA)
Rockstar Award: Dr. Karthikeyan Sundaresan (NEC Labs)

The new Test of Time award was inducted for the first time this year, and in this inaugural year, a committee chaired by Prof. Andrew Campbell identified 11 seminal pieces of work as winners. They are:

- Abramson, Norman. "THE ALOHA SYSTEM: another alternative for computer communications." Proceedings of the November 17-19, 1970, fall joint computer conference. ACM, 1970.
- Kleinrock, Leonard, and Fouad A. Tobagi. "Packet switching in radio channels: Part I--carrier sense multiple-access modes and their throughput-delay characteristics." Communications, IEEE Transactions on 23.12 (1975): 1400-1416.
- Weiser, Mark. "The computer for the 21st century." Scientific American 265.3 (1991): 94-104.
- Want, Roy, Andy Hopper, Veronica Falcao, and Jonathan Gibbons. "The active badge location system." ACM Transactions on Information Systems (TOIS) 10, no. 1 (1992): 91-102.
- Kistler, James J., and Mahadev Satyanarayanan. "Disconnected operation in the Coda file system." ACM Transactions on Computer Systems (TOCS) 10.1 (1992): 3-25.
- Bakre, Ajay, and B. R. Badrinath. "I-TCP: Indirect TCP for mobile hosts. "Distributed Computing Systems, 1995., Proceedings of the 15th International Conference on. IEEE, 1995.
- Bahl, Paramvir, and Venkata N. Padmanabhan. "RADAR: An in-building RF-based user location and tracking system." INFOCOM 2000. Nineteenth Annual Joint Conference of the IEEE Computer and Communications Societies. Proceedings. IEEE. Vol. 2. IEEE, 2000.
- Gupta, Piyush, and Panganmala R. Kumar. "The capacity of wireless networks." Information Theory, IEEE Transactions on 46.2 (2000): 388-404.
- Polastre, Joseph, Jason Hill, and David Culler. "Versatile low power media access for wireless sensor networks." Proceedings of the 2nd international conference on Embedded networked sensor systems. ACM, 2004.
- LaMarca, Anthony, Yatin Chawathe, Sunny Consolvo, Jeffrey Hightower, Ian Smith, James Scott, Timothy Sohn, James Howard, Jeff Hughes, Fred Potter, Jason Tabert, Pauline Powledge, Gaetano Borriello, Bill Schilit. "Place lab: Device positioning using radio beacons in the wild." In Pervasive computing, pp. 116-133. Springer Berlin Heidelberg, 2005.
- Bicket, John, Daniel Aguayo, Sanjit Biswas, and Robert Morris. "Architecture and evaluation of an unplanned 802.11 b mesh network." In Proceedings of the 11th annual international conference on Mobile computing and networking, pp. 31-42. ACM, 2005.

The SIGMOBILE Doctoral Dissertation Award was approved just recently and a selection process is underway. Finally, SIGMOBILE plans to recognize some of the work that best reaches out to and impacts a wide audience in each year through a selection process to create SIGMOBILE Research Highlights every year, and forward these papers for potential publication in the CACM Research Highlights.

Innovative programs

SIGMOBILE is delighted at the significant transformation of its quarterly publication, *GetMobile, which* is a revamped version of the ACM SIGMOBILE Mobile Computing and Communications Review, (MC^{2}R). Each issue of GetMobile consists of a set of regular sections curated by a committed group of editors and has won a lot of praise from the broad community for improved quality of content and articles.

SIGMOBILE has recently launched the SIGMOBILE YouTube channel through which we provide video-recorded talks from our major conferences and workshops. This content is publicly available and anyone can now watch the talks from our conferences at their convenience, even if they were not able to attend the conference itself. There is clearly a significant following this channel has generated, with more than 11,000 views in 2015, with an average of 3 hours of viewing activity daily. Many of our viewers seem to be from diverse countries, incuding Asia, South America, and Africa, thereby allowing us to reach many more constituents than our conferences and workshops currently does.

SIGMOBILE, in partnership with SIGCOMM, introduced a new event this year, called the Wireless Industry Days, with the goal of allowing greater engagement with our related industry. It was organized as a workshop and was held in the Bay area (co-located with a large industry-focused event) with the goal of allowing leading researchers to present their results to participants from industry. This was an interesting experiment of reaching out in new ways beyond the confines of our core conferences and workshops.

SIGMOBILE also introduced the availability of technical papers in the mobile friendly ePub format which allows readers to better browse such materials on their phones and tablets. We have setup an arrangement by which any SIGMOBILE event can ensure that camera-ready papers can be easily converted into the ePub format and is made available through the ACM Digital Library. This reflects our commitment to keep up with the changing needs of the community and the ways in which we consume content in the modern world.

SIGMOBILE also routinely provides financial support to various community activities. They include CRAWDAD --- a community resource hosted at Dartmouth University that archives research datasets; and Networking Networking Women (N^2 Women) is a community of researchers who foster connections among the under-represented women in computer networking and related research fields.

SIGMOBILE is celebrating its 20th anniversary at ACM MobiCom 2016 in New York City, USA, in early October 2016. The planning of celebration event is underway. Recognizing the inaugural batch of SIGMOBILE Test-of-Time Awards is one of many celebration events being planned as part of this activity.

Challenges and considerations facing the community

Identifying community projects that SIGMOBILE can fund: SIGMOBILE has created the Mobile Computing Community Research (MCRC) fund to support activities of broad community interest (such as CRAWDAD and N^2Women). However, we need to work harder to identify other projects that this community can and should support.

Greater industry engagement: We believe that SIGMOBILE can engage even better with the significant mobile and wireless industry that is having such a significant impact in the world today. We have taken some initial steps, e.g., the Wireless Industry Days workshop, the revamped GetMobile publication with a broader appeal. But much more can and should be done, and we need to look for better and greater ways of engaging with our broader industry.

Conference co-locations: SIGMOBILE today sponsors multiple major conferences --- MobiCom, MobiHoc, MobiSys, SenSys, UbiComp, along with two newer additions, PerDis and WUWNet. Each conference has slightly different focus, has thrived over the years, and is considered a premier venue in the field. However, sometimes there is a concern that too many conferences may dilute a community and there maybe need for periodic co-locations and greater coordination. This is an issue that require further introspection.

Summary

Mobile computing and wireless networking are among the fastest growing fields within computer science and engineering, and as a result SIGMOBILE continues to be a strong, successful, well-supported organization. The SIG's conferences and workshops are well attended, creating a wealth of publications for the ACM digital library and the SIG's members. The community continues to create significant impact both technically and to the broader society through research, education, and other activities.