

Activity Report of IRG-25-2014

IRG Code	IRG-25-2014
Name of IRG	Mobile Millennium Asia: Mobile Productivity and Utility Tools for Inclusive Urban Mobility
Status	Continuation
Representative Member	Dr. Francis Aldrine A. Uy, Mapua Institute of Technology, Philippines
Contact Person Email*	Dr. Francis Aldrine A. Uy, Mapua Institute of Technology, Philippines faauy[at]mapua.edu.ph

1. Activity of IRG in 2013-2014

Membership Recruitment

The group continue to promote the IRG and accept new members.

Submission of Research Proposal with DOST in connection to ITS Philippines

Trip Connection and Operation Mobile Application (TRIPCO)

- a. To develop a mobile application that will guide urban commuters and enable them to perform intelligent trip related decisions using location-based information.
- b. To develop an advance trip guide mobile applications for urban commuters and persons with disabilities specifically the blind. The mobile application shall have the following components: Trip Register, Trip Analytics and the major component the Trip Eye.
- c. The TRIPCO mobile application shall be made ready for integration with other intelligent transportation systems to enhance its static database (historical). It will be made ready for pilot testing in year 2.

ITS Philippines

The members of the group participate in various meetings set by UP NCTS for the submission of proposals and lobbying of funds for the advancement of Intelligent Transportation System (ITS) in the Philippines.

Philippine-California Advanced Research Institutes (PCARI)

Development of **Mobile Millennium Manila** (MMM) project that shall support IRG's activities.

Submission of proposal, panel defense and follow-up evaluation

The objective of the proposed project is to construct a traffic information system and mobility tool, **Mobile Millennium Manila** (MMM), which will improve mobility in Manila by helping travelers to find the most efficient way to get from their origin to their destination. The system will include a free mobility application supported by a streaming data analytics server. The front end app will make available to travelers: public transport information, trip and parking demand, service area level of service, speed maps, travel time computations and optimal route information (which will be based not only on quantitative analysis of traffic conditions, but also opinions from other travelers; opinions that themselves will be analyzed to identify those that represent a majority of users). The backend system will include advanced data processing capabilities to support the front end service, including: (1) a professional-grade Oracle database, (2) processes to filter the data feeds, (3) estimation and prediction algorithms for the state of traffic, (4) algorithms for routing and travel advisory and (5) algorithms for traveler opinion mining. Year 1 will be focused on training and the development of system and app. Our main objective in Year 1 will be to design an app that is attractive and user friendly; an essential prerequisite if we are going to create a sustainable flow of data.

UC Berkeley Visit

To promote PCARI project and the idea of a Mobile Millennium project. A visit to UC Berkeley particularly the *Partners for Advanced Transportation Technology (PATH), University of California, Berkeley* took place.



PCARI Forum Conducted at UC Berkeley



Dr. Uy presenting about the principle of Mobile Millennium



Meeting with PATH UC Berkeley Partners



UCB College of Engineering



The Banatao Institute



Dr. Uy with the famous Mapua Alumni Dr. Dado Banatao

Development of mobile application CrowdCast

The members of IRG that are researchers of the Geospatial Information and Civil Systems Lab (GICS) is developing a simple but powerful mobile application that can support crowd sourcing activities for research studies and surveys. CrowdCast shall be launched before the end of the year and will be pilot tested by various research groups at the Mapua Institute of Technology for crowdsourcing technique studies.

2. Self-evaluation in 2013-2014

2.1 Achievement

- Paper (Title, Authors, Year, Name of the Journal, etc.)

Papers are currently being written and prepared for EASTS 2015

- Report and book

None

- Seminar, symposium and special session: (Title, Date, Venue & abstract)

To be scheduled before end of the year or first quarter of 2015.

- Group meeting: (Date, Venue & abstract)

Discussions have been conducted through email and small group meetings. Official meetings shall be held next month in preparation for EASTS 2015.

- Result of application for the research grants:(Name & result)

ITS Philippines DOST

The TRIPCO project was initially approved but due to bureaucracy issues between CHED and DOST, the latter decided to recommend the inclusion of TRIPCO to the Mobile Millennium Manila Project. The approval was cancelled in the governing council level.

CHED PCARI Mobile Millennium Manila

Table of Analysis of the Current Situation, Needs and What PCARI Can Do	
Proposal No.	IIID 27
Research Title and Proponents	Mobile Millennium Manila (3M) Alexandre Bayen, Francis Uy, May Lim
Current Situation	<ul style="list-style-type: none">• The cost of congestion for Metro Manila has been estimated as being about 2% of the Philippines GDP.• Congestion causes increased levels of air pollution. In 2012 levels were higher than recommended by the WHO and were estimated to cause approximately 12% of total deaths and cost PHP 14 billion in health care costs in addition to direct economic costs.• Infrastructure for transport is insufficient to meet current demand. Pressure for further construction to meet demand.
The Need	<ul style="list-style-type: none">• Significantly enhanced management of the <i>existing</i> transportation system to support Metro Manila's ambitions to be more sustainable, more economically successful and more livable.• Enhanced information about demand and its likely growth.
What PCARI Can Do	<ul style="list-style-type: none">• Build on experiences gained from the United States to the development of innovative and ground-breaking approaches to transportation system management in Metro Manila.• Exploiting the very high penetration of mobile communications in the Philippines (approaching 115%) and the culture of texting and other forms of mobile communications to make Metro Manila's travelers participants in increasing mobility and accessibility for all.• The project will build a new society of intelligent trip generators or trip makers through productivity and utility tools supported by a complex back-end system. Intelligent trip makers combined with intelligent transportation infrastructures shall result in a well-managed and sustainability-oriented urban mobility.

The PACARI project is still on hold due to bureaucracy issues between DOST and CHED. There is still hope for its implementation in 2015.

<http://www.mb.com.ph/bureaucratic-issues-stall-cheds-p1-7-b-research-tie-up-with-us-universities/>

• Promotional activities of your IRG: (Homepage, Newsletter, Mailing list etc.)
Homepage
On-going development and waiting funding.

Facebook Account

Facebook account was put on hold to verify the approval of old and new IRG members.

2.2 Shortage point

- No fund is available to support major activities
- The initiative to acquire financial grant has not been successful
- There is a need to provide better communication medium for old and new members

3. Activity plan in 2014-2015

(Oct, 2013 - Sep, 2014)

Survey and evaluation of existing transportation related mobile applications existing or available in participating countries.

This activity was completed as part of the requirements in the research project proposal evaluation of the DOST TRIPCO project and CHED Mobile Millennium Manila Project.

Analysis of available data acquired through existing mobile applications.

Determine impact and effect of these mobile applications in the current state of travel demand behavior and traffic.

This activity was partially completed as part of the requirements in the research project proposal evaluation of the DOST TRIPCO project and CHED Mobile Millennium Manila Project. More studies shall be conducted with available applications like WAZE.

(Oct, 2014 - Sep, 2015)

Design of a mobile application platform that shall integrate selected existing and future mobile applications with the end goal of providing an inclusive mobile app for intelligent trip makers.

The CrowdCast mobile application that is currently being developed by GICS and IRG group members shall be launched before end of the year for pilot testing. The CrowdCast shall be used in different transportation related studies by graduate and undergraduate students. This mobile app shall be extended into a more trip maker productivity tool.

Design a central back-end system that shall filter and process mobile data feeds and conduct estimation and prediction.

(Oct, 2015 - Sep, 2016)

Pilot-testing of the Mobile Millennium Asia mobile application and back-end system in at least 2 participating countries.

(Oct. 2016 – Sep, 2017)

Improvement of the mobile application and information system.

Documentation and publication of results.

Official launching of Mobile Millennium Asia Urban Mobility Center.

Group meetings shall be conducted as much as possible every month in preparation for EASTS 2015.

Research Proposal Submission

New research proposals are being crafted connected to Mobile Millennium that will be submitted for DOST funding on January 2014.

4. Special instruction (additional member etc.)

Please add the following new members:

1. Engr. Jocelyn Buluran (new TSSP member)
2. Engr. Riches Bacero (TSSP Member)
3. Alben Bagabaldo (to apply as TSSP member)
4. Farkam Mohebbi (TSSP member)
5. Amin Aghababaei (to apply as TSSP member)
6. Geoffrey Cueto (TSSP member)
7. May Lim (UP National Institute of Physics - to apply as TSSP member)
8. Alexander Bayen (UC Berkeley/PATH)

The secretariat of EASTS
E-mail: [irg\[at\]eastst.info](mailto:irg@eastst.info)