

KNOWLEDGE WORKER PRODUCTIVITY

A Journey from Islands of Knowledge to Mutual Understanding in Global Business Meetings

FALL 2013

UPDATE

mediaX
STANFORD UNIVERSITY



mediaX connects businesses with Stanford University's world-renowned faculty to study new ways for people and technology to intersect.

We are the industry-affiliate program to Stanford's H-STAR Institute. We help our members explore how the thoughtful use of technology can impact a range of fields, from entertainment to learning to commerce. Together, we're researching innovative ways for people to collaborate, communicate and interact with the information, products, and industries of tomorrow.



A Journey from Islands of Knowledge to Mutual Understanding in Global Business Meetings

Knowledge Worker Productivity Project Update October 2013

Research Team: Renate Fruchter, Co-Founder, Project-based Learning Lab; Kincho Law, Professor, Environmental and Civil Engineering; Leonard Medlock, Research Assistant, Project-based Learning Lab

Background

September – December 2012

This project started with a one day planning meeting with mediaX Visiting Scholars, Takao Shudo and Ikuko Kanazawa, to strategize regarding localization trial.

Phase One: eMoC Localization

- Identify potential pilot teams
- Specify eMoC related data collection related to space and technology
- Develop eMoC PBL Lab surveys for data collection: background, knowledge work, space and technology
- Transfer eMoC knowledge to localization venue
- Rapid prototyping of use-case scenarios for eMoC in localization trial
- Provide access to eMoC cloud prototype
- Survey localization personnel, analyze data analysis and synthesize findings
- Correlating survey data with eMoC mock up prototypes
- Develop eMoC storyboard for localization - Ms I and Ms Field

January – June 2013

Phase Two: eMoC Localization

- Continue to collect data, discuss and clarify eMoC functionality and benefits with pilot team members and supervisors
- Use eMoC to assist a team model their space and use of collaboration technology and potential engagement. Determine how to improve effectiveness of knowledge work productivity during distributed team meetings
- Establish regular periodic remote meeting sessions to discuss eMoC clarification questions, details of the eMoC pilot and localization.
- Collect specific space and technology information to localize eMoC for pilot deployment.
- Analyze pilot data from test location

eMoC Prototyping and Testing Accomplishments

September – December 2012

- eMoC mobile & cloud rapid prototyping cycles
- Re-architect the eMoC to address lessons learned from education and industry pilot experiments
- New eMoC mobile prototyping storyboarding

January – June 2013

- Design, implement, and test eMoC mobile MS Azure cloud backend system
- Design, implement, and test eMoC mobile GUI and interaction experience
- Integrate eMoC mobile GUI and MS Azure cloud backend system
- eMoC mobile testing with PBL research team
- eMoC mobile-cloud prototype implementation and testing with PBL research team
- AEC Global Teamwork course test-bed experimental deployment and data collection
- Organized with Professor Matsamura a successful 2013 Symposium Series AAAI workshop on “Shikakeology: Designing Triggers for Behavior Change”
- Professor Matsamura and Dr Fruchter were invited to co-edit a special journal issue of AI & Society International Journal as a follow up of our AAAI workshop

Summary

Our research team made excellent progress in developing the first working eMoC mobile prototype in Winter and Spring Quarter 2013. Consequently we were able to deploy it in April 2013 in the AEC Global Teamwork testbed and collect data from five global teams:

- AEC Global Teamwork testbed – pilot and data collection - Spring Quarter 2013
 - o We deployed the first eMoC mobile prototype that focuses on individual profiles – over a period of a month
 - o The AEC Global Teamwork testbed included five student project teams that were cross-disciplinary and globally distributed across twelve universities from The Americas and Europe, and engaged 36 participants from 16 nationalities, with a diversity distribution of 40% female and 60% male
- During Spring and Summer 2013 we made significant progress related to data analysis and visualization, and related to user experience with eMoC mobile
 - o We started exploratory eMoC data analysis and visualization experiments using the data collected during the Spring 2013 AEC Global Teamwork testbed that includes:
 - Comparative workload time history visualizing the evolution of the team's reported workload, actual workload, average workload, minimum and maximum workload per team
 - Engagement potential time history
 - Preliminary data analysis that correlates engagement potential time history with project team success in terms of product and process
 - o We continue to collaborate with localization personnel, focusing on the localization case study and pilot that provided further feedback to the design and development of eMoC
 - We refined the working definition of what 'a project' is to help eMoC users assess their workload and availability
 - Re-designed the engagement GUI - enGauge to assist eMoC users to quickly view their potential engagement at individual, dyad, group and team level.
 - o Defined with localization partner a three-phase eMoC study – before-during-after move-in -- related to the localization venue's progress in designing and moving into a new building in 2014 SWI+CH
 - o One-day eMoC working session at localization venue.

Acknowledgement

We would like to thank mediaX, its members and partners for the opportunity to collaborate through this ongoing study.

Additional Reading:

Statement of the Knowledge Worker Productivity Research Theme
<http://mediax.stanford.edu/KWP/concept>

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