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## IUI'12 Interdisciplinary Workshop on Location Awareness for Mixed and Dual Reality (LAMDa)

<http://www.dfki.de/LAMDa/>

<http://iuiconf.org>

Lisbon, Portugal, February 14th, 2012

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### THEME

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The LAMDa workshop aims at discussing the impact of Dual Reality and Mixed Reality on Location Awareness and other applications in Smart Environments as well as their impact on human sociability in general.

Virtual environments – which are an essential part of Dual and Mixed Realities – can be used to create new applications and to enhance already existing applications in the real world.

Besides that, existing sensors in the real world can be used to enhance the virtual world as well.

Even well known techniques, like the Kalman-filter, can be seen as an example for this type of application: Sensor measurements in grounded reality (the real world) are brought into virtual environments in form of models that describe the error distribution of the sensors. The virtual environments can then be used to make a prediction for the next measurement in grounded reality. Both results – the prediction and the measurement – are used to refine the virtual world and to bring more accurate sensor measurements into the real world.

On a more philosophical level, it can be argued that all Mixed/Blended/Dual/ Grounded and Virtual realities exist within one reality. PolySocial Reality (PoSR) is a theoretical perspective that subsumes other 'reality' paradigm models while providing a framework to express their behaviors. PoSR is the aggregate of all the experienced 'locations' and 'communications' of all individual people in multiple networks at the same or different times. PoSR describes the network transaction space that people traverse with others to maintain social relationships via various apps, mobile services, sensors, platforms, technologies and conversation spaces. At its most positive, PoSR extends our capacity for social relations, at its worst, it fragments and isolates people from each other. The underpinnings of PoSR were developed for LAMDa'11, and papers describing it in detail can be found here:

IUI2011, LAMDa'11: <http://www.dfki.de/LAMDa/accepted/ACulturalPerspective.pdf>  
IE'11: [http://ieeexplore.ieee.org/xpl/freeabs\\_all.jsp?arnumber=6063398](http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=6063398)

Suitable topics for the workshop include, but are not limited to:

- Mixed Reality (MR) and Dual Reality (DR)
  - Utilization of MR/DR in Location Based Services
  - Combination of real world and virtual data
  - Integrating multiple identities (identity in DR)
  - Social interaction in DR
  - Techniques for model creation, integration of simulators
  - Visualization Techniques for Data Flow and Crude Product Positioning
- Positioning and Location Based Services
  - Indoor/Outdoor Positioning Technologies
  - Always Best Positioned Systems (Sensor Fusion)
  - Privacy Issues
- Location Based Social Signal Processing in MR/DR
  - Group members location (mix of real world and virtual world group members)
  - Detecting other group members and their behavior
  - Sensing, processing, representation and visualization of the social context
- PolySocial Reality
  - Applications that utilize sensing, representation and processing to increase sociability between human beings in groups--outside of their machines.
  - Applications that take advantage of “secondary attention” and merge existing application knowledge between apps and the environment.

For further information, please have a look at <http://www.dfki.de/LAMDa/topics.html>.

## SUBMISSION

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We ask for position papers (from abstract up to 4 pages) that address one or more of the research questions mentioned above, or that describe findings that relate to these research questions based on systems the authors have built.

All submissions should be prepared according to the standard SIGCHI publications format:

<http://chi2012.acm.org/cfp-formatting-instructions.shtml#archiveformat>

Please send your submissions (PDF) to [LAMDa@dfki.de](mailto:LAMDa@dfki.de)

For more details, please have a look at: <http://www.dfki.de/LAMDa/cfp.html>

## IMPORTANT DATES

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Submission Deadline: December 31, 2011  
Author Notification: January 6, 2012  
Camera-Ready versions: January 20, 2012  
Workshop: February 14, 2012

## WORKSHOP FORMAT

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Our goal is to advance the research of location awareness by exploiting the discussion between researchers from several disciplines. Each session will begin with brief oral presentations of the contributions, after which we will focus on interactive discussion

with an emphasis on the following research questions:

- Location: What level of accuracy is required for location-based services in smart environments?
- Mixed and Dual Reality: How can Mixed and Dual Reality paradigms be used to support location-based services?
- Location information and Mixed/Dual Reality: What requirements do Mixed and Dual Reality paradigms pose on localization technologies?
- Group interactions: What kind of information and interfaces are useful for supporting interactions between group members in location-enhanced Dual or Mixed Reality applications?
- How can location based technologies increase human sociability and best enhance the positive aspects of PoSR?

Notes of the discussions will be kept, reviewed at the end of the workshop, and published on the workshop web page.

## ORGANIZERS

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