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# MMVE 2012

## Call for Papers

The 5th International Workshop on Massively Multiuser Virtual Environments  
at the 11<sup>th</sup> IEEE International Symposium on Haptic Audio-Visual Environments and Games (**HAVE 2012**)

Oct. 8-9, 2012, Munich, Germany

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Massively Multiuser Virtual Environment (MMVE) systems are spatial simulations that provide real-time human interactions among thousands to millions of concurrent users. MMVEs have experienced phenomenal growth in recent years in the form of massively multiplayer online games (MMOGs) such as World of Warcraft and Lineage, and social communities such as Second Life and Hobbo Hotel. The technical aspect of designing, developing, and deploying them is highly interdisciplinary and involves experts from many domains, e.g., graphics, networking, protocol and architecture designs. The MMVE workshop intends to provide a forum for both academic researchers and industry developers to investigate the architectural and system support for MMVEs. By gathering experts under one roof, we wish to discuss their findings, incite collaborations, and move the state of the art forward. The workshop seeks to provide a forum for researchers and practitioners in the field, and will encourage discussions based on the presented papers to identify current and future research topics. We are particularly interested in raising discussions about the following questions:

1. How is MMVE technology developed for games reused for distributed virtual environment in other domains, such as training?
2. How do the life-cycles and payment models of games integrated into social networking systems (Facebook etc) influence game development?
3. How can MMVE technology leverage parallel computing technology, including multicore (Cell, GPU), tight clustering (transactional memory, distributed shared memory) and distributed systems (P2P, Clouds)?

The workshop addresses the following MMVE topics:

1. **Scalability**, the ability to handle at least thousands of concurrent users, interacting via Internet.
2. **Interactivity**, how to provide responsive, near real time interactions despite latency and jitter.
3. **Consistency**, providing consistent views for users, despite the inherent delay in state updates.
4. **Persistence**, the ability to save and access the world states despite disconnections and failures.
5. **Security and privacy**, distributed algorithms that allow secure interactions and privacy guarantees.
6. **Interoperability**, integration of multiple systems or providers with common protocols or clients.
7. **Bandwidth restricted (mobile) devices**, the integration of mobile devices for nomadic systems.
8. **Self-organizing architectures**, load balancing and fault tolerance without manual configurations.
9. **Content streaming**, voice communication and 3D content streaming, incremental deployment and updating.

10. **Implementation issues**, novel approaches to address development challenges.

Paper submissions must cover one of the topics above or a closely-related one. We solicit full size papers (6 pages) as well as posters (2 page extended abstract). All submissions *must be blinded*, must be original prior unpublished work and not under review elsewhere. All submissions will be peer-reviewed (double-blind) and selected based on their originality, merit, and relevance to the workshop. Please submit at: <http://peers-at-play.org/MMVE12/>, and e-mail [mmve@peers-at-play.org](mailto:mmve@peers-at-play.org) for any inquiries. Accepted papers and demos must be presented at the workshop and will be indexed in IEEE Xplore, included as part of IEEE HAVE 2012 proceedings.

### IMPORTANT DATES

Submission Deadline:	July 1, 2012
Acceptance Notification:	Aug. 1, 2012
Camera Ready:	Sept. 1, 2012
Workshop Date:	Oct. 8-9, 2012

### ORGANIZERS

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