【主催・共催・協賛会議報告】

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◆ ISMR 2001 報告（1）

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複合現実感に関する国際シンポジウム（The Second International Symposium onMixed Reality, ISMR2001）が2001年3月14日と15日の両日、パシフィコ横浜において開催された。1999年3月に開催されたISMR'99に引き続き第2回目となるこの会議では、IEEE VR2001との併催による相乗効果もあってか、当初の予想を大幅に上回る世界16カ国から280名を超える参加があり大変盛況であった。フルペーパーとしての論文発表件数は11件とかなり厳選されていたにも関わらず国内外からこのように多数の参加者を迎えることができたことからも、既に第2回目にして本会議が複合現実感技術に関する重要な会議として広く認知されているという印象を強く受けた。

初日午前中には、ボーイング社におけるARシステムやウェアラブルシステムに関する先駆的な研究で広く知られるDavid Mizell博士（現在 Desana Systems, Inc.）により"Tools vs. Clothing: Competing Visions of the Future of Augmented Realityand Wearable Computers"と題する基調講演が行われた。現在活発に研究が進められている拡張現実感、ウェアラブルコンピュータ、それに複合現実感などの分野が一時のブームではなく確固たる技術分野として確立されるためにはどうすべきか、またその過程において陥りやすい罠は何かということに関して、研究とビジネスの両面を熟知する同氏ならではの示唆に富む講演であった。基調講演に引き続き行われた一般講演セッションでは、複合現実感におけるセンシングなどの要素技術から応用事例まで幅広いテーマに関して質の高い研究が多く発表され、各発表後の質疑応答においても聴衆との間に活発な議論が展開された。その日の夕方に行われたバンケットでは"Bridge Between Actual Space and Virtual Space"と題して藤幡正樹教授（東京藝術大学）によりメディアアートと複合現実感の接点について魅力的な講演が行われた。

二日目午前中の特別セッション"Final Report of the MR Project"では、本会議を共催したMRシステム研究所を中心に進められてきたMRプロジェクトの最終的な研究成果が報告された。また午後には、数多くのポスター発表やテクニカルデモンストレーションに加え、MRプロジェクト・テクノロジー・ショーケースにおける大規模なデモ展示、メディア・アート・ギャラリーにおけるインタラクティブアート作品の展示、「複合現実感の未来～ファンタジーとアプリケーション」と題したパネル討論などがあり非常に充実した内容であった。

このように大変な盛り上がりを見せたISMR2001であったが、今後はIEEE&ACMInternational Symposium on Augmented Reality （ISAR）と合併し2002年からはISMAR（International Symposium on Mixed and Augmented Reality）として開催されることが既に決定している。拡張現実感と複合現実感の両分野における主要な国際会議が統一されたことにより、これらの研究分野における活動が今後より一層活発化されることになろう。

◆ ISMR 2001 報告（2）

Somsak Walairacht

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The Second International Symposium on Mixed Reality （ISMR 2001） was held at the Pacifico Yokohama Conference Center during March 14-15, 2001. In conjunction with ISMR 2001, the IEEE Virtual Reality 2001 was being held at the same location during the same period. Researchers from many different countries around the world and the participants benefited by taking advantage on this opportunity to share their experiences, exchanging ideas and discussing among themselves over various aspects of both MR and VR technologies.

ISMR 2001 had claimed a great success much more than its first symposium held in 1999. For the papers, the organizer re-

ported that the submissions had received far more than expected. The submissions by the authors from nine different countries were selected as full paper for presentation 11 papers and 25 papers were accepted as poster presentation. In the opening keynote speech given by Dr. David Mizell from Desana System Inc., he had given a presentation on Competing Visions of the Future of Augmented Reality and Wearable Computers. The same day during the evening plenary, not only the participants could enjoy a great dinner, Prof. Masaki Fujihata from Tokyo National University for Fine Arts and Music made a talk about the InteractiveArts and presented many pieces of his very interesting works.

On the second day, the Technical Demonstrations gave very good chances to the participants to experience various applications on MR technologies. The Mixed Reality Systems Laboratory Inc., a co-sponsor of this symposium, had made the Final Report of MR Project and demonstrated the MR Technology Showcase that showed the feasibilities of applying MR technologies to today's technologies. Apart from that the MR System Laboratory Inc. had also delighted the participants by the delightful interactive MR in the Media Art Gallery.

Finally, the Panel Discussion on the topic of the future of Mixed Reality could draw full attention from the audiences. The panelists raised up and discussed on many significant issues about MR technologies especially in the television and movie industries, which would become closer and closer to our every day life. At the end Dr. Hideyuki Tamura, ISMR 2001 Vice-Chair, made the Closing Remarks. As one of the participants of ISMR 2001, I would like to express my thank the organizing committee and staffs on their great efforts for such a valuable symposium.

◆ ISMR 報告 (3)
Keynote Address.
Tools vs. Clothing: Competing Visions of the Future of Augmented Reality and Wearable Computers

公園マイケル
会津大学

A provocative keynote address was offered by David Mizell, recently moved to Desana Systems (a network router start-up company) after a long stint at Boeing where he initiated several pioneering R&D projects in VR, augmented reality, wearable computers, and pervasive computing. Mizell began by noting

that VR and AR share some issues with parallel computing (VR is a "customer of parallel computing"). Parallel computing, when it was at its peak of research activity and public interest, seemed inevitable. Academic and research interest reflect and stimulate general publicity from the press, commercial interest, and, especially in Germany and Japan, government investment. Parallel computers now seem not as inevitable as was once thought. Excepting a few large parallel supercomputers at government labs running nuclear simulations, etc., and companies like Tera notwithstanding, there is little use of general-purpose parallel processor supercomputers. Cray was sold (to aforementioned Tera) by SGI at a 90% discount. Thinking Machines is gone.

"Killer micros" preempted such applications of parallel processors, since a modern 1GHz uniprocessor beats 1000 1MHz processors, regarding simplicity of deployment and actual throughput. The set of problems that require supercomputing got smaller and smaller. The US government ignored open problems and technical issues, played favorites, and misinvested (in projects like the Strategic Computing Initiative). Researchers emphasized the wrong problems- software development (languages, compilers, CASE tools, etc.)- like a drunk looking for his keys under a lamppost instead of where he lost them because the light was better.

The critical problem was hardware-related: interprocessor communication latency. The time to execute a floating-point operation is significantly shorter than the time to move floating-point operands between processors. Parallel processors are not inherently difficult to program, but the basic difficulty lies in overcoming this latency. The Cray 1, released in 1976, was (only) a proof of concept prototype. Parallel computers are fast on medium-sized vector problems of interest to some researchers. Salespeople suppressed interprocessor communication development within computers, opting instead for "Macho-flops," so investors ran out of patience.

VR can be said to be in the same situation of confounding such optimism. Not many VR facilities at large industries and research labs are running expensive CAVE facilities. VPL is gone. SGI is in "free fall." In the US, there is little commercial or government investment. Part of the unreasonably raised expectations were the result of media hype about virtual sex (by people like the Whole-Earth Catalog's and WELL's Howard Rheingold, who coined term "Teledildonics") and virtual drugs (by people like the late Timothy Leary) and virtual everything (by people like VPL's Jaron Lanier), causing massive loss of credibility. Current HMDs (head-mounted displays) tend to be like "brain buckets" - large,