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Acknowledgements
All partners of the 3DLife project contributed to this report during the last few months. Especially the fruitful discussion at the 3DLife meetings led to this document.

CONTENTS

Abstract

This report is part of Work Package (WP) 6 of the 3DLife project. The general goal of this report is to present the 6th Issue of the project's biannual newsletter, which was published on December 2012. The newsletter is published both in print and electronically.

The reader can subscribe to the electronic version of the 3DLife newsletter in the project's website at http://www.3dlife-noe.eu/. She/he may also find there all issues that have been published.

The newsletter is an instrument for the regular exchange of information among the members of the 3DLife Network of Excellence (NoE) and the research community at large. It constitutes the primary means of collecting results achieved through network activities and spreading them to the community.

The main objectives of the newsletter are:

- To report on and promote the major activities undertaken by the NoE;
- To provide links between both European and international initiatives in the field, and;
- To disseminate information about published papers of the researchers involved in the network.

The printed version of the newsletter is disseminated in the various events where 3DLife participates; 250 copies of each issue are being printed for this reason.

The actual 6th issue of the newsletter – a full graphical representation – is attached to this report as an appendix.

Appendix

Newsletter Outline

National Research
Foundation of Korea

Not for sale.

Information Society
Technologies

SEVENTH FRAMEWORK
PROGRAMME

Newsletter Outline

Editorial

Welcome to the sixth issue of the biannual 3DLife Newsletter!

3DLife is a European Union funded research project, a Network of Excellence (NoE), which aims to further integrate research that is currently conducted by leading European research groups in the field of Media Internet. 3DLife's ultimate target is to lay solid foundations for the development of a European Competence Centre under the name "Excellence in Media Computing & Communication" or simply EMC².

The next generation of Media Internet services is expected to become the cornerstone of Information Society in our century. Its impact on the entertainment industry is already clear and it is expected to become much broader changing the way society delivers key services such as health care, learning and commerce.

Since the 3DLife project comprehensively addresses several challenges of Media Internet, it aspires to play a positive role in this upcoming transformation of modern life.

The 3DLife consortium consists of partners of high scientific quality and diverse yet complementary research background:

1. Queen Mary, University of London (UK)
2. Dublin City University (Ireland)
3. Heinrich Hertz Institute, Fraunhofer (Germany)
4. Informatics & Telematics Institute (Greece
5. Korea University (Korea)
6. MIRALab, University of Geneva (Switzerland)
7. Télécom ParisTech (France)

Enjoy reading the Newsletter!

The Project Coordinator,

Prof. Ebroul Izquierdo.

The 3DLife Community

The 3DLife NoE revolves around a virtual community of researchers, people from industry and ordinary citizens. The beating heart of this community is the 3DLife website. As you can see below, a lot of people from all over the world have already visited our site at www.3dlife-noe.eu.
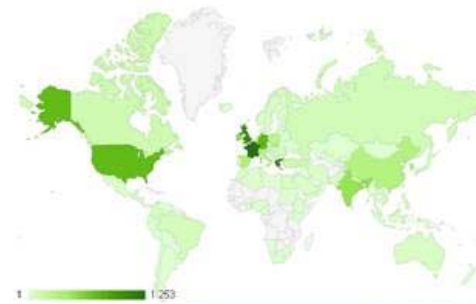
3DLife website visitor map

Visit our website too and get *informed* and *involved*; learn about all the latest project news activities etc and subscribe to our online community groups:

- YouTube channel
- LinkedIn group
- Tweeter timeline
- Facebook group
- RSS feed

In our site you can also subscribe on-line to the electronic version of this Newsletter.

Newsletter Outline

Project News

7th Plenary Meeting

The seventh 3DLife Plenary Meeting took place in Berlin, Germany on 5th July 2012. The event brought together junior and senior researchers from all 3DLife partners.

The agenda of the meeting included separate progress reporting and presentation of future plans for each of the six project workpackages.

Other issues that were discussed include:
• EMC^2 progress report and 3DLife - EMC^2 liaison actions (a representative of EMC^2 was present at the meeting);
• plans for this year's 3DLife Grand Challenge;
• technical discussion on project demos;
• progress of the 3DLife integration framework;
• future action points.

3DLife ACM Grand Challenge 2012

This year's 3DLife ACM Multimedia grand challenge was announced in April 2012, http://www.acmmm12.org/3dlife-huawei-challenge-realistic-interaction-in-online-virtual-environments/.

To conserve the "brand identity" generated from the 2011 challenge, the 2012 3DLife Grand Challenge name was maintained as: "Realistic Interaction in Online Virtual Environments". In this section we present this complete scenario

For the 2nd year in a row the challenge was kindly sponsored by Huawei, a telecommunications equipment and services company with approximately 140,000 employees. The paper submission deadline, decided upon by the ACM MM, was however 2 months earlier than in previous years. Despite this extremely tight deadline we are pleased to report that this year there were 4 submitted papers, including 1 from the 3Dlife consortium, and from these 4 submitted papers 2 were accepted for presentation at the ACM MM conference held in Nara, Japan

on October 29th - November 2nd 2012. These papers were published as part of the conference proceedings.

More details on this year's challenge and as well as the respective dataset can be found at the project's website under the "EMC^2" tab.

CLARITY Open Day 2012

DCU CLARITY held their annual Open Day on 21st November 2012 in Clontarf Castle in Dublin. There were approximately 200 people in attendance and the event was opened by the Richard Bruton T.D. the Irish Minister for Jobs, Enterprise and Innovation. The day consisted of a number of short introduction talks followed by the main event, which was a poster and demonstration session that lasted for 3 hours. There was a wonderful buzz in the room and a lot of interest at CLARITY's involvement in EU projects, in particular the 3DLife and EMC^2 projects. David Monaghan from DCU manned information posters on these and actively engaged with many company representatives, investors and government members who were keen to learn about 3DLife and EMC^2. Among these were representatives from; Google, Irish Sports Institute, Science Foundation Ireland, Enterprise Ireland, Trinity Venture Capital holdings PLC, and many others. For more information on the DCU CLARITY open day please see: www.clarity-centre.org/news/clarity-2012-showcase-event-applications-sensor-web.

Newsletter Outline

People Exchanges

The 3DLife Network of Excellence proudly promotes a series of people exchanges such as Senior Research Personnel Exchanges, PhD Student Exchanges, Industrial Placement of Research Personnel.

The 3DLife consortium partners have committed to build upon those activities and achieve the establishment of a sustainable European Competence Center: Excellence in Media Computing and Communication (EMC^2).

During the second semester of 2012 three Senior Research Personnel Exchanges and three PhD Student Exchanges occurred while three Industrial Placements of Research Personnel that started in previous semesters are still ongoing.

Prof. Peter Eisert of HHI visited VicomTech in where he presented the 3DLife project research results and discussed related ideas. Dr. Petros Daras of CERTH/ITI visited the DCU and QMUL project partners where he discussed the roadmap for the scientific collaboration towards the final technical integration of the 3DLife project.

Mr. Si-hwan Jang of KU visited Prof. Ebroul Izquierdo and Dr. Qianni Zhang of QMUL and discussed related project issues. Ms Anna Hilsmann of HHI visited Humboldt University where she cooperated on research regarding image-based rendering methods. Mr. George Kordelas of ITI visited Prof. Ebroul Izquierdo of QMUL and discussed on the progress of his 3DLife related PhD on the implementation of an advanced algorithm for generating accurate depth maps from stereo pairs.

Mr. Nicolas Lopez and Mr. X. Jaureguiberry of TPT continue pursuing their joint PhDs at Arkamys and Audionamix (France) respectively where they conduct research on audio scene enhancement and automatic source separation for 3D rendering respectively. Finally, Ms Virginia Fernandez Arguedas continues pursuing her joint PhD at ISDEFE (Spain) where she conducts research on privacy issues of video surveillance within the public sector .

A full listing of 3DLife People Exchanges can be found at the project's website under the "Activities" tab.

3DLife-EMC² Fellowships

The 3DLife-EMC² Fellowship Programme runs with great success through the whole lifetime of the 3DLife project. It is a funding and support programme for exceptionally qualified researchers in the field of 'Media Computing and Communication' offering funding for young researchers (postgraduate or postdoctoral) and support for senior researchers (scientific group leaders). More details on the 3DLife-EMC² Fellowship Programme can be found at the project's website under the "EMC²" tab.

During this semester two 3DLife-EMC² fellows submitting their final reports and thus completed their fellowship and received their Diplomas: Mr. Eleftherios Tiakas ('Multi-Sort Indexing for Image Similarity Search', supervisor Dr. Petros Daras of CERTH/ITI) and Mr. Ismail El Sayad ('Augmented Reality', supervisor Prof. Peter Eisert of HHI).

In the past another three fellows have completed their fellowships and received their Diplomas: Ms Karolina Zawieska ('Autonomous Social Robots and Virtual Humans', supervisor Prof. Magnenat Thalmann of UNIGE), Mr. Martin Hric ('Audiovisual Emotion Recognition', supervisor Prof. Gaël Richard of TPT) and Ms Ling Zou ('Object Surface Reflectance Data Modeling', supervisor Prof. Noel O'Connor of DCU).

Newsletter Outline

EMC^2

A New Centre of Excellence

EMC^2 ("EMC-squared") stands for Excellence in Media Computing and Commu-nication, and is a non-profit Centre of Excellence bridging the gap between in-dustry and academia in the Media and Communication (MC^2) field.

Funded by the European Union and backed by a consortium of world-class re-search institutions, EMC^2 creates new connections, enabling academic re-searchers to respond to market opportunities, and European industry to en-hance competitiveness through access to research.

Join the EMC^2 Network

The EMC^2 Network is a pan-European network that brings together companies, research groups and individuals interested in innovation and entrepreneurship in the Media and Communication field.

Free Membership. Membership of the network is FREE for individuals, public research institutions and other non-profit organisations, and gives access (via our dedicated portal) to the EMC^2 blog, YouTube channel and LinkedIn account, to comprehensive contact databases of researchers and companies, and to a range of download-able resources.

FULL Membership. FULL membership is available to companies for a modest annual subscription, and gives privileged access to valuable innovation services including funding application support, matchmaking for research and technology transfer; se-lected previews of world-class research and invitations to international net-working events and industry workshops.

Join the EMC^2 Network! Join the EMC^2 Network by using the QR code on the left or by visiting our website at www.emc-square.org.

Take Part in Our Survey!

EMC^2 aims to facilitate training and education for aspiring entrepreneurs in media and communication.

To help determine what kinds of provision are needed, we're asking entrepreneurs and business people to participate in our online survey:

http://www.emc-square.org/emc2/?page_id=3152

It takes only a few minutes to complete and will help us to help the next generation of tech-nology entrepreneurs.

Thank you for your participation!

Writing in 3D

Are you involved in an interesting area of 3D research? Is your company breaking new ground? Has a new technological development captured your imagination? Do you have strong ideas about the future of 3D media and communication? Then write a short article for the EMC^2 blog – provocative contributions especially welcome! Contact George Whale (george.whale@emc-square.org) for details.

Newsletter Outline

New Publications

1. Slim Essid, Xinyu Lin, Marc Gowing, Georgios Kordelas, Anil Aksay, Philip Kelly, Thomas Fillon, Qianni Zhang, Alfred Dielmann, Vlado Kitanovski, Robin Tournemenne, Aymeric Masurelle, Ebroul Izquierdo, Noel E. O'Connor, Petros Daras, Gaël Richard, A multi-modal dance corpus for research into interaction between humans in virtual environments, Journal on Multimodal User Interfaces, *to appear.*

2. P. Fechteler, A. Hilsmann and P. Eisert. Kinematic ICP for Articulated Template Fitting. *To appear in the proceedings of the seventeenth International Workshop on Vision, Modeling and Visualization,* November 2012.

3. Antoine Liutkus, Angélique Drémeau, Dimitrios Alexiadis, Slim Essid and Petros Daras. Analysis of dance movements using Gaussian processes. *To appear in the proceedings of the twentieth ACM Multimedia Conference (Grand Challenge),* November 2012.

4. Wolfgang Waizenegger, Nicole Atzpadin, Oliver Schreer, Ingo Feldmann and Peter Eisert. Model-based 3D Gaze Estimation for Provision of Virtual Eye Contact. *To appear in the proceedings of the nineteenth International Conference on Image Processing,* October 2012.

5. M. Ben Moussa, N. Magnenat-Thalmann, D. Konstantas, J. J. Santamaría, F. Fernández-Aranda and S. Jiménez-Murcia. Facial Affect Recognition For Cognitive-Behavioural Therapy. *Proceedings of the Sixth International Symposium on e-Health Services and Technologies,* July 2012.

❖ *An up to date list of all 3DLife publications can be found at our website (www.3dlife-noe.org). From the main menu choose "Resources" --> "Publication List".*

14th International Workshop on Image and Audio Analysis for Interactive Services
Telecom ParisTech, Paris, France, 3rd – 5th July 2013

Call for Participation

3DLife/EMC² Special Session on '3D reconstruction, coding and transmission for audiovisual interactive services'

WIAMIS is a long established forum that gives researchers and developers the possibility to come together to discuss issues related to next generation interactive services. In 2013, as reflected in its new name, the 14th International Workshop on Image and Audio Analysis for Interactive Services, will have an increased focus on audio in addition to the traditional video-centric programme. This special session aims at presenting recent work towards the realisation of next generation user-centric audiovisual interactive services, with a particular emphasis on immersive and realistic 3D virtual environments. To facilitate a broad and comprehensive discussion on this topic, the special session will consider submissions on any aspect related to creating and experiencing immersive environments. This includes, but is not limited to:

- Real-time 3D reconstruction techniques
- Media analysis for 3D data generation
- Scalable 3D video coding systems and applications
- Stereo, multi-view and light field image, and video coding
- 3D computer graphics methods
- Dynamic and time-varying mesh coding, and compression
- Real-time 3D video coding
- Realistic human rendering
- Gesture classification and object recognition
- Distributed immersive virtual worlds
- Attention behaviour in one-on-one and group interaction
- Multi-agent based social network modelling and analysis
- Streaming techniques for 3D video
- Novel immersive 3D applications and systems

This special session is being organised in conjunction with IEEE Interest Group (IG) on Image, Video and Mesh Coding. WIAMIS is technically co-sponsored by the IEEE Signal Processing Society.

If you plan on submitting a paper to this special session, please send a tentative title, author list and abstract to the session organisers by 18th December 2012. The deadline for submission of full papers is the same as the WIAMIS paper deadline (8th March 2013). Papers should be prepared according to the WIAMIS instructions for authors (see: http://wiamis2013.wp.mines-telecom.fr/). Papers submitted to this special session will undergo a rigorous peer-review process handled by the Technical Program Committee.

Special session organisers: *Noel O'Connor* (Noel.OConnor@dcu.ie), CLARITY: Centre for Sensor Web Technologies, Dublin City University | *Petros Daras* (daras@iti.gr), Centre for Research and Technology Hellas/Information Technologies Institute

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11th IEEE IVMSP Workshop: 3D Image/Video Technologies and Applications

June 10-12, 2013 Yonsei University, Seoul, Korea
IEEE Signal Processing Society

Call for Participation

3DLife/EMC² Special Session on '3D Reconstruction and Immersive environments'
http://www.ivmsp2013.org/authors/

3D reconstruction is a highly active area of research in computer vision community. New applications in sports broadcasting, games, film making, etc. make use of 3D related technologies to provide a highly realistic representation to the end user. Moreover, new hardware developments in active and passive sensors like LIDARs, Time of Flight sensors (TOFs), Kinects, HD stereo cameras, and others, promise easier and more accurate 3D data capturing. This fact has led to the research and development of novel algorithms towards highly realistic 3D reconstruction of dynamic scenes either in real-time or for post-production purposes.

On the other hand, immersive and tele-presence environments is a relatively new area of research dealing with the ability of humans to interact with each other and with avatars in an augmented world. The growth of social networks and games, which make use of human-machine interaction interfaces are shifting towards immersive environments in order to provide more realistic sensations and interactions to the end users. Research is active in these challenging areas and applications are numerous in engineering, medicine, learning, etc.

This special session aims at giving the opportunity for communicating on new developments and systems for 3D reconstruction and immersive environments. Brave new ideas, ambitious and pioneering work are particularly welcome. The session covers a variety of topics related to 3D reconstruction and immersive environments such as, for example, stereo matching algorithms, accuracy analysis, sensor (auto) calibration, easy avatar creation and manipulation, etc. Furthermore, contributions on real-time indoor/outdoor capturing systems are of particular interest.

Thus, the topics of interest include, but are not limited to:
* 3D reconstruction techniques
* Stereo vision (active, passive)
* Stereo matching algorithms
* Use of kinects, Time-of-flight sensors, 3D flash LIDARs
* Sensor calibration
* Immersive environment creation in social networking
* Gesture control in immersive environments
* Immersive sound
* Avatar creation and reuse in immersive environments
* Applications (e.g., 3D scene modeling, 3D video/TV, etc.)

Organizers: *Prof. Hyoung Joong Kim*, Korea University | *Prof. Nadia Magnenat-Thalmann*, University of Geneva (MIRALab), Nanyang Technological University in Singapore (Institute for Media Innovation) | *Dr. Petros Daras*, Centre for Research and Technology Hellas / Information Technologies Institute

18th International Conference on Digital Signal Processing
1-3 July 2013, Santorini, Greece

Call for Participation

3DLife/EMC² Special Session on 'Networked Virtual Worlds'
http://dsp2013.dspconferences.org/

The Internet is evolving to become the de-facto cyberspace or virtual environment facilitating communication, business, and entertainment on a global scale. Virtual worlds, where people can interact simultaneously within the same simulated three-dimensional space, represent a frontier in social computing with critical implications for business, education, technological sciences, and our society at large.

This special session aims at presenting a representative sample of research work towards the creation of immersive and realistic 3D virtual environments in which virtual humans can interact remotely. The primary objective is to present and discuss key research issues related to the generation of immersive and 3D cooperative virtual worlds. Key questions to be addressed in the special session include: how can virtual worlds be coupled with live data streams?; how can immersive environments be scaled up from single users to groups, communities or even globally networked environments?; how can human performance be evaluated in terms of levels of expertise, strategies, and cognitive processes within the context of specific scenarios?; how can security and privacy be enhanced in such systems?; how can real-time interaction over global heterogeneous networking environments as the Internet be achieved?

Topics of interest include (but are not limited to): 3D computer graphics methods , Media analysis for 3D data generation, 3D model reconstruction, 3D object detection and retrieval , 3D graphics applications , High-definition virtual reality, Scene understanding, Multi-camera view calibration, Creation of realistic virtual human clones, Realistic human rendering, Autonomous virtual humans, Human performance in virtual world, Quality of experience issues, Situation-aware interfaces, Real-time interactivity, Cognitive models of user behaviors, Gesture classification and object recognition, Human-computer interaction models, Attention behaviour in one-on-one and group interaction, Multi-agent based social network modelling and analysis, Virtual worlds with live data, Distributed immersive virtual worlds, 3D Model scalability and channel coding and transmission of 3D media, Scalable coding and streaming of 3D media, Multimodal interfaces, Mobile platforms for virtual reality, Assisted techniques, Sensory fusion, User biometrics.

Prospective authors are invited to submit a full camera-ready paper (6 pages maximum) through the DSP 2013 submission system. When submitting, please indicate your preference for this special session. Submitted papers will be peer-reviewed by at least two experts in the field. All accepted papers will be included in the Conference Proceedings (CD ROM) and will be submitted for inclusion in IEEE Xplore.

Important Deadlines: Submission of full papers - February 1, 2013 | Notification of acceptance - April 1, 2013 | Submission of camera-ready papers - May 1, 2013

Session Co-Chairs: *Qianni Zhang*, Queen Mary University London, United Kingdom qianni.zhang@eecs.qmul.ac.uk | *Ebroul Izquierdo* (ebroul.izquierdo@eecs.qmul.ac.uk), Queen Mary University London, United Kingdom

The Visual Computer: International Journal of Computer Graphics

Call for Papers

Special Issue on Virtual worlds: where Image Processing meets Computer Graphics

http://www.3dlife-noe.eu/3DLife/activities/special-issues/cfpvw/

The Visual Computer is dedicated to reporting on the state-of-the-art of research in the field of graphics, vision, imaging, and virtual reality.

This special issue in the Visual Computer aims at presenting a representative sample of innovative research, methods and techniques towards the creation of realistic virtual humans. The main goal is to achieve horizontal integration by bringing together the typically disparate research communities working on 3D image processing, computer graphics, human computer interaction, affective computing and human factors, towards demonstrating examples of the practical benefits of 3D technology on the everyday lives of users.

The contributions to this special issue are expected to bring new advances from theory and practice towards realistic and natural animated autonomous 3D avatars and represent recent advances in related fields including 3D image processing, computer graphics, human computer interaction, affective computing and human factors, as well as to state problems and new research challenges to be focused on by the research community in the near and mid-term future.

The main topics of interest for this special issue include (but are not limited to):
* Realistic human rendering and animation
* Tools for the easy creation of 3D realistic avatars
* Media analysis for 3D data generation
* Gesture classification and object recognition
* Gaze, emotion and sentiment analysis
* Computational and psychological models of affect, memory and cognition
* Interaction with social robots and virtual human
* Distributed immersive virtual worlds
* 3D Model scalability and channel coding and transmission of 3D media
* Multi-agent based social network modelling and analysis

Paper submission: Instructions for paper preparation and submission are available at the Visual Computer's website. Please choose "Special Issue - 3DLife" for the Article Type when submitting a manuscript. The submitted papers will follow a normal peer review process by at least three reviewers, and be selected based on their originality, significance, technical soundness, and clarity of exposition.

Special issue timeline: Manuscript Submission Deadline - December 31, 2012 | Preliminary review results - February 20, 2013 | Revised Manuscript Due - March 30, 2013 | Expected Publication Date: July/August 2013

Guest editors: *Ebroul Izquierdo*, Queen Mary University of London, UK | *Noel O'Connor*, Dublin City University, Ireland | *Yang Cai*, Carnegie Mellon University, USA

This special issue will be supported by the virtual centre of Excellence in Media Computing and Communication (EMC^2) and the Network of Excellence: Bringing the 3D Internet to Life (3DLife).

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SEVENTH FRAMEWORK
PROGRAMME

Next issue of the 3DLife Newsletter will be released on June 2013
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We Need Your Feedback!
Help us make the Newsletter better. E-mail your comments to us at contact@3dlife-noe.eu.