



Some Busy Months

It has been quite a while back that the previous GATE newsletter appeared. But that does not mean little has happened. On the contrary. The past months have been a very active period for the GATE project. In February we organized the second GATE symposium under the title *Future Serious Games*. 200 people attended the symposium and there were at least 50 further interested people that we unfortunately could not admit because of the capacity of the location. The symposium gave a good overview of the work done in the pilots and some of the research workpackages. The keynote lecture by Bill Swartout from the USC Institute for Creative Technologies in California was inspiring to many. Also there was a large interest in the demos. So we can look back on a successful symposium and we would like to thank all of you who made this possible. For a photo impression of the symposium, see the end of this newsletter.

In the past months we also produced the annual report over 2008. It shows the large amount of progress being made in the past year. Over 50 publications have appeared in international peer-reviewed journals and conferences. All pilots have been started. And we have created the framework for the knowledge transfer projects.

2009 promises to become a very fruitful year for the GATE project. All research projects are in full swing leading to many interesting results. The pilots will all finish their first prototypes this year. And we will start a considerable number of knowledge transfer projects (see below). Through this newsletter we will keep you up-to-date on the developments. Please continue sending us your contributions.

Knowledge Transfer Projects

At the end of 2008 we completed the legal framework for the knowledge transfer projects. We are currently formulating the first batch of project together with the companies involved. Currently there are two projects ready for approval and three more proposals are almost finished. We would like to encourage all leaders of the research workpackages to keep us up to date on their plans in this respect.

If you have ideas and contacts for a knowledge transfer project you are strongly encouraged to contact the leader for the relevant research workpackage or contact Mark Overmars directly. Our plan is to start around eight knowledge transfer projects in 2009 so there is room for more.

Detecting Surfaces from LiDAR Data

By Thijs van Lankveld

We are getting better and better at gathering data. While the measurement equipment gets more sophisticated, the data becomes more precise and elaborate. Within work package 1.1, "Modeling the real World", the main objective is transforming this data into a model of our physical world. Within this field, the improvement on the data has enabled an interesting transition. Where creating a physical up to scale model of an object can be seen as one of the earliest attempts at modeling the world, this has been replaced by three-dimensional computer models. Initially, these models were created manually by carefully examining photographs. This time-consuming and expensive process can be increasingly automated by making use of the techniques currently at our disposal.

However, it is not only the techniques that see improvement. A data source that has come into use not too long ago is laser-scan data, or light detection and ranging (LiDAR) data. For this data distances are measured using a laser beam. When

these distances are combined with precise positioning devices like differential GPS, a cloud of 3D points can be created. Initially, LiDAR data was mainly used to create height maps. These height maps can be created automatically by taking a collection of height measurements of a landscape and overlaying a triangulation that shows the curvature of the landscape.



Obtaining the boundaries between surfaces, created from LiDAR data.

For some time, this was the pinnacle of achievement using the measurement devices to model large regions. However, because of improvements in the equipment, hundreds of points can be efficiently measured in a small space now. Because of increases in data storage, this density can be maintained in larger regions. This has enabled pretty rough height maps to be replaced by models of a building placed in the landscape. The next transition that deserves focus



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now is aimed at creating these building models from the surfaces that they are composed of. This way, triangulations and added parametric building models can be improved to 3D models in which curbs are visible and the number of windows in a building can be counted.

Previous research has given solutions for identifying the points that belong to the same surface. However, finding the correct boundaries of these surfaces is still a difficult problem. We have produced a method for efficiently identifying boundaries of a predefined shape. However, we cannot assume the shape is always known in advance. In this case, the boundary can be determined from the distribution of the points over the surface, or by using the lines where neighboring surfaces intersect.

Identifying the surfaces is the first step in the process from a collection of 3D points to a model that is indiscernible from a photograph. Other steps are filling regions that lack data and determining how correctly the 3D model fits the data or how well the model represents the real world. Because the precision and density of the data are constantly increasing, we can keep on increasing the correctness and amount of detail of a model. Hopefully in this way we will soon all have a model of our house or our neighborhood and digital photo frames can be replaced by interactive 3D viewers.

Games and Health

On June 9 the expertise center Games and Game Design will organize a symposium (in Dutch) under the title: *Games and Healthcare: Getting Better with Games*. This will be held in the Louis Hartlooper Complex in Utrecht. This one-day symposium will offer an insight into the fascinating and rapidly developing world of games and healthcare. Professionals in games, as well as those in healthcare and educational institutions, are welcome to join and learn from each other on this day. The morning program will be dedicated to current views on how games and healthcare merge and redefine each other's practices. The afternoon program, 'Games for Rehabilitation', will explore the specific uses and benefits of games for rehabilitation purposes.

To register for this symposium, please send an email to info@taskforceinnovatie.nl. Attendance is free of charge, but registration is necessary. Please include your name, organisation, address, telephone number and email address when registering. Registration closes June 2, or as soon as the maximum amount of participants is reached. Further information and the full program can also be obtained through that email address.

MIG 2009, Call for Papers

From 21-24 November 2009 Utrecht University, in collaboration with the GATE project, organizes the second workshop on *Motion in Games* (MIG09), to be held in Zeist. This workshop brings together researchers from all over the world to present the most recent results and to initiate collaboration. Topics include animation, virtual humans, path planning,

crowd simulation, motion capture techniques, gesture recognition, and camera planning.

The workshop will consist of a regular paper session, as well as presentations by a selection of internationally renowned speakers in the field of games and simulations. Researchers are invited to submit their original research work on the topics mentioned above for inclusion in the program and proceedings. The deadline for submission is July 15, 2009. The workshop proceedings will most likely be published as a volume in the *Lecture Notes in Computer Science* series, by Springer. A selection of the best papers will be published as a special issue in the *Computer Animation and Virtual Worlds* journal published by Wiley.

More information about the MIG09 workshop and the call for papers can be found on the website:

www.motioningames.org

CASA 2009, 17-19 June

The Human Media Interaction (HMI) department of the University of Twente in the Netherlands and the Computer Graphics Society (CGS) are pleased to announce the 22nd Annual Conference on Computer Animation and Social Agents (CASA 2009) to be held on June 17-19, 2009 in "Het Trippenhuys", Amsterdam, the Netherlands. CASA is the leading international conference in the field of computer animation and social agents. CASA 2009 will provide great opportunities to interact with leading experts, share your own work, and educate yourself through exposure to the research of your peers from around the world. In addition, make friends and experience wonderful Amsterdam. The conference venue is located on one of the famous canals of Amsterdam. The CASA conference is extremely relevant for the GATE community. Invited talks are by Volkert Blantz on morphable models and by Franck Multon on virtual humans and sport interactions. During CASA 09 a special session will be devoted to the GATE project. CASA is a GATE sponsored event. GATE PhD students can profit from this. More information about CASA and how to attend can be found at <http://hmi.ewi.utwente.nl/casa09>.

INTETAIN 2009, 22-24 June

The Human Media Interaction (HMI) department of the University of Twente in the Netherlands and the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering (ICST) are pleased to announce the Third International Conference on Intelligent Technologies for Interactive Entertainment to be held on June 22-24, 2009 in Amsterdam, the Netherlands. INTETAIN 09 intends to stimulate interaction among academic researchers and commercial developers of interactive entertainment systems. The global theme of this third edition of the international conference is "Playful interaction, with others and with the environment". INTETAIN 2009 has invited talks by Michael Mattheas on storytelling, Matthias Rauterberg on entertainment computing, and Antonio Camurri on non-verbal full body emotional and social interaction. During INTETAIN 09 a special



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session will be devoted to the GATE project. INTETAIN is a GATE sponsored event. GATE PhD students can profit from this. More information about INTETAIN and how to attend can be found at <http://hmi.ewi.utwente.nl/intetain09/>.

Science Communication

In June around 12 of the PhD students involved in the GATE project will follow a course on science communication. During this course they will learn how to communicate the results of their scientific research to the general public. They will each write a popular scientific article on their work, the best of which will be published in the *Control* magazine. Also, on June 30 there will be a public meeting in which they will present their results in short presentations. You will hear soon about how to attend that meeting.

Internal Events

Here we list interesting meetings and events organized by GATE or its partners. Please notify us of events that should be added, by email to rita@cs.uu.nl.

- 17-19 June: Computer Animation and Social Agents (CASA 2009), Amsterdam. <http://hmi.ewi.utwente.nl/casa09>
- 22-24 June: Third International Conference on Intelligent Technologies for Interactive Entertainment, Amsterdam. <http://intetain.org>
- 14-16 September: Ninth International Conference on Intelligent Virtual Agents (IVA'09), Amsterdam. <http://iva09.dfki.de>
- 21-24 November: Motion in Games 2009, Zeist. <http://www.motioningames.org>

Events in the Netherlands

Here we list interesting meetings and events in the Netherlands. Please notify us of events that should be added, by email to rita@cs.uu.nl.

- 6-14 June 2009: Festival of Games 2009, Utrecht. <http://www.nlgd.nl>
- 10-12 September: The Third International Conference on Affective Computing and Intelligent Interaction (ACII 2009), Amsterdam. <http://www.acii2009.nl>

Events outside the Netherlands

Here we list interesting meetings and events outside the Netherlands. Please notify us of events that should be added, by email to rita@cs.uu.nl.

- 29 June – 3 July: ISAGA 2009 conference: Learn to Game and Game to Learn, Singapore. <http://www.ISAGA2009.org>
- 26 July – 2 August: CGAMES 2009 Louisville, USA. <http://www.cgamesusa.com/>

- 1-2 August: Symposium on Computer Animation (SCA '09), New Orleans, USA. <http://www.siggraph.org/sca2009/>
- 3-7 August: SIGGRAPH 2009, New Orleans, USA. <http://www.siggraph.org/s2009/>
- 13-15 August: The Philosophy of Computer Games 2009, Oslo, Norway. <http://www.gamephilosophy.org/>

GATE Publicity

- In the magazine *Trajectum* of the Hogeschool Utrecht of January 15 appeared an article on *Gaming in Utrecht* in which both Jeroen van Mastrigt and Mark Overmars were interviewed.
- In the *Kijk* magazine appeared an item about Scottie, the device used in the pilot *Health by the Waag*.
- On March 25, in various local newspapers an article appeared on casual games in which Mark Overmars was interviewed.
- In the *TNO Magazine* of April 2009 an article appeared on *Serious gaming maakt complexe processen en situaties inzichtelijk* in which GATE and the pilot *Safety* are described.

Acknowledgements

It is important that all publications that are (partially) the result of the GATE project contain an acknowledgement with the following text:

"This research has been supported by the GATE project, funded by the Netherlands Organization for Scientific Research (NWO) and the Netherlands ICT Research and Innovation Authority (ICT Regie)."

Or in Dutch:

"Dit onderzoek werd mogelijk gemaakt door het GATE project, ondersteund door de Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO) en het Nationaal Regieorgaan voor ICT-Onderzoek en -Innovatie (ICT Regie)."

Please realize that also the publications of employees that are used as matching for the GATE project must contain such an acknowledgement. Please send a pdf file of each publication to Rita Jansen (rita@cs.uu.nl). These are important for the yearly reports and for the archive. All publications will be made available through the website.

Colofon

Address: Rita Jansen, Department of Computing Sciences, Universiteit Utrecht, P.O. Box 80.089, 3508 TB Utrecht, the Netherlands.

Editors: Piet Buitendijk and Mark Overmars.

Contributions: Please send to markov@cs.uu.nl.

Administration: Please report new or left employees or changes in email addresses to rita@cs.uu.nl.

Website: <http://gate.gameresearch.nl>



Game research
for training and
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Coffee before the GATE symposium



Micah Hrehovsik from Utrecht School of the Arts



The room was almost completely filled



Josine van de Ven from TNO



Introduction by Mark Overmars



Demonstrating Scottie during the break



Astrid Lubsen from Waag Society



Keynote by Bill Swartout from USC, California