

## ***Report on the 3rd Eurographics Workshop on Sketch Based Interfaces and Modeling SBIM'06***

Shengfeng Qin, Lecturer  
School of Engineering and Design, Brunel University, UK  
sheng.feng.qin@Brunel.ac.uk  
Chen Mao, PhD candidate  
School of Engineering and Design, Brunel University, UK  
chen.mao@brunel.ac.uk

### I. INTRODUCTION

The 3<sup>rd</sup> Eurographics Workshop on Sketch Based Interfaces and Modelling SBIM'06 was held on September 3-4, 2006 in Vienna, Austria. It was parallel to other two conferences: ACM SIGGRAPH/Eurographics workshop on Graphics Hardware **GH 2006** (September 3-4, 2006) and ACM SIGGRAPH/ Eurographics Symposium on Computer Animation **SCA06** (September 2-4, 2006) and followed with the EUROGRAPHICS **EG06** main conference. As such, it provided an opportunity for researchers to participate in both events. The workshop provided an opportunity for researchers working on sketch-based interfaces to interact with one another, share lessons learned, show new results, and discussed open issues. The two-day workshop included paper presentations (single track), coffee breaks, a conference dinner and invited talks. Participation is open to everyone; submitting a paper is not mandatory.

The Eurographics Workshop on Sketch Based Interfaces and Modelling series is held every year, chaired by Professor Joaquim Armando Pires Jorge, at Technical University of Lisbon, Portugal. It is a single-track two-day event, so that all attendees could listen to and discuss all the presentations. The 1<sup>st</sup> Eurographics Workshop on Sketch Based Interfaces and Modelling SBIM'04 was held on August 30 – 31, 2004 in Grenoble, France, co-sponsored by ACM SIGGRAPH and EUROGRAPHICS Association. The second workshop was held in Dublin, Ireland in August 2005.

All submissions to the Workshop are subject to 3-5 peer-reviews. Accepted papers are published in the EG Workshop series (ISSN 1812-3503) and made available online through the Eurographics Digital Library. (<http://www.eg.org/EG/DL/WS/SBM>).

For the SBIM'06 Workshop, the Workshop Chair was Professor Joaquim Armando Pires Jorge, Technical University of Lisbon, Portugal. The program co-chairs are Thomas Stahovich, University of California Riverside, USA, and Mario

Costa Sousa, University of Calgary, Canada. The Local Organizer was Stefan Jeschke, Vienna University of Technology, Austria.

### II. AIMS AND SCOPES

The mouse and keyboard have defined user interfaces for the nearly forty years since the mouse's invention, yet interfaces based on this hardware often leave much to be desired. For example, while computers are indispensable tools for engineering and architectural design, they have yet to become the preferred tool in the very early stages of design, where pencil and paper still reign. This is because current user interfaces are too cumbersome when rapid exploration of the design space is necessary.

Sketch-based interfaces are emerging as an approach to address this sort of problem. Such interfaces are expected to provide flexible, informal interaction between computers and users in a way that that does not hinder creativity. These interfaces are becoming increasingly practical because of the many recent advances in pen input devices, especially tablet computers.

The workshop aims to explore the techniques needed to enable sketch-based interfaces, such as techniques for classification and recognition of hand-drawn shapes and text. Likewise, the workshop explores the application of sketch-based interfaces to domains such as 2D/3D graphics, CAD, diagram editing, note taking, etc. Finally, the workshop welcomes empirical usability studies aimed at clarifying the nature of sketch-based interfaces and comparing pen input to other interaction techniques.

### III. TOPICS

The workshop topics include:

- Low-level ink processing / Pen stroke segmentation.
- Sketch parsing.
- Classification and recognition of handwritten sketches.
- Multimodal interfaces for sketching.
- Novel sketch input devices.
- Rendering techniques for sketch-based interfaces (NPR)
- Mobile appliances for design input.
- Usability studies of sketch-based systems.

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S. F. Qin is with the School of Engineering and Design, Brunel University, Middlesex, Uxbridge, UB8 3PH, UK. His research interest includes Sketch-based interface and modeling, CAD, and Animation. (phone: +44-1895-266335; fax: +44-1895-269763; e-mail: sheng.feng.qin@Brunel.ac.uk).

C. Mao is with the School of Engineering and Design, Brunel, Middlesex, Uxbridge UB8 3PH, UK. Her PhD research is focused on Sketch-Based Human Modeling and Animation. (e-mail: chen.mao@brunel.ac.uk).

- Sketch-based interfaces for 2D/3D computer graphics (modeling, animation, etc.).
- Sketch-based interfaces for CAD systems.
- Sketch-based interfaces for other applications (diagram editing, math, etc.).
- Sketches for Medical and Volume data editing.
- Sketching surfaces / diagrams / mathematical annotations / etc. Sketch-based retrieval of Multimedia Information
- Creativity and design.

#### IV. EVENT ACTIVITIES

The SBIM'06 workshop accepted 19 papers in total. Selected papers will be published in a special issue of Journal of Computers & Graphics (Elsevier) in 2007. There were 40 participants.

On Sept. 3, 2006, the workshop opened with the opening Keynote "Games: The Killer App for Pen Computing?" given by *Eric Saund*, PARC, followed by three papers in Sketch and Symbol Recognition before the morning coffee break. In the afternoon, 3 papers in Content Interpretation and 3 papers in 3D Design were presented.

In the evening, a social event was organized to tour the Vienna Danube Tower-Donauturm. It is 352 meters high and was built within 20 months! Close to Danube Tower you can find Vienna's most impressive skyline: Uno city is home to UN headquarters and seems to be a city within the city with its decidedly modern architecture. Danube River mirrors the skyline and heightens the effect. While enjoying the terrific view, the workshop participants took place in the cafe or restaurant, where traditional Viennese specialities as well as modern delicious meals were served. The cafe rotates slowly; every one can get a panorama view.

On Sept. 4, the workshop started with 4 papers in Interfaces followed by 4 papers in Applications.



Vienna International Centre

In the afternoon, after 3 paper presentations in Systems Evaluation, the closing keynote "Editing surface meshes by view-dependent sketching", was given by Marc Alexa, TU Berlin.

The workshop was closed by the Workshop Chair, Professor

Joaquim Armando Pires Jorge with his closing remarks.

The authors presented two papers in the workshop. The first one is about System Evaluation and the second is about Interfaces. They are

- Applying Scenarios in User-Centred Design to Develop a Sketching Interface for Human Modelling and Animation  
*Chen Mao, Sheng Feng Qin, David K Wright, Brunel University; Jun Peng, Tianjin Academy of Fine Arts*
- A Sketching Interface for 3D Modeling of Polyhedron  
*Day Chyi Ku, Sheng Feng Qin, David K Wright, Brunel University*



Danube Tower

#### V. NEXT EVENT

The next year SIBM'07 will take place in USA. The details will be published on the EG website [Http://www.eg.org](http://www.eg.org).