

CSIS Research Seminar Series
Spring 1998
Technical Report UL-CSIS-98-05

John Murphy, Department of Computer Applications, Dublin City University. Interoperable and Federated Database Systems. February 11th, 1998

Ago Kuusik, Department of Computer Science and Information Systems, University of Limerick. Automatic layout of class diagrams in Object Modeling Technique notation. March 11th, 1998

Morton Herzum, Assistant Professor, University of Copenhagen and Research Fellow, Interaction Design Centre, Department of Computer Science and Information Systems, University of Limerick. The Evaluator Effect in Usability Studies. April 1st, 1998

Laure Charonnat, Department of Computer Science and Information Systems, University of Limerick. Speech synthesis by diphone concatenation : application to the synthesis of words in Irish. April 8th, 1998

Paschall de Paor, Department of Computer Science and Information Systems, University of Limerick. Processes in Creativity - A Day in the Life of a Composition. April 22nd, 1998.

Dines Bjorner, Professor of Computer Science, Department of Information Technology, Danish Technical University. Domains as a Prerequisite for Requirements and Software. July 1st, 1998.

Department of Computer Science and Information Systems

Seminar

Interoperable and Federated Database Systems

14h00, Wednesday, February 11th, 1998
SG-18 Schuman Building

John Murphy

Department of Computer Applications
Dublin City University

The subject of this seminar is interoperable database systems. The focus is on federated and multidatabase systems and their characteristics. The Jupiter System was developed as a prototype multirelational testbed system at DCU using Orbix (CORBA) as its underlying transport. Jupiter's development, architecture, language and future direction will be discussed.

ALL WELCOME

Enquiries to Ita Richardson
S1-01, Ext. 2765

Department of Computer Science and Information Systems

Seminar

Automatic layout of class diagrams in Object Modeling Technique notation

14h00, Wednesday, March 11th, 1998
S1-14 Schuman Building

Ago Kuusik

Department of Computer Science and Information Systems
University of Limerick

The object-oriented (OO) paradigm has become an industrial standard in software development over the recent decade. OO technology is one of the mechanisms which allows to deal with increasing the size and complexity of the software. To handle the size and complexity even better and to have a better overview of a software project, there are graphical OO design tools available. Most of the today's graphical OO design tools lack of or have a primitive automatic layout facility, which would, otherwise, increase productivity of a tool and enable reverse engineering from the source code.

At the same time, substantial efforts are invested to the research of the automatic graph drawing. However, most of the research in this area is graph-theory-oriented rather than application oriented. We are trying to make the ends meet and study various classes of automatic graph layout algorithms and analyse their applicability in drawing of Class Diagrams, which is one of the graphical views of the OO software. We also give an overview on the ways of extending a particular graph layout algorithm --- the Sugiyama layout algorithm in order to draw Class Diagrams according to both Object Modeling Technique (OMT) and Unified Modeling Language (UML) standards.

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Department of Computer Science and Information Systems

Seminar

The Evaluator Effect in Usability Studies

14h00, Wednesday, April 1st, 1998
S1-14 Schuman Building

Morton Herzum

Assistant Professor, University of Copenhagen
and

Research Fellow, Interaction Design Centre,
Department of Computer Science and Information Systems, University of Limerick

Usability tests are commonly used in industry and applied in research as a yardstick for other usability evaluation methods. Though usability tests have been studied extensively, one potential threat to their reliability has been left virtually untouched: the evaluator effect. In this study four evaluators individually analyzed four videotaped test sessions and reported all the problems they detected as well as selected the ten problems they considered most severe. Only 20% of the 93 detected problems were detected by all evaluators, and 46% were detected by only a single evaluator. The most severe problems, defined as those appearing on more than one top-10 list, were detected more often by all four evaluators (64%) and less often by only one evaluator (9%). However, not a single problem was included on all four top-10 lists. Thus, both detection of usability problems and selection of the most severe problems are subject to considerable individual variability.

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Department of Computer Science and Information Systems

Seminar

Speech synthesis by diphone concatenation: Application to the synthesis of words in Irish

14h00, Wednesday, April 8th, 1998
S1-14 Schuman Building

Laure Charonnat

Department of Computer Science and Information Systems
University of Limerick

A speech synthesiser is a combination of digital signal (DSP) and natural language processing (NLP). The DSP module generates the acoustic waveform according to the information derived from the NLP module.

The most important issue of the DSP module is to produce a natural sounding signal. For this, two major approaches have been developed in the recent years: the rule-based and the concatenative approach. The first one generates the speech by modelling the main acoustic features of the signal under the control of phonetic rules. The second approach, developed more recently, is based on the combination of speech segments (phonemes, diphones, triphones...) extracted from a speech database.

Within the context of a speech synthesiser for Irish, a new algorithm of diphone concatenation has been proposed. The concatenation and the prosody matching are realised in the time domain and based on a time-scale modification algorithm. The diphones are extracted from a database containing all the diphones of the Irish language.

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Department of Computer Science and Information Systems

Seminar

Processes in Creativity - A Day in the Life of a Composition

14h00, Wednesday, April 22nd, 1998
S1-14 Schuman Building

Paschall de Paor
Department of Computer Science and Information Systems, University of
Limerick

Creativity is a multifaceted thing - pervasive in both art and science. In art, it has traditionally been cloaked in mystery, and some artists prefer to keep it that way - why else would we tolerate them? I speak as an artist, specifically as a composer (and even more specifically as a computer music composer). I do not believe in the hype - creativity is easy; it's the art of composition that is mysterious. My talk will examine some abstracted aspects of generative creativity, using both traditional and non-traditional compositional paradigms within the contemporary evolving discipline of computer music.

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Department of Computer Science and Information
Systems

Seminar

Domains as a Prerequisite for Requirements and
Software

14h00, Wednesday, July 1st, 1998
S1-14 Schuman Building

Dines Bjorner

Professor of Computer Science, Department of Information Technology,
Danish Technical University.

This presentation will discuss domain perspectives and facets, requirements aspects and software views. Examples used are Banks, Railways, Air Traffic, Decision Support Systems, Fisheries Infrastructure

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