

Željko Obrenovic

Curriculum Vitae

Center for Command Information Systems, and
Laboratory for Multimedia Communications
University of Belgrade, Belgrade
Serbia and Montenegro

Contact

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Personal data

Date of birth: March 3, 1976

Place of Birth: Sisak, Croatia

Nationality: Serbia and Montenegro, Croatian

Research Interest

Human-computer interaction, design of user interfaces, multimodal interaction, software engineering, model-driven development, aspect-oriented programming, artificial intelligence, agent-oriented software development, biomedical engineering.

Education

- 2004 **Ph.D. in Computer Science**, School of Electrical Engineering, University of Belgrade, Belgrade, Serbia and Montenegro.
Dissertation title: "User Interface Design Based on the Unified Model of Human-Computer Interaction"
Advisors: Prof. Dusan Starcevic and Prof. Dusan Velasevic
- 2002 **M.S. in Computer Science**, School of Electrical Engineering, University of Belgrade, Belgrade. GPA: 10.00/10.00.
Dissertation title: "Optimization of Multimodal Interaction in Time-Critical Applications"
Advisors: Prof. Dusan Starcevic and Prof. Dusan Velasevic
- 1999 **B.S. in Computer Science**, Military Technical Academy, University of Belgrade, Belgrade.

Professional Experience

Current positions:

- 2002 - *present* **Assistant Professor**, Computer Science Department, Military Technical Academy, University of Belgrade, Belgrade, Serbia and Montenegro.
- *Teaching undergraduate courses "Human-Computer Interaction" and "Object-oriented programming",*
 - *Supervising undergraduate students.*
- 1999 - *present* **Researcher**, The Center for Command Information Systems, Belgrade, Serbia and Montenegro.
- *Exploring various HCI and software development topics,*
 - *Design of interactive systems,*
 - *Teaching and education,*
 - *Supervising various projects.*

Past positions:

- Fall 2004 **Visiting Professor**, Laboratory of HCI for Special Needs, University of the Basque Country, San Sebastian, Spain
- 2000 - 2002 **Lecturer**, School of Business Administration, University of Belgrade, Belgrade, Serbia and Montenegro.
- *Teaching "Multimedia Information Systems"*
 - *Supervising graduate and undergraduate students*
- 2000-2001 **Teaching assistant**, College of Electrical Engineering, Belgrade, Serbia and Montenegro.
- *Teaching "Computer Graphics"*

Professional Societies

- A member of the IFIP Working Group 12.5 (Artificial Intelligence Applications). Also was a program member for the First IFIP International Conference on Artificial Intelligence Application and Innovations,
- A member of the the GOOD-OLD-AI group. The group is a member of the ARIADNE Foundation, associate partner in the ProLearn Network-of-Excellence, and member of the IFIP TC12 committee for artificial intelligence.
- A member of the Laboratory for Multimodal Communications, School of Business Administration, University of Belgrade.

Development skills

Programming Skills

Highly experienced in C/C++, Java, JavaScript, VBScript, JSP, ASP, SQL, Visual Basic, AspectJ. Also Python and (in the dawn of education) Clipper, Pascal, Lisp, Fortran, and Assembler. I am also highly experienced in UML, Unified Process, extreme programming techniques.

Platforms and Libraries

3D graphics: VRML, X3D, OpenGL, Java3D, GeoVRML, H-ANIM

Speech technologies: Sphinx, FreeTTS, Microsoft Speech API, Java Speech

Computer vision: Intel Open Computer Vision (OpenCV) library

Web technologies: XML, CSS, HTML

Ontologies: RDF, RDFS, OIL, DAML, OWL

Ontology tools: Protégé

CASE tools: Rational Rose, ArgoUML, ERwin

Databases: SQL Server, MS Access, My SQL, Oracle

Commonsense reasoning: ConceptNet

Agents: IBM Aglets, Voyager

Multimodal platforms: Galaxy (DARPA) Communicator

Mobile computing: Java 2 Micro Edition (J2ME), Kannel WAP and gateway

Reviewer

Books: Handbook of Software Engineering and Knowledge Engineering (World Scientific Pub. Co.),

Journals: Computer, IEEE Software, IEEE Multimedia, IEEE Trans. on Systems, Man, and Cybernetics, Interacting with Computer, ComSIS, YUJOR

Conferences: WCC2004-AIAI04

Interviews

- Book *SIMILAR Dreams, Multimodal Interfaces in Our Future Life*, UCL Presses Universitaires de Louvain, July 2005, ISBN: 2-930344-91-1, pp. 306-311
- Magazine *Vojska*, May 12, 2005, page 16.

Languages

- **English:** fluent, both spoken and written (CEA level)
- **Serbian, Croatian:** native
- **Spanish, Italian, Russian, German:** some

Personal interests

- Athletics, dancing, cycling, hiking, traveling, fencing, music, guitar playing.

References

Dr Dusan Starcevic, Full Professor

Department of Information Systems, FON - School of Business Administration
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Dr Emil Jovanov, Associate Professor

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Dr Julio Abascal, Full Professor

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Department of Computer Architecture & Technology
University of the Basque Country, School of Informatics, Manuel Lardizabal 1
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Dr Vladan Devedzic, Full Professor

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University of Belgrade
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Published papers

Books

1. **Zeljko Obrenovic**, "Human-Computer Interaction" (in serbian), FON: TEMPUS, Belgrade, 2004, ISBN 86-7680-027-8.

Chapters in encyclopedias

1. **Zeljko Obrenovic**, Dusan Starcevic, Emil Jovanov, "Multimodal Presentation of Biomedical Data", Accepted for publication in *Metin Akay (Ed.): Wiley Encyclopedia of Biomedical Engineering*, Wiley.
2. **Zeljko Obrenovic**, Dusan Starcevic, Emil Jovanov, "Virtual Instrumentation", Accepted for publication in *Metin Akay (Ed.): Wiley Encyclopedia of Biomedical Engineering*, Wiley.

Chapter in books

1. **Zeljko Obrenovic**, Dusan Starcevic, "History of Human-Computer Interaction", Chapter in V. Devedzic (Eds.): *Technologies of Intelligent Systems*, FON : TEMPUS, Belgrade, 2004.
2. **Zeljko Obrenovic**, Dusan Starcevic, Emil Jovanov, "Toward Optimization of Multimodal User Interfaces for Tactile Audio Applications", Chapter in N. Carbonell, C. Stephanidis (Eds.): *Universal Access Theoretical Perspectives, Practice, and Experience - Lecture Notes in Computer Sciences 2615*, Springer, 2003, pp. 287-298.
3. Dušan Starcevic, Emil Jovanov, Vlada Radivojevic, **Željko Obrenovic**, Aleksandar Samardžic, "Virtual medical devices for telemedical applications", in P. Spasic, I. Milosavljevic, M. Jancic-Zguricas (Eds.), *Telemedicine*, Academy of Medical Sciences of Serbian Medical Association, Belgrade, Yugoslavia, pp. 218-244, 2000.
3. Dušan Starcevic, Vlada Radivojevic, **Željko Obrenovic**, Emil Jovanov, Aleksandar Samardžic, "Technological breakthroughs in neurophysiology: Virtual medical devices for EEG analysis", in *Ilanovic (Ed.): Consciousness, sleeping, dreams*, Belgrade, 1999, pp. 145-158.
4. E. Jovanov, D. Starcevic, A. Marsh, **Z. Obrenovic**, V. Radivojevic, A. Samardzic, "Multi modal presentation in virtual telemedical environments", *High-Performance Computing and Networking, Proceedings Lecture Notes In Computer Science 1593*, pp. 964-972 , 1999.

International journal papers

1. **Zeljko Obrenovic**, Dusan Starcevic, "Modeling Multimodal Human-Computer Interaction", IEEE Computer, Vol. 37, No. 9, September 2004, pp. 65-72.
2. **Obrenovic Ž**, Starcevic D., Selic B., "A Model Driven Approach to Content Repurposing", IEEE Multimedia, Vol. 11, No. 1, January-March 2004, pp. 62-71.
3. **Obrenovic Željko**, "Experimental evaluation of user performance in a pursuit tracking task with multimodal feedback", Yugoslav Journal of Operational Research, Vol. 14, No. 1, 2004.
4. Jovanov, D. Starcevic, A. Samardžic, A. Marsh, **Ž. Obrenovic**, "EEG analysis in a telemedical virtual world", Future Generation Computer Systems 15 (1999), pp. 255-263.

National journal papers

1. **Željko Obrenovic**, Dušan Starcevic Emil Jovanov, "Optimization of Multimodal Communication for Tactical Audio Applications", *Info M*, Vol. 1, No. 1.
2. Miloš Merdžanovic, Nedeljko Ostojic, **Željko Obrenovic**, "An application for supporting military sport competitions", Military technical journal, Vojnoizdavacki zavod, Belgrade, No. 2, Vol. 2003, pp. 182-183.
3. Zoran Savic, **Željko Obrenovic**, "Protecting Data in the State Agencies' Networks", *INFO science*, 1-2 (2000), pp. 41-45.
4. Dušan Starcevic, **Željko Obrenovic**, Emil Jovanov, Daniel Karron, "Tactical Audio Training System based on Virtual Reality", *INFO science*, 6/99 (1999), pp. 4-7.

International conference papers

1. **Zeljko Obrenovic**, Nestor Garay, Juan Miguel López, Inmaculada Fajardo, Idoia Cearreta, "An Ontology for Description of Emotional Cues", to appear in Proceedings of The First International Conference on Affective Computing & Intelligent Interaction, October 22-24, 2005 Beijing, China.
2. **Zeljko Obrenovic**, "A Flexible System for Creating Music while Interacting with the Computer", to appear in Proceedings of the ACM Multimedia 2005 Conference, November 6-12, 2005, Singapore.
3. **Z. Obrenovic**, Dusan Starcevic, Vladan Devedzic, "Using Ontologies in Design of Multimodal User Interfaces", in M. Rauterberg, M. Menozzi, and J. Wesson (Eds.): Human-Computer Interaction - INTERACT '03, IOS Press & IFIP, 2003, pp. 535-542.

4. **Zeljko Obrenovic**, Dusan Starcevic, Emil Jovanov, Vlada Radivojevic, "Implementation of Virtual Medical Devices in Internet and Wireless Cellular Networks", *First IFIP Internet Workshop*, 2002, Warchaw, Poland, pp. 229-242.
5. **Zeljko Obrenovic**, Dusan Starcevic, Emil Jovanov, "Experimental Evaluation of Multimodal Human Computer Interface for Tactical Audio Applications", *Proceedings of IEEE International Conference on Multimedia and Expo - ICME 2002*, Lausanne, Switzerland, August 26-29 2002, Volume 2, pp. 29-32.
6. **Zeljko Obrenovic**, Dusan Starcevic, Emil Jovanov, Vlada Radivojevic, "An Agent Based Framework for Virtual Medical Devices", *Proceedings of the AAMAS'02*, ACM Press, July 15-19, 2002, Bologna, Italy.
7. Dusan Starcevic, **Zeljko Obrenovic**, Emil Jovanov, Vlada Radivojevic, "Virtual Medical Devices in Internet and Wireless Cellular Networks", *BALCOR'02*, Solun, Greece.
8. Milan Markovic, Zoran Savic, **Željko Obrenovic**, Aca Nikolic, "A PC Cryptographic Coprocessor Based on TI Signal Processor and SMarch Card System", *International Federation for Information Processing Communications and Multimedia Security Joint working conference IFIP TC6 and TC11*, Darmstadt, Germany, May 21-22, 2001.
9. **Z. Obrenovic**, D. Starcevic, E. Jovanov, V. Radivojevic, "An Implementation of Real-time Monitoring and Analysis in Telemedicine", *Third IEEE EMBS Information Technology Applications in Biomedicine – Workshop of the International Telemedical Information Society ITAB-ITIS 2000*, Arlington, Virginia, November 2000, pp. 74-78.
10. Nedeljko Ostojic, **Željko Obrenovic**, Milorad Živanovic, Dragan Strelac, Mladen Đurašinovic, "Web Based Information Processing Support for Sportsmen Competitions", *BALCOR 2000*, Banja Luka, 2000.
11. E. Jovanov, **Z. Obrenovic**, D. Starcevic, D.B. Karron, "A Virtual Reality Training System for Tactical Audio Applications", *SouthEastern Simulation Conference SESC'99*, Huntsville, Alabama, October 6-7, 1999.
12. E. Jovanov, D. Starcevic, A. Marsh, A. Samardžic, **Ž. Obrenovic**, V. Radivojevic, "Multimodal Viewer for Telemedical Applications", *20th Annual Int'l Conf. IEEE Engineering in Medicine and Biology*, Hong Kong, October 1998.

National conference papers

1. Dušan Starcevic, **Željko Obrenovic**, Vlada Radivojevic, "Multimodal Neural Feedback", *XXX Yugoslav Symposium of Operational Research - SYMOPIS 2003*, Herceg Novi, Serbia and Montenegro, 30. September - 03. October 2003.

2. **Obrenovic Ž.**, Jovanovic V., Marchic I., "Selective Access to SQL Server databases: An Integrative Approach", *XVIII Information Technology Conference - InfoTech 2003*, Vrnjacka Banja, Serbia and Montenegro, 26-30. May 2003.
3. Štavljanin V., Minovic M., Starcevic D., **Obrenovic Ž.**, "Applying WAP 2.0 technologies in banking", *XVIII Information Technology Conference - InfoTech 2003*, Vrnjacka Banja, Serbia and Montenegro, 26-30. May 2003.
4. Dragan Gašević, **Željko Obrenovic**, "An Approach to Integration of Structured Data Sources Based on Metamodel Transformations", *YUINFO Conference 2003*, Kopaonik, Serbia and Montenegro, 10-14. March 2003.
5. **Željko Obrenovic**, Dušan Starcevic, Velimir Štavljanin, Vladimir Batalov, "Applying WAP/SMS Technologies in Banking", *X Telecommunications Forum - TELFOR 2002*, Belgrade, Serbia and Montenegro, 10-14. March 2003, 26-28. 11. 2002.
6. Nedeljko Ostojic, **Željko Obrenovic**, Miloš Merdžanovic, Nenad Dulanovic, Zoran Ružic, "Web-based Information Support of SYMOPIS 2001 Conference: Lessons Learned", *XXIX Yugoslav Symposium of Operational Research - SYMOPIS 2002*, 10-14. March 2003, Tara, Serbia and Montenegro, 09. - 12. October 2002, pp. VI-5 - VI-8.
7. Miloš Merdžanovic, **Željko Obrenovic**, Dane Hinic, "Web-based Information Support of Sport Competitions", *XXIX Yugoslav Symposium of Operational Research - SYMOPIS 2002*, Tara, Serbia and Montenegro, 09. - 12. October 2002, pp. VI-13 - VI-16.
8. **Obrenovic Željko**, Starcevic Dušan, Jovanov Emil, "Experimental Evaluation of Multimodal Interfaces for Tactical Audio Applications", *XVII Information Technology Conference - InfoTech 2002*, Vrnjacka Banja, Serbia and Montenegro, 17-21. June 2002.
9. **Obrenovic Željko**, Starcevic Dušan, Jovanov Emil, Radivojevic Vlada, "Virtual Medical Devices for Monitoring and Analysis of EEG signals based on Internet and Cellular Network Technologies", *XVI Information Technology Conference - InfoTech 2001*, 19-22. June 2001, Vrnjacka Banja, Serbia and Montenegro, ISBN 86-82831-07-4.
10. Batalov Vladimir, Štavljanin Velimir, **Obrenovic Željko**, "Mobile Counter", *XVI Information Technology Conference - InfoTech 2001*, 19-22. June 2001, Vrnjacka Banja, Serbia and Montenegro, ISBN 86-82831-07-4.
11. Barac Goran, Stankovic Živko, **Obrenovic Željko**, Novakovic Sladana, Marchic Ivanka, Novakovic Nebojša, "Developing Military Human Resources Management Information System: Lessons Learned", *XVI Information Technology Conference - InfoTech 2001*, 19-22. June 2001, Vrnjacka Banja, Serbia and Montenegro, ISBN 86-82831-07-4.

12. **Željko Obrenovic**, Dušan Starcevic, Emil Jovanov, Vlada Radivojevic, "A Web-based Solution for Real-time EEG Monitoring and Analysis", *YUINFO Conference 2001*, Kopaonik, Serbia and Montenegro, 19-23.03.2001.
13. **Željko Obrenovic**, Dušan Radovic, "A Web-based Solution for Acquisition, Analysis and Presentation of Metrological Data", *VIII Telecommunications Forum - TELFOR 2000*, Belgrade, Serbia and Montenegro, 21-22.11.2000, pp. 29-32.
14. **Željko Obrenovic**, Nedeljko Ostojic, Milorad Živanovic, Mladen Đurašinovic, "Information Support of Marathon Competitions: A Web-based Approach", *YUINFO Conference 2000*, Kopaonik, Serbia and Montenegro, 2000.
15. **Željko Obrenovic**, Nedeljko Ostojic, Mladen Đurašinovic, Đuro Vojnovic, "Information Support of Shooting Competitions: A Web-based Approach", *XLIII ETRAN Conference 1999*, Zlatibor, Serbia and Montenegro, 20-22. September 1999.
16. Nedeljko Ostojic, **Željko Obrenovic**. . . , "Information Support of Shooting Competitions: Lessons Learned", *XLIII ETRAN Conference 1999*, Zlatibor, Serbia and Montenegro, 20-22. September 1999.
17. **Željko Obrenovic**, "An approach to server activities monitoring based on distributed software agents", *VI Telecommunications Forum - TELFOR'98*, Belgrade, Serbia and Montenegro, 24-26. Novembar 1998, pp. 350-353.
18. Emil Jovanov, Dušan Starcevic, Vlada Radivojevic, **Željko Obrenovic**, Aleksandar Samardžic, "Visualization and Sonification of Biomedical Data", *Conference on Informatics in Medicine, Pharmacy, and Social Protection - IFM'98*, Arandelovac, Serbia and Montenegro, 19-23. May, 1998, pp. 19-24 (pozvano predavanje).
19. **Željko Obrenovic**, "The Software System for Supporting Email Access to Internet Services", *V Telecommunications Forum - TELFOR'97*, Belgrade, Serbia and Montenegro, 25-27. novembar 1997, pp. 337-340.
20. **Željko Obrenovic**, "Preparing Email Messages for Accessing Internet Services", *SINFON Conference 1997*, Zlatibor, Serbia and Montenegro, 14-17. novembar 1997, pp. 33.
21. **Željko Obrenovic**, "An Object-oriented Approach to Development of Graphical Interface for Information System Modeling", *SINFON Conference 1996*, Zlatibor, Serbia and Montenegro, 8-11. novembar 1996, pp. 10.
22. **Željko Obrenovic**, Miroslav Maystorovic, Branko Milovanovic, "Development of the System for Evaluation of Artillery Actions: An Object-Oriented Approach", *XXIII Yugoslav Symposium of Operational Research - SYMOPIS 1996*, Žabljak, Serbia and Montenegro, 1996, pp. 969-972.