

Curriculum Vitae: Aulikki Hyrskykari

Lecturer, PhD

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Personal data

Born in 1958, in Juupajoki, Finland. Citizen of Finland.
Divorced, three children, born in 1989, 1990 and 1995.

Research interests

Human-computer interaction, especially gaze assisted interfaces and interaction techniques.

Academic degrees

Ph.D (interactive technology)	University of Tampere, 2006
Lic.Phil. (computer science)	University of Tampere, 1995
M.Sc. (computer science)	University of Tampere, 1986

Refereed international publications

- Howell Istance, Aulikki Hyrskykari, Lauri Immonen, Santtu Mansikkamaa, and Stephen Vickers. 2010. Designing gaze gestures for gaming: an investigation of performance. In Proceedings of the 2010 Symposium on Eye-Tracking Research & Applications (ETRA '10). ACM, New York, NY, USA, 323-330. doi: 10.1145/1743666.1743740 <http://doi.acm.org/10.1145/1743666.1743740>
- Carlos H. Morimoto, Howell Istance, Aulikki Hyrskykari, Qiang Ji (eds.): Proceedings of the 2010 Symposium on Eye-Tracking Research & Applications, ETRA 2010, Austin, Texas, USA, March 22-24, 2010. ACM 2010, ISBN 978-1-60558-994-7
- Helmut Prendinger, Aulikki Hyrskykari, Minoru Nakayama, Howell Istance, Nikolaus Bee and Yosiyuki Takahasi (2009). Attentive Interfaces for Users with Disabilities - Eye Gaze for Intention and Uncertainty Estimation. *Universal Access in the Information Society* 8(4), 339-354, doi: 10.1007/s10209-009-0144-5
- Howell Istance, Aulikki Hyrskykari, Stephen Vickers, Thiago Chaves (2009) "For Your Eyes Only: Controlling 3D Online Games by Eye-Gaze", 12th IFIP TC13 Conference in Human-Computer Interaction, INTERACT' 2007, Uppsala, Springer-Verlag, 08/2009.
- Stephen Vickers, Howell Istance, Aulikki Hyrskykari. (2009). Selecting commands in 3D game environments by gaze gestures. Teoksessa Arantxa Villanueva, John Paulin Hansen, Bjarne Kjær Ersbøll (toim.) Proceedings of the 5th COGAIN Annual Conference on Communication by Gaze Interaction. Copenhagen: Technical University of Denmark, Informatics and Mathematical Modelling, 55-59
- Howell Istance, Stephen Vickers, and Aulikki Hyrskykari. 2009. Gaze-based interaction with massively multiplayer on-line games. In Proceedings of the 27th international conference extended abstracts on Human factors in computing systems (CHI '09). ACM, New York, NY, USA, 4381-4386. DOI=10.1145/1520340.1520670 <http://doi.acm.org/10.1145/1520340.1520670>
- Aulikki Hyrskykari Salla Ovaska, Päivi Majaranta, Kari-Jouko Räihä, and Merja Lehtinen (2008). Gaze Path Stimulation in Retrospective Think-Aloud. *Journal of Eye Movement Research*, 2(4):5, 1-18, (available at <http://www.jemr.org/online/2/4/5>)
- Howell Istance, Aulikki Hyrskykari, Stephen Vickers, and Nazmie Ali (2008). User Performance of Gaze-based Interaction with Online Virtual Communities. In the Proceedings of the 4th Conference on Communication by Gaze Interaction – COGAIN 2008: Communication, Environment and Mobility Control by Gaze, 28-32 (available at <http://www.cs.uta.fi/~ah/papers/COGAIN2008.pdf>).
- Stephen Vickers, Howell Istance, Aulikki Hyrskykari, Nazmie Ali and Richard Bates (2008), Keeping an eye on the game: eye gaze interaction with Massively Multiplayer Online Games and virtual communities

- for motor impaired users. The 7th International Conference on Disability, Virtual Reality and Associated Technologies, P. M. Sharkey, P. Lopes-dos-Santos, P.L. Weiss & A. L. Brooks (eds.), 159-166, Maia & Porto, Portugal, 8.-11. Sept., 2008 (available at http://www.icdvrat.reading.ac.uk/2008/papers/ICDVRAT2008_S04_N05_Vickers_Istance_et_al.pdf)
- Howell Istance, Richard Bates, Aulikki Hyrskykari, and Stephen Vickers (2008), Snap clutch, a moded approach to solving the Midas touch problem. ETRA2008: ACM, pp. 221--228, (available at <http://www.cs.uta.fi/~ah/papers/ETRA2008.pdf>)
- Poika Isokoski, Aulikki Hyrskykari, Sanna Kotkaluoto, Benoît Martin, Gamepad and Eye Tracker Input in FPS Games: Data for the First 50 Minutes (2007). In the Proceedings of the 3rd Conference on Communication by Gaze Interaction – COGAIN 2007: Gazing into the Future, 11-15 (available at <http://www.cs.uta.fi/~ah/papers/COGAIN2007.pdf>).
- Merja Lehtinen, Aulikki Hyrskykari, Kari-Jouko Räihä, Päivi Majaranta (2007) Quality of verbal data: Concurrent thinking aloud vs. retrospective thinking aloud. *Abstracts of the 14th European Conference on Eye Movements, ECEM2007*. (available at <http://www.jemr.org/online/1/s1>)
- Howell Istance, Aulikki Hyrskykari, Daniel Koskinen, and Richard Bates (2006), Gaze-based Attentive User Interfaces (AUIs) to support disabled users: towards a research agenda. In the Proceedings of the 2nd Conference on Communication by Gaze Interaction – COGAIN 2006: Gazing into the Future, 56-62.(available at http://www.cogain.org/cogain2006/COGAIN2006_Proceedings.pdf).
- Merja Lehtinen, Aulikki Hyrskykari, Kari-Jouko Räihä (2006), Gaze Path Playback Supporting Retrospective Think-Aloud in Usability Tests. In the Proceedings of the 2nd Conference on Communication by Gaze Interaction – COGAIN 2006: Gazing into the Future, 88-91.(available at http://www.cogain.org/cogain2006/COGAIN2006_Proceedings.pdf).
- Aulikki Hyrskykari (ed.), Proceedings of the 5th International Conference for Interaction Design and Children. IDC 2006, June 7-9, 2006, Tampere, Finland.
- Aulikki Hyrskykari (2006), Keeping track of the progress of reading in real time (abstract), in the First Scandinavian Workshop on Applied Eye Tracking, February 2006, Lund, Sweden
- Aulikki Hyrskykari (2006), Utilizing eye movements: Overcoming inaccuracy while tracking the focus of attention during reading. *Computers in Human Behavior*, 22(4), 103-117, 2006.
- Aulikki Hyrskykari, Päivi Majaranta and Kari-Jouko Räihä. From gaze control to attentive interfaces. Proceedings of HCII 2005, Las Vegas, NV, July 2005.
- Aulikki Hyrskykari (ed.), Proceedings of the third Nordic conference on Human-computer interaction. 2004, October 23-27, 2004, Tampere, Finland.
- Aulikki Hyrskykari (2004), Tracking the Focus of Visual Attention During Reading, in the Workshop "Desinging for Attention", a position paper in the HCI 2004 Conference, 5 pages, September 2004, Leeds, England
- Aulikki Hyrskykari, Päivi Majaranta and Kari-Jouko Räihä (2004), Proactive Response to Eye Movements. In Proceedings of INTERACT 2003, Zürich, Switzerland, September 1-5, 2003, 129-136.
- Aulikki Hyrskykari (2003), Detection of comprehension difficulties in reading on the basis of word frequencies and eye movement data. A poster in 12th European Conference on Eye Movements (ECEM12), Dundee, Scotland, 2003.
- Aulikki Hyrskykari, Silmäpeliä tietokoneen kanssa - iDict, vieraskielisten dokumenttien lukuympäristö (2002). Soveltavan kielitieteen AFinLan vuosikirja 2002, Jyväskylän yliopistopaino, Jyväskylä 305-320.
- Aulikki Hyrskykari, Päivi Majaranta, Antti Aaltonen & Kari-Jouko Räihä (2000), Design Issues of iDict: A Gaze-Assisted Translation Aid. In: *Eye Tracking Research & Applications Symposium 2000*, ACM Press, November 2000, 9–14.
- Antti Aaltonen, Aulikki Hyrskykari & Kari-Jouko Räihä, 101 spots, or how do users read menus? In: *Human Factors in Computing Systems, Proceedings of CHI'98 Conference*, Addison-Wesley, April 1998, 132–139.
- Aulikki Hyrskykari, Development of program visualization systems, University of Tampere, presented at the 2nd Czech British Symposium on Visual Aspects of Man-Machine Systems, Prague, Department of Computer Science, Report A-1995-3, April 1995, 21 pp.
- Esa Helttula, Aulikki Hyrskykari & Kari-Jouko Räihä, A direct manipulation system for designing program animations, In: *Proceedings of the EUC '92 Conference*, Bruges, April 21-23, 1992, 15-17.
- Esa Helttula, Aulikki Hyrskykari & Kari-Jouko Räihä, Principles of ALADDIN and other algorithm animation systems. In: *Visual Languages*, T. Ichikawa, E. Jungert and R. Korfhage (eds.), Plenum Publishing Co., New York, 1990, 175–187.
- Esa Helttula, Aulikki Hyrskykari & Kari-Jouko Räihä, Graphical specification of algorithm animations with ALADDIN. In: *Proceedings of the Hawaii International Conference on Systems and Software (HICSS)*, IEEE, January 1989, 892–901.

Aulikki Hyrskykari & Kari-Jouko Räihä, Animation of algorithms without programming. Proceedings of the *1987 Workshop on Visual Languages*, University of Linköping, August 1987, 40–54.

Reports in domestic series, theses & other unrefereed publications

- Aulikki Hyrskykari (2006), *Eyes in Attentive Interfaces: Experiences from Creating iDict, a Gaze-Aware Reading Aid*. University of Tampere, Dissertations in Interactive Technology, Number 4, 2006, 192 pp. Available at <http://acta.uta.fi/pdf/951-44-6643-8.pdf>
- Aulikki Hyrskykari, Lukuprosessin silmänliikkeisiin perustuvat mallit (Reading models). Roope Raisamo (toim.), *Käyttöliittymäteoriat ja -mallit*, Tampereen yliopisto, Tietojenkäsittelytieteiden laitos, Raportti B-2001-7, 49-82.
- Aulikki Hyrskykari, Gaze Control as an Input Device. K.-J. Räihä (ed.), In: *Proceedings of ACHCI'97* (Advanced Course on Human-Computer Interaction), University of Tampere, Department of Computer Science, Report B-1997-4, 22-27.
- Aulikki Hyrskykari *Erään algoritmien animaatiokehittimen suunnittelu ja toteutus* (Design and Implementation of an Algorithm Animation Environment), *Lisensiaattitutkielma* (dissertation for Phil. Lic. degree), Tampereen yliopisto, Tietojenkäsittelyopin laitos, Raportti B-1994-5, Joulukuu 1994, 149 s.
- Aulikki Hyrskykari, Animaatioeditorin ja suoritusympäristön välinen yhteys ALADDIN-animaatiokehittämissä (the interface between the animation editor and animation environment in ALADDIN). Tampereen yliopisto, Tietojenkäsittelyopin laitos, Raportti B-1994-6, Joulukuu 1994, 51 s.
- Aulikki Hyrskykari, *Kuvien käyttö ohjelmien havainnollistamisessa* (Program Visualization), Tampereen yliopisto, Tietojenkäsittelyopin laitos, Raportti B-1987-4, Helmikuu 1987, 63 s., 47 liites.
- Aulikki Peltonen, *DEC System 20 -tietokoneen Cobol-74*, Tampereen yliopisto, Matemaattisten tieteiden laitos, Moniste B23, Tammikuu 1983, 158 s., 44 liites.

Administrative and organization service, referee, reviewer

- Member of the board of the School of Information Sciences (University of Tampere, 2011 -)
- Member of the board of the Faculty of Information Sciences (University of Tampere, 2010-2011)
- Vice chair of the board of the University Computer Centre (University of Tampere, 2008- 2011)
- Member of the board of the University Computer Centre (University of Tampere, 2006 - 2008)
- Member of the board of the Department of Computer and Information Sciences (University of Tampere, starting from 1998 - 2011)
- Member of the jury of the CHI Student Research Competition 2011 (CHI 2011, Vancouver)
- Member of the Program Committee of the Conference on Novel Gaze-Controlled Applications (Blekinge Institute of Technology, 2011)
- Chair of the Program Committee of the Sixth Eye Tracking Research & Application Symposium (ETRA 2010).
- Member of the Program Committee of the Fifth Eye Tracking Research & Applications Symposium (ETRA 2008), March 2008, Savannah, GA.
- Member of the Organization Committee (the Proceedings Chair) of the Fifth International Conference for Interaction Design and Children (IDC 2006), Tampere, June 2006.
- Member of the Program Committee of the Fourth Eye Tracking Research & Applications Symposium (ETRA 2006), March 2006, San Diego. CA.
- Member of the Organization Committee (the Proceedings Chair) of the Third Nordic Conference on Human Factors in Computing Systems (NordiCHI 2004), Tampere, October 2004.
- Member of the Program Committee of the Third Eye Tracking Research & Applications Symposium (ETRA 2004), March 2004, San Antonio. TX.
- Member of the Program Committee of the Nordic Symposium on Multimodal Communication, September 2003, Copenhagen. Denmark.
- Member of the Program Committee of the Second Eye Tracking Research & Applications Symposium (ETRA 2002), March 2002, New Orleans, LA.
- Referee for the papers submitted to the Conference on Human Factors in Computing Systems 2011 (CHI 2011, Vancouver)
- Referee for a project proposal for WWTF, a Wiener Wissenschafts-, Forschung- und Technologiefonds (Vienna Science and Technology Fund, Austria), 2010
- Referee for the Finnish journal "KASVATUS. Suomen kasvatustieteellinen aikakauskirja", 2010

Referee for the COGAIN Annual Conference on Communication by Gaze Interaction 2009 (Cogain 2009, Copenhagen)

Referee for the journal PsychNology, a special issue on "Gaze Control for Work and Play", 2009.

Referee for the papers submitted to the Conference on Human Factors in Computing Systems 2009 (CHI 2009, Boston)

Referee for the 4th COGAIN Annual Conference on Communication by Gaze Interaction, Communication, Environment and Mobility Control by Gaze (Cogain 2008).

Referee for the journal of IET Signal Processing, 2007

Referee for the short papers submitted to the Conference on Human Factors in Computing Systems 2008 (CHI 2008).

Referee for the Cogain conference on Gaze-based Creativity, Interacting with Games and On-line Communities (Cogain 2007, Leicester)

Referee for the Ubicomp'07 workshop on Attention Management in Ubiquitous Computing Environments (AMUCE 2007)

Referee for the short papers submitted to the Conference on Human Factors in Computing Systems 2005 (CHI 2005).

Referee for the special issue on Attention Aware systems of the journal Computers in Human Behavior, 2005.

Referee for the short papers submitted to the Third Nordic Conference on Computer-Human NordiCHI 2004.

Referee for the journal BMRIC, 2002.

Referee for the journal IEEE Computer several times during 1987-1993.

International presentations and talks

Talk: "Gaze analysis of reading behaviour – using attentive systems" in the Leicester. June 14th 2010, De Montfort University, Leicester, UK

Session Chair: In the Symposium on Eye Tracking Research and Applications, April, 2008, Savannah, GA

Talk: "Gaze Path Playback Supporting Retrospective Think-Aloud in Usability Tests", in the 2nd Conference on Communication by Gaze Interaction – COGAIN 2006: Gazing into the Future, Turin, Italy, September, 2006.

Talk: "Keeping track of the progress of reading in real time", in the first Scandinavian Workshop on Applied Eye Tracking, Lund, Sweden, February 2006.

Talk: "From Gaze Control to Attentive Interfaces", in 11th International Conference on Human-Computer Interaction (HCI 2005), Las Vegas, NV, 22-27 July 2005.

Tutorial: (given together with Kari-Jouko Räihä and Päivi Majaranta): Gaze-Based Human-Computer Interaction. in the International Conference on Intelligent User Interfaces (IUI 2005), San Diego, California, January 9-12, 2005.

Talk: "Eye Movements in Attentive Interfaces: Experiences from Creating iDict, a Gaze-Based Reading Aid", in the UCIT Graduate School Annual Seminar, Copenhagen, 16.-17.12.2004.

Tutorial: (given together with Kari-Jouko Räihä and Päivi Majaranta): Gaze-Based Human-Computer Interaction. in NordiCHI 2004, October 23-27, 2004, Tampere, Finland

Session Chair: In NordiCHI 2004, October 2004, Tampere, Finland

Talk: "Tracking the Focus of Visual Attention During Reading", in the workshop "Desinging for Attention" in the HCI 2004 Conference, September 2004, Leeds, England.

Talk: "Proactive Response to Eye Movements". In the INTERACT Conference, September 2003, Zürich, Switzerland.

Poster presentation: "Detection of Comprehension Difficulties in Reading on the Basis of Word Frequencies and Eye Movement Data". in 12th European Conference on Eye Movements (ECM12), August 2003, Dundee, Scotland.

Talk: "Using Natural Eye Movements as Input for the iDict Application". Presentation in 2nd Finnish Symposium for Eye-movement Research, 20 January 2003, Helsinki, Finland.

Demo: A three hour demonstration of eye tracking applications, "Hands-on demonstration" in the Nordic PhD course on Multimodal Interfaces, MUMIN 2002, November 2002, Tampere, Finland.

Talk: "Eye-aware Applications: a Translation Aid, iDict". Presentation in the Nordic PhD course on Multimodal Interfaces, MUMIN 2002, November 2002, Tampere, Finland.

Demo: A three day demonstration of iDict software in the IST Conference 2002 – a conference and exhibition on European IT technological development, November 2002, Copenhagen, Denmark.

Talk: "101 Spots, or How Do Users Read Menus?". Presentation in CHI'98, April 18-23, 1998, Los Angeles, USA.

Talk: "Development of Program Visualization Systems", Presentation at the 2nd Czech British Symposium on Visual Aspects of Man-Machine Systems, Prague, April 1995, Czech.

Demo: One hour demonstration of the Aladdin algorithm animation software, Demonstration at the 2nd Czech British Symposium on Visual Aspects of Man-Machine Systems, Prague, April 1995, Czech.

Talk: "A Direct Manipulation System for Designing Program Animations". Presentation in the EUC '92 Conference, April 21-23, 1992, Bruges, Belgium.

Talk: "Animation of Algorithms Without Programming". Presentation in the Workshop on Visual Languages, University of Linköping, August 1987, Sweden.