Natural Sciences and Engineering Research Council of Canada | Conseil de recherches en sciences naturelles et en génie du Canada

FORM 100
Personal Data Form
PART I

Date: 2013/06/14

Family name	Given name	Initial(s) of all given names	Personal identification no. (PIN)
Mandryk	Regan	L	**Valid** 214349

☐ I hold a faculty position at an eligible Canadian college (complete Appendices B1 and C)

☐ I do not or will not hold an academic appointment at a Canadian postsecondary institution

Place of employment other than a Canadian postsecondary Institution (give address in Appendix A)

APPOINTMENT AT A POSTSECONDARY INSTITUTION

Title of position: Associate Professor

Department: Computer Science

Campus:

Canadian postsecondary institution:

Tenured or tenure-track academic appointment — Yes [X] No [ ]

Part-time appointment [ ] Full-time appointment [X]

- For all non-tenured or non tenure-track academic appointment and Emeritus Professors, complete Appendices B & C
- For life-time Emeritus Professor and part-time positions, complete Appendix C

ACADEMIC BACKGROUND

Degree	Name of discipline	Institution	Country	Date yyyy/mm
Bachelor's	Mathematics	Winnipeg	CANADA	1997 / 06
Master's	Kinesiology	Simon Fraser	CANADA	2000 / 06
Doctorate	Computing Science	Simon Fraser	CANADA	2005 / 12

TRAINING OF HIGHLY QUALIFIED PERSONNEL

Indicate the number of students, fellows and other research personnel that you:

	Currently		Over the past six years (excluding the current year)		
	Supervised	**Co-supervised**	**Supervised**	**Co-supervised**	**Total**
Undergraduate	2	1	13	2	18
Master's	3	2	5	3	13
Doctoral	2	4			6
Postdoctoral	1	1	1		3
Others	1		6	4	11
Total	9	8	25	9	51

Personal information collected on this form and appendices will be stored in the Personal Information Bank for the appropriate program.
PROTECTED WHEN COMPLETED

Version française disponible

Not Completed

ACADEMIC, RESEARCH AND INDUSTRIAL EXPERIENCE (use one additional page if necessary)

Position held (begin with current)	Organization	Department	Period (yyyy/mm to yyyy/mm)
Associate Professor	Saskatchewan	Computer Science	2012/07
Assistant Professor	University of Saskatchewan	Computer Science	2007/07 to 2012/06
Sessional Instructor	Dalhousie University	Faculty of Computer Science	2006/09 to 2007/04
NSERC Postdoctoral Fellow	Dalhousie University	Faculty of Computer Science	2006/01 to 2007/06
Usability Consultant			2003/01 to 2012/10

Personal identification no. (PIN)	Family name
Valid 214349	Mandryk

RESEARCH SUPPORT

Family name and initial(s) of applicant	Title of proposal, funding source and program, and time commitment (hours/month)	Amount per year	Years of tenure (yyyy)
List all sources of support **(including NSERC grants and university start-up funds)** held as an applicant or a co-applicant: a) support held in the past four (4) years but now completed; b) support currently held, and c) support applied for. For group grants, indicate the percentage of the funding directly applicable to your research. Use additional pages as required.			
a) Support held in the past 4 years			
Regan Mandryk	Establishing a Human-Computer Interaction Lab University of Saskatchewan (Vice Provost) New Faculty Start-Up Grant 10 hours/month	5,000 10,000	2007 2008
Regan Mandryk	Detecting User Context University of Saskatchewan (College of Arts and Science) New Faculty Start-Up Fund 10 hours/month	10,000 10,000	2007 2008
Regan Mandryk	Detecting Affect through Physiological Signals University of Saskatchewan (Vice Provost) New Faculty Capital Equipment Start-Up Fund	18,000	2008
Regan Mandryk	University of Saskatchewan New Faculty Graduate Student Support 10 hours/month	15,000 15,000	2008 2009

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RESEARCH SUPPORT

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List all sources of support **(including NSERC grants and university start-up funds)** held as an applicant or a co-applicant: a) support held in the past four (4) years but now completed; b) support currently held, and c) support applied for. For group grants, indicate the percentage of the funding directly applicable to your research. Use additional pages as required.

a) Support held in the past 4 years

Regan Mandryk	Sensing User Context and Adapting User Interfaces NSERC Discovery Grants 40 hours/month	19,500 19,500 19,500 19,500 19,500	2008 2009 2010 2011 2012
Regan Mandryk	HCI Lab for Sensing User Context and Adapting User Interfaces Canada Foundation for Innovation Leaders Opportunity Fund	179,000	2008

b) Support currently held

Regan Mandryk	Sensing and Adapting to User Context in Human-Computer Interaction NSERC University Faculty Award	40,000 40,000 40,000 40,000 40,000	2008 2009 2010 2011 2012
Kellogg Booth and 49 others	GRAND: Graphics, Animation, and New Media NSERC Network Centres of Excellence 40 hours/month	5,000,000 (1%) 5,000,000 (2%) 5,000,000 (2%) 5,000,000 (1%) 5,000,000 (1%)	2010 2011 2012 2013 2014

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Valid 214349	Mandryk

RESEARCH SUPPORT

Family name and initial(s) of applicant	Title of proposal, funding source and program, and time commitment (hours/month)	Amount per year	Years of tenure (yyyy)

List all sources of support **(including NSERC grants and university start-up funds)** held as an applicant or a co-applicant: a) support held in the past four (4) years but now completed; b) support currently held, and c) support applied for. For group grants, indicate the percentage of the funding directly applicable to your research. Use additional pages as required.

b) Support currently held

Frank Maurer and 9 others	SurfNet: A network for surface research NSERC Research Networks Grants 20 hours/month	1,000,000 (3%) 1,000,000 (3%) 1,000,000 (3%) 1,000,000 (3%) 1,000,000 (3%)	2010 2011 2012 2013 2014
Regan Mandryk	Modeling emotion unobtrusively in interactive digital systems NSERC Discovery Grant 40 hours/month	36,000 36,000 36,000 36,000 36,000	2013 2014 2015 2016 2017
Regan Mandryk	Mobile sensing for smartphone-based casual exergames NSERC ENGAGE 4 hours/month	25,000	2013

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Highly Qualified Personnel (HQP)

Provide personal data about the HQP that you currently, or over the past six years, have supervised or co-supervised.

Personal identification no. (PIN)	Family name
Valid 214349	Mandryk

Name	Type of HQP Training and Status	Years Supervised or Co-supervised	Title of Project or Thesis	Present Position
Diane Watson	Doctoral (In Progress)	Co-supervised 2012 -	Educational Exergames	Ph.D. Student - University of Waterloo
Jared Cechanowicz	Res. Associate (In Progress)	Co-supervised 2012 -	Software Engineering for Affective Games	Research Associate - Insightrix
Kathrin Gerling	Doctoral (In Progress)	Supervised 2012 -	Exergaming for the Elderly	Ph.D. Student - University of Saskatchewan
Kristen Dergouseff	Undergraduate (In Progress)	Supervised 2012 -	Software Engineering for Computer Games	B.Sc. Student - University of Saskatchewan
Max Birk	Doctoral (In Progress)	Supervised 2012 -	Personality and Player Experience in Games	Ph.D. Student
Rodrigo Vicencio-Mor	Undergraduate (In Progress)	Supervised 2012 -	Technical approach to player balancing in 3D shooter games	B.Sc. Student - University of Saskatchewan
Yichen Dang	Undergraduate (In Progress)	Supervised 2012 -	Neurofeedback on the iPhone using EEG sensors	B.Sc. Student - University of Saskatchewan
Zenja Ivkovic	Res. Associate (In Progress)	Co-supervised 2012 -	A software framework for augmented video chat	Research Associate - University of Saskatchewan
Andre Doucette	Doctoral (In Progress)	Co-supervised 2011 -	Social Collaboration over Digital Tables	Ph.D. Student - University of Saskatchewan
Faham Negini	Master's (In Progress)	Co-supervised 2011 -	A real-time affective engine for computer games	M.Sc. Student - University of Saskatchewan
Jason Knight	Undergraduate (In Progress)	Supervised 2011 -	A software framework for player response to visual rewards	B.Sc. Student - University of Saskatchewan
Eva Anderson	Undergraduate (In Progress)	Co-supervised 2010 -	Gemini - a software architecture for ubiquitous game sensing	B.Sc. Student - University of Saskatchewan
Rita Orji	Doctoral (In Progress)	Co-supervised 2010 -	Persuasive Technology for Healthy Eating	Ph.D. Student - University of Saskatchewan
Yue Gao	Master's (In Progress)	Supervised 2010 -	The physical and cognitive benefits of a casual exergame	M.Sc. Student - University of Saskatchewan
Max Birk	Res. Associate (Completed)	Supervised 2012 - 2012	Effects of Controller Type on Game Play	Ph.D. Student
Roxanne Dowd	Res. Associate (Completed)	Supervised 2012 - 2012	Affective Graphics	M.Sc. Student - University of Calgary
Spencer Clark	Undergraduate (Completed)	Supervised 2012 - 2012	A software framework for game controller input	Software Developer - Noodlecake Studios
Shane Dielschneider	Res. Associate (Completed)	Supervised 2011 - 2012	A Visual Disruption Toolkit using Parametric Textures	Software Developer
Brett Taylor	Master's (Completed)	Supervised 2010 - 2012	The Design and Evaluation of an Ambient Biofeedback Display	Software Engineer - Tableau
Diane Watson	Master's (Completed)	Supervised 2010 - 2012	Modeling musical mood from audio features, affect, and ...	Ph.D. Student - University of Waterloo

Highly Qualified Personnel (HQP)

Provide personal data about the HQP that you currently, or over the past six years, have supervised or co-supervised.

Personal identification no. (PIN)	Family name
Valid 214349	Mandryk

Name	Type of HQP Training and Status	Years Supervised or Co-supervised	Title of Project or Thesis	Present Position
Michael Kalyn	Res. Associate (Completed)	Supervised 2010 - 2012	Signal Processing for Neurofeedback Games	M.Sc. Student - University of Saskatchewan
Emma Cey	Undergraduate (Completed)	Co-supervised 2011 - 2011	Experiment Design for HCI	M.Sc. Student - University of Saskatchewan
Calvin Lough	Undergraduate (Completed)	Supervised 2010 - 2011	A software architecture for physiological input in games	Software Developer - Noodlecake Studios
Craig Siemens	Undergraduate (Completed)	Supervised 2010 - 2011	A software framework for reward animation in games	Mobile Developer - zu
Lennart Nacke	Postdoctoral (Completed)	Supervised 2010 - 2011	Affective Gaming	Assistant Professor - UOIT
Ian Livingston	Master's (Completed)	Supervised 2009 - 2011	The Critical Effect: Evaluating the Effects and Use of Video	Playtest Manager - Ubisoft
Brett Watson	Res. Associate (Completed)	Co-supervised 2010 - 2010	Experiments in HCI	Physicist - R&D Engineering
Robert Kapiszka	Undergraduate (Completed)	Supervised 2010 - 2010	A software architecture for ubiquitous games	Software Developer - College Mobile
Adrian Reetz	Master's (Completed)	Co-supervised 2008 - 2010	Pointing with Mobile Devices	Ph.D. Student - University of Saskatchewan
Andre Doucette	Master's (Completed)	Co-supervised 2008 - 2010	The effects of tool container location on user performance i	Ph.D. Student - University of Saskatchewan
Clayton Epp	Master's (Completed)	Supervised 2008 - 2010	Identifying Emotional States through Keystroke Dynamics	Software Developer
David McDine	Res. Associate (In Progress)	Supervised 2008 - 2010	Experiment Research Assistant	Ph.D. Student
Mangalagouri Masarakal	Master's (Completed)	Supervised 2008 - 2010	Improving Expertise-Sensitive Help Systems	Software Developer - ICS Multimedia Singapore
Michael Lippold	Master's (Completed)	Co-supervised 2008 - 2010	Software support for experience sampling	Technical Analyst - Servus Credit Union
Jade Anderson	Undergraduate (Completed)	Supervised 2009 - 2009	Experiments in HCI	Unknown
Robert Xiao	Undergraduate (Completed)	Co-supervised 2009 - 2009	Ubiquitous Cursor - A software framework	Ph.D. Student - Carnegie Mellon University, USA
Shawn Webster	Undergraduate (Completed)	Supervised 2009 - 2009	A GPS-based exergame for families	iOS Developer - Formicary Australia
Debby Bates	Undergraduate (Completed)	Supervised 2008 - 2009	Persuasive Technology for Awareness of Caloric Intake/Usage	Software Developer - zu Communications
Ian Livingston	Undergraduate (Completed)	Supervised 2008 - 2008	Sex Differences in Computer Interface Navigation	Playtest Manager - Ubisoft
Sonya Adams	Undergraduate (Completed)	Supervised 2008 - 2008	Affective Gaming	B.Sc. Student - University of Saskatchewan

1. Most Significant Research Contributions

A. Modeling Emotion: I developed and evaluated a fuzzy logic method for modeling user emotion with physiological signals during technology interaction [5, 50]. Although cognitive states have been modeled with physiology, I was the first to model body response to interactive play technologies. According to Google Scholar, all aspects of the research have been heavily cited, including the fuzzy logic model [5] (**cited 198 times** - the **third most cited paper in the history** of IJHCS), the experimental protocols (**194 times**), and the application to game evaluation (**135 times**). I have since explored less invasive sensors, creating the first model of emotion based on keystroke dynamics [32], and have applied a version of these models to adapt computer game play based on emotional state [31], creating an innovative game interaction technology. This research has been funded through an NSERC Discovery Grant and the GRAND NCE, where I am **Theme Leader of Games Research**.

C. Affective Evaluation of Games and Media: There are many domains and applications (e.g., games, new media) where using standard methods for evaluating productivity environments fall short. With funding from the GRAND NCE, where I am **project leader of the affective evaluation** project, my students and I have applied user affect in many areas, including the evaluation of non-photorealistic rendering algorithms [1,26], which had only been previously considered in terms of their aesthetic value. By including the emotional state and context of a user, we have also created the first models of musical mood of an in-situ data set of users' music listening [18,19]. We explored how reading game reviews affects a player's experience with and perception of a computer game [23,27]. Finally, we have created innovative abstract visualizations of user emotion, appropriate for communication applications [14].

D. Computer-Supported Collaboration: This work focuses first on technologies that connect people through play. My research on non-perceptible ways of balancing play through targeting assistance was **nominated for best paper** at CHI 2011 [33], while my work on sociality in online game sites **won best paper** at CSCW 2012 [17]. ECSCW published my work on character sharing practices amongst friends in World of Warcraft [36]. Second, my work in helping people to coordinate interaction over novel collaborative surfaces has been received at top venues, such as CHI [10,38] and CSCW [12,39].

B. Gaming for Fitness: My work with my colleagues and HQP in game technology that encourages physical and mental fitness has employed smartphone-based games to encourage exercise in families [47], and adults [20,22,48], and to encourage healthy eating habits [3,9,11,13,28]. We have employed motion-tracking game technology to promote physical activity for adults [16,21] and the elderly [8,15]. We have also applied this approach in schools, evaluating our technology with hundreds of children [under review]. Our innovations have shown that we can design games that produce exertion levels that meet standards for physical activity, and provide acute cognitive benefits [16], while still being fun. Finally, we have also produced models of players' health behaviour and attitudes that will inform the design of serious games [9,11,44]. This work has been well received by the community and published at top venues (e.g., CHI); **two of the publications received best paper awards**. This research was funded by the GRAND NCE, of which I am project co-leader of the gaming for fitness project. This work led to two **keynote speaker invitations** at computer games conferences (ICEC 2011, Fun and Games 2012).

E. Training and Promotion of Women in Science: I have been explicitly involved in supporting women in Computer Science (CS) by being a member of many panels on the topic and organizing a session at the Grace Hopper Celebration for Women in CS in 2008. Of the 51 students I have supervised or co-supervised, **21 are female, representing 42% of graduates** from my program. By contrast, the rates of females in CS in North American programs are on the decline, sinking to 10-20%, and garnering concern. In a context where the number of women in CS Science is declining dramatically, I am happy to provide training, mentorship, and a research environment that attracts females interested in pursuing CS and provides women with positive experiences (see Section 5 for elaboration on HQP training).

2. Selected Research Contributions from the Past Six Years

Many of my publications are in conferences, which is customary in CS and HCI. Conference papers in my field are substantial (8000-10000 words), are archived in digital libraries, and are fully refereed by 3-6 reviewers. Due to the archival nature, many conferences are using a journal-style revision process with a rebuttal or revise and resubmit phase; the field accepts that conferences are often more selective than journals. The top-tier conferences that I publish in (*ACM CHI, ACM UIST, ACM CSCW*) are very competitive with acceptance rates below 25%; other listed conferences have rates of 25-40%. I do not include publications with higher rates. For multi-authored publications, contribution is reflected in the order of names; the exception is when I publish with several HQP, I list myself at the end. HQP authorships are in bold. The funding source for all papers is NSERC, so is not included for each citation.

Refereed Journal Articles

1. S. Bateman, R.L. Mandryk, C. Gutwin, & **R. Xiao**. (2013). Analysis and Comparison of Target Assistance Techniques for Relative Ray-Cast Pointing. *International Journal of Human-Computer Studies* (IJHCS), 21.
2. D. Mould, R.L. Mandryk, & H. Li. (2012). Emotional response and visual attention to non-photorealistic images. In *Computers & Graphics*, vol. 6 no. 6, 658-672.
3. **R. Orji**, J. Vassileva, & R.L. Mandryk. (2012). LunchTime: a slow-casual game for long-term dietary behavior change. In *Personal and Ubiquitous Computing*, Published online July 6, 2012.
4. D.S. Tan, D. Gergle, R.L. Mandryk, K.M. Inkpen, M. Kellar, K. Hawkey, & M. Czerwinski (2008). Using Job-Shop Scheduling Tasks for Evaluating Collocated Collaboration. *Personal and Ubiquitous Computing (12),* 255-267.
5. R.L. Mandryk, & M.S. Atkins (2007). A Fuzzy Physiological Approach for Continuously Modeling Emotion During Interaction with Play Environments. *International Journal of Human-Computer Studies, 6*(4), 329-347.

Conference Papers: Full Length, Fully Refereed

6. R.L. Mandryk, C. Bertram, **S. Dielschneider**, **M. Kalyn** and **A. Doucette** (2013). Games as Neurofeedback Training for Kids with FASD. In *Proc. of Interaction Design for Children (IDC 2013)*, New York, USA.
7. **M. Birk**, & R.L. Mandryk (2013). Control Your Game-Self: Effects of Controller Type on Enjoyment, Motivation, and Personality in Game. In *Proc. of the ACM Conference on Human Factors in Computing Systems (CHI 2013)*, Paris, France.
8. **K.M. Gerling**, **K. Dergousoff**, & R.L. Mandryk (2013). Is Movement Better? Comparing Sedentary and Motion-Based Game Controls for Older Adults. In *Graphics Interface 2013*, Regina, Canada.
9. **R. Orji**, R.L. Mandryk, J. Vassileva, & **K.M. Gerling** (2013). Tailoring Persuasive Health Games to Gamer Type. In *Proceedings of CHI '13,* Paris, France.
10. **A. Doucette**, R.L. Mandryk, C. Gutwin, M.A. Nacenta, & A. Pavlovych (2013). The Effects of Tactile Feedback and Movement Alteration on Interaction and Awareness with Digital Embodiments. In *Proc. of CHI '13,* Paris, France. (***Honourable Mention Award*** given to top 5%).
11. **R. Orji**, J. Vassileva, & R.L. Mandryk (2013). Modeling Gender Differences in Healthy Eating Determinants for Persuasive Intervention Design. In *PERSUASIVE 2013*, Sydney, Australia.
12. **A. Doucette**, C. Gutwin, R.L. Mandryk, M.A. Nacenta, & S. Sharma (2013). Sometimes when we touch: how arm embodiments change reaching and collaboration on digital tables. In *Proc. of the Conference on Computer Supported Cooperative Work (CSCW 2013)*, San Antonio, USA, 193-202.
13. **R. Orji**, R.L. Mandryk, & J. Vassileva. (2012). Towards a Data-driven Approach to Intervention Design: A Predictive Path Model of Healthy Eating Determinants. *in Proc. Persuasive 2012: Persuasive Technology – Design for Health and Safety,* Linköping, Sweden, 203-214.
14. **B.A. Taylor**, & R.L. Mandryk. (2012). Creating and Interpreting Abstract Visualizations of Emotion. *in Proc. of Graphics Interface 2012 (GI 2012)*, Toronto, ON. 61-68.

15. **K.M. Gerling**, **I.J. Livingston**, **L.E. Nacke**, & R.L. Mandryk. (2012). Full-Body Motion-Based Game Interaction for Older Adults. *in Proc. of CHI 2012*, Austin, USA, 1873-1882.
16. **Y. Gao** & R.L. Mandryk. (2012). The Acute Cognitive Benefits of Casual Exergame Play. *in Proc. of CHI 2012*, Austin, USA, 1863-1872.
17. G. MacEwan, C. Gutwin, **L.E. Nacke**, & R.L. Mandryk. (2012). "I'm Just Here to Play Games": Social Dynamics and Sociality in an Online Game Site. *in Proc of CSCW 2012,* Seattle, USA, 549-558. (***Best paper award* – 4 papers**).
18. **D. Watson**, & R.L. Mandryk. (2012). Modeling Musical Mood from Audio Features and Listening Context on an In-Situ Dataset. *in Proc of the Annual Conference of the International Society for Music Information Retrieval (ISMIR 2012)*, Porto, Portugal, 31-36.
19. **D. Watson**, & R.L. Mandryk. (2012). An In-Situ Study of Real-Life Listening Context. *in Proc. of Sound and Music Computing 2012*, Copenhagen, Denmark, 11-16.
20. J. Kurczak, T.C.N. Graham, C. Joly, & R.L. Mandryk. (2011). Hearing is Believing: Evaluating Ambient Audio for Location-Based Games, *in Proc of Advances in Computer Entertainment (ACE 2011)*, Lisbon, Portugal, Article 32, 8 pages. (***Best paper award* – silver**).
21. **Y. Gao** & R.L. Mandryk. (2011). GrabApple: The Design of a Casual Exergame. *in Proc of the International Conference on Entertainment Computing (ICEC 2011)*, Vancouver, Canada, 35-46, (***Best paper nomination* – 4 papers**).
22. K.G. Stanley, **I.J. Livingston**, A. Bandurka, M. Hashemian & R.L. Mandryk. (2011). Gemini: A Pervasive Accumulated Context Exergame. *in Proc of ICEC 2011*, Vancouver, Canada, 65-76.
23. **I.J. Livingston**, **L.E. Nacke**, & R.L. Mandryk. (2011). Influencing Experience: The Effects of Reading Game Reviews on Player Experience. *in Proc of ICEC 2011*, Vancouver, Canada, 89-100.
24. **L.E. Nacke**, C. Bateman, & R.L. Mandryk. (2011). BrainHex: Preliminary Results from a Neurobiological Gamer Typology Survey. *in Proc of ICEC 2011*, Vancouver, Canada, 288-293.
25. D. Flatla, C. Gutwin, **L.E. Nacke**, S. Bateman, & R.L. Mandryk. (2011). Calibration Games: Making Calibration Tasks Enjoyable by Adding Motivating Game Elements. *in Proc of the ACM Conference on User Interface and Software Technology (UIST 2011)*, Santa Barbara, USA, 403-412.
26. R.L. Mandryk, D. Mould, & H. Li. (2011). Evaluation of Emotional Response to Non-Photorealistic Images. *in Proc of Non-Photorealistic Rendering (NPAR 2011)*, Vancouver, Canada, 7-16.
27. **I.J. Livingston**, **L.E. Nacke**, & R.L. Mandryk. (2011). The Impact of Negative Game Reviews and User Comments on Player Experience, *in Proc of SIGGRAPH 11 (Sandbox '11: The 6th ACM SIGGRAPH conference on video games)*, Vancouver, Canada, 25-29.
28. **R. Orji**, J. Vassileva, & R.L. Mandryk. (2011). LunchTime: A Goal-Based Persuasive Game for Long Term Dietary Behavior Change. *in Proc of Persuasive 2011*, Columbus, OH, 8 pages.
29. S. Bateman, **A. Doucette**, **R.B. Xiao**, C. Gutwin, R.L. Mandryk, and A. Cockburn. (2011). Effects of View, Input Device, and Track Width on Video Game Driving. *in Proc of GI 2011*, St. John's, Canada, 207-214.
30. **R.B. Xiao**, M.A. Nacenta, R.L. Mandryk, A. Cockburn, & C. Gutwin. (2011). Ubiquitous Cursor: A Comparison of Direct and Indirect Pointing Feedback in Multi-Display Environments. *in Proc of GI 2011*, St. John's, Canada, 135-142. (***Michael A.J. Sweeney Best Paper Award*** given to the best paper overall that includes student authors).
31. **L.E. Nacke**, **M. Kalyn**, **C. Lough**, & R.L. Mandryk. (2011). Biofeedback Game Design: Using Direct and Indirect Physiological Control to Enhance Game Interaction. *in Proc of CHI 2011*, Vancouver, BC, Canada, 103-112. (***Honourable Mention Award*** given to top 5% of submissions).
32. **C. Epp**, **M. Lippold**, & R.L. Mandryk. (2011). Identifying Emotional States Using Keystroke Dynamics. *in Proc of CHI 2011*, Vancouver, BC, Canada, 715-724.
33. S. Bateman, R.L. Mandryk, T. Stach, and C. Gutwin. (2011). Target Assistance for Subtly Balancing Competitive Play. *in Proc of CHI 2011*, Vancouver, BC, Canada, 2355-2364. (***Honourable Mention Award*** given to top 5% of submissions).

34. S. Bateman, R.L. Mandryk, C. Gutwin, A. Genest, **D. McDine**, & C. Brooks. (2010). Useful Junk? The Effects of Visual Embellishment on Comprehension and Memorability of Charts. *in Proc of CHI 2010*, Atlanta, USA, pg. 2573-2582. (***Best Paper Award*** given to top 1% of submissions).
35. **I.J. Livingston**, R.L. Mandryk, & K. Stanley (2010). Critic-Proofing: How using Critic Reviews and Game Genres can Refine Heuristic Evaluations. *in Proc FuturePlay 2010*, Vancouver, CA, pg.72-79.
36. N. Wong, A. Tang, **I. Livingston**, C. Gutwin, & R.L. Mandryk. (2009). Character Sharing in World of Warcraft. *in Proc of the European Conference on Computer Supported Cooperative Work (ECSCW 2009)*, Vienna, Austria, pg. 343-362.
37. A. Genest, C. Gutwin, **A. Reetz**, R.L. Mandryk, D. Pinelle, & **A. Doucette**. (2009). Looking Ahead: A Comparison of Page Preview Techniques for Goal-Directed Web Navigation. *in Proc of IFIP Conference on HCI (INTERACT 2009)*, Uppsala, Sweden, LNCS 5726, pg. 378-391.
38. D. Pinelle, M. Barjawi, M.A. Nacenta, & R.L. Mandryk. (2009). An Evaluation of Coordination Techniques for Protecting Objects and Territories in Tabletop Groupware. *in Proc of CHI 2009*, Boston, MA, April 2009, 2129-2138.
39. J.R. Wallace, R.L. Mandryk, & K.M. Inkpen (2008). Comparing Content and Input Redirection in MDEs. *in Proc CSCW 2008*, San Diego, CA, USA, pg. 157-166.
40. R.L. Mandryk & C. Gutwin (2008). Perceptibility and Utility of Sticky Targets. *in Proc GI 2008*, Windsor, Canada, May 2008, 65-72.
41. M.A. Nacenta, R.L. Mandryk, & C. Gutwin (2008). Targeting across Displayless Space. *in Proc CHI 2008,* Florence, Italy, April 2008, 777-786.

CONFERENCE PAPERS: SHORT PAPERS, FULLY REFEREED

42. **K.M. Gerling**, **M. Kalyn**, & R.L. Mandryk (2013). KINECTWheels: Wheelchair-Accessible Motion-Based Game Interaction. In *CHI 2013 Extended Abstracts (Interactivity)*, Paris, France.
43. **B.A. Taylor**, **M. Birk**, R.L. Mandryk, **Z. Ivkovic** (2013). Posture Training With Real-time Visual Feedback. In *CHI 2013 Extended Abstracts (Interactivity)*, Paris, France.
44. **R. Orji**, J., Vassileva, J., & R.L. Mandryk. (2012). Designing for Impression Management: A Lesson from Google+. *in Proc. Persuasive 2012: Adjunct Proceedings,* Linköping, Sweden, 41-44.
45. R.L. Mandryk, & **C. Lough**. (2011). The Effects of Intended Use on Target Acquisition. *in Proc of CHI 2011*, Vancouver, BC, Canada, 1649-1652.
46. **A. Doucette**, C. Gutwin, & R. L. Mandryk (2010). A Comparison of Techniques for In-Place Toolbars. *in Proc of GI 2010*, Ottawa, CAN, pg. 35-38.
47. K.S. Stanley, I. Livingston, A. Bandurka, **R. Kapiszka**, R.L. Mandryk. (2010), PiNiZoRo: A GPS-based Exercise Game for Families. *in Proc of Future Play 2010*, Vancouver, Canada, pg. 276-279.
48. K.S. Stanley, D. Pinelle, A. Bandurka, **D. McDine**, & R.L. Mandryk. (2008). Integrating Cumulative Context into Computer Games. *in Proc. of Future Play 2008*, Toronto, Canada, pg. 248-251.

REFEREED BOOK CHAPTERS

49. M.A. Nacenta, D. Pinelle, C. Gutwin & R.L. Mandryk. (2010). *Individual and Group Support in Tabletop Interaction Techniques*. Tabletops - Horizontal Interactive Displays. (C. Müller-Tomfelde, Ed.), Springer.
50. R.L. Mandryk (2008). Physiological Measures for Game Evaluation. *Game Usability: Advice from the Experts for Advancing the Player Experience.* (K.Isbister & N.Shaffer, Eds.), Morgan Kaufmann.

PATENTS

51. R.L. Mandryk, S. Dielschneider, M. Kalyn, A. Doucette. (October 25, 2012). Patent Filed: Systems and Methods for Controlling User Interaction with Biofeedback Gaming Applications 13764-P42796US00 (US), 13764-P42796CA00 (CDN).

3. OTHER EVIDENCE OF IMPACT AND CONTRIBUTIONS

Impact: H-index of 21 and 2233 citations (http://scholar.google.ca/citations?user=3-YPyEMAAAAJ&hl=en)

Awards: (since 2007 only)
4 best paper awards: CSCW 2012 [17], GI 2011 [30], ACE 2011 [20], CHI 2010 [34]
4 best paper honourable mention awards: CHI 2013 [10]. ICEC 2011 [21], CHI 2011 [31], CHI 2011 [33]
University Faculty Award (2008-2013) - $200,000
Keynote Presentations: Keynote talk at the Fun and Games Conference (2012 – Toulouse, France)
Keynote talk at the International Conference on Entertainment Computing (2011 – Vancouver, Canada)
Editorial Boards: International Journal of Human-Computer Studies (2011-present)
Research Management Boards: Member of the Research Management Committee for the GRAND NCE in capacity of Theme Leader for Games Research.
Conference Program and Organizing Committees: (since 2007 only)
Program Committees (CHI 2013, CSCW 2013, ICEC 2012, ICEC 2011, CHI 2011, CHI 2009, IUI 2009, CSCW 2008, GI 2008, Tangible Play 2007, Pergames 2007)
Organizing Committees (CSCW 2010 Posters co-chair, CHI 2009 Works in progress co-chair, Pervasive 2007 Late-breaking results co-chair)
Consulting Activities: (since 2007 only) Usability consulting for local (e.g., AlienTrap Software) and international (e.g., BBN/Raytheon) companies
Scholarly Publication Reviewing: (since 2007) ACM CHI (years: 13, 12, 11, 10, 09, 08, 07), CSCW (13, 11, 10, 08), UIST (12, 09, 08, 07), ICEC (12, 11) GI (11, 10, 09, 08), Ubicomp (11), IUI (09), Tabletop (12, 07), 3DUI (07), Pergames (07), International Journal of Computer-Human Studies (13, 12, 11, 10, 09, 08, 07), Entertainment Computing (13), Transactions on Autonomous Mental Development (12), Interaction with Computers (10, 09, 08), Transactions on Affective Computing (11), Advances in HCI (09), International Journal of Human Computer Interaction (07).

4. Delays in Research Activity

I took two parental leaves (6 months-2009/2010, 7.5 months-2011/2012). In addition to the loss of research activity during my leaves, planning around my leaves limited HQP training. I did not accept any Ph.D. students until after my first leave because I did not want their progress to be affected by my absence. I also limited the number of M.Sc. students that I accepted to ensure that I would have sufficient time to support them during my leaves.

5. Contribution to the Training of HQP

Mentoring graduate students is one of my greatest strengths – I recently received the 2012 Award of Excellence in Supervision in the Department of Computer Science. Relative to others in my department, I maintain a large group of students. I intentionally work with many undergraduate researchers as a recruiting opportunity – 6 have continued on to advanced study under my supervision. In addition, working with strong undergraduates has resulted in several publications.

In addition to a high volume, I produce HQP of high quality. For example, Livingston (M.Sc.) gained skills in player experience evaluation desired by industry and taught in few labs. Although it is rare in the game industry to start in a permanent position, the skill set Ian developed during his M.Sc. was so valuable that he was offered multiple such positions; ultimately, he accepted a mid-level position at Ubisoft Montreal. Nacke (PDF) came from Germany and through exposure to world-class research and top publications during his PDF, he is now a faculty member at a Canadian University (UOIT). I fully expect this success in HQP training to continue in the next 5 years. As noted in my Form 101, my students are exposed to my extensive international network of academic and industrial collaborators. This has resulted in opportunities for my students to co-publish with top scientists, and undertake internships at world-leading companies (e.g., Epp at Google, Taylor at Microsoft Research).

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SEND ONE ORIGINAL ONLY DO NOT PHOTOCOPY

APPENDIX A
Personal Data
(Form 100)

Complete this appendix (i) if you are an applicant or co-applicant applying for the first time; (ii) if you need to update information submitted with a previous application; or (iii) if you do not hold an appointment at a Canadian postsecondary institution. For updates, include only the revised information in addition to the date, your name and your PIN.

This information will be used by NSERC primarily to contact applicants and award holders. It may also be used to identify prospective reviewers and committee members, and to generate statistics. It will not be seen or used in the adjudication process.

Date: 2013/06/14

Family name	Given name	Initial(s) of all given names	Personal identification no. (PIN)
Mandryk	Regan	L	**Valid** 214349

Position and complete mailing address if your primary place of employment is not a Canadian postsecondary institution or if your current mailing address is temporary

176 Thorvaldson Bldg
110 Science Place
Saskatoon SK S7N5C9
CANADA

If address is temporary, indicate:

Starting date

Leaving date

Telephone number	Facsimile number	E-mail address
11 (306) 9664888	(396) 9664884	regan@cs.usask.ca

Telephone number (alternate): 1 (306) 7175299

Give an alternate telephone number only if you can be reached at that number during business hours.

Gender (completion optional): [ ] Male [X] Female

LANGUAGE CAPABILITY

English	Read [X]	Write [X]	Speak [X]
French	Read [ ]	Write [ ]	Speak [ ]

I wish to receive my correspondence: in English [X] in French [ ]

AREA(S) OF EXPERTISE

Provide a maximum of 10 key words that describe your area(s) of expertise. Use commas to separate them. If you have expertise with particular instruments and techniques, specify which one(s).

human-computer interaction, affective computing, ubiquitous computing, physiology, biometrics, behavioural metrics, adaptive interfaces, intelligent interfaces, surface interaction

Research subject code(s)

Primary: 2705

Secondary: 2700

Appendix D (Form 100)
Consent to Provide Limited Personal Information About Highly Qualified Personnel (HQP) to NSERC

NSERC applicants are required to describe their contributions to the training or supervision of highly qualified personnel (HQP) by providing certain details about the individuals they have trained or supervised during the six years prior to their current application. HQP information must be entered on the Personal Data Form (Form 100). This information includes the trainee's name, type of HQP training (e.g., undergraduate, master's, technical etc.) and status (completed, in-progress, incomplete), years supervised or co-supervised, title of the project or thesis, and the individual's present position.

Based on the federal *Privacy Act* rules governing the collection of personal information, applicants are asked to obtain consent from the individuals they have supervised before providing personal data about them to NSERC. In seeking this consent, the NSERC applicant must inform these individuals what data will be supplied, and assure them that it will only be used by NSERC for the purpose of assessing the applicant's contribution to HQP training. To reduce seeking consent for multiple applications, applicants will only need to seek consent one time for a six-year period. If the trainee provides consent by e-mail, the response must include confirmation that they have read and agree to the text of the consent form.

When consent cannot be obtained, applicants are asked to not provide names, or other combinations of data, that would identify those supervised. However, they may still provide the type of HQP training and status, years supervised or co-supervised, a general description of the project or thesis, and a general indication of the individual's present position if known.

An example of entering HQP information on Form 100 (with and without consent):

Name	Type of HQP Training and Status	Years Supervised or Co-supervised	Title of Project or Thesis	Present Position
Consent Received from Marie Roy				
Roy, Marie	Undergraduate (Completed)	Supervised 1994 - 1997	Isotope geochemistry in petroleum engineering	V-P (Research), Earth Analytics Inc., Calgary, Alberta
Consent Not Obtained from Marie Roy				
(name withheld)	Undergraduate (Completed)	Supervised 1994 - 1997	Isotope geochemistry	research executive in petroleum industry - western Canada

Consent Form

Name of Trainee

Applicant Information

Name Mandryk, Regan L

Department	Postsecondary Institution
Computer Science	Saskatchewan

I hereby allow the above-named applicant to include limited personal data about me in grant applications submitted for consideration to NSERC for the next six years. This limited data will only include my name, type of HQP training and status, years supervised or co-supervised, title of the project or thesis and, to the best of the applicant's knowledge, my position title and company or organization at the time the application is submitted. I understand that NSERC will protect this data in accordance with the *Privacy Act*, and that it will only be used in processes that assess the applicant's contributions to the training of highly qualified personnel (HQP), including confidential peer review.

Trainee's signature _____ Date _____

Note: This form must be retained by the applicant and made available to NSERC upon request.