

2. Detailed Description

We are embarking on an age of pervasive creativity that permeates all sectors of the economy and society – not just seeing bursts of innovation from high-tech industries. We are all truly in the midst of a creative transformation with the onset of a Creative Economy. (Florida, 2002, p. 66)

Interactive digital works permeate Canadian society. From websites and blogs through computer games, to interactive, museum and art experiences, a rich range of interactive media are now popular and accessible culture. These new media are changing how we communicate, learn and entertain ourselves and already dominate the culture consumed by Canadian youth.

We are now entering an era of more pervasive and radical interactivity enabled by the increasing sophistication of technology, the miniaturization of computing and the broad accessibility of information technology. We are entering an era of “ubiquitous” computing as digital technologies become thoroughly embedded into everyday life - raising new creative, ethical and legal questions (Galloway 2004, Arends and Slater 2004, Law and Mol 2002, Lovink 2003).

We are facing an unprecedented generation gap. The students entering our universities and getting their first jobs are “digital natives,” the first generation born into computer culture (Prezsky, 2001a, b, See also Appendix 1.) We, their professors and employers are “digital immigrants.” The significance of this generational divide to higher education and research remains largely unaddressed. Learning and discovery structures need to be adapted to bring students and teachers together through creation and research. In response to these challenges, **iMatter** asks:

What matters in interactivity? What is interactivity? (Crawford 2002, Hansen 2004, Packer and Jordan 2001). Is interactive media a new genre of communication, or a remediation of known genres? (Bolter 2000, Wardrip-Fruin 2004, Meadows 2002, Manovitch 2001, Ryan 2001). How can we review, interpret and theorize new interactive media? (Zapp 2004, Lunenfeld 2000). What makes an interactive game or production good, fun or effective? (Laurel 1991, Bolter 2003, Dourish 2001). How can interactive media address issues of interest to Canadians and how can we support a civil dialogue about the possibilities for interactive media? (Lessig 2001) How can interactive works be accessed, exhibited, and preserved? (Variable Media Network 2006).

How can researchers interact with and through new media? How can we involve all the stakeholders in a provocative exploration of interactivity? How can we develop a passionate and Canada-wide research community around the creation and interpretation of interactive works? How can this community bring together all the most relevant players: new media artists, information technologists, digital humanists, and the digital games community, both inside and outside the academy? (Siemens 2004, National Science Foundation 2003, Pannekoek 2006).

iMatter, in the SSRHC Strategic Research Cluster Design/Interim grant process, set out to involve key stakeholders in a provocative exploration of interactivity. Through consultation **iMatter** laid the foundation for an interdisciplinary, Canada-wide research community around the creation and interpretation of interactive works. Our community involves relevant players within and beyond the university: digital humanists, interactivity and game theorists, new media artists,

information technologists, social scientists, new media producers and curators in arts organizations, and members of the digital games community.

2.1 Cluster activities and impacts

The powerful, radical new interactive digital forms do not fit neatly into the organization of disciplines currently recognized in Canadian universities. The iMatter Strategic Knowledge Cluster proposes to develop a configuration and a methodology that suits research/creation, one built around acts of interactive design in collaborative teams.

Radical interdisciplinarity

The nature of digital and interactive works calls for a different form of study that crosses traditional boundaries such as those that persist between the arts and letters, between the arts (including the humanities) and engineering, or between academic research and community and industrial applied development (Lovink 2003, Wardrip-Fruin and Montfort 2003, Wilson 2002, Lunenfeld 2000, Century 1999, Laurel 2003). (See also Appendix 2: Why Research/Creation?)

Senior researchers in humanities computing and media artists are already used to working with collaborators and consultants from information science, computer science and engineering as well as with researchers from other relevant humanities and social science disciplines. (Shanken 2006, Diamond 2005a, 2006, Wilson 2002, Century 2002). iMatter will create a context for the development of teams that will naturally include these constituencies.

Moreover, interactive media is created in the university, in technical colleges, by graphic designers, by artists, by game companies, and by independent developers. To be transformative, research/creation must engage all these sectors and create a context for discussion, learning and collaboration across these sectors. iMatter research teams will include relevant non-university based researchers, artists, institutions and/or industry developers – specifically independent artists, artist centres or arts organizations, independent game designers and/or members of the games industry, other centres or organizations mediating interactive digital content to the public.

Specifically, iMatter proposes a national strategy that brings together: creators of interactive art; creators of scholarly web sites; games studies and games theory researchers; applied researchers/artists in technical colleges; curators at galleries, museums, archives, libraries and other arts organizations, industry practitioners.

Regional Collaboratories

The paradigm of intelligent interaction with computers has been human dialogue since Turing proposed the “imitation game” in 1950 (Turing 1950). iMatter will support dialogue through regional **Collaboratories** to bring together researcher creators from universities, colleges and arts organizations, as well as social scientists, computer scientists, games studies researchers and game designers. It is these Collaboratories where we will model the new mix of humanities, arts and computing relevant to new media (National Science Foundation, 2003) through more than talk. These Collaboratories will have a base budget to support shared activities and exchange including,

- Regular meetings with organizational support,
- Invited speakers and international collaborators,
- Symposia around ethical, critical and theoretical issues, and
- Discussion of, or training on, common interactive technologies (see Workshops)

It is through the Collaboratories that a sustained dialogue around the nature of interactive work and its criticism will take place. Thus the development of common theoretical approaches across the arts, humanities and other disciplines will be fostered.

Our consultations funded through the Cluster Design and Interim grants developed a distributed model in order to establish viable regional seed Collaboratories. The regional Collaboratories will be led by:

- Ron Wakkary, Simon Fraser University
- Stan Ruecker, University of Alberta
- Geoffrey Rockwell, McMaster University
- Sara Diamond, Ontario College of Art and Design
- Lynn Hughes, Concordia University
- Annabel Cohen, University of Prince Edward Island

Core Collaborations: The central research/creation activity of the Collaboratories will be the **Core Collaborations** that model interactive design involving researchers and artists across disciplines and sectors. In our Design/Interim consultations we found that collaborations can emerge from among participants to pursue a challenge or to prototype an idea through creative research. These collaborations will be small lab teams that involve students organically in the development of challenges giving them the opportunity to learn research design skills.

Due to the nature of interactive media, Collaboration teams will often also include computer science researchers as well as researchers from areas like cognitive science. Collaborations will allow the teams to adapt models for collaborative design research (Laurel 2003) that make sense given the hybrid nature of the subject and groups. We expect the character of the teams and the nature of interactive media to provoke the reformulation of our initial questions and the elaboration of innovative ones.

Collaboration teams will be expected to report on their progress to the Collaboratories and with prototypes/posters at annual meetings. iMatter will by the end have nurtured approximately 21 of these experimental collaborations at each Collaboratory so that they can apply for research funding and spin off into self-sustaining projects. At the same time, we believe that strong, thematic, national intersections of research substance and method will emerge from these collaborative activities. iMatter, therefore, plans to foster major research funding application efforts that distill and carry forward the findings of several of these core collaborations. By fostering collaborations across disciplines, sectors, and institutions iMatter will develop the critical mass of networked research to make Canada a leader in interactive arts, a form of leadership not built around one institutions, but built on interaction.

Experimental Courses: In years 5 and 6, iMatter will support a series of **Experimental Courses** by teams of research/creators. These courses would be at the graduate or senior undergraduate level and would be aimed at bringing youth into theoretical, ethical and creative research experiences adapting problem-based learning strategies. Teams of learners and researchers would negotiate a common task around the themes of the network so that learners can participate in authentic research/creation activities returning a unique youth perspective on interactivity. All involved will be expected to reflect on research learning structures with a view to informing the National Learning Strategy. Funding for instructional specialists has been allocated to help design these experiments and to assess them.

National Network

The National Network will gather researchers/creators across the country, develop national activities, and coordinate thematic activities across the regional Collaboratories. There will be an administrative budget to provide support to the iMatter Cluster Director and to provide common services to the network from a web portal to Festival Conference support.

Portal: iMatter will develop a web portal building on the TAPoR portal (portal.tapor.ca) that will host accounts for participants, Collaborations, and Collaboratories where they can document and share their work with skinned pages, blogs, and wikis. The portal will also encourage the exchange of materials (matter) under appropriate creative licenses. Users will be able to navigate the portal using a “folksonomy” tagging/retrieval model. Key materials will be translated, and the whole will be archived following best practices in the final year.

Festival/Conferences: Co-applicants, collaborators, students, and partners from the regional Collaboratories will meet annually for **Festival Conferences** that will be held in a different region each year. These Festival Conferences will be hybrid events coordinated with arts centers and galleries that invite public interaction. In years 4 and 7 of the Cluster there will be support for **Strategic Planning Meetings** that will focus on a National Learning Strategy and a National Access Strategy (explained later in this document).

Workshops: Training workshops will be coordinated with the national Festival/Conferences to develop common expertise. Across the network we have tremendous expertise that can be shared effectively if coordinated. These workshops would, in effect, train the professor so that there is a common level of knowledge about key interactive technologies to ensure participation in larger projects. The workshops would be run on subjects such as the design of games using common open source game engines, the design of interactive installations, the construction of interacting robots, programming mobile applications or the development of web visualizations.

Residencies: Vital to a national network around interactive matters are travel grants for participant to travel from one regional Collaboratory to another to collaborate. These residencies will be awarded strategically to co-applicants across the regions to encourage the personal contacts among nodes.

National Strategies: the iMatter Cluster will document its activities through the development of two strategies for ongoing engagement. The first **National Interactive Arts Learning Strategy** will be around the coordination of undergraduate and graduate programs in the digital humanities and interactive arts. The iMatter Cluster represents a unique opportunity to bring together faculty across Canada teaching in digital arts and humanities both at universities, at colleges and other at organizations to ensure Canadian leadership in the education of interactive arts. The case for the arts in education is well-known for fostering learning through different intelligences and addressing the needs of the whole person (Eisner, 2002, 2005, Gardner, 2006, Zimmerman 2005). Participants like Cohen, Rockwell, Hughes, Diamond, Zen, Siemens and Wakkary have extensive experience in new media curriculum. Others like Bonnet have developed interactive instructional spaces. Partner institutions like OCAD, Sheridan, Design Exchange and SAT have experience with developing innovative interactive arts training and learning. iMatter will share curriculum, foster articulation agreements, encourage online training, and propose long-term strategies for developing interdisciplinary learning.

The second **National Interactive Arts Access Strategy** will develop cooperation between universities, colleges and arts organizations so that digital works of research interest can be documented, preserved and made accessible by through libraries and arts organizations. This Strategy will work to disseminate practices among participating partners like those developed by the Variable Media Network (of which the Langlois Foundation was a founding member) through the multi-sector Collaboratories. Without this strategy we risk losing the digital work now coming from artists, humanists and university research/creators.

Knowledge mobilization and impacts:

To paraphrase McLuhan (1964), interactive media is the message of the 21st Century. The message is revolutionary and challenging in how it affects the way we communicate, play and learn. The iMatter participants are passionate about deciphering and understanding this impact and transferring knowledge through opportunities for active learning with activities from workshops to public exhibits. Through a multi-sector approach that creates regional nodes from universities, colleges, industry and arts organizations; through support for student involvement in Collaborations; through Workshops; and through the Experimental Courses, iMatter will encourage the knowledge transfer between research/creators and students. Through the web portal, partners and public exhibits we will provide public access to iMatter knowledge and design in a way that conforms to the new values in the SSHRC Strategic Plan (2005). The development starting in year 4 of the development of a National Learning Strategy will build on our experience in order Canada a leader in the training of highly qualified personnel in interactive arts.

iMatter will bring a focus on interactivity in digital research/creation so as to have an impact on the humanities, arts, and new media industry. (See Appendixes 3 and 4.) We expect to see dramatically improved arts and humanities collaboration that leads to innovative projects crossing disciplinary lines and sectors. We expect to see a research/creation community that matches the phenomenon of interactive media not our administrative divisions. We expect to see greater participation of researchers in public exhibits and with industry. The two National Strategies will lead to regional and national collaboration around curriculum and access strategies.