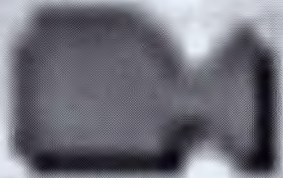


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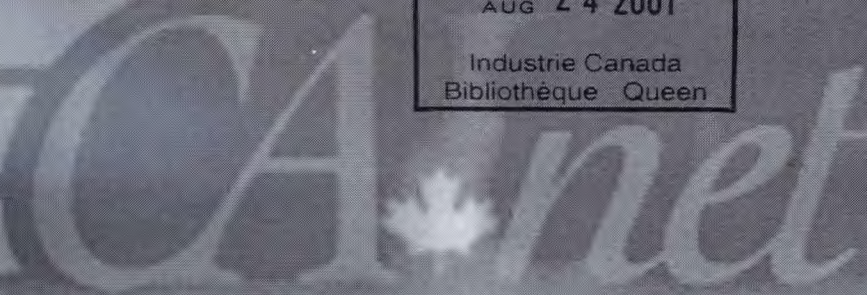
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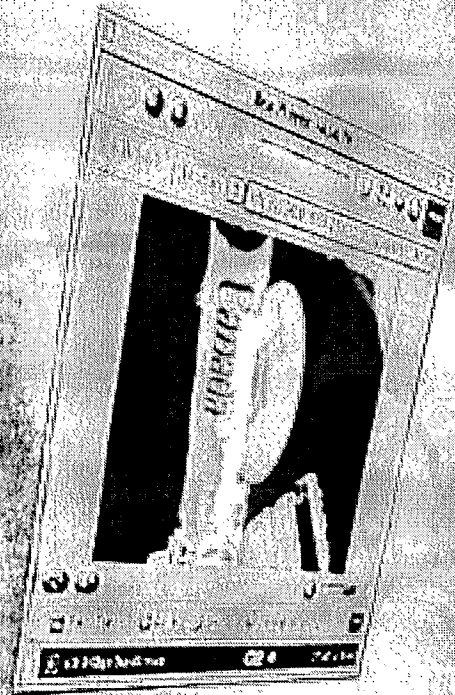
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Executive Summary

In January 2001, CANARIE, the federal, not-for-profit organization dedicated to Internet development in Canada, contacted Delvinia to consult on and partner with them, Canadian Heritage and Industry Canada to conduct research into the state of broadband content development in Canada and the needs of stakeholders within the industry. Having established the world's first national optical network, CA*net 3, and in parallel with ongoing development and access, CANARIE wished to explore related research and development requirements for interactive content. Accelerating innovation in the development of content created for broadband networking, utilizing the capabilities and capacity of these networks, and enabling the entrepreneurial and artistic excellence of Canadians is CANARIE's goal.

The more immediate objective of CANARIE's current project, however, is to stimulate the development of advanced broadband content by Canadian companies for use on the rapidly developing networks by audiences in Canada and abroad. They looked, therefore, to Canadian Heritage, Industry Canada and to Delvinia to collaborate as partners in a study of interactive content, its production, distribution, and use in Canada.

A series of five roundtables with select content producers, traditional and emerging interactive broadcasters, technology companies, game developers, and academics/researchers across Canada was convened to address strategic questions and articulate the goals and requirements of the interactive content industry. Halifax, Montreal, Toronto, Calgary, and Vancouver all played host to the ongoing discussion. Virtually all of the stakeholders agree that the future of media rests in a high bandwidth environment where interactivity prevails. Indeed, when asked, most of the individuals consulted for this study predict almost unilateral engagement in the interactive space among Canadians from coast to coast within the next few years. Furthermore, they anticipate a future characterized by a proliferation of devices for the delivery of content anywhere, any time, on demand. Universal access and the pliability of content, where consumers will interact with content and thereby shape it further, will contribute to a blending of domestic and international markets. Borders will dissolve, as the market for advanced content products becomes global.

Although all of the participants were confident that Canada possesses the capabilities to be a global player in content production, a number of challenges remain:

- Canada requires an extensive, affordable broadband network for content delivery across a variety of platforms.
- Business models for the development and distribution of interactive content have not been established.
- Clear conventions for negotiating ownership of intellectual property have not been established.
- Funding and investment incentives for interactive content development are lacking or otherwise inoperable.

Underlying these challenges is a commensurate need to conduct baseline research into the user experience with interactive media.

For many small companies, survival in the interactive space represents a balancing act between fee-for-service work and the production of intellectual property. Small and medium sized enterprises in particular grapple with a set of circumstances that hinders their abilities to develop original content products for which they may retain rights of ownership and generate revenue to grow their businesses. Large companies, including some traditional media, are reticent to invest in interactive content production having seen little or no return on their interactive projects to date. Indeed, few, if any, interactive content producers in Canada are profiting from their work at present. Although companies recognize that all signs point to a future characterized by interactivity in a broadband environment, little return has been realized and no incentives for investment exist. The consequences of these conditions for the industry are grave. Canada is falling behind in the development of interactive content. As a result, we remain vulnerable to the entry of foreign competition to satisfy growing consumer demand.

It was the objective of the roundtables to flesh out the realities of broadband content development in Canada, the barriers and opportunities to growth, the requirements for research and development, and to put forward a set of recommendations which would address these issues. The roundtables demonstrated that Canada needs to create an environment that fosters collaboration among industry participants and enables smaller companies to thrive where they cannot now. The overarching objective of Canadian competitiveness and the immediate objective of increased broadband content development may best be served by the creation of consortiums for knowledge sharing and partnerships between small and medium sized independent enterprises and their larger counterparts in the telecommunications and cable industries and institutions. This approach will also serve three subsidiary objectives:

- to foster and reward the sharing of knowledge across the advanced content industry and other industry sectors, and thereby
- to build the Canadian advanced content industry, and
- to bolster the sustainability of small and medium size enterprises to enable their shift from fee-for-service to production of intellectual property, where desired.

Success in these areas rests on the understanding of broadband content development as research and development (R&D). This fresh perspective on R&D recognizes three vital project areas in interactive content development:

- innovation of new technologies and advanced content,
- leveraging of existing technologies and content, and
- conduct of baseline research.

The range of stakeholders includes:

- individuals or small to medium size enterprises (SMEs)
- partnerships/consortiums or large companies
- institutions

Delvinia recommends that any program to accelerate growth in the industry must serve the following considerations. In order of priority, a program must:

1. address previously unfulfilled areas of need within the industry's underlying support network of funding and investment incentives to contribute to the overall health of the industry
2. foster innovation from within small and medium size enterprises to enable those whose aim is the production of original intellectual properties to succeed
3. provide sufficient funding to enable the development of world class interactive products worthy of export
4. promote and reward partnerships between differently positioned stakeholders in the industry to ensure a reasonable chance of success for advanced content products
5. encourage the sharing of knowledge within and across industry silos to strengthen the knowledge base of the industry and eliminate redundancies in research and development activities within the industry
6. require demonstration of market readiness or preparedness to conduct market research to ensure a reasonable chance of success
7. provide support in the form most appropriate to the needs of the applicant to ensure its most effective use
8. ensure qualified peer review to select the most worthy projects for support
9. streamline level of administration in order to minimize the expenditure of time and resources by companies receiving support while meeting accountability requirements

If we don't make the commitment, and make it a sustained commitment to the process, we're going to get killed. We're absolutely going to get killed in Canada. We'll lose our advantage, our competitive advantage in the world, and we're not going to be able to leverage that from what we already have, which is recognition as the world's most connected country. We have to do it now and we have to do it quickly, and we have to encourage people to take risks as much as possible without sacrificing the bottom line or our futures.

~roundtable participant, April 26, 2001

Introduction and Methodology

In January 2001, CANARIE, the federal, not-for-profit organization dedicated to Internet development in Canada, contacted Delvinia to consult on and partner with Canadian Heritage and Industry Canada to conduct research into the state of broadband content development in Canada and the needs of stakeholders within the industry. It is CANARIE's mission to "accelerate Canada's advanced Internet development and use by facilitating the widespread adoption of faster, more efficient networks and by enabling the next generation of advanced products, applications, and services to run on them." CANARIE has always focused on addressing those issues that have not previously received attention but are pertinent to Canada's international competitiveness. Having established the world's first national optical network, CA*net 3, and in parallel with ongoing development and access, CANARIE wished to explore related research and development requirements for interactive content. Although the CANARIE project was undertaken independent of other related endeavors, such as the connectivity agenda currently being pursued by the National Broadband Taskforce, it is nevertheless part of a larger effort to ensure Canada's competitive position in the new economy moving forward. Accelerating innovation in the development of content created for broadband networking, utilizing the capabilities and capacity of these networks, and enabling the entrepreneurial and artistic excellence of Canadians is CANARIE's goal.

The more immediate objective of CANARIE's current project, however, is to stimulate the development of advanced broadband content by Canadian companies for use on the rapidly developing networks by audiences in Canada and abroad. For the purposes of this report, *advanced broadband content* may require some clarification. *Broadband* itself is a somewhat contested term. Accepted definitions reference a range of connectivity rates for the transfer of data from 1 megabit per second to gigabits per second. In essence, the various definitions all describe the size of the pipe. However, for the purposes of this project, broadband has been understood to refer to high bandwidth (i.e. faster than 56K per second), bi-directional or interactive content. While broadband is commonly associated with high bandwidth content such as video streamed to the Internet, it is simply an enhanced capacity for the exchange of data

Perspective

To try to find truly new forms of storytelling using this new media... in other words, the true kind of allusive can-there-be-a-user-directed-drama, can-there-be-a-pure-interactive-sports-game... For that kind of new form, I don't know of any funding available in the country for that.

that can improve the speed and flow of digital content regardless of its apparent level of sophistication. Broadband is about making content work better, faster, and smarter. *Advanced broadband content*, however, is understood here to refer to content that is interactive, that requires a broadband infrastructure for effective use, and that is integrated in its structure and functionality across media.

Interactive content exists on a continuum of sophistication marked by the user's increasing control over its delivery and form. Much of the interactive content available today allows the user control over little more than search engines to locate Web pages or to command the order in which pages are served up within a given site. This flat, primarily text-based content is often referred to as *brochureware*, as it tours the reader/user through a series of textual units of information. It does not require a high bandwidth network to function, although such a network does enhance the speed and smoothness with which the information is conveyed. Other, more sophisticated interactive content incorporates streamed audio, video, animation and advanced data manipulation like artificial intelligence into the mix. One of the most complex, sophisticated examples of advanced interactive content is the online multi-player game. Multiple users log on to the Internet from different locations, assume characters, and interact with one another in a 3-D virtual world developing a story that unfolds through their choices and actions. As the interactive media matures, we can expect the possibilities for more, new forms of advanced content and uses of the medium to increase. Advanced interactive content, or broadband, will become more rich, ultimately achieving production values like those of other conventional broadcast media.

CANARIE is focused primarily in supporting innovation in the broadband space. While the digitizing of existing conventional content plays a key role in ensuring adequate availability of content for Canadians, CANARIE looks to advance new forms of content, delivered through new or underutilized devices, to a global audience. They looked, therefore, to Canadian Heritage, Industry Canada and to Delvinia to collaborate as partners in a study of interactive content production in Canada. Delvinia is both a participant in and advocate for the Canadian interactive media industry. Through its ongoing research with and work for Canadian interactive content producers, aggregators, and distributors, as well as conventional offline media, Delvinia is able to articulate and pose strategic questions to the interactive community, to interpret their responses, and in turn to provide direction to CANARIE on how best to achieve the goals of the Canadian interactive content production industry.

To answer the questions, Delvinia convened a series of five roundtables with select content producers, traditional and emerging interactive broadcasters, technology companies, game developers, and academics/researchers across Canada. Halifax, Montreal, Toronto, Calgary, and Vancouver all played host to the ongoing discussion facilitated by Adam Froman, President of Delvinia, and attended by representatives of the CANARIE Advanced Content Committee, Canadian Heritage and Industry Canada. Each roundtable was conducted over a period of three hours. Before attending the discussions, participants were forwarded a brief background document to assist them in preparing for the event (see Appendix A). The ensuing discussion then addressed four central questions (see Appendix B):

Perspective

Instead of creating technology and hoping people will come to it, we want to go to the users and say, "Hey, try this. Tell us what you think."

1. What are your company's current activities and challenges, if any, in the broadband space?
2. What does the future hold for broadband in Canada?
3. If your company could access support to begin to exploit the future potential of broadband, how would you apply that support?
4. What recommendations would you make toward the development of a funding mechanism to support broadband content development?

Participants were chosen by Delvinia to represent a range of stakeholder views. Individuals variously involved in the production, packaging, distribution, and promotion of interactive content were invited from both small and large companies. Online service providers were also in attendance (see Appendix C for a list of participants). For the purposes of this report, participants will be described in terms of the activities they engage in within the interactive space. The production of content, for example, is an activity that both conventional and interactive media may undertake. A traditional broadcaster or specialty cable channel may produce its own television content and outsource the production of companion interactive content. Alternatively, it may undertake the production of interactive content, such as television streamed direct to the Web, on its own. Alliance Atlantis represents one such example of a broadcaster who is also engaged in the production of interactive content through its U8TV venture. At the same time, this broadcaster is also involved in the distribution and promotion of its interactive and conventional television, film, and video content.

Packaging of content is undertaken in both the online and offline worlds as well. Interactive content aggregators such as AOL Canada represent one online example. Such aggregators bring together a diversity of licensed content that they make available to audiences through a single, shared point of entry or portal. Specialty cable channels are similarly engaged in the packaging of content through conventional media, whereby they license a variety of programs on a common topic area and again deliver that content to audiences through a single channel. Content packaging or aggregation occurs in print media as well. The aggregation of print media available through the Internet is becoming increasingly common with services such as Books 24x7 offering access to a large selection of texts on a common topic, such as information technology, available for download to subscribing audiences. In this way, we see the convergence of traditional offline and online publishing.

As with all other activities, distribution of content pertains to both interactive and conventional media players as well. Print, video, radio, broadcast, and interactive all represent channels for the distribution of content. While some participants, such as the telecommunications companies, may be engaged exclusively in distribution of interactive content, others like Rogers Cable act as distributors in the online and offline worlds.

The shifting of roles that occurs as a result of the activities undertaken by a company for any given content project is symptomatic of the growing convergence of media. Convergence is casting players into areas of activity that lie outside of their

Perspective

So I think it takes time to develop an audience, and you still have to pay the rent, and the bandwidth, and all these kinds of things as you are accumulating an audience.

original or primary undertakings. Not all companies are making the shift from offline to online at the same pace, but virtually all of the participants Delvinia consulted are in the process of negotiating that transition. Broadcasters are becoming interactive producers and distributors. Producers are packaging and distributing. Enabled by digitization, convergence is dissolving the boundaries between media, activities, and company roles, leaving the digital transmission of data or content as the single common denominator across channels. Interactivity is the predominant characteristic of the new digital media. It is media that consumers can access at will and enjoy some measure of control over.

The need to define roles and activities for this project is symptomatic of the challenge of converging media. Unlike more typical projects of its ilk, where focus group participants hail from a common origin, the CANARIE roundtables convened established and emerging entrepreneurs in conventional and interactive media, elders and their contemporaries, with vastly different levels of experience in the interactive space. This diverse group of individuals also presented a diversity of lexicons to describe what they do and the challenges they face. In conducting the roundtables, Delvinia successfully synthesized their diverse lexicons into a language common to all of the participants in the advanced content industry. In so doing, Delvinia was able to articulate the shared story of the challenges of an evolving media in Canada.

This report will depict the environment in which the Canadian interactive content production industry operates and the challenges it faces. These challenges include a lack of established business models, rules of ownership, and funding for and investment in interactive content, as well as knowledge gaps around the fundamental cognitive, social and behavioural aspects of the user experience. Canadian interactive content producers are directly impacted by these tensions. As a result, small companies frequently are unable to pursue their original content ideas and instead remain dependent upon fee-for-service work. While fee-for-service, or corporate communications work can be a sustainable option for some companies, it does not serve the long term objectives of building an industry that can successfully export its own interactive intellectual properties. Moreover, many large, more lucrative companies have stopped generating commercial interactive content altogether, having seen no return on their attempts to date. To overcome these barriers and move forward, the Canadian content production industry must answer a number of key questions that have emerged. This report will outline those questions and the consequences of failing to resolve them.

In the final section of the report, we introduce a framework for thinking about advanced broadband content development as part of a larger economic agenda that can only be supported through a change in perspective on research and development (R&D). The conventional definition of research and development is taken up in order to demonstrate its relevance to broadband content production in Canada today. In applying the R&D framework to advanced content production, distribution, and use, we demonstrate how the industry may begin to demystify some of the fundamental issues around markets for content and to establish a foundation for knowledge to sustain the content industry into the future. CANARIE's CA*net 3 high performance network is also positioned as a potential outlet for use in research and development

Perspective

People say to listen to the audience and hear what they want. But they don't always know what they want because they don't know what's possible.

by the private content industry at large. Recommendations and considerations toward an R&D program are offered as a starting point from which to begin to realize increased advanced broadband content development, as well as support to and growth of the industry overall, with the ultimate goal being a globally competitive presence for Canada in the broadband space.

Content is more than information, news, weather, and sports. Content is a new way of experiencing the message. Nobody wants another cop show on T.V., but people want a different kind of cop show.

~roundtable participant, March 21, 2001

The Canadian Content Industry and the Tensions It Negotiates: Point A

Virtually every industry in Canada today is working to understand how interactivity can be integrated into conventional business. Conventional media companies, particularly broadcasters, and industries outside of media and communications as diverse as the pharmaceutical industry, banking, consumer packaged goods, and education are all addressing the potential of interactivity in the broadband environment. Through the expansion of highspeed (broadband) networks, new relationships with consumers and stakeholders can be established, new products launched and new business models developed. This hugely complex transition calls for Canadian interests to leverage available expertise efficiently so that all participants may gain knowledge and success. The interactive content producers who have been working in the broadband space for some time already are sources of innovation and guidance for other industries. In their role as intermediaries, their challenge is not only to bridge communication across them but to encourage the silos to look even further ahead toward the altogether new possibilities engendered by broadband. As conventional forms of media converge in the interactive space, so too will the industries that employ them. The CANARIE broadband roundtables brought together a sample of those individuals involved in the advanced interactive content industry, including interactive pioneers in traditional businesses and media, anxiously leading the way in the development and discovery of new content, new business models and new possibilities.

At each roundtable, many of the participants brought an unparalleled depth of experience to the discussion. Their introductions alone testified to the established and enduring nature of interactive media production in Canada, as well as the challenge of being a member of the interactive content industry here.

I've been involved in what is called digital or multimedia or new media since the early 1980s, and I consider myself a pioneer, just in terms of still being alive, you know.

We've been in the distribution and development of digital content for learning in the K through 12 marketplace since 1983. My gray hairs are starting to appear more and more dramatically all the time these days, but it's a sign of

Perspective

Our focus, our niche, should be how do we take these technologies that are already available and combine them in a way that we can leverage something new out of them?

As conventional forms of media converge in the interactive space, so too will the industries that employ them.

longevity that we're proud of actually, that we've been around for such a long time in the Canadian market space, which has been very difficult to sustain in.

We've been working with broadcasters for close to a decade, helping them make their content and their business models more interactive.

We've been around for ten years, developing entertainment software and video games.

I've been involved in dual-platform content provision since 1994. Our children's series was the first children's character on the Internet.

Following introductions, the roundtable discussion turned to current pursuits in the broadband space among the participants. Participants described the opportunities and challenges they are navigating amongst as they try to grow their businesses and promote the development of original interactive content. As the participants shared their stories, they painted a picture of a landscape troubled by four kinds of tensions, all of which are deeply enmeshed with one another. These are tensions between:

- support to infrastructure and content,
- production and distribution,
- fee-for-service and the production of intellectual property, and
- funders and applicants.

Infrastructure and Content

The first tension noted by participants is that between infrastructure and content. An ongoing debate between technologists and creative entrepreneurs questions whether the driving force behind the growth of broadband in Canada is, or ought to be, infrastructure or content. Will demand for content push infrastructure development, or does Canada need enhanced infrastructure to exist before it can justify increased content development? Participants disagreed on the response.

The issue of infrastructure is central to this, because if you don't have the audience, why create the content?

I can't sell a cable connection unless there's something for people to actually... a reason to have a cable connection.

Basic pipeline, however, is not the only concern. Other platforms pose the same chicken and egg dilemma.

In terms of the concerns and issues that we face, the first is obviously set-top box penetration. We've had extensive discussions with cable distributors who

We've been in the content creation business for almost two decades... new media, software, and diskettes. Not an easy business over the last decades. Now we're an exporter.

are saying, "Why should we invest money in interactive content when there isn't the demand out there?" And the consumer is saying, "Why should we invest in a set-top box if there isn't any content that's differentiated?" So the catch 22 is there.

While some need only point to the ongoing work of bodies like CANARIE as evidence of sufficient infrastructure, potential investors in interactive content projects too often remain skeptical. In fact, Canada enjoys greater broadband penetration per capita than many of its peer nations. A recent report by eMarketer also finds Canada as number two on a list of 29 countries rated for their broadband readiness and potential. So access to broadband in general is not an issue for many of the participants, but cost of bandwidth is an issue for those companies who do not own the infrastructure over which they deliver interactive content, such as streaming media companies and emerging broadcasters like JumpTV.

Because right now, what's it for a single video stream for a show that's half hour... it costs anywhere between 50 cents to a dollar to deliver the stream to one single consumer in the video environment. In the broadcast environment that might be different, but it's still expensive. How do you justify this cost? Right now there is no way to justify that.

A multitude of technological standards also stymies development of all kinds of content.

In our case, we have content and we can create our own content. So the challenge is not in content creation but in getting it out. Standards are an issue, one of the biggest costs we're facing. How do we take that content and put it on a set-top box that uses Wink or some or other system? At some point we're going to have to do it all for this guy and again for that guy. So it's applications to be able to provide interactive content to those different systems that we need, or get everyone on board with one standard so that we're not reinventing the wheel.

What we are seeing is that [educational content] is created for specific platforms, or specific formats, or specific standards... and those standards... it's impossible to pull that learning module apart afterwards and reuse it.

In this way hardware and hard costs are an issue for the interactive content industry. Less tangible issues, like the relationships necessary for success, also complicate the state of the industry, as the following sections will illustrate.

You have to make [the content] fit with everybody's standard, which is basically difficult to overcome.

Production and Distribution

Much of the truly innovative interactive content development taking place in Canada originates from the small and medium sized companies for whom interactivity has always been their primary calling. However, in order for these companies to continue pushing the envelope, they require the support of larger companies who are prepared to invest in their work and provide them with a distribution channel. In the present climate, however, the larger companies are reticent to commit funds to experimental endeavors. Telecommunications companies and cable companies are feeling tapped out, while smaller, but still significant, traditional broadcasters simply do not come from a tradition of research and development, so their budgets tend to restrict their activities in this area. They are also generally slow to move into the interactive space. For those small interactive content production companies who wish to produce original properties, then, the hurdles are great. Two of the most significant obstacles concern the identification of markets and the equilibrium between the preservation of rights and the generation of revenues. Both obstacles force a small production company to juggle fee-for-service work and intellectual property development simultaneously. Fee-for-service, or the production and maintenance of corporate communications, may pay the bills, but it depletes resources that companies might otherwise choose to spend developing their independent creations, which generate an ongoing revenue stream.

Identifying Markets

While access to broadband content generally is not a major obstacle, access to content created by Canadian companies was clearly identified by participants as an issue, and this is a gap that producers across all media are anxious to fill. However, as previously intimated, the large telecommunications and cable companies who have invested generously in content development in the past have withdrawn much of their financial support for further experimentation in interactive content development simply because they have not enjoyed any return on their investment thus far. As well, it was discussed, there are currently no incentives for distribution companies to invest in the development or licensing of original interactive content for whom a paying audience has yet to be identified. The lack of incentives ties the hands of the small interactive production companies in need of distribution partnerships, for whom development of advanced content is otherwise extremely time consuming and a drain on resources.

So it's this chicken and egg problem... where they [distributors] want to roll it out, and they need this rich content... and we're happy to create the content except we need customers that will pay for it. It's a gamble and a risk that we've said no to, thus far, just because it is risky for us to go forward.

The risks are assumed by both distributors and producers alike, but traditional media entities engaged in production and distribution are perceived as even less prone to take the risks than interactive media companies. The traditional media rarely

The lack of incentives ties the hands of the small interactive production companies...

have budget lines for research and development. Rather, in the case of television in particular, companies are accustomed to guaranteed business models that fund "development" alone. In effect, these funds are predisposed to value production, but they do not extend to research. Expanding the scope of funding to encompass research *and* development, therefore, may represent the bridge between conventional and interactive media. In the meantime, because the entire process of distributing interactive content is one still of breaking new ground, distributors cannot look to established models of successful content products or demonstrated audiences to allay their concerns about licensing content and the costs involved. As a result, they hesitate to invest. Rather than licensing content from smaller Canadian suppliers, they opt instead to produce their own with in-house personnel, often simply repurposing traditional media distributed through other conventional media properties they also own. This is the case with, for example, TSN (The Sports Network). Companies involved in interactive content distribution may also opt for syndicated foreign content over licensed Canadian products as another cost-cutting measure.

As a consequence, opportunities for independent content producers to develop original properties and to experiment with content creation for a paying customer or audience are few and far between. Therefore, they frequently must cover the costs of the production of intellectual property entirely out of their own pockets. To do so, they must engage in enough fee-for-service work to support the firm overall as well as their intellectual property development. Taking on fee-for-service ensures some cash flow but, at the same time, it puts a tremendous strain on labour and other company resources and diminishes the amount of time that can be devoted to innovation. In short, corners get cut. Resources simply do not stretch to cover basic company sustainability and the production of an original content product sophisticated enough to play on a world stage. One is inevitably pursued at the expense of the other. On the other hand, even when small production companies do access private funding, they are still faced with having to balance development of original properties against the opportunity cost associated with the more lucrative fee-for-service work they are rejecting. Despite the ardor that may drive their desire to produce their own work, the reality is stark: the markets for interactive content are uncertain. Interactive content development is a high risk business for everyone involved. While there is unfaltering confidence that demand for advanced content will grow to create a lucrative industry for Canada, audiences nevertheless cannot articulate demand for a product or service they have yet to experience or that they do not realize it is possible to attain.

Revenues and Rights

Even if demand among consumers were clearly demonstrated, reliable business models for broadband content have yet to be established. Issues around rights/ownership of content are part and parcel of troubled revenue models. In the absence of a resolution to these issues, producers and distributors remain pitted against one another, each waiting for the other to make the first move at their own expense. Where infrastructure is not the issue, then, as in Atlantic Canada where Aliant has achieved upwards of 50 percent broadband penetration, availability of content is still lacking

...a high risk business for everyone involved...

because, as one participant put it, "the rules of the game are not set...and until those rules are established, there's no incentive because everyone is afraid of making a mistake."

Participants noted that traditional broadcasters and advertisers are familiar with only a limited range of options for the monetization of content. Prior to the advent of cable television, advertising was the primary means of revenue generation via content. With cable, the subscription model took hold. The value proposition associated with each of these models has not been tested thoroughly enough, however, in the interactive space for the advanced content industry to feel confident that it can recoup and exceed the initial expenditures incurred in development. Indeed, revenue models that sustain interactive content consistently may never emerge. Rather, successes appear to be achieved on a case by case basis.

I don't think we can go around the table and say, definitively, I know how to make money in this area.

I also think that in a move forward position that I'd like to find some kind of mechanism to understand revenue models because it's great to put out all this content, but there's a certain amount of missionary work that needs to be done: how much would people pay for content and what is the advertising model? If we look at the Internet as the newest and closest example, there's still a ton of work that needs to be done on the ad side.

On the advertising model, the problem we're finding now is that when you speak to advertising agencies, when they speak to their clients, the clients think in terms of pigeonholes. There's a certain amount for radio advertising, a certain amount for billboards, and so on. But interactivity, which perhaps spans all of the above, doesn't have a pigeonhole, so there's no budget on the part of their clients. So the advertising agencies aren't keen and don't have the willpower to educate their clients to actually allocate a certain amount to interactivity. So that, plus the unwillingness on the part of distributors to invest, means...funding is crucial.

Transactional models for monetizing content are also on the radar screen but have yet to be tested to any significant degree.

Ambivalence and hesitation among traditional distributors to invest in content development, given the high risk nature of the activity for everyone involved, is compounded by tension and confusion around rights of ownership. In the television industry, a broadcaster may invest in the development of a program for which they own the domestic intellectual property rights. The creator, however, retains the right to distribute the product internationally. The same rights of ownership have not been established within the interactive space. Rather, participants find, broadcasters frequently demand that producers relinquish rights of ownership for domestic distribution and all rights associated with their interactive productions. This tension creates an environment in which there is no incentive for producers to expend resources in the

However, the reality comes in when we can all look back to Internet 1995, where we were then and where we are now. From a revenue generating point of view, we really aren't that far down the path. Business fundamentals have still not been identified yet.

development of new and innovative forms of content simply because in surrendering their rights to broadcasters, they obviate any future opportunities to generate revenue from that product. Simply stated, from the producer's point of view, why push the envelope for someone else on my dime?

Moreover, participants indicated that traditional broadcasters accord very little value to the interactive rights, and rarely, if ever, develop the interactive properties further themselves. Instead, the interactive components may stagnate. Participants suggested that this situation could be more palatable to interactive producers, if they were compensated fairly for their property. However, in the absence of fair compensation, producers are left with nothing: no property to develop and no revenues to speak of to feed back into other projects.

It's a big mistake that the big companies, broadcasters and distributors, want from content providers all their rights, or most of them. And they don't use them. They shelve them. What happens is it stems development by the entrepreneur. If the entrepreneur is allowed to keep some of those rights, he'll develop them, but he can't develop them if they're tied up.

But one of the barriers I see in all of this is the confusion around intellectual property and who owns it, and the vested interests that are out there about how it's collected, how the toll is collected, or how it's administered. There has to be some clarity that's going to happen across the creators, and some sort of amalgamation or consolidation around that business issue.

Companies involved in production and distribution remain locked in this tango, each one requiring the support and cooperation of the other to achieve the necessary learning and subsequent successes in the broadband space. Successful content development is an ongoing negotiation between risk and return for all of the players. It would seem, then, that a mechanism to mitigate the risk factor is needed to support the industry. Traditional models for production funding and investment are not risk oriented. Thus, they effectively inhibit the development of advanced content. Consequently, alternative models need to be explored. As this report will demonstrate, provisions to enable companies to conduct research to ensure a reasonable chance of success with their interactive content product prior to development may alleviate some of the pressure experienced by companies undertaking the production of innovative advanced content.

Fee-for-Service and Production of IP

As previously illustrated, distributors and producers currently find themselves facing the dilemma of how to deliver interactive content while still remaining profitable or at least breaking even. The route producers have been forced to take, in the absence of other sources of support, is to fund their content development independently. This not only

Companies involved in production and distribution remain locked in this tango...

places a huge financial burden on the smaller, independent Canadian companies, but it creates tensions within the workplace for all involved because it jeopardizes the stability of the organization's finances and collegiality.

To develop this interactivity I discussed, and try and get this integration going, trying to think about how to develop soft photo footage, DVDs, Web, blah, blah... has had to drain money out of our traditional coffers. I've had to milk money out of what I'm supposed to put into my TV program... and really have had to cut corners a lot... so it's put our company under a lot of pressure. It's drained our surpluses, if we had any, and made us dig real deep. ... I keep using money from other parts of my company to do this.

To actually fund that co-development is extremely expensive, and the fruits of that will not come to bear for perhaps many years. So we have this constant balance of do we invest in this for the long term. We know it's necessary; it's part of our business division. It's going to really help the future of content, but if we spend X number of dollars, hundreds of thousands, or millions of dollars to do that now, it takes away from our ability to earn revenue right this minute.

[Developing IP] can cause tremendous confusion within a staff that needs to be focused on the bigger picture, if you're saying but in the meantime we've have to keep the heat on and lights on, so you're going to develop a Web site for law firm. It can make for disharmony within the ranks...

Distributors, on the other hand, are unsure whether an audience exists for the interactive content and they are unclear about how to monetize it. In short, they don't know what the content and the ownership rights for that content are worth. To test the waters, they may offer up the content for free. But this tactic is a direct infringement on producers' copyright. Consequently, producers have become reluctant to release their content to distributors. As one producer remarked,

Nobody moves forward because they say we can't figure this out so I'm going to keep all my rights to myself until I figure out what their worth.

Offering up content for free can also have the adverse effect of undermining perceived value even as it drives demand among consumers. Sustaining the perception of the value add that advanced interactive content has to offer among consumers is difficult when they do not have sufficient exposure to the range of possibilities for novel experiences with content and when there is a wealth of less sophisticated content to draw their attention. Advanced interactive content like the multiplayer game can indeed provide a more rich experience than simple digitized text, but again, the consumer needs to be willing to spend to take a chance on it. The apparent absence of value to consumers thus thwarts other efforts by the industry to develop new interactive content. Several participants expressed frustration with this dynamic.

I guess from my perspective, there is so much stuff out there... there's so much [Internet] content that to figure out how it works financially, I find difficult, because I think there's so much stuff, you can find what you want for free. So why would I want to pay to get anything on the Internet in terms of content. Like I'm not going to pay for news, because if they don't give it to me free there, I'm going to go to TV...

Well I think it's a challenge on two fronts. One is that it has to be commercially driven for a private company to survive. So when you look at what makes you money, education right now is what makes you money, same as corporate training. Entertainment doesn't because people aren't willing to pay for it yet. I mean you're still competing with that model: why should I pay for something when everything else is free?

As a consequence of the lack of confidence in available business models and clarity around rights of ownership, many production companies are forced to independently finance the development of original intellectual property through the revenues generated through their own fee-for-service work. This balance can create a vicious cycle whereby a company whose aim is to produce original titles cannot shift out of the fee-for-service context sufficiently to concentrate on the former. But fee-for-service work not only pays the bills associated with content development. In the absence of other funding, fee-for-service is absolutely necessary as a context within which companies can try and test new content products both for the business-to-consumer and business-to-business markets. Small production firms need clients who are prepared to finance relatively experimental endeavours that they can potentially apply successfully to their own companies. For example, an independent shop might produce an interface for a bank that leverages existing content technologies in an entirely new way. Having developed this innovative interface, the independent supplier may then offer it as a product, or offer the process behind its development as a service, to its future fee-for-service clients. For this marriage of producer and client needs to succeed, however, both parties need to be willing to take financial risks.

Funders and Applicants

The availability of funding for interactive content development simply does not compare to the availability of funding for technological development or, for that matter, film and television production. Whereas research and/or development funding are familiar terrain for technology companies and traditional broadcast media (who are at least accustomed to models for development funding), interactive content development is not regarded as falling comfortably into either of the two areas, perhaps because it falls into both. In addition, the scale of funding available for each of the industries differs dramatically. It would not be entirely accurate to suggest that no public sources of support exist for the production of content. Participants cited the Bell

We struggle with this chicken and egg where we want to be developing broadband, but we rely on customers to come to us and say they're willing to pay to develop in this space.

Small production firms need clients who are prepared to finance relatively experimental endeavours that they can potentially apply successfully to their own companies.

Fund and Telefilm, for example, as two programs that provide development funding for innovative content projects. However, existing funds present five central obstacles to Canadian interactive content producers.

1. They do not provide sufficient financial support.
2. They constrain producers with narrow definitions of Canadian content.
3. They drain the resources of small production companies because they are time consuming to apply for and slow to disperse funds.
4. They do not allow companies to progress forward because recipients are precluded from retaining any profits from their projects.
5. They are not coordinated across media, so they do not serve convergence projects well.

Though some technology and infrastructure funds in Canada provide substantial investment, content related funds are extremely limited in the amount of support they award and, consequently, the number of projects across which they can disseminate support. Thus, while funds may contribute to the development of some experimental work, they cannot begin to alleviate the costs associated with the creation of new, highly sophisticated broadband content like that being produced in other countries (such as the major e-commerce and service sites based in the United States). One game developer illustrated this point.

You know, we'll spend three million in development and [the publishing company] will spend six million in marketing and selling it.

Given the depth and breadth of experience represented at the roundtables, the Canadian interactive media industry has already demonstrated its readiness and capability to produce advanced content. Still, without proper support to carry such projects from inception to marketing, so that they do not die on the vine, producers remain unable to gain the competitive edge that will sustain them in a global market in future. That edge is attained through the development of highly expensive, innovative products and continued growth as a company. Thus, funding needs to address specific project needs as well as the overall health of the company.

It's very expensive to bring titles to market in terms of the distribution and marketing behind them, so it's difficult for an operator like us, or a developer like us to make that transition, and we look at broadband as a new opportunity for us to take advantage of a new delivery mechanism that can bypass retail.

We can't be talking about funds that are in the tune of a half a million dollars, or a million dollars. We've got to be talking about multi-millions of dollars to stimulate the content development industry, be it broadband or whatever. We

Thus, funding needs to address specific project needs as well as the overall health of the company.

nickel and dime ourselves to death on 50 thousand or a 100 thousand... I know it sounds like an awful lot of money to someone who doesn't have 50 or 100 thousand dollars, but by the time you've gone through the process... that kind of funding is what is required to keep the momentum going in the longer term, and know that you have a platform to build from that you can go from in the future. It's used up so quickly in today's development environment, but it has to be focused on those kinds of things.

Furthermore, innovation cannot happen in a sustained way in companies that do not generate sufficient revenues continually to pursue new areas of professional development and growth. In short, companies need to profit. But the funding programs available to them typically require a repayment of royalties at a rate exceeding one hundred percent of the loan, if the product proves profitable. This requirement prevents companies from using the funding to support growth. Several of the roundtable participants expressed frustration with this quandary. Rather than simply being given straight dollars to complete a project, they would prefer for the fund to kick-start their growth as a company overall. They do not want to simply be handed a fish; they want to learn to fish for themselves.

The second thing that we've had a problem with is profit margin. There are a lot of different policies, and a variety of different funds, which put a limit on the margin that you as a company can enjoy in the creation of a content offering. While it may not seem right that different federal and provincial funding agencies allow you to make a profit on the creation of a project, this profit is what keeps you alive in between projects. If it's not healthy, your company is not healthy, particularly in something such as new media, which is so speculative, and so rarely draws or creates actual revenue.

Well if you think of repayment with a 25 percent, in additional fee, you're probably going to eradicate the margins of a lot of the small providers, right?

I'm just saying that always seems to be the standard... that model of \$1.2 million for the University of Alberta, and \$800 thousand for the University of Calgary, and \$50 thousand for us guys trying to make a living doing it. Why would I want to do that, you know? My energies and my knowledge are better used somewhere else where I can actually make a living do it.

Support needs to be both financial and conceptual. In addition to the need for substantial fiscal incentives to produce content, participants spoke to their need for unrestricted definitions of Canadian content. Only in expanding the concept of Canadian content will interactive content producers be able to access funding to fulfill projects that can be marketed broadly.

I think to enhance value, to develop products no matter what they are, that can exist on different platforms and in different manners...I think that part of the

Support needs to be both financial and conceptual.

danger of seeing content in terms of an older approach (I'm thinking of the Canadian Television Fund, for instance) is that it takes a very restrictive view of what is actually going to be funded as Canadian. You shouldn't be mandated to tell stories...that the bureaucrats say are compelling to Canadians because they feature Halifax harbour or it's Halifax, Canada printed on the side of every boat.

Our biggest opportunity is to leverage our domestic environment to build some of this stuff. But get it out of your heads that we can ever make it work as a business model in this country because we can't and we won't, and we should just forget it. But if we export it, it makes a ton of sense. We have an inherent problem because of the regulatory legacy we've built around ourselves to get this idea that we can create something and then leverage it domestically for a meaningful business. And I am just adamantly opposed to that. Without regulatory support, forget it. But you can sell it internationally and do extremely well, and we have to face that reality and get on with it.

Our opportunity is to create some of this stuff and sell it globally. Then we don't have to worry about the size of our market compared to the size of our neighbour's market, because it's the same market, it's global. ... I say who cares what the content is and where it is set. If it's created by a Canadian in Canada and sold to the world or just to Canadians, it's Canadian content.

In sum, participants require funders not to constrain them and make their most marketable projects ineligible for funding. Then, having approved advanced, competitive project initiatives, they require a level of funding that does not force them to cut corners and make compromises that may undermine the success of the product. Last, they need to be able to access funding quickly and easily so that they can respond to changes in market conditions in a timely manner. The present array of support mechanisms, however, are notorious for being time consuming and onerous to apply for and slow to respond. Administration throughout the project also is frequently cumbersome and challenging from a cash-flow perspective.

It takes us well over a month of somewhere between four and eight people on our staff time to put together a Bell Fund application. There is an enormous cost to us that never gets paid back. Our staff is saying that they can't spend a lot of money doing fund applications.

Funding content I've found to be extremely difficult, so we actually stay away from it. We've funded all our projects through in-house initiatives, and in-house cash flow, and in-house investments, and that is basically for us the fastest way to streamline the production cycle. If we have an idea and there is a market opportunity, it's usually within a specified amount of time that we have to get that product to market to make it successful. Going through the

In terms of the whole CanCon regulation through the federal government, we don't have that nor do I think we want that in content areas for new media.

funding process usually drags that timeline out. I mean, we have often missed the window.

Taking advantage of the window of opportunity also often means coordinating several stakeholders with varying agendas, particularly where convergence projects are concerned. This difficulty arises, for example, when developing interactive components for traditional broadcast properties. In fact, the different components of the project, which together create a larger content experience for the user/audience, must be financed separately. There are no coordinated sources of funding for such projects in Canada.

The challenge that I see... with our digital features project I'm trying to persuade investors – and the investors are Telefilm Canada, the regular Canadian feature film investors – trying to persuade them that having a Web site component and starting to do it at this stage, before we've gone to camera on the first feature... starting to do the preparation so that we are able to take the content in many streams at once is going to enhance the value of the copyright and it's going to be good for the investor in the feature film, which is what we have financed at the moment. We have the features financed. We don't yet have the Web site financed. We don't yet have any of the other streams of revenue, and have it actually generate that revenue, financed at the moment, but I'm saying to people, and I'm running into a problem of course, because we have these columns and there is no sort of horizontal integration between them. So that we have to turn to the Bell New Media fund for investment for the Web site.

If somebody is going to invest in a TV property and they immediately think that this gives them some sort of a grasp on the new media property without putting any additional funding in there, I don't think that's appropriate. And it works counter to their goals anyway, because if they don't put money into the new media then the new media product is not going to get made, and they won't see any profit if it's not there.

Our biggest problems are synchronization of the policies and requirements of different funds. We have at many times tried to coordinate the policies of something like the Nova Scotia Film Development Corporation and the Banff Centre. For example, one works with their contributions at fair market value, the other works with their contributions at cost. Being able to synchronize these two ways of reporting has been very, very difficult. This makes it exceedingly difficult to patch together an overall funding structure for a variety of disparate contributors.

For the reasons cited above, participants called for the harmonization of funds. Several of the participants cited this as the key to Quebec's relative success in the industry compared to its provincial neighbors. Quebec enjoys a constellation of fund-

We'd probably have to hire a battery of accountants to get 25 thousand dollars

ing programs that addresses the needs of varied stakeholders for production funding, distribution support, labour subsidization, and wired real estate. Indeed, previous Delvinia research conducted for the Ministry of Energy, Science and Technology into the Canadian funding landscape for content development confirms Quebec's generosity (see <http://www.multimediatech.com/publications/write041.shtml>). Delvinia identified nearly three times the number of provincial support programs in Quebec as in Ontario, the second most prosperous province for the industry. Grants and tax relief are available to research centers, private companies, independent artists, and others working in multimedia in Quebec. One program even educates "new economy companies" on the existing grants and tax relief programs for which they are eligible. In addressing the needs of the content production community as a whole, Quebec presents a attractive model to the roundtable participants.

If you do not have a consortium working together and developing the whole infrastructure with content and with software tools and with the distribution of this content, well you cannot do one to the detriment of the other. You have to look at the whole picture. I believe this is the direction we need to take in Canada as a whole so that we become more competitive. It's not one component that you have to subsidize; it's the whole ecosystem.

In sum, participants called for a revised approach to funding interactive content that reflects the expense and complexity of the projects undertaken. The expense arises not only from the level of technology involved, but the time and resources required for completion, while the complexity reflects the diversity of stakeholders invested and the difficulty of achieving sustainable growth in the midst of the production of intellectual property. A coordinated or harmonized system of funding is therefore recommended to address these challenges.

Everybody talks about the Internet, the Internet, the Internet... It's great for research and information, and all that stuff. That's a given. Next step, you know... what else could it be utilized for?

~roundtable participant, March 29, 2001

The Future of Broadband: Point B

The participants at all five of the roundtables emphasized the imperative to overcome the obstacles to funding and content development in anticipation of a future characterized by unparalleled demand for and access to media around the globe. The present landscape from the perspective of the Canadian interactive content production industry, Point A, was delineated above. Now we contemplate the future or Point B. When asked to describe what lies in store for Canadians two years hence in the broadband space, participants described a proliferation of devices to deliver content anywhere, any time, on demand, to an audience with near universal access. User control over that content will be facilitated by a complimentary array of tools and applications that will reside in the appliance or device itself, be it a personal digital assistant, a cell phone, a television, or even a refrigerator. Content will be smart and devices will be able to negotiate user needs for content. This is envisioned by participants in both the consumer and business arenas. Control over content will be the essence of interactivity, and the capacity for user control, not access, will become the new value proposition. Participants also predict that as a deluge of interactive content will be available to audiences, it will become a key vehicle for leveraging brands. Interactivity bolsters branding because it enables consumers to connect and interact with companies in new, positive, dialogic ways thus familiarizing them and strengthening their loyalty to that company's brand. Interactivity will also present enhanced opportunities for governments to reach their constituencies and for educational institutions to deliver learning.

Interactive T.V. is absolutely for sure here to stay. ... Open T.V. in the UK has shown that of their subscribers, 100 per cent have actually used the interactive feature and about a third of them have done a transaction.... We believe there's a huge future.

People understand the ability to email, buy goods and services, do banking over their television, and I hope people don't think that's interactive content because content producers are going to have to think of ways of developing interactive content with new tools and that content is going to be supported by the consumer. So the consumer is going to be the content producer along with the producer, and the audience is also going to be their own, networking through file sharing of content to other networks.

Where we're moving to now and where technology will enable us to go is that it's all driven by the consumer and what they want, when they want, how they want, all of that stuff.

Interactivity will be ubiquitous because, it is imagined, the infrastructure through which it will flow will be ubiquitous.

I think from a content point of view, the creators are going to start thinking about interactivity from inception, or its source. It's not going to be an overlay or a component of pure marketing. It's actually going to be at the heart and soul of what it is that they're creating.

Two years from now we'll probably see double the bandwidth capabilities that we have today, and at half the cost that we have today. Bandwidth is virtually unlimited in the ground or in the water or in the fibre today. Where we are going to run into bandwidth problems is in wireless. Where the growth is in the future, and in the next two years, I think it's going to be predominantly in wireless, so we're going to have to be supplying high bandwidth capabilities to handheld devices and digital terminals and other wireless devices like that.

Well, we're going to have a bunch of digital cable channels in six to eight months. Along with that the CRTC's mandate is that each of those cable channels have something known as significant interactive content... There will be necessarily some kind of Web site attached to each of these channels, and I assume they're going to have to do something more than just have their logo on the Web site... So we will see more entertainment type content available on the Internet, and as a result of that we will see actually more deeper broadband penetration because of the fact that they are going to be delivering video clips, etc, over these sorts of things.

Participants anticipate a future in which the direct monetization of content will also have evolved, so advanced, proprietary content will be not disseminated free of charge to audiences as frequently as it is now. They expect subscription and transactional models, but there is disagreement over which will prevail and who will control the cost of content. However, it is anticipated that struggles over ownership of content and the payment of licensing fees to the appropriate individuals will be resolved. In fact, some producers expect that broadband will enable them to retain their intellectual property rights more easily.

Broadband is going to be the killer app, and the people who own the wires are going to be the people who are defining how much you're going to pay for it. I think you're going to see, to a certain extent, broadband take on similar billing structures, and what not, to the standard telephone and cable and things like that, because it's a way of doing it that everyone's already comfortable with.

Per transaction: that's what I think will hold in a lot of the bandwidth demand... the fact that there's no micro payment capabilities. You can have e-commerce, and download a whole CD and pay \$20 bucks for it, but you

can't do a 10 cent transaction, or a 25 cent transaction. It's not cost effective. But when you can do that, then all those 25 cent transactions will generate billions.

I think it's wishful thinking on the part of small producers, as we all are, to think that that's the only way to generate revenue from this application on a per transaction basis. The alternative, of course, is a subscriber basis, which when you're trying to compete with the four or five mega media companies in the world who have libraries of thousands and thousands of titles... they are not going to be offering on a per transaction basis. They are going to be offering on a subscriber basis... and people are going to be able to say, well, I can pay ten dollars or 20, or 30 dollars a month as I do with cable television.

We're very excited about using broadband to deliver our rich media content to the consumers. What that means is that we retain some of the intellectual property. We develop games ourselves, but typically when we sell them to a publisher, we sell all of the intellectual property associated with that.

So we'll have content out there not really attached to the original content producer flying around the world and somehow the IP is recognized and payments are made in the chain of usage of the content no matter whom is using it or where they are using it.

The diversity of locations from which consumers access content may represent the most profound change engendered by interactivity. The future envisioned by the roundtable participants is characterized by "geographical dissolution of market territories." Domestic and international markets will blend, as the interactive space will facilitate sales across countries for consumers from around the globe without their ever having to traverse physical borders. This is both a reality and a matter of survival for Canadian companies.

Well, we've always looked at Canada as a really good springboard, again, because of the broadband penetration here because of the vision that our clients have demonstrated in terms of being early adopters. But of course Canada is very small. I don't think any of us can continue in the long term if it was just Canada. We need to look outside our borders and need to look to the US, for example, and Europe, which is to many extents ahead, particularly in the iTV and wireless area...

It's not just Canada, because if I try to rely on the Canadian market, then unfortunately we're not going to be as profitable and be as competitive as we could be unless we look at the international marketplace.

There's not enough buyers in Canadian culture to buy Canadian culture products. If you're going to make money, raise capital... most of the guys around this table who have done it will say it's because I had an American purchaser.

I think the technology is going to become so pervasive and the integration of devices is going to be so intuitive and easy that access will be free.

Domestic and international markets will blend...

In addition to geographical dissolution, participants anticipate regulatory dissolution of media. As the many content delivery channels converge, it will become unfeasible to regulate the different silos independently. Content produced by a conventional television broadcaster may be disseminated over a range of platforms, making the task of defining the format of that media and regulating the distribution of that content much more complex, if not impossible.

These vivid descriptions of the future according to stakeholders working in the space are merely hypotheses at this point in time. However, they were put forward by people who understand both advanced content and technology, by the innovators who have the abilities to deliver on their vision. Their challenge now is to test those hypotheses through innovation and research and development, to ready themselves to be a global competitor. In the next section of the report, we outline the ways that participants suggest they may begin to address their unanswered questions.

We're trying to promote the innovation cycle in Canada so that we can be competitive on the global market.

Seizing the Broadband Potential: Getting from Point A to Point B

For the Canadian interactive content industry to exploit the potential opportunities in the broadband space described above, it needs to strategize means to resolve its unanswered questions about the business of interactivity and the user experience. True, many of the participants assume that the tensions and knowledge gaps will no longer represent obstacles to their success in as little as two years' time. However, the air will not clear spontaneously. Rather, all of the industry stakeholders can personally expect to expend a great deal more energy defining and attacking the problems in the Canadian broadband landscape. To do so, they have identified three strategies available to them:

1. Forming consortiums for knowledge sharing
2. Establishing partnerships that include content producers, technology companies, and distributors
3. Providing input to and advocating for mechanisms to accelerate the growth of the advanced content industry through research and development

Consortiums

One of the key strategies identified to ensure Canada's competitiveness in the broadband space is the fundamental sharing of knowledge. Educational institutions and private industry, including traditional and interactive content producers, distributors, and technologists, and the public sector were all suggested as potential contributors to a consortium of people working in the broadband space. Naturally, this is the context in which the academics present at the roundtables felt that they could best contribute and benefit.

There are groups of people working all over this country, really bright people, who have lots of ideas. We need to get a consortium together to bring what they are learning to market as quickly as possible.

He works with customers, but they're lead customers, so he works with the kind of people who are not your normal customer in order to find out what customers might be needing five years in the future. So I think that kind of work, combined with and in partnership with people in computer science faculties, people like myself in more sort of social science departments... can yield results that are much more near term.

Perspective

We need to get in there and understand what the audiences want, how they use it and consume it.

The consortium is about learning and sharing knowledge across stakeholders. It is also about avoiding redundancy. At present, participants across the interactive content production industry are unaware of one another's activities in the space, particularly around research, because there are no common forums for communication. Producers of interactive content do not know what conventional producers are doing, nor are they aware of the research being conducted by educational institutions or private industry. In some cases, individuals are working in silos to unravel the same questions. However, as media converge, so will the roles of the industry participants. Therefore, it behooves the entire industry to cultivate communication among and between the many players to lay the groundwork to foster more specific business partnerships. Access by industry to the CA*net 3 network was mentioned as one potential means to rectify some of the gaps in communication around research. While participation in consortiums will serve economic objectives for Canada on a broad scale, partnerships forged therein will serve individual participants in a more immediate, profit-oriented fashion and will stimulate the innovation necessary to lead and succeed in the global market.

...it behooves the entire industry to cultivate communication among and between the many players...

Partnerships

Currently, partnerships are being formed within media silos, industries, and institutions. However, stakeholders from all corners of the industry are also anxious to form relationships across the value chain to ensure their own sustainability. Indeed, partnerships were viewed by the participants as perhaps the most crucial strategy to maintaining Canada's competitiveness. For interactive content producers, a partnership with a distributor enables them to gain exposure for their work. In exchange, distributors may test demand for different types of content and different means of monetizing that content on their audiences. As well, online content may be used to drive traffic successfully offline and vice versa. Both parties may then enjoy some learning and generate revenues that they may directly apply to their businesses.

Our customers are screaming for unique and compelling information within the broadband market, things like clips of information, streaming media. From our point of view, I'm sitting here with the network wanting to populate it with content, but to do it in a partnership way, to say how can we work with people to test the concept, how do we figure out the revenue model?

There's been a lot of discussion about comparing our situation to the US, and I believe we have to look to the UK because the UK is the leading edge in interactive T.V. They have much more participation than we have. As far as the revenue model is concerned, one of the key components of every model is subscriber fees, there's advertising, and there will be interactivity. The interactivity revenue model is not yet defined; it will take a lot of partnerships to achieve that.

Companies involved in production and distribution are also keen to partner with technology companies. These partnerships could enable the production of content for innovative platforms.

So I think from a content provider's standpoint, it makes a lot of sense for content providers to produce content that's dedicated for broadband and for technology companies to provide technologies that enable the broadband access providers to partner together with a broadband content provider, to offer additional services so that they can make some money off of this broadband roll out.

We often need to build partnerships with technology companies who are already well down the road. They are mature companies who are staying in the broadcasting space.

Technologically innovative content also requires a test bed, however, to explore questions of usability and demand. This need for a test bed presents another opportunity for educational institutions to become more directly involved in the industry. Universities in Canada are extremely well wired, providing bandwidth capabilities superior to those in the general public. The student population is also a concentrated one that can be observed and tracked with relative ease, allowing producers and distributors alike to gauge demand based on geographic and cultural differences as well as basic demographics. Those companies at the roundtables developing or distributing their own interactive content are keen to take advantage of the opportunities for testing presented by the student population. Here again, CANARIE's high performance network CA*net 3 may provide an outlet for research and experimentation with content for private companies. This network is presently intended for exclusive use by research institutions and government bodies and other public institutions, but the possibilities for its application in bolstering the private content development industry in Canada are boundless.

There is one reason that it makes sense to partner with universities, because universities and educational facilities have the bandwidth and so you two might want to partner about where would you test [content]. You know, the idea about the user test bed comes back to the first thing that we discussed which is what's the broadband landscape here. So having users to be able to test this on is important.

Research partnerships with educational institutions may also spur much needed cognitive or behavioural studies of the user experience.

In sum, partnerships figure prominently among the strategies necessary for Canada to progress in broadband content development. The stakeholders are many, but their ultimate goal is shared. For this reason, several of the participants empha-

We have found that it behooves us to move at the pace that our clients are moving. That being said, we have to keep an eye to the future and partner technologically so that we are pushing it.

...partnerships figure prominently...

sized the need to develop means to involve members from all aspects of the content community.

I just want to say that to me it is a business partnership and everybody has a vested interest and everybody has a goal that they're trying to achieve... whether it's trying to build a better education system... whether it's making a profit... I think it's a matter of everybody getting together.

I think that the only way the small content providers are going to survive the Canadian environment and maybe reach international environments, is if you look at ideas of cooperation and partnership right across the board.

Growth Accelerators

Small, independent content production shops that foster some of the country's best innovation, however, vastly outnumber the cable companies and telecommunications providers seen as central to industry's success. Therefore, virtually all of the participants concluded that some organized means of risk funding, partnership building, and knowledge sharing within the content industry is required to stimulate innovation, seed speculative advanced content projects, and kick start significant industry growth. Although they disagree on the specific mechanism required, based on their individual needs, all participants advocate for incentives toward partnerships to support multiple players.

On the partnership piece, I think that could be really valuable inside the commercial area, that if... as much as I oftentimes resist the whole idea of kind of forced partnerships or arranged marriages or whatever for funding purposes, I really think from a modeling point of view, there could be some interesting opportunities to stimulate partnerships between portals or aggregators and content suppliers around funding models.

It takes a heck of a lot of perseverance, and we need to do more of what we've been doing with the Learnware Initiative. That works. It needs to be a little bit easier, and we need to be able to engage more Canadian content partners to allow us to get more momentum with the demand side of the sector. So not just Alberta, but Ontario, the Maritimes, and the Prairies, coming together consuming the Canadian content that we're creating, because there's not as big a market for that as there are worldwide productivity tools, and some of the products that are easier to export...

These partnerships would enable stakeholders to test the hypotheses that underlie their visions of the future of broadband in Canada. These hypotheses include questions around user experience, demand, business models, consumer willingness to pay, rights and monetization, and potential for innovation, as well as a variety of fundamental

questions around interactivity and its properties in general. In this way, Canadian content producers, distributors, technologists, and interactive theorists are engaged in highly speculative work. Like the early gold miners of the Klondike, these stakeholders are hazarding what is now merely a prediction about future markets for interactive content. The initial excitement of the dot-com boom has deflated and given way to a more tempered outlook. The diversity of pioneers that continues to persevere in the interactive space has come to realize the need to work together to achieve success. In so doing, they confront new challenges posed by collaboration in addition to those inherent in the uncertainty of the business.

The success of interactive television in the United Kingdom and the wide acceptance of wireless technologies in Scandinavia and the Asia Pacific, however, all point to a future rich in broadband interactive experiences, both for Canadians and citizens around the globe. But, as the roundtable participants unanimously stressed, Canada cannot afford merely to conjecture. If it does, it risks making itself vulnerable to the entry of foreign competition to meet domestic as well as international demand for content. To stay ahead of the curve, Canada needs to delve into a rigorous process of hypothesis testing toward economic development. In short, stakeholders in the Canadian interactive development industry need to conduct research and development. Otherwise, the Canadian content industry will be resigned to roles as little more than valets to media titans elsewhere.

To stay ahead of the curve, Canada needs to delve into a rigorous process of hypothesis testing toward economic development.

The way forward to greater competitiveness and greater prosperity for Canada is through innovation, not replication of what other countries and companies have done.

~Peter Foster, National Post, May 4, 2001

Interactive Content Development as Research & Development

A Fresh Perspective

Conventional notions of research and development (R&D) focus on the invention or innovation of entirely new technologies (i.e. research) or the enhancement of existing technologies (i.e. development). Both are speculative activities. Where the outcomes of research and development are uncertain, but the undertaking itself is of educational value or good to the broader public, the work is typically financed in whole or in part through public funds. In a commercial context, research and development is ultimately undertaken to affirm or disaffirm the existence of markets for a technology or product. Private sector support may therefore come into play. The broader value of the activity to the individual, then, is quality of life, and to the public at large it is the development of industry or the bolstering of the economy through the creation of jobs and the generation of revenues. All of the technologies we take for granted today, such as the telephone, television, and microprocessor, have undergone this process of research and development. In each of the above examples, the technologies were met with initial skepticism. Still each, in their impact on culture and society, have defined their eras.

CANARIE's mandate is to push into areas where no one has focused to date and to provide funding to initiatives that propel networks, networking technology and advancement in Canada. As previously demonstrated, interactive content development is one such area. Stakeholders in the industry are working to test hypotheses and resolve a myriad of questions that stand as obstacles to the further growth of their businesses and the industry at large. The hurdles identified at the roundtable in the form of questions, include, but are not limited to:

- What is the user experience of interactive content?
- Who/where are the markets for content?
- What kinds of content do consumers want?
- How much will consumers pay for content?
- How can we leverage existing content in new ways?
- How do we charge for content, where appropriate?

Perspective

In the music business the parallel I would draw is that it's giving the money to the artists and the producers, rather than the record company. It's giving the money to the people who will explore the form and who've got the innovation.

- How can producers retain rights of ownership over content?
- How does an integrated approach to media succeed?
- How does interactivity impact creative expression?
- How does interactivity impact learning?

These questions span the terrain of research and development. Prefacing these questions, however, is a plethora of more fundamental ones about the new phenomena of interactivity. These include conceptual questions about how we understand and measure click-through rates as well as basic demographic questions about who is online, where, and how often. Other fundamental experiential questions are also posed concerning the effects of interactive media on behaviour, how people use the media, and for what purposes. These "baseline" questions are not proprietary. Rather, they are relevant to the development of any and all content. They represent the foundational knowledge gaps still existing in the interactive space. In light of these gaps, it becomes evident that not only is broadband content production a form of research and development, but it is one which must be understood to include and require baseline research among its aims. In this way, content development as research and development consists of three project areas:

- The innovation of new technology/advanced content products
- The development/leveraging of existing technology/advanced content products
- The conduct of baseline research into interactivity in general

Two kinds of research may be variously conducted within the three project areas: pure and applied. Pure research is non-proprietary, whereas applied research has direct commercial applicability.

Based on this framework, research and development funding under each of the three project areas may support the following kinds of activities:

Innovation

- Building prototypes of new types of content, such as:
 - Content aimed not exclusively at Canadians
 - Content that may exist on different platforms
 - Content designed for broadband, e.g. new forms of user directed narrative
- Developing new technologies and tools that enable advanced content creation
- Establishing new or harmonizing existing standards
- Gaining a better understanding of the user experience, e.g. cognitive or behavioural research
- Creating incentives for partnerships between interactive content producers and key stakeholders
- Identifying markets

...not only is broadband content production a form of research and development...

I would use [funding] to develop test products to prototypes and processes, to do actual finished products to put online that I could test with audiences that I could then license to other content aggregators and portals.

- Identifying consumers' demands and desires
- Determining willingness among consumers to pay for content

Development

- Leveraging or expanding existing technologies, tools, and content, such as:
 - Repurposing traditional content for new platforms
 - Experimenting with ways of using interactive content to drive traditional media traffic and vice versa
 - Developing new business applications for existing content/technology
- Experimenting with business models
- Establishing the commercial value add proposition for a content product
- Creating incentives for partnerships between interactive content producers and key stakeholders
- Identifying markets
- Identifying consumers' demands and desires
- Determining willingness among consumers to pay for content

Baseline Research

- Pure research, not product-driven, such as:
 - Cognitive user experience
 - Behavioral user experience
 - User demographics
 - Interactive concept development

How do you use the technology in an innovative manner to create a new interactive experience or create a new use of the content?

The question that always comes up is the user side and how the user experiences [things]. Very little is known about the immersive interactive experience.

Program Recommendations

To Recap...

Delvinia's extensive discussions with members of the Canadian interactive content industry betrayed a mixture of fear, frustration and excitement. Fear and excitement both characterize the anticipation for the future of advanced content development as experienced by the participants, while frustration colours their perspectives on the present environment and their abilities to realize their potential within it. The fertile careers and expertise embodied around the tables in Halifax, Montreal, Toronto, Calgary, and Vancouver testify to Canada's readiness to be a truly global player, if not a leader, in interactive content production. The opportunities are manifold, as vast as the creative minds are open and the array of platforms existing today and emerging tomorrow are numerous. However, at the present moment, the industry is stymied by a number of obstacles. Among them are the following hurdles:

- Canada requires an extensive, affordable broadband network for content delivery across a variety of platforms.
- Business models for the development and distribution of interactive content have not been established.
- Clear conventions for negotiating ownership of intellectual property have not been established.
- Funding and investment incentives for interactive content development are lacking or otherwise inoperable.

How to surmount each of these obstacles is the question challenging the participants. The answer is what stands between them and their opportunities for success.

In brainstorming about possible means of resolving the questions, participants expressed support for

- knowledge sharing across consortiums of industry participants,
- forging of mutually beneficial partnerships among differently situated stakeholders, and
- establishment of a funding mechanism to encourage research and development in the advanced content industry.

In this final segment of the report, the participants' suggested strategies are taken up and integrated into a proposal for a program of support to the industry that understands interactive content as research and development and provides assistance to it accordingly.

Perspective

What I'd like to get money for is applying digital content in its context. It's digital, not analog. It's different. We need to start doing that kind of research.

Objectives

Based on the feedback culled from the roundtable participants, Delvinia has devised a set of recommendations toward the establishment of a research and development (R&D) program for the Canadian content industry. The over-riding objective of an R&D program is to provide incentives to the Canadian interactive content industry **to stimulate the development of advanced broadband content by Canadian companies**. Subsidiary objectives that may be met through the realization of these recommendations include:

1. to foster and reward the sharing of knowledge across the industry;
2. to build the Canadian content industry; and
3. to bolster the sustainability of small and medium sized production enterprises to enable their shift from fee-for-service to production of intellectual property, where desired.

In the sections that follow, this report will outline the three categories of recipients identified for funding and the considerations that should be made toward the development of an effective program to accelerate growth within the industry.

Recipients

Based on the feedback garnered from the roundtables, three types of applicants should be eligible to pursue and receive support for their research and development activities pertaining to content development. These three categories of potential recipients represent the range of stakeholders invested in the success of the Canadian content industry. They are:

1. individuals or small companies
2. partnerships/consortiums or large companies
3. institutions

Individuals or small companies may seek funding to conduct pure or applied research. In making individuals eligible for support, CANARIE's activities may complement those whose focus is on the development of cultural content insofar as independent artists are included. Also included here are small companies whose primary activities are in the fee-for-service area, but who wish to shift into the production of intellectual property (IP). Experienced IP developers also fall under this category.

Partnerships/consortiums or large companies may include content aggregators (online or offline), broadcasters, and distributors as well, in some cases, as educa-

Perspective

There's got to be encouragement of consortiums, and it's absolutely crucial to have collaboration in this process, and then we need to leverage that.

tional institutions applying in concert with others to pursue a content project to the benefit of all parties.

Institutions may include universities, hospitals, libraries, and other public bodies applying independently of, or in concert with, interactive content production companies, or other companies engaged in content production or distribution online or offline, depending on the nature of the activity proposed. These groups of applicants may apply for three types of funding, corresponding to the three project areas.

Program Considerations

In developing a program to accelerate industry growth, CANARIE must consider the well-being of the industry as a whole and that of its individual member companies. The three types of potential recipients of support outlined above inevitably harbour different needs and objectives, though they all participate in striving toward the shared goal of the economic viability of the industry. Towards this end, Delvinia recommends that CANARIE establish a program for research and development to support innovation of new content and technologies, further the development of existing content and technologies, and conduct baseline research. Furthermore, based on the understanding gained from the roundtables, this program must, in order of priority:

1. address previously unfulfilled areas of need within the industry's underlying support network of funding and investment incentives to contribute to the overall health of the industry
2. foster innovation from within small and medium size enterprises to enable those whose aim is the production of original intellectual properties to succeed
3. provide sufficient funding to enable the development of world class interactive products worthy of export
4. promote and reward partnerships between differently positioned stakeholders in the industry to ensure a reasonable chance of success for advanced content products
5. encourage the sharing of knowledge within and across industry silos to strengthen the knowledge base of the industry and eliminate redundancies in research and development activities within the industry
6. require demonstration of market readiness or preparedness to conduct market research to ensure a reasonable chance of success
7. provide support in the form most appropriate to the needs of the applicant to ensure its most effective use
8. ensure qualified peer review to select the most worthy projects for support
9. streamline level of administration in order to minimize the expenditure of time and resources by companies receiving support while meeting accountability requirements

Perspective

We'd use the money as a funding mechanism to hire people to create the product and for marketing because there's no use in creating a product if there's no money to market it to the world.

Each of these priorities and their implications will be discussed in turn.

1. A research and development program must **address previously unfulfilled areas of need** within the industry's underlying support network of funding and investment incentives in order to contribute to the overall health of the industry. In this regard, Delvinia encourages CANARIE to formulate a federal program that brings into view the entire ecosystem that is the Canadian advanced content industry. The objective is to move toward a comprehensive system with a constellation of programs that addresses needs for real estate, training, labour, and fiscal support.

The recommended program ought also to serve as a trigger for applicants to receive additional funding for their projects. A research and development fund that requires applicants to present with additional funding in place only constrains the progress of applicant companies and replicates one of the many funding hurdles they already face. In contrast, the proposed program would enable recipients to attract additional public as well as private investment in their projects, having received the endorsement and fiscal support of CANARIE, an established industry catalyst.

The recommended program would also serve to harmonize the array of existing programs and disparate selection criteria. In harmonizing or coordinating the information and reporting requirements of the proposed CANARIE fund with those of existing programs of support like the Bell New Media Fund or Telefilm development funding, the CANARIE program could minimize the burden on applicant companies and thereby allow them to focus their energies on the development of a first class product.

2. Toward this end, Delvinia encourages CANARIE to **foster innovation from within small and medium size enterprises** through its funding program. The creative, entrepreneurial spirits that reside in Canada's small interactive production companies are the originators of much of the country's truly innovative content. Small teams of individuals working closely together without constraints are frequently best able to imagine the possibilities as limitless. However, Canada is unable to capitalize on this talent if the conditions persist which require these companies to remain dependent on fee-for-service contracts for their sustainability. While it cannot be over-emphasized that Canadian companies who wish is to remain working within the fee-for-service context should be privileged as suppliers in any out-sourced content venture by their larger counterparts, those companies whose goal and talent is the production of intellectual property must be championed. For this reason, Delvinia encourages CANARIE to nurture the potential for innovation that Canada's smaller companies represent.
3. In championing the proposals of all applicants, however, CANARIE must **provide sufficient funding to enable the development of world class interactive products** worthy of export. Inadequate funds produce inad-

Perspective

I mean, obviously only so much can be done with the technology... to develop technology to the point where, yeah, it works when we do these tests. But does it work when you have people actually using it in user environments. That's the kind of information that we need to find out, and in order to find that out, yes, we do need content. We need a reason for them to use the tools.

equate products and undermine the competitiveness of the Canadian interactive content industry. Canadian companies must be enabled to distinguish themselves as the competitors that they are capable of being.

4. The proposed funding program will sustain a greater likelihood of success among its recipients if it **promotes and rewards partnerships among differently positioned stakeholders** in the industry. Companies involved in the production, packaging, distribution, and promotion of interactive content have all expressed their needs for support from one another. The success of the industry, therefore, will only be achieved through a collaborative effort. CANARIE must foster this collaboration. Distribution partnerships represent one possible means to achieve it. In such a partnership, CANARIE might subsidize a content distributor for a limited period of time to license experimental content developed by a Canadian producer. If that content then proves successful with audiences, the distributor may repay the amount subsidized by the funder and maintain a licensing agreement with the producer for further content development. This is just one example of a partnership that enables differently positioned stakeholders to take the risks required to move the industry forward without potentially sustaining damaging consequences. Another possible program feature could require large companies or consortiums to employ Canadian companies in the industry as suppliers. While these are not the only options available to CANARIE, the need to emphasize partnerships remains.
5. In a related fashion, Delvinia recommends that a program for research and development **encourage the sharing of knowledge within and across industry silos and institutions**. Knowledge sharing serves two purposes. First, it strengthens the knowledge base of the industry overall. Second, it eliminates redundancies in research and development activities within the industry. Too often participants remain cloistered in silos unaware of valuable learning taking place in other corners of the industry. A program that encourages knowledge sharing could avert this pitfall and stimulate educational institutions and other participants to conduct much needed pure research. The formation of consortiums for this purpose should also be rewarded. Financial incentives to conduct research and to share the learning that results might be offered to companies willing to contribute their findings to a repository maintained by the funder.
6. Successful projects typically require initial research and planning. For this reason, the recommended funding program should **require participants to demonstrate market readiness** for their product. Where this is not known, applicants may submit proposals to **conduct market research** to ensure a reasonable chance of success. Additional funding may follow for the development and production of a prototype, if it is demonstrated that the market is primed. In keeping with the objective of knowledge sharing, research conducted for this purpose may be appropriate for broader dissemination.

Perspective

Well, in our case [funding] would go to developing commercial projects to be able to tap into markets that we wouldn't have access to because of technology restrictions or maybe let us get out of the gate in some areas. It would give us, a Canadian company, an advantage to develop those areas that usually large companies can do.

7. Given the diversity of stakeholders and their needs, the recommended program must **provide support in the form most appropriate to the applicant** to ensure its most effective use. In addition, large companies with comparatively deep pockets and an ability to withstand time delays involved in recouping expenditures may benefit more from a tax credit, while small companies may best be served by a program of matching funds or a forgivable loan. Both applicants may make use of labour tax credits or distribution incentives. Alternatively, research grants may serve all three categories of applicants. The specific mechanism of support should be chosen based on its effectiveness for the applicant. No single mechanism may assist all stakeholders equally well.
8. To ensure an informed evaluation and selection of proposals, the recommended program must incorporate a process of **qualified peer review**. In this way, adjudicators with expertise in the different areas of interactive content production, distribution, and marketing for a variety of content genres may be enlisted to guarantee identification of the most viable projects.
9. Last, the recommended program would **streamline administrative overhead** to minimize time and resources expended in reporting on progress by companies receiving support. Simplifying documentation and reporting requirements for recipients of funds would enable companies to focus their energies where they may enjoy the most return: in the innovation of cutting edge, world class content.

Perspective

I've got to say, I've got some really talented people out of the schools in BC, but I can't afford to hire them at a market rate unless there is some sort of thing in place. I don't want subsidization. A tax credit would be fine.

Conclusion

Delvinia has been extremely pleased with, and grateful for, the candor and the quality of the insights shared by the participants at the roundtables from coast to coast. Their willingness to take time out from professions that move at the speed of the Internet to discuss their experiences with colleagues made this project a success. Moreover, the obvious readiness of participants to continue to apply themselves, in collaboration with others, to address the challenges they share as an industry bodes well for successes in the future.

All five of the discussions were engaging and informative. Participants in Halifax shed light on the peculiarities of broaching a world market from a relatively isolated geographic location. Montreal delivered an informed perspective on mature funding structures. Toronto animated the struggles faced in production and distribution. Calgary enlightened us about the mutually beneficial relationship between the industry and Canada's education system. Vancouver challenged us to contemplate the incredible breadth of possibilities in the industry from interactive television, to e-learning, and game development anew. In this way, all five locations pushed us to envision a media no longer beholden to fragmented silos but converged, collaborating, and thriving.

All of the project partners together — CANARIE, Canadian Heritage, Industry Canada and Delvinia — are thrilled to have been able to provide this platform to a diverse segment of an industry that no single entity currently represents. We hope readers of this report share our view that a fresh perspective on research and development represents the gateway to a future with Canada's interactive content industry at the forefront. CANARIE is uniquely positioned to usher the industry through that gateway, given its lengthy experience, expertise, and credibility both nationally and internationally. CANARIE's experience extends beyond networks into specific content sectors, including e-learning and e-health, where it has established credibility as a leader in formulating and administering effective content development programs through its Learnware and Telehealth initiatives. Having established relationships with key stakeholders across new media, CANARIE is also poised to cultivate a collaborative model for advanced content innovation. Through this kind of continued communication, learning, knowledge sharing, and partnering, we look forward to Canada's leadership in filling the pipe with innovative advanced interactive content for a world market.

Perspective

Like any business, particularly if it's becoming more and more embroiled with technology, you have to take some of revenues, or reinvest some of your effort into the development of your product. In other words, you have to have a research component that allows you to expand your horizons.

Sources & Resources

Study Sponsors

Delvinia Inc.

<http://www.delvinia.com>

- Powered by insight, Delvinia is a strategic Interactive Brand Solutions company that helps its clients grow their business and their brands by using the power and potential of interactivity.

CANARIE

<http://www.canarie.ca>

- CANARIE works in collaboration with industry, governments and research & education communities to leverage the enabling capacity of the Internet to deliver the benefits of the information age to Canadians.

Canadian Heritage

<http://www.pch.gc.ca/>

- The role of the Ministry of Canadian Heritage, led by the Honorable Sheila Copps, is to advance Canadian culture. The Canadian Digital Cultural Content Initiative (CDCCI) is the Department of Canadian Heritage's partnership with private and public institutions and organizations across Canada. The primary objective of the CDCCI is to bring Canadian culture into the digital age. More specifically, the CDCCI is designed to stimulate the creation and production of Canadian digital cultural content in both official languages and promote a significant, identifiable Canadian presence online that reflects Canada's cultural diversity.

Industry Canada

<http://info.ic.gc.ca/>

- Industry Canada's mission is to foster a competitive, knowledge-based Canadian economy. The department works with Canadians in all parts of

the country to improve conditions for investment, to improve Canada's innovation performance, to increase Canada's share of global trade and to build a fair, efficient and competitive marketplace.

Funding & Granting Bodies

The Global Digital Media Industry Support Initiatives Inventory

<http://www.multimediator.com/publications/write041.shtml>

- The inventory includes public and private financial incentives designed to support digital media content development and the digital media content development industry in four regions around the globe: Canada, the United States, Europe, and Asia/Pacific.

Industry Studies & Bench Marks

Toronto New Media Works Study

<http://www.tnmw.on.ca/>

- Toronto New Media Works is a multi-stakeholder initiative of Bell Centre for Creative Communications, City of Toronto, Human Resources Development Canada, Interactive Multimedia Arts and Technologies Association, Ontario Film Development Corporation, Ontario Ministry of Energy, Science and Technology and SMART Toronto.

Canadian Multimedia Producer's Survey 2000

<http://www.multimediator.com/IMPS2000/index.shtml>

- This is the largest survey of its kind available, building on the IMAT study of 1995, which MMSG's principals helped to develop. The participating sample, culled from MultiMediator's comprehensive Company Directory, included 289 companies from every province in Canada. The

survey was conducted by telephone and covered such issues as company size, revenues, profitability, service lines, markets served, distribution, delivery media, and export activities

View from the Living Room: The Broadband Internet as a Mass Market

<http://www.omnia.ca>

- A focus report on broadband networks, services and consumers by Omnia Communications Inc. in collaboration with Pollara research

Plugging In: The Increase of Household Internet Use Continues in 1999

<http://www.statcan.ca>

- A paper in the "Connectedness Series" looking at broad issues of Canadian connectedness to the Internet

Playing to Win: The Digital Media Industry in Ontario

<http://www.multimediator.com/dmccg>

- A classic benchmark study on the state of the new media industry in Ontario from 1998

The Broadband Revolution: How Superfast Internet Access Changes Media Habits in American Households

<http://www.arbitron.com>

- An examination of how people with broadband access at home use electronic and entertainment media differently from those who do not

Broadband Services: The Online Consumer's Perspective, The Yankee Group, Jan.9, 2001

<http://www.yankeegroup.com/>

- Recent study from the Yankee Group's broadband content delivery forum

Building the Broadband Business Case, Nortel Networks, May 2000

<http://www.bcdforum.org>

- A recent study conducted by Nortel Networks broadband content delivery forum

Forecasting the Future of Innovative Broadband Content and Service Bundling, Allegro Networks

<http://www.allegronetworks.com>

- A recent review conducted by Allegro Networks Broadband Content Delivery Forum

Industry Canada's Intellectual Property Policy Information Page:

<http://strategis.ic.gc.ca/SSG/ip00001e.html>

- An overview of intellectual property policy in Canada

Content Development Journals Internet Content

<http://www.internetcontent.net>

- An overview of content development issues raised and discussed by the developers themselves

Streaming Media

<http://www.streamingmedia.com>

- The online version of Streaming Media Magazine dealing with broadband content, production and distribution issues

Appendix A:

CANARIE Broadband Discussions: Background Guide

Up to Now

The days when producers bemoaned the lack of bandwidth are coming to a close. The days when production can meet the user expectations forged in other media are upon us. True media convergence appears more real as processor speeds increase to a point of inconsequence, compression and production technologies improve and higher bandwidths to the home and office desktop are cheap and readily accessible.

Meanwhile, the Internet business is becoming more sophisticated and — while dotcoms are vanishing (along with their advertising revenue models) — there still seem to be many interactive content opportunities. The world of hardware/software standards is becoming less prevalent and the focus is now more concentrated on content and how people are actually using interactive media.

E-business is not going to disappear and neither is the interactive medium. Instead, these apps are migrating to other devices as their use increases and their mass media status translates into mass markets. This is not happening at the rate that was predicted five years ago, but still the growth of things interactive is continuing. Interactive media is transitioning from what was in some cases virtual business, into real business. One 1999 estimate put the value of the interactive media business in Canada at 3.5 billion dollars. It's a big business with its own peculiarities.

The Next Level

In dealing with those peculiarities, have Canadian companies gathered the momentum to move into the next business transition? The purpose of the discussions you have been invited to attend is to help us all prepare for the future of the interactive media industry.

It is our hope that your experiences may lead us to answer these questions:

- What kinds of content need to be produced for interactive media? Where are the opportunities for Canadian producers?
- How does the Canadian interactive media business transition from a service business into one that produces more intellectual property that retains its royalty streams?
- What are the benefits and disadvantages of the fee-for-service model as a means of funding independently conceived products and projects? Has there been success in using work-for-hire fees to fund these projects?
- Is there a role for the federal government in funding these projects? What is the role of private investment? Where should the two intersect (if at all)? What policies should govern cooperation between the two sectors?
- And finally, if Canada is to capitalize on the apparent global opportunities, what needs to occur?

Appendix B:

Questions for CANARIE Roundtables

Intro Discussion

1. You've heard a bit about our objectives here today. Let's start with introductions. Briefly, what kinds of work are you doing now in the broadband space, or how do you see yourself as a stakeholder in this discussion?
2. How would you characterize the future for broadband in Canada?
 - a. What is your vision of the interactive world two years from now as it relates to content with information services, education, and/or entertainment?
 - b. What is your take on the potential of broadband services?
 - c. Recap, synthesize, summarize what the future looks like.
3. Clearly, interactive broadband enabled content is becoming a reality. Media industries are merging and converging to capture audience. Who has the best chance at expanding into the interactive space and capturing market share? Broadcasters, telcos, interactive entities (Yahoo!, Amazon, Real Networks), large integrated media players, producers of content (film studios, record companies, newspapers)?
4. Where do you specifically fit in that future? What kinds of work would you/your company like to be doing in 1-2 years?

Research & Development

1. Conventional Research and Development programs emphasize technological innovation and improvements to existing technologies. Conventional content assistance programs support the development of content based on a business model that frames content as a commodity. How well do these

types of programs help you meet your current and future objectives?

2. In what ways, if any, do these programs not serve you/fall short? Briefly, what do you see as the main barriers to doing what you propose? (e.g. Is it in the way content is understood, the way R&D is conceived, etc?)
3. If you were to form partnerships toward developing advanced content or to perform R&D around content, with whom would these partnerships be?
4. What is/should be the role of private capital in the production of interactive content?
5. If the Federal government were to be otherwise involved in helping to develop the Canadian interactive media industry, what could/should that look like? What kinds of incentives might be crafted to help engage private capital in developing interactive media companies and properties?
6. Cultural industries in Canada such as television, film, and music have mechanisms in place to support continued content production. With an apparent decline in regulatory possibilities, what kinds of incentives might be fashioned to support interactive media production?
7. More broadly, what do you see as the main barriers to getting the Canadian industry to where it should be positioned in global markets? Should briefly hear about:
 - HR (amount of talent and skills)
 - Distribution access and marketing including export initiatives
 - Access to capital

Appendix C:

Project Partners and Participants

Project Partners

CANARIE
110 O'Connor St., 4th floor
Ottawa, Ontario
K1P 1H1

Canadian Heritage
15 Eddy Street
Hull, Quebec
K1A 0M5

Delvinia
2 Berkeley Street, Suite 202
Toronto, Ontario
M5A 4J5

Roundtable Participants

Jeffrey Elliott: Senior VP Interactive Media, Alliance
Atlantis

Paul Hoffert: Chair, Bell Broadcast & New Media
Fund

Catherine Warren: Chief Operating Officer,
BlueZone

Jon Festinger: President, ByCast Media

Mohammad Kermani: Chief Technology Officer,
ByCast Media

Peter de Souza: President, Cage Digital

Wilfred McNeil: Content Development Cite Member,
CANARIE

Martin Pinard: Content Development Cite Member,
CANARIE/SGI

Andrew Cochran: President, Cochran Entertainment

Michael Andreas Kuttner: CEO & Co-founder,
Collideascope

Steven Comeau: President & Co-founder,
Collideascope

Lewis Rose: CEO, e-TV Interactive

Keith Kocho: President & CEO, Extend Media

Peter Senchuk: President, Future-One Inc.

Alana Devine: Director of Multimedia, Galafilm

Arnie Galbart: President, Galafilm

Ted Boyd: President, Iceberg Media

John Kelly: Vice President, IMX Communications

Brian Katz: VP Business Development, Infopreneur

Blake Cowan: Senior VP Sales, Marketing, &
Corporate Development, Ingenuity
Works

Gary Gumley: CEO/founder, Ingenuity Works

Susan Harley: General Manager Cable TV/ Content
Acquisition, Innovatia

Normand Belisle: President, INPIX Media

Jeff Bradshaw: President, Jet Stream Digital Media

Farrell Millar: CEO/founder, JumpTV

Randy Stewart Thompson: President, Khyber Pass
Entertainment

Sarah Mac Donald: Director of Programming, TV &
New Media, Knowledge
Network Interactive

Susan Schroeder: Online Content Development,
Learning Technologies Branch

Michael Century: Professor, McGill University

Jim Folk: President, Minds Eye Interactive

Douglas MacLeod: Director of Projects, Netera

Heather Oak: Director of Learning and
Development, Nova Scotia Film
Development Corporation

Michael Sturrock: Director of New Product Development, Radical Entertainment

Robert Leth: Director of Business Development, RDA Studio

Brad Fortner: Manager of Operations, Rogers Communication Centre, Ryerson University

Roma Khanna: Executive VP, Snap Media

John McLarty: General Manager, Sympatico Lycos

Bruce MacDougall: Manager, Network Engineering, TARA

Terry Hallett: Director, Research & Technology, TARA

Keith Clarkson: Senior Investment Analyst, Telefilm

Reza Akhlaghi: Integrated Network Solutions, Telus Communications

Matthew Todd Paproski: President, TVnewmedia.com Technology Corporation

Craig Montgomerie: Professor, University of Alberta

Andrea Matishak: Research Coordinator, Department of Communications and Culture, University of Calgary

Brian Kathler: President, CEO, Director, Viavid Broadcasting Corp.

Paul Temple: Senior VP, Corporate Development, Weather Network

