Interactive Media Study

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About enterpriseSeattle
Founded in 1971, enterpriseSeattle, formerly known as the Economic Development Council of Seattle and King County, is an economic development partnership charged with the mission of building a competitive, world-class economy in King County and its 39 cities through the expansion, retention, and recruitment of businesses to the region. Funded through a combination of public and private investment, the organization provides one-on-one, confidential consulting services, free-of-charge, to businesses seeking to establish, expand, or relocate to the area. For more information, visit www.enterpriseSeattle.org.

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EXECUTIVE SUMMARY

Introduction

The Seattle region has become a leading economic center of the global Interactive Media industry. Industry analysts have recognized the region's emergences as *the* leader in one of the newest segment of electronic game niches, casual games. Rapid growth in this segment and major successes of Microsoft, Nintendo and RealNetworks have positioned the region at the forefront of this exciting technology segment.

The Interactive Media concentration in Seattle began and continues with Microsoft, Nintendo and RealNetworks. These leading companies are major employers and revenue sources for the industry. In addition, and just as important, nearly all other companies in the video game industry have direct roots with one of these companies, with founders and executives coming from one of these major firms.

The presence of Microsoft, RealNetworks and Nintendo of America, provides a deep pool of talent and expertise in the region, which in turn provides fertile ground for entrepreneurial activity.

Current Trends

The biggest topics of conversation within the Interactive Media industry in October 2007 are Microsoft's mega-hit Halo 3 and the rapidly growing casual games industry. (Halo 3 is reportedly the largest entertainment debut in American history, with more than $300 million in sales in the first week.)

Trends in casual games delivers similarly impressive activity and is growing rapidly. One Seattle company, Big Fish Games, reports 1,000,000 unique visitors visiting their casual game site each month. Big Fish is one of five major casual game companies in Seattle, including Microsoft, Nintendo, Real Games and PopCap Games. Millions and millions of people are visiting the web sites of these Seattle companies every month.

The casual games industry is growing by reaching new markets that earlier games either did not reach. Women more than 30 years of age, professionals playing games at the workplace and retirees represent three key market segments that previous electronic video games had not reached.

Serious games are another emerging opportunity in Seattle, with applications in local industries. Serious games include training and research with applications in aerospace, medical research and military.

Cluster Significance

The Interactive Media industry exhibits key characteristics of an industrial cluster such as driving innovation in the field and attracting talent and investment into the regional economy. This concentration of economic activity provides a deep talent pool and opportunities to cross-pollinate ideas within the industry. Indeed, anchored by Microsoft's presence, the concentration of computer scientists in this region is as significant as the concentration of tech companies.

The momentum accelerating within this cluster serves to attract talent worldwide for further growth. The cluster includes connections beyond the video game developers, including training and education (led by the University of Washington and DigiPen), information and communication technology (ICT) infrastructure providers (server, ISPs, telcos, telephony, other) and professional services (intellectual property services, venture capital, others).

Economic Activity

Key findings of Interactive Media activity follow:

- **Companies, jobs and wages.** More than 150 companies or divisions are wholly involved in the video game industry in Western Washington (enterpriseSeattle).
- More than 15,000 jobs at companies or divisions are wholly devoted to video games, including Microsoft Gaming Studios, Nintendo and the many smaller companies that compose the cluster.
  - Jobs grew approximately 34% from 2005 to 2006 at a primary core of video game companies, excluding Microsoft.
  - Jobs at same companies went up and down from 2000 to 2004, but have grown rapidly since 2004, and appear to have more than doubled in the past three years.
- Seattle metro area has more than 62,000 computer scientists (2006), representing twice the share of regional jobs as found in the US economy (Bureau of Labor Statistics).
  - The Seattle MSA has 2.4 times as many computer programmers and engineers in our economy, and 5.6 times as many multimedia artists than found in the overall US economy.

- **Revenues.** Corporate reports and state data suggest more than $4.2 billion in annual revenues associated with 15,000 information jobs.
  - Microsoft's Entertainment Divisions reports annual revenues of $3.4 billion (2006 annual report).
  - State data show more than $460 million in annual revenues at 100 smaller video game companies, excluding Microsoft and RealNetworks, for 2006 (estimated and derived from taxable earnings reports, *subject to change*; Washington State Department of Revenue)
- **Impact.** Statewide significance and multiplier effect: 15,000 information jobs support 50,000 to 68,000 jobs in the Washington State economy and $6.1 to $8.3 billion in statewide business revenues (2006 dollars).

INTRODUCTION

Historical Background and Definitions

Digital Interactive Media dates back to early computer games and flight simulation in the 1960s and early 1970s, with technology and applications evolving dramatically since then. Early computer games include Computer Space, released in 1971, and Pong, released in 1972, but MIT programmers are credited with early versions of computer space games as early as 1962. Flight simulators began employing responsive and interactive video technology at about the same time.

The Seattle industry has roots in early aspects of Interactive Media, with Microsoft and Boeing both involved. Microsoft's first release was Olympic Decathlon, released in 1981 for Apple II computers. Boeing's history with interactive media includes flight simulators for pilot training and aeronautic engineering applications.

The Interactive Media industry evolved into arcade video games and then moved into the home with console games, with the Atari 2600 providing the home concept's first break-out market success. Early home computers, such as the Commodore 64, Radio Shack's TRS-80 included programming capabilities and many entertainment and video game applications. Interactive Media for purposes other than recreation evolved primarily through simulation tools, such as flight simulators and training video, with military applications often leading technology development.

In recent years, the Internet has changed distribution of and opportunities for Interactive Media dramatically, allowing multiple users to interface within the same media application from anywhere in the world. Users of all types of Interactive Media are now expecting network connectivity, broadening the experience to draw in peers from around the world.

Today, and for the purposes of this study, most people appear to think of video games when they define Interactive Media, though they may often include many networked software applications, digital music distribution and other Internet technologies. In addition, the definition of video games is much broader now than ever before, and industry linkages from video games extend further into the economy than ever before (a primary theme in this report).

Video games have evolved into three distinct but overlapping segments, defined as follows:

- **Core games.** Games developed for personal computers, television game consoles (currently led by Microsoft XBox, Sony PlayStations and Nintendo's lineage of consoles) as well as handheld video games hardware. These games are relatively involved and require some learning to participate in all features.

- **Casual games.** Distinguished primarily by the simplicity to learn, play and quit and return to. Card games, puzzles and relatively simple animated games typify casual games. Casual games are often free or relatively inexpensive. Mobile games primarily include casual games, with mobile platforms rapidly increasing market penetration.

- **Serious games.** This term has evolved to include all Interactive Media designed for formal learning or training, such as flight simulators. In addition to aerospace, military and medical applications are fields where Interactive Media has and will contribute to training methods.

As mentioned above, the Internet has affected concepts and development among all three video games categories. Networked connectivity and the ability to interact with other game players around the world is now a common feature for core, casual and serious games.

Purpose of this Study

This study was commissioned by enterpriseSeattle to provide a knowledge foundation that the region can leverage to grow businesses and economic activity within the Interactive Media cluster. The success of enterpriseSeattle's role in growing the regional economy depends in part on communicating the magnitude of economic opportunity within the region by drawing from and providing the region with the best economic information available.

Methods

The analysis relies on primary and secondary research, drawing from the following data resources:

- Lists of companies known to engage in Interactive Media, gathered primarily by enterpriseSeattle

- Interviews of the heads of the Seattle area's leading Interactive Media companies

- Informal surveys conducted through enterpriseSeattle at industry meetings held in Seattle during the course of the study

- Data mining of State and regional government data, including employment, wages and business revenues

Organization of Report

The report is organized as follows:

- **Cluster Overview.** A description of the industry cluster, including a cluster map displaying graphically the far-reaching connections of the industry within the regional economy.

- **Measures and Impacts.** A quantitative analysis of the regional Interactive Media cluster, including estimates of jobs, revenues, wages and state-wide economic impacts.

- **Interview Summaries.** A summary of findings from interviews of local industry leaders.

- **Synthesis and Conclusion.** An interpretation of the overall significance of the cluster and implications for the future of the industry.

CLUSTER OVERVIEW

Regional economic development efforts benefit from understanding the clustering of economic activity within regional economies. Clustering activity includes the myriad of connections among local industries and economic sectors.

In Interactive Media, game developers develop casual games, core games and serious games, as displayed in the center of the Interactive Media Cluster Map, shown in **Exhibit 1**. In addition, the Seattle area's Interactive Media draws heavily on the presence of the three Interactive Media anchors in this region, Microsoft, Real Networks and Nintendo. These companies have established world-wide markets and act somewhat independently of regional economic linkages.

Exhibit 1
Interactive Media Cluster Map
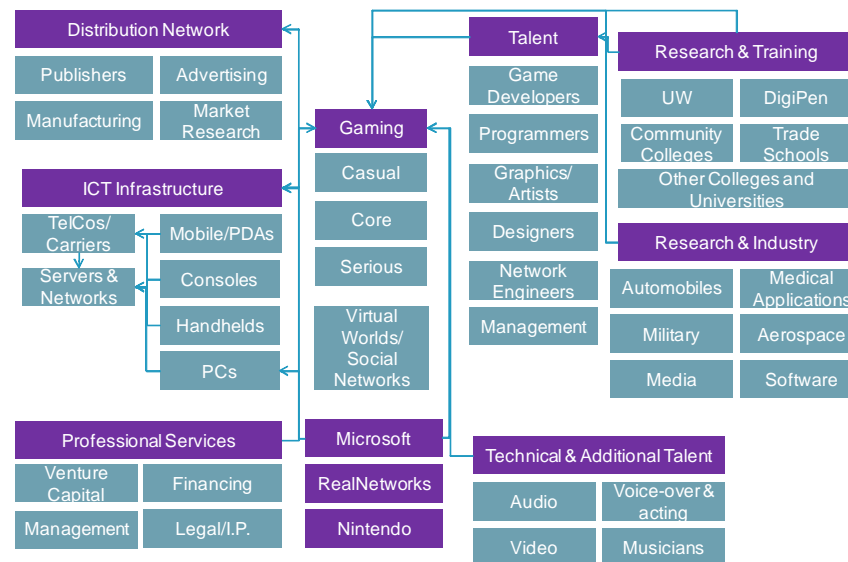
Some companies are both game developers and distributors, overlapping with the **Distribution Network** services shown in the upper left. Manufacturing of media (CDs, packaging) and advertisers with market research capabilities are included in the Distribution Network.

Moving counter-clockwise, in the left center, **ICT Infrastructure** (Information and Communication Technology) represents the remaining hardware and connectivity contributors that enable Interactive Media markets. Many of the companies in these areas produce a range of products and services that extend beyond Interactive Media.

Servers and Networks in particular are a critical component of facilitating on-line connections to games. Local companies use tremendous amounts of server and bandwidth capacity providing hosting services for massive multiplayer online role-playing game (known in the industry as MMORPGS) and other massive multiplayer online games (MMOG).

In the lower left, **Professional Services** are critical to Interactive Media companies longevity. Intellectual property, company management and financing are just some of the key professional services required to propel Interactive Media companies.

In the lower right, **Technical & Additional Talent** employed outside of video game companies round out the key components required for Interactive Media

production. In this arena, companies and talent common to the film and music industries have found niches in Interactive Media. High-end core games employ music scores, voice-over actors, video-editors, audio special effects and other activities similar to those found in Hollywood movies. One company, for example, sent employees to follow birds around a golf course in Scotland to record their chirps to improve the authenticity of the company's golf game.

The **Research & Industry** component of the cluster map highlights applications in other industries that will continue to drive advancements and growth within the Interactive Media Cluster, particularly in the Seattle region and Washington State. Applications of Interactive Media in aerospace and other software applications have been prevalent in this region for some time. Applications in medical research is a relatively new field and the University of Washington is a research leader in applying Interactive Media technology to medical advancements.

Research & Training shows local institutions by name and category that provide the necessary skills for employees in Interactive Media. The University of Washington's Computer Science Department is among the nation's elite computer science departments, with research centers that stand out nationally. The UW's Animation Research Lab bills itself as an "interdisciplinary undertaking of the Department of Computer Science & Engineering, together with the Schools of Art, Music, and Architecture." This

educational, research and production laboratory brings together a broad array of disciplines to advance the state of the art of animation. The UW's Human Interface Technology Laboratory (HITLab) applies technologies associated with serious games, among many other technologies to engineering, medicine, education, social sciences, architecture and the design arts.

Redmond is home to DigiPen, a college with campuses in Vancouver, BC and Redmond. DigiPen offers the world's first accredited degrees in computer game development. The region's strong community college programs offer a broad range of programming and game development trainings.

The **Talent** required for game development is represented in the center of the Cluster Map. Programming, game development (the storyline, format and game concepts) and artists are the core competencies required to develop Interactive Media. Business management and other specific niches in key competencies emerge with company growth. Attracting this talent is the number one challenge facing video games companies today, as explored further in this report.

MEASURES AND IMPACTS

Employment

In 2006, an estimated 133 establishments (or major divisions of the largest companies) with 15,000 jobs were involved directly in Interactive Media production in the Seattle region, shown in **Exhibit 2**. Analysis of state employment data combined with company interviews and estimates of proprietors of non-employer firms suggest that approximately 3,300 jobs are concentrated in Seatle, with the remainder located throughout the Puget Sound Region.[1] Outside of Seattle, a high percentage of video game jobs and companies are known to have clustered in and around Redmond, Bellevue and Kirkland; data confidentiality concerns prevented more detailed subtotals of companies and jobs by place.

**Exhibit 2
Estimated Employment in Seattle
and Puget Sound Region, 2006**

	Establishments	Total Jobs
Seattle	44	3,300
Remainder of Puget Sound Region	89	11,700
Total	133	15,000

Source: Community Attributes, enterpriseSeattle, Puget Sound Regional Council, Washington State Employment Security Department, Microsoft, RealNetworks.

Estimating growth in the industry is challenging, due to the lack of economic data tracked exclusively for Interactive Media. **Exhibit 3** shows one approach to estimate growth trends. The exhibit shows the results of a specific analysis tracking formation and the number of jobs among establishments with employment records in 2006, excluding Microsoft.

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[1] *Employment estimates were compiled from a combination of fieldwork, surveys, interviews and data mining. Data mined resources included publicly traded companies' financial reports and State of Washington data for the many smaller companies.*

enterpriseSeattle has maintained a list of companies known to work exclusively or primarily in Interactive Media in the region and State. Community Attributes supplemented the list with companies identified through interviews with industry stakeholders and Internet searches. Researchers at Puget Sound Regional Council (PSRC) matched the list with State employment records and private sector vendor employment lists maintained by PSRC, using business names (excluding Microsoft). PSRC summarized the number of jobs reported in State records. Community Attributes augmented PSRC's estimates by 10 percent to account for proprietors and workers exempt from State unemployment insurance (the source of the State data). In addition Community Attributes assumed 1.5 workers for every known company not matched or found in State records, assuming these companies were "non-employer" firms averaging one to two jobs per company. Microsoft representatives reported 7,000 jobs in the company devoted to Interactive Media, which Community Attributes added to estimates, shown in Exhibit 2.

Exhibit 3
Employment Growth Among 2006 Establishments,
2000 – 2006

	2000	2001	2002	2003	2004	2005	2006
Jobs							
Seattle	618	475	444	569	400	936	1,000
Remainder of Seattle Region	1,599	2,490	1,991	1,729	1,861	2,369	3,423
Total Jobs	2,217	2,965	2,435	2,298	2,261	3,305	4,423
Annual change		34%	-18%	-6%	-2%	46%	34%
Establishments							
Seattle	9	12	13	16	19	22	26
Remainder of Seattle Region	20	22	26	25	30	42	51
Total Establishments	29	34	39	41	49	64	77
Annual change		17%	15%	5%	20%	31%	20%

Source: Community Attributes, Puget Sound Regional Council, Washington State Employment Security Department.

The analysis shows that employment at companies known to exist in 2006 grew by 34% from 2005 to 2006 and 46% in the year prior. Note that the number of companies in this group grew from 49 to 64 to 77 during the same period. Before 2005, employment at the 49 companies in existence in 2004 had experienced declines in jobs since 2001. RealNetworks and Nintendo of America were a part of this group. 2001 was also a high growth year for these companies, similar to growth seen in 2006.

Anecdotally, company interviews conducted for those study found employment growing in all cases, from just a small amount of growth to rapid growth (up to 100% per year at present). Factoring the data and interview findings in together, Community Attributes estimates growth of approximately 33% per year at present for Interactive Media as a whole.

Company growth is the other notable finding in **Exhibit 3**. Of the employers matched to State databases in 2006, roughly half existed in 2002. The number of companies in Interactive Media appears to have doubled in the number of companies during these four years.

Occupations and Wages

A key understanding to the Seattle region's Interactive Media Cluster is that the talent base of developers and multimedia artists in the region is the key attraction to locating an Interactive Media company here. To be sure, the talent base comes primarily from Microsoft's presence, but Interactive Media company connections to Microsoft itself appear to be less significant than Interactive Media company connections to the region's talent pool.

Exhibit 4 shows the distribution of computer Occupations in the Seattle Metropolitan Statistical Area (MSA). All of these positions were identified as either a critical need or an important need at local Interactive Media companies. Median wages at these occupations are high, ranging from $51,000 for support specialists

up to $114,000 for scientists and researchers. The upper ten percent of wage earners in these occupations range from $88,000 to $132,000, or likely higher for researchers and scientists. These wages compare to regional averages across all occupations in the MSA of median wages at $38,920 and the upper ten percent of all wage earners at $87,140 (all in 2006 dollars).

A recent survey by Game Developer magazine found $77,700 to be the 2006 average salary earned among all jobs at game development companies in Washington State, compared to $73,000 nationwide. Washington ranked second in the nation per the Game Developer survey, close behind California at $79,500.

Exhibit 4
**Computer Occupations, Seattle MSA, 2006**

	Occupations Held	% of Computer Occupations	Median Wages ('06)	Upper 10% Wages ('06)
Computer and information scientists, research	570	1%	$114,240	n/a
Computer programmers	9,170	15%	89,150	$131,620
Computer software engineers, applications	20,250	32%	82,710	117,830
Computer support specialists	8,170	13%	51,240	87,760
Computer systems analysts	8,530	14%	75,260	108,910
Database administrators	2,200	4%	77,070	112,210
Network and computer systems administrators	5,910	9%	68,890	97,790
Network systems and data communications analysts	3,390	5%	74,620	109,200
Computer specialists, all other	4,150	7%	69,300	103,380
Total Occupations	**62,340**	100%		

Source: Bureau of Labor Statistics.

The number of computer engineers and programmers (the computer occupations in shortest supply, reportedly) in Seattle is an important factor. Larger urban economies provide more engineers and programmers, as shown in **Exhibit 5**, but when adjusted for the size of the economy, Seattle ranks high (4th) for its concentration of programmers and engineers, shown in **Exhibit 6**.

Exhibit 5
Computer Engineers and Programmers by MSA,
Top 10 MSAs in US, 2006
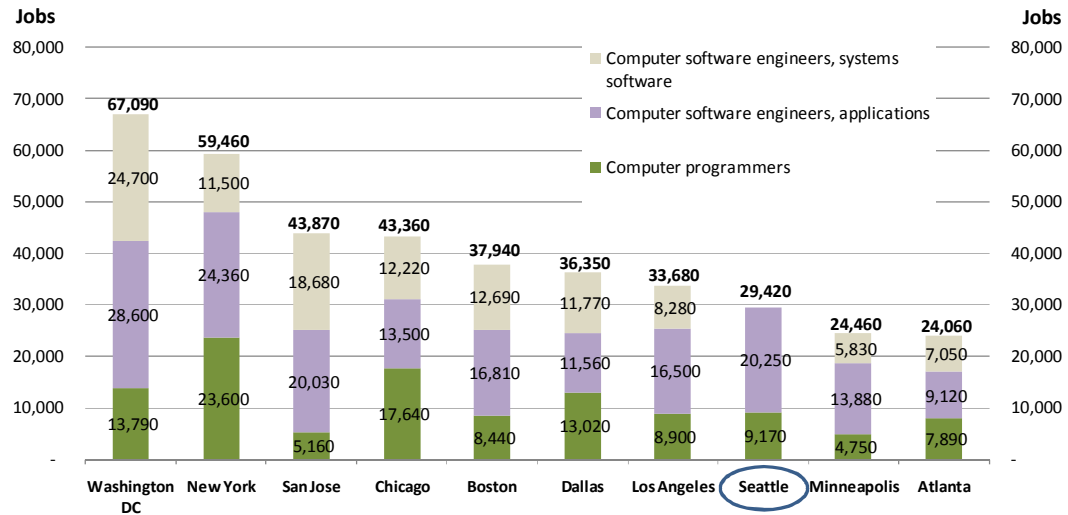
Source: Bureau of Labor Statistics.

Exhibit 6
Relative Concentration of Computer Engineers and Programmers
by MSA, Top 10 MSAs in US, 2006
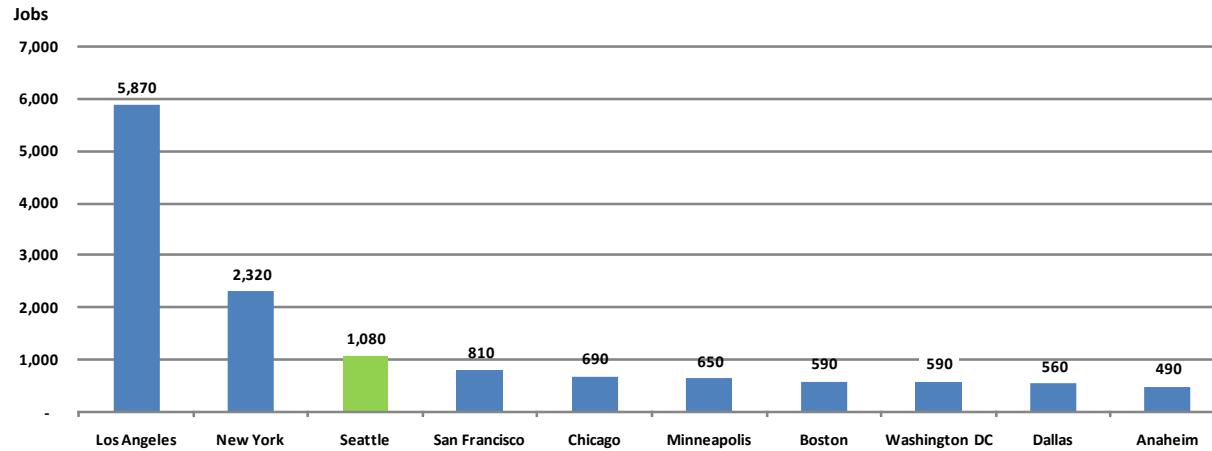
Index
(1.0 = US Aggregate)
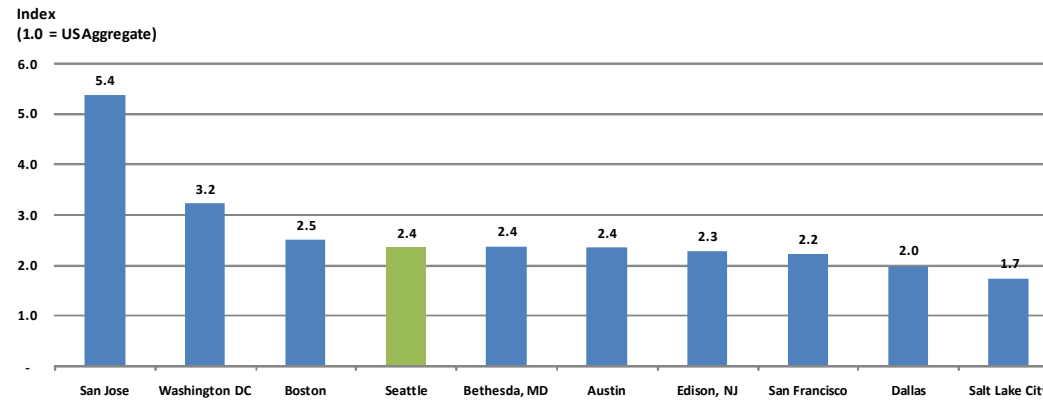
Source: Bureau of Labor Statistics.

Another critical occupation and talent sought by the Interactive Media Cluster is the multimedia artist. Seattle ranks high (3rd) among urban areas nationwide both in total count (**Exhibit 7**) and in the relative concentration given the size of the regional economy (**Exhibit 8**).

Exhibit 7
Multimedia Artists by MSA,
Top 10 MSAs in US, 2006

Jobs

MSA	Jobs
Los Angeles	5,870
New York	2,320
Seattle	1,080
San Francisco	810
Chicago	690
Minneapolis	650
Boston	590
Washington DC	590
Dallas	560
Anaheim	490

Source: Bureau of Labor Statistics.

Exhibit 8
Relative Concentration of Multimedia Artists by MSA,
Top 10 MSAs in US, 2006

Index
(1.0 = US Aggregate)

	Los Angeles	San Francisco	Seattle	Salt Lake City	New York	Richmond, VA	Minneapolis	Boston	Indianapolis	Anaheim
Index	10.0	5.9	5.6	4.0	3.3	3.0	2.6	2.5	2.5	2.3
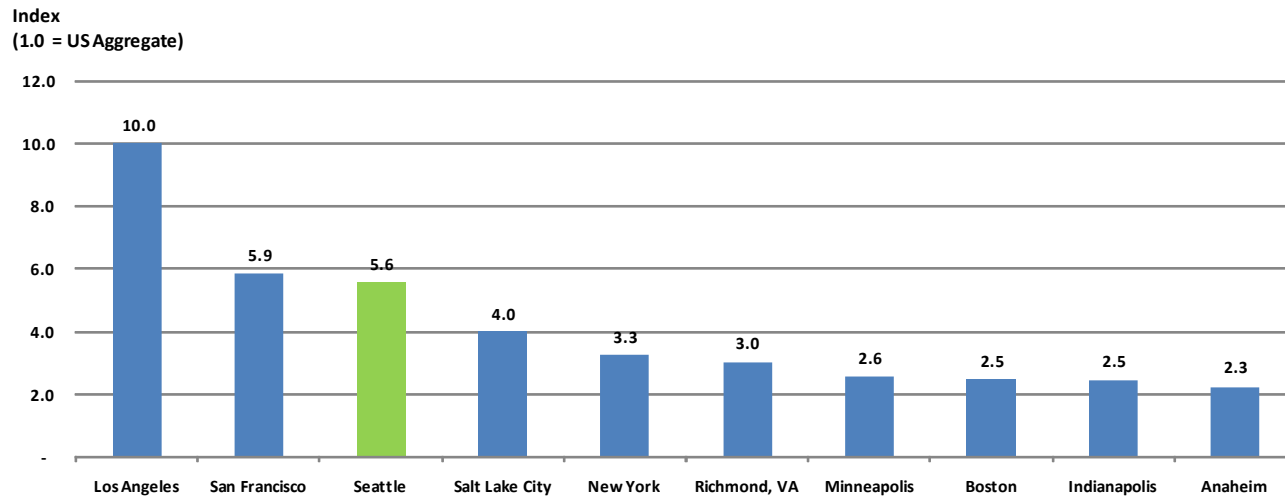
Source: Bureau of Labor Statistics.

Revenues

Estimates of the Seattle region's Interactive Media business revenues are presented in **Exhibit 9**. In 2006, regional companies produced revenues of an estimated $4.2 billion, dominated by Microsoft's $3.4 billion. Regional companies were matched with State records for business revenues. Microsoft and RealNetworks were analyzed separately to isolate their corporate revenues generated in Interactive Media.[2]

Exhibit 9
Estimated Gross Revenues of
Regional Interactive Media Companies, 2006

	Gross Revenues
Game Developers & Distributors	$546,420,000
Training, Serious Games and Others	111,164,000
Real Networks (Games only)	86,200,000
Microsoft	3,421,053,000
Total	$4,164,837,000

Source: Bureau of Labor Statistics.

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[2] *Gross revenues for all other companies (excluding Microsoft and RealNetworks) were estimated based Washington State records for taxable revenue for the State's Business & Occupations tax. Taxable revenues were adjusted to gross business revenue based on industry wide ratios of gross business income to taxable income for Software, Internet Publishing, and ISPs, Web Search Portals, Data Processing Services (combined). No additional revenue estimates were added for companies that were not matched in State records.*

RealNetworks report their video games revenues directly in their 2006 annual report. Microsoft Gaming revenues were isolated and derived from the following information reported in their annual report. "Xbox and PC game revenue increased $650 million or 19% as a result of increased Xbox 360 platform sales, partially offset by decreased sales of the first generation Xbox console and related accessories and video games." Note that Microsoft's fiscal year ends June 30, 2007. The report includes no attempt to reconcile this discrepancy with the calendar year reported for State revenue data, given the informative nature of this report.

Indirect Statewide Impacts

Information jobs in Washington State have a multiplier effect within the statewide economy of providing a little more than 4 additional jobs for every one job in the information sector, based on the Washington State Department of Revenue's 2004 Input-Output model. [3] The model utilizes inputs in the form of jobs or output (revenue). **Exhibit 10** shows the results of both approaches, using the estimates of jobs and revenues presented above.

The DOR Input-Output model suggests a total of 50,000 to 68,000 jobs in the State economy have a connection to the jobs and revenues in the Interactive Media Cluster. Statewide revenues range from $6.1 billion to $8.3 billion, with total labor income statewide ranging from $2.4 billion to $3.3 billion.

Exhibit 10
Estimated Statewide Economic Impact of
Regional Interactive Media Economic Activity,
2006 (2006 dollars)

	Total Revenues ($ million)	Total Jobs	Total Labor Income ($ million)
Jobs-Based Impacts	6,088.1	50,000	2,391.7
Revenues-Based Impacts	8,334.2	68,000	3,274.0

High wages and revenues of these companies contribute to the high multiplier effect. The additional revenues and jobs in the statewide economy come from industry spending on office rents and supplies, and household spending of wages and salaries paid to employees in the sector.

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[3] Statewide economic impacts from business spending and employee wages were analyzed using the 2004 Washington State Input-Output Model maintained by the Washington State Department of Revenue. Model output was based on the model's "Simple Analysis" module. All Interactive Media activity (jobs and revenues) were modeled using the Information Sector, the finest resolution of inputs available in the model. The DOR's model maps statewide spending among businesses and by consumers based on economic linkages observed from 2004 data. For this study, model output was adjusted for inflation to 2006 dollars.

INTERVIEW FINDINGS

Companies Interviewed

AirTight Games
Advanced Interactive Systems
Big Fish Games
Bottomless Pit Games
Guppy Games
Handheld Games
Aristo Tech; Aristo Creative & Guru Games
Omni
PopCap Games
Reaxion Games
Sandlot Games
Super X

Interviews conducted for the study covered 14 companies, shown above, in addition to informal interviews with officials at the University of Washington, enterpriseSeattle, local venture capitalists and professional services firms. Of the 14 companies reported on, 13 were for companies that produce video games and one company (Advanced Interactive Systems) that produces interactive media for military and police simulation.

- **Several business models exist.** Business models of companies interviewed include companies producing content and selling the content to publishers such as Electronic Arts or THQ (8 of 14 companies, sometimes referred to as the "traditional" game company model), companies selling products directly to consumers (5 companies), companies with advertising

revenues (advertisements are displayed on the screen while the consumer is playing a game online), and companies providing technical skills and labor to other companies.

- **Target market segments span all demographics.** Three to 14 year old kids; law enforcement and military; pre-teen to younger 20s; men 18 to 35; women; men over 30. All of these segments were identified as target segments of companies interviewed.

- **Located within the Seattle area with connections all over the world.** Most companies located in the Seattle area receive game concepts, programming or complete games from developers all over the world. Offices in Russia, Korea, server farms moving to Asia, partners in Europe, and developers all over the world were mentioned.

- **Some companies showing strong revenues and rapid growth; others show no revenues and are in start-up phase.** The companies interviewed include a couple in start-up mode with no revenues to report (apparently not unusual in the first year of a game development company). Highlights include Big Fish Games reporting annual revenues in '06 at $24 million and growing between 120% to 220% per year. PopCap Games reported that consumers will spend $120 million in 2007; up from $50 million in 2005.

- **Big companies growing revenues rapidly; smaller firms more volatile.** Big Fish and PopCap report rapidly growing revenues, as mentioned above. Most smaller companies report growth, though one reported having a tough year compared to years past.

- **Employment growth occurring across most firms.** The larger firms reported hiring as fast as they can; one reported more than 30 openings at all times now and for the foreseeable future.

- **Top labor needs are software engineers, programmers and technical artists.** Most companies mentioned software engineers. Programmers and technical artists were each mentioned by several companies.

- **Hiring efforts are competitive .** Recruitment from other companies is common, networking within the industry, online video games sites, online job sites, trade publications and local training institutions all are heavily in use.

- **Fun company cultural critical to attracting talent.** Being a game company appears to be enough fun in itself to attract talent away from other software jobs. Companies appear to need to offer as much flexibility and accommodate a wide range of work styles to compete for talent. Start-up companies appeal to many.

- **Most companies value locating in same region as other video games companies.** Developers that sell to distributors value being near each other for the formal networking and shopping ideas to buyers. Most companies cite the ability to attract talent as a benefit of locating amidst other video games and software companies. Trade shows and local networking events are appreciated.

- **Power costs, high cost of living and traffic challenges for employees cited as biggest barriers to local growth.** Power costs are driving companies to locate servers and open offices abroad. Cost of living and mobility affects attracting people to the region and keeping them here.

- **Tax breaks and more visas cited as regulatory challenges.** Companies called for more tax breaks for start-ups and freer access to H1-B visas for foreign workers.

SUMMARY

The Interactive Media cluster in the Seattle area is of great value to the regional and state economy. The rapidly growing number of jobs in the cluster provide high wages and exciting career opportunities to talented individuals. It is an industry positioned for continued growth as new segments emerge and an ever-growing share of world's population engages in entertainment driven by Interactive Media.

In addition to continued emergence of new entertainment markets, Seattle region companies are well positioned to collaborate on serious applications in medical research, aerospace and military applications. The region's focus on these clusters, highlighted in the Prosperity Partnership's Regional Economic Strategy, suggests that regional Interactive Media capabilities could be leveraged further for other clusters' growth.

On-going challenges to attract enough talent appear as the most significant obstacle to regional companies' growth. Training opportunities within the region and importing new talent from elsewhere in the country and from abroad appear to be the best hope for growing the talent pool. The region is well suited to meet this need, as talent from around the world comes to the region for a myriad of employment opportunities, including those in other sectors (including other technology sectors and all other sectors in the economy).