

**FORM 1**

Proposal to offer a *Bachelor of Arts in Interactive Media and Technology*

**Program Information**

Program Name: Interactive Media and Technology  
*(e.g., Department of Sociology; Interdisciplinary Arts & Sciences)*

Institution Name: University of Washington Bothell

Degree Granting Unit: Science and Technology, University of Washington Bothell  
*(e.g., College of Arts and Science)*

Degree: BA in Interactive Media and Technology Level: Bachelor Type: (of) Arts  
*(e.g. B.S. Chemistry)* *(e.g. Bachelor)* *(e.g. Science)*

Major: Interactive Media and Technology CIP Code: 09.0702  
*(e.g. Chemistry)*

Minor: N/A Concentration(s): N/A

Proposed Start Date: Winter 2010

Projected Enrollment (FTE) in Year One: 50 At Full Enrollment by Year: 100: 2011  
*(# FTE)* *(# FTE)*

Proposed New Funding: \$350,000

Funding Source:  State FTE  Self Support  Other

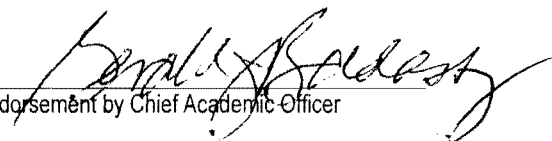
**Mode of Delivery**

Single Campus Delivery Bothell  
Off-site Delivery possible locations in conjunction with industry  
Distance Delivery \_\_\_\_\_

**Substantive Statement of Need**

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Endorsement by Chief Academic Officer

27 May 2010  
Date

# Substantive Statement of Need

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## **I. Overview: Degree Program Description and Rationale**

The University of Washington Bothell is proposing a new degree in Interactive Media and Technology (IMT). The degree will be a Bachelor of Arts designed for students who wish to pursue careers in Game Development, Digital Media, Information Technology, Visual Arts and Communications fields among others. Digital media has impacted almost all fields of study refocusing traditional modes of education. The proposed degree program will provide an exceptional opportunity to combine theory, research and application by developing new design methodologies, experimenting with new hardware devices, prototyping new software systems, exploring new paradigms for interaction, and developing models and theories of interaction.

### **A. Goals**

Graduates of the program can enter a variety of market sectors ranging from careers in the game and interactive entertainment industry and design sectors to corporate sectors of marketing and advertising, health care, education, engineering, and information technology. The program will also prepare students interested in pursuing graduate programs in interactive media, design and entertainment.

Program goals include:

- Engage, excite and inspire secondary and higher education students throughout the area.
- Support and integrate a variety of disciplines in technology, art, design, science, education, health care and business.
- Provide project-based, studio model learning experiences that develop and support creative skills and critical thinking in a team environment.
- Develop transformational technologies that address a variety of emerging and ongoing problems.
- Foster innovation and design of new products.
- Graduate and encourage students to use their academic and creative talents to build and transform their environments.

## II. Relationship to Institutional Priorities

### A. Mission

The University of Washington Bothell mission statement includes, “We provide access to excellence in higher education through innovative and creative curricula, interdisciplinary teaching and research, and a dynamic community of multicultural learning.” Additionally, the mission specifies that UW Bothell will “Encourage and support collaborative, interdisciplinary, and cross-program initiatives.” The Interactive Media and Technology degree is innovative and interdisciplinary in focus and reinforces UW Bothell’s singular identity in translating community and regional demand into quality curricula that addresses student need. Our mission ideals are also illustrated in the program goals outlined for the proposed degree.

### B. Strategic Plan

UW Bothell’s priorities plan for 2008-2020, *The 21<sup>st</sup> Century Campus Initiative*, addresses our state's need to expand access to higher education by outlining a clear and compelling vision for how we intend to grow in both size and excellence. Our overarching priority is to “serve the citizens of the State of Washington by providing access to a premier university education,” with particular emphasis on developing degree programs that respond to the economic development needs of the state and region.

The Initiative outlines seven priorities: growth, diversity, resourcefulness, student centered, innovation, community and sustainability. The following is bulleted under **growth**:

Develop new majors and graduate programs in high-demand fields and foundational studies to serve student, employer and regional needs. Broad fields identified for new or continued development include:

- Science, Technology, Engineering and Math (STEM); and Health
- Social Sciences
- Visual, Literary and Performing Arts
- Foreign Language and Culture

The proposed degree addresses this priority and combines education in design, technology, visual arts, and social sciences to stimulate comprehension of the integration of technology into every aspect of day-to-day life. In addition to being innovative and interdisciplinary, the Interactive Media and Technology program will produce graduates who are responsive to cross-sector dynamics and therefore industry ready.

### III. Demand

#### A. National Demand

Technology is rapidly evolving which signals that demand is ever present. Related technology occupations share the growth potential which crosses several disciplines. The following information is from the Bureau of Labor Statistics, *Occupational Outlook Handbook* (OOH), and conveys current demand as well as projected demand. <sup>1</sup>

Occupational title	SOC Code	Employment, 2006	Projected Employment, 2016	Change, 2006-16	
				Number	Percent
Graphic designers	27-1024	261,000	286,000	26,000	10
Computer software engineers	15-1030	857,000	1,181,000	324,000	38
Computer software engineers, applications	15-1031	507,000	733,000	226,000	45
Computer software engineers, systems software	15-1032	350,000	449,000	99,000	28
Cartographers and Photogrammetrists	17-1021	12,000	15,000	2,500	20

**Table 1: Bureau of Labor Statistics Projection Data**

Forecast information for the listed titles supports above average growth in demand for these occupations:

**Graphic designers:** Moreover, graphic designers with Web site design and animation experience will especially be needed as demand increases for design projects for interactive media—Web sites, video games, cellular telephones, personal digital assistants, and other technology.

**Computer software engineers, systems software:** Employment of computer software engineers is projected to increase by 38 percent over the 2006 to 2016 period, which is much faster than the average for all occupations. This occupation will generate about 324,000 new jobs, over the projections decade, one of the largest employment increases of any occupation.

**Cartographers and Photogrammetrists:** Overall employment of cartographers and Photogrammetrists... is expected to increase by 21 percent from 2006 to 2016, which is much faster than the average for all occupations.<sup>2</sup>

OOH observations for design occupations include the statement, "... individuals with a bachelor's degree and knowledge of computer design software, particularly those with Web site design and animation experience will have the best opportunities."<sup>3</sup> Given the above, current and projected national demand data presents a solid case for pursuing the proposed program in Interactive Media and Technology.

## **B. Washington State**

*The region already has 14 percent of the global market share of the \$42 billion interactive media industry. But it faces stiff competition from Asia and needs to stay competitive. (Flash, 2008)*

It is essential now more than ever that Washington needs to support and strengthen its technology sector. Labor Market Economic Analysis (LMEA) is a branch of Washington state's Employment Security Department (ESD) that gathers, analyzes, and publishes information about the state's labor market. LMEA reports show that information technology occupations are recession proof. In job vacancies by major occupations both Software/Computer and Arts/Design occupations are listed in the top twenty occupations. Positions also require education beyond high school including baccalaureate degrees with 94% of the openings in Software/Computer occupations requiring more education than a high school degree and 30% in Arts/Design occupations<sup>4</sup>.

Industry growth supports the need for more graduates. In 2006, Washington ranked second nationally in computer and video game personnel, with 9,284 direct and indirect employees. The industry added \$497.2 million to the state economy, which equated to a growth rate of 14.4 percent, more than double Washington's overall growth.<sup>5</sup>

Enterprise Seattle has identified over 150 Interactive Media companies and divisions dedicated to the Interactive Media Industry in our state with the largest employer located in King County. Enterprise Seattle also asserts, "... attracting this talent is the number one challenge facing these companies today."<sup>6</sup>

This is an emerging field; thus, an identical industry classification is not available. Applicable Workforce Explorer occupations include: Multi- Media Artists, Computer Software Engineers, Cartographers and Photogrammetrists. Workforce Explorer designates all of these occupations as, “In Demand”<sup>7</sup>. The demand is documented in the following table which represents information technology defined as:

Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency.

	Snohomish	King	State
Estimated Employment (2006):	1021	19779	24922
Average Annual Long-Term Growth Rate (2006 - 2016):	2.7	3.1	2.9
Average Annual Short-Term Growth Rate (2nd Qrt. 2007 - 2nd Qrt. 2009):	3.5	2.6	2.4
Average Annual Total Openings (2006 - 2016):	49	1046	1246
Unemployment Ratio (2007):	0	0	0
Statewide Vacancies (April 2008):	1388	1388	1388

**Table 2: Workforce Explorer – Information Technology Occupation**

### C. Regional and Community Demand

The new program is enhanced by UW Bothell’s location in the “Technology Corridor.”

The Bothell Technology Corridor has been designated as a 2007 Innovation Partnership Zone (IPZ) by Governor Chris Gregoire, joining 10 other zones designated in the state as geographic areas that promote and develop the state’s regional economies.

Areas designated as Innovation Partnership Zones receive special access to state funding and resources. Designations last for four years and then a designee must reapply<sup>8</sup>

UW Bothell is identified as an IPZ partner and is doing its part by developing degree programs that are responsive to regional demand.

EnterpriseSeattle has identified what it terms as the Interactive Media cluster which includes Seattle, Bellevue, Kirkland and Redmond. Based on input from both public and private sectors, the Washington Interactive Network (WIN) was formed in 2004 to promote and grow the

interactive media industry in Washington State due to existing resources and recognized potential for growth in the Puget Sound region. WIN proposed four objectives that were undergirded by solid implementation strategies. The objectives are:

1. To promote the region as a major center for interactive media;
2. To nurture and create opportunities for entrepreneurial and expanding businesses;
3. To develop and recruit talent to WA; and
4. To educate government about the interactive media business.

WIN includes education as a key strategy and notes: “As with many technology-based clusters, workforce is a huge issue. There are simply not enough employees who have the experience to fill the jobs that are open.”<sup>9</sup> Hence, the appropriate education is considered to be essential in achieving the listed objectives. The proposed degree is an opportune response to a critical need that will launch an innovative discipline from which the region and state will benefit.

## **IV. Student Demand**

Interactive Media and Technology, as reported above, is interdisciplinary and this accounts for variation in the name of the degree across colleges and universities. Whether it is known as Human-Computer Interaction and Design or Digital Entertainment, it engages today’s students to focus on tomorrow’s technology. Regardless of what the program may be named, students immediately grasp the focus of the program. Thus, subject matter situated in a collaborative framework holds great appeal for students.

### **A. UW Bothell**

UW Bothell is conducting a general survey to determine demand for new programs and a second survey specific to Interactive Media and Technology. With over a hundred responses, both surveys show that students not only desire this degree but also prefer to remain at UW Bothell or enroll at UW Bothell for the program. The general survey for new programs has 116 respondents and the IMT specific survey has 57 respondents.

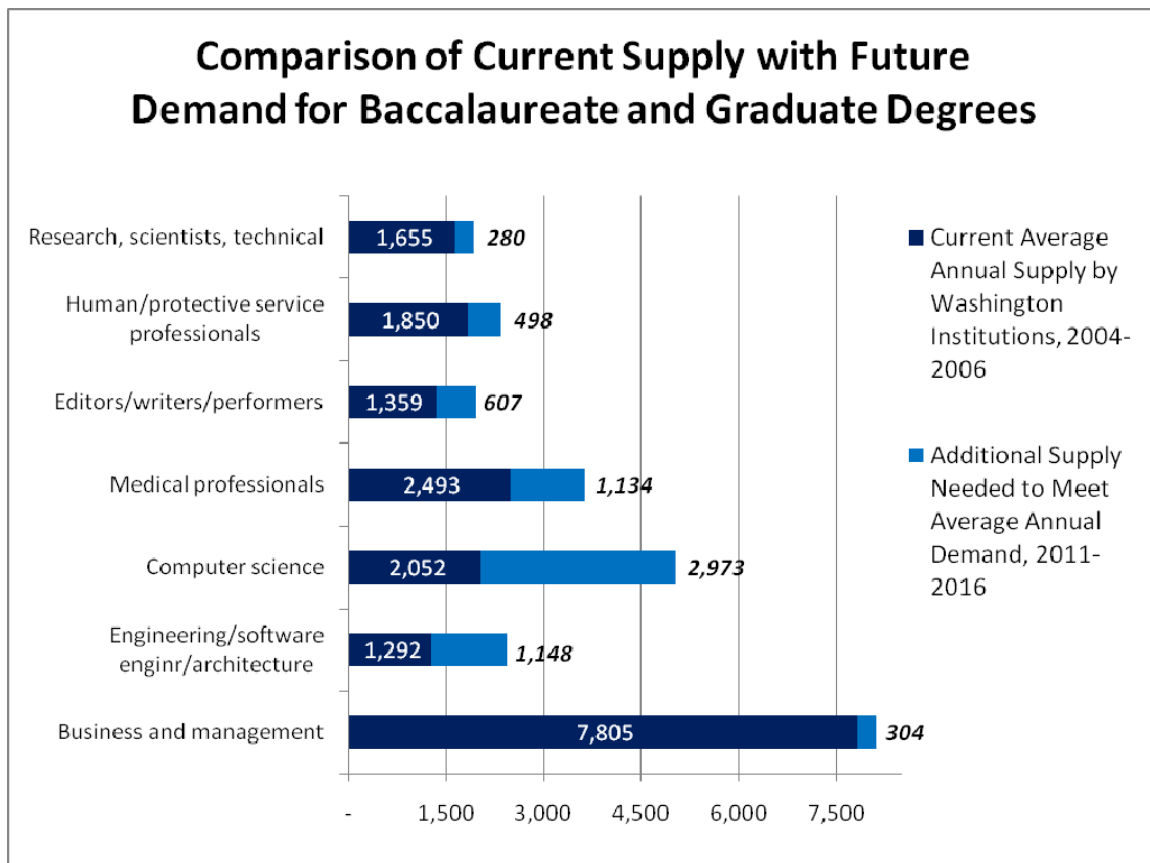
In the general survey which lists eight proposed new degrees, 28 % of the respondents expressed interest in IMT. In the survey specific to IMT, 86% were interested in this degree and 14 % were undecided. Additionally, 75 % of the respondents to the IMT survey indicated it is important that this degree program be offered at UW Bothell. Of students currently enrolled at UW Bothell, more than 50 students want to enroll in the proposed program.



## V. State Relationship to HECB Master Plan & State and Regional Needs Assessment

The State and Regional Needs Assessment holds that Washington is a leader in innovative and technology-based industries but we are not producing graduates; thus, the industry is forced to look outside the state for talent.<sup>10</sup> It also describes a critical need for promoting student enrollment in STEM fields noting, “...too few women and people of color also are under-represented in the most lucrative high demand professions.” SRNA and the “Strategic Master Plan”<sup>11</sup> both show that the gap between the baccalaureate degree production in information technology-related fields and actual workforce demand is increasing.

The Interactive Media and Technology degree will produce graduates who will fit in at least five of the demand areas listed: 1) Research/technical 2) Editors/writers/performers, 3) Computer Science, 4) Software engineering and Business/management (especially in technology).



**Table 3: WHECB**

The Interactive Digital Media industry is identified as one of the rapidly growing industries within the state and the Sno-King region in particular. This proposed BA in Interactive Media and Technology will provide students with the necessary education and experience to meet HEC Board identified needs.

The program will also increase the number of spaces available to students transferring from two year institutions with an interest in Interactive Media. The State Board of Technical and Community Colleges (SBTCC) identified digital media and information technology as areas where students and industry need additional or broadened pathways.<sup>12</sup> WSBTCC data also indicates that there are more community college graduates than available spaces.<sup>13</sup> Also, the SBTCC report entitled, “Baccalaureate Enrollment Growth Needed to Meet Educational Needs of Technical Associate Degree Graduates” lists one institution as a pathway for digital arts transfers – Henry Cogswell- which is no longer in the region. Thus, the proposed Interactive Media & Technology program would create a pathway for AS-T and AAS-T program transfers in the region and state.

## **VI. Program Requirements**

The proposed Interactive Media and Technology program will be designed to facilitate current students as well as transfer students from community/technical colleges and transfer students from other four-year institutions. Students will be able to enter the program before the junior year.

### **A. Curriculum**

The BA in Interactive Media Design will require completion of a core set of courses in subject areas that include game design and development, interactive entertainment, narrative development, user interface and usability studies, visual design, psychology, product development and management. Students must also identify a knowledge domain (25 or more credits) that is approved by the department to represent a specialty knowledge area (e.g., concentration or other approved domain pathway). Students will complete a capstone team project that demonstrates their ability to produce a creative product within a cross-functional team setting.

This list is intended to show the spectrum of activities that are possible when we merge design, art, computer science, education and technology.

Examples include:

- Create games and online environments as tools for a variety of industries including health care, education, mobile computing and the game industry.
- Create and utilize virtual worlds for teaching complex principles in immersive spaces
- Creation of serious games, an emerging area of the industry. This includes games related to training and research with applications in aerospace, medial research and the military.
- Foster the development of educational games and technology
- Use of game devices as learning tools to augment learning
- Training and development of teachers in educational technology
- Creation of game related tools, features and applications for multiple platforms

## **B. Resource Requirements**

The proposed program will be in our Science and Technology division. Because we are implementing new undergraduate and graduate programs involving science and technology, there will be coordination of resources across the programs to minimize costs and maximize resources. The BA in Interactive Media and Technology will leverage existing courses and infrastructure of the Interdisciplinary Arts & Sciences, Education, Business Administration, and Computing and Software Systems (CSS) program. Approximately five new (or modified versions of existing) courses will need to be created plus a new Senior Seminar project course.

We anticipate one new staff position (1.0 FTE) for the program to provide support. This position may be a shared position with the new Science and Technology (S & T) program. Faculty projections include two new instructors; this would be two full-time dedicated faculty line (2.0 FTEs) as well as two jointly appointed faculty.

In terms of hardware and software requirements, we plan to leverage existing campus resources as well as those from proposed programs including the Media and Communication Option program. IT support will include one staff position (1.0 FTE) that may be shared with the S & T program.

First year student enrollment targets are for 50 FTE using a cohort model (i.e., for core courses) – with an expected new cohort starting each year. The program will be designed as a two-year program available to qualified UWB students and community college transfer students. Full enrollment is anticipated by 2011 with an estimate of 100 FTE. A detailed, full proposal is in progress.

## End Notes

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- <sup>1</sup> US Department of Labor, Bureau of Labor Statistics. (February, 2008) *Occupational Outlook Handbook, 2008-09*. <http://www.bls.gov/oco/>. accessed 03/2009.
- <sup>2</sup> *Ibid.*
- <sup>3</sup> *Ibid.*
- <sup>4</sup> Roubinchtein, Alex & Mary Ayala (2008). "Identifying Washington's Recession-Resistant Industries" in *Washington Labor Market Quarterly Review*, LMEA, 32(4), p15.
- <sup>5</sup> *Industry Facts* (2009). Entertainment Software Association: [www.theesa.com/facts/index](http://www.theesa.com/facts/index). accessed 03/2008.
- <sup>6</sup> Chris Mefford, et al, (November 2007). *Interactive Media Study*, enterpriseSeattle, p10.
- <sup>7</sup> WA State Employment Security Department: Workforce Explorer Washington <http://www.workforceexplorer.com/cgi/databrowsing/occExplorerQSSelection.asp?menuchoice=oc cExplorer&searchCriteria=game%20design>. accessed 04/2009.
- <sup>8</sup> Joyce Goedeke, (October 2007). Municipal Research & Services Center of WA. *Bothell Technology Corridor Designated as Innovation Partnership Zone by Governor Chris Gregoire*. <http://www.mrsc.org/GovDocs/B67InnoZoneDes.pdf>. accessed 03/2009.
- <sup>9</sup> Washington Interactive Network (March 2009). <http://www.washingtoninteractivenetwork.org>.
- <sup>10</sup> *State and Regional Needs Assessment Report*. (February, 2006) Washington Higher Education Coordinating Board, p.8.
- <sup>11</sup> *Strategic Master Plan for Higher Education in Washington*. (February 2006) Washington Higher Education Coordinating Board.
- <sup>12</sup> *Research Report No. 08-2*. (March 2008). WSBTCC, p2.
- <sup>13</sup> *Research Report No.05-1*. (April 2005). WSBTCC, p.10.

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