

## Technology Fee Full Proposal Template

**Title:** Health 2.0 @ UF: Multimedia Student Center for Health IT Instruction and Research

**Proposer:** Dr. Jay Bernhardt, Professor and Chair, Department of Health Education and Behavior ([jaybernhardt@ufl.edu](mailto:jaybernhardt@ufl.edu); V: 392-0583 x 1295; F: 392-1909; FLG 5C, and Dr. Don Chaney, Assistant Dean for Distance Education and Outreach ([dchaney@ufl.edu](mailto:dchaney@ufl.edu); V: 352-392-0578 x 1445; F: 392-3186; FLG 200)

**Sponsoring Organization:** College of Health and Human Performance

### Purpose and Specific Objectives:

The information and communication technology revolution is dramatically changing how the public accesses, receives, and uses health information to promote health, prevent disease, and manage chronic conditions. For example, there are millions of websites, thousands of mobile applications (i.e., “apps”), and hundreds of mobile devices related to health available in the marketplace. In addition, the Office of the National Coordinator of Health IT is overseeing almost \$40 billion in new health IT investments across the US. With these rapid and widespread changes comes the critical need and huge opportunity to train the next generation of practitioners, leaders, and scientists with expertise in health IT and digital health, and to conduct innovative health IT research. Funding of this proposal will enable thousands of UF students to develop experiences and skills that will make them more marketable upon graduation for the high-tech digital health jobs of today and tomorrow.

We are seeking support from technology fees to purchase and install the information technology necessary to establish a world-class center for instruction and research in the rapidly growing area of digital health, which includes health IT (HIT), eHealth, and mobile health (mHealth). The College of Health and Human Performance (HHP) is already investing its own resources to complete the physical construction of the space, purchase furniture, and provide the basic technical infrastructure for a new UF Center for Digital Health and Wellness, which is located in Rooms 248 and 250 of the Old Florida Gymnasium. Through this proposal, we are seeking assistance to outfit the Center with cutting-edge interactive, instructional, student-centered technology, which will allow the Center to be fully functional once the construction is complete. This investment will benefit UF students and faculty by literally putting accessible technology into their hands, which will lead to advanced training and the development of web and mobile-based health applications that will benefit people around the world. In addition, all Center activities would adhere to requirements from the American’s with Disabilities Act (ADA), such as presenting e-content in a machine readable format and ensuring that content is compliant with section 508 of US federal web guidelines.

The specific objectives of this project include the following, each of which are described in depth in the Impact/Benefit section below:

- ***Increase digital health instruction for large numbers of diverse undergraduate and graduate students from colleges and departments across UF.***
  - Process measures/indicators:
    - Track the quantity and characteristics of students who are reached by digital health instruction.
    - Track the quantity and type of digital health instruction provided to UF students.
    - Document how the services are provided
    - Document implementation activities for providing digital health instruction to students
    - Assess quality of digital health instruction to UF students.
    - Implement evaluations of digital health instruction provided to UF students.
  - Outcome measures/indicators:
    - Track the number of students participating in digital health instruction
    - Assess changes in health IT and digital health knowledge and skills of students who participate in digital health instruction
- ***Increase collaboration in digital health instruction, research, and innovation for students and faculty from diverse colleges and departments across UF.***

- Process measures/indicators:
    - Track the quantity and characteristics of each collaboration within the Center for Digital Health and Wellness
    - Track the type of collaborations established to better reach students.
    - Document and describe how the collaborations were established.
    - Document the implementation of collaborative digital health instruction, research, and innovation for students and faculty.
    - Assess how satisfied students and faculty are with the collaborative efforts in digital health instruction, research and innovation.
  - Outcome measures/indicators:
    - Track the number of faculty and students involved in established collaborations.
    - Assess changes in policies that might result from increased collaborations.
    - Assess recruitment of multidisciplinary faculty and students involved with the Center for Digital Health and Wellness.
    - Track increased research productivity and digital health instruction, as a result of the collaborations.
- ***Increase cutting-edge research and development (R&D) by conducting and facilitating innovative research and development led by faculty, students, and external corporate, nonprofit, and governmental partners.***
    - Process measures/indicators:
      - Track research products from participating students, faculty, external corporate, nonprofit and governmental partners, as a result of the increased R&D.
      - Track the types of research products developed.
      - Document the research processes used to increase cutting-edge R&D.
      - Assess satisfaction with the level of support given for faculty and students to increase R&D.
    - Outcome measures/indicators:
      - Track the number of faculty and students involved in R&D activities.
      - Conduct impact assessments of the research being conducted, as a result of the support of the Center for Digital Health and Wellness.
      - Document extramural funding (IDC generation) as a result of increased R&D.
      - Assess changes in research knowledge and skills of UF students afforded the opportunity to work within the Center for Digital Health and Wellness.
  - ***Utilize existing UF IT resources and ensure interoperability, collaboration, process, and data integration with existing and future UF IT resources and systems.***
    - Process measures/indicators:
      - Conduct and compile an inventory on existing UF IT resources.
      - Assess the integration of existing IT resources with new resources and systems, in terms of compatibility.
      - Document the resource and data integration process.
      - Obtain feedback from UF IT collaborators on the integration process.
    - Outcome measures/indicators:
      - Assess policy changes, related to IT resource and systems modifications/integration.
      - Conduct a cost-benefit analysis to assess money saved from pooling resources and reaching a diverse array of students and faculty.

**Impact/Benefit:**

The Center for Digital Health and Wellness is being specifically designed to serve as a multi-function, multi-media technology center for digital health instruction and research based on input from students and faculty from across UF and expert advice from leading digital health scientists and leaders from across the US. The technologies being sought through this proposal will be used to facilitate the creation, research, evaluation, and especially instruction of new media, mobile, virtual, and digital health programs, applications, and courses. This proposal does not duplicate other services or facilities found at the University, but rather will add to and improve the outreach, instruction, and research mission of the University. Specifically, the following benefits will be realized:

**Benefit 1: Improved and Increased Health IT Instruction:** It is estimated that 95% of all American jobs now require some form of instructional technology skills. A central goal of the new Center is to actively encourage teaching, learning, and scientific exchange and outreach in digital health and instructional technology, and this work will benefit students and faculty from across UF in numerous ways. We will accomplish this goal through scientific seminars and training, teaching and course development/modification, and specialized training programs.

First, the Center will regularly sponsor, host, and digitally broadcast scientific presentations on all aspects of digital health, for which we expect many hundreds of students and dozens of faculty to participate. Thousands more will participate via digital streams around the world.

Second, the Center will revamp, supplement, and/or enhance specific courses offered by the College of Health and Human Performance including the following courses:

- HSC 3102 – Personal and Family Health
- HSC 4302 – Methods and Materials in Health Promotion
- HSC 4950 – Patient Health Education
- HSC 5925 – Information Technology in Health Education
- HSC 6629 – Health Promotion for Priority Populations
- HSC 3301 – Health Education in Elementary Schools
- HSC 4800 – Health Education Professional Development
- HSC 4950 – Determinants of Obesity
- HSC 6235 – Patient Health Education
- PHC 6105 – Health Promotion Policy and Practice
- SPM 4104 – Sport Facility Design and Management
- LEI 2000 – Introduction to Recreation
- APK 2100c – Applied Human Anatomy Lab
- APK 2105c – Applied Human Physiology Lab

Together, these 14 courses reach more than 4,000 undergraduate students and approximately 120 graduate students annually at UF. Although these students may engage instructional technology at various points in their student experience at UF, there is currently no other setting like the Center for Digital Health and Wellness that will particularly focus on the unique and growing intersection of digital technology and health. By funding this proposal, you will enable the College of Health and Human Performance to offer an unduplicated instructional experience that will better prepare students for the cutting-edge digital health jobs of the future. Additionally, the College of HHP would actively engage other colleges, departments, and programs from across UF to recruit faculty and students to utilize the information technology resources made possible through this funding.

Third, we will develop a new *Digital Health Graduate Certificate* that will be offered by distance education to students across UF and around the world. We expect demand for this program to be significant, because it will be the first and only program of its kind. Therefore, we expect that at least 100 UF students will participate in this program once it is fully established.

- Estimated number of UF students reached: More than 4,200 students annually
- Estimated number of UF faculty reached: More than 40 faculty annually

**Benefit 2: Increased Collaboration:** This proposal and the work of the new Center for Digital Health and Wellness represent a collaborative effort with multiple departments and entities. The Center is led by Dr. Jay Bernhardt, Professor and Chair of the Department of Health Education and Behavior. Faculty and students from the other two HHP departments (Applied Physiology and Kinesiology and Tourism, Recreation, and Sport Management) will be regular contributors to and collaborators with the new center, as will faculty and students from the College of Journalism and Communication, College of Public Health and Health Professions, College of Medicine, and College of Liberal Arts and Sciences, in addition to GatorWell and UF Student Health Services. Faculty and post-docs from these diverse departments and colleges will serve as active Research Fellows in the new Center, and dozens of diverse graduate and undergraduate students from HHP and other colleges will work as Research Assistants and Research Associates. We will establish a reservation process and hours of operation to ensure that UF students have ready access to the facility, including evening and weekend hours.

- Estimated number of UF faculty reached: More than 80 faculty annually
- Estimated number of UF departments reached: More than 12 departments and programs annually

**Benefit 3: Increased Cutting-Edge Research and Development:** The Center for Digital Health and Wellness will immediately become one of the leading such centers in the world for health IT, ehealth, and mhealth research and development. Areas of research that will be emphasized include: (1) the potential for mobile phones and devices to measure health behaviors, monitor conditions, promote health promotion and disease prevention, and control and manage chronic diseases; (2) the role and impact of social media and social networks on health assessment, health behaviors, and health outcomes; (3) the development and evaluation of new technologies for healthcare and health promotion that emphasize personalized and location-based messaging across multiple platforms including SMS, mobile web, and apps; and (4) telehealth interventions for elderly and other hard to reach populations. We expect financial support for this research to come from grants and contracts with Federal Agencies (including NCI, FDA, and CDC) and from private companies and partnerships. We also expect to collaborate with GatorWell and UF Student Health Services to develop, pilot-test, and potentially scale digital health interventions, which could reach and impact tens of thousands of UF students! Several funded projects are already underway and new proposals are under development and review. In addition, we expect many students from across UF to use resources in the new Center to complete student-led research projects, including special course projects, honors projects, undergraduate and graduate theses, and doctoral dissertation research. The goal of the center is to be a student-centered learning and research Center and we will actively recruit, encourage, and support strong student engagement.

- Estimated UF students directly reached: More than 100 students annually
- Potential UF students indirectly reached: More than 40,000 annually!
- Estimated number of UF faculty reached: More than 40 faculty annually

**Benefit 4: Leveraged Use of Existing UF IT and AT Resources:** The Center for Digital Health and Wellness will work closely with all relevant UF Academic Technology and Instructional Technology departments and offices to ensure complete interoperability, collaboration, process, and data integration with all existing and future UF IT resources and systems. Specifically, we will collaborate with Academic Technology Video Services (e.g., John Pankow and Brian Smith), the Center for Instructional Technology and Training (e.g., Anne Allen and Jennifer Smith), and the Academic Technology Learning Spaces team (e.g., Marc McCallister), and all other offices, labs, and organizations that are appropriate to avoid duplication and maximize interoperability.

- Estimated number of UF departments reached: At least 3 departments within Academic Technology

**TOTAL ESTIMATED ANNUAL NUMBERS REACHED:**

- Total estimated number of UF students reached: More than 4,300 students annually
- Total estimated number of UF faculty reached: More than 80 faculty annually
- Total estimated number of UF departments: More than 13 departments and programs annually

**TOTAL ESTIMATED ANNUAL COST BENEFIT RATIOS:**

- Estimated cost per UF student reached directly:  $\$205,000 \div \text{at least } 4,300 \text{ students} \approx \$48/\text{student}$
- Estimated cost per UF student reached indirectly:  $\$205,000 \div \text{up to } 40,000 \text{ students} \approx \$5/\text{student}$
- Estimated cost per UF faculty reached:  $\$205,000 \div \text{at least } 80 \text{ faculty} \approx \$2,500/\text{faculty}$
- Estimated cost per UF department reached:  $\$205,000 \div \text{at least } 15 \text{ departments} \approx \$13,700/\text{unit}$

**Sustainability:**

There are several categories of costs associate with creating, operating, and maintaining the new Center for Digital Health and Wellness. Construction costs on the physical space, including electrical work, and the furniture to outfit the space (i.e., “physical start-up” costs) are being covered by the College of Health and Human Performance and the Department of Health Education and Behavior at an approximate cost of more than \$100,000. Construction is underway now and should be completed by June 2011. We are seeking initial “technology start-up” costs for the

new Center through this Technology Fee proposal. Ongoing costs and commitments for the new Center, including operating, maintenance, and replacement costs, will come from multiple sources.

The Department of Health Education and Behavior has several available and/or dedicated resources available to support these ongoing costs including Center-specific in-direct cost recovery resources (IDC), Foundation funding resources, and Carry-forward funds available. We intend to set aside at least \$100,000 in total of these current assets to support the operating, maintenance, and replacement costs associated with the Center for Digital Health and Wellness during its first 3-5 years of operation until additional revenue streams can be realized to cover these costs.

As the Center grows and matures, we expect grants and contracts, and the IDC returned on those awards that are run by and through the Center, to be a major source of operational costs. Another significant funding source will be the revenue generated through the graduate certificate programs and other off-book tuition-generating distance education programs.

**Timeline:**

	SPR11	SUM11	FAL11	SPR12	FAL12	SUM12	FAL12	SPR13
Conduct regular meetings for Center Faculty Fellows	x	x	x	x	x	x	x	x
Conduct regular meetings for Center Student Fellows			x		x		x	
Establish and conduct Advisory Board meetings			x		x		x	
Complete physical construction	x							
Order and install furniture and casegoods	x	x						
Select vendors for IT hardware and software	x							
Engage UF AT to ensure compatibility and interoperability		x						
Install IT equipment and systems		x	x					
Establish training and protocols for IT usage		x	x					
Establish and track ongoing evaluation assessments			x	x	x	x	x	x
Establish and implement student reservation system			x	x	x	x	x	x
Convene events and facilitate Digital Health collaborations				x	x	x	x	x
Redesign and implement UF courses using Digital Health resources				x	x	x	x	x
Develop and implement Digital Health student training programs					x	x	x	x
Develop and implement Digital Health student-led research programs					x	x	x	x
Submit external grant proposals for Digital Health research and development		x	x	x	x	x	x	x

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#### BUDGET

Category	Items	Cost
Video and Presentation Media	Interactive Multi-Screen Video Display Monitor and Hardware	\$45,000
	Flat-Screen Display and Production Monitors and Hardware	\$15,000
	Retractable Wall Screens & Projection Devices and Hardware	\$15,000
	<b>Subtotal</b>	<b>\$75,000</b>
Video and Audio Capture	Mounted Pan/Tilt Cameras, Controllers and Hardware	\$20,000
	Portable Cameras, Teleprompter, Controllers, Hardware	\$10,000
	Fixed and Portable Microphones, Speakers, Controllers	\$10,000
	Recorders, Capture, Storage, and Editing Systems	\$10,000
	<b>Subtotal</b>	<b>\$50,000</b>
Development Workstations	Desktop workstations for application development	\$15,000
	Demonstration stations for training, research, and development	\$15,000
	<b>Subtotal</b>	<b>\$30,000</b>
Networked Processors/Printers	PC-based Laptops and Hardware/Software	\$5,000
	Mac-based Laptops and Hardware/Software	\$10,000
	Networked Printers and Hardware	\$5,000
	<b>Subtotal</b>	<b>\$20,000</b>
Mobile Development/Production	M-web & Cross-platform App Devel. Hardware/ Software	\$6,000
	Mobile-web & App Demonstration and Testing Platforms	\$4,000
	<b>Subtotal</b>	<b>\$10,000</b>
Production Servers and Storage	UF AT-compatible Rich Media Servers, Consoles, Editing	\$15,000
	UF AT-compatible Storage and Processing Servers/Controllers	\$5,000
	<b>Subtotal</b>	<b>\$20,000</b>
<b>OVERALL TOTAL</b>		<b>\$205,000</b>

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**Budget Justification:**

Please Note: All estimates are based on discussions with Media Products, Inc. from Jacksonville, FL, which has worked with IFAS on information technology and video production resources within their college. All estimates above include all necessary hardware, software, wiring, mounting, shipping, handling, and installation.

In-Kind: This proposal does NOT include physical start-up costs associated with the Center's construction and furniture which are underway and being paid by the College of Health and Human Performance and the Department of Health Education and Behavior. In addition, this proposal does NOT include ongoing sustainability costs, such as life-cycle replacement and maintenance, which will be covered by a Departmental set-aside of approximately \$100,000 plus additional revenue generated by future programs in the Center.

Video and Presentation Media: An interactive video display and multiple flat-screen wall video displays for multimedia presentations and instruction, distance education activities, offsite video conferencing, student-led new media content analysis and user experience research, and software application development, testing, and evaluation (\$75,000);

Video and Audio Capture: Attached and portable high-definition digital video cameras, microphones, and speakers for video meetings and conferences, distance education instruction, and student-led audio and video production and projects (\$50,000);

Development and Production Workstations: Workstations with new media and mobile development platforms and demo stations for R&D (\$30,000);

Networked Processors, Storage, and Output Media: Networked laptops, printers, and data storage for use by center students, faculty, staff, and partners (\$20,000);

Mobile Development and Production: Mobile devices from multiple platforms for development, demonstration, research, and evaluation (\$10,000);

Production and Storage Servers and Controllers: Audio/video production server and controls to operate and link the aforementioned components (\$20,000).

TOTAL AMOUNT REQUESTED: \$205,000