I. Facilities, Equipment, and Other Resources

I.1. Georgia Tech

The Georgia Institute of Technology is one of the nation's top research universities, distinguished by its commitment to improving the human condition through advanced science and technology. Georgia Tech's campus occupies 400 acres in the heart of the city of Atlanta, where more than 20,000 undergraduate and graduate students receive a focused, technologically based education.

Accredited by the Southern Association of Colleges and Schools (SACS), the Institute offers many nationally recognized, top-ranked programs. Undergraduate and graduate degrees are offered in the Colleges of Architecture, Computing, Engineering, Management, Sciences and the Ivan Allen College of Liberal Arts. Year after year, Georgia Tech is consistently the only technological university ranked in U.S. News & World Report's listing of America's top ten public universities. In addition, Georgia Tech's College of Engineering is consistently ranked in the nation's top five by U.S. News. In terms of producing African American engineering graduates, Diverse: Issues in Higher Education ranks Tech No. 2 at both the doctoral and bachelor's levels for the 2009-10 academic year. These impressive national rankings reflect the academic prestige long associated with the Georgia Tech curriculum.

I.2. Digital Media at Georgia Tech

The Digital Media department at Georgia Tech also supports the team's ability to make important contributions. The graduate programs in Digital Media and the undergraduate Computational Media program provide an opportunity to apply teaching strategies and curriculum development derived from knowledge we gain from this study. In addition to a strong Digital Media program, there is an established HCI program shared between the Digital Media program, the College of Computing, and the School of Psychology at Georgia Tech. There are strong architecture and urban planning programs as well as a campus environment that values and supports interdisciplinary collaboration. Georgia Tech planning at the administrative level is striving to implement interdisciplinary curricular and pedagogical strategies and strongly supports community outreach, thus helping the project to meet its broader impact goals.

The Digital Media program has design and media production facilities in the Technology Square Research Building (TSRB). The build is located in the innovative and pedestrian-friendly Technology Square district of Georgia Tech and is home to the Digital Media program as well as the College of Computing's School of Interactive Computing, and the GVU Center. TSRB also houses state of the art conference facilities that accommodate several of the College's special events, lectures and meetings.

Several Digital Media research and design labs occupy TSRB, including:

- The Synaesthetic Media Lab (synlab) houses equipment for prototyping tangible and multi-touch interaction techniques as well as large in-room installations of rich media experiences.
- The Experimental Game Lab (EGL) houses a collection of current and legacy video game consoles, as well as an extensive library of console and computer, as well as board and pinball games. The EGL also has a number of game development workstations including Unity, Maya and other software and hardware creative tools.
- The Public Design Workshop (PDW) includes a design studio with tools for physical and digital prototyping along with Apple workstations for media design and production.
- The Experimental Television Lab (eTV) provides workstations for digital media design and production.
- The ADAM Lab lab provides prototyping studio space.
- The Digital World & Image Group provides prototyping studio space.
- The Participatory Publics Lab (PPL) provides studio space, hardware prototyping resources (Arduino and Rasberry Pi), and Apple workstations for design and digital production.

I.3. Graphics Visualization and Usability Center

The GVU Center is located in the TSRB Building and houses a variety of research labs in a multi-facility collection of workplaces. Total GVU lab space comprises more than 8,000 square feet. In addition, GVU affiliated laboratories are operated by faculty from across the Institute, including the College of Computing, the College of Architecture; the School of Literature, Media, and Communication; the School of Psychology; and the Interactive Media and Technology Center. GVU facilities utilize state-of-the-art high-performance servers and graphics workstations from major manufacturers such as Dell, HP, Apple and Sun. GVU is also a partner in the Aware Home Research Initiative (AHRI). A partial list of specialized GVU resources includes:

- The Aware Home: a 3-story ,5,040sq.ft. house and living laboratory for interdisciplinary research in design and social questions.
- The Prototyping Lab: a 1,200sq.ft. lab devoted to the prototyping of experimental devices such as wearable computers and equipped with devices such as:
- A 3D Printer (Dimension SST 768)
- A Laser Cutter/Etcher (Epilog)
- A Circuit Mill (LPKF ProtoMat S62)
- A CNC Router (K2CNC 4'x8')
- A Bandsaw (Jet 14")
- Surface mount and through-hole soldering stations
- Bench Equipment (Power Supplies, Oscilloscope/Logic Analyzer, RF Generator and spectrum analyzer)
- Arduino Development/Test Circuit Boards
- Silk Screening Equipment (for conductive ink)
- Embroidery Machines (for conductive thread)
- The Usability Lab: complete with separated viewing area, for conducting and capturing video and screen recordings of computer-based studies.
- A High-Definition (HDTV) Video Conferencing System (LifeSize) networked with vital research partners such as MIT Media Lab, CMU, Stanford and more.
- A Video Webcasting AV Cart with High-Definition (HD) capture capability
- Sony Bloggie HD Cameras for field recording
- 12 Camera IR Motion Capture System (Vicom)
- Several Polhemus, Ascension, and Intersense tracking systems and head-mounted displays
- Several Smartboards
- A Segway Human Transporter
- A Poster Printer (HPDesignJet800)

I.4. Georgia Tech Networking Capabilities:

Georgia Tech's state-of-the-art network provides capabilities with few parallels in academia or industry, delivering unique and sustained competitive advantage to Georgia Tech faculty, students, and staff. Since the mid-80's Georgia Tech and OIT have provided instrumental leadership in high-performance networks for research and education (R&E) regionally, nationally, and internationally.

A founding member of Internet2 (I2) and National LambdaRail (NLR)—high bandwidth networks dedicated to the needs of the research and education community—Georgia Tech manages and operates Southern Crossroads (SoX, the I2 regional GigaPOP) and Southern Light Rail (SLR, the NLR regional aggrega-

tion). We work within six Southeastern states to make affordable high- performance network access and network services available to researchers and faculty at Georgia Tech, their collaborators, other higher-education systems, K-12 systems, and beyond.

Georgia Tech's network has high-performance connectivity to other members of the research and education community world-wide through dual 10 gbps (gigabits per second) links to SoX/SLR, which has peerings with NLR Packetnet, Internet2 Network, TransitRail, Oak Ridge National Labs (ORNL), the Department of Energy's Energy Sciences Network (ESNet), NCREN, NASA's NREN, MREN, FLR, Peachnet, LONI, 3ROX, as well as other SoX participants in the Southeast.

In addition to the exceptional R&E network connectivity provided to all Georgia Tech faculty, students, and staff, dedicated bandwidth in support of specific collaborations and research is also possible.