IPaT Industry Innovation Day

The Institute for People and Technology's signature event – *Industry Innovation Day* – examines how emerging technologies will shape the future of our society. Headlining IID 2017 are keynotes and panel discussions with influential thinkers from business, government, and academia. The event also serves to showcase research at IPaT and Georgia Tech as well as highlight the many avenues of collaboration with industry, government, and non-profit partners.

As part of Industry Innovation Day, the **GVU Center & Digital Media Research Showcase** is a unique hands-on experience that gives attendees a glimpse of how technology will continue to enhance everyday activities in society and culture.

Imagine an artificial intelligence that can tell you why it makes a certain move in a game. Experience virtual reality worlds that allow you to move in your environment and immerse your senses. Or interact with the latest breakthroughs in augmented reality and wearable computing technology.

The biannual GVU Showcase is one the largest events for research discovery at Georgia Tech. This spring's event includes more than 100 demonstrations and provides access to our community of experts who are Creating the Next. Included are the **Convergence Innovation Competition** winners, who will demonstrate innovative, viable products and experiences for the consumer market.

Plan your visit with the GVU Interactive Guide: *http://gvu.gatech.edu/showcase*

Learn More About IID 2017

http://ipat.gatech.edu/industry-innovation-day

About Us

Institute for People and Technology

Innovation in media, information, and computing technologies has the potential to transform complex, human-driven enterprises such as healthcare, education, entertainment, business, civic, urban and humanitarian systems. However, influencing these people-intensive systems (aka socio-technical systems) also requires basic and applied research in design, psychology, architecture, policy, and business, and the wherewithal to integrate these insights into transformative approaches, services and tools.

Georgia Tech's Institute for People and Technology (IPaT) was created in 2011 to embrace these opportunities and needs, to create a networked research ecosystem of GT faculty and industry partners, and to amplify their combined thought leadership and on-the-ground results to create positive economic and societal impact in these critical systems that define much of everyday life: how people communicate, learn, heal, make decisions and take care of their communities.

Learn more at *http://ipat.gatech.edu*

GVU Center at Georgia Tech

The GVU Center inspires and enables interdisciplinary research in people-centered computing by advancing a leading network of researchers involved in shaping cutting-edge innovations. GVU has been instrumental in expanding the scope of the research landscape at Georgia Tech for 25 years through the formation of new academic research groups, programs and units, and new interdisciplinary partnerships.

Learn more at *http://gvu.gatech.edu*

GVU Center & Digital Media Research Showcase

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Research Groups (Locations and Specialties)

* Indicates IPaT-affiliated units

Georgia Tech | GVU Center

Interact with our experts at gvu.gatech.edu/explore

Research
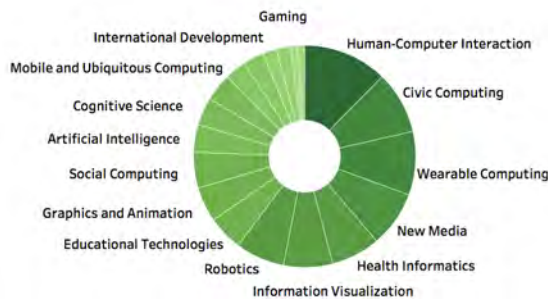
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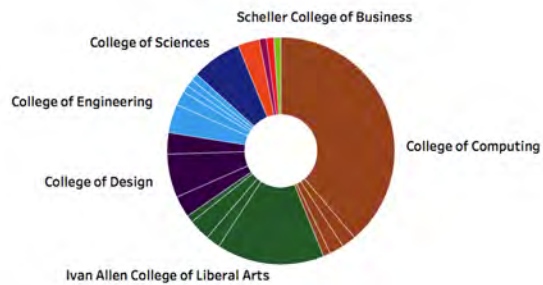
GVU research includes the spectrum of human activity as it relates to the use of computing technology. Our research ecosystem broadly defines 22 areas where research contributions are made on a continuing basis.

Researchers represent Georgia Tech's six colleges as well as partners in other research centers. The ability to draw on a wide range of expertise is one of GVU's defining hallmarks.

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Social Computing

Virtual Reality

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Research Groups and Project Details

ADAM Lab *(325)* *Artificial Intelligence, Human-Computer Interaction, Virtual Reality*

The Adaptive Media Lab explores how to create digital media experiences that tailor themselves to individual users. These adaptations may occur for dramatic purposes (e.g. interactive narrative), educational purposes (e.g. serious games), and / or purely for entertainment. This research involves work in design, artificial intelligence, and human computer interaction.

Faculty: *Brian Magerko*, Mark Riedl, Jason Freeman

Learn More at: http://adam.cc.gatech.edu

Mumerize: Educative Music Game for Music Learner

Gaming

Chendong Zheng

Mumerize is an educative music game to help music learners to memorize music intervals and learn the structure of music. This game provides the player with a scene like a platform game where the platforms are created by dividing a melody into music notes. The player should determine the position of the next platform by hearing and selecting an answer of intervals. The player should survive or die after each jump according to whether the answer is right or wrong.

LuminAI: An Exploration of Human-AI Movement Improvisation

Artificial Intelligence, Cognitive Science, New Media

Brian Magerko, Mikhail Jacob, Lauren Winston, Duri Long, Dor Hananel, Chelsi Cocking, Alexis Perkins

LuminAI is an interactive art installation that explores the improvisation of proto-narrative movement between humans and virtual AI agents using full body, expressive, movement-based interaction. Interactors can co-create movement with an autonomous virtual agent that learns movement, response, and improvisation directly from interacting with human teachers. It analyses their movement using Viewpoints movement theory.

Sound Happening

Music Technology

Agneya Kerure, Dan Singer, Pedro Arevalo, Josh Moore

Sound Happening is a collaborative music-making installation that allows several people to explore and create music in a space by playing with colorful bouncy balls. Using a webcam and Max/MSP, Sound Happening tracks each ball's location relative to the space to manipulate and trigger various samples, resulting in intriguing sound combinations that are constantly changing as the balls move.

Giants in the Sky: The life of stars

Cognitive Science, Collaborative Work, Educational Technologies

Brian Magerko, Pedro Arevalo

Giants in the sky is a Tangible User Interface (TUI) that explores the role of mass and gravity in the life and death of exosolar systems. With the use of various tangibles with different physical attributes, this TUI aims to teach basic concepts of astronomy in science museums. These tangibles allow users to create and manipulate digital celestial objects in a sandbox simulation.

Animal-Computer Interaction Lab *(243)*

Human-Computer Interaction, Wearable Computing

We explore the emerging area of Animal-Computer Interaction focusing on interfaces for inter-species communication and on the design and evaluation of interactive technology for users of multiple species.

Faculty: *Melody Jackson*, Thad Starner, Clint Zeagler, Scott Gilliland

Learn More at: http://aci.gatech.edu/

MR ED - Measurement & Recording Equine Device

Human-Computer Interaction, Information Visualization, Wearable Computing

Melody Jackson, Rachel LeRoy

Equine technology research shows limited exploration in wearable technology, and gathered data is not immediately viewed by riders and trainers. MR ED is a research project designing wearable sensors for horses. MR ED creates a tendon boot that communicates with a head-mounted display (i.e. google glass or auditory interface). In this way, a rider can make instant changes to their training regimen based on what they are seeing or hearing.

FIDO - Facilitating Interactions for Dogs with Occupations

Human-Computer Interaction, Mobile and Ubiquitous Computing, Wearable Computing

Melody Jackson, Thad Starner, Clint Zeagler, Scott Gilliland, Giancarlo Valentin, Larry Freil, Ryan Kerwin, Ceara Byrne, Joelle Alcaidinho, Jay Zuerndorfer, Lily Burkeen, Zehua Guo

The FIDO Sensors team is creating wearable technology to allow working dogs to communicate. Assistance dogs can tell their owners with hearing impairments what sounds they have heard; guide dogs can tell their owners if there is something in their path that must be avoided. We will be demonstrating a variety of scenarios with five wearable sensors designed for dogs to activate.

App Lab *(333)* *Human-Computer Interaction, New Media*

All GT Students are encouraged to take advantage of the App Lab. Clubs and classes are encouraged to take advantage of the resources without disrupting individuals working there as well. A "hackerspace" devoted to the creation of mobile applications and technologies across a range of platforms. The lab is equipped with the software and hardware necessary for mobile app development.

Faculty: *Matt Sanders*, *Russ Clark*, Keith Edwards, Siva Jayaraman, Brian Davidson, Sean Brennan

Learn More at: http://gtjourney.gatech.edu/app-lab

Participatory Multi-User Approach in Smart Home Systems

Collaborative Work, Human-Computer Interaction, Information Visualization

Russ Clark, Matt Sanders, Mehmet Ordu

Designing a participative approach for multiple users to control their smart home.

US Department of Veterans Affairs Digital Health Platform Proof of Concept

Collaborative Work, Health Informatics, Mobile and Ubiquitous Computing

Steve Rushing, Jon Duke, Myung Choi

Augmented Environments Lab *(233)*

Augmented Reality, Mobile and Ubiquitous Computing

Lab activities focus on understanding how to build interactive computing environments that directly augment a user's senses with computer-generated material. Researchers are interested in augmenting the user's perception, and place particular emphasis on the interaction between the users and their environment.

Faculty: *Blair MacIntyre*, *Jay Bolter*

Learn More at: http://ael.gatech.edu/lab/

Argon: AR-Enabled Web Browser

Augmented Reality, New Media

Blair MacIntyre, Jay Bolter, Gheric Speiginer, Colin Freeman, Josh Fisher

Argon is a mobile web browser to bridge the gap between Augmented Reality (AR) and the Web. In the tradition of web browsers like Chrome and Firefox, Argon exposes the core technologies needed to make AR possible. By making computer vision tracking (via the Qualcomm's Vuforia library) available to web pages, Argon provides a browser-based platform for rapid development of fully-interactive 2D/3D AR content and applications. The lab has developed tools to make rapid prototyping easier. The goal is to make it possible for designers and organizations with web app skills to create AR and MR (and even VR) applications. Come see projects and demos built using the Argon platform.

City Fables: An Argon Experience for the city of Malmo, Sweden

Augmented Reality, New Media

Jay Bolter, Maria Engberg, Josh Fisher, Colin Freeman

In collaboration with Malmo University (Sweden), the AEL is developing a mixed-reality experience that is a narrative of cultural moments from the first half of the twentieth century. The Swedish project, under the direction of Profs. Maria Engerberg and Per Linde, is called Stadsfabula. The AEL is creating and testing an Argon application that will recognize historic photographs on the walls of a museum space and play the video and audio. This experiment in the use of the Argon-aframe platform creates a compelling multimedia experience that is also easy to program and to modify.

Aware Home Research Initiative *(309)*

Health Informatics, Human-Computer Interaction, Mobile and Ubiquitous Computing

The Aware Home Research Initiative (AHRI) at Georgia Institute of Technology is an interdisciplinary research endeavor aimed at addressing the fundamental technical, design, and social challenges for people in a home setting. Central to this research is the Aware Home, a 3-story, 5,040-square-foot facility designed to facilitate research, while providing an authentic home environment. Research domains include: 1. Health and Well-being, 2. Sustainability, 3. Entertainment, 4. Connected Living / Home Management.

Learn More at: http://awarehome.gatech.edu   **Faculty: *Brian D. Jones***

Flex: Connected Home Integration

Human-Computer Interaction, Mobile and Ubiquitous Computing

Brian Jones, William Gao, Jayanth Mohana Krishna

Connected-home solutions provider Flex is using Georgia Tech's Aware Home to test devices and show how their products would integrate into a home environment. Their Wink Hub is now available as a Do-It-Yourself solution for the connected home, enabling transfer of messages between in-home devices and the Wink cloud. Devices from other manufacturers can now also be integrated with the Wink app to provide a more connected consumer experience.

Ambient Alerting

Health Informatics, Human-Computer Interaction, Mobile and Ubiquitous Computing

Brian Jones, Reema Upadhyaya, Akhil Oswal, William Gao, Youssef Asaad, Alex Kim, Jayanth M. Krishna

Older adults are more prone to forgetfulness, which might lead to serious events resulting in costly damage to the home or even injury or death. We feel there is an opportunity, before a family decides to monitor older adults, to use technology to provide gentle reminders or cues that empower residents to determine for themselves when, for example, appliances should be turned off. We have performed Aware Home interviews and prototype evaluations with older adult participants to understand their needs for notifications and preferences for alert (audible and visual).

Connected Living Research Initiative

Human-Computer Interaction, Mobile and Ubiquitous Computing, Wearable Computing

Brian Jones, Siva Jayaraman

Connected living is the fast-growing intersection of mobile, wearable, home, community, car and other technologies to assist individuals in accomplishing more seamless interactions and goals in daily life. We are in the process of defining the Connected Living Research Initiative (CLRI) to bring together industry stakeholders, faculty and civic partners in defining the future of the connected life. CLRI is currently building partnerships to delineate research goals that include (but are not limited to) the future impact of big data, improved user experience in daily activities, and data security and privacy in the connected daily experience.

RERC TechSAge: A Mobile Application to Measure Gait Speed

Health Informatics, Mobile and Ubiquitous Computing

Brian Jones, David Byrd, Akhil Oswal, Youssef Asaad

Studies show a consistently strong association between gait speed of frail older adults and negative functional (e.g., survival) and activity outcomes. However, health care professionals are slow to measure this physiologic parameter, largely due to the lack of a simple, standardized way of measuring it. This project develops a reliable, simple, and cost-effective mobile app to measure gait speed and demonstrates the feasibility of this measure as a predictive tool to identify risk of functional decline and activity limitations in adults who are aging with ambulatory disability.

RERC TechSAge: SmartBathroom

Health Informatics, Human-Computer Interaction, Mobile and Ubiquitous Computing

Jon A. Sanford, Brian Jones, Peter Presti, Brad Fain, Su Jin Lee, Harshal Mahajan, Prasanna Natarajan, Shambhavi Mahajan

The needs and abilities of people who are aging with progressive chronic conditions, such as MS, Parkinson's, ALS and Arthritis fluctuate from day to day. Yet, even when they have supportive AT, such as grab bars, to compensate for functional limitations, those features are fixed, only able to support some abilities, some of the time. The purpose of this project is to develop a SmartBathroom environment capable of assessing an individual's abilities at any point in time and spontaneously adjusting supportive environmental features to accommodate those abilities.

Data-driven Connected Home

Human-Computer Interaction, Mobile and Ubiquitous Computing, Requirements Engineering

Brian Jones, Jayanth Mohana Krishna

Using the Z-wave protocol stack, we are building a controller for the Aware Home using a Raspberry Pi that will allow users to control and query device data on a dashboard. This collected data will then be used to predict usage patterns and serve tips for power saving. Finally, a user-friendly rules engine enables users to create certain rules using sensor data.

Ambient Alerting: Medication Alerts for Older Adults

Human-Computer Interaction, Online Communities

Brian Jones

Contextual Computing Group *(243)*

Wearable Computing, Human-Computer Interaction

The Contextual Computing Group (CCG) creates wearable and ubiquitous computing technologies using techniques from artificial intelligence (AI) and human-computer interaction (HCI). We focus on giving users superpowers through augmenting their senses, improving learning, and providing intelligent assistants in everyday life. Members' long-term projects have included creating wearable computers (Google Glass), teaching manual skills without attention (Passive Haptic Learning), improving hand sensation after traumatic injury (Passive Haptic Rehabilitation), educational technology for the Deaf community, and communicating with dogs and dolphins through computer interfaces (Animal-Computer Interaction).

Faculty: *Thad Starner*

Learn More at: https://research.cc.gatech.edu/ccg/

CHAT (Cetacean Hearing Augmentation and Telemetry) and UHURA (Unsupervised Harvesting and Utilization of Recognizable Acoustics)

Artificial Intelligence, Perception, Wearable Computing

Thad Starner, Scott Gilliland, Chad Ramey

Working with Dr. Denise Herzing of the Wild Dolphin Project, we are creating wearable computers for conducting two-way communication experiments with cetaceans. With CHAT, one researcher uses the waterproof system to broadcast a sound, associated with an object with which dolphin's like to play. A second researcher, upon detecting the sound, passes the object to the first. The researchers pass objects back and forth, further associating the sound with the object. The goal is to see if the dolphins mimic the sound in order to "ask" for the play object. The wearable computer uses pattern recognition technology to detect these mimicked sounds. UHURA uses pattern discovery techniques in an attempt to uncover fundamental units of dolphin vocalizations.

CopyCat: Helping Young Deaf Children Acquire Language Skills Using Sign Language Recognition

Educational Technologies, Gaming, Perception

Thad Starner, Cheryl Wang, Kshitish Deo, Aditya Vishwanath

CopyCat and PopSign are two games that help deaf children and their parents acquire language skills in American Sign Language. 95% of deaf children are born to hearing parents, and most of those parents never learn enough sign language to teach their children. As short term memory skills are learned from acquiring a language, many deaf children enter schoolwith short term memory of less than 3 items, much less than hearing children of hearing parents or Deaf children of Deaf parents. Our systems address this problem directly. Even though they are still under development our gameshave been shown to be effective in multiple user studies.

Optimal Display Placement for Wearable Computers

Wearable Computing

Thad Starner, Malcolm Haynes

Where should a head worn display (HWD) be placed for optimal viewing? Does the optimal position change between reading, working on a physical task like order picking, or social conversation? How do we test such issues? Our ongoing studies on user comfort and performance suggest the optimal placement is somewhere between 10 and 20 degrees off-center toward the ear.

Passive Haptic Learning: Learn to Type or Play Piano Without Attention Using Wearables

Wearable Computing

Thad Starner, Caitlyn Seim

Our Passive Haptic Learning gloves teach the "muscle memory" of how to play piano melodies without the learner's active attention. These gloves can also help wearers recover sensation in their hands after a traumatic event, such as a partial spinal cord injury. The PHL gloves are fingerless gloves equipped with vibrators at each knuckle. As a mobile MP3 player plays each note of a song, the gloves tap the finger that corresponds to the respective piano key. In our testing, users can learn the first 45 notes of simplesongs like "Amazing Grace" in 30 minutes while concentrating on reading comprehension exams.

Passive Haptic Rehabilitation: Improve Sensation and Dexterity after Traumatic Injury Using Wearables

Health Informatics, Wearable Computing

Thad Starner, Caitlyn Seim

Our Passive Haptic Learning gloves teach the "muscle memory" of how to play piano melodies without the learner's active attention. These gloves can also help wearers recover sensation in their hands after a traumatic event, such as a partial spinal cord injury. The PHL gloves are fingerless gloves equipped with vibrators at each knuckle. As a mobile MP3 player plays each note of a song, the gloves tap the finger that corresponds to the respective piano key. In our testing, users can learn the first 45 notes of simplesongs like "Amazing Grace" in 30 minutes while concentrating on reading comprehension exams.

PopSign: Teaching American Sign Language Using Mobile Games

Educational Technologies, Gaming

Thad Starner, Cheryl Wang

CopyCat and PopSign are two games that help deaf children and their parents acquire language skills in American Sign Language. 95% of deaf children are born to hearing parents, and most of those parents never learn enough sign language to teach their children. As short term memory skills are learned from acquiring a language, many deaf children enter school with short term memory of less than 3 items, much less than hearing children of hearing parents or Deaf children of Deaf parents. Our systems address this problem directly. Even though they are still under development our games have been shown to be effective in multiple user studies.

Contextualized Support for Learning *(330)*

Educational Technologies, Human-Computer Interaction, New Media

The Contextualized Support for Learning (CSL) lab has as its aim the creation of "collaborative Dynabooks." We design and implement innovative technology for the goal of improving learning, then empirically explore the benefits and usefulness of the technology with real users. Our vision of collaborative Dynabooks involves inventing new kinds of computer-based media; creating tools to make media composition and sharing easier; helping users to learn how to compose media; developing collaborative supports for reviewing, critiquing, and composing; evaluating our tools and methods in practice; and summarizing and communicating our design lessons learned to inform other designers.

Faculty: *Mark Guzdial*

Learn More at: http://home.cc.gatech.edu/csl

CSLearning4U: Creating Electronic Books for Teacher CS Learning

Educational Technologies, Human-Computer Interaction, New Media

Briana Morrison, Miranda Parker, Barbara Ericson, Stephen Moore

A key idea in CSLearning4U is that we can design CS learning opportunities. Simply wrestling an interpreter or compiler can't be the best way to learn about computer science. Throwing people into the deep end of the pool can teach people to swim, but there are better ways. We want to do better than a book for CS learning, and we want to design the phonics of computing education to integrate with the "whole language learning" of programming. We are creating a new distance-learning medium for computing education especially for in-service high school teachers based on ideas from instructional design and educational psychology.

Design & Intelligence Laboratory *(228B)*

Artificial Intelligence, Cognitive Science

The Design & Intelligence Laboratory conducts research into human-centered artificial intelligence and computational cognitive science, with a focus on computational creativity. Current projects explore analogical reasoning in biologically inspired design, visual reasoning on intelligence tests, meta-reasoning in game-playing software agents, and learning about ecological and biological systems in science education.

Faculty: *Ashok Goel*, Keith McGreggor, Spencer Rugaber

Learn More at: http://dilab.gatech.edu/

Human-guided Task Transfer in Interactive Robots

Artificial Intelligence, Cognitive Science, Robotics

Ashok Goel, Tesca Fitzgerald

As robots become more commonplace, they will need to address a wide variety of problems. Since a robot cannot be programmed to complete every task, it is necessary for robots to learn new tasks by interacting with a human teacher. Current methods require that the robot receive many demonstrations of a task, or they are limited to completing tasks which are nearly identical to previous demonstrations. We are developing a cognitive system based on case-based analogical learning that may enable a robot to collaborate with a human teacher to transfer task knowledge to a range of target problems.

Intelligent Biologically Inspired Design

Artificial Intelligence

Ashok Goel, Bryan Wiltgen

How do biologists and engineers work together in teams? How do they generate new design ideas? How do they understand biological systems? What external knowledge representations of biological systems may help deepen their understanding? What should we teach in courses on biologically inspired design and how should we teach it? While these questions are critical to developing a science of biologically inspired design, they also provide a great opportunity to explore fundamental questions about cognition.

Design & Social Interaction Studio *(209)*

Civic Computing, Educational Technologies, Information Visualization

Design and Social Interaction Studio brings an interdisciplinary group of faculty and students together to examine the experiential and participatory dimensions of digital media and their relationship to establishing and supporting democratic forms of social interaction. Research at the studio spans both theoretical inquiry and experimental design, situated at the intersection of Design, the Humanities, and Human-Computer Interaction. We design and investigate a variety of design products and services (e.g., locative media, visualizations and mapping, policy media, social and educational media) drawing on a range of design methods and strategies. Projects are often in collaboration with other units on campus, other schools, as well as local non-profit organizations.

Faculty: *Nassim JafariNaimi*

Learn More at: http://designstudio.gatech.edu

Our Driverless Futures: Speculating Moral Dilemmas of Self-Driving Cars

Human-Computer Interaction, New Media

Nassim Jafarinaimi, Lorina Navarro

"Our Driverless Futures" is a web-based interactive narrative that critically examines the ethical implications of self-driving cars. Self-driving cars are often positioned as safer and more efficient transportation alternatives, but how should they react in an inevitable fatal accident, and whose lives should they prioritize to save? Informed by STS and feminist discourses, "Our Driverless Futures" advances a critical reflection on algorithmic morality and its consequences. It does so by putting its audience in the shoes of a car buyer confronted with the decision of programming their car in choosing whose lives to save.

(T)racing Eyes and Hearts: An Installation to Explore the Physiology of Empathy

Human-Computer Interaction, Information Visualization, Perception

Anne Pollock, Nassim JafariNaimi, Lewis Wheaton, Regan R. Lawson, Shruti Rajeev, Udaya Lakshmi Tattamangalam Ananthanarayanan

This project brings together humanities scholars and physiology scholars to create an art installation that uses representation, tracking, and visualization to investigate and reflect upon the physiology of empathy. The installation renders video of eye movements and audio of heartrate of a virtual person, and tracks the eye movements and heartrate of an observing user. We anticipate a mirroring, empathetic physiological response from the user, in which their heartrate also speeds and slows in conjunction with the virtual person. A visual and auditory representation of the experience is available to users.

Interactive Public Installation

Augmented Reality, Civic Computing, Information Visualization

Jay David Bolter, Nassim Jafarinaimi, Colin Freeman

The Auburn Avenue Research Project, through the creation of a tiered media strategy, takes advantage of a real-world development project (e.g., new physical signage, street car) and the potentials of digital technology to raise awareness of Auburn Avenue's history and future trajectory, to increase the number of visitors to the neighborhood, and to support community preservation and revitalization efforts. This research seeks to use augmented and mixed reality, web applications, and social networking to serve as platforms for the preservation of cultural heritage, informal education, and civic engagement.

Particle in a Box (An Experiential Approach to Quantum Mechanics Education)

Educational Technologies, Gaming, Information Visualization

Nassim Jafarinaimi (DM); Azad Naeemi (ECE), Aditya Anupam, Muchao Tang, Andy Jin, Akansha Gupta

Theories of Quantum Mechanics (QM) have been central to the philosophical and technological advances in physics and related fields. Some of the most important aspects of these theories are outside the bounds of human experience, predominantly explained and taught by drawing on abstract mathematical formulas. This research project addresses whether and how digital media could serve as a basis for experiential understanding of QM concepts. Play the latest version at: http://learnqm.gatech.edu.

Civic and Participatory Media (Sweet Auburn: Birthplace of Ideas)

Civic Computing, Mobile and Ubiquitous Computing, Social Computing

Nassim Jafarinaimi, Horyun Song, Alyssa Rumsey

The Sweet Auburn Digital Media Initiative informs and engages communities through the mediation of shared public spaces, digital media, mapping, and storytelling. The Initiative seeks to contribute to neighborhood revitalization and highlight/preserve the important history as a vital center of innovation, commerce, and community among African Americans, and center of the Civil Rights Movement during the era of segregation. This project explores the potentials and challenges of civic and participatory media, investigating a set of research questions that probe the relationship between technology, place, storytelling, and community engagement.

Digital World & Image Group *(325)*

Educational Technologies, Human-Computer Interaction, Virtual Reality

The Digital World and Image Group focuses on two main areas: virtual spaces and real-time imagery gathered from them. We see game spaces and game media as important forms of self-expression. That is why we work to improve creative access and the expressive range available in interactive digital media such as games. Research is conducted in a combination of theory, analysis, and practical experimentation.

Faculty: *Michael Nitsche*

Learn More at: http://dwig.lmc.gatech.edu

Using AR in Comic Art: Attention as a Commodity

Augmented Reality, Human-Computer Interaction

Michael Nitsche, Logan Sand

How can we use AR in combination with Comic Artwork to shift attention from the page to the screen and back? The project combines HCI with the nineth art: comics. It applies design criteria from comic scholars and pracitioners such as Will Eisner and Scott McCloud to develop effective AR designs for hybrid comic pieces. We will present a prototype sample of this project at work.

Electronic Learning Communities *(338A)*

Civic Computing, Online Communities

The concept that people learn best when they are making something personally meaningful - also known as constructionism - is the lab's guiding philosophy. Computer networks have the potential to facilitate community-supported constructionist learning. The Electronic Learning Communities Lab examines ways communities of learners can motivate and support one another's learning experiences.

Faculty: *Amy Bruckman*

Learn More at: http://www.cc.gatech.edu/elc/index.shtml

The Internet in Cuba

International Development, Online Communities, Social Computing

Amy Bruckman, Neha Kumar, Michaelanne Dye

With nearly four billion people still lacking access to the internet, efforts to expand internet access are growing rapidly across the world. Cuba remains one of few emerging nations where this access is still affected by historical trade embargoes and restrictions. Since the 2014 announcement of the normalization of relations between Cuba and the U.S., however, internet access in Cuba is increasing. This work is situated during this time of transition to explore the impacts of increasing internet access on individuals and communities living in Havana.

Open Science in the Public Interest

Collaborative Work, Social Computing

Amy Bruckman, Sucheta Ghoshal

We leverage ideas from citizen science and the open science movement to create an infrastructure for facilitating partnerships between volunteer STEM workers and social movement organizations. Towards this goal, we do action research with the nonprofit organization, Science for the People (SP). SP engages in research, activism, and science communication for the betterment of society and the environment. We assist the Atlanta chapter with building non-governmental organizations (NGOs) and STEM volunteer partnerships while studying the process of how social movements can best the use scientific knowledge of the volunteers.

Entertainment Intelligence Lab *(228B)*

Artificial Intelligence, Gaming
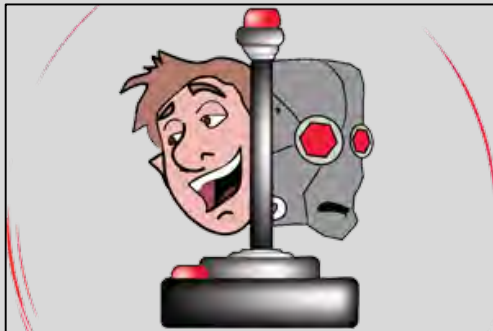
The Entertainment Intelligence Lab focuses on computational approaches to creating engaging and entertaining experiences. Some of the problem domains they work on include, computer games, storytelling, interactive digital worlds, adaptive media and procedural content generation. They expressly focus on computationally "hard" problems that require automation, just-in-time generation, and scalability of personalized experiences.

Faculty: *Mark Riedl*

Learn More at: https://research.cc.gatech.edu/eilab/

Automatically Generating Game Levels from Gameplay Videos

Artificial Intelligence, Gaming

Mark O. Riedl, Matthew Guzdial

Intelligent tools can ease the burden of game development. One approach to easing this burden is the use of co-creative, artificial agents, capable of helping a human developer by making suggestions or extending an initial design. However, constructing such agents takes time and knowledge. To solve this problem, we present a demonstration of a level-authoring tool with a co-creative agent informed by knowledge learned from gameplay videos. The technique is demonstrated in the popular game, Super Mario Bros. We offer the experience of co-designing a level with a co-creative agent and then playing through the level yourself or with a friend.

Explainable AI

Artificial Intelligence, Gaming

Mark Riedl, Brent Harrison

In the near future, autonomous and semi-autonomous systems will interact with us with greater frequency. When they fail or perform unexpected behaviors, non-experts must be able to determine what went wrong. We introduce rationalization, a technique for automatically generating natural language explanations as if another human were describing what the autonomous system was doing. We demonstrate rationalization in the test-bed domain of the Frogger game. Video: https://www.youtube.com/watch?v=vXcuLEBwXsQ

Everyday Computing Lab *(342A)*

Human-Computer Interaction, Online Communities

We introduce a new area of interaction research, everyday computing, by focusing on scaling ubiquitous computing with respect to time. Our motivations for everyday computing stem from wanting to support the informal and unstructured activities typical of much of our everyday lives. Our goal is understanding the transformation of everyday life as computing is ubiquitously integrated into informal, daily activities and routines.

Faculty: *Beth Mynatt*

Learn More at: https://research.cc.gatech.edu/ecl/

Designing Adaptive Technology to Provide Personalized Support to Cancer Patients

Health Informatics, Human-Computer Interaction, Mobile and Ubiquitous Computing

Beth Mynatt, James Clawson, Maia Jacobs, Florian Foerster

We explore the ability for personalized, adaptable, mobile tools to support patients over the course of their individual cancer journeys. Technology needs to anticipate and recognize barriers to care that occur at various points in a cancer journey, adapt with patients as they navigate these barriers, and successfully provide them with tools and resources needed to manage and mitigate barriers. Our goal is to improve patient health outcomes by supporting patients' outside of the clinic by helping them to learn about, engage with, and manage their disease alongside the demands of daily life.

Defining Digital Self Harm

Social Computing

Beth Mynatt, Jessica Pater

This project aims to define the concpet of digital self-harm for the HCI community. In this project we have explored the limited HCI scholarship related to self-harm within a social computing context. We offer the community an operatlonalized defintion of digital self-harm and propose a theoretical base to orientate related research questions into actionable activities. We also describe a research agenda for digital self-harm, highlighting how the HCI community can contribute to the understanding and designing of technologie sfor self-harm prevention, mitigation, and treatment.

User Centered Design of a Patient Monitoring Dashboard

Collaborative Work, Human-Computer Interaction

Beth Mynatt, Aditi Dhar, Maia Jacobs

Patient care happens in homes as well as away from them. Care providers spend a significant amount of time in trying to piece these different pieces together and come up to speed with the patient's current status. This user-centered design of a dashboard will provide them with a means for patient monitoring and help them get all the information that they need in that moment at a glance. At this time, this project focuses on achieving its goals in the context of Breast Cancer, specifically for Cancer Navigators.

Experimental Television Lab *(322)* *HCI, Virtual Reality*

The ETV Lab explores the future of narrative forms in the new digital medium that is emerging as TV converges with computational formats. The lab prototypes applications on current and hypothetical platforms, using narrative material drawn from actual and planned television shows and by creating its own narratives specifically designed for interactivity. The group has prototyped interactive video applications for delivery on the Internet, DVD, and consumer TV platforms.
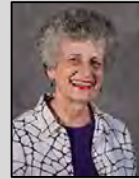
Faculty: *Janet Murray*

Learn More at: http://etv.gatech.edu

Gundam VR: Mobile Suit Agency

Gaming, Virtual Reality

Janet Murray, David Chiang, Annick Huber, Edith Li, Hayden Duke Russell

This virtual reality experience uses Gundam VR (an adaptation of the Japanese animated TV show, Mobile Suit Gundam: Iron-Blooded Orphans). In this VR experience, the user role of protagonist Mikazuki Augus is in battle as a mercenary. Left paralyzed on his right side due to the physical strain from piloting his Gundam (a giant robot), Mikazuki is only able to control his entire body when plugged into his robot, the Barbatos. This virtual reality experience asks the question: How can giving and taking away of agency in VR be used to simulate physical impairment?

Isola VR

Gaming, Graphics and Animation, Virtual Reality

Janet Murray, Yichi (Lyric) Liu, Jian Ruan

Isola is a VR experience in a fantasy world with floating islands. Special pieces representing forgotten dreams are scattered within the space. The player has to find lost pieces to become complete. During the Journey, a special vehicle is available for navigation and interaction. At the end, the player must combine two broken pieces collected along the way to form a star. The story is accompanied by a bird which guides the players' attention and cues for possible interactions. This project explores using a non-playable companion character to diegetically inform the player how to interact within a virtual space.

Lonely Mountain

Gaming, Human-Computer Interaction, Virtual Reality

Janet Murray, Jemma Yang, Muchao Tang, Pedro Arevalo

Lonely Mountain is a virtual reality (VR) adaptation of the movie The Hobbit: The Battle of the Five Armies. In this VR experience, Lonely Mountain has fallen into the claws of Smaug the Terrible. In the role of the Hobbit, Bilbo Baggins, the players mission is to find and recover the Arkenstone and unite the dwarf realms under the same banner to save Lonely Mountain. This VR experience asks the question, how can diegetic elements be used to show the current state of an NPC?

The BoARd Game

Augmented Reality, Human-Computer Interaction, Mobile and Ubiquitous Computing

Janet Murray, Pratik Shah, Sarthak Ghosh, Karan Pratap Singh

The BoARd Game is a room-scale interactive narrative designed specifically for the Hololens. The player is helping a couple of kids (non-playable characters) to escape a life-threatening board game. The game begins with the kids casting the dice and the game shrinking them to a small size after which they become actual characters in the game. The player will guide the kids through puzzles that explore different interactions and designs. The end of the game resets the world and returns everything back to normal. The narrative is inspired from Honey I Shrunk the Kids and Jumanji.

Reconciling History

Human-Computer Interaction

Janet Murray, Takara Portis

The 2016 television miniseries, The People vs. OJ Simpson: American Crime Story, captured imaginations and stirred memories. The series was based on the murder trial of football legend OJ Simpson and the resulting media circus. While watching, viewers remembered the events of the trial or enjoyed the fictionalized narrative. Since viewers are either re-living or experiencing these events for the first time, can first-hand accounts and archived media be used as insights in a multimedia companion to dive deeper?

Enhancing the effectiveness of Impossible Spaces in VR

Cognitive Science, Gaming, Virtual Reality

Janet Murray, Karan Pratap Singh

Impossible Spaces is a technique that uses self-overlapping architecture to incorporate natural walking in virtual environments without the use of any other movement techniques that like teleportation or portals. I am showcasing some design interventions that when applied to self-overlapping architecture enhance the believability of the space and might even lower the threshold of detection of the architectural manipulation. These design techniques can then be used by VR narrative developers to further enhance the believability of their VR narratives.

ARES

Gaming, Human-Computer Interaction, Virtual Reality

Janet Murray, Joshua A. Fisher, Karan Pratap Singh, Wes Wang, Amit Garg, Pranav Nair

In a race against the clock, players embark on a dangerous adventure. Within moments, the journey goes haywire. Lost and alone, the player finds themselves stranded. In this VR interactive narrative, players fight to survive the dangerous landscape. Utilizing Oculus Rift, Unity, and unique interaction paradigms, Ares explores a wide range of new techniques in VR storytelling. This distinctive, immersive experience will test user's survival skills and offer an exciting challenge.

Over the Garden Wall VR

Human-Computer Interaction, Virtual Reality

Janet Murray, Phillip Roberts, John Crisp, Mehmet Ordu

Alone in a strange and dark forest, you find a lantern, your sole source of light and comfort. But soon you are joined by two characters, and each makes a compelling argument as to why you should give the lantern to them. Who do you trust? You decide! This virtual reality experience places you at the penultimate moment of Cartoon Network's Emmy-award winning "Over the Garden Wall" mini-series.

AquaRium Tour: Georgia Aquarium tour experience design

Augmented Reality, Mobile and Ubiquitous Computing, New Media

Janet Murray, Tica Lin

This project integrates augmented reality to redesign the Georgia Aquarium tour experience. Based on the existing digital contents from Georgia Aquarium, AquaRium Tour features user-centered interaction to facilitate the aquarium tour experience, incorporating the functions of navigation, providing knowledge about aquatic life as well as sharing and other social features.

ViewVR

Health Experience & Applications Lab *(346)*

Health Informatics, Human-Computer Interaction

We investigate how interactive technologies can be designed and developed to facilitate personal health-related information awareness and understanding. We study, design and develop computing tools for digital communication of health status and progress, drawing from the perspectives of clinical caregivers, families, and individuals.

Faculty: Lauren Wilcox

Learn More at: http://www.hx.gatech.edu

Stand Up: Device and App Solution to Track Standing & Sitting

Health Informatics, Human-Computer Interaction, Mobile and Ubiquitous Computing

Lauren Wilcox, Thomas Ryan

This project explores how to best visually represent the amount of time a user has stood and sat during the day in an effort to help to mitigate sedentary lifestyles. Previous work on this project led to the creation of a simple activity tracker device that accurately determines when a user stands and sits. This project will explore the best visual representation of the data and, once the design has been finalized, a usability test will focus on exploring whether the design effectively communicates to the user if his or her current patterns of standing and sitting are healthy.

Rapport: Pediatric Patient and Family Oriented Radiology Report

Health Informatics, Human-Computer Interaction

Lauren Wilcox, Matthew Hong, Clayton Feustel, Max Silverman, Meeshu Agnihotri

Diagnostic radiology reports are increasingly being made available to patients and their family members. However, these reports are not typically comprehensible to lay recipients, impeding effective communication about report findings. Rapport is a prototype system that aims to facilitate communication about radiology imaging findings among pediatric patients, their family members and clinicians in the clinical setting.

Human Factors & Aging Lab *(346)* *Human-Computer Interaction*

At Georgia Tech, human factors and aging is studied from the broad perspective representative of the field of human factors. The Human Factors and Aging Laboratory is specifically oriented toward developing a fundamental understanding of aging, cognition, and attention. The Human Factors and Aging Laboratory is also committed to bringing that fundamental basic knowledge to bear on design issues important to the quality and safety of activities of daily living encountered by older adults.

Faculty: *Wendy A. Rogers*

Learn More at: http://hfaging.gatech.edu

Developing a Quick-Start Guide to Aid Older Adults with Gesture Performance

Gaming, Human-Computer Interaction

Wendy A. Rogers; Tracy L. Mitzner, Christina N. Harrington; Kristin J. Hare

Exergames, or exertion video games, are interactive, exercise-based video games that are a promising in-home approach to physical activity, therapeutic and rehabilitation training, and social interaction for older adults. To alleviate current usability challenges that older adults experience with the use of Kinect-based exergames, we developed a Quick-Start Guide (QSG) as a form of instructional guide to display gesture interactions and trouble-shooting techniques to aid system use. Our current study evaluates three different formats of the QSG to assess the most effective way to help older adults use these systems.

Information Interfaces Group *(334)* *Information Visualization*

At the Information Interfaces Group, computing technologies are developed that help people take advantage of information to enrich their lives. The lab develops ways to help people understand information via user interface design, information visualization, peripheral awareness techniques and embodied agents. The goal is to help people make better judgments by learning from all the information available to them.

Faculty: *John Stasko*

Learn More at: http://www.cc.gatech.edu/gvu/ii/

Jigsaw: Visual Analytics for Text Document Collections

Information Visualization

John Stasko, Sakshi Pratap

The Jigsaw system helps investigative analysts with reasoning and sense-making in the collection and analysis of documents. Jigsaw (acting like a visual index on a document collection) analyzes the document, identifies entities, clusters related documents, analyzes sentiment, and summarizes each document. Next, it provides multiple visualizations of the documents, entities within, and the analysis results. Jigsaw will explore a variety of domains and document collections including academic papers, grants, product reviews, business press releases, news articles, intelligence and police reports, statutes, and even books (i.e. the Bible).

SpaceSketch - Multitouch Exploration of Urban Public Safety Data

Human-Computer Interaction, Information Visualization

John Stasko, Alex Godwin

Visualization tools for spatio-temporal data utilize map-based representations to help a user understand trends and outliers within a given region over time. Multitouch visualization tools allow us to recreate many of the capabilities of sketching directly on maps while still taking advantage of computational models of public safety. We will be demonstrating SpaceSketch, a multitouch approach to spatio-temporal visualization. Visitors will be allowed to explore crime and transit data in the city of Atlanta using our high-resolution Perceptive Pixel Interface.

Health Observatory in Atlanta

Information Visualization

John Stasko, Xiaoxue (Ellie) Zhang

This project visualizes health data within the Atlanta metro region. Although some research about health inequities among this region has occurred, it typically is based on county-level data. In order to have a better understanding of health inequities and disparities in our home area, a city profile for Atlanta should be established. This project has created an interactive visualization of data such as rates of teen pregnancies, low birthweight babies, etc. The system allows the viewer to explore correlations among the different variables.

Visualizing the Top Golf Courses in the US

Information Visualization

John Stasko, Josh Kulas

We have created a visual interface to explore the history of the top 100 U.S. golf course rankings from Golf Digest and Golf Magazines. A viewer can explore the courses geographically via a map or through the individual ordered lists from the magazines. The system shows how each course's ranking has changes over the years, and it allows the viewer to explore courses by particular architects.

Visualizing Figure Skating Jumps

Information Visualization

John Stasko, Qin Li

A visualization system for portraying the jumps in men's and ladies' single figure skating programs. Data is from the International Skating Union's score tables for world championships in the last 6 years. The objective is to better interpret the score tables by visualizing the program composition of top skaters, as well as showing a trend of the sport in general.

Data Illustrator

Information Visualization

John Stasko, John Thompson

Data Illustrator is a vector editing tool for creating data visualizations and infographics. Graphic designers can use Data Illustrator to craft their own visualizations by repeating and styling shapes with data-driven rules. The tool supports the creation of expressive, flexible, and parametrically defined visualizations without the need to program them.

Visually Exploring NFL Football Draft and Performance Data

Information Visualization

John Stasko, Se Yeon Kim

In this project, we have designed visualizations that show the recent history of a team's draft selections as well as each team's regular season and playoff history. Our goal is to provide an easy-to-browse and -understand interface for exploring the data and learning about teams' pasts.

Visualization of the History of Worldwide Plane Crashes

Information Visualization

John Stasko, Hui Feng

The project's goal is to help people to identify some of the variables involved in air traffic safety, and understand that air traffic safety relies on both technology and the people who control it. Hopefully, it will be illuminating to anyone concerned with air traffic safety.

Visualization of tweets posted from different cities

Information Visualization

John Stasko, Jing Liu

Interactive Media Technology Center *(309)*

Augmented Reality, Civic Computing, Educational Technologies

IMTC is a multimedia research center comprised of teams of interactive media experts that include computer scientists, electrical engineers, and graphic artists. IMTC has grown and adapted to meet the needs of business and industry in the U.S. and abroad by developing and using multimedia technology for enhancement of their core business. IMTC's mission is to assist companies in developing advanced multimedia systems while educating students in multimedia technologies and techniques. IMTC collaborates with a number of partners including the Georgia Center for Advanced Telecommunications Technology, a joint research effort by Georgia Tech, Emory, Medical College of Georgia, Georgia State, and UGA.

Faculty: Maribeth Gandy

Learn More at: http://www.imtc.gatech.edu

R&D at the Interactive Media Technology Center
Augmented Reality, Mobile and Ubiquitous Computing, Wearable Computing

Maribeth Gandy, Peter Presti, Scott Robertson, Clint Zeagler, Brian Jones, Jeff Wilson, Jeremy Johnson, Laura Levy

We will be showcasing a variety of projects that highlight our applied research and development at the intersections of wearable computing, machine learning, smart textiles, internet of things, virtual/augmented reality, health and wellness, games with a purpose, educational technologies, assistive technology, connected living, and the arts.

MS-HCI Project Lab *(324)* *Human-Computer Interaction*

Students in Georgia Tech's interdisciplinary MS in Human-Computer Interaction program do multiple group class projects, and a capstone individual project. Some projects are presented as part of other labs listed here; others are showcased in the MS-HCI Project Lab.The two-year program spans four schools: Industrial Design; Interactive Computing; Literature, Media and Communications (Digital Media Program); and Psychology. Approximately 50 new students enroll each fall semester.

Faculty: Richard Henneman, Carrie Bruce

Learn More at: http://mshci.gatech.edu/research/labs

EOB Reader: Demystifying Explanation of Benefits

Health Informatics, Human-Computer Interaction

Mark Braunstein, Samuel Cheng

Our goal is to identify ways to simplify complexities within medical bills and Explanation of Benefits (EOB) statements, which are difficult to translate even for experts. This project considers how to empower the end user to deal with the confusion and frustration involved in understanding one's medical services. We aim to leverage principles of participatory design to build a mobile application which takes advantage of the latest OCR technology solution and present the relevant information via an easy-to-understand interface.

Intuition, Rational Thinking & Creativity

Human-Computer Interaction

Katherine Fu, Catherine Johnson

This research explores the effect of intuitive versus rational thinking on creativity by investigating design tasks with undergraduate industrial design students performing nine design tasks across three conditions. Student work was scored for novelty and feasibility, and data analyzed in conjunction with self-reported mood and information processing assessments. Results show numerous statistically significant differences. Based on our analysis, we identified simple, actionable suggestions for design educators to integrate with their teaching, and other thought provoking considerations.

Visual Story Cubes

Gaming

Ellen Do, Wesley Wang

Goal of this study is to understand how people interact with tangible user interfaces through play with the intent to support exploration, discovery, and learning of visual narratives. We designed the interactive system with the use of tangible blocks as primary interaction mode in mind, which contain various design elements of sequential art (graphic novels), for creating, editing, modifying visual narratives through different configuration and combination of blocks viewed under a device, such as such as a mobile phone in the form of augmented reality.

Typeface Discovery for Designers

Human-Computer Interaction

This project will focus on the impact of typeface identification to facilitate the visual design process. It will help identify the issues that hinder designer's creativity, provide support for their acquisition of inspirations and relieve them from organizing collectibles, design artifacts. The expected prototype will reflect the mental model for typeface categorization, and make a designer's workflow smooth and enjoyable.

MoodChat: Emotion Communication Wearable System

Health Informatics, Human-Computer Interaction, Wearable Computing

Jim Budd, Xiaowei Chen

Sharing emotions is a way to connect people to one another, this project uses a wearable system to recognize, share & connect people via emotions. MoodChat is a wearable system that automatically recognize human emotion and allows people to share their feelings and emotions through simple interaction. The system includes a wristband and a mobile app.

Data Documentary

Civic Computing

Yanni Alexander Loukissas, Lu Dong

Understanding and visualizing pedestrian accidents on Buford Highway

News Contextualization

Human-Computer Interaction, Mobile and Ubiquitous Computing

Ellen Do, Mandy Chu

Technology design for HIV outreach work in India

Human-Computer Interaction

Neha Kumar, Samyukta Sherugar

Participatory Publics Lab *(323)*

Civic Computing, Mobile and Ubiquitous Computing

The Participatory Publics Lab is concerned with community engagement and design. We explore the design of mobile and social media in the context of community development and activism. We do this through the design of technologies, development of discourses about them and in their use, adoption, and appropriation. We investigate forms of civic and community engagement through participatory design, design research, ethnographic research, and critical scholarship.

Faculty: *Christopher Le Dantec*

Learn More at: http://dm.lmc.gatech.edu/research/labs/participatory-publics-lab/

Cycle Atlanta

Civic Computing

Kari Watkins (Civil Engineering) and Chris Le Dantec (LMC)

Half of all trips are three miles or less, yet only 1.8 percent of those trips are biked. This is in part due to a lack of safe infrastructure, bicycle lanes on roadways, or other resources. Our project, Bicycle Route Desirability, aims to modify the open-source CycleTracks application for use in Atlanta. CycleTracks tracks the existing routes of cyclists using their smart phones and allows comparison of these routes to the quickest path from origin to destination. This allows us to begin to recommend appropriate infrastructure improvements to the most traveled routes in a study area by seeing logical paths that cyclists avoid.

Pixi Lab *(338A)* *Human-Computer Interaction*

Pixi Lab researchers are exploring the boundaries between interaction and infrastructure with the goal of creating technology that is not simply usable, but also useful. Taking a human-centered approach, researchers begin by understanding the needs and practices of people through empirical methods, then designing compelling user experiences that fit that context and, finally, building the underlying systems and networking infrastructure necessary to realize that user experience. Lab research includes new methods to simplify home network management and troubleshooting, as well as security technologies that are more useful and usable.

Faculty: *Keith Edwards*

Learn More at: http://www.cc.gatech.edu/pixi/

Situated Anonymity: Anonymity, Ephemerality, and Hyper-Locality on Social Media

Human-Computer Interaction, Online Communities, Social Computing

Keith Edwards, Rebecca Grinter, Amy Bruckman, Ari Schlesinger, Eshwar Chandrasekharan, Christina Masden
In an interview-based study, we found that three features – anonymity, ephemerality, and hyper-locality – deeply affected the identity of Yik Yak's community as a whole, the patterns of use, and the ways users committed to this community. Typically, commitment to an online community has been characterized as either bond-based commitment, meaning attachment to specific users within the community (like on Facebook), or identity-based commitment, meaning attachment to a topic or characteristic such as home-town pride, surviving cancer, or anime fandom (like 4chan). This work extends our understanding of use and identity-versus-bond based commitment.

Public Design Workshop *(317A)* *New Media*

The Public Design Workshop is a pedagogically structured lab created to explore new ways to teach, learn, and do social design within the university. We explore how design contributes to the construction of publics, articulates contemporary social and political issues, and fosters new forms of engagement with technology. We do this through participatory workshops & events, speculative design, and theory & criticism. We design events, workshops, objects, and systems. We also do theory and criticism. We are always open to new collaborators. Current topics of interest include: food and food systems, hackathons, infrastructure, visualizations, tools, and maps.

Faculty: *Carl DiSalvo*

Learn More at: http://publicdesignworkshop.net

Persimmons: (De)constructing Cultural Identity through Interactive Fruit Foodway Narratives

Human-Computer Interaction

Carl DiSalvo, Trinh Nguyen

Food plays a huge role in shaping our identity. We engage in food practices daily and associate meaning with these specific acts. Our research explores this theme by deconstructing cultural identity through food narratives. How can we use narrative to make sense of and frame our identities around food within and across different cultures? We gathered multiple stories around a single fruit - the persimmon. Drawing from food journalism, food field guides, and digital media we worked within this intersection to share narratives and provide a means to frame our own identities.

Smart Cities and Active Citizens

Civic Computing, Human-Computer Interaction

A project exploring how people who run in Atlanta might use data generated by city sensor nodes and other sources.

Digital Enrichment for Orangutans *(located in 243)*

Graphics and Animation

**Carl DiSalvo, Michael Nitsche, Clint Zeagler, Rebecca Scheel**

With their high cognition, engineer-like curiosity, and close relation to humans, orangutans are an extraordinary user group to study. The project aims to provide animal care staff and organizations new methods in enriching the lives of animals in their care by creating applications with the Kinect for interactive projections.

Research Network Operations Center *(333)*

Collaborative Work, Human-Computer Interaction, Mobile and Ubiquitous Computing
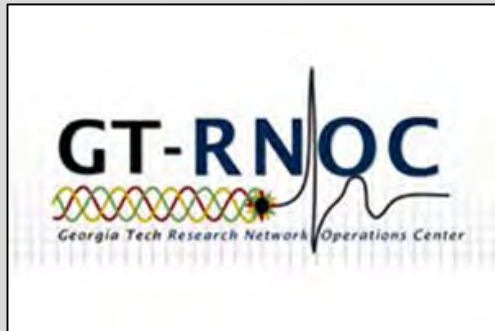
The Georgia Tech Research Network Operations Center (GT-RNOC) exists to accelerate innovation in networking, computing, mobility and convergence by enabling communities of collaboration. GT-RNOC provides, supports and maintains a unique end-to-end infrastructure within a realistic operational setting, accessible to world class students, researchers and innovators from various disciplines across the many Georgia Tech research centers. GT-RNOC leverages the unique position of Georgia Tech as a pre-eminent network and network service hub and provides researchers with access to this unique network infrastructure.

Faculty: *Matt Sanders*, *Russ Clark*, Siva Jayaraman, Bill Eason, Sean Donovan

Learn More at: http://rnoc.gatech.edu

CIC - Student Innovation in Smart Cities, Health, and Wellness

Civic Computing, Collaborative Work, Educational Technologies

The Convergence Innovation Competition (CIC) is a unique competition open to all Georgia Tech students with categories defined by our Industry partners who provide mentorship, judging, and category specific resources which are often available exclusively to CIC competitors. CIC Competitors are supported by GT-RNOC research assistants who provide technical support and shepherd teams through the competition process. The overarching goal of the CIC is to create innovative and viable products and experiences including a strong user experience and a business case.

RPKI - Network Innovation

Collaborative Work, Human-Computer Interaction

Russ Clark, Tito Nieves

In 2008, Pakistan took down YouTube from entire Internet for nearly three hours. They did this using BGP, the border gateway protocol, the IP-to-network address book protocol of the Internet. They announced that they owned YouTube's IP addresses, even though they did not own them. RPKI, the resource public key infrastructure, is the first step in addressing this issue to only allow owners of IP address to announce where they are located. Unfortunately, implementing RPKI is not a trivial task, and we are working on making a "cookbook" on how to properly deploy RPKI on university campus routers.

Network Innovation -- Software Defined Exchange (SDX)

Russ Clark, Nick Feamster, Siva Jayaraman,

The SDX project is applying the principles of Software Defined Networking and Infrastructure to the problems of peering between network operators and service providers. This work seeks to overcome the traditional limitations of peering protocols such as BGP to enable operators and their customers to express rich, application specific policies that facilitate the integration of cloud computing and virtualization into numerous applications.

IoT - Fullstack Grill Demonstration

Civic Computing, Human-Computer Interaction, Mobile and Ubiquitous Computing

Russ Clark, Bill Eason, Geunbae Lee, Abdoulie Njie, Chris Blackstone, Jack Bordoni

The Internet of Things (IoT) will soon touch nearly all of the interactions we have with our world and with the things around us, and the interaction of those things with each other. GT-RNOC is developing a number of IoT-related projects that help students demonstrate and better understand some of the complexity and range of applications that the IoT encompasses.

IoT - Professional Education Programs

Civic Computing, Human-Computer Interaction, Mobile and Ubiquitous Computing

Russ Clark, Bill Eason, Geunbae Lee, Abdoulie Njie, Chris Blackstone, Jack Bordoni

The Internet of Things (IoT) will soon touch nearly all of the interactions we have with our world and with the things around us, and the interaction of those things with each other. GT-RNOC is developing a number of IoT-related projects that help students demonstrate and better understand some of the complexity and range of applications that the IoT encompasses.

IoT - The Things Network

Civic Computing, Human-Computer Interaction, Mobile and Ubiquitous Computing

Russ Clark, Bill Eason, Geunbae Lee, Abdoulie Njie, Chris Blackstone, Jack Bordoni

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Smart Cities - Data Platforms and Services

Augmented Reality, Civic Computing, Collaborative Work

Matt Sanders, Russ Clark, Siva Jayaraman, Brian Davidson,

GTJourney is an opportunity for all members of the Georgia Tech community to collaborate on applications and solutions that benefit the campus. It is a virtual focal point for students, faculty, and staff to develop ideas and solutions, find technical support and resources, advertise and access campus data, and share applications and experiences.

Smart Cities - Mobile and Web Application Ecosystems

Augmented Reality, Civic Computing, Collaborative Work

Matt Sanders, Russ Clark, Siva Jayaraman, Brian Davidson,

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Smart Cities - Metro SDX

Civic Computing, Collaborative Work

Russ Clark, Sean Donovan

Smart communities have many different network providers, often sharing underground conduits or telephone poles. Their proximity cannot be closer in many cases. Unfortunately, in order for one network to send traffic to the other, providers often much connect through a third party, or must send their nearby

city to exchange traffic. Further, a network may fail, and there is no alternative for the end user other than to wait for their provider to fix the failure. In order to improve reliability, we introduce the MetroSDX network design with leads to better network resiliency through "roaming on the wire" and lower inter-network latency by interconnecting networks opportunistically all over the city.

Smart Cities -- Urban Canyon

Civic Computing, Human-Computer Interaction, Mobile and Ubiquitous Computing

Russ Clark, Bill Eason, Geunbae Lee, Abdoulie Njie, Chris Blackstone, Jack Bordoni
The Internet of Things (IoT) will soon touch nearly all of the interactions we have with our world and with the things around us, and the interaction of those things with each other. GT-RNOC is developing a number of IoT-related projects that help students demonstrate and better understand some of the complexity and range of applications that the IoT encompasses.

Social Dynamics & Wellbeing Lab *(341B)*

Health Informatics, Social Computing

We study, mine, and analyze social media to derive insights and develop mechanisms toward improving our health and well-being. As social media technologies are adopted more pervasively, the line between our online and offline lives is disappearing slowly but steadily. Content shared on these platforms often revolves around day-to-day happenings and experiences in our personal lives, and in our physical and social environments. As such, social media provides a means to capture attributes relevant to our thinking, mood, communication, activities, socialization, and psychological states. We employ this rich repository of information in addressing outstanding challenges relating to personal and societal well-being.

Faculty: Munmun De Choudhury

Learn More at: http://www.munmund.net/

Student Well-being Reflection Tool

Human-Computer Interaction, Social Computing

Munmun De Choudhury, Oriana Ott

The StudentLife project combines multiple streams of data about student habits into meaningful holistic analyses of individual well-being. We seek to understand what elements are most useful and relevant to communicate to student users, and how to do so in a way that empowers them to benefit from that information. A major element is to show how people, especially students, respond to self-reflection, what elements of self-reflection can be harmful and helpful, and how to use that understanding to inform the development of a useful and engaging application.

Examining behavioral markers leading to social media disclosures on schizophrenia

Social Computing

Munmun De Choudhury, Sindhu Kiranmai Ernala

We examine the potential of leveraging social media disclosures to characterize and predict experiences leading up to a psychotic episode. Social media captures behavior and language in a naturalistic setting and gives us access to real-time activity and psychological states that can be analyzed to discover and predict behavioral markers associated with a psychotic episode. With an initial dataset of 11,000 tweets which disclose symptoms of psychosis such as hearing voices, having delusions, schizophrenia etc., we develop a computational method to identify behavioral and linguistic markers that attribute to an episode of psychosis.

Online Support for Mental Health

Social Computing

Munmun De Choudhury, Eva Sharma

Online health support groups, particularly on Reddit, due to the site's semi-anonymity feature, provide support in various forms – ranging from informational to emotional – for people with social inhibitions and seeking help. We will show some preliminary quantitative findings that address how these different types of support impact an individual's perceived sense of mental well-being in an online community and how support types relate to an online community's helpfulness, efficacy, and survival over time.

How does social network help people adhere to their fitness regime

Social Computing

Munmun De Choudhury, Sarmistha Dutta

Using data from a user's Twitter network, including publicly posted workout data, our project seeks to answer some of the following questions: What is the effect of social network on one's health regime? Is there any correlation between the number of times a person posts about health and the average workout the person does? Previous research shows that support in the form of retweets, comments, and loves of a user's health tweet actually motivates him or her to continue using quantified health devices. Now with the exact data of a person's workout, we are trying to quantify this motivation.

Using Social Media to Model Stress in College Campuses Around Violent Incidents

Online Communities, Social Computing

Munmun De Choudhury, Koustuv Saha

In this study, we propose to analyze how different campus populations collectively react to stressful or adverse events, using a causal inference-based technique. We chose eight violent incidents that occurred in US college campuses in the last four years, including the 2015 Chapel Hill Shooting, 2016 UCLA Shooting and 2016 OSU Attack. Building a machine learning classifier of stress, which uses language models and expert validation, we also aim to identify the language cues for the expression of stress on social media.

Crowd-Sourced Markers of Urgency for Mental Health Crises

Online Communities, Social Computing

Munmun De Choudhury, Stevie Chancellor

Sonification Lab *(222)* *Mobile and Ubiquitous Computing, Perception*
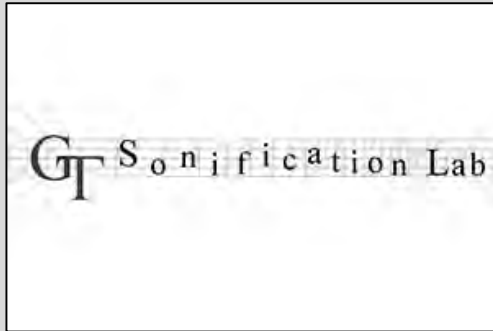
The Georgia Tech Sonification Lab is an interdisciplinary research group based in the Schools of Psychology and Interactive Computing. The lab focuses on the development and evaluation of auditory and multimodal interfaces, and the cognitive, psychophysical and practical aspects of auditory displays, paying particular attention to sonification. Special consideration is paid to Human Factors in the display of information in "complex task environments." We often work with people who cannot look at, or see, traditional visual displays in order to develop assistive technologies for the visually impaired. Our collaborative research projects often include empirical (lab) studies, software and hardware development, field studies, usabilty investigations, and focus group studies.

Faculty: Bruce N. Walker

Learn More at: http://sonify.psych.gatech.edu

Auditory STEM: Math and Science Education for Students with Vision Impairment

Educational Technologies, Human-Computer Interaction, Information Visualization

Bruce Walker, Jonathan Schuett, Brianna Tomlinson, Jared Batterman, Jonathan Schuett, Brianna Tomlinson, Jared Batterman, Mike Winters, Zachary Kondak, Henry Wang, Prakriti Kaini, TJ Funso

The graphs and figures that are so prevalent in math and science make those topics largely inaccessible to blind students. In collaboration with the Georgia Academy for the Blind and the Center for the Visually Impaired of Atlanta we are working on auditory graphs that represent equations and data to those who cannot see a visual graph. Our research looks at teaching astronomy concepts and understanding weather information through a combination of sonification and auditory description. We have an ecosystem of software and hardware solutions, both desktop and mobile, to help in this space.

Marlin: A wearable swim coach

Health Informatics, Mobile and Ubiquitous Computing, Wearable Computing

Bruce Walker, Ellen Do, Shambhavi Mahajan, Milap Ran

Globally, smart technologies are being developed to coach people on healthy and responsible behaviors, provided timely and ubiquitously with personalised information and support. Marlin is a wearable swim coach for distance swimmers, that monitors swim performance and provides real time feedback through sonification while swimming. It allows both the coach and swimmer to analyze performance by tracking progress and giving immediate guidance. This project evaluates the usability of the interface for the coach and the swimmer, and behavior modifications according to feedback.

In-Vehicle Assistive Technologies

Human-Computer Interaction, Mobile and Ubiquitous Computing

Bruce Walker, Keenan May, Steve Jones, Tyler White, Thom Gable

Millions of Americans who suffer traumatic brain injuries (TBIs) need assistive technologies following their recovery. The residual effects of TBIs can affect perception, cognition, emotion, and motor abilities. In collaboration with the Shepherd Center we are developing software that can improve the attention and abilities of drivers post-TBI and others who have attention lapses, cognitive processing issues, or other issues that impact driving. Similar types of applications could be built for many other types of issues as well (e.g., novice drivers, aging adults, etc).

Automated Driving Displays

Human-Computer Interaction, Information Visualization, Mobile and Ubiquitous Computing

Bruce Walker, Brittany Noah, Thomas Gable

Automated safety systems, a first step toward autonomous vehicles, are already available in commercial vehicles. These are systems such as adaptive cruise control, which has the capability to slow down due to traffic, and automatic lane keeping, which maintains position within a lane without driver intervention. In order to ensure that these systems are properly used by drivers they must understand and appropriately trust the technology. We are investigating personal characteristics and driving environments that influence acceptance and use of automated safety systems and developing multimodal displays to increase situation awareness.

System for Wearable Audio Navigation (SWAN) *(located in 309)*

Human-Computer Interaction, Mobile and Ubiquitous Computing, Wearable Computing

Bruce Walker, Jeff Wilson, Phillip Roberts, Lusenii Kromah

The System for Wearable Audio Navigation (SWAN) serves as a navigation and orientation aid for persons temporarily or permanently visually impaired. SWAN is in the early stages of a software rewrite and technology upgrade. Interaction techniques are being prototyped in Virtual Reality (VR) to support preliminary user studies of new features.

TanDEm *(338A)* *Human-Computer Interaction, International Development*

In the TanDEm lab, we focus on matters relating to the design, deployment, adoption, and use of technologies
towards empowerment of underserved and under-represented communities in resource-constrained regions across the world.

Faculty: *Neha Kumar*

Learn More at: http://tandem.gatech.edu/

Redesigning Internet Access from the Ground-Up in Bangladesh

Collaborative Work, Human-Computer Interaction, International Development

Neha Kumar, Mehrab Bin Morshed

In this research, we look at the unexplored media and information sharing practices in the rural regions of Bangladesh and how these unconnected or under-connected populations find means to get online. We also argue that the "offline" practices for media sharing should be factored in the design of internet access. There are several clusters of populations across the world that do not have Internet access due to financial, social, or political limitations. Our work aims to contribute to the responses from state, industry, and grassroots actors to put in place mechanisms for transforming the current state of Internet access in these regions.

Introducing inspirit: Virtual Reality for Learning

Educational Technologies, Human-Computer Interaction, Virtual Reality

Neha Kumar, Aditya Vishwanath

Our research examines the role that low-cost virtual reality (VR) technology could play in supporting learning in low-resource contexts. We propose creating affordable VR based learning experiences for children in these contexts. With the rising penetration of low-cost mobile technologies and internet connectivity in under-resourced communities, we are exploring VR to enhance learning experiences for low-resource contexts. We introduce 'inspirit' - a free mobile platform for hosting VR based learning content for the classroom. Visit www.inspiritvr.org; download our mobile application from the Google Play Store.

Offline Mobile Media Sharing

Human-Computer Interaction, International Development

Neha Kumar, Naveena Karusala

This study examines different aspects of media sharing within Mobile Vaani - an Android app that displays crowdsourced news recordings from rural communities in many states in India. We have developed a feature that facilitiates offline sharing of these news recordings, in light of the relatively high cost of mobile data in the areas where Mobile Vaani is most used. As Mobile Vaani and offline sharing is launched, we propose a study of the learning processes and sharing practices among users of the app in order to further understand why and how people share mobile media content within a community.

Healthcare Access in Marginalized Communities

Human-Computer Interaction

Neha Kumar, Azra Ismail, Ravi Mangal, Prakriti Kaini

Despite repeated efforts by governments, historically, marginalized communities around the world have had limited access to quality healthcare due to the interplay of complex socioeconomic, political, and cultural factors. Our group studies the nature and extent of this limited access to healthcare, to construct a nuanced understanding of this phenomenon. Our goal is to extend lessons from our research work to inform the design of not just healthcare interventions, but interventions in the larger field of information and communication technologies for development (ICTD).

ICTs for HIV outreach work in India

Collaborative Work, Human-Computer Interaction, International Development

Ubiquitous Computing Group *(235)*

Mobile and Ubiquitous Computing, Information Visualization

We are interested in ubiquitous computing and the research issues involved in building and evaluating ubicomp applications and services that impact our lives. Much of our work is situated in settings of everyday activity, such as the classroom, the office and the home. Our research focuses on several topics including, automated capture and access to live experiences, context-aware computing, applications and services in the home, natural interaction, software architecture, technology policy, security and privacy issues, and technology for individuals with special needs.

Faculty: *Gregory Abowd*

Learn More at: http://ubicomp.cc.gatech.edu

Amazing Me: Milestone tracking via an interactive e-book

Health Informatics, Mobile and Ubiquitous Computing

Rosa Arriaga, Yiran Ma

Early development of children is a critical issue for parents, but they may fail to recognize symptoms of abnormalities or seek help at an early stage. CDC distributed brochures to promote knowledge of children's early development, but the large volume of information still requires dedicated time to discover relevant topics. Our project enhances the collaboration among parents, childcare givers, and professionals to make the most impact with this information. Our solution utilizes a tablet-based interactive storybook to intervene with milestone tracking and help improve chronic/health care management.

ActEarly: Redesign and Evaluation of an Android Mobile Application for Tracking Developmental Milestones

Health Informatics, Human-Computer Interaction, Mobile and Ubiquitous Computing

Rosa Arriaga, Laurel Warrell

We investigate how parents of young children use an Android mobile application, ActEarly, to log their children's developmental progress through milestones tracking techniques. The app leverages the Centers for Disease Control and Prevention's "Learn the Signs, Act Early" campaign to provide parents with information needed to identify signs of developmental disabilities. The goal this project is to evaluate the interactive ActEarly app and uncover users' method-keeping needs as we design a solution to help parents become more proactive about milestone tracking and create a useful health care tool for the public sector.

Making Smarter Transportation Choices

Civic Computing, Human-Computer Interaction, Mobile and Ubiquitous Computing

Gregory D. Abowd, Caleb Southern, Yunnuo Cheng, Vedant Das Swain, Cheng Zhang

Driving is the second highest expense for the average American household, behind only housing, yet most people do not understand the total cost of owning and operating their vehicles. These costs are spread over many expenses incurred at different times. We have developed a trip cost meter that makes the total cost of each driving trip visible to the user. We are exploring how this tool can help people make better informed personal transportation decisions, including choices for alternate modes of transportation.

Comoge: In-context Motion Gesture Design

Human-Computer Interaction, Mobile and Ubiquitous Computing, Wearable Computing

Gregory D. Abowd, Thad Starner, Pratik Shah, Aman Parnami, Gabriel Reyes

Motion gestures can be expressive, fast to access and perform, and facilitated by ubiquitous inertial sensors. Implementing a gesture recognizer requires substantial programming and pattern recognition expertise. We present a mobile tool for in-context motion gesture design. Our tool allows interaction designers to create and test motion gestures using inertial sensors in commodity and custom devices. Therefore, our tool encourages development of gestures with common as well as atypical body parts. Moreover, the data collection, design, and evaluation of envisioned gestural interactions can now occur within the context of its use.

Augmenting Human-Human Interactions in Personal Intelligent Spaces

Artificial Intelligence, Human-Computer Interaction, Mobile and Ubiquitous Computing

Gregory Abowd, Alan Dingtian Zhang, Nivedita Arora, Felix Tener

COSMOS (COmputational Skins for Multi-Functional Objects and Systems) is an interdisciplinary project to design, manufacture, fabricate, and apply "computational skins." COSMOS consist of dense, high-performance, seamlessly-networked, ambiently-powered computational nodes of 2D flexible surfaces that can process, store, and communicate sensor data. Achieving this vision redefines the basis of human-environment interactions by creating a world in which everyday objects and information technology become inextricably entangled, enable alternative and neuromorphic computing, and change the foundation of computing today.

NotifiVR- A VR notification design framework

Human-Computer Interaction, Virtual Reality, Wearable Computing

Gregory Abowd, Sarthak Ghosh, Gabriel Reyes, Nishant Panchal, Jeff Hotnog, Lauren Winston, Philippe Kimura-Thollander, Douglas Cheong

Due to the lack of standardized notification systems in virtual reality (VR), an immersed user can face different problems like bumping into walls, tripping over pets, losing track of time, missing incoming calls, getting late for scheduled appointments, etc. We present a study of common interruptions in a VR context and explore methods of representing them in an abstract way in the VR world. Further we present NotifiVR, a Unity based notification framework that allows developers and designers to create, integrate, and customize auditory, visual, and haptic notifications in a VR scene.

Collective Sensing: Building Better Human Networks

Human-Computer Interaction, Mobile and Ubiquitous Computing, Social Computing

Gregory Abowd, Rosa Arriaga, Jung Wook Park, Hayley Evans

Collective sensing is a novel mobile technology which aims to build better human networks. It uses multiple informants to collect information regarding an individual in a variety of contexts with the goal of creating a more holistic story.

Urban Transportation Information Lab *(323)*

Civic Computing, Mobile and Ubiquitous Computing

UTIL conducts research to improve sustainable transportation through better information. The members of the lab are interested in real-time information for transit, open data to enable the creation of tools to overcome barriers to transit use and digital civic engagement to solve transportation problems.

Faculty: *Kari Watkins*

Learn More at: http://util.gatech.edu

OneBusAway

Kari Watkins, Russ Clark, Candace Brakewood, Tushar Humbe, Landon Reed, Harshath JR, Di Sun

The OneBusAway transit traveler information system gives users information about transit vehicle arrival times including real-time arrivals and schedule information. It is comprised of multiple interfaces to access information, including a website, a mobile-optimized website, and native applications for iPhone, Android and Windows platforms (see http://onebusaway.org). OneBusAway was developed under multiple federal grants as an open-source system allowing other transit agencies to adapt the code for their own systems. The platform is also used in Seattle, Tampa and Washington DC and as the backbone of MTA New York's BusTime.

Visual Analytics Lab *(334)* *Information Visualization*

Our goal is to help people make sense of data. We research and develop interactive visualizations that couple machine learning with visual interfaces of data for exploration and sensemaking.

Faculty: *Alex Endert*

Learn More at: http://va.gatech.edu/

Podium: Ranking Data Using Mixed-Initiative Visual Analytics

Human-Computer Interaction, Information Visualization

Alex Endert, Emily Wall, Subhajit Das, Ravish Chawla

People often rank and order data items as a vital part of making decisions. Multi-attribute ranking systems help in this goal but assume that users are able to quantify their conceptual understanding of how important particular attributes are. We present an application that ranks multi-attribute data based on a user's interactions. Our system, called Podium, allows users to drag rows in the table indicating where they think data items belong based on their knowledge or preferences. Our system then infers a weighting model that satisfies the user's preferences as closely as possible.

Warning, Bias May Occur: Detecting Cognitive Bias in Visual Analytics

Cognitive Science, Human-Computer Interaction, Information Visualization

Alex Endert, Emily Wall

Visual analytic tools provide interactive interfaces to help people gain insights and understanding about data. Such tools show visualizations depicting the output of analytic models. People can explore different views, change model parameters, and control aspects of the system through user interaction that allow them to ask questions of the data and see responses visually. However, little consideration has yet been given to the ways inherent human biases might shape the visual analytic process. We describe five preliminary metrics for detecting cognitive bias based on users' interactions and show how these metrics might be used in a visual analytic system.

Work2Play *(338A)* *Health Informatics, Human-Computer Interaction, Int'l Development*

Computing affects our lives, shaping not just how we work, but also how we play. It potentially allows individuals to blur the boundaries by letting us conduct domestic routines while in the office, or working from a cafe in an urban centre. Researchers in the Work2Play lab are interested in using a variety of empirical techniques to advance the state of the knowledge in how computing affects our lives from work to play. Following Human-Centered and Human-Computing we conduct field studies, develop insights, deploy ICTs and evaluate impact. Past research has laid the foundation for the Work2Play lab by examining communication and coordination in both work and recreational settings.

Faculty: *Rebecca (Beki) E. Grinter*

Learn More at: http://www.cc.gatech.edu/~beki/wpl/Work2Play.html

Intersectional HCI

Human-Computer Interaction, Social Computing

Rebecca E. Grinter, W. Keith Edwards, Ari Schlesinger

Understanding users becomes increasingly complicated when we grapple with various overlapping attributes of an individual's identity. We introduce intersectionality as a framework for engaging with the complexity of user identities, and situating these identities in relation to their contextual surroundings. We conducted a meta-review of identity representation in the CHI proceedings, collecting a corpus of 140 manuscripts on gender, ethnicity, race, class, and sexuality published between 1982-2016. We analyze how identity is constructed and represented in CHI research to examine intersectionality in a human-computer interaction (HCI) context.

Thank You

for being a part of IPaT Industry Innovation Day and the GVU Center & Digital Media Research Showcase at Georgia Tech.

We look forward to learning more about your needs and interests. To learn more about our industry partner programs through IPaT or the GVU Center please contact us.

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