

## Request for Technology Fee Funds: FY21

**NOTE: A separate request should be made for each initiative.**

I. Department Number/Department Name:

360	College of Computing
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Title of Request (please be brief):

Usability Lab Upgrade
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Amount of Request (formula from detailed budget below):

\$77,901
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Type of Proposal: Atlanta or Dist Lrng/Non-Atl

Atlanta
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Is this request similar to one funded in FY19 or FY20?

Yes	(Yes or No)
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Are there installation/renovation costs associated with this request?

Yes	(Yes or No)
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If "Yes" then indicate the source of approved funding:

(Note: Tech Fees are not allowed for installation/renovation)

GVU Center
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**Executive Summary of Request (100 words or less):**

This proposal is intended to advance the GVV Center's Usability Lab, which is maintained and provided for students and researchers across campus. In the past year, the GVV Center has made significant infrastructure upgrades including a streamlined access request process, soundproofing installations, and significant audio recording installations. In order to provide the most multi-modal resource, we are requesting funds to augment the testing/recording capabilities in the space.

Specific class and/or lab initiative(s) if applicable:

Contact person for this request (incl. phone #):

Tim Trent (5-7610)
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Responsible faculty for this request (incl. phone #)

Keith Edwards, Tim Trent, Thad Starner
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Indicate priority per department if applicable:

Number      of     

Indicate priority per college or unit:

Number   2   of   9  

II. Impact on Students - Provide course title, course number, and anticipated enrollments:

Titles/Numbers of Course(s)

see Narrative
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Anticipated Enrollments

Graduate:	982	(per yr)	( ) sem or yr
Undergraduate:	738	(per yr)	( ) sem or yr
Total:	1,720		

The estimated percent use of the resources in the item by:

Students	95%
Faculty	5%
Other	0%
Total:	100%

Brief explanation of how estimate was achieved.

The space is intended to be used by students for development, testing, and presentation of their projects (both research and academic) so the majority of use will be by students.

**NOTE:** Other impacts on students should be described in narrative to include benefits to the students affected.

III. Detailed Budget - Requested Items by Category List separately any equipment, software, and other allowable expenses (see Tech Fee Guidelines). There is a formula in the "total column" that multiplies the number of items times the unit price. You may enter a figure into the total column if the unit pricing is not applicable. If you need additional rows, contact the Budget Office to receive a modified form. Software or data license proposals should indicate how many years the item has been funded through student tech fees in narrative.

**Supporting documentation is required**- Include price justification in some form, such as quotations, published price lists, etc. as a separate PDF attachment. All supporting information should be in a single PDF.

Proposed Number of Items	Estimated Price per Unit	Total (\$)
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Tobii Pro Bundle	1	\$73,295	\$73,295
DeckLink Quad 4K	2	\$545	\$1,090
Tascam Model 24	1	\$1,000	\$1,000
Tascam MH-8	1	\$460	\$460
Dell P4317Q	1	\$900	\$900
Oculus Quest 128GB	2	\$499	\$998

Oculus Link Cable	2	\$79	\$158
			\$0
<b>Total</b> (linked to the total amount of request line above)			<b>\$77,901</b>

Please return form via e-mail in Excel format to: [techfees@business.gatech.edu](mailto:techfees@business.gatech.edu). Supporting information only in a PDF file.

**IV. Narrative** - Provide narrative justification for your intended use of the technology fee funds. Include narrative on how the education or research of the students will be enhanced. To include curricular, co-curricular, and extracurricular benefits expected to accrue to students through provision of this resource, including students outside the unit. Briefly state how information regarding similar technology use elsewhere on campus to benefit from lessons learned, to standardize, or differentiate, and to avoid duplication. Also include how the request aligns with the Strategic Plan of Georgia Tech.

Affected Courses: CS 2698, CS 2699, CS 2701, CS 3651, CS 3750, CS 4605, CS 4690, CS 4698, CS 4699, CS 4903, CS 4980, CS 6755, CS 6998, CS 6750, CS 7470, CS 8903, PSYC 3750, PSYC 6023, PSYC 6750, PSYC 6755, PSYC 6998, LMC 6755, LMC 6998, ID 6998, ID 6755

This proposal is intended to advance the GVV Center's Usability Lab, which is maintained and provided for students and researchers across campus. In the past year, the GVV Center has made significant infrastructure upgrades including a streamlined access request process, soundproofing installations, and significant audio recording installations. In order to provide the most multi-modal resource, we are requesting funds to augment the testing/recording capabilities in the space.

The requested equipment includes an industry-standard eye tracking bundle; revolutionary VR equipment; and new professional A/V equipment.

**Background:**

For students and researchers developing new products and inventions, usability testing is a critical step in understanding the efficacy of the project. With Human Centered Design becoming an Industry Standard design method, Usability Testing is a key practice for students to engage in here at Tech. Through studying user interaction and experience, we learn how users interact with and experience physical and digital products such as applications, wearable technology, and physical interactive systems. The outcome of these findings can shape how individuals develop products and can inform further research. The GVV Center offers a Usability Lab specifically for providing a multi-modal space where these user studies can be conducted and recorded. The types of user studies conducted in the lab this year include focus groups, task-based usability testing, interviews, observations, and accessibility studies. In the past, GVV has added infrastructure such as a one-way mirror to facilitate observation between the testing room and observation room, built-in microphones to allow for easy recording setup, and soundproofing to increase data fidelity as well as participant comfort. These infrastructure upgrades, however, do not provide specific testing equipment that will allow users to run fully featured tests.

The GVV Center already maintains this space as a multi-user, interdisciplinary testing space, and hopes to grow this capability as time goes on. So far, we have users from undergraduate and graduate degrees in Psychology, LMC, Industrial Design, and Computer Science, though there are potential benefits to all curricula in which users create new products. Despite beginning operation in Fall 2019, in January and February 2020 the lab has already been scheduled for 26 hours of use, and as more users become familiar with the space this number is expected to grow.

**Proposal:**

In order to meet the rising demand for a multi-modal space which is applicable to a variety of disciplines, we wish to use funds to increase the testing and data collection capabilities of the lab. Equipment purchased will allow users easy access to high-quality data collection (audio, video, and user interaction) while also adding new modalities for testing.

Given the current interest in user-centered design and computing, our goal is to create a space with eye tracking, VR capabilities, and high-quality recording that will allow students in many curricula as well as researchers the ability to learn and use new equipment.

**Requested Equipment:**

**Tobii Pro Bundle:** This provides easy eye-tracking data for user studies. The Tobii pro bundle includes both a stationary and glasses-mounted eye tracking system as well as the software to make data collection simple. The data from equipment like this unit provides a wealth of insight into what users focus on when navigating a physical or digital product, where they get stuck during use, and other similar features. The lab currently does not have biometric eye-tracking capabilities, and this is a key part of user testing that would benefit students in working with biometrics and User Centered Research and Design. The Tobii Pro Bundle is a highly requested piece of equipment for students and researchers studying user interaction.

**Oculus Quest/Link:** This VR headset offers a completely wireless VR experience. While most headsets to date have either offered minimal range of motion or required bulky, room-scale position sensors, the Quest offers users the ability to explore with 6 degrees of freedom. This allows users the ability to walk around in a VR setting and interact with their environment without a lengthy set-up time. The Link cable also provides the ability to temporarily connect to a base-PC for certain data-intensive tasks like loading programs. This allows for the ability to transform the usability lab into any environment the product should be used in—for example, this system could bring the user into a kitchen in order to evaluate an on-fridge kitchen management interface.

**Tascam Model 24/MH-8:** This audio equipment provides professional recording and monitoring capabilities. The Model 24 allows recording of 16 distinct channels of microphone audio straight into a computer while the MH-8 enables up to 8 separate headphone/speaker outputs. The ability to record multiple channels will allow users the opportunity to isolate and analyze specific audio sources from their tests while the additional outputs will allow multiple users to monitor with headphones (preventing noise in recordings) or to add speakers to the test environment.

