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

Title of Request *(please be brief):* Virtual Reality Displays for 3D User Interfaces

Amount of Request *(formula from detailed budget below):* $43,899

Type of Proposal: Atlanta or Dist Lrng/Non-Atl Atlanta

Is this request similar to one funded in FY19 or FY20? No (Yes or No)

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

If "Yes" then indicate the source of approved funding:
(Note: Tech Fees are not allowed for installation/renovation)

Executive Summary of Request (100 words or less):

We propose to purchase stand alone virtual reality headsets for use in the 3D user interfaces course, augmenting the existing hardware that was purchased earlier this year to get the class started.

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

Contact person for this request (incl. phone #): Blair MacIntyre (blair@cc.gatech.edu)

Responsible faculty for this request (incl. phone #) Blair MacIntyre (blair@cc.gatech.edu)

Indicate priority per department if applicable: Number ____ of ____

Indicate priority per college or unit: Number 7 of 9

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

Titles/Numbers of Course(s) CS4803 3DUI, CS3451

Anticipated Enrollments

Graduate:		(per	) sem or yr
Undergraduate:	100	(per sem	) sem or yr
Total:	100		

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

Students	100%
Faculty	
Other	
Total:	100%

Brief explanation of how estimate was achieved.

Students will be using these headsets for classwork

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 ($)
Oculus Quest	100	$399	$39,900
Oculus Quest Travel Case	100	$40	$3,999
			$0
			$0
			$0
Total *(linked to the total amount of request line above)*			$43,899

Please return form via e-mail in Excel format to: 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.

In spring 2020, the College of Computing began offering a new class titled “3D User Interfaces” taught by Professor Blair MacIntyre. The class teaches desktop 3D, augmented reality, and virtual reality, and covers 3D interaction techniques, software architectures, hardware and software options, the history of the technology, and future trajectories; everything relevant to understanding how to create effective 3D interactive applications. We believe that this course is unique, not only at the Institute, but also among our peer institutions, which aligns directly with the Institute’s Strategic Goal to “be among the most highly respected technology-focused learning institutions in the world”. Such a class is possible now, because the costs of technology has dropped dramatically over the past few years. To teach 3D interaction techniques, students need access to VR or AR displays that support full ‘6 degrees of freedom’ input (using either hand or "controller" tracking, both position and orientation). AR displays are still prohibitively expensive (>$3000 each), but we can now buy completely stand-alone VR displays (i.e., they do not need to be hooked up to a computer) that support full 6D motion and input for between $400 (Oculus Quest) and $800 (Vive Focus Plus) list price.

We are requesting funds to purchase additional virtual reality headset displays for the class. A smaller batch of headsets was purchased at the beginning of the year to allow the class the class to be offered in Spring 2020, but demand for the class outstripped the initial estimates and the College would like to expand the offering in coming semesters. Beyond this class, we believe that there will be interest in using these headsets as a resource for students in other
classes (CS3451 Video Game design has been specifically targeted) in semesters when the 3D UI class isn't being taught, thereby growing the impact of this investment.

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