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| Project ID | PJ001063 |
| Project Fiscal Year | 2023-2024 |
| College/Department/Unit | College of Engineering, Chevron Center for Engineering Education (CCEE) |
| Title of Project | Acquisition of a Modern Portable 3D Scanner to Enhance the Chevron Center for Engineering Education |
| Name of Principle Implementor | Boz Bowles |
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| Is this project complete? | Yes |
| Is this account ready to be closed? | Yes |
| Amount Awarded | $12,500 |
| Amount Spent | $12,499.27 |
| Equipment | Afinia EinScan Pro HD - 3D scanner - handheld - USB 3.0, assorted accessories as needed. |
| Purpose | The Chevron Center for Engineering Education's (CCEE) purchase a modern, portable 3D scanner brings the Center's 3D scanning abilities up to date with equipment that is safer and better suited for use in a computer lab setting. The portability of the unit will allow it to be checked out from the CCEE, under supervision, to serve as a resource for both curricular and extra-curricular design projects. Because the Center is an interdisciplinary lab, the addition of these technologies would facilitate interdisciplinary projects and allow students to use these machines as a part of innovative pedagogies. The CCEE will also make use of the novelty of live scanning to improve student interest and investment in workshops on the topic of additive manufacturing and 3D visualization, which is one of the most difficult-to-teach concepts in all engineering disciplines. As a result of the purchases, we will reduce the price of 3D printing in the CCEE, creating more pathways for students to encounter these technologies as a way to improve teaching and learning throughout campus. |
| Benefits Demographics | The primary beneficiaries will be students in courses with a technological communication element that depends on 3D imaging and visualization, including students in the following courses: BE 1251, BE 2350, CE 3415, ENGR 1050, EVEG 4780, IE 4597, IE 4598, ME 1212, ME 1222, ME 4243, ME 4202, PETE 4998, PETE 4999.   Another set of beneficiaries will be student workers in the Center who will develop familiarity with the limitations and capabilities of the equipment to facilitate its use by student clients. Additionally, all CxC studios are open to the entire campus, so any student who may be self-motivated to learn more about 3D visualization projects will have new pathways to do so. Finally, because we have been able to purchase accessories, we will be able to reduce the price of printing in the CCEE by over 30%, which also removes barriers for students with less available personal funding for educational activities. |
| Comments | Because of a series of grants from the STF, the College of Engineering's Chevron Center for Engineering Education now possesses an effective visualization center, which includes 3d printers and scanners, as well as a variety of accessories to facilitate their use, as well as the teaching and learning associated with these technologies. CCEE can build 2-dimensional design documents, such as those created by CAD programs like AutoCAD, which can then be converted to 3D documents and files. The change from 2-D to 3-D visualization is a challenging concept for many engineers, and these purchases facilitate such lessons. We can scan things on- or off-site into 3-D files, and all forms of these 3-D files can be 3-D printed via 2 different methods: an FDM or SLA 3-D printer. This visualization center can be used as an innovative educational resource, as well as a centerpiece for fundraising efforts for the college. The last 3 STF grants that the CCEE has earned have been put to fantastic use to create a first-rate educational experience for any interested in engineering graphics and design. |