Teaching 3D Modeling via an Engaging TinkerCAD Project

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WHAT IS TECH AMBASSADOR PROGRAM (TAP)?

- TAP is a successful outreach program started more than 10 years ago at Georgia Gwinnett College (GGC) aiming to to attract students to Information Technology and STEM
- TAP students perform outreach for all ages through engaging hands-on IT projects.

GOALS

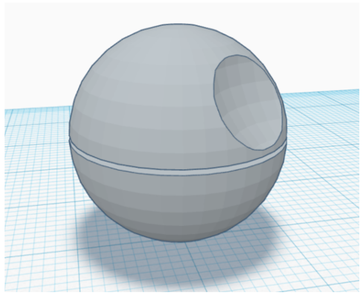
Our project focuses on introducing individuals of all ages to the world of 3D modeling and printing. Our project is meant to empower participants to recreate a 3D object, making the 3D modeling and printing process accessible and engaging, even to those without advanced technical knowledge. This project serves as a hands-on, practical introduction to technology, aiming to ignite interest and curiosity across various demographics, including college students, as well as middle and high school students. Our mission is to inspire a lasting interest in technology, bridge the gap between technology and the community, and promote STEM involvement for all. Our poster will introduce the audience to our project and present the results of our outreach workshop

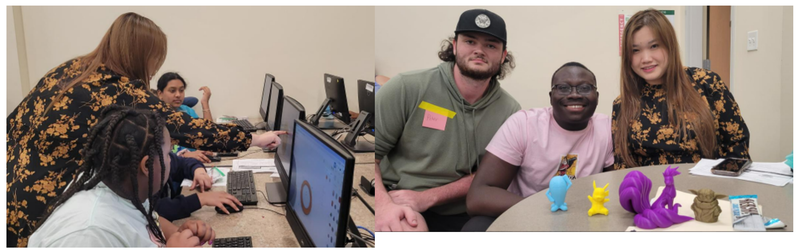
PROJECT DESCRIPTION

- We chose to teach basic CAD literacy through an engaging project in TinkerCAD
- We built up several engaging activities to showcase 3D modeling and our project to varying audiences

RESULTS: OUTREACH EVENTS

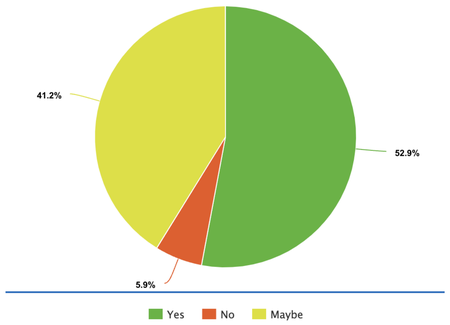
- We built an engaging workshop where we taught audiences how to model the Death Star from Star Wars.
- We chose to draw the Death Star due to its fun factor



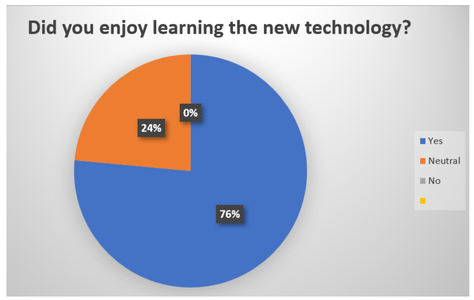


1. First we presented at our TAP expo, where we introduced TinkerCAD to students from around GGC
2. We then got the opportunity to take over a freshman class and put college freshmen through our workshop. This is the event that we collected our survey data from.
3. We then presented the same workshop to 25 middle school students at our Super Saturday Series event.

RESULTS



- 53% of students reported that our workshop sparked interest in 3D modeling and programming.
- 76% of participants reported that they enjoyed learning what we had to teach them



Future plans for our project include two more workshops and the associated data collection.

REFERENCES

1. Tinkercad (2021). https://www.tinkercad.com/
2. Selami ERYILMAZ, Gülhanım DENİZ. *TOJET: The Turkish Online Journal of Educational Technology*, 20(1): 2021.
3. Srinjita Bhaduri, Quentin L Biddy, Jeffrey Bush, Abhijit Suresh, and Tamara Sumner (2021). *In Proceedings of the 20th Annual ACM Interaction Design and Children Conference (IDC '21). Association for Computing Machinery*, New York, NY, USA, 257–267.https://doi.org/10.1145/3459990.3460717

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