

MakeUC Hackathon: 2022 Recap

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Abstract—MakeUC is the hackathon hosted by IEEE at the University of Cincinnati every October. It is a 24-hour event in which individuals or teams create software and/or hardware-centered projects, learn new skills from free workshops and resources, and network with sponsors and other participants. This past year's event took place online and in person at the University of Cincinnati's main campus.

I. INTRODUCTION

MAKEUC is the hackathon hosted by IEEE at the University of Cincinnati every October. It is a 24-hour event in which individuals or teams create projects centered around software and/or hardware, learn new skills, and network with each other and event sponsors. The 2022 competition took place on October 22nd and 23rd online and in person at Rhodes Hall. The main activity was "hacking", but a sponsor expo and workshops were among the other fun activities available at the event.

II. PROJECTS

All hackers were encouraged to submit a project individually or with a team of up to four people. A total of 56 projects were submitted. Read about the top three winners below:

- 1) *CodeBook* by Md Anzar Ahmad, Mohd Arshad
Codebook is a website that aims to speed up the software development process for users of all skill levels. One main function is the ability for users to browse and upload code snippets with keywords and phrases. Another function is the "auto code" feature, which will generate code to do a specific task based on user input. Codebook can also accept code from the user and explain it in plain English as well as translate it from one programming language to another.
- 2) *Santellegrino* by Tom Jurien, Vlad Jurien
Santellegrino aims to make clinical trials accessible to everyone by allowing them to participate from home. It utilizes an algorithm which only takes into account sound and video to calculate medical data such as heart rate, respiratory rate, nostril dilation, and facial thinning/enlargement.
- 3) *Pollution Palooza* by Adam Webb, Grace Smith, Morgan Novean, Paul Weaver III
Pollution Palooza is a game that takes players on a journey across the globe to learn about past environmental disasters. Each level increases in difficulty and represents a new recovery challenge for players to navigate.

III. WORKSHOPS

Workshops are the one of the most fun ways to expand your skills at a hackathon. Students worked alongside three of our sponsors to learn new tools and create a fun project.

- 1) *AWS 101* by Amazon Web Services
An introduction to AWS cloud computing.
- 2) *Software Reverse Engineering 101* by HII
An introduction to reverse engineering principles of both hardware and software with examples in Ghidra.
- 3) *Tracking Aircraft for Fun and Profit* by London Computer Systems
An interactive demonstration on how to track nearby aircraft using public APIs.

IV. ORGANIZATION

A huge thank you goes out to each and every student who volunteered as a MakeUC organizer in logistics, marketing, sponsorship, and technology. MakeUC would have been impossible without all of you!



Fig. 1: Oluwaseun Abiodun Adekoya, Greg Muha (lead), Nishil Faldu, Natalia Lui, Trung Nguyen, Atharv Shete, Arnab Komaragiri (lead), Sam Burkhard, Katy Hildebrant (director), Jaran Chao, Elaine Mansour (lead), Cat Luong, Kristin Hildebrant, Jack Vo, John Whiting (lead)

V. ACKNOWLEDGEMENTS

IEEE at UC is also very grateful to the following:

- The MakeUC sponsors, for dedicating time, money, and other resources to supporting opportunities for students.
- The MakeUC judges and mentors, for providing valuable expertise and feedback to the participants.
- The MakeUC hackers, for showcasing their creativity with amazing projects.

VI. LEARN MORE

If you would like to learn more about MakeUC, please visit our website at <https://makeuc.io>. If you would like to get involved with the event, or if you have any questions, please send us an email at info@makeuc.io.