Demystifying AI: A robot-mediated outreach program

Objective

to introduce students of all majors to Al and basic programming by playing with miniature Cozmo robots



Background

Carnegie Mellon University in Qatar (CMU-Q) is a branch campus located in the capital city of Doha. We have approx. 450 undergraduates in four majors (Bio, Business, Info Systems and Computer Science)

In the digital age, libraries reinvent themselves and seek creative ways to facilitate student learning. On February 12, 2023, the CMU-Q library tested a new outreach program "Demystifying AI: playdate with Cozmo" in collaboration with the Department of Computer Science and the Robotics Club. It was intended primarily for students from majors other than computer science, and relatively unfamiliar with coding and AI concepts.

What is Al?

Artificial intelligence (AI) refers to the ability "to create 'intelligent' machines that work and react more like humans."

(American Library Association, 2019, http://www.ala.org/tools/future/trend s/artificialintelligence)



Goals

- Provide students with a unique and fun learning experience
- Let students connect and try new things
- Promote digital literacy & encourage continuous learning (Sustainable Development Goal #4: "promote lifelong learning opportunities")
- Unveil the mystery of machine learning & instil confidence in non-STEM students
- Help them discover a hi-tech side of library services
- Attract students that rarely come to the library

Event logistics

- Introductions 5'
- Presentation of the AI concept by the Robotics Club -10'
- Playing with robots and testing preset features 10'
- Coding practice guided by the Robotics Club 10'
- Team competition: first group to program robots to complete the tasks from a hand-out - 20'
- Prizes and conclusion 5'



What is Cozmo?

A miniature robot with a big personality. Enabled with facial expressions, movement and speech, the robot is fit for social interactions. Its functions can be easily programmed with a "drag and drop" function on an iPad app.













Competition tasks

- Make Cozmo sneeze. [1 point]
- Turn on lights for cube 2. [1 point]
- Align cube 2 with cubes 1 & 3. [3 points]
- The label "2" should be facing up. [3 points]
- Make Cozmo excited after the task is completed. [1 point]
- Play "victory" sound. [1 point]

Overall impression

It was a positive community outreach and a meaningful cross-campus collaboration, beneficial for the students and enjoyable to the organizers. Experience with coding can lead students to join the Robotics Club and consider STEM university courses. There is an expressed interest in continuing with this outreach program.



Video from the event

Assessment

Students were offered to complete a short anonymous survey at the end of the event

Student testimonials

"I loved the event because it helped me to play with Cozmo without any previous coding experience! I hope to join more in the future!"

"The event was really fun and interactive. Cozmo is fun!"

"It was the first time for me to attend such an event, and I found it really interesting, with an informative presentation and supportive atmosphere around. It was an amazing event. Thank you."

Benefits

- Revitalized the perception of the library as a space for discovery and technology learning
- Connected with students who tend to sidestep the library • Gained a new campus partner through collaboration with
- the Robotics club that we have never liaised with
- Increased participants' interest in the STEM field and the **Robotics Club activities**
- Contributed to the development of students' soft skills:
- teamwork, communication and problem solving
- Cultivated community connections and a sense of belonging among students

Key learnings

- Students' facilitation of the event creates deep engagement • Hands-on activities lead to high levels of participant satisfaction
- Emphasis in marketing that no coding experience is
- required, otherwise non-STEM students do not come
- Need to be flexible with a diverse group of students and balance fun with learning
- Event coordination takes time, better to start planning at least a month in advance
- Serving food is a draw for students to attend

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