



JOINT NEWS RELEASE

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NTU Singapore teams up with Association for Persons with Special Needs and YOOZOO Games to create apps that aid in learning social and emotional intelligence

Nanyang Technological University, Singapore (NTU Singapore), global video game developer **YOOZOO Games** and **Singapore's Association for Persons with Special Needs (APSN)** have jointly developed three mobile applications to help persons with special needs learn about social and emotional intelligence.

Following a nine-week pilot led by NTU Singapore involving 140 special needs students from APSN, the mobile apps were developed further in collaboration with YOOZOO Games.

Professor Ong Yew Soon, Director of Data Science & Artificial Intelligence Research Centre (DSAIR) at NTU Singapore, who led the project, said that the team's main goal was to use artificial intelligence (AI) for societal good.

"The benefits of these apps to special needs students are substantial," said Prof Ong. "Prior to this, learning about emotional intelligence was more of a pen-and-paper exercise. Now, they can enjoy a personalised learning experience, as well as leverage the ability of AI as an assistive tool to recognise and respond to feelings while picking up social and emotional skills in a fun and engaging manner."

"The project showcased a three-way collaboration between NTU, our industry partner YOOZOO, and APSN to use AI for the betterment of society. YOOZOO helped us to scale up the project with APSN by enhancing technology readiness and translation of research with target user experience and scalability to market in mind," he said.

Mr Stanley Tang, Acting CEO of APSN said: "APSN is glad to be part of this pilot programme with NTU and YOOZOO Games, with the adoption of the AI-powered digital apps in three of our APSN schools: APSN Chaoyang School, APSN Katong School and APSN Tanglin School.

“These apps have enhanced the learning experience of our students with special needs, having personalisation and gamification injected into the lessons. We hope that such a collaboration will inspire more to step forward and join us in building and advocating an inclusive society.”

Dr Goh Chi Keong, Director of YOOZOO AI Innovation, said: “We are excited to partner with institutes like NTU to foster AI applications and education. The coming together of APSN’s domain understanding, NTU’s software IntelliK, the students and faculty from NTU, as well as YOOZOO’s translational AI expertise, have really paved the way for positive societal impact, particularly during COVID-19.

“This is an extremely meaningful and exciting endeavour, and we will continue to contribute where it matters to society,” Dr Goh added.

Developed for mobile phones and tablet on both Android and iOS, the three applications are:

- ***EmojiCapcha***
A child-friendly quiz app that rewards users for making facial expressions that match the emojis displayed on screen. It lets users learn different expressions and recognise emotions in a fun and casual way.
- ***Happy Bird***
A fresh take on the all-time classic Flappy Bird, Happy Bird Lost Journeys is about an astro-bird who got a little lost in many different worlds. Avoid obstacles as you fly an astro-bird with your smile.
- ***Betterfly***
The app allows users to create their own butterflies that come to life when they smile. This interactive app allows children to express and understand their emotions better through different visual effects.

Each of the apps developed on the made-in-NTU **IntelliK AI Emotion Sensing Platform**, can detect facial expressions using the mobile device’s front-facing camera and then match them to the emotions they portray.

IntelliK is a game creation tool which enables users to make AI powered digital apps and ‘gamified’ learning or training content without requiring any coding skills. It was created and developed by DSAIR and undergraduates from NTU’s School of Computer Science and Engineering.

Thumbs up from APSN students for fun learning from home during COVID-19

Following the pilot, the apps have been released for use by students in APSN, who have given positive feedback on their enjoyment and educational factor.

Miss Nurrifahirah Binte Ahmad Sulimi, a Secondary 3 student from APSN Tanglin School said: “Through the apps, I learned more about different emotions and most importantly, how to better express myself.”

Master Josh Koh, a Primary 4 student from APSN Katong School said: “I like Emoji Capcha. It is easy to use and I can see my face on the screen. It shows different emotions like happy, sad, angry and surprise.”

Miss Chua Jie Yi, a Primary 6 student, from APSN Chaoyang School, added: “The games are so fun! I just want to keep on playing and learning.”

Prof Ong also highlighted the positive impact of the learning apps during the ongoing COVID-19 pandemic.

“In a COVID-19 situation where students and teachers may be physically distanced, virtual learning and training can continue to take place since any personalised content customised by teachers can be accessed by individual students through their mobile phones or preferred devices that are conducive for learning,” he said.

Custom-made experiences for different purposes and users

The IntelliK apps developed for special needs persons at APSN allow their teachers to personalise and customise them for contextual and progressive learning.

Educators can also adjust the apps’ difficulty level, choose from several social scenarios, and customise the types of images used in the activities. For example, EmojiCapcha’s Familiar Faces function allows for the emojis to be replaced with photos of family and friends.

Educators can also collect data such as scores and response time for users to display emotions, as measures of personal improvement.

Prof Ong said that although the apps are currently available to students at APSN, there are plans to work with other organisations to release them to a larger audience, including adults and the elderly.

Continuing with the theme of collaboration, NTU and YOOZOO are also announcing the new Data Science and AI (DSAI) Gold Medal, which is sponsored by YOOZOO to

recognize the academic excellence of the top student from Bachelor of Science in DSAI. The award will be effective from 2021.

Elaborating on the award, Dr Goh added, “We believe it is important to have top talent joining the industry to drive us forward. With the joint effort of universities and the business sector, we look forward to empowering better lives with AI.”

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About Nanyang Technological University, Singapore

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 33,000 undergraduate and postgraduate students in the Engineering, Business, Science, Humanities, Arts, & Social Sciences, and Graduate colleges. It also has a medical school, the Lee Kong Chian School of Medicine, established jointly with Imperial College London.

NTU is also home to world-renowned autonomous institutes – the National Institute of Education, S Rajaratnam School of International Studies, Earth Observatory of Singapore, and Singapore Centre for Environmental Life Sciences Engineering – and various leading research centres such as the Nanyang Environment & Water Research Institute (NEWRI) and Energy Research Institute @ NTU (ERI@N).

Ranked amongst the world’s top universities by QS, NTU has also been named the world’s top young university for the last seven years. The University’s main campus is frequently listed among the Top 15 most beautiful university campuses in the world and it has 57 Green Mark-certified (equivalent to LEED-certified) building projects, of which 95% are certified Green Mark Platinum. Apart from its main campus, NTU also has a campus in Singapore’s healthcare district.

Under the NTU Smart Campus vision, the University harnesses the power of digital technology and tech-enabled solutions to support better learning and living experiences, the discovery of new knowledge, and the sustainability of resources.

For more information, visit www.ntu.edu.sg

About YOOZOO Games (Singapore)

YOOZOO Games is a global entertainment company specializing in game development and distribution. The company is headquartered in Shanghai with offices across Asia, Europe, and Americas. YOOZOO has four primary business operations - global game development and distribution, IP management, big data and AI applications, and entertainment industry investment.

Since its founding in 2009, YOOZOO has forged a strong global distribution network and launched over 40 highly successful titles including Game of Thrones Winter is Coming, the League of Angels series and Saint Seiya Awakening: Knights of the Zodiac.

About Association for Persons with Special Needs (APSN)

Established in 1976, Association for Persons with Special Needs (APSN) is a social service agency providing special education for persons with mild intellectual disability (IQ 50-70). Today, APSN operates four Special Education (SPED) Schools (APSN Chaoyang School, APSN Katong School, APSN Tanglin School and APSN Delta Senior School) for students aged 7 to 21, an APSN Student Care Centre for children aged 7 to 18 and an APSN Centre for Adults for persons aged 18 and older, benefiting over 1,300 beneficiaries each year.

The APSN Schools and Centre adopt a holistic approach in its curriculum, comprising academic, vocational and social skills, which are important for open employment and lifelong learning. APSN seeks to enable persons with special needs to be active contributors of the society and is committed to inspire and build capabilities of its partners and community to lead and advocate an inclusive society.

To date, APSN's growing database has more than 5,000 beneficiaries, comprising students, trainees and alumni. The Association is constantly expanding its network to reach out to and understand the needs of its members to better support them.

For more information on APSN, please visit www.apsn.org.sg

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