iPad game brings history to life

Students learn by uncovering pieces of ‘missing’ town plan from colonial era

By DAVID EE

IT IS a history lesson, adventure quest game and field trip all in one. And it has proven to be a hit. Researchers at the National University of Singapore (NUS) have created an iPad game based on The Jackson Plan of 1822, colonial Singapore’s first town plan.

They have managed to bring history to life for students as they walk the Singapore River.

Secondary 1 students at Outram Secondary who tested the game in July not only enjoyed it more than in-class lessons, but they also learnt more and performed better in tests – all with no textbook required.

The game is the work of researchers at the Keio-NUS Connective Ubiquitous Technology for Embodiments (Cute) Centre.

Conceived in December last year, it uses augmented reality and Global Positioning System software to allow students to explore the river and learn facts as they visit historical sites during the course of the game.

Augmented reality allows people to access and interact with virtual content "embedded" in real-world spaces.

Set in 1822, the game casts students as staff of land surveyor Lieutenant Philip Jackson, who drew up the plan. With the town plan having gone missing, they must scour the riverbanks, solve puzzles and speak to in-game characters to uncover fragments of the map.

En route, they pick up historical facts from various characters, including traders, coolies and kampong elders.

The students can unlock game stages by pointing the iPad at designated “game” objects, such as the plaque at the Elgin Bridge and an old postcard of the river.

The game’s creators sought to use technology to transform conventional learning habits.

Said Cute Centre co-director Henry Duh: “We are not just promoting this as new technology, we are asking, ‘What is the next-generation (method) of learning?’ This is how we try to mimic informal learning... to help students learn in interesting ways.”

The creators ensured that the game’s content mirrored actual textbook content, as well as lesson objectives stipulated by the Ministry of Education.

And students who played the game fared better in formal tests compared to textbook-bound students, by about 15 per cent.

Augmented reality has been used in marketing by fashion giant H&M and in the Guggenheim Museum in New York City. But Dr Duh said that its use in education is still fairly new.

Outram Secondary is in discussions with the Cute Centre to license the game for its use, a spokesman said.

The school intends to go further by “infusing augmented reality into the school’s curriculum.”

It is working with the centre to incorporate it into its mathematics lessons too.

The bottom line remains the learning experience, said Dr Duh, adding: “Technology is just a way to reach the goal of learning.”

Designee Raymond Koh (left) using a postcard which researcher Deidra Wong’s iPad can detect as a “game” object. When the iPad hovers on a Singapore River scene (below), a corresponding scene in old Singapore appears. ST PHOTOS: NURIA LING

NEXT-GEN TOOL

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