

NEED FOR AN EMPOWERING TOOL

We had to jaywalk and it was dangerous as cars were travelling at high speeds. So we thought: Why can't we come up with an app like Google Maps for people with disabilities? We want to find a way to empower people with disabilities to live, work and play.



DR TAN HWEE XIAN, SMU's assistant professor of Information Systems (Practice), on having to dash across a busy road, wheeling a co-worker who used a wheelchair, as they could not find a wheelchair-accessible route.

Mr Najulah Mohamed (right) volunteered to collect data, through sensors attached to his wheelchair, on routes accessible to users of mobility aids. ST PHOTO: ALPHONSUS CHERN



Causes

App to help those with disabilities get around

Tool maps out shortest barrier-free routes; it is expected to be launched by mid-2019

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For Mr Najulah Mohamed, 22, getting around Singapore is far from a

smooth ride. The Singapore Management University (SMU) undergraduate, who was born with brittle bone disease, uses Google Maps to plan his route, but there is no telling if parts of the journey, say from the MRT station to his destination,

would be accessible to his wheelchair till he gets there.

There could be bumps, bollards, steps, stairs, slopes or uneven pavements that pose a real hazard to someone with mobility issues.

He said: "I have lost control of my wheelchair a few times and fallen off it as I could not maintain my balance on a slope going down."

So he was more than happy to volunteer to collect data, through sen-

sors attached to his wheelchair, on routes that are accessible to people who use mobility aids.

A non-profit group, Trampoline, is working with the SMU School of Information Systems to develop an app – the first of its kind here – that maps out the shortest barrier-free routes to a destination.

The SmartBFA (Barrier-Free Access) app is expected to be launched by the middle of next



year and is free for users.

So far, the people behind the app have recruited 38 volunteers ranging from those in their 20s to 80s.

They have attached sensors to the volunteers' wheelchairs to collect information about their journeys. With such information, the app's developers can come up with a database of barrier-free routes.

They are hoping to recruit 200 more volunteers. Volunteers are paid a \$10 honorarium for every week they participate in the trial.

Dr Liang Huiguang, Trampoline's principal investigator, said the app helps people with disabilities who are going to unfamiliar places to plan their routes.

"It also helps policymakers see which routes are accessible and those which are not and, hopefully, something can be done about it."

When it is launched, it is hoped that the app will cover most parts of Singapore, Dr Liang said.

Trampoline was started in 2016 by a group of scientists and engineers seeking to develop techno-

logical solutions to improve the lives of the underprivileged and vulnerable.

Dr Tan Hwee Xian, SMU's assistant professor of Information Systems (Practice), said the group came up with the app after seeing how their friends with disabilities faced problems getting around.

For example, she and her colleagues from a previous job went for a team dinner at Marina Square one night but could not find a wheelchair-accessible route from City Hall MRT station to the mall for their co-worker, who used a wheelchair.

In the end, they dashed across a busy road, wheeling their colleague, to get to their destination.

"We had to jaywalk and it was dangerous as cars were travelling at high speeds," she said. "So we thought: Why can't we come up with an app like Google Maps for people with disabilities? We want to find a way to empower people with disabilities to live, work and play."

Another friend of hers was a wheelchair user who had to turn down a job interview as he could not find an accessible route from his home to the company's office.

She said: "Even if he got the job, it would be hard for him to get to work."

In their conversations with the volunteers, Dr Tan found that many seniors are afraid of falling while they are out and about, especially in wet weather.

The cost of developing the app is about \$700,000, said Dr Liang, with the bulk of the sum going to salaries of the staff needed to develop it. He said there are three full-time staff working on the app now and they hope to hire two more next year.

Ninety per cent of the cost is covered by the Tote Board-Enabling Lives Initiative Grant.

The \$23 million grant supports innovative projects that help those with disabilities and their caregivers. The grant, which is administered by SG Enable, has funded 34 projects since it was launched in 2015.

SG Enable is an agency set up by the Ministry of Social and Family Development to support people with disabilities.

Mr Ng Herk Low, SG Enable's assistant chief executive, said of the app: "Its introduction will help persons with disabilities and their caregivers identify barrier-free access routes and empower them to travel more independently."

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