

INNOVATIONS

Riding high on campus

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IMAGINE yourself all ready to go to class. You wait for the bus in front of your hostel, but it never arrives. With the lecture or tutorial already underway, you decide to walk 2km to the classroom located on the other side of the campus. And as you are about to get up from your seat at the bus stop, it finally arrives.

Many university students can relate to this scenario — not being able to predict the arrival time of the campus bus. But it is a problem that Universiti Kebangsaan Malaysia (UKM) hopes to overcome.

Associate Professor Dr Haslina Arshad, head of UKM's Mixed Reality and Pervasive Computing Lab at the university's Faculty of Information Science and Technology (FIST), has led a research group to develop the mobile application BasKita to track the location of buses servicing the campus community in Bangi, Selangor.

"The purpose of BasKita is to encourage and improve UKM bus ridership among students, lecturers, staff and visitors. With the app, passengers can now get accurate information on the whereabouts of all UKM buses. It not only provides details on bus location and its estimated time of arrival but it also limits waiting time at bus stops," said Haslina.

"Bus drivers send feedback through the app to provide current updates and the notification is delivered instantly to connected users."

The facility also predicts accurately the arrival times which will encourage more people to take the bus, reducing car use and environmental problems such as emissions of toxic and harmful substances from the vehicles.

"We believe reliable public transport will improve campus life tremendously - and connect our communities better. The real-time tracking provided by BasKita will help passengers to better manage their schedule with less fear of missing the bus."



Mohd Ekhwan Toriman (second from left), Haslina Arshad (third from right) and the rest of the BasKita development team.



BasKita application



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HASLINA ARSHAD
Head of Mixed Reality and Pervasive Computing Lab

UKM has 15 buses on campus, plying three routes.

Work on the android app began early this year with postgraduate and undergraduate students and lecturers working together under the research group to get the Global Positioning System-based solution off the ground.

"Bus tracking has been a recurring theme in many final-year projects presented by students over the years. During last year's presentations, I picked out those whose ideas were good and asked them to join our team. We combined parts of the various proposals to develop the BasKita app."

In addition to real-time tracking and actual viewing of the movement of buses on a map, BasKita alerts the user to the nearest bus station and the distance to get there. It also provides the estimated time of arrival of the bus at the designated stop and has essential information regarding the main buildings and points of interest along the bus routes.

"We are beta-testing the app with users and we have also trained the bus drivers to use the app. It is easy for the drivers to operate. Just tap on the 'on' button and they are ready to go."

There are plans to expand the use of BasKita to cover the rest of Bangi, said Associate Professor Dr Mohammad Faizul Nasrudin, head of FIST Information System Programme, who is also involved in the development of the app.

"The app is part of the campus-wide Digital Campus project, where all information on services at UKM's main campus in Bangi can be accessed digitally. BasKita is one component of the nine-module Digital Campus which covers student information and listing of activities and facilities. We hope that in two years' time, students and other users can access relevant information in a speedy and precise manner."

UKM deputy vice-chancellor [research and innovation affairs] Professor Dr Mohd Ekhwan Toriman said the BasKita mobile app is in sync with Fourth Industrial Revolution developments.

"With components such as data analytics and Internet of Things, the development of the app sits well with trends," he said.

Download BasKita at Google Play.