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IITian readies base for smart phones for blind

Phone makers can use Adit Gupta's set of data, collected after a year-long reserach, to come up with accessible smart phones

Dhwani Pathak Dave
dhwani.pathak@timesgroup.com

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Adit feels touch screens remain inaccessible to blind users since they must adopt error-prone compensatory strategies or find expensive accessible alternatives

An IIT-Gandhinagar student is on a mission to create a platform for research on accessibility of smart phones for blind people. Adit Gupta after an extensive year-long research has created what could be the first of its kind data for companies to build 'accessible smartphones'.

Twenty-one-year-old Adit, who has just finished his bachelor's in chemical engineering along with a minor in computer science, was inspired to take up the research as he felt that not much was done in this field. He is doing this research under Dr Nikhil Balram, president and CEO of Ricoh Innovations Corporation (RIC) and Prof Pratyush Dayal of IIT-Gn.

According to a report by WHO in 2010, there were about 39 million blind people in the world and India had the largest population of blind people of about 8 million. Says Adit, "Despite this, not much attention is paid to disability, leave aside the work that needs to be done in smart phone which has very little scope for blind people to use. Touch screens remain largely inaccessible to blind users since they must adopt error-prone compensatory strategies to use them or find accessible alternatives which are expensive."

There are a few assistive technologies available in the market, though. "But to have these applications would also mean to be carrying additional batteries, setup time and procurement in India among some issues," Adit says.

As a major issue in accessible technologies is touch screen typing, Adit spent a lot of time working, testing and taking feedback from Blind People's Association (BPA). BrailleTouch by Georgia Tech Research and TalkBack accessibility by Android were studied under this. At the end of the analysis, it was found that BrailleTouch was an extremely quick text typing technique compared to the Android Talkback keyboard but the latter is more accurate. Blind people also preferred the British male accent to American female accent due to crisp diction quality.

Adit feels that if smart phones are equipped with better accessibility for typing text it can prove to be a valuable tool. Even the lowest options are priced at $600 (Rs 32,364). "If current smart phones had intuitive software accessibility then the blind could be empowered with superior computing capabilities with the least cost. Hope this research bridges that gap," he says.