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## Indian handheld to tackle digital divide



The developers of the Simputer pose for pictures

**By BBC News Online technology correspondent Mark Ward**

A group of Indian scientists and engineers has developed a handheld computer to help the poor and illiterate join the information age.

Using the simple computer, or Simputer, and software that reads webpages aloud in native Indian languages, the team hopes to help the 35% of Indians who cannot read find out about aid projects targeted at them.

The team has developed its own version of the web's formatting language to turn text into understandable Hindi, Kannada and Tamil speech.

Trials of the Simputer should begin in August, and it could be widely used by early 2002.

### Small but powerful

The huge changes that the internet is wreaking on many societies have largely passed by the world's poor and illiterate, many of whom have yet to make a phone call let alone set up a web account.

In India, there are thought to be only 2 million computers in a country with a population of over 1 billion. But many governments are now using information and



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internet-based technologies in development projects designed to help the poor improve their lot.



Smartcards will save settings

Now, a team of Indian scientists and engineers has come up with a way for the illiterate to find out about these projects and get more out of the net. The team, led by Dr Swami Manohar, has developed a small, powerful computer called the Simputer that reads out the text found on webpages in native Indian languages.

The Simputer looks like a fatter version of the Palm handheld computer, but has more memory and a more powerful processor on board.

### Smartcard preferences

Alongside the Simputer goes the Information Markup Language (IML) that works out what text on a webpage should be read out. The Simputer turns it into artificial, but understandable, speech using a library of sounds stored on the machine.

IML is based on another web formatting language that preserves the structure of data. Typically, this is used to ensure numbers in spreadsheets or sales orders stay in the same place as they are moved around. The Simputer Team, however, has adapted it to preserve syntactical information and aid translation.

The Indian Government has started off many net-based projects that aim to give poor farmers access to land records and help them find new markets for produce. The Simputer team hopes that its gadget will help the rural poor make better use of these initiatives.



A small but powerful package

The team expects that although Simputers are relatively cheap, £150, they are designed to be used by lots of people. Everyone who wants access gets a smartcard that stores information about their preferences, and customises the e-mail and browsing software on the machine for them.

The first Simputer trials are due to take place in August. So far, no manufacturers have decided to make the machine, but the team hopes the Indian Government will sponsor further development and drive its use forward.

The Simputer project is being mirrored in other

regions such as Japan, where the Morphy One is being developed, and in Brazil, where a VolksComputer is being designed.

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