

# sci-tech.

## DID YOU KNOW?

Cerebral palsy (CP) was first identified by English surgeon William Little in 1860. He raised the possibility of asphyxia during birth as a chief cause of the disorder. It was not until 1897 that Sigmund Freud (pic) suggested that a difficult birth was not the cause. CP is caused by damage to the motor control centres of the young developing brain and can occur during pregnancy (about 75 per cent), during childbirth (about 5 per cent) or after birth (about 15 per cent) up to age three

# MORE THAN CHILD'S PLAY

In a multi-disciplined project, researchers have worked together to create therapeutic toys that can be used to help children suffering from cerebral palsy; technology could also be used to rehabilitate stroke-patients

MUMBAI MIRROR BUREAU

What began as a college course project to design therapeutic toys has resulted in the first toys of their kind for children with cerebral palsy.

Cerebral palsy is a disorder that affects the development of the brain and the motor system, often causing muscle weakness and paralysis.

While physical therapy has been shown to be effective treatments in improving function, Karen Kerman, MD—director of the Paediatric Rehabilitation Centre at Hasbro Children's Hospital in the US—wanted to find a way to incorporate physical therapy into the normal activity of children: Play.

Kerman noted that while there are currently toys that address the cognitive realm, nothing existed to address the unique needs of tens of millions of cerebral palsy patients, the world over.

She, therefore, approached her colleague, Joseph (Trey) Crisco, PhD, director of the Bioengineering Lab in the Department of Orthopaedics at Rhode Island Hospital, and a professor of orthopaedics at Brown University.

Crisco was teaching an engineering course that combined industrial science students from Rhode Island School of Design (RISD) and engineering studies students at Brown University.

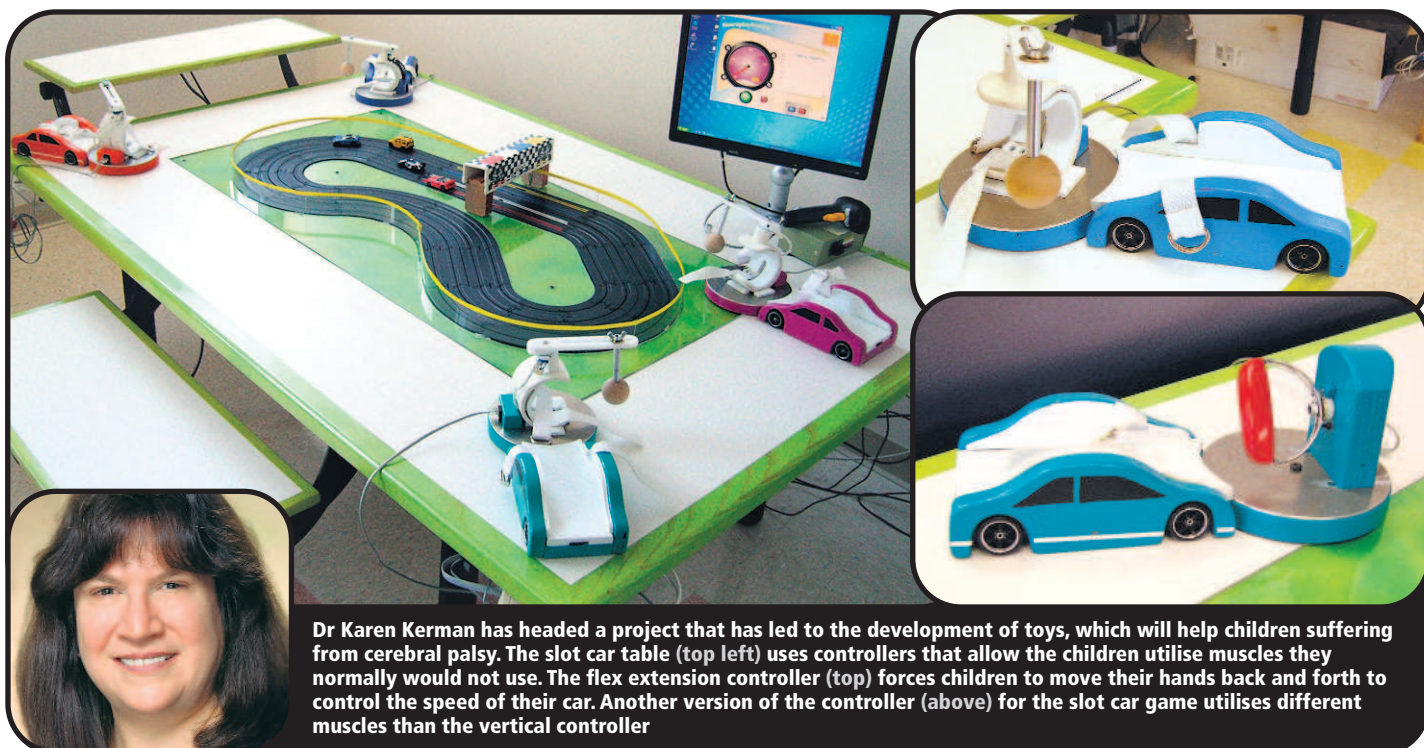
The pair believed this was a perfect forum to bring creative minds together to create some prototypes for new therapeutic toys.

So, in 2006, the students in Crisco's class were challenged to design therapeutic toys. And thus, 'Toys and Technology for Rehabilitation' was formed.

## FUN AND THERAPEUTIC

Specifically, Kerman and Crisco were hoping to develop toy controls for games that would rely on the use of the wrist and forearms for children with cerebral palsy who lack the motor skills normally required of hand-held game controllers.

"There were a lot of design iterations, but in the end, there were about 15 prototypes and concepts



Dr Karen Kerman has headed a project that has led to the development of toys, which will help children suffering from cerebral palsy. The slot car table (top left) uses controllers that allow the children utilise muscles they normally would not use. The flex extension controller (top) forces children to move their hands back and forth to control the speed of their car. Another version of the controller (above) for the slot car game utilises different muscles than the vertical controller

that came out of the class," Crisco says.

The efforts were then focused on designing a hand-held control that could be used by the patients as both fun and therapeutic and would increase the use of the affected limb, helping to strengthen the muscles.

At the same time, the researchers wanted to be able to obtain information from the use of the toys. So the controls are equipped with data logging capabilities that allow the researchers to study the extent of use and the arm movements and also measure the outcome.

## LOOKING AHEAD...

The project has now reached its study phase, during which 20 children with cerebral palsy between ages 5 and 12 will be enrolled.

Each child in the study will be provided with a toy to be used at home as part of their normal play. Once a month, their progress will be charted, looking at markers for functional gain.

Kerman and Crisco believe that this is a big step in physical therapy for cerebral palsy patients. However, they also believe that the information obtained for this study may even have future

implications for other patients, including those who have suffered a stroke.

"Our goal is not only to provide rehabilitation, but to reshape the brain after injury to improve function. We believe we can do that," Kerman says.

The toys—unveiled in June—showcased controllers for slot car racing, remote control toys, and moving stuffed animals, all manipulated by the new rehabilitation controllers.

"In fact, children with and without cerebral palsy were able to play alongside each other for the first time," Kerman says.

## gadget

### SAMSUNG I780

Samsung recently launched its flagship business phone, the i780—exclusively for two weeks—at retail telecom chain, The MobileStore. Amongst its myriad features, the Windows Mobile 6.0 device boasts of 150MB of inbuilt memory (expandable via MicroSD), Bluetooth and Wi-Fi capability, a 2-megapixel camera (with video recording), as well as an MP3 player. The Tri-Band gadget also sports an optical mouse, a full QWERTY keyboard, as well as a touchscreen. For more on the device that retails for Rs 20,379, visit [www.themobilestore.in](http://www.themobilestore.in)



## Activation snags hit new iPhones

**NEW YORK:** Activation problems marred the launch of Apple's new 3G iPhone on Friday, with many eager buyers leaving stores frustrated that they could not use the gadget after waiting in line for hours.

A spokesman for AT&T, the exclusive carrier for the iPhone in the US, said there was a global problem with Apple's iTunes servers that prevented the phones from being fully activated in-store, as had been planned. He said it was probably caused by too many people trying to access iTunes at the same time.

The new iPhone was launched in 21 countries.

Earlier on Friday, many customers had left stores pleased it had taken only 15 minutes to activate their new iPhones, which combine a music and video player, phone and Web browser.

But by mid-afternoon, many customers were being sent home without having activated their phones.

### BIG IN JAPAN

Still, the iPhone fever was strong even in Japan, where consumers are used to tech-heavy phones that do restaurant searches, e-mail, music downloads, reading digital novels and electronic shopping. More than 1,000 people lined up at the Softbank Corp store in Tokyo and the phone quickly sold out.

"Just look at this obviously innovative design," Yuki Kurita, 23, said as he emerged from buying his iPhone.



A customer (right) makes a purchase a new Apple's iPhone 3G, at New York's Apple Store on Friday

"I am so thrilled just thinking about how I get to touch this."

The phone went on sale first in New Zealand, where hundreds of people lined up outside stores to snap it up right at midnight.

"Steve Jobs knows what people want," New Zealand-based Web developer Lucinda McCullough said, referring to Apple's chief executive. "And I need a new phone."

In Germany, sales were brisk at local carrier T-Mobile's stores, said spokeswoman Marion Kessing.

AGENCIES

## website



### WWW.PALABEA.COM

Want to learn a new language? Now there is a Web site that provides the perfect environment for doing just that. Palabea is a 'free' social network site for practicing, learning, teaching, and otherwise communicating in foreign languages. The resource is essentially a forum for online learning, complete with video and audio sessions. The best part, you get to connect with people who speak the language you want to learn.