

An 18m-long replica of a child that visitors can crawl through is just one of the exciting interactives coming soon to Guangdong Science Center's Children's Wonderland. JRA's senior project director Mike Meyer tells Kathleen Whyman about this and the other exhibits



CHILDREN'S WONDERLAND

The My City area will educate children on urban life, relationships, developments and communication

PLEASE DESCRIBE THE PROJECT

Children's Wonderland is a 1,858sq m (20,000sq ft) gallery within Guangdong Science Center, which opens in China in June 2008. Its aim is to educate simple science principles to children by taking them on an interactive exploration of their homes, neighbourhoods, cities and the world.

The gallery is made up of four areas, which are split into sections. My Home and Community teaches children about safety within the home, energy savings and conservation. Within this exhibition is My Clinic, which advises them about the anatomy and senses while My bakery looks at food packaging and design and general role playing at shopping.

My City allows children to learn about living as part of a group and has five sections. The first examines cars and offers everything from how to build one to a miniature driving track to traffic safety. Urban construction deals with roof build-

ing, material testing, earthquakes and learning how to build a simple structure that can withstand a lateral load, such as a shake table. Urban Communication deals with communication methods from sign language and whisper tubes to video phones. Water and Boat is a highly themed water play area looking at water life, water conversation and a 'What will float?' tank. Children drop items into the water to see which ones float. The Power Plant section houses the energy supply chain. Children will work together in groups from three to 10 to supply power, gas and water to a small town. It's a great team building effort. The final section is Traffic School, which teaches children more about the traffic laws of the area.

In My World children uncover a fantasy forest incorporating natural world facts including an If I Were An Animal exhibition with animal communication, camouflage in animals, human impact on pandas, a bee hive, and an ant farm, while My Workshop gives children the

opportunity to learn about experimentation, creativity and inventiveness. There is also a space for travelling exhibitions.

WHAT INTERACTIVES AND TECHNOLOGY ARE USED?

The layout of the science centre creates five fingers. Children's Wonderland fills one of these fingers, and at the very tip of this we've placed a 15m (50ft) water table which sits over a reflecting light. The positioning has a highly themed effect on the table and reflects images such as coral and water and seaweed on the table.

The My World area has three major topics, all of which are very interactive. Earth Exploration's offer ranges from a dinosaur dig to petroleum resources to the earth's structure. Planting and Harvesting addresses the world's harvesting processing with an interactive farm tool display. Antique and modern tools are displayed for children to examine and visitors race against a virtual tractor and field to plant fields one plant at a time.



The entrance square will introduce visitors to the four different elements

ABOUT CHILDREN'S WONDERLAND

Project: Children's Wonderland in Guangdong Science Center, China

Designer: Jack Rouse Associates, US

Operator: The Guangdong Science Center is fully funded by the local government and is a public welfare site for science popularisation

The gallery is made up of four areas:

My Home and Community – Life:

examines the home, health clinic,

bakery and supermarket;

My City – Technique: automobile manufacture, urban construction, urban communication, water and boat, power station, traffic and school;

My world – Nature: looks at earth exploration, if I were an animal, rice harvests and processes;

My workshop – Creation

Costs: The entire Guangdong Science

Center is costing US\$2.3bn (£1.1bn, €1.7bn, CNY2.4bn). The Children's Wonderland cost US\$5.5m (£2.7m, €4m, CNY41.4m)

Visitors: Aimed at three- to 10-year-olds, the gallery can incorporate 160 visitors at a time. Visits are expected to last a minimum of three to four hours. Two million visitors are predicted for the first year

Opening date: June 2008

Another highly interactive area is My Workshop with a 9m (30ft) cylinder with projection, which children drop objects down. It allows them to experiment with light, see how different sized objects fall at slower and faster rates and how they scatter and project light as they fall.

The gallery is for three- to 10-year olds, so the technologies and systems we're using are fairly simplistic, as we're trying to teach them more learning methods. We've made sure each interactive addresses different age groups. For example, with the cylinder, younger children can put the foam shapes on a conveyor belt, which takes them up to the top, and watch them fall. An older child will experiment with connecting different shapes to get them to fall more slowly.

WHAT HAVE BEEN THE CHALLENGES?

The operators wanted children to really experience the body by crawling through a giant model of a child. So, one interesting challenge was to create an 18m

(60ft)-long child. Our original brief was for children to crawl into a juice box and through a straw into the child's mouth, then work their way along a play structure representing different parts of the anatomy before coming out the other end – with sound effects!

It's been a fun interactive to work on, but challenging trying to create it so it wasn't too graphic. There's a fine line between creating something children will like that isn't gross.

We were able to create a child by using an off-the-shelf play structure and divide it into different areas. The gigantic human body is divided into tunnels and is combined with soft play structures. Children can traverse, climb and slide in organs and systems. One unit replicates the breathing powers within the lungs and we allow children to climb up into a soft area at the top of the body and look out of the child's brain.

The model was drawn to resemble a boy, but it's not gender specific.

HOW DID YOU GET THE JOB?

We were one of the few design firms that was approached for the project. It's a government project and was a long process – we followed it up for two years before getting hired.

The client came up with the topics for the four different areas. We then designed the individual exhibitions within that. The document we delivered to the operators showed what the exhibits are, how they work, how the children use them, what they will learn and how that adjusts to suit the Chinese curriculum.

We've made the design of the gallery very simple, as we focused more on putting our money into interactives so that the children can really learn. There's a large glass wall surrounding the entire area so the children get a lot of daylight. This exhibition has a lot of lighting effects, which change colour and can be seen through the glass in the rest of the science centre. We're expecting this to attract adults in, as well as children! ●