
Recreating Adventure Play in the Real World
with Technologies Cultivated in Game Development

“DOCODOCO The LOHAS Store”

Real-World Entertainment for Hong Kong Children

BANDAI NAMCO Amusement Inc. (head office: Minato-ku, Tokyo/President: Hitoshi Hagiwara), through technical collaboration of group companies BANDAI NAMCO Amusement Lab Inc. (head office: Koto-ku, Tokyo/President: Kazuya Kiyoshima) and BANDAI NAMCO Research Inc. (head office: Koto-ku, Tokyo/President: Hajime Nakatani), has developed “**Indoor Adventure Island, DOCODOCO**” (Tachikawa city, Tokyo), a digital playground for children operated in Japan. And now we opened the first-ever overseas version, “**DOCODOCO The LOHAS Store**” in Hong Kong (opened Feb 18, 2021).

What is “Indoor Adventure Island, DOCODOCO?”

Adventure play full of dreams that children can experience with their whole body. Experiences that we all imagined once but never been able to have. Bounce on clouds, slide down a waterfall, and make friends with mysterious fairies.

A combination of state-of-the-art digital technology and analog-style play brings to life an adventure straight out of a children’s book that children can freely experience with their entire body.



“Indoor Adventure Island DOCODOCO”
~Doronko Jungle (Muddy Jungle)~

BANDAI NAMCO Amusement Lab engaged in the general production of concept development, such as “**Indoor Adventure Island, DOCODOCO,**” as well as planned and developed an interactive content lineup realizing adventure experiences for children.

BANDAI NAMCO Research participated in this endeavor from the concept development stage to oversee the development of projection mapping and fluid simulation. In regards to “**DOCODOCO the LOHAS Store**” specifically, BANDAI NAMCO Research was in charge of projection mapping design for the five attractions divided into individual themes within the facility.

The COVID-19 pandemic has brought about major changes in society’s entertainment needs and the associated market. There has been a rapid spike in content people can enjoy on a device in their homes and we believe that is precisely why the value of real-world experiences will increase all the more moving forward. BANDAI NAMCO Group is integrating its development and operational functions as well as promoting multifaceted deployment of business delivering new, integrated experiences in its effort to further broaden and evolve real-world entertainment characteristic of BANDAI NAMCO.

*Press release information is valid as of the day of publication. Please understand that such information is subject to change without prior notice after publication.

Development Commitments –

Selection and Application of Technologies Suiting the Concept

■ Combining parallel use of various sensing technologies with large-sized video blending to create a digital/analog interactive field that parents and children can enter with their whole body

So that our guests may have an experience as though they had landed on “Adventure Island” whilst being indoors, we create real-size jungles and bodies of water using multiple projectors to blend images and seamless large projection, ensuring a reassuring VR field. In this environment, we produce multiple interaction activities to suit the playing scene.

In addition to utilizing various types of sensors, we adopted a special feature to distinguish the light projected from projectors by a color camera and other optimal techniques to achieve the dynamic responses children anticipate, all selected through a process of trial and error. By utilizing these technologies for adventure play in fields using the whole body, DOCODOCO offers experiences full of searches, discoveries, and surprises that are bound to have children bubbling with excitement.



**■ Sensing cooking utensils with a sensor camera + technique utilizing retroreflective material
Creating a scene where children can make and garnish food dishes with fairies.**

Yummy Kitchen offers a cooking experience with delicate sensing that combines cooking utensils and multiple sensors.

Players use these utensils to “cut, bake, mix” ingredients projected on a cutting board device via a projector. The game uses a sensor camera and retroreflective material for differentiation and accuracy when determining individual utensils and has an intuitive response in addition to the ability to make adjustments on a millimeter level. Also, since this experience is a series of actions "until someone eats the food you cooked", how to plate the food is also one of the important actions. Based on fundamental video tracking technology of the child’s movements, DOCODOCO has carefully implemented natural reactions generated to suit the intuitive movements of the child.

At the same time, by using shortcuts based on the logic of “fairy help” for portions simply unable to be offered as an experience due to the structure of image projection, this technology ensures that even small children will not be prevented from feeling that they completed a food dish just the way they intended.

As a result, even moms and dads will feel as though their child is actually cooking when they watch them at play.



■ “wonderful encounters”, the adventure highlight

When players embark on their adventure, encounters with mysterious characters await...

We embodied and made it memorable and persuasive. Expressions such as full body movement and lip synching using real-time motion capture to converse with characters and other animations used for interactive experiences has led to the creation of magical characters customized to communication with children.

Mysterious mushroom fairies live on the Island. You can new friends. Come to DOCODOCO and meet them all!



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Secret Development Stories

~Application of technology harnessing game development experience~

In DOCODOCO, children will play inside images, hold toys in their hands to play with projected images, so we engaged a unique expression technique. This is unlike general projection mapping whereby onlookers view images projected onto buildings across a set area.

DOCODOCO uses multiple projectors depending on the activity as well as blending so that images will flow seamlessly. Moreover, in order to project images on curved surfaces, we have utilized our experience in developing industrial game machines until now in order to develop and introduce an original projection technique using measurement and calculation, which is an advancement of distortion correction applied to domed structures.

~Overseas expansion amidst the COVID-19 pandemic~

This projection technique using measurement and calculation has been adopted since “Indoor Adventure Island, DOCODOCO” (Tachikawa, Tokyo) adjusted by specialized technicians to suit that location specifically in order to achieve high-quality projection mapping. “DOCODOCO The LOHAS Store” is our first overseas location. The pandemic situation made it difficult to go to the actual site and perform adjustments.

As such, we had local staff in Hong Kong and made them install the equipment and optimize the measurement/calculation technique to obtain projection mapping with images not compromising on quality. We made our first overseas expansion a success despite the COVID-19 situation.

The BANDAI NAMCO group will continue to strive for creation of innovative entertainment by flexibly responding to changing times.

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