KANO COMPUTER KIT

CATEGORY
6.1 INDUSTRIAL DESIGN - CONSUMER PRODUCT

CLIENT
KANO

CONSULTANCY:
MAP

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EXECUTIVE SUMMARY

A computer anyone can make

Kano is a computer and coding kit for all ages, all over the world. It's as simple as Lego, powered by Raspberry Pi and you can use it to make games, learn code and create the future.

MAP worked with **Kano** collaboratively to design the kit developing all of the components as a unified out of the box experience moving away from the traditional separation between product and packaging.

The kit includes a Raspberry Pi computer board together with a new type of customisable case, a unique speaker module, a wireless coding and gaming keyboard, two step-by-step instruction books, cables and accessories all organised in a tray, which forms the outer packaging. **All elements of the kit were designed from scratch to create a unified experience across all the components and to be playful and desirable.**

The project objective was to launch the Kano kit design on crowd funding platform Kickstarter in November 2013 to raise $100,000.

The Kano kit raised over $1.5 m on Kickstarter a 1500% increase on the £100k target making it the 4th highest funded design project on Kickstarter out of 8,321 projects.

PROJECT OVERVIEW

BRIEF

The brief given to MAP for the design of the new kit and launch of the Kano brand was written by Kano co-founder Alex Klein:

"The Kano Kit has to give anybody, anywhere the ability to make a powerful computer. We need to use the kit to build the Kano brand for future projects. The kit has to combine the power of a game console with the simplicity of a Lego set. The kit has to build on top of Raspberry Pi and it has to be open and transparent. The kit might need to include new hardware extensions that don't exist on the market. If we can't find them we need to create them. The whole kit has to cost less than $99. Oh, and an 8-year-old has to be able to make it herself, with no guidance from anyone, in less than an hour."

BACKGROUND TO KANO

Kano is a start-up based in London's tech city. The founders are writer and designer Alex Klein, venture capitalist Saul Klein, and entrepreneur Yonatan Raz-Fridman.

In November 2012, Alex, Yonatan, and Saul were trying to imagine what a computer for the next generation would look like, they wanted to know if it was possible to make a computer kit that would be fun enough to hold kids' attention, but smart enough to actually teach them something.

In January 2013, Yonatan and Alex started work on the first Kano kit based on the Raspberry Pi open source computer board, combining off-the-shelf components and graphic stories with the goal of making the Raspberry Pi more accessible.

After making and selling 200 kits by word of mouth in London schools and at some big companies the Kano founders set about planning a full launch of the brand and volume production of a new kit designed by MAP with a more cohesive design.

PROJECT OVERVIEW

MARKET

The market for educational toys is large however there has been limited successes for coding or electronic kits in this category. Combining hardware, software and educational materials together in a single experience at a compelling price point is very difficult.

Kano kit prior to MAP's re-design

New Kano Kit packaging

PROJECT OVERVIEW

CHALLENGES

One of the challenges of the project was creating a whole kit of elements with high quality design and manufacturing at such a low price point of $99. Crowd-funding also presents some risks as the production quantities for the initial batch are unknown, which in turn makes it harder to estimate costs and secure manufacturing.

LAUNCH

The Kano kit was launched in November 2013 as a 30 day Kickstarter campaign with a funding target of $100,000. The project closed at $1,522,160 with backers from 86 countries. Shipping for the Kickstarter kits will be in August 2014.

Figures from Kickstarter

DESIGN SOLUTION

MERGING PRODUCT AND PACKAGING

A key element of the design solution that MAP created was the packaging that was intended to be an integral part of the product experience and kept for the life of the kit. It is used as storage and organisation for the components and also has an instructional role.

A colourful outer sleeve keeps the kit protected and extensive research was carried out to make sure the overall size optimised to fit through most letterboxes (reducing costs and making delivery easy). The inner box has a printed diagram of the cable connections to ensure a fast and easy-to-follow set-up. The components are clearly laid out to ease understanding. Reminiscent of a traditional board game, the robust inner tray keeps the components organised when you have finished playing and pack them away.

Kit components

DESIGN SOLUTION

OPEN AND CLOSED CASE

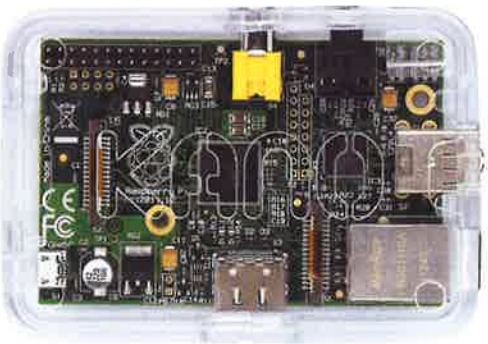
MAP developed a protective plastic case for the Raspberry Pi computer board that consists of two 'C' shaped bumpers in clear plastic. These snap around the board making it easy to handle and stabilising the cable connections but with a unique feature of leaving the top of the circuit board open for experimentation and expansion.

Case and speaker

DESIGN SOLUTION

DIY SPEAKER

To enhance the case there are additional clip-in covers that can be added if you want to enclose the Pi, or connect more components. This is something that really taps into the spirit of making and experimentation and is very attractive to kids. An example is the special cover with a speaker and small amplifier that is powered directly from the Raspberry Pi.



Clip-in covers

DESIGN SOLUTION

WIRELESS CODING AND GAMING KEYBOARD

A new keyboard archetype was created for the kit to get users started with coding as quickly as possible. The wireless keyboard, made from bright orange ABS plastic has a built-in touchpad and uniquely two separate colour-coded physical mouse buttons which make it easier for children to use. The keyboard also has a number of predefined command keys that help users work through the projects in the Kano instruction booklet. There are also convenient features such as a charging cable built into the keyboard so it can't be lost.

Kano keyboard

RESULTS

KICKSTARTER SUCCESS

The design met its key objective to raise $100,000 in crowd funding revenue. Through the Kickstarter campaign 12,338 kits were sold at $99 plus a range of other items such as keyboards, T shirts and books.

The Kickstarter campaign closed at $1,522,160 a 1500% increase on the target of $100,000 making it the most crowd-funded educational invention ever.

In the period since the Kickstarter campaign has closed Kano have sold an additional 3,500 kits at $129 each with no additional PR or marketing.

The success of the Kickstarter campaign in launching the Kano brand meant that Kano as a business has been able to attract external funding to produce a second batch of kits for sale through the Kano website and direct to educational establishments. The funding has also enabled Kano to launch an R&D program to develop new products.

Figures are from Kickstarter and KANO

RESULTS

EDUCATIONAL AND SOCIAL OUTREACH

The ambition for the project was to make a computer and coding kit for all ages all over the world. The objective was also to gain significant PR for the launch of the Kano brand and also to build a platform on which to take coding into schools. All the aims were met. Pearson, the world's largest education company, will use Kano to deliver the new computing curriculum in the UK. Over 1,000 kits have already been sold to educational institutions. Teenage prodigy Kelvin Doe is even using Kano in the slums of Sierra Leone.

"Kano is a revolutionary invention that will give thousands the chance to build their own computers."

Michael Gove, UK Secretary of State for Education

CLIENT FEEDBACK

"We cracked most of our design challenges - although the next Kano Kit will have more in store. You'll get a heck of a feeling when you open your Kano Kit, and MAP deserves ultimate kudos."

Alex Klein
Kano co-founder

RESULTS

PR COVERAGE

The innovative design of the kit meant that it was widely covered in the international press, which in turn increased the success of the crowd-funding campaign and helped launch the Kano brand.

"Kano merges basic computer science concepts with gorgeous, functional design, turning just about anyone into a computer maker"

Liz Stinson, Wired Magazine

"There have been a few computer kits made available through the years but none as sleek as this one."

Richard Darell, Bit Rebels

"Kano is amazing because it brings us back to where computing started with the idea of making things and experimenting."

Zach Sims, Founder of Codecademy

RESULTS

SOCIAL MEDIA

Feedback from children and parents all over the world has been amazing.

"When I read about you, I had to tell people. While my country is way behind with technology you can help us grow."

16 year old Leart from Kosovo, Comment on Kano's blog

"Amazing, keep up the good work!! I'm forever a customer."

Carmina, Parent, via Twitter

Kano with screen

INFLUENCING FACTORS

CAUSE AND EFFECT

As with any project it is difficult to precisely separate the effect of the industrial design on sales success as there were innovations in the Kano user interface and operating system as well as the product design. Kano did not use any advertising for the kit so all PR was purely editorial and the design frequently cited by journalists as being key to the project's success:

"It may sound trivial to praise a computer designed to teach coding purely on its looks, but this could be the key factor for the project's success."

James Vincent, The Independent

RESEARCH SOURCES

KICKSTARTER

https://www.kickstarter.com/projects/alexklein/kano-a-computer-anyone-can-make

KANO

http://getkano.co/orwellpack
https://www.youtube.com/watch?v=Y1VIlHp211A

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