

How the LEGO Group Blends the Physical and Digital to Create New Forms of Play

The LEGO Group's 25-year-history of video games wasn't just a journey about learning how to transform a physical playset into a digital one, it also involved a deep examination of how these two forms of play intersected and how that co-mingling created a new form of play.

Today, the company calls this hybrid interaction "fluid play", and it is perhaps best modeled by the recent release of the LEGO® Super Mario theme, a set of playsets built around a chunky, interactive Mario with a smiling face, coy eyes, and the ability to sense how and where with which it is being played.

Fluid play, though, can trace its roots back to early theory and prototypes created in the late 90s and the advent of the smart toy craze.

Arguably, the LEGO Group's partnership with MIT and the resulting creation of MINDSTORMS® was what accelerated the company's interest in injecting technology into its bricks. Both MINDSTORMS and the more game-like CyberMaster were released in 1998. A year later, a company called Zowie Entertainment released Ellie's Enchanted Garden, a toy that deftly merged playing with plastic toys with interacting with a computer game. In 2000, the LEGO Group purchased the company and tech and brought on the development team to start work on a technology platform it called the KidPad.

The concept was to create a playset based on the popular DUPLO® Circus theme. The set used a plastic tray with an antenna array built into it that could sense a number of plastic figures that each had RF chips in them. Moving characters around on the tray would trigger different animations and interactions on the computer screen via a DUPLO Circus game.

"The goal was to extend that primary physical experience through the capabilities that the digital would provide, and try to do it in a very seamless way," said John Sakalowsky, one of the original developers of the KidPad and the DUPLO Circus experience.

Playtesting, though, showed early signs of what would become a major roadblock in achieving this. Children who boisterously played with the plastic toys during tests, went sort of slack jawed once the computer game was brought into the mix.

"My first thought was like, 'Oh crap, how is this gonna work?'," Sakalowsky said.

While the team continued to work toward a solution, KidPad and DUPLO Circus were eventually shelved, not because the team wasn't making headway, but because the LEGO Group – several years now into a decline – shuttered the project and let the entire team go.

Over the ensuing decade, the company reinvested in its core products and then once more began expanding into new and intriguing ideas. LEGO.com took a big leap in design and interactivity in 2001, and the company released the massive hit LEGO Star Wars: The Videogame in 2005. By 2009, the company was once more exploring some of the concepts first examined with smart toys like the KidPad, but now they were viewed as part of a "one reality" experience.

Where smart toys were about the injection of technology into traditional toys, one reality was about finding a balanced integration of virtual and physical play. And it was out of this concept, that the LEGO team started working on new hybrid ideas like toy-meets-art-and-coding-experiments of the LEGO WeDo in 2009 and even board games built entirely out of LEGO blocks.

In 2011, the LEGO Group released Life of George, a fun little box set of LEGO pieces that asked players to create flat images shown on their iPhone as quickly as possible and then check how good they were with an app.

The idea started as a puzzle game that used a computer's webcam, but developer Paal Smith-Meyer and his team quickly realized they needed to move away from the desktop computer to help engage more children. It was Apple, he said, which pointed out that the game needed more personality, and so George, a flat, blond-haired, globe-trotting hero was born.

The creation of that game and Fusion – which would later expand on that idea to include full 3D constructed sets – led to a lot of internal discussions which often became philosophical.

"For some the main drivers was to see how can the digitally really inspire kids to build more and play more physically," Smith-Meyer said. "So we're looking at this kind of play loop where you created something and then use it in a digital space and that play would then inspire you to go back, physically, and play more. For others, it was more kind of maybe looking at it as a relevance tool to sell more of the product line."

Life of George kicked off a renaissance of sorts in one reality design, with the LEGO Group releasing Fusion in 2014 and the toys-to-life hit LEGO Dimensions in 2015. This form of play also found its way into things like the LEGO House, where visitors were encouraged to create flat fish out of LEGO pieces which were then scanned and set loose into a massive digital aquarium. It also influenced the design of Nexo Knights, which made use of shields that could be scanned with a smartphone to unlock Nexo Powers for use in a game on the device.

It was this blossoming of hybrid play that helped the company once more reexamine how it approached the co-mingling of bricks and bits. The company referred to this new approach not as one reality, but fluid play, referencing a desire to create these sorts of toys that allowed players to fluidly transition between the physical and digital seamlessly.

The first major release using this approach was 2019's Hidden Side, a ghost-hunting theme set that included with it the ability to inject a built model into a virtual world on a mobile phone using augmented reality. Builders would then explore their real-world creations through the lens of the phone, looking for digital ghosts to combat and capture. The approach added a layer of context and play to the sets, something the LEGO Group had never really done before in this way.

"We fundamentally changed what a LEGO experience was," said Sam Coates, who worked on the project. And that brought with it a major challenge. "We had to take kids with us and they didn't automatically come with us. We're still learning how to explain interactive sets and how to explain the play potential."

The latest exploration in fluid play is LEGO Super Mario, which makes use of a "smart" LEGO Mario that can track and interact with the courses you build for him out of bricks. The LEGO Group's Michael Vanting believes it is the closest the company has come to nailing physical-digital interaction.

"It inspires you to change your course and rebuilt it," he said. "And it has this LEGO DNA that the more sets you get, the more value you have, the more variety you can do in your world, where the physical suddenly takes its own role in replicating things from the digital world, but without trying to compete in a way."

It's easy for the concept of game-enabled toys or fluid play to feel a bit abstract, notes documentarian and co-host of Bits N' Bricks Ethan Vincent, but delving into its history makes it clear how vital fluid play is to the LEGO Group's future innovations.

"For me – in a way – it has less to do with some of the past attempts in the genre but the ability of being able to look into the future and image toys that are more powerful, more sophisticated and truly bring the physical into the digital in new and exciting ways," he said.

"The LEGO Group's long-standing, deep interest in all forms of play is a big part of why it continues to dominate the toy industry," said journalist and Bits N' Bricks co-host Brian Crecente, and why it will continue to play a big role in how well it does in the game industry.

"While Hidden Side still doesn't get everything right in its merging of physical and digital, it moves that effort in the right direction," he said. "LEGO Super Mario, on the other hand, finds a way to take the digital and make it physical while still maintaining the unique aspects of both forms of play.

Mario may not be the embodiment of fluid play, but it is a major innovative step forward in this emerging form of hybrid interaction."

Explore more...

In order of appearance

[LEGO MINDSTORMS](#) (1998) Wikipedia description

[LEGO Technic CyberMaster](#) (1998) German Wikipedia description

[LEGO MyBot](#) (2000) Wired article

[Songs from Ellie's Enchanted Garden PC game](#) (1999) Collection of four songs on YouTube

[KidPad and DUPLO Circus](#) (2000) Brickipedia description

[LEGO Dimensions](#) (2015) Wikipedia description)

[LEGO Fusion](#) (2012) Official LEGO commercial, 2 minutes 29 seconds

[LEGO Hidden Side](#) (2019) Official LEGO website

[Fish Designer Experience at the LEGO House](#) (2017) Official LEGO video, 30 seconds

[LEGO Muji](#) (2009) Brickipedia description

[LEGO Legends of Chima Online](#) (2013) Wikipedia description

[LEGO Super Mario](#) (2020) Official LEGO website

[LEGO WeDo #9580](#) (2009) LEGO Engineering webpage

[Life of George](#) (2011) Official LEGO commercial, 1 minute 15 seconds

[LEGO Nexo Knights](#) (2015) Wikipedia description

[LEGO BrickHeadz VR](#) (2016) Developer's website for game

[LEGO BrickHeadz AR](#) (2017) Official press release

Transcript

Bits N' Bricks Season 1 Episode 2: Fluid Play

December 16 2020 · 0:59:48



Prologue – 00:00

(music)

Sam Coates

We fundamentally changed what a LEGO Group experience was.

Cephas Howard

We spend, what, 41% of our lives now staring at screens, and so all of that groundwork that the LEGO Group has done in spending the time and energies on these innovations, the ones that work, the ones that didn't, is gonna pay off in the long run.

John Sakalowsky

I was led to believe there is a vault at the LEGO Group that has everything in it. When we shut everything down and left the offices, we sent them all the prototypes, you know, the code to date and all of that. They also got a jar of pig's feet. I don't know if they realized that.

(Brian laughs)

Brian Crecente

What?

(Laughter)

Bits 'N Bricks: Introduction – 01:20

Ethan Vincent

Welcome to Bits 'N Bricks, a podcast about all things LEGO® games, I'm Ethan Vincent -

Brian Crecente

And I'm Brian Crecente, together we look back at the rich 25-year history of LEGO Games, chat with early developers, as well as seasoned studios, who have all tackled the creation of video games for one of the most popular and respected toy companies in the world... the LEGO Group.

(Music plays)

Chapter 1: The LEGO Group and Smart Toys – 01:53

Ethan Vincent

All right, Brian. So here we are, another episode of Bits 'N Bricks. Today's kind of an interesting topic, more of a theme than a specific game, and we're looking at a thing that is being called fluid play. Let's just start out asking what is fluid play?

Brian Crecente

So yeah, fluid play, is I guess it's the most recent take on a phrase that has been evolving since the nineties. I guess you could trace it back to something called smart toys. And then, there were things like toys-to-life and game-enabled toys, and then the LEGO Group came up with this idea of One Reality and eventually that became fluid play, but I think the best way to maybe explain what all of that is, is to actually quote the LEGO Group. They put out a report, the LEGO Play Well report in 2018 where they talk a little bit about this.

I'm gonna read this. It's only three paragraphs, but it's very interesting, I think. They said play is evolving fast in the space of generations, the way we do it, and the places we do it have changed drastically. Today's children were born into new societies with new technologies, new values, and new ways of living and working, play has been re-imagined as a dynamic overlapping frictionless experience that brings the real-world, imaginary play and digital experiences together as one. And uniting these played worlds across time and space, children today are mastering the art of finding new moments and forms of play. And this is essentially fluid play. So, it's this idea of sort of fluidly moving between playing with a LEGO brick and then playing perhaps a LEGO video game where you don't have something physical in your hand. So, it's this idea of being able to move back and forth.

Ethan Vincent

And one of the things too, that I keep learning over and over again, obviously as an outsider, it's this idea that the LEGO brick is so incredibly involved in researching all things that have to do with play. It's not always, you know, it's not just digital play, but before even digital was a thing, they were studying all the iterations and the different kinds of play that a kid could experience in this physical building world that they were involved in. And so, this isn't new for them to examine it thoroughly. And this kind of manifesto you read at the beginning of this very dense philosophical kind of exploration of what it means to, you know, play fluidly with a game enabled toy. And, and obviously that's something that, you know, you can't just write up in one document in one year.

Brian Crecente

Right.

Ethan Vincent

But you've got to experience it, you know, through, you know, testing and failing and learning and getting up again, kind of like they had to do at the beginning of their physical toy experience, you know?

Brian Crecente

Yeah. I mean, I think this report, the Play Well report, speaks a lot to that. The reality is in the LEGO Group's mind and I think it's true, not all play is equal.

Ethan Vincent

Yeah.

Brian Crecente

And so that report and a lot of the research the LEGO Group does is about finding good play and augmenting it and highlighting it. And talking about the LEGO Group's history in smart toys, I think you need to go back to the mid to late nineties. This is when they're working a lot with the MIT Media Lab and specifically in 1997, they soft launch what is essentially MINDSTORMS and try it out in Chicago. There's a really positive reaction, so positive in fact that they decided to release something called the Barcode Multi-Set, which was essentially a dump trunk with a remote control that you could program. And then it was in 1998 in which the LEGO Group released MINDSTORMS and CyberMaster, and then it was in 2000 that they came out with something called the MyBot. But I wanna go back to '98 and specifically January 1998, we find the release of MINDSTORMS which was obviously a huge hit, but also alongside it was the release of CyberMaster which was a Technic set. And where MINDSTORMS was sort of the rocket science equivalent of LEGO CyberMaster was more like the cartoon equivalent. So one had you learning robotics, the other one had you sort of creating these toys that you'd bash together and it had this sort of fiction tied to it that was very video game like.

(Commercial 1)

(Commercial for LEGO Technic CyberMaster)

Ethan Vincent

That was the ad for CyberMaster. And, you know, when you watch the trailer, Brian, I wouldn't have associated a video game or even a digital product with CyberMaster at all, it seems more like a, like a toy and more like a gimmick and more like a robot. You know what I mean?

Brian Crecente

Right, yeah and I think the first real, in my mind, smart toy, which is sort of the first iteration of fluid play that we saw was actually started, not by the LEGO Group, but by this company called Zowie Entertainment. So, Zowie Entertainment was founded in Silicon Valley in the late nineties. And their whole thing was, they were a think tank. They were working on this

technology and trying to infuse technology into toys, kind of like Furby and, you know, Tickle Me Elmo, those sorts of things. And they came up with this idea of using these chips, these RF chips that could be embedded into a toy. And then they would have like this big plate and you would take these figurines and move them around, and that would cause an interaction to occur on the computer screen. So, you would play physically with the toy and it would make things happen on the screen. They came out with two games, one was Redbeard's Pirate Quest, the one probably better known is Ellie's Enchanted Garden. And that was like a big deal when that came out in late nineties.

(The song Upside Down by Andrea Perry starts)

Ethan Vincent

That's the track, Upside Down from the Zowie produced game, Ellie's Enchanted Garden. I remember you sent me that tune, it's written by the accomplished composer, Andrea Perry, and the whole soundtrack is this impressive '90s pop-alternative kind of sounding score, and for a kid's game, super ambitious.

(The song Upside down by Andrea Perry plays)

Ethan Vincent

Now Zowie was the company here that worked on Enchanted Garden, and they were also the ones to work on one of the first game-enabled toys with LEGO bricks, and we actually talked to one of the developers from that time. Let's take a listen to that interview you and I conducted.

John Sakalowsky

So, I'm John Sakalowsky and I was hired to work for a smart toy game company back in 1998 that was investing a lot in entertainment-oriented technologies. And they found a object-tracking technology that they wanted to build into a toy experience. And so, what I did primarily on that was build figurines, action figures characters into a playset. And those toys became sort of a tactile, tangible input into a video game experience.

Brian Crecente

So, you, I know you worked at this think tank that then became Zowie Entertainment, started working on that and then at some point, the LEGO Group came in and essentially bought the whole company with the idea of you creating something that became was later named, KidPad. How did the LEGO Group get involved in, what was your sense of why they wanted to get involved in this product?

John Sakalowsky

Yeah, so we were, you know, a seed funded startup and I think we had run out of funding and were put on the market essentially. And we had talked to a couple of different

companies, Leapfrog was one of them, Play Hut was another, and I forget exactly how the LEGO Group got into the picture, but we started talking to them and their motivation was to start to build technology into their games. They had started to do MINDSTORMS, they had video games and they were really looking at how to enable the classic brick-building play experience with a technology.

Brian Crecente

And so, you, when you became part of the LEGO Group and started working on the KidPad, what was the vision for what the KidPad was going to be?

John Sakalowsky

So, the idea is that you would have characters, there was an RF-based object tracking capability in there, and the manipulation of them, the combinations of them, the construction element of it would create different game play in the video game experience.

Brian Crecente

And so, like physically, it was like, was it this tray that had like toys that you could move around? Or how, what did it look like physically?

John Sakalowsky

Yeah, so I think KidPad is the term for the technology platform that had the object tracking technology in it and the video game play. And what it had was a, essentially a tray, a play surface that had an antenna array built into it for tracking the objects that were placed on it. And LEGO Circus or Duplo Circus was one of the titles that was being developed to run on that platform. There was a very well-known Duplo Circus playset that had kind of come and gone over the years, and they were planning on bringing that back under this KidPad platform.

Brian Crecente

And do you get a sense of what it was the LEGO Group was hoping to achieve with these, you know, why they were kind of stepping outside the bounds of just the physical?

John Sakalowsky

I think they were pushing their traditional boundaries in a lot of dimensions. You know, I'd mentioned they're diversifying into theme parks and other areas, lifestyle goods, and I think this was part of that endeavor to be more relevant in the toy market in particular.

Ethan Vincent

So, being more relevant in the toy market, back in the late nineties, what did that entail?

John Sakalowsky

I think everything was becoming digitized, more and more technology was making its way into people's daily lives. And the toy industry was perhaps on the vanguard of that. So you'd had things like, you know, Furby and Tickle Me Elmo, traditional play experiences that were suddenly much more compelling from a user experience perspective, and maybe perhaps even more so from a market perspective given those were just runaway successes. And so you'd see a lot of things that were just, you know, we're going to put a chip in this and have it do something, it didn't necessarily need to do, you know, in some ways it could almost short circuit the play experience, but that was the general trend.

Brian Crecente

Right, the LEGO Group internally talks a lot about fluid play, which is this idea of teaching children or figuring out a way to get children to play with the physical and also the digital without sort of short circuiting the experience. Was there a lot of thought about how you could sort of balance those two experiences or was it more like, you know, a different approach entirely?

John Sakalowsky

I would say that was the core of what we were trying to do. The goal was to extend that primary physical experience through the capabilities that the digital would provide and try to do it in a very seamless way.

Brian Crecente

What, so what were some of those challenges beyond the physical space in the fact that, you know, not a console, so it's not maybe in a living room, what other sort of challenges did you have in terms of trying to, I guess, direct a child's attention?

John Sakalowsky

I'd say most disturbing or concerning thing I found from the playtesting we were doing, and we did extensive playtesting with early prototypes, was the video experience for kids was very passive. So especially at the age we were going at for something like Duplo, you know, we're looking at, you know, four to seven years old, you put them in front of a screen and they just sorta stare at the screen and their jaws go slack and they wait for something to happen. When we would test them with just the toys the noise level in the room would disturb other people working outside of it and stuff would get broken because these kids were going crazy playing with these things. And then the minute you hook it up to the computer, it's a totally different, lower energy experience.

Brian Crecente

Wow. So, like, you must have had some thoughts on that. Like that's, as you said, kind of disturbing on some level, what were you, what were you thinking at the time?

John Sakalowsky

Well, yeah, my first thought was like, oh crap, how is this gonna work for kids? Like, how do we, how do we support that very dynamic, kinetic high energy experience. And so, I actually went and redesigned some of the games. We couldn't track objects in the air, but we could try to intercept them or predict where they were going to come down. So, we created games that leveraged that high amplitude experience as opposed to trying to minimize the movements that the kids could do on the place surface. That was the biggest, you know, the biggest response and the other was just kind of vocalizing the concern. You know, not on the project per se, but more on the conceptual approach around, you know, is this the best thing to be doing with an eye towards the kids, like are we really helping them improve their play experience? Or are we, are we defeating it in a way?

Brian Crecente

Were those conversations you had with the LEGO Group?

John Sakalowsky

Yeah, definitely like within the team and, we were part of the LEGO Group at that point, and so we did raise it and try to address it as part of the product development activities.

Brian Crecente

I know this didn't, this never came out, so I guess my question is twofold: One is how far along were you and do you have any idea why and how it was canceled?

John Sakalowsky

Oh yeah, I still have nightmares about this from time to time ...

(Laughter)

Brian Crecente

Unfortunately.

John Sakalowsky

...we were about three-quarters of the way through so the toys were essentially designed, the hardware had been designed and we were working on the video game software development. And what had happened was the dotcom economy in Silicon Valley, where we were based, just sorta blew up. All the dotcom funding was drying up, people are, you know, closing up and getting laid off. And so that was sort of the mood of the world and then the LEGO Group had run into some of their own financial problems. They had a year or two before done their first ever property with Star Wars, and it was a huge success. And my understanding is that they had over-invested based on that so they started planning a bunch of theme parks around the world and launching into all sorts of different product categories beyond just the traditional Play Space. And they found themselves

overextended. And so, they went into a cost cutting mode, and one of those was one of those casualties was us. So, they shut down our entire group and pulled everything back to Denmark and shelved it.

Brian Crecente

Wow.

Ethan Vincent

And how long had you worked on the project when that happened?

John Sakalowsky

We were about a year and a half in. We had stopped working, as Zowie we had stopped working, we were all being paid to hang around, like not to leave while the deal was being worked out with the LEGO Group. And then we had started to work on things in advance of the deal being finalized with the expectation that it would just be a matter of working out details.

Ethan Vincent

I guess the follow-up question here, John would be what happened with all that stuff, and is it on some machine somewhere or are the prototypes laying around somewhere or-

John Sakalowsky

I was led to believe there is a vault at the LEGO Group that has everything in it. You know, when we shut everything down and left the offices, we sent them all the prototypes and, you know, the code to-date and all of that with a few exceptions, and one exception was I got to keep a prototype unit and set-up because I said, you know, I need something I can show people for what I spent the last two years doing, and they, they were amenable to that. They also got a jar of pig's feet. I don't know if they realize that...

Brian Crecente

(Laughter) What?

John Sakalowsky

So, we've got a few minutes for this story?

Ethan Vincent

Yes, please.

John Sakalowsky

The first project I worked on, Ellie's Enchanted Garden with Zowie, we were under cost constraints. And this is one of my earliest lessons in product design is you're trying to just strip away, you know, pennies here, pennies there. And I realized we had four characters,

and if we got rid of a character, we would save all our money, but we'd better yet preserve the gameplay for everything else that we were trying to eviscerate. So I killed off the pig. That was the character we got rid of and all the games, all the animations, all the plastic parts that went with that were gone. And when I announced it at the status meeting, I said, I have good news and bad news; good news is we're on budget again, the bad news is the pig had to go. And I took out this jar of pig's feet I'd got at the supermarket and I dropped it on the table to make my point and everyone screamed.

(Brian laughs)

John Sakalowsky

And so, we're packaging things up. I was, I still had this jar of pig's feet unopened and I was like, well, you know, I think they need to get this too. So, I put it in one of the boxes of all the stuff that we shipped.

Brian Crecente

So, wait, are you saying that you guys were the pigs at this, in this larger analogy?

John Sakalowsky

We certainly felt like, you know, there had been a slaughter. So, if you find the pig's feet, you will find all the other KidPad related material.

(Brian laughs)

Ethan Vincent

I hope they didn't throw the whole thing away based on that. You know what I mean? They're like, what's this? Oh my gosh throw it all the way. That'd be terrible.

(Laughter)

John Sakalowsky

I don't know. I'm hoping it survived the trip. Yeah, 'cause if it had cracked open in transit, yeah, that probably wouldn't have made it into the country.

Ethan Vincent

Well, thanks so much, John, for your time, for talking with us and sharing this history. It's been a delight.

John Sakalowsky

Likewise, this is a lot of fun. It's nice to know that people are still interested in it and still care about it. Every so often somebody will ping me, you know some random guy online, 'cause I had ... I have like an online portfolio site where I have some of the KidPad stuff listed and somebody will find it and be like, oh my God, is this what I think it is? Like, tell me more about this, because I guess there's rumor and legend in the LEGO Group world. You are the fan base around some of these things.

(Music plays)

Ethan Vincent

So Brian, I actually called Tine Mortensen who is the records manager and lead archivist with the LEGO Group Archives and the LEGO Idea House. And I asked her about the KidPad and of course the pig's feet ...

(Brian laughs)

Ethan Vincent

... and she laughed and said it was definitely submitted before her time joining in 2011 or else, she would have remembered. But what followed was actually a very informative conversation into the archives, which are located in this basement facility with two shelves that stretch about 2.5 kilometers long ...

Brian Crecente

That's cool

Ethan Vincent

... and on the one side of the shelf they archive all the launch products and on the other, all the discontinued elements in projects. So, she definitely knows where to look and we'd get back to it, she said, but yeah, it's a real shame that LEGO KidPad was never released.

Brian Crecente

Yeah. And it's really unfortunate. I feel like some of the financial issues and company woes that were going on at the LEGO Group from 2000 to say 2003, really killed off, or at least, temporarily put on hold a lot of fascinating projects and sadly KidPad was one of them.

Ethan Vincent

You think about, like, how long does it take for them to even tackle game-enabled toys? And, it takes a long time, but all these other things are taking place, LEGO.com, LEGO Star Wars, you know, even LDD and LEGO Factory, these kinds of customized building ... build-your-own creation type experiences that take place digitally. They're all happening in parallel and they're in my book a little less risk and for sure, LEGO Star Wars wins here.

Brian Crecente

Yeah. I mean, a lot of the history of the LEGO Group is a history of timing ...

Ethan Vincent

Yeah.

Brian Crecente

... and you know, in 2000, when LEGO KidPad came out there really wasn't anybody doing this. It was a very unusual thing; it was called smart toys. So, you didn't see a lot of that happening, and then, you know, fast forward, to 2011 and Skylanders blows up and in Skylanders is essentially it's exactly what Zowie was doing. It's taking, you know, they refined it, but it's taking a figurine, putting a chip in it, having that chip read by a game system and then playing the game on a system. And, it wasn't until 2011 that they sort of started coming back to this with this product called Life of George, and then soon after you've got Fusion, which has, I think four iterations, and then of course, LEGO Dimensions, which is this amazing product. And then Nexa Knights and some of their technology even showed up in the LEGO House as the fish designer.

Ethan Vincent

So, you have this kind of dormant period ... it does take, you know, games like Minecraft, Skylanders, Disney Infinity, you know, those kinds of games to really motivate the LEGO Group to kind of get back in the game on this area. But what is that called, is this fluid play at the time? What are they calling this or how are they kind of coining the term here?

Brian Crecente

Yes, so obviously Ellie's Enchanted Garden in that period where those were considered smart toys. By the time we get to 2011 and 2013 or 2012 - 2013 what the LEGO Group is now talking about is something that they call One Reality, so the LEGO Group's Future Lab in August, 2012 put together this presentation about One Reality, and this is how they described it. They said "One Reality is a balanced integration of virtual and physical LEGO brick play in which each reality enhances the other." So, the idea here is that this is going to be something that will enhance the enjoyment and experience of the physical LEGO bricks. So, it's sort of digital in service of physical.

Chapter 2: One Reality – 25:06

(Commercial 2)

(Commercial for Life of George)

Ethan Vincent

Brian and I were able to talk to Paal Smith-Meyer and Michael Vanting. Paal Smith-Meyer worked at the LEGO Group from 2000 to 2013 as Head of the new business group and lead

the development of Life of George and Michael Vanting is currently Senior Marketing Manager with the LEGO Group and we talked to him about his work on Nexo Knights.

Brian Crecente

So, Paul, if you could tell me a little bit about how the core conceit of Life of George came about.

Paal Smith-Meyer

Yeah, well I joined the LEGO Group back in 2000 and the first seven years I worked at the LEGO Group was as a creative director, most of the time and for Creator, LEGO Technic and LEGO MINDSTORMS. And then the last seven years I was so lucky to build up a new business group. And from there we launched LEGO Architecture, LEGO Ideas, LEGO Muji and also Life of George and the journey with Life of George really started all the way back to the first project I was on in 2000, which was called the KidPad. And what we tried to do there was really to find a way where we could fuse the physical LEGO brick play with the virtual LEGO brick play. So fast forward nine years, and I'm working in new business group. And I meet this Israeli company called IQ in Boston. So, what they had was a webcam connected to a laptop, and using this webcam they could recognize LEGO bricks. And I was sitting there looking at this ... was really cool as a tech invention, but I was remembering back to KidPad that kids do not play with LEGO bricks on a desk in front of a screen. So, I pulled up the iPhone and said, hey, this also has a camera, would it be possible for you guys to do what you're doing with the webcam, but on the phone? And they looked at it's like, "okay, we can do that". So, a few months later, they came back to Billund and showed us, what we called at the time, Pling. And really what it was, we'll say LEGO plate where you could place one-by brick, so it's the kind of flat LEGO bricks in different colors, build them together, place them there. And then using your phone, you held it up and then it said pling. And then what you had built was usually on the screen, not always, but it was kind of like, ah, this works. So, we really looked at that as an almost like the essence of putting two bricks together, we had found this new connection that we wanted to use, and that was really the start of what became Life of George.

Brian Crecente

And then Life of George went on to become this product that was given sort of a little more personality with a character, but can you tell me real quickly, what was ... when you got life of George what was it you were meant to do with Life of George?

Paal Smith-Meyer

So initially it was just called Brick It, and it was really build physical LEGO brick against time. So, we were really working on the philosophy of the kind of dogma rules of what would make this LEGO brick play. We had said, we're going to launch this in the Apple stores. So, we then had to actually go and talk to Apple and at the meeting with Apple in London, they said, this is very cool, but it lacks personality. And yes, it lacks personality ... was kind of just the function of the game, but then going back to Billund, the design team

had also thought about this and was launching this idea of this character called George and it was a perfect match because this was exactly what we needed. So, we created this universe for George and using this universe we used 144 very basic bricks in red, yellow, green, blue, black, and white. And they were so basic that even internally, when we brought it into the core design teams, they were like, but you can't create with this, but they said, let's try. And then from some sessions we had with designers from all across the different product groups, we built the whole universe of different objects using the same, very basic bricks. And that then became the universe of George. And that was really the start of what we felt, now we have the core idea, it was a fun universe, but we really want to build on that for more different ways to create with the bricks.

Brian Crecente

Real quickly, fast forwarding, so Life of George came out in 2011, then sort of a 2.0 version of Life of George came out in 2014 called Fusion, and in between that time there were some other ideas like Fish Tank, which would go on to be an exhibit, and then 2015 saw Dimensions, which was this toys-to-life game that allowed you to use mini figures and put them into a game that you could play. And then 2016 comes and we get next Nexo Knights ... and, Michael Vanting I wanted to ask you the same thing about how you got involved with Nexo Knights and what it was.

Michael Vanting

Well, I joined the LEGO Group around 10 years ago, and then in late '13, I joined the big bang team working on Legends of Chima, and then we were working on this new big bang called Nexo Knights where futuristic knights could download powers into their shields and that would become, you can say, physical digital product, where you could scan the physical shields of the mini figures and then get them into an app game.

Brian Crecente

And so what was the reaction?

Michael Vanting

There was some concern at that time with, especially in some markets, that if it was too digital, they wouldn't buy the traditional products.

Brian Crecente

I'm curious for both of you, was fluid play something that was being discussed at the time?

Paal Smith-Meyer

No, we discussed a lot and it was a lot of debating because we were different teams working with different approaches. So sometimes it was kind of became philosophical. For some, the main drivers to see how can the digital really inspire kids to build more and play more physically. So, we're looking at this kind of play loop where you created something and then use it in a digital space and that play would that inspire you to go back physically

and play more. And for others, it was more kind of, maybe looking at it as a relevance tool to sell more of the product line. So, I think there was different approaches to the same technology.

Brian Crecente

So that period after Life of George what was your goal? Was it to solve that fluid play problem? Or what was it you were trying to do after Life of George?

Paal Smith-Meyer

We were really trying to discover with that technology a new kind of core way of playing that could then be applied across many different play themes, just like aspect to the connectivity of bricks. So back to the essence of LEGO bricks, which was creativity, and at the same time Minecraft was really starting to take off, so we looked at Minecraft as the true embodiment of LEGO brick play in the virtual world, and we couldn't really copy that. So, we said, our benefit is that we have physical bricks, so we actually were experimenting with some ways of playing that you built artifacts that you can import into and shape a LEGO brick 3D world, which was like Minecraft.

Brian Crecente

That's interesting. What do you think, I'd love to hear what you both think of the idea of how the LEGO Group's notion of fluid play intersects with the traditional toys-to-life?

Paal Smith-Meyer

When we started KidPad back in 2000, the dream was to build a race car and put it in the virtual world. And then, so you could drive the LEGO race car, but as we moved on, I think a lot of it will also say, how do we use technology in a smarter way so we inspire kids to build with LEGO bricks. You know, a new way of inspiring and that was kind of the essence of a lot of the work we did before Fusion.

Michael Vanting

I think when you see something like the new LEGO Super Mario, I think this is the closest I've seen on that physical, digital integration, because it inspires you to change your course and rebuild it. And it has this the LEGO Group DNA that the more sets you get, the more value you have, the more variety you can do in your world, where the physical suddenly takes its own role and replicating things from the digital world, but without trying to compete in a way, and I think the team has done a tremendous job.

Paal Smith-Meyer

Yeah, and I think that's where we forget that when we launched truly new innovations into the market, it takes time for them to adopt in the consumer market. So, it's actually the patience and the persistency needed to build something because we're so used to like, you know, we launch it one year and if it doesn't work in the last year, you discontinue it ... but when you launch something new, it's not gonna work. It's just a start. And then it's like,

you need to build on it. So, we often said you launch to learn so you can iterate and then grow, not just launch to learn because learning in itself is if you can't iterate on it, it has no value.

Michael Vanting

A lot of time markets, they don't know what they want, so when they see something new there might be some resistance, but then when something is out there saying, why can't we get this? So when you have something that is completely new, it just presents a lot of challenges too, how do you convey what it is and obviously that's the big challenge also on LEGO Super Mario, because it's new for LEGO brick users how you do this, but it's also new for fans of the IP, because it's a completely new way to interact with the IP. And it's a completely new way to interact with LEGO bricks. So that's the interesting part.

Paal Smith-Meyer

So, Michael, it's almost like the opposite of a big bang, it's like a slow bang. You know, you need to almost have it like a five years strategies. Like over the next five years, we will build this into a large category.

Michael Vanting

Yeah, but you also know that said that's not the way it works.

Paal Smith-Meyer

Nope, exactly. So that's the challenge.

(Music plays)

Ethan Vincent

So, Brian, I decided to do something fun here. My youngest son, Milo, he's five, and he's been begging to play LEGO Hidden Side for the longest time. Every time we're in the aisle, checking out LEGO bricks, he immediately goes straight to these Hidden Side boxes and he stares at the image of the mini fig who's holding up the phone and scanning the LEGO set and there's these ghosts underneath. And yeah, he just goes wide-eyed and loves it. And so I went ahead and I bought the LEGO Hidden Side Castle and of course recorded the both of us building and playing for the first time. So, take a listen...

(Music plays)

Ethan Vincent

Look how huge -

Milo Vincent

That's so cool! I always want to have that one.

Ethan Vincent

Is this the one you always wanted?

Milo Vincent

Yeah!

Ethan Vincent

That's cool. Now look how old you have to be. How old do you have to be?

Milo Vincent

Nine.

Ethan Vincent

You have to be nine, that's right. But guess what? How old are you?

Milo Vincent

Five.

Ethan Vincent

And have we built sets before that are for older kids?

Milo Vincent

Yeah!

Ethan Vincent

Exactly. So first you build your set, then you scan the set ...

Milo Vincent

Ooooh!

Ethan Vincent

... then you catch the ghosts.

Milo Vincent

Yeah, how many parts does it have?

Ethan Vincent

This has a little over a thousand parts.

Milo Vincent

I think it is more than a thousand.

Ethan Vincent

Alright so I open this..

Milo Vincent

Oh man, I'm so excited

Ethan Vincent

Here we go. I'm going to start looking for these parts over here.

So we unpack all the bricks and are in the middle of setting everything up here, and of course, Milo has no problem at all just playing with the mini figs with and around the unfinished parts that we're building of the set. And he's just loving it.

(Milo Vincent playing with mini figs and making fighting noises)

Announcer

Two hours later.

Milo Vincent

We're almost done!

Ethan Vincent

Well, I don't know if we're almost done. We're about halfway.

Milo Vincent

Yeah, halfway.

Ethan Vincent

Wow.

Ethan Vincent

It takes us several hours to get all the set built and then it's time to download the app and finally play the game.

(Sounds of game play)

Ethan Vincent

So overall it was a fun experience for sure and Milo loved it and obviously he's way too young for the game, that's probably not the best parenting on my part for sure. But it did also experience a little bit of what John Sokolowski talked about with the KidPad testing

observation, you know, Milo was really glued to the phone and his interaction with the physical grew more limited too, again, I know this was mostly an age thing, but when you build sets for two to three hours with a barrage of sound effects and imaginary fights right next to you, and then you experience this intense kind of like quiet concentration of phone app gameplay, it does kind of illustrate the point. Anyway, later we walk the dog together and I just asked him a few follow-up questions.

Ethan Vincent

Say that again Milo, what did you notice?

Milo Vincent

I want to walk with the minifigs!

Ethan Vincent

And not just with the ghosts?

Milo Vincent

Mhm, with the minifigs too.

Ethan Vincent

What is your, what do you think about the game?

Milo Vincent

It's cool!

Ethan Vincent

What's the funnest part of the game?

Milo Vincent

That you can be a ghost.

Brian Crecente

Yeah. You know, it sounds like, your son who is five, he enjoyed it, but there were some challenges there that my son who's 19 sort of saw, which is you can't do everything you want to do in the game. I mean, it's fun, it does a really good job of setting up this augmented reality field and sort of plopping the LEGO bricks into it. But there's also this lack of interaction that can be a little frustrating. And I think your son at five probably did a much better job of vocalizing that frustration than my son at 19 did - he just sort of rolled his eyes at me. (laughs)

Ethan Vincent

Yeah, well he has little fits about it, so that's always funny. Yeah.

Chapter 3: Fluid Play – 40:45

Brian Crecente

So, we fortunately had a chance to talk about a lot of this and about fluid play with Sam Coates, who worked on Hidden Side, and also with Cephias Howard, who has a lot of history working on some of these unusual projects that sort of combine the digital and the physical to create fluid play.

Sam Coates

My name's Sam Coates. I work at LEGO Creative Play Lab where we explore the future of play with LEGO bricks. I joined the LEGO Group in the summer of 2016, so I've been here four years now. My team are a bunch of hackers who believe that digital functions make new ways to play, so we spend every day hacking new things together and putting them in front of kids to see what works.

Cephias Howard

My Name is Cephias Howard. I'm the Chief Play Officer at the Play Institute. I was formerly the director for innovation and digital play at the LEGO Group and leading kind of things in terms of, from LEGO worlds, to LEGO games, to VR and AR explorations a few years ago.

Brian Crecente

Cephias, what was your, I think your first project was pretty unusual in terms of LEGO things. What was the first thing you worked on at the LEGO Group?

Cephias Howard

We were working on what was called the growth-driver project, which was to identify what could be a new area, a new experience for the LEGO Group to bring out once we'd gone through the crisis, because we were kind of in the back end of the crisis of the 2000 and sort of 2000, 2004 kind of time. And we'd rebuilt a lot of the company, but we expected that we needed something new to reveal once we came out of that, and I developed what was called LEGO Games, which was board games rather than video games as a result of that.

Brian Crecente

Was there any discussion back then of what is now called fluid play? The idea of shifting between the digital and the physical?

Cephias Howard

The project initially started focusing on the physical, but what we discovered very early on was that the biggest barrier to people accepting new games - is the rules. And the rule book is then what we kind of obviously worked on, but what we discovered was that one of the best ways that we could help people with that barrier was to make digital rules. So,

we made some very early things there, which were digital, almost kind of like mini game experiences, which kids could go online to basically learn how to play the game. And then as we went forward and into things like Fusion and actually some of the stuff later, we worked on basically working together with the two. So, for example, using an iPad or an iPhone with your board game experience, sometimes where they were interdependent and then actually dependent. So, there was lots of exploration in that sort of area towards the latter end.

Brian Crecente

And I should point out for people not familiar with the games that you made; these board games were made of LEGO bricks. So, it was still a full LEGO brick experience, right?

Cephas Howard

Yes. And that's kind of one of the things that was fun about the different direction that we were posing at that time, which was that if it was a ... there are board games, there are card games, but if it was a LEGO game, then everything needed to be LEGO bricks. And one of the ways we demonstrated that early was to make a LEGO dice so that the actual die was also completely as a LEGO brick element rather than like a wooden die or something.

Brian Crecente

So real quickly, just want to transition over to Sam - how early on did you get involved with Hidden Side or how involved were you with Hidden Side?

Sam Coates

So I was, I guess on Hidden Side and its difficult teenage years ...

(Brian laughs)

Sam Coates

... I was brought on in the summer of '17 and the team had kind of been through lots and lots and lots of different proposals and rejection on new play themes, and they landed on augmented reality ghost hunting. So, I came aboard then to try and explore what it might mean very, very quickly. We had to find it and develop it and ship it within two years, which was a bit of a challenge. So that was my mission.

Brian Crecente

What were some of the ... I mean, obviously there's a lot of complexity there, but what were some of the challenges in trying to create a ... I guess fluid play for what could have been a traditional theme set?

Sam Coates

I'd say for most of the early concept work, we were just wrestling with technology. You know, it was mostly market-driven, it was not robust, it didn't work on every device. And it was only really when around the same time as BrickHeadz, when Apple and Google started to produce their platform level AR Core and AR Kit, that we saw the level of stability that we really wanted. But explaining to the business what the hell it was we were making when it looked so bad and it was so unstable and the prototypes all kept falling apart ... to a relatively technically illiterate company, that was a challenge. And then the one that we discovered, once we got better, and the one that I think still exists, even now Hidden Side's out, was we fundamentally changed what the LEGO Group experience was. And we had to take kids with us, and they didn't automatically come with us, and I think we were still learning how to explain interactive sets and how to explain the play-potential when the core product's 80 years old and everybody knows ... thinks they know exactly what it is, then you're changing what it means. So I think that maybe we didn't give enough time and effort to, we were focused on the technology too much or just the robustness too much. But you know, with hindsight, yeah, that's where we should've spent more time.

Brian Crecente

So, when you say you changed the fundamental ways that kids were meant to interact, can you explain that? How was it changing?

Sam Coates

Yeah, so it really is because it's augmented reality and it's viewed through a phone, it's a layer on top. In Hidden Side we're overlaying the model, we're giving it more meaning, it doesn't just get built and used as a backdrop, there's stuff to do; think in the hex of the Hidden Side - things to find, things to discover - not that one is better than the other, it's just kids hadn't needed to play with LEGO bricks like that before.

Brian Crecente

Messing around with it, it's very neat. I love that it is so ... it manages to do so much with the model on such a small level in terms of like, even being able to see through the model and see some AR in there, but there seems like, when you have a blank slate and you know what you want to do, that there are so many possibilities. How did you decide what sort of game modes to have and where to put that AR in the experience?

Sam Coates

So, we have this really helpful thing called the pressure of a deadline ...

Brian Crecente

Oh, right.

Sam Coates

... which meant that we were up against the clock continuously on that project. It was late when we started, so really, we prototyped as much as we could, and we pulled out the best set of things that we had so far at the time. And frankly, that's, that's how it was done. We did throw away an awful lot of mechanics, which were kind of cool but didn't work as a set, or cool but didn't really make any sense as ghost hunting. And we've carried on playing around with those since, but really it was just do the best you can in the time you've got, and then take the cream off the top.

Brian Crecente

So Hidden Side, obviously is still out, still supported, still getting new sets. Do you...kind of looking at kind of going back all the way to things like the KidPad and CyberMaster and Life of George, it seems that the LEGO Group has done a lot in terms of innovation, and that sometimes it's helped and sometimes hindered. I'm just curious what your thoughts are on that. Do you feel like these fluid play examples and experiments have been innovative?

Cephas Howard

Yeah, and I think it's a very tricky space. I've spoken at events on the effect of combining physical and digital and the challenges therein, and yeah, there is, it's very hard to kind of like name off the top of your head, you know, like, name five examples of people that have done it amazingly well, it's really, really hard to do. And so, I think that the LEGO Group has done as well or better than most. And I think that as people are, we spend what...41% of our lives now staring at screens. So as people become digitally native, these opportunities and with the technology advances are going to open up more and more. And so, all of that ground work that the LEGO Group has done in spending the time and energies on these innovations, the ones that work, the ones that didn't, is going to pay off in the long run, but that's always the challenge with innovation is the timing of things, right? You need the right time, the right experience with the right technology, and people that are ready to adopt it. And so, I think that you can never guarantee all of those things, so you have to put things out there, do the best you can, or as many of those factors you can control. And then like Skylanders did, you know, sometimes you hit it, you hit the nose on the head or the nail on the head and bam it's in every home.

Brian Crecente

And Sam, what do you think?

Sam Coates

I still think we're in the exploring phase. So, we're going to make quite a few mistakes. We're going to try a lot of things that don't work or don't scale, or the timing that we experience is great, but the timing is off, or whatever, and we're getting more mature in our innovation processes to make sure that we tackle things like technical feasibility alongside the desirability of the play, so that we don't get to some point, oh, this is great, how are we going to make it? Or how are we going to make money if we do make it rather than lose money? So, no, I think we've got a good track record. We're getting stronger.

And as Cephas says, it's a really challenging space. You have to innovate because nobody knows the right answers yet.

Brian Crecente

Just from a big picture, how important is fluid play? Is fluid play like the next flash-in-the-pan? Or do you think it's sort of the future of play, or something between?

Sam Coates

Personal opinion? Of course, I think it's a future of play or I wouldn't have quit making video games to make interactive toys. So personally, I believe 100% it's one of the futures of play. I still think playground play is going to be the most important one. I'm still gonna enjoy watching kids riding bikes and running around shooting sticks at each other, but I mean, there are things you can do when you have a mixed reality experience that are special and unique and fire the imagination of children more, so absolutely I think it's here to stay, I think we haven't got good enough technology to really integrate well into kids' lives yet, but when the time comes, there's loads we can do that'll be more interesting than just sitting watching a flat screen.

Cephas Howard

And for me, I think it's constantly changing because I think there's a difference between what is possible and what is adopted. So, we're always treading that line, because as Ronny (Scherer) said, even the LEGO Group itself tried experiments in VR in the nineties, right? So, I think five years ago, we all thought VR was finally here and we've kind of shown that it isn't yet. So, I think that sometimes you have these spikes, and the same with AR, where they take a surge forward, but then sometimes they stall a little bit. So, it's a bit hard to tell. I think that I was hoping to be getting a pair of Apple AR glasses, you know for Christmas this year and I won't be getting those. But we might all be surprised, so I think it might take another 10 years or these things can often just take a leap forward as the iPad did for me, or for the iPhone, sorry it's making that leap from what was the iPod. So that's where I think that we can be surprised and that's what keeps us on our toes because yes, it could take another 10 years, but it might actually only take two or three. So, I think that's that, you know, that edge and so you don't want to be too early, but you certainly don't want to be five years too late.

Sam Coates

And innovation doesn't go on a nice linear line or even on an S-shaped curve. Although it's closer to that. No, it happens in big steps and they're innate, and one technology enables another one it's technically driven that led innovation, but sometimes it's just the market's ready. Like right now screen time is probably our biggest concern. If we keep putting too much on screens, parents will not let kids play that long, but that's a cultural shift not a technological shift.

(Music plays)

Chapter 4: Conclusions – 53:24

Ethan Vincent

I love that conversation with Sam and Cephas, so many great insights in to fluid play and understanding the space and also this idea of timing. So, let's take a look at some of our conclusions, some of our final thoughts here, Brian. For me at first look, this idea of game enabled toys, this idea that there's something physical that allows you to play in a digital space in whatever way, shape or form that is, seemed kind of abstract to me. It was, abstract enough for me even question if this topic, this single topic of fluid play should merit an entire podcast, right? This idea, like, do we have enough here to talk about, but as I dove deeper into the concept of the LEGO toys and games, it included something really crystallized for me, and it was this idea that tracing the history of smart toys and fluid play at the LEGO Group really helped me understand that fluid play plays a really vital role in the play experience lineup. For me, in a way it had less to do with some of the past attempts in the genre, but with the ability of being able to look into the future and imagine toys that are more powerful, more sophisticated, and truly bring the physical into the digital in new and exciting ways. The work of the LEGO Group in this space, however, I think is remarkable. And as we've heard from several designers, LEGO bricks, as a toy has always lent itself, I think, to the physical digital imagination. And one of the most seamless experiences I've had has been at the LEGO House with the fish designer - you build your little fish, no matter what shape it has within the parameters, it's scanned and then immediately it's kicked into this huge fish tank in front of your eyes and it swims away. And I remember as a whole family we would just be doing that over and over and over again, and actually come back to it throughout the day. So, it was a successful, I think, bringing-to-life experience. And finally, you know, this past week we've both been able to kind of check out LEGO Super Mario, and I'm really excited to do a whole episode on this because it merits a whole episode, but I'm convinced that fluid play will continue to soar as a vital play experience in the digital space. And it's definitely very exciting.

(Soft music plays)

Brian Crecente

It's interesting to hear your take on how your family and specifically your young son has sort of experienced these forms of fluid play. I think about a complete rework of Mark Twain's famous quote on humor, when I think about the LEGO Group's attempts at fluid play and that is, 'success is innovation plus the proper timing'. And I think that's something that we've seen over and over again with LEGO bricks, that timing is obviously a key issue. Fortunately, there are the company's long-standing deep interests in all forms of play, is a big part of why it continues to dominate the toy industry. And I believe will continue to play a big role in how well it does in the game industry. What's fascinating here though, is how much concern the company shows for how these physical toys and digital experiences might merge, and the impact they might have, not just on toys or on games,

but on the children that interact with them. The digitification of toys seems like it was inevitable. It started as simply jamming electronics into physical toys, and then calling them smart toys, like we saw with things like Ellie's Enchanted Garden. And while there were some interesting byproducts of that movement, it turned out to be approached still in its infancy. We see that with the LEGO Group's own first major attempts in the KidPad, it's a novel idea, but one that came too soon for the company to make effective use of. Unfortunately, the evolution of that toy within the LEGO Group took too long to seize on the popularity of what would become toys-to-life mega hits like Skylanders and Disney Infinity. Here, we see the LEGO Group once more suffering from both being too early to the market with KidPad and too late with LEGO Dimensions. But the company's deep involvement with all forms of play and its continued effort to define and shape how play would evolve, meant that the LEGO Group persisted and landed first on the notion of One Reality. And then most significantly on the concept of fluid play. It's in fluid play that we see a maturation of this concept of the digitification of not just toys, but of the LEGO Group's ideals within a toy. While Hidden Side still doesn't get everything right in it's merging of physical and digital, it moves that effort in the right direction. LEGO Mario on the other hand, finds a way to take the digital and make it physical while still maintaining the unique aspects of both forms of play. Mario may not be the embodiment of fluid play, but it is a major innovative step forward in this emerging form of hybrid interaction.

Ethan Vincent

This episode is dedicated to Vladimir Ignatov, senior product lead and member of the Digital Play Front-End and Toy-Enhanced Games teams. Ignatov passed away too early this year.

(Music plays)

Bits 'N Bricks Credits – 58:46

Ethan Vincent

Bits 'N Bricks is made possible by LEGO Games. Our producer is Ronny Scherer, your hosts are Ethan Vincent and Brian Crecente. Episode producing and editing by Ethan Vincent. Writing by Brian Crecente. Original music, sound design and mixing by Peter Priemer. Additional music provided by the Enchanted Garden soundtrack and Henrik Lindstrand from the award-winning game, LEGO Builders Journey, which you can play on the Apple Arcade today. We'd like to thank our participants: John Sokolowski; Paal Smith-Meyer; Michael Vanting; Sam Coates and Cephas Howard. We'd also like to acknowledge the entire LEGO Games' team as well as the great folks at the LEGO Idea House for their support. For questions of comments write us at bitsnbricks@lego.com and as always, stay tuned for more episodes of Bits 'N Bricks.

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