Rise of the LEGO® Digital Creator

While you've always been able to build your own physical creations with a bucket of LEGO® bricks, the route to the same level of digital LEGO freedom for fans has taken a bit longer.

The latest step in that effort sees the LEGO Group teaming up with Unity Technologies to create a system that doesn't just allow anyone to make a LEGO video game, it teaches them the process.

The Unity LEGO Microgame is the most recent microgame created by Unity with the purpose of getting people to design their own video game. But in this case, the interactive tutorial turns the act of creation into a sort of game in and of itself, allowing players to simply drag and drop LEGO bricks into a rendered scene and use them to populate their vision. Designers can even give their LEGO brick creations life with intelligent bricks that breath functionality into any model to which they're attached. Users can even create LEGO models outside of the Unity platform using BrickLink Studio, and then simply drop them into their blossoming game.

While this is just the beginning of this new Unity-powered toolset for LEGO fans, it's destined to continue to grow.

The biggest idea that could come to the Unity project is the potential ability for a fan to share their LEGO video game creations with one another and vote on which is the best, with an eye toward the LEGO Group officially adopting them and potentially releasing them with some of the profit going back to the creator.

If that happened, it would essentially be following in the footsteps of the LEGO Ideas platform, which allows any LEGO fan to create a model with the hopes of having it turned into an official release by the LEGO Group.

"On the physical side, we have our LEGO Ideas platform where we involve the wider community to help design LEGO sets and they can become official LEGO sets," said Anders Holm, senior technical lead at the LEGO Group. "We want to involve the same types of community that you can submit your game idea that, you have built in a microgame and potentially, if it's an awesome game, could it be actually published as a proper LEGO title.

"That is at least a goal we are investigating because that is a model we know works in the physical space."

The LEGO Group's efforts to empower fans interested in digital LEGO building has been around since the mid-'90s, when a relatively secretive division at the LEGO Group known as Strategic Product Unit Darwin started its efforts to digitize the LEGO brick. Efforts to create one-to-one realistic versions of the complete LEGO library have continued on and off since then, both through fan and official efforts.

Those efforts included games, like LEGO Creator and its sequels; software, like LEGO Universe; and even LEGO Digital Designer and LEGO Design byME which enabled fans to build models with digital LEGO bricks and then have the physical pieces and building instructions shipped to them. That notion, in turn, lead to the concept that created LEGO Ideas.

An important subtextual theme of all of this work, especially the efforts most recently made with Unity, is an abiding sense of trust, said documentarian and co-host of Bits N' Bricks Ethan Vincent.

"The LEGO Group allowing and trusting their fans to just create, build and enjoy tools like LDD and BrickLink Studio. And now to kind of take this idea even further into game creation with Unity, to me represents this whole new level of trust," he said.

The long history the LEGO Group has with empowering fans predates video games, said journalist and Bits N' Bricks co-host Brian Crecente, but it continues today with these new efforts.

"It's neat enough that you're leaning into the metaphor of the LEGO system to teach what it is to build a game, but to do that, and then empower fans in a way that would allow them to perhaps not only make their own games, but perhaps make their own LEGO games and make them official," he said. "I think it is simply incredible, and it speaks a lot to, not only the power of Unity and the creative approaches that the LEGO Group has, but also to the interest both companies have in empowering fans and making sure that fans aren't just heard, but can have a direct relationship with some of the things that they love and create."

Explore more…

In order of appearance

[LEGO Digital Designer](#) About page

[Strategic Product Unit Darwin](#) History site

[LDraw](#) Official page

[MLCAD](#) History site

[LUGNET](#) Web site for the global community of LEGO enthusiasts

[LEGO Factory and Design byME](#) Wikipedia

[LEGO Creator](#) Wikipedia

[LEGO Creator Knight's Kingdom](#) Wikipedia

[LEGO Creator Harry Potter](#) Brickipedia

[LEGO Creator Harry Potter and the Chamber of Secrets](#) Brickipedia

[Unity Technologies](#) Official site

[Unity LEGO Microgame](#) Official site

[LittleBigPlanet](#) Official site

[Dreams](#) Wikipedia

[Disney Infinity](#) Wikipedia
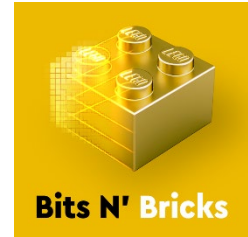
[LEGO Universe](#) Wikipedia

[BrickLink Studio](#) Official page

[LEGO Ideas](#) Official page

Transcript

Bits N' Bricks Season 1 Episode 5: Unity

January 6 2021 · 0:53:19

Prologue – 00:00

Tara Wike

You know, we used to sort of have to develop in a bubble and where we are geographically, I mean, we couldn't be more remote, right? You know, we're like in a cow field, in the middle of rural Denmark, but suddenly it doesn't feel that way because we have access to everything and our fans have access to us in a bigger way.

Anders Holm

Imagine that you are sitting in your living room on the carpet with just a pile of bricks in front of you, and then start building essentially and start making your game. So we are actually encouraging the user to build something up from their own imagination.

Ethan Vincent

That's awesome.

Anders Holm

Yeah. I will urge you too, to get out there and start creating a LEGO game.

Ethan Vincent

I'll do it in my free time. How about that?

Anders Holm

Okay.

Ethan Vincent

Yeah.

(laughter)

Bits N' Bricks Intro – 01:33

(introduction)

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)

Chapter 1: Empowering LEGO Fans – 02:05

Ethan Vincent

Welcome to another episode of Bits N' Bricks. In this episode, Brian and I take a closer look at the relationship of the LEGO Group with the fan community and particularly the history of the LEGO company empowering their fans.

Ethan Vincent

We will dive into some of the history surrounding early involvement of the LEGO fan community with the digital efforts of the LEGO Group, and examine their most recent announcement to partner up with Unity to allow the creation of LEGO Microgames. Beyond the usual disclaimer that Brian and myself do not work for the LEGO company, but we're commissioned to examine the twenty-five year history of LEGO Games. I think it's also important to note a couple of things; Brian and I are also not associated with the adult fan of LEGO community and we don't claim to be as knowledgeable as they are with all things related to the LEGO brick and LEGO creations. That community is simply amazing. And in that same vein, it's important to note that this episode is not about the history of the LEGO fan community and their influence on the LEGO company, but vice versa. The topic of the AFOL community and LEGO fans everywhere merits an entire episode. And we hope to tackle that topic in future episodes of Bits N' Bricks.

(music)

Ethan Vincent

Today, Brian, we are looking at the LEGO Group and its deep connection with its fans. It would be easy to assume that the fan community was just inherently built into the make-up of LEGO bricks since it started in 1932, but as we're going to learn, of course, it wasn't like that. It wasn't that easy. And the LEGO Group started to truly embrace its fans probably, I'd say, early two thousands, especially it's lifelong adult ones. And more importantly empower them to create more than just models with existing bricks.

That's kind of an interesting development and as we look at how the LEGO Group dealt with these fans. Right, Brian?

Brian Crecente

Yeah, totally. I think probably the most obvious current example of that is this work that the LEGO Group has done with its community in this thing called LEGO Ideas, which I think is amazing. So the idea there, is basically fans can build their own LEGO model, these sort of kits and upload them to a website and then people will look at them and vote on them. And the hope is, of these fans, is that those LEGO sets that they're putting together will actually be turned into a set that is official and sold in stores. And so that's sort of, I think the best example of what's going on right now in the physical world, the world of physical bricks, but you could also look at this recent partnership with Unity, which is basically Unity, not too long ago, announced that they were coming up with this system where you could learn how to program using unity, but also using digital LEGO bricks. And so you could look at that partnership and how it empowers fans to essentially create their own LEGO video games with the Unity engine as what might become the beginning of that sort of LEGO Ideas approach for gaming and digital play. So yeah, I think this is just the latest move by the LEGO Group to open yet another door to fans who are looking to collaborate more closely with a company that they have grown to love through their toys and their childhood and now adulthood.

Ethan Vincent

And it's also this desire, I think for the LEGO Group, not just to satisfy their current customers with continued LEGO sets and continued building options and so forth, but to really embrace and empower the fan community to participate, to collaborate and to build their own creations and to really contribute to the brand they love.

Brian Crecente

Right. Yeah.

(music)

Brian Crecente

In many ways, much of the LEGO Group's direct collaboration with fans can be traced back to this piece of free software that the company released back in 2004. It was called LEGO Digital Designer, LDD as fans call it. And I think even the folks inside the LEGO Group call it, is essentially this tool that allows them to access what you could consider to be this bottomless bucket of LEGO bricks recreated in digital form. So users can basically grab whatever they need to build their creations on a computer and just go crazy, build whatever they want.

Ethan Vincent

Yeah. LDD is a powerful tool, and I think it's also important to realize and mention that this ambition of digitizing the brick began in the mid to late nineties within the LEGO Group, there was a division called the Strategic Product Unit Darwin, and they were working on this kind of CAD-based internal database called L3D and within the fan community, adult LEGO fan James Jessiman released the first version of L-Draw in early 1996 that's a free work tool for modeling LEGO creations in 3D, and three years later in 1999, Michael Lachmann releases ML CAD, which is kind of this CAD based program that allows the creation and editing of LEGO models, kind of with dat file formats. So yeah, this again this idea with the advent of the personal computer and their growing abilities, you know, a tool that would allow LEGO digital creations was highly sought after.

Ronny Scherer

In the beginning we thought of Digital Designer as sort of a game-like approach-

Ethan Vincent

-this is LEGO employee Ronny Scherer from an interview back in early 2008. Today Ronny is Senior Director at LEGO Games Asia Pacific, but back then Ronny was one of the producers of the original version of LEGO Digital Designer.

Ronny Scherer

Building in 3D on a computer is actually pretty hard. And we thought of that as an interesting challenge to see, can we actually bring 3D building down in age? So the first step on it was really to, can we do a game that would sort of engage kids and teach them some of the fundamentals of navigating in 3D and placing objects in 3D. We then later decided to approach them all too like angled to the design rather than making it too much game. So the philosophy was that if we adapt some of the good things about navigating and placing objects in 3D, it would be a way that kids would be used to. And we picked that up and put that into the design of the first version of Digital Designer.

Ethan Vincent

But one of the challenges with LEGO Digital Designer, as a tool for kids, was that it was rather complex conceptually and needed a sort of mentoring model to help young fans take full advantage of all of its possibilities. And you and I talked to Naomi Clark who worked with the LEGO Group from 2000 to 2004, then off and on as a freelancer, but now teaches Game Design and Development at NYU.

Naomi Clark

It was really with LEGO Digital Designer. We did a lot of outreach to the community that was involved in projects like ML CAD, which was sort of the premier LEGO CAD tool that was in use in the adult community, because we wanted them to be interested in and help support and help grow the community that we were hoping would result from allowing

everybody to build digitally with LEGO bricks 'cause we wanted a tool that kids could get into and learn to use because we had seen all the kinds of amazing 3D creations that were being posted on lug net, and that were made in tools like ML CAD, where a bit of the operative fantasy was, well now you have an infinite number of bricks. You can have every brick that you can that has ever been made. It's all within this digital library and just build whatever you want with it.

Ronny Scherer

To begin with the community was sort of hesitant. They build their own digital tools, but they were far from what we needed for actually allowing kids to be able to use it.

Ethan Vincent

Ronny Scherer here again, talking about the LEGO Group's adult fan community's response to LEGO Digital Designer.

Ronny Scherer

So at first they saw Digital Designer as a nice kiddie thing, and I could supplement for recruiting new adult fans of LEGO bricks at some point. And then later as the product developed and they started to see what we're actually going to use it for, a lot of the adults picked it up and got involved in both building models for LEGO.com. They got involved in the competitions that we did, and they also got involved in actually creating their own custom models and promoting them online on their own websites.

Brian Crecente

Interesting.

Ethan Vincent

Yeah. So self-promoting your own models was one thing, but the LEGO Group understood fairly quickly the importance of truly embracing the creations of their adult fans. And one of the key individuals who drove that effort was Tormod Askildsen, who I also spoke with back in early 2008.

Tormod Askildsen

Pulling together a lot of initiatives that happened around the late nineties and early 2000. We created a platform using LEGO Digital Designer, where you can actually build whatever LEGO brick design you want from a certain palette of LEGO brick elements that you want, designer packaging that you think would be really cool and then enabling the consumers to order their own very unique design through a on-demand supply chain. So we basically set up a supply chain, a manufacturing facility, a distribution center to serve the consumer so they can make their own LEGO sets and they can buy that LEGO sets that is very unique it's one-to-one creation that they made and they want to buy.

Ethan Vincent

And maybe to clarify what Tormod is talking about here is the LEGO Factory Theme that was active from 2005 to 2009. And in 2009, it was replaced by Designed by Me. But all of these customized LEGO brick creation efforts would have not been possible without the tool LDD, which was also later used in LEGO video games
like LEGO Universe, LEGO Legends of Chima online, LEGO Minifigures Online and many, many more.

Brian Crecente

Yeah it's amazing. LDD is such a powerful tool and it has had such a deep impact, I think not just on the relationship with fans, but on the company. And as you can imagine before LDD became this big thing that was being used in so many different ways and perhaps even gave birth to LEGO ideas and perhaps even this LEGO Unity partnership, there's this long history that gets us to LEGO Digital Designer. So prior to LDD coming out, there was in 1998, this game called LEGO Creator. So LEGO Creator was this sort of video game sandbox that was designed by a British game developer called
Superscape. So the LEGO Group had approached the company in the nineties and asked them if they could make a game that would deliver a batch of digital LEGO bricks and sort of this virtual environment in which to build. They were able to do that and so the game which was developed over the course of 1998 was enough of a success to spur the creation of three sequels. So Superscape, this British company that made the first one, also created a sequel called LEGO Creator Knight's Kingdom, and then went on to make LEGO Creator Harry Potter. Then with the next iteration, the LEGO Group brought in a new developer, this company called Qube Software and they made the game that's probably most familiar to fans of the LEGO Creator series and that's LEGO Creator Harry Potter and the Chamber of Secrets. And that game while the others were all published by LEGO, that one was actually published by Electronic Arts in 2002.

Ethan Vincent

Yeah, and as I understand it, Brian too, that last creator game was what really compelled the LEGO Group to focus on a tool set designed specifically for creating and
sharing LEGO sets in a digital environment. And again, this idea of a digital system of play wasn't at all new, but all these external third-party digital building applications and efforts, both within games and in freeware programs were really kind of siloed endeavors and one-offs. And, you know, just the sheer amount of file formats and non-compatibility issues between programs could be really frustrating. And I think the LEGO Group then made what I think was a really important decision; to bring the development of a LEGO digital building tool in-house. And in a recent call I had with Ronny on the topic, he also pointed out that LDD was created to kind of fortify this organized system that would allow you to reuse LEGO digital creations over and over again, basically to build on them in any program. And the file format they created was this file format called, LXF in short, LEGO Exchange file format, which was this robust and compact file format, much

smaller than a lot of the CAD dat files and high-end 3D programming files. And more importantly, like the physical building system philosophy of the LEGO company that allows bricks that were made in the 1950s to still clutch to bricks created in 2020, the LDD team was really trying to make that same forward and backward compatibility happen for the digital age. It's really quite remarkable. So, Brian, so going back to our history lesson, right. LDD as an idea came about while Qube Software's developing Creator Harry Potter, and you and I both talked to Jesper Erstvang, a software architect at the LEGO Group currently working on LDD.

Jesper Erstvang

We started looking at performance issues and quality issues they had with the way they had constructed their connectivity information and the tool in general. So we made a prototype and then we showed it to our boss and he said, well, that's fantastic. But we went to Qube Soft and said, well, would it make sense that you make the application and we in-house would make the building tool? And they said, no, we want to make everything. And our boss said, well see ya. And then it turned into an in-house production team where we launched LDD 2.0 and then it has grown into three and four. And now we're working on the fifth generation, which is LDD Pro.

Brian Crecente

Yeah, so that decision to invest so much into digital bricks and LEGO Digital Designer, was spurred by an opportunity the LEGO Group saw for connecting with the community and to, at the time, to empower children to create in this sort of burgeoning information age. So the vision that the LEGO Group had at the time was that children would be able to make their own models and sets. Then they could share them with friends and maybe even play online together. They also, the company's line of video games is also doing super well at the time, even before the release of that mega hit that we're both huge fans of, LEGO Star Wars. And so pushing its games into something more creative seemed like a natural fit for the company.

Ethan Vincent

Yeah. And today's version of LEGO Digital Designers still remains officially an internal product at the LEGO Group, a tool set that is used by the LEGO Group and its official partners, but the company didn't forget its fans. And last year the LEGO Group purchased BrickLink, a community fan site and marketplace, that also has a digital building studio program for creating virtual kits. And so that was a real interesting move to see the LEGO Group actually go and purchase that and it's now available for everyone to download and build their creations in a digital space.

Brian Crecente

Yeah, and I think it's worth noting as much as I think it was a great move for the community. I think there are folks internally at the LEGO Group, especially people like

Jesper who works on LDD to this day, who may be would love to see LDD go back out there to the public.

Jesper Erstvang

We definitely have an idea right now that LDD will be our in-house tool. Maybe it means the studio would be our public fan tool. It's difficult to say, but I'm definitely sure that LDD will keep growing and maturing and be used professionally. And I just hope that we could also get it out to the fans, so the fans can get some out of all the effort that we put into building it, because I mean, that's essentially why we're here. I mean, they're paying our wages, well them and some other people, they're buying the products. (Laughter) But we have at least a dialog with the fans, but the general public, not as much.

(music)

Chapter 2: Collaboration with Unity – 18:30

Brian Crecente

So the LEGO Group's decades long support of fan digital creations, I think took another really big leap forward this year when they announced this team-up with Unity Technologies, that's the company behind the very popular cross-platform game-engine Unity. So Unity is essentially a platform used to create video games, lots of video games, be they fan projects or little indie games, to massive multi-million dollar projects. So starting last year, Unity Technologies began creating these sort of interactive tutorials that were designed to acclimate potential future game makers to how Unity operates, while walking them through the steps of creating their own first mini game. And we spoke with VIP Gupta, who is the Technical Product Director at Unity, about how this sort of micro mini game approach works inside Unity.

Vip Gupta

Our microgames are developed so that new users can come into Unity, start creating and share their creation in pretty quick order, less than half an hour. Unity's latest addition to the microgames is a LEGO Microgame, which is what we're going to be speaking about more in detail, but the goal is that users can come in with no coding background and be able to experience the power of real-time 3D in game creation and share that creation with people pretty easily. That's the goal of them.

Brian Crecente

Yeah, so it's really interesting, the LEGO Microgame is essentially one approach you can use if you want to learn Unity, and what it does is it walks you through the process from beginning to end of creating your own little LEGO brick adventure. It takes about 30 minutes. So I sat down with it and I built my own Unity Microgame, LEGO Microgame. And I

have to say it's really fascinating. It's not what you might think. It's not me sitting down and typing in code. What you're doing, for people who are familiar with games like LittleBigPlanet, Dreams or Disney Infinity, or maybe LEGO Universe. These are all games that allow you to create games inside of them. That's a lot like what this felt like. So when you start, you see a mini figure that you're looking over the shoulder at, so it's kind of like a third-person perspective and you could see this LEGO brick sort-of-landscape in front of you of like these floating islands made of LEGO elements. And what it does is initially it shows you how you can control your mini figure just by going in and playing this partial game. But then you go in and what you do is instead of, again writing code, you drag and drop models of bricks onto the setting, like you would use to build something, so you know, snapping digital bricks together. And then it has this really interesting twist and that's something called either an action brick or a behavior brick. So basically the idea is, these action bricks serve as sort of verbs for the game. So, for instance, if I want to have a figure that a little LEGO model I built, let's say it's of a chicken. And that chicken's in there, and it looks like a little model of a chicken, but it's just sitting there. Well if I take an action brick that says shoot, I can put it, it's literally a brick, I drag it and I place it on top of my model. And now when I play the game, the model automatically shoots out a little ball. So I'm not actually typing in code. I'm literally dragging and dropping this behavior and placing it like a LEGO piece onto that model. And then the model does everything it's told to do with that behavior. So this program, this sort of tutorial walks you through how that works and you could do things like, you know, in one case you're adding a brick that has it shoot a little thing, and then you can add another brick that says, basically look for the mini figure, which is your character, and follow this mini figure. So that's two different action bricks now. And so you can basically build all of these different actions and behaviors using these bricks, but ultimately all of this in many ways is sort of a metaphor for the experience of programming. And so the end result for me was I built this little floating Island, a couple of islands. I had to take my mini figure and I had, I think, 60 seconds, I could again, adjust the time where I had to run my mini figure across this little Island, do a couple of jumps and get to this other point in this mini map that I had built, and along the way, collect floating bricks. And I had to collect, I think, 10 of them.

Ethan Vincent

That's cool.

Brian Crecente

Yeah. And so the object was: I collect these bricks; I avoid getting shot; I make these jumps without falling; and I do it all before the time runs out and I get to the end goal. And then I'm done. I've not only completed playing a game, but I've actually built a game. Once you do that, you can also upload it to Unity's website where anybody can come in and play your game.

Ethan Vincent

This really reminds me of LEGO Universe. You know, the MMO that the LEGO Group released 10 years ago, where you could build your own digital models on your properties and then drop these kind of puzzle-like pieces, which were behaviors onto your creations and you could animate them. And I guess in a very sandbox kind of way, you could create playful interactions too, or mini games though they're more like little behavior kind of battles.

Brian Crecente

Yeah, that's true. One of, I think the most important aspects of this though, is how it allows you to connect with creations within BrickLink. And I know you spent some time messing around with the BrickLink Studio, so I'd love to hear what that was like.

Ethan Vincent

Yeah, BrickLink Studio is a cool app and it's really kind of like an evolution of LEGO Digital Designer. So You download it and you immediately have access to, basically all kinds of bricks, right? And you can import models, they're like these IO files that you bring in. And one of the things you can do is, as you build a creation, and you start really putting brick on brick, you can test, for example, it's stability. You can look at how the build is going to look with different colors and different colored bricks. And you can just kind of go to town with creating things. And what's so cool is when you get this model, you can export it and you can actually import that model into Unity. And so if you create a fire engine or a boat or anything, you could go and import that into Unity and then add the behaviors, which is really cool. And of course, with all things LEGO brand, there's a very active community here. And so even the gallery at BrickLink Studio, just offers all kinds of really cool creations. And so even if you're not super savvy on how to create, you can just start downloading these shared creations. I have a creation here, for example, like a Macintosh computer, like the original classic, you know, and it was built with all these white bricks and you can basically take it apart, look at it, you can also kind of animate instructions, so you can set up how many steps you want to create for, you know, you just kind of see how you were to build it. So these like digital building instructions, so the possibilities here really are cool. And boy, does it tie into the history we talked about, this idea of the dream that always seemed to kind of come up in the early nineties of, wouldn't it be great to build LEGO digitally, and everyone was scratching their heads and the computers weren't powerful enough to do it. And now you just download it on your laptop and go to town, and quite mind boggling and pretty amazing.

Brian Crecente

Yeah, it really is. You said it, it's mind boggling not only that BrickLink Studio works so well and allows you to create these things, but that you could take those creations, bring them into Unity just by importing and then literally drag them into your game, plop a brick on them and suddenly they come to life. And like now you have the ability to make not only

a LEGO Microgame, but YOUR LEGO Microgame, which I think is some of what Vip was hoping for, and the LEGO team was hoping for, when they did this.

Vip Gupta

These games are fun to play, but they're short and we want users to bring their creativity to it and bring their game-play, their level design ideas and be able to unlock that without having to go through hurdles that they might not...well, the skill sets that they might not have.

Brian Crecente

So this tutorial, this microgame tutorial that the LEGO Group and Unity built for people who want to learn how to game develop, was a result of both the LEGO Group and Unity's desire to work together on something. They both saw the other as this sort of perfect fit for an interesting collaboration, but they weren't quite sure back when this all started, what it was going to be. Vip talks a little bit about that.

Vip Gupta

The LEGO Group was looking to do something in the digital space in a new way. And we were always looking to expand the reach of our microgame program and what it was accomplishing. And we always thought of cool IP partner and a creative space that could come with it. And we approached the LEGO Group initially, but really it happened as the very, very first meeting was a joint meeting that happened at one of our Unite conferences in Europe. And it wasn't really with the intention of more than just seeing where there could be possible synergies.

Brian Crecente

Yes. So they have this meeting in 2019 in Europe, and it's after that meeting that Vip and his team brought up the idea of a microgame. So they knew they wanted to do something. Vip is aware, obviously, that they'd already made a few microgames tackling different subject matters and they thought this is a perfect fit. The LEGO Group loved the idea, especially because it's about construction. It was especially appealing to Anders Holm, who is a Senior Technical Lead at the LEGO Group, because of his own path into game development. And he talks to us a little bit about why that was so important.

Anders Holm

My background is computer science as a game programmer. And the way I started to go into game development was actually to tinker with the games by, whether with the first game being Half-Life starting to mod and get into that engine and then replacing graphics, and I think the roots of this one, this goes all the way back to that, working with these simple mechanics and building blocks. So, we actually just thought about, so instead of having this 2D canvas, where you can in a scratch interface program logic for a game, how about just using the bricks and placed them physically on the model in a 3D space. So we

actually took a lot of learnings from scratch and these kinds of tools and just thought about can we just place the bricks on the model, instead of just relying on a 2D canvas. Unity is also based in Copenhagen, and the distance from Billund to Copenhagen is very convenient, so we had a lot of good discussions, but the core of it is that there's a lot of values that are shared between LEGO Group and Unity. So LEGO Group's mission statement is: Inspire and develop the builders of tomorrow. Where Unity's is: The world is a better place with more creators in it. So there's a lot of synergies in our values and what we want to achieve. And then Unity is also a tool that is heavily used in the educational system and by Indies and hobbyists, which is exactly the type of users we want to talk to and inspire. And Unity is a really excellent tool for new users into game development.

Brian Crecente

So with both these companies on board and they both realize what it is they want to do, they set about creating this, I guess it's a microgame, but I think it's a little more complex than that because obviously they had to come up with the approach and they wanted it to feel very LEGO-like. That development process ended up taking about six months, according to Anders.

Anders Holm

This has been about 50/50, so of course the the LEGO Group side is creating the whole system and making the sort of the game and the brake system and all that. But Unity has been very much involved in doing Unity-specific things. So, you know, additions to the editor and then of course making the entire tutorial flow. That has been on Unity's plate, so actually guiding the user in this experience.

Ethan Vincent

Yeah. So for Unity, it seems like the goal of this project was to always kind of empower their creators and give the world more game developers basically, let them create and why not use LEGO bricks with that and why not create a LEGO game. And so it's exciting to see the openness that the LEGO Group had to allow that, and to also work with Unity and be able to make that happen.

Vip Gupta

We're hoping that it's really empowering.

Ethan Vincent

Here, Vip Gupta here again, Technical Director of Product Management at Unity.

Vip Gupta

We hope that they find, that they spend a lot of time like myself playing with LEGO bricks, physically on their kitchen table, or on the floor or wherever they may be. And that in this sort of new normal world, they're able to bring that level of creativity that they have in

their physical world, to their digital world. And we really are thinking that that is the reason we're doing this. And we want those users and players and creators to come out here, come out to the digital space in Unity, really learn that they can do more and different stuff with LEGO objects, but still feel like it's true to the LEGO brand.

(LEGO Microgame commercial)

Vip Gupta

So the goal with this, for Unity, is to continue our goals of serving new users, creating and creators and giving them opportunities to create, but doing it with a brand company and with a thought partner that shows the potential of Unity that gives LEGO brick fans and physical builders out there, an opportunity to become digital creators and see that they can do these kinds of creation in Unity and in these kinds of digital environments.

Ethan Vincent

So it's really interesting to hear about Unity's motivation in kind of pursuing their involvement and working with the LEGO Group, but on LEGO Group's side, the launch is just the first step, I think, in the company's evolving approach to gaming software as Anders has also talk to us about.

Anders Holm

We're actually taking the user into a more playground area. So imagine that you are sitting in your living room, on the carpet with just a pile of bricks in front of you, and then start building essentially, and start making your game. So we are actually encouraging the user to build something up from their own imagination instead of our particular game, which is the 3D platform, and then do something on your own. And hopefully, with the bricks we have available, then the user is able to create anything from a tower defense game, to a soccer game and a 3D platform.

Brian Crecente

It's funny that's sort of on some level, a metaphor for how the LEGO Group operates with physical bricks. You guys sell theme sets, so people go and will buy the Overwatch, an Overwatch character and build that. But on the other hand, you really want to inspire people to not just build the pre-created instruction theme set, but also build their own thing.

Anders Holm

Exactly. And that is, of course, there are different types of builders. There are people that enjoy building the set and using that as either a display piece, I'm particularly guilty of that, buying sets to display it. And then people are making it as play sets, o they start playing around with them as, you know, a doll house type play. And then obviously the ones we want to talk to with this system in the digital space, is the one that start doing their own

creation. So having this pile of bricks coming in from various themes, so we will have a pirate theme, castle theme, space theme, all in this microgame, but all sort of piled together. So the user can do whatever, essentially.

(music)

Chapter 3: LEGO Microgame Creation – 35:00

Brian Crecente

The LEGO Unity Microgame is a powerful tool for LEGO video game creation, but it still lacks the ability for creators to make money off of their creations, which obviously could be a big deal. The good news is that may not always be the case.

Anders Holm

Yeah, so right now we are of course, really excited about the full launch and see if we have made a system that gives enough variety. So, we have the actual tools for users to create what they actually dream about creating. But then on the physical side we have our LEGO Ideas platform where we involve the wider community to help design LEGO sets and they can become official LEGO sets. And this is the next step for us. We want to involve the same types of community that you can submit your game idea that, you have built in a microgame and potentially, if it's an awesome game, could it be actually published as a proper LEGO title, is of course very exciting.

Brian Crecente

Yeah, so essentially the idea then is in theory down the line, someone could create something using this. It could go through a games version of LEGO Ideas and you guys could publish it and the person could make money. Is that sort of the end goal?

Anders Holm

Yeah, that is at least a goal we are investigating because that is a model we know works in the physical space. We have not tried it in the digital space, so that is of course, very interesting for us to look into. And then we also, are trying to figure out, do we have touch points where the games people create, can be shared, too. So for instance, our physical stores and some other platforms. We need to start having creators. And then we have to see where the creations are going to end up. But the LEGO Ideas platform is definitely one thing we are looking into.

Brian Crecente

So that's a really interesting idea that Anders talks about, but I thought it'd be interesting to hear what Tara Wike, who is a Senior Design manager, for a product group at LEGO, and

at one point was heavily involved in LEGO ideas to have her explain to us exactly how LEGO Ideas works.

Tara Wike

Fans have the ability to upload ideas for a LEGO set. It can be their own hand-built model. It can be a sketch, it can be a 3D model that they've built, and then other fans, members of the community can go vote on it. And if a submission gets 10,000 votes or more, then it's brought to our attention as a company, and we collectively figure out whether we can and should make it. So we've made a handful of sets every year, more and more each year it's proven to be quite a success for us and for the fans.

Ethan Vincent

Yeah, it's really cool, Brian, when you go online and look at the LEGO Ideas site and browse the gallery with all these models created by fans. They're really cool, and as I understand it too, they receive at least 1% of sales and that can maybe be a motivator for some people, but for the most part, it's really these fans who are just super excited to share their amazing creations. And so while the LEGO Microgame in Unity allows game makers to work with LEGO assets, it's not the only effort by fans to create LEGO games, right? That's happened before, teams of fans are currently working to recreate or create a number of big LEGO titles. That includes a team working on the remake of the original LEGO Island, you and I both talked to Floris Thoonen about that, there's Dark Flame Universe, which is basically an effort to revive the massively multiplayer online game, LEGO Universe, and LEGO Bionicle-themed Quest for [Mata Nui]. And so there's this whole list of games that fans are working on creating, or even bringing back to life.

Brian Crecente

Yeah. I think going back to the idea of the Unity microgame, LEGO microgame, and the fact that it could one day become sort of a video game version of LEGO Ideas, I went back and spoke with Floris about the LEGO Island project called Project Island. He's the project lead on it, and I was curious what his thoughts were about, you know, this effort to sort of combine the two and maybe even allow this new form of monetization. It turns out that Project Island is using the Unity engine. That's the engine they're using. So that's great. He said it was a huge surprise for them, but they were very happy to see that. And of course he thinks it's really neat because it allows people to kind of get their hands dirty in game development without really knowing a lot about it. I was really curious to see if he thought that it was going to have any sort of direct impact on their development. And what he said was, I think, interesting, he said that looking at the microgame, that the LEGO Group and Unity built together, it has already given them some interesting insight into how some of the technology is handled for certain behaviors, including loading models and things like that. He also noted that this system is going to allow them to prototype a lot faster because they basically have all the assets there, all the tools are there. So they've been working on this for a long time, but this is certainly going to have a

big impact on their project, and more importantly, who knows if the LEGO Ideas thing comes to fruition and the LEGO Group allows fans to submit their projects for monetization, maybe we could see Project Island happen and one day we'll be playing a revised version of LEGO Island, a game that you and I both have talked about in a podcast before.

Ethan Vincent

Yeah, it's real cool to hear how this is working for fans. Obviously it must be really cool for those fans that are working in Unity to hear this announcement and to feel like they're actually being supported by the LEGO Group. And I can imagine the other side is true too, maybe, Brian, right? If you're developing or working on a product or on a game that you're doing outside of Unity, maybe you're going to scratch your head a little bit and go like, what does this mean for me? I'm kind of curious.

Brian Crecente

Yeah, I mean, there are certainly...we know for instance that some of the games are actually mods of existing games, and then obviously some are made in Unity. Maybe there are some games made with Epic, Epic Unreal Engine, so at the time of this recording, the Unity LEGO Microgame is only in soft launch. So it hasn't really gotten out to everybody yet. And because of that the people we talked to at the LEGO Group really don't have a full sense yet of what the reaction is going to be. But Anders tells us, he is certainly looking forward to hearing what they think about it.

Anders Holm

I very much look forward to see our fans' reaction to us putting this out there. And it has been really, really positive. I have been following the Rock Raiders community and Dark Flame Universe. The guys that are reviving LEGO Universe, I've been following them and talk with them and seeing their reactions, and well, their reaction is that a lot of the stuff they have sort of reversed engineered or tried to pull out of existing titles, it's now just there for them to use (laughs) which of course means that a lot of code can be scrapped, but that is a very big positive because now we, as the LEGO Group, is actually trying to help them and support them by allowing them to play with our bricks in the digital space.

Ethan Vincent

That's always funny when I hear about the code being scrapped, you know, he says it's so nonchalant, which I think is kind of cool because he means it in the gesture of welcome, but maybe for a programmer who's been coding for years, it might be a little frustrating, but what he's actually saying is the LEGO Group is now officially embracing fans and the fan community, and particularly adult fans and video game fans of LEGO games, to join them and create games. It's an open invitation, it's a cool move and an official move by, I think LEGO Games to really embrace the fan community and the gaming fan community. And Tara Wike, Senior Design Manager at the LEGO Group talks about that, the importance of working with fans.

Tara Wike

Getting in touch and involved with our fan community has been growing over the years for sure. And I think it's absolutely a positive thing because we get so much support and amazing ideas from them that makes perfect sense to kind of grow that relationship. But I think it's growing, I think it's something that maybe we could have done more of in decades past, but certainly a big part of what we do now. We used to sort of have to develop in a bubble and where we are geographically we couldn't be more remote, right? You know, we're like in a cow field in the middle of rural Denmark, but suddenly it doesn't feel that way because we have access to everything and our fans have access to us in a bigger way. And that's if we were to go down the con route, that could be a little scary sometimes because we want things to be sort of secret and surprise and a little Willy Wonka when we come out with stuff, but when you start to see so much more of what goes on under the hood, you sort of lose a little bit of that mystery.

Ethan Vincent

So yeah, you listen to Tara and this idea of the LEGO Group and Unity at some point creating a digital version of LEGO Ideas and opening the floodgates of use-creation, it's going to definitely open all kinds of new challenges. Whenever you let people kind of sandbox and do whatever they want, as we've talked about many times, you never know what users will create and can create. And it's definitely important to somehow regulate that. And, Tara and Anders talked about that and their efforts in that regard.

Tara Wike

As the internal lady whose main concern is design quality, I instantly go to moderation, you know, how are we going to make sure that these are things that we really want out in the world with the LEGO name on them? Not that I don't trust our fans to make something really great, but you know, you give free reign and you'd never know what's going to get created. But I think with anything, I look at some of the games properties out there now that involve a lot of custom creation both of building and of game design, and you see how...well I have an eight year- old son, so I see how he just flourishes in that. And I can only imagine it getting even more robust the older the person involved. So I think that with the right people making sure that the quality and the content is appropriate, then I think it could be something really great.

Anders Holm

So in the case of this microgame, users can publish their titles to Unity's Connect Platform. It's essentially a web platform where they can see other games, for others to play. That platform is moderated of course, and users can report inappropriate content.

(music)

Chapter 4: Conclusions – 45:59

Brian Crecente

So yeah, it's fascinating to listen to all of the effort and work that went into creating these microgames. LEGO Group and Unity working together to empower fans and allow them to make their own game.

Ethan Vincent

Yeah, that's true. So, Brian, I think it's kind of important to mention that again, at the time of our interview with LEGO employee Anders Holm, the conversation was mainly focused on the beta or the soft launch version of the Unity LEGO microgame, and a few weeks following our conversation of course, the LEGO Group officially announced its collaboration with Unity on October 26, 2020. And so I decided to follow up with Anders and to ask him about the official launch and also about some of the lessons he learned between the soft launch and the official release. And also just generally the insights he gained by seeing this, you know, kind of go out into the world and how it's been perceived.

Anders Holm

Oh, it has been amazing to follow it. I'm still on Twitter, YouTube and all these different channels. It's actually hard to keep up where stuff is going. There's no doubt that in the first couple of days here, we see a lot of really, really good reception of the whole partnership, making sense to people. So the LEGO Group and Unity collaboration makes a lot of sense for people. But I think that the surprise to me was actually a lot of receptions was from tech-savvy parents, mom and dads, that is going to say, hey, this is looking really, really awesome. I know Unity, but I will try to build something with my eight-year-old during the weekend. So there was a lot of reception from, I would say, tech-savvy parents that wanted to use this as a vehicle to spend time with their kids and have them get into game development, which I find really, really awesome.
Having made this with the LEGO Group and Unity is just a fantastic combination that I didn't believe five years ago would even be possible. So I think the lesson learned is in the beginning we tried to be very much, you need to learn the very basics of Unity and have it a very strict structure. I think we actually, by looking at the beta, we can be more open-ended. We don't have to be that scripted and handhold the user that much. I think looking at the beta, we can allow the user to think a little bit himself, if you know what I mean, it doesn't have to be this handholding, but there's no doubt that we can trust the users more, I believe than we first thought using this system.

(music)

Ethan Vincent

I'm glad I had this follow-up conversation with Anders and got to hear his take on the excitement building around the LEGO Unity collaboration. And for me, I think, you know,

one of the biggest maybe subtextual themes of this episode about LDD, fan creation, digital LEGO Microgame possibilities with Unity is this idea of trust; the LEGO Group allowing and trusting their fans to just create, build and enjoy tools like LDD in BrickLink Studio. And now to kind of take this idea even further into game creation with Unity, to me represents this whole new level of trust. And I think what was really eye-opening for me as well in this episode was my own experience with digital building. But that moment where the brick in your creation comes to life in a game is really pure magic and it really is what everyone, before these technical and virtual possibilities, kind of dreamt about, the ability to have an endless supply of bricks and just build without limitations. So to me, there's no doubt in my mind that the LEGO Group is serious about wanting fans, kids, and users everywhere, not only to dabble in digital building, but truly create with kind of this full digital literacy on models and games, and hearing Anders and Vip talk about the possibilities with Unity and the tools that are now available to start was really inspiring.

(music)

Brian Crecente

I think all of it is very interesting. And of course love the history there. I love that the LEGO Group's long interest in empowering fans goes back well before they ever made video games and talks a little bit about the fact that they did this in the physical world. And then we have this sort of jump forward where they're starting to come up with ways in the nineties for fans to not create games, but to play with digital LEGO bricks. And then to see that that turns into this effort that eventually somehow, wildly I think, allows fans to make their own sets and get them voted on and perhaps have them sold, to other fans is amazing to me, this LEGO Ideas thing, that blows me away. But then when you look at what's going on with the LEGO Microgame and Unity, and the idea, this notion that Anders floats that perhaps one day after fans have really been playing around with these tools and creating their own games, that there could perhaps be in the future, some sort of marketplace or platform in which fans could float their own video game creations. And those video game creations perhaps could be sold or could be picked up by the LEGO Group or turned into something. I think that's amazing.

(music)

Brian Crecente

It's neat enough that you're leaning into the metaphor of the LEGO brick to teach what it is to build a game, but to do that, and then empower fans in a way that would allow them to perhaps not only make their own games, but perhaps make their own LEGO games and make them official. I think it is simply incredible, and it speaks a lot to, not only the power of Unity and the creative approaches that the LEGO Group has, but also to the interest

both companies have in empowering fans and making sure that fans aren't just heard, but can have a direct relationship with some of the things that they love and create.

(music)

Bits N' Bricks: Credits – 52:21

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 mixing by Dan Carlisle and additional music provided by Henrik Lindstrand from the award-winning game LEGO Builder's Journey, which you can play on Apple Arcade today. We'd like to thank our participants: Tormod Askildsen; Naomi Clark; Jesper Erstvang; Vip Gupta; Anders Tankred Holm; Ronny Scherer and Tara Wike. 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 or comments, write us at bitsnbricks@LEGO.com and as always stay tuned for more episodes of Bits N' Bricks.