Lego Embraces Modularity and Metaverse in Its Software Engineering Culture

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Lego the plastic brick maker, is rapidly growing its software development teams to meet the growing demand for virtual experiences.

Lego is rapidly expanding its engineering teams for software as it expands its offerings from plastic bricks to bits and bytes but can it be competitive with the top tech companies for the most talented engineers?

The Danish company is investing heavily to transform into an increasingly technologically-driven business after the exploding popularity of online brick-building games such as Roblox and Microsoft's Minecraft.

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In recognition of the missed opportunity, Lego announced a partnership with the videogame maker Epic in April of this year. The two companies will cooperate to create new experiences in the metaverse. This blurs the distinction between physical and digital building experiences.

"The partnership with Epic is our journey into the metaverse and there is an important product piece to develop and an engineering piece for that," Atul Bhardwaj, group chief digital and technology officer at Lego Group told InfoWorld.

Lego is determined to tackle these challenges head-on and build its in-house software engineering department. It has a goal of doubling its digital workforce to 1,800 by 2023. This will be based in offices in London, Shaghai, and Billund in Denmark.

Lego Digital Transformation powered by Lego

To help drive this change Bhardwaj discusses making Lego more engineering-led, product-

led and architecture-led.

"I think of myself as being product-led as opposed to project-led," he said, which means "defining the issues you tackle as the digital products that you create and develop."

Bhardwaj is keen to make Lego Group more engineering-focused by placing emphasis on craft and architecture. "What engineering skills is required to be able to build world-class, scalable and efficient systems?" He asks.

Software engineers will continue to play an important role, but as the digital team expands digital designers as well as product managers and technical program managers will also be needed.

Construction of a cloud-native tech infrastructure

All of these plans will require to be backed by a solid digital architecture. Bhardwaj wants Lego to create systems that "can scale, operate 24/7, and are flexible, open, and easy to connect with."

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The company is currently developing an all-encompassing platform for data and updating its infrastructure to make it more flexible and cloud-native. Lego hosts 54% today of its workloads on the cloud, in contrast to just 1% months ago. The company has ambitions to reach 100% in cloud computing in the future.

"We're seeking speed as well as responsiveness and flexibility, which cloud can provide," Bhardwaj said.

Lego Group employs a wide variety of frameworks and languages, from Unity for certain of the new consumer-facing products as well as React for Lego.com and SAP ABAP for back-office systems. "We've kind of all the tools," Bhardwaj said. "In the data platform, we're using Scala and Python. We are using the most recent technology today. If you're an engineer looking to learn more about the latest tech stacks and you'll find it here."

Connecting to the Lego story

Lego and software have been in constant contact Many engineers like making physical models in their spare time when they look to escape their workstations.

Bhardwaj stated that every interviewee has an Lego story. "There is connective tissue in there."

Modular software components have long been advertised for their Lego-like utility that can "snap on" to other components. This concept extends to Lego's software building system, that makes use of APIs as well as loosely connected systems.

"When I describe great architecture, it's similar to Lego bricks, which is where we can construct something, tear it down and rebuild something else relatively easily. games "That's what we're trying create here," Bhardwaj stated.