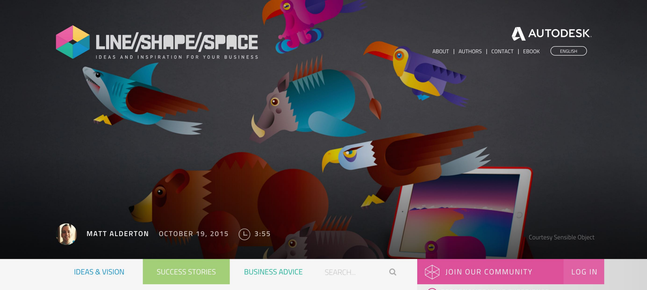


MATT ALDERTON OCTOBER 19, 2015 3:55

Courtesy Sensible Object

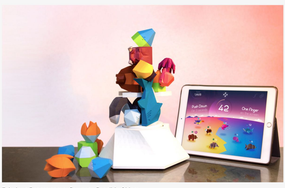
Connected Toys: Fabulous Beasts Game Makes Jenga and Pokémon Meet the Internet of Things

"You sunk my battleship!"

For anyone who grew up playing board games like Battleship, few words were as sweet as those. Uttered from the lips of a friend, sibling, or parent, they were the ultimate admission of defeat. More than, "You won," however, they also said—in a funny sort of way—"I love you." Never mind that each peg in an opponent's plastic warship was a crippling blow against them. Because it yielded quality time and shared enjoyment, engaging in make-believe warfare with a loved one was as much a genuine gesture of affection as it was a simulated act of aggression.

Even if you long for bygone board games, you can't help but marvel at their digital descendants: multiplayer online battle arena—or MOBA—games, a new genre of video games wherein disparate players create opposing teams of supernatural characters who collaborate to destroy their enemy's base. Because they're played with distant strangers on mobile devices, MOBAs such as *League of Legends* and *Heroes of Newerth* aren't as warm and fuzzy as traditional board games. Thanks to their digital fabric, however, they're infinitely more strategic.

Unwilling to commit to one genre or the other, game designer Alex Fleetwood has spent the past decade inventing games that straddle both as connected toys.



Fabulous Beasts game. Courtesy Sensible Object.

"On the one hand, we have a really rich tradition of screen-based digital gaming that is very compelling," says Fleetwood, founder of Sensible Object, a London-based studio established in July 2015 to pioneer the concept of "hybrid" games: games that leverage the Internet of Things to marry tactile pieces with digital gameplay. "On the other hand, we have a much longer history of games as social activities—board games, card games, parlor games, and playground games where we're interacting with the physical world around us. I've had a long-standing interest in how to cross over these two really distinct forms of gameplay.

"Usually when you hear about the Internet of Things, you think about it in terms of your thermostat," he continues. "When I think about it, I imagine amazing new opportunities for play and having fun. I think the Internet of Things suggests a new direction where screens will become a supporting element for humane and embodied social experiences."

Courtesy Sensible Object

Sensible Object's first game is called *Fabulous Beasts*. A multiplayer balancing game that Fleetwood describes as a cross between Jenga and the collectible card game Pokémon, its physical component is a platform on top of which players stack and balance 3D-printed objects. Its digital component is a corresponding virtual world that players can explore on their tablet computer.

"The players of the game take on the role of gods," Fleetwood explains. "The pieces are representations of living things, and when you play them, the 'beasts' enter the world that exists in the digital game."

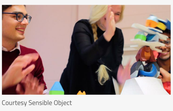
One plays his or her pieces—an eagle, for instance, or a shark—by stacking them into a tower. Each piece that's introduced to the tower has implications in the digital world. Beasts can, for example, prey upon one another, overpopulate their habitat, or migrate to a new environment. Players are therefore encouraged to stack their pieces in ways that will maintain not only the physical integrity of the tower but also the biological integrity of the corresponding digital world.

Courtesy Sensible Object

"A lot of the fun and intrigue of the game comes from the fact that these objects weren't designed to fit together like LEGO pieces," Fleetwood says. "They have funky properties, and over repeated play, you start to discover new ways of stacking them."

Creating connected toys and a game so novel requires not only amazing creativity but also superior engineering. To acquire their "funky" properties, for instance, the 3D-printed beasts have undergone hundreds of design iterations in Autodesk Fusion 360, which Fleetwood's team has utilized to rapidly create and test various game-piece prototypes.

The game's technology is equally as thoughtful as its design. "The first idea I had in my head was that we would use a camera and computer vision to detect what was going on in the tower," explains Fleetwood, who developed the game's infrastructure in partnership with the University of Bath's engineering department. "We quickly realized, however, that computer vision was going to be a pretty expensive and risky technology to use in the context of a game. Instead, we looked for something much simpler: We've got a load cell under the base of the platform where you stack the tower, which is the same thing you find in a set of kitchen scales. This load cell detects changes to the tower simply via changes in the weight of it."



Courtesy Sensible Object

The load cell works in tandem with passive RFID stickers embedded in the beasts, allowing the game to detect and verify which game pieces are in play. Finally, Bluetooth syncs the pieces and the platform with the players' tablet.

"We think there is hugely interesting potential for the kinds of games that we can make with this combination of sensors," Fleetwood says.

As *Fabulous Beasts* illustrates, however, technology isn't the end; rather, it's the means.

"On the one hand, this game has the kind of depth of play and sophistication that you can really only achieve with a digital device supporting the gameplay," Fleetwood concludes. "But it's not about looking at a screen. It's about using a screen to enable a social experience with your friends and family. As a person and as a parent, I value that. It's the kind of game playing I'd like to see a lot more of in the world."

Sensible Object will introduce Fabulous Beasts *at IndieCade in Culver City, California, October 23–25, 2015. A crowdfunding campaign will follow on Kickstarter, with games shipping to Kickstarter backers by the end of 2016.*

TAGGED IN 3D PRINTING DIGITAL PROTYPING INTERNET OF THINGS

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