Making lighting wireless and personal

A connected lighting system that lets you play with tone, brightness and color to create any mood

In 2008, when app development became accessible to the public for the first time, a young interaction designer at Philips had a light bulb moment. He created an app that displayed the Philips LivingColors color wheel more dynamically on a smartphone. In collaboration with technology and strategy experts this inspired idea grew to form Philips Hue: a retro-fittable, connected home lighting system that lets people personalize tone, brightness and color to create any mood they can imagine.

What is it?

Philips Hue is a smart, connected lighting system that lets people wirelessly personalize their home lighting, playing with tone, brightness and color to create any mood they can imagine. Easy to retrofit, the starter kit consists of three wireless LED light bulbs, a connecting bridge, and a dedicated app.

What is innovative about it?

- **The first step into the connected home** – control and personalize your home lighting via your smartphone and the web
  "*The world has been talking about the idea of a connected home for a while, but this is it.*" George Yianni, Technology Specialist at Philips Lighting

- **Huge variety of applications** – by playing with tone, brightness and color, you can use Hue for a variety of functions. Turn on all your lights at once, alert people to news / alarms with changing lights or influence moods by using different colors.

- **Easy to implement in existing light infrastructures** – Hue can be retrofitted straight into existing light fixtures and is compatible with Philips' connected luminaires
  "*Since it was going to replace an existing bulb in someone's house, we wanted it to look better and create better light than anything that came before it.*" Filip Jan Depauw, Philips strategic lighting expert

- **Open system with more than 200 third-party apps** – for both iOS and Android systems many of which are free to download.
  "*I felt that if we were going to make this a success, we needed to connect with the talent out there[…] Hue is all about personalization*." Filip Jan Depauw, Philips strategic lighting expert

What is the benefit of this innovation to 'you'?

Philips Hue allows you to easily control and personalize the lighting in your home remotely through a wireless connection. It can be retro-fitted into existing light fixtures and is easy to install and use. The availability of thousands of apps makes it possible to make the most of the connected system in a way that suits you, such as setting up alarms and alerts, timing lights, or synchronizing lights with music.

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How did we do it?

The Hue started life when Pei-Yin Chao, a Philips interaction designer, dreamed up an app to display the static LivingColors color wheel on a smartphone in a very dynamic way – and went on to create a working prototype. Meanwhile George Yianni, technology specialist in Philips Lighting, was exploring ways to use smartphones to enhance the user experience of lighting. Elaborating on Pei-Yin's original idea, George and Philips researchers developed a prototype bridge (the device that links the bulb to the smartphone).

The concept was developed further in a technology incubator, investigating possible systems, use cases and business models. When Philips strategic lighting expert Filip Jan Depauw pointed out that personalization would be the key to Hue's market appeal, researchers created possible scenarios which they shared online, asking the public for reactions. Almost 200 responses were honed down to the four initial Hue apps which underwent placement tests in Berlin, Shanghai and New York. Meanwhile, the team developed new radio-enabled light bulbs. Finally, it was decided to make Hue an open platform, allowing thousands of third-party apps to be developed, enabling further personalization.

Did you know?

1. One of the biggest challenges was putting the antenna, required for the wireless connection, into the new bulbs. The team found an ingenious solution, positioning the antenna in such a way as to induce coupling and use the metal heat sink as a kind of secondary antenna.
2. IFTTT (If This Then That) allows users to link their Hue system to more data streams to indicate weather changes or new text messages.

Find out more

Philips News Center – for the latest news on Philips Hue

Philips Hue innovation backgrounder – in-depth story of how Hue was developed

Third party Hue app: Convo Lights - deaf community empowered through via Convo Lights app

Meet Hue – main product info site; includes technical details, how it works, apps etc

Video - The birth of Hue

Video - Philips Hue -- Personal Wireless Lighting – demonstrates Hue's use cases.

Video – Hue: inspired home – innovation and you brand video

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