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GRPH 426

4 February 2018

Smart Speakers Design

Smart speakers featuring an artificial intelligence is becoming popular in the American home. Devices such as Google Home and Amazon Echo is reportedly selling more than ever. According to a report from Catalyst, the smart speaker market grew a record of 187 percent in the second quarter of 2018. By triggering the device using voices, people can easily interact with the speaker to control their smart home devices from TV, thermostat, to music and others. These intelligent speakers shared simple designs language across the board, they all feature cylindrical shapes, small, and tedious. Due to its small form factor, the limitations of these speakers lie in the sound quality, limited functions, and unpleasant form. With this in mind, I intend to create my own version of smart speaker for the home that features a smart artificial intelligence, powerful sounds driver, and above all, an exceptional art piece.

Background

“A smart speaker is a wireless speaker with built-in voice control and smart assistant when once activated by commands, it will then try to do the given tasks.”

In order to understand smart speakers, we must look back at the history of how smart speakers got started in the first place. The thought of using voice control or digital speech recognition tool

started way back in the 60s. In 1962, IBM introduced the “Shoebbox” in the 1962 World’s Fair. , it was the first digital recognition tool that could understand 16 words and digits (Saba, 2017). Throughout the years, the technology has been in development and has made technological advancement through different companies, such as Dragon and Microsoft. However, the real boost for the technology was in 2011, when Apple introduced Siri, a virtual smart assistant that goes along with the iPhone 4 (Saba, 2017). Siri was a huge deal at the time since it was able to do all the tasks, from sending messages, and creating calendars, to answer some basic questions.

The announcement of Siri helped to ignite competition between Apple and other giant tech companies, such as Google, Microsoft, and Amazon. One year after the released of Siri, Google launched their own version of a smart assistant called Google Now, followed by Microsoft with Cortana, and lastly, Amazon Echo. All these smart assistants were integrated into each company’s products. These companies played an important role in the advancement of the technology.

In terms of function, all these assistant works quite similar compared to others. When activating the smart assistant, your request is sent to the server owned by the company of your devices. The words and tone of your request then being analyzed by an algorithm with artificial intelligence, which is then matched with your request. (Fischer, 2017)

Behavior

According to the smart speaker report from the Edison research, there are over 39 million people owning a smart speaker, averagely of 1 in 6 adults in the United States. Also, “the adoption rate of such speakers over the last three years is now outpacing that of smartphones and

tablets.” (NPR, 2017). The smart speakers market is booming and the report says, by the year of 2020, the number of devices will find itself into 55% of US homes. These numbers mean that smart speakers will become more available and accessible to everyone.

As the results from owning smart speakers, it's also changing our behavior and creating new habits. With 30% of the owner reported that they have to reduce their time on TV (NPR, 2017). In addition, 71% of the owner said they are listening to more audio since getting smart speakers, as well as 28%, listen to more news and talk shows (NPR, 2017). According to from my survey report, more than 60% of people have the smart speakers in the living room, follow up with kitchen and bedroom area. The living room is where people spent most of their time with friends and family. That's one of the reasons why I chose the living room to place my smart speaker. Since having a smart speaker, up to 66% of owner use it to entertain friends and family.

Design

Nowadays, smart assistants are integrated into home devices, with a prime example the smart speakers. Their designs are similar to one another across the board. The language design of these speakers is cylindrical, and all of them has a small form factor and lightweight which can be easily placed in any rooms at home. With bright colors, it's easy to spot them in the environment.

The Amazon Echo is a tall and slim device, its matte black exterior and sitting at 9.25 x 3.27 inch, make its easy to look like a personal humidifier from a distance. There is a round ring of light located on top with the mute and listen to buttons, while the top ring rotates to adjust volume. This ring lights up when the Echo hears the wake word “Alexa”, flashes when is searching for an answer to your question and glows red when you press the mute button (Fischer,

2017). The Echo has a 2.5 inches speaker located at the bottom, and it's covered with the dotted shell wrapped around the outer shell of the device. The speakers on the Echo and Google Home are similar to each other. Except, Echo only have 1 speaker and Google has 2. The speaker produces omnidirectional sound, its able to projecting sounds 360-degree in its environment. However, despite the size of the speaker, the quality of the sound suffered the most near its upper and lower limits (Brown, 2018). The sounds quality is uneven, with weak bass at high volumes. Even though Echo is fairly lightweight but it's not portable, having to sit at one spot with power adapter connected in at all time.

Solutions

Through my research and survey, I wanted to attempt to create my own version of smart speaker that is not being limited by size and sounds. My focusing audience is toward people that have the smart speakers located in the living room. I will try to create a design that not only looks like it belongs in the room but also acts like a sculpture to enhance and brighten the living space.

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