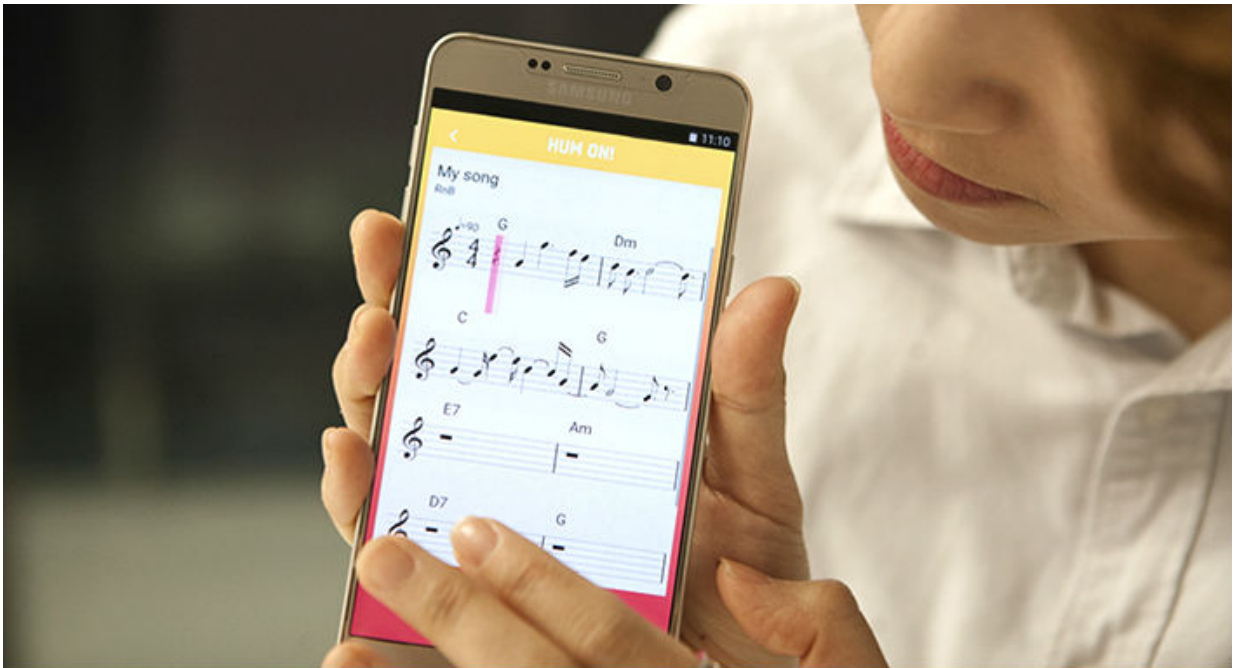# Samsung C-Lab revealing three projects at SXSW event

March 16 2016, by Nancy Owano

Big Technology companies cannot rest on past product success; they have to keep moving with the new. You might shudder to think what would happen if engineers and developers asking what-if questions only got reactions from their bosses such as "Crazy stupid idea," or "Get back to work."

Instead, we have the proverbial sandbox provision at a number of companies which know it is smart to allow ideas to incubate and develop with like-minded teams, potentially moving into something big. Samsung knows that; it has a Creativity Lab, or C-Lab, where employees are given the space to translate ideas into something potentially commercially viable.

Last year, the C-Lab made wearable sensor news when it introduced a prototype, the Early Detection Sensor & Algorithm Package (EDSAP). This is a stroke detection solution. Having a sensor suite and algorithm, EDSAP makes it possible for a smartphone or tablet user to monitor the electrical impulses that are brainwaves, for gauging the probability of an oncoming stroke.

The latest C-Lab projects are revealed this month: Hum On!, Waffle and Entrim 4D. They are to be showcased at this year's South by Southwest, the annual tech and music festival in Texas. Hum On! is an app that transcribes hummed melodies into musical scores. "Think of it as a musical translator of sorts," said the company description. David Choi has the title of being Creative Leader of the project

How they did it: Analysis software detects pitch and duration of a user's voice; machine learning helps create a suitable accompaniment. One practical benefit would be to use the app to provide background music in videos. What's next? "The team is currently focused on improving the recognition accuracy of the app, and is even considering collaborating with musicians to provide more diverse, artist-inspired accompaniments in the future."

Another project on the C-Lab menu is Waffle. This is a social media platform. It enables collaborative content creation; Joseph Kim is Creative Leader.

Why the title? We can see the reason behind Hum On! but why would they call this Waffle? Samsung's reason: The user interface resembles the grids on a waffle. Doodles, images and messages converge into new content.

The Samsung team said, "the app enables users to create a new feed of expandable content. They can also add to existing related content, as if contributing to a communal graffiti wall." Illustrating multiple points of view, a collaborative story is generated.

Last, and the one getting most of the tech news sites' attention, is the Entrim 4D, a VR accessory that lets users feel the movements of on-screen action. This is a motion headset, brought forth by a team of hardware, software and biomedical engineering professionals and experts. Steve Jung is Creative Leader.

These thinkers have been exploring what can happen in VR if one could trick the part of the ear that regulates balance and motion into making you feel like you are a part of the motion excitement, immersion on yet another level.

How they did it: a combination of algorithms and Galvanic Vestibular Stimulation (GVS), a technique that sends specific electric messages to a nerve in the ear. Electrical signals—such as the ones used to help restore balance in stroke patients—are delivered via headphones equipped with electrodes that correspond with movement data input by engineers.

"Users thus feel as if they are a part of the on-screen action, and can also sense direction and speed of movement. And, when paired with the team's Drone FPV, which utilizes data from the drone's motion sensors, they can even feel like they are flying."

The team has done experiments that involved over 1,500 people and they developed 30 movement patterns. What's ahead: They are working on a version that uses additional electrodes to create a sense of rotational motion.

All in all, attendees go home having had a look at what Samsung is up to at the lab; Samsung has the opportunity of going back with a post-showcase assessment of market potential via feedback from attendees.

More information: [news.samsung.com/global/samsun … rojects-at-sxsw-2016](news.samsung.com/global/samsun)

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