

Press release 2020-04-17

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# Crunchfish is granted a US patent for an invention which could be used to limit the spread of Covid-19

Crunchfish AB ("Crunchfish") has been granted a patent by the United States Patent and Trademark Office (USPTO) for sporadic and synchronized beacon transmission. The technology enables regular awakening of passive mobile users with their mobile in off mode, in order to identify them and also their position in cases where the beacon transmitter is stationary. These transmitters can be used, for example, in public spaces, offices or in homes in order to record how long someone with an infection has been in the vicinity of others. The patent US 10/551 472 has previously also been granted in Sweden and a patent application has also been filed in the EU. The patent right is valid until November 2036.

#### The invention

Beacon technology was originally developed for stationary transmitters that continuously transmit a bluetooth signal that can be detected by nearby mobile phones. Today, mobile phones can themselves act as beacon transmitters. When a mobile phone detects a beacon signal, a scanning program is started on the mobile. Since this program affects the power consumption of the mobile, it is advisable to limit how often this scanning program is run. In Apple's mobile operating system iOS, this is done directly in the operating system by requiring that a mobile must have been outside the beacon's range for a certain period of time in order for the user to be rediscovered by running the scan program again.

In order to enable mobile phones on iOS to be reawakened, even if they remain within the beacon's range, this invention proposes having a sporadic and synchronized beacon transmission, where the beacon signal is regularly shut off long enough for the scan program to re-execute when the beacon transmission resumes.

#### **Limiting Covid-19 transmission**

There is a huge focus worldwide on finding technical solutions that can limit the spread of Covid-19 infections. Now that several countries are going to re-open their communities following periods of quarantine, a new phase is beginning where the detection and limitation of the spread of the virus will be increasingly important. Several countries have developed mobile apps where users can register if they are sick in order to be able to warn others and track the possible spread of infection. Apple and Google recently announced a joint venture to provide a new bluetooth framework for these types of national transmission applications. Even though technological solutions will not solve the global spread of the virus, this type of technology will be a useful tool in helping reduce infection rates, see <a href="https://www.wired.com/story/apple-google-contact-tracing-wont-stop-covid-alone/">https://www.wired.com/story/apple-google-contact-tracing-wont-stop-covid-alone/</a>

Crunchfish has developed software for social applications built on bluetooth-based beacon technology under the aBubbl brand. In 2020, Crunchfish has also expanded the aBubbl technology to also be applicable for mobile payments. Over many years, as far back as 2014—



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2016, Crunchfish has built up a strong IP portfolio where several inventions that have been granted patents could also be used to limit the spread of COVID-19. These inventions have also been granted patents in the US market are attached to with this press release:

"Having these patents granted in the US market is interesting because many of the world's largest leading app companies are based in the United States. Crunchfish would be humbled if our aBubbl technology could be used to help limit the spread of COVID-19. The future opportunity for us lies in the fact that more app companies will understand how useful our proximity-based aBubbl technology can be for a wide array of use cases. This patent, for example, is great for keeping track of where people and mobile office equipment are located in a large office environment. The technology could also be used to discover or communicate with a select group of people at a congress, or give merchants more marketing and promotion opportunities to people who are currently in their store", says Joachim Samuelsson, CEO of Crunchfish.

As far as we can see, the current framework that Apple and Google have proposed does not infringe on our patents. That is because Apple and Google's framework does not send any information to a central server, instead it registers the data locally in the phone for privacy reasons. Collecting information in a cloud server is a fundamental feature of Crunchfish's technology, which is valuable for building centralized applications that can quickly analyse and act on collected data.

Crunchfish's aBubbl solution is fully developed and can be integrated into both iOS and Android apps. Crunchfish's aBubbl solution can easily be integrated into one or more apps built for tracking the spread of the virus in hard hit nations in order to more quickly collect large data sets and help track and prevent further spread of the virus.

#### Crunchfish's Patent Portfolio

Crunchfish has, both nationally and internationally, 63 active patents and patent applications within two technology areas, proximity-based technology and gesture control. Within proximity-based technology, the company has 20 unique innovations, of which 15 have been granted a patent on at least one market. Within gesture control, 11 of 12 patent applications have been granted. The company owns all of its patents and patent applications, without restrictions.

Crunchfish's strategy is to protect the company's technology in all geographic markets deemed to be of significance. Crunchfish intends to continuously expand its patent portfolio to select markets and through inventions in both gesture control and proximity-based interaction.

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#### About Crunchfish - Crunchfish.com

Crunchfish develops and markets interaction solution for mobile payment in a physical environment. Crunchfish's proximity-based technology connects a customer's mobile phone to a payment service in a Point of Sales terminal at a merchant, and even has a patent-pending innovation for payments when both the customer and merchant are completely without connection to the payment service. The solutions are marketed to payment apps, cash register providers and merchants in Sweden and India, as well as to multinational companies.



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The company also develops interaction solution based on gesture control and has integrated that technology into millions of smartphones currently on the market. Today, development of the gesture control technology is focused on smart, AR glasses.

Crunchfish has its headquarters in Malmö, Sweden. The company also has offices in Stockholm and representation in India. The company drives its businesses through two wholly-owned subsidiary companies, Crunchfish Proximity for proximity-based technology for mobile payments, and Crunchfish Gesture Interaction for gesture control for mobiles and smart AR glasses. Crunchfish was founded in 2010 and has 23 employees.