

This technical proposal could be a feasible tech contribution to assist in fighting the global corona / covid-19 / SARS-COV-2 pandemic. We are addressing security and privacy creating a beacon device including scanner using both hardware and software. This writing is intending to transport the basic idea to the right people. We will be excited to give detailed information to those being able to make it happen. Thank you!

We've been looking at the acknowledged approach to track and trace spreading the virus of infected people since January 2020: Investigative creation of an infection chain to stop the spreading. With increasing numbers, traditional investigation becomes slow, incomplete, and response becomes way to slow to isolate people before further spreading occurred. Infected people who have no symptoms seem to be contagious. Hence, we decided to re-design this approved approach 'infection chain' using technology. First, we called it the 'Beacon Project', realized it is an 'Infection Chain Disruptor' and members finally called it 'Excalibur'. A sword powerful enough to cut the infection chain that seems to become overwhelming.



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Beginning of March 2020, they started to write contact lists of passengers in flight and long-distance trains, more recently they started to write contact details of people visiting a restaurant. This is old fashioned infection procedure to intervene spreading. We all see that this is not the way to cope with Corona / COVID-19 / SARS-COV-2.

Interestingly, we already notice how challenging it gets to ease up the isolation of citizens and yet prevent new waves of diseases and infections. It is hard to control the spreading of a virus and exponential growth in the stage of corona becomes impossible for investigative infection chain mapping.

The challenge to #flattenTheCurve takes extraordinary measures. Unfortunately, we lack quality of data to track spreading and monitor effectiveness of measures.

We started to design a global response to use technology to get the infection chain digitized in a way that we can cope with a global pandemic like corona. It can be a Smartphone App or become a small, inexpensive electronic device. Size of a traditional Wrigley's Gum pack.



Figure 2 - Size of Excalibur

It will address the fact that kids in low-income countries don't have access to smartphone yet. Our solution is small, you can put it in your pocket. And it will be cheap compared to a smartphone, possibly becoming a governmental supply to fight any kind of infectious disease. We use short range radio signals like Bluetooth LE, require no cellular network, creating 100% coverage. Globally. Excalibur is agnostic to the type of virus, making it a future prone solution. We can use this technology for any virus or bacterium that is spreading human-to-human, like Ebola, COVID-19, Tuberculosis, swine fever in 2009... and new virus we do not wish to come.

It will become a bail-out technology for any future arising challenge. If population growth and globalization continue to accelerate, pandemics will remain a realistic doomsday scenario even after corona. It is a scientifically and mathematically based fact.



Excalibur is a gum pack sized personal beacon. A randomly chosen unique identifier will be broadcasted for a certain period. Simultaneously, a second chip is scanning for any such beacons around you. Each information is stored on Excalibur.

If a person is getting ill and tested positive, the individuals Excalibur data can become highly important. Information about personal identifier and time will be released globally. Person's identity will remain unveiled. Identifiers are anonymous and not related to device or person. It is just a set of identifiers, time and maybe other, unpersonal related information being distributed. Data of infected

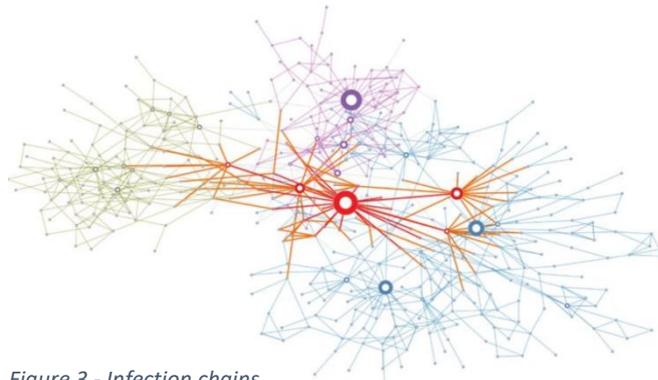


Figure 3 - Infection chains

people are processed at each individual device. There is no centralized data control structure required. This saves a lot of money operating an 8 billion people system to track and monitor a global pandemic. You will now compare the information of time and identifier with your personal scan list. If it is found, you have been exposed to a level-1 infection relationship. It is very precise and signal strength of scan will provide distance and contact time to infected person. Time

provides information to address different kind of virus as well as incubation time and spreading to other people.

We could now apply 'recursion', publishing the level-1 infection relationship. It is the first time that people in a level-2 infection relationship, with no symptoms, get notified immediately. They can now take preventive measures and drastically lower  $R_0$ , the spreading coefficient.

Depending on the nature of virus, level-2 infection relationships can take different levels of actions, beginning from self-isolation to check for symptoms to develop, or they could possibly apply screening to 1<sup>st</sup> and 2<sup>nd</sup> level probabilities in case of limited testing capabilities. Those 'rules of actions', we call them rule sets, can be adjusted over time. Information can be displayed using secondary devices. Simple LED's on the device could also indicate degree of infection. For example, red for 1<sup>st</sup> level, orange for 2<sup>nd</sup> level and yellow for 3<sup>rd</sup> level relationship.

Excalibur devices can use secondary connectivity devices and apps to exchange available data globally or use a local network solution in rural areas with limited or no internet access.

We think this technology could be a bail-out strategy for our global community. We reach out to organizations and people feeling dedicated to creating an impact. Those should be forwarded a copy of this proposal. If you can assist to accelerate our mission to make the right contact, please feel free to give a warm introduction.

Well, this could be an urgent tech response. We therefore decided to release our idea early, reaching out to you. Of course, we will deliver more details on demand.

Our concept is matured beyond this introduction. Since covid-19 is spreading, we chose to release quickly. Please drop us a mail writing to [covid19-tech-response@unleash-future.com](mailto:covid19-tech-response@unleash-future.com). Thank you.

