We speak human

Corti

Artificial Intelligence for containing COVID-19

The global healthcare sector is being tested to its limits by COVID-19. Healthcare services must remain efficient and effective in order to help a growing number of people in need.

This applies not only to COVID-19 patients, but also to those affected by unrelated critical health conditions, such as stroke and cardiac arrest.

During a pandemic like COVID-19, the provision of ambulances and hospital beds to patients can become difficult to guarantee if resources are not prioritized properly.

We need to inform and educate citizens at home

Every single day during a pandemic, citizens are having to make important decisions for the safety of themselves and those around them.

Even a slight misconception can be fatal, so we need to find a meaningful way to keep citizens informed, help guide their decision making, and reduce their anxiety.

To ensure our healthcare system can keep functioning at an adequate level we see three primary challenges

No real-time imaging of the COVID-19 pandemic exists.

It is almost impossible to know the actual number of infected patients based on publicly available data. Therefore, we need a way to provide fact-based insights to authorities about which patients are to be considered middle- and high-risk, and whether they are located, so that the healthcare system can make the necessary interventions.

Lives may be lost in non-COVID-19 cases as a result of over-capacity.

We need to ensure that our emergency services remain operational by creating alternative channels for concerned citizens. This will ease congestion on, for example, emergency telephone lines, hospitals, and emergency rooms, meaning that critical non-COVID-19 cases will not be neglected.

Our emergency personnel are at risk of becoming infected.

If an employee does not wear personal protective equipment when they visit a COVID-19 patient, the employee and their entire team has to be quarantined. This is a huge problem because many countries already have a shortage of healthcare workers. Since only a limited amount of personal protective equipment is available, we need to consider which incidents require personal protective equipment and which do not.

Emergency services must be able to predict risk to a high degree of accuracy when ambulances are sent to potential COVID-19 incidents or when healthcare workers visit patients in their homes.

Digital solutions

Unfortunately, it is not possible to mitigate the COVID-19 crisis simply by putting more healthcare professionals at risk, as they are already working at maximum capacity. This is why we need to find digital solutions.

Digital solutions

We need to start monitoring mid- and high-risk patients at home more intelligently, to ensure they have the necessary information, and to ensure that healthcare services are better prepared.

We need to monitor the communication channels used by concerned citizens so that we can predict where mid- and high-risk patients are located, and organise targeted interventions.

We need to assist patient triage using world-class, real-time data analysis to help healthcare professionals make the right decisions about where to escalate patients or wait to see how the situation evolves.

Why Corti?

Corti.ai is a Danish company that develops artificial intelligence to support more secure and efficient patient triage.

Corti was founded in 2016 by a group of scientists and entrepreneurs with experience from organisations such as Apple and NASA, who wanted to develop a technology that could understand conversations in a similar way to Apple's SIRI.

However, instead of being built to receive commands, the goal of the technology was to be able to read and / or listen to patient interviews and help to triage the patient correctly towards a diagnosis.

Corti currently has 45 employees and to date, the technology has been used in Denmark, Sweden, USA, Australia, and France. Clinical research has shown that Corti's technology is capable of reducing the misdiagnosis of patients in the pre-hospital period by up to 45%. This improvement occurs even during emergency calls to hospitals and emergency centers, where time is scarce, sound quality is challenged, and the caller is often in shock.

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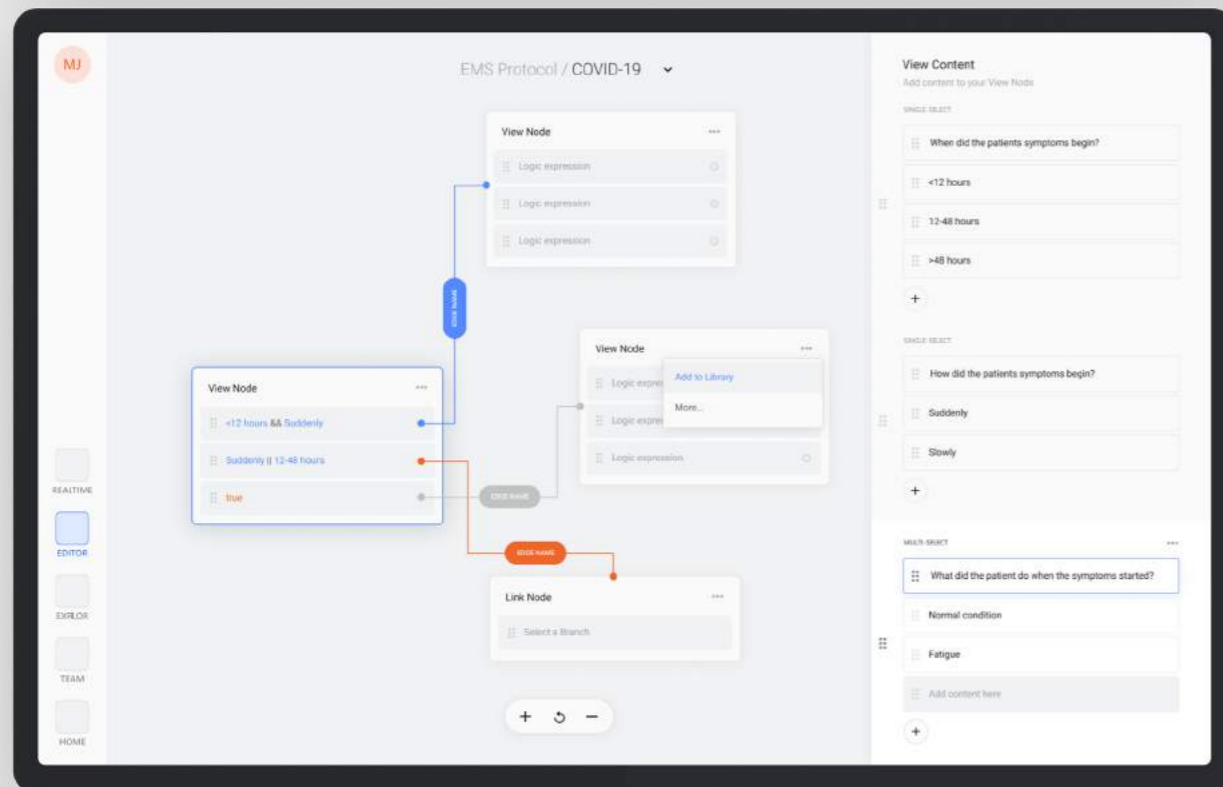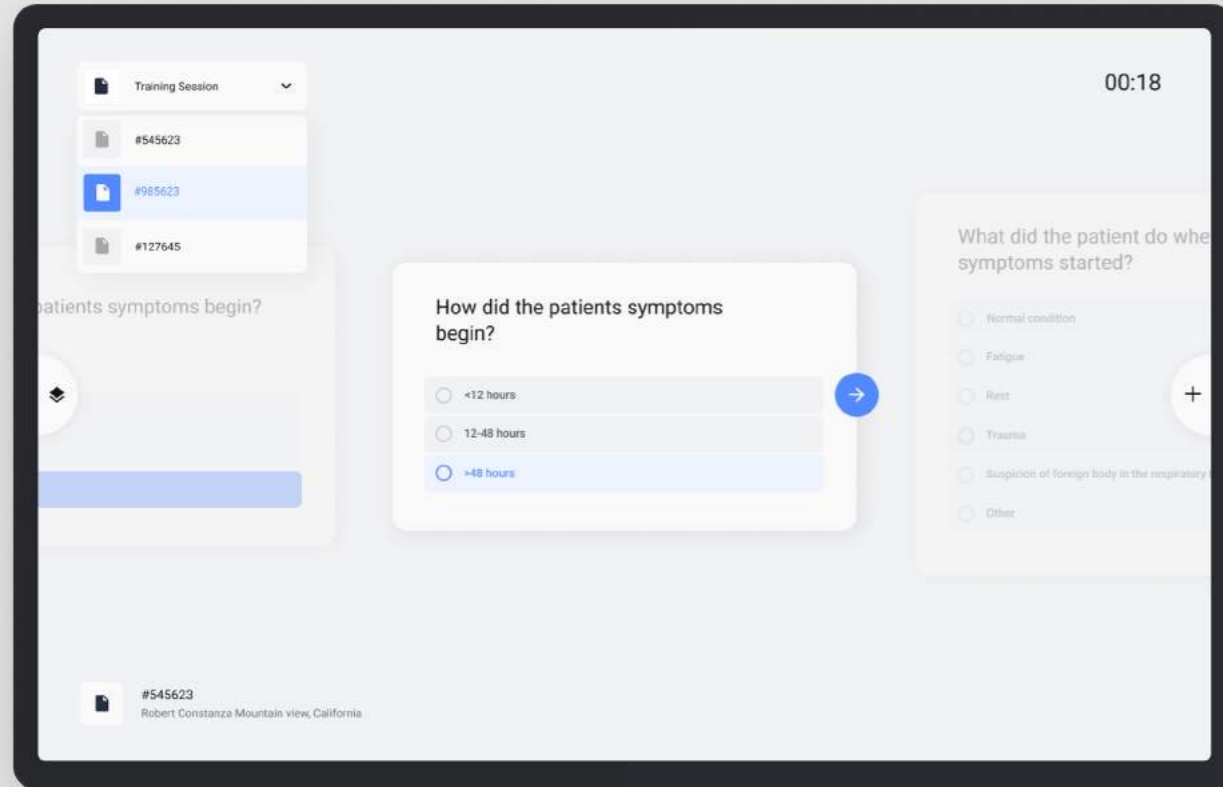
COVID-19 Strategy: 'Safe Hands'

In order to quickly implement a digital strategy to deal with the operational challenges facing public authorities, the following strategy is proposed, which we call 'Safe Hands'.

Implement COVID-19 protocols

Corti has developed Triage, a simple web or desktop application that allows all patients to be guided through structured questions by a healthcare worker, collecting necessary information. Corti Triage has a smart editing tool that allows users to digitize questions in less than an hour, so all employees are able to standardize their conversations with concerned citizens. All triage guides are directly linked to COVID-19 criteria and subsequent actions, meaning that there is a specific "protocol path": patients will always get the same answer, or be asked to take the same action. Gradually, as new information becomes available, healthcare management can update the protocol within minutes in order to constantly reflect the latest knowledge.
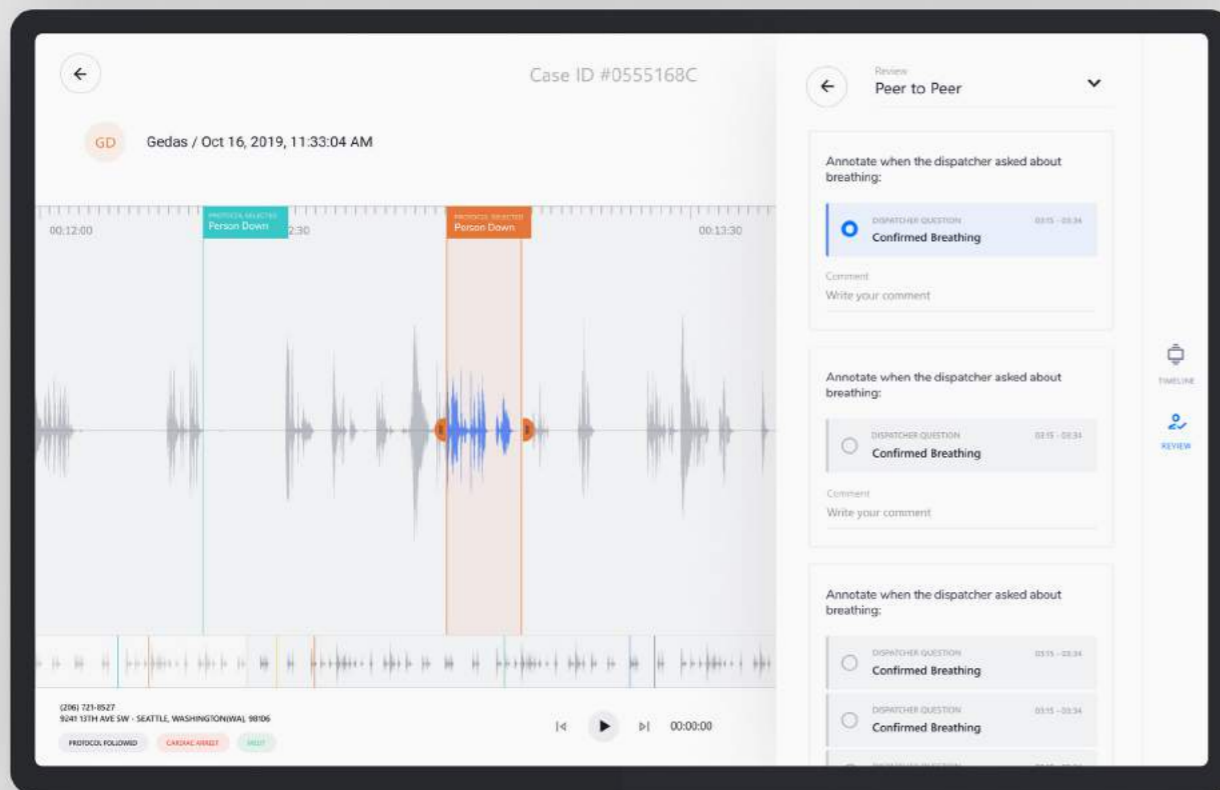
Output

Standardized patient triage and data collection based on qualified protocols.

Monitor COVID-19 risk with Artificial Intelligence

Once it has been provided with patient calls to listen to, Corti's AI software produces an emergency report that defines whether the calls contain clues of a patient being infected with COVID-19. In a matter of seconds, Corti can estimate how high the risk is and direct medical personnel to choose the most effective intervention in each case, in order to prevent the spread of infection.

Output

Properly treat COVID-19 and non-COVID-19 patients in a timely manner to save resources and ensure proper preparedness.
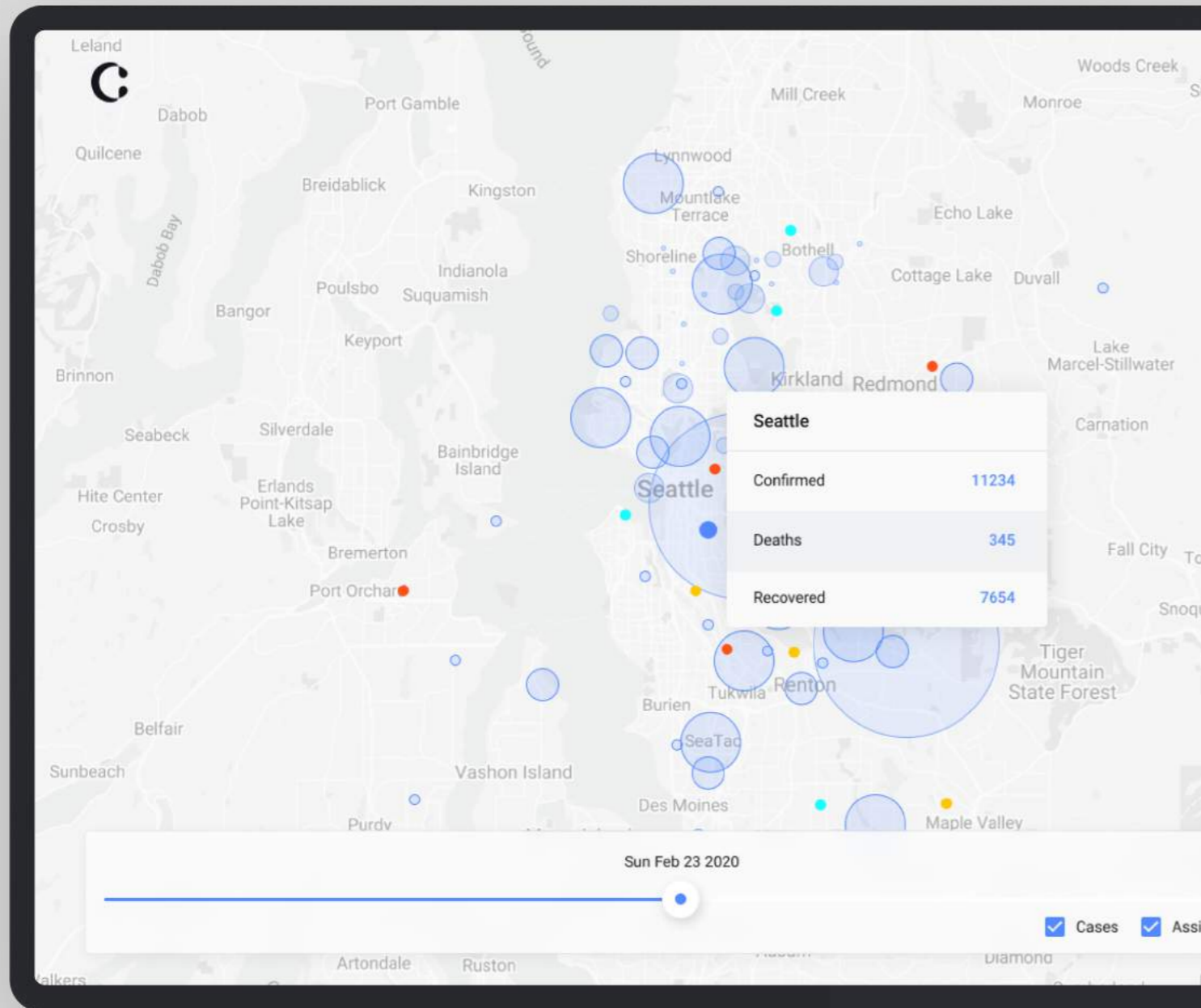
Get AI to monitor the spread of infection

If patient conversations have taken place over the phone and the address has been shared, then Corti's AI can automatically begin to look for geographical patterns, creating visualizations of where the risk of infection has increased and what interventions should be taken.

This is done by comparing risk zones with the location of malls, bars, hospitals and other relevant locations.

Get AI to monitor people from their homes

If you implement a triaging protocol, as seen in Step 1, you can now also use Corti's AI to interact directly with concerned patients.

Corti's "Intelligent Patient Monitoring Platform" can be used directly by patients themselves, who can access the AI-powered chatbot via their phone or computer, and answer the questions defined in the protocol.

Patients can use the tool to evaluate their current situation based on a secure and validated protocol, and if the patient so wishes, Corti's AI will automatically follow up with them every morning, asking the necessary questions again and again, in order to evaluate whether the situation is deteriorating.

This creates an improved real-world view of the patient's situation, creating security and providing healthcare professionals with the necessary information.

It also ensures that authorities are receiving more up-to-date and accurate epidemiological data.
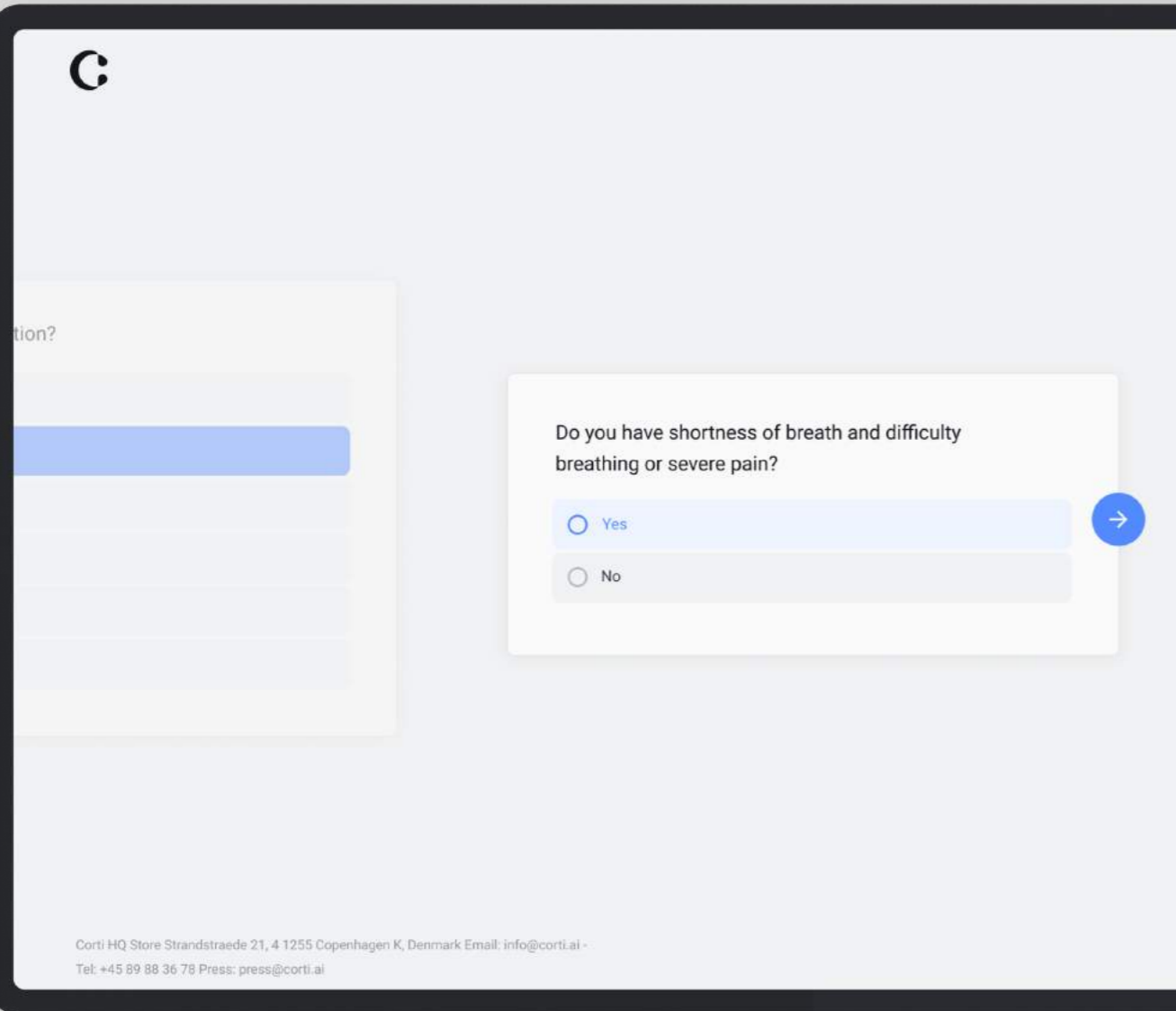
Implementation

All of Corti's digital solutions can be tested by public authorities within a few days and can be launched within a matter of hours. All the data is stored on secure server infrastructure and all the solutions are serviced 24x7 by Corti's crew, who guarantee the necessary uptime.

All Corti's solutions are developed in Denmark and Corti complies with GDPR and HIPAA.

Previous tests of Corti's AI have already verified the technology and proved its effectiveness in Danish patient interviews. The technology provides insights from historical data, including unstructured data - e.g. Natural Language Processing (NLP) analysis of text and audio. The use of this technology has been tested in production with current customers, e.g. Copenhagen's Emergency Services and the Seattle Fire Department. The use of Corti's AI in practice has not only allowed for the fine-tuning of the technology, but also means that the AI has already been exposed to and understands COVID-19.

The software is designed to be highly scalable, using advanced machine learning so that it can improve as it receives additional COVID-19 data from various customers. This means that all users of the system, across national boundaries, contribute towards the continuous improvement of the AI.

Corti's software applications are built as easy-to-use, web-based applications and are therefore very quick and simple to implement.

Corti HQ
Store Strandstraede 21, 4tv
1255 Copenhagen K, Denmark

Contact

E   info@corti.ai

T   +45 89 88 36 78

W   corti.ai