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HEALTH SOLUTIONS

HEALTH CHECK KIOSK

Touchless Self-Service and Vital Sign Detection

HEALTH CHECK KIOSK

The Health Check Kiosk can assess whether a person:

☑Should seek further instruction from a medical professional

☑Should proceed immediately to a testing facility or hospital

☑Is safe to proceed

These outcomes are arrived at by asking the person epidemiological and clinical questions, and using a sensor array to detect potential symptoms via temperature measurements, heart rate and respiratory rate estimation.

This solution ensures that the medical professionals focus on individuals requiring further assistance, making the triage process more efficient at medical centers, hospitals, and other locations.

Touchless access control is used for a wide range of areas where ensuring safety is critical. Everywhere from medical centers to office buildings to construction sites or shopping centres.

Integrated symptom detection ensures your work force or guests are screened for symptoms of COVID-19 or other illness while keeping others safe.

VITAL SIGN DETECTION

The thermal imaging system in the kiosk reads, processes and analyses vital health data during a transaction.

If the data (temperature, heart rate, etc.) exceeds the threshold, the system sends a notification to the service desk agent and stops all other transactions.

The agent determines if the primary transaction could continue or proceeds to ask the user for further health and past travel information.
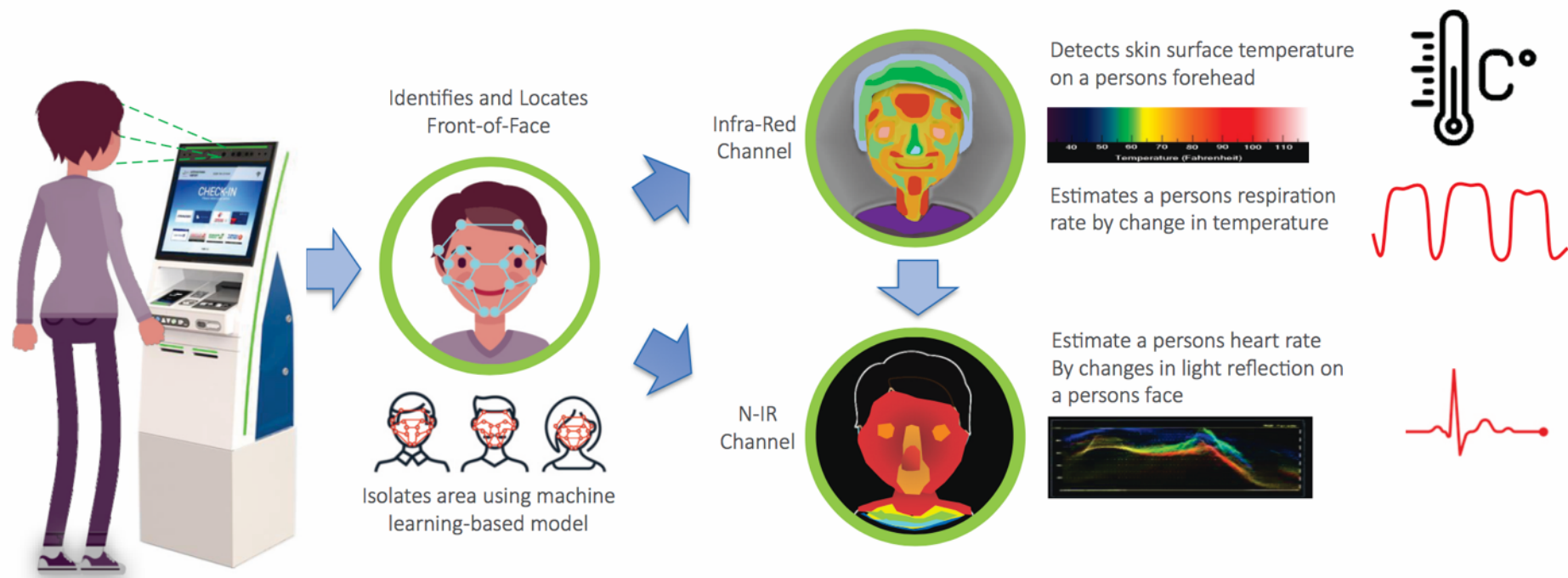
Temperature Sensing

The Sensor Array detects temperature and has configurable parameters defining normal or fever conditions.

Temperature sensing is achieved using a near-infrared camera and a thermal sensor.

The near-infrared camera output determines the position of a person's forehead in a frame. The location is then mapped and provided to the thermal sensor.

This focuses on the most appropriate area on a face to ascertain temperature. It minimizes the risk of measuring the temperature from a different person and is not impacted by a foreign object such as a cup of coffee.
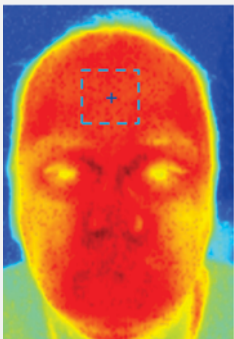
Heart Rate Estimation

The heart rate measurement is facilitated by using a near-infrared camera and a high resolution on RGB camera. These cameras are able to detect the oxygenated haemoglobin in the blood flowing through vessels as it absorbs light from a specific wavelength.

As a result, when the skin is exposed to continuous light of that wavelength, the reflected light changes according to varia on in blood flow volume. The pulse waveform is the output that is obtained by continuing to measure reflected light.

Our system uses the person's face as the point of focus for the machine learning classifier.

Respiratory Rate Estimation

Respiration can be measured by using a thermal image to detect nasal region temperature changes associated with breathing. During exhalation, warm air from inside the lungs is released and increasing the temperature in the nasal region, whereas during inhalation, cool air from the external environment is breathed in and lowering the temperature.
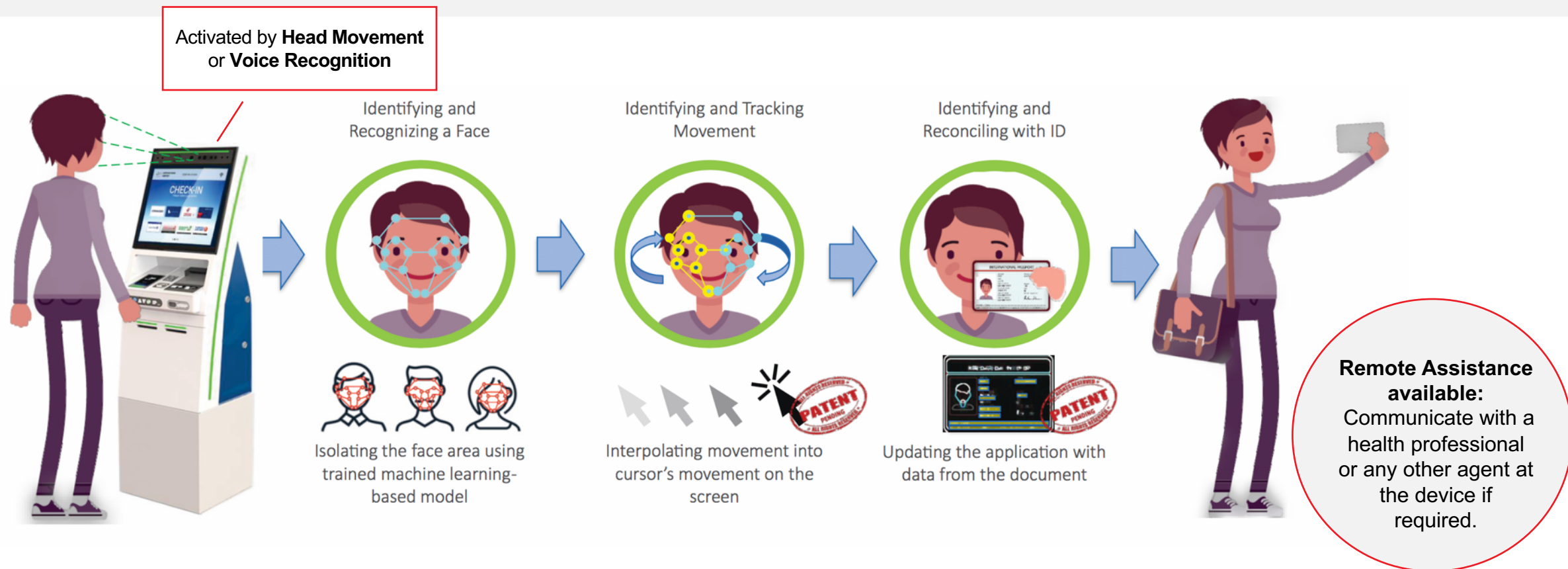
The respiration waveform can be obtained by using a thermal camera and capturing a me series of a person as they breath in and out.

Respiration signal over time

Time series

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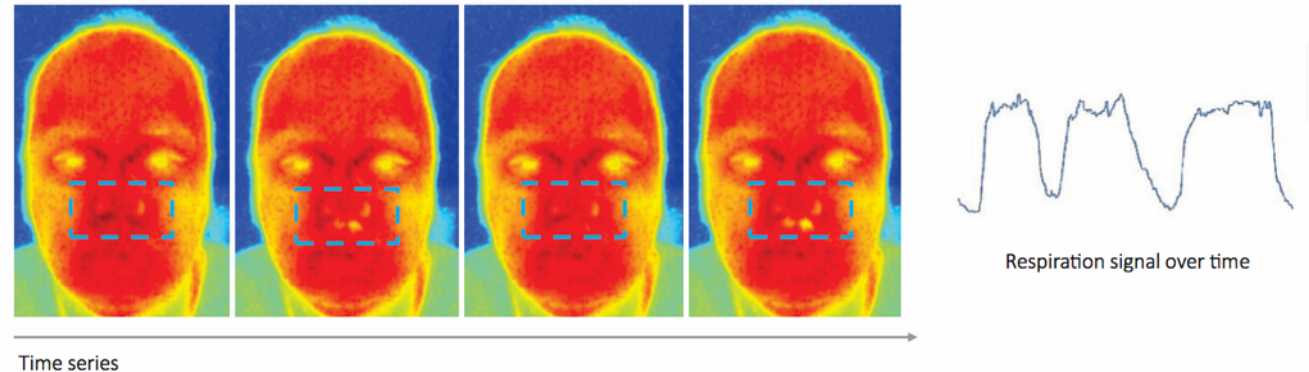
TOUCHLESS TRIAGE KIOSK

Adding touchless control to any self-service devices using our AI powered Sensor Array dramatically reduces the risk of viral or bacterial transmission.

Stakeholders no longer need to touch a screen, pin pad or physical surface, controlling and interacting with a device from a distance via head movement or voice recognition. Biometric facial recognition and contactless ID scanning (passports, licenses, etc.) is supported as an option.


Activated by **Head Movement** or **Voice Recognition**

Identifying and Recognizing a Face

Isolating the face area using trained machine learning-based model

Identifying and Tracking Movement

Interpolating movement into cursor's movement on the screen

Identifying and Reconciling with ID

Updating the application with data from the document

Remote Assistance available: Communicate with a health professional or any other agent at the device if required.

CUSTOMISABLE USER EXPERIENCE

Customise the user experience within the touchless diagnostic, configurable questionnaires and notifications.
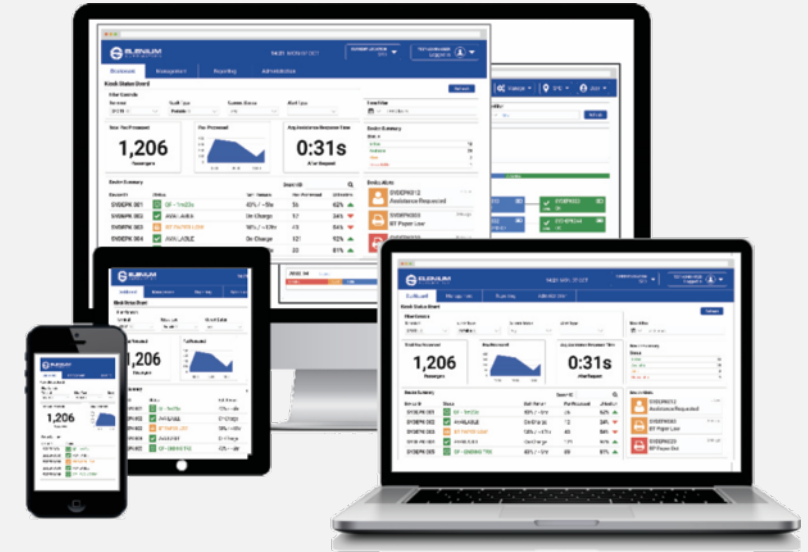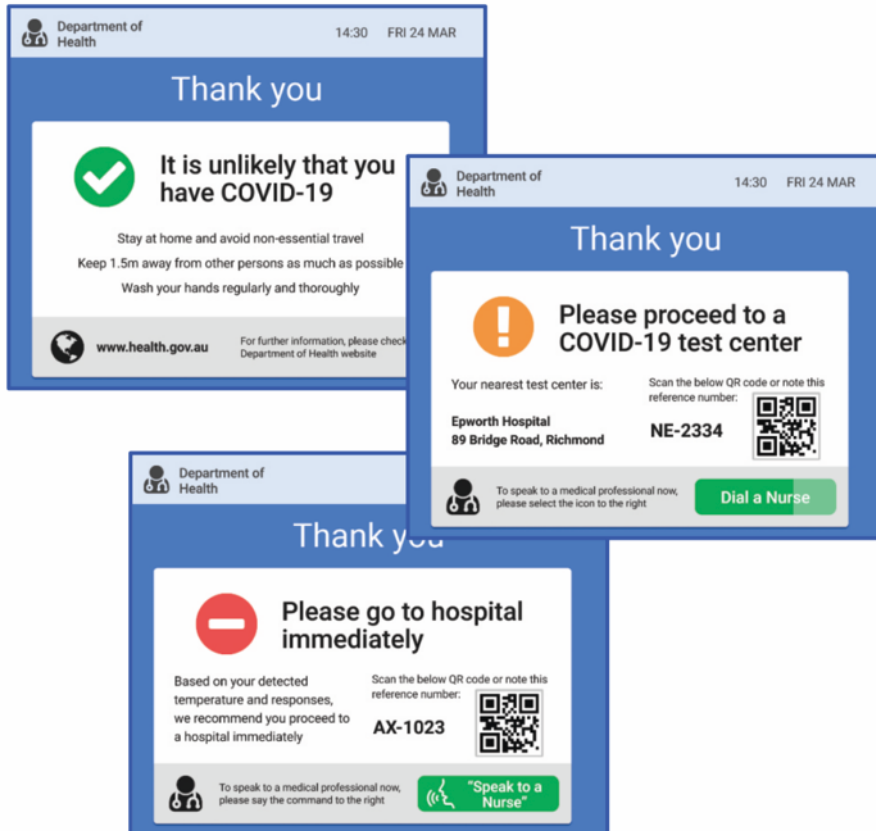
Touchless Diagnostic
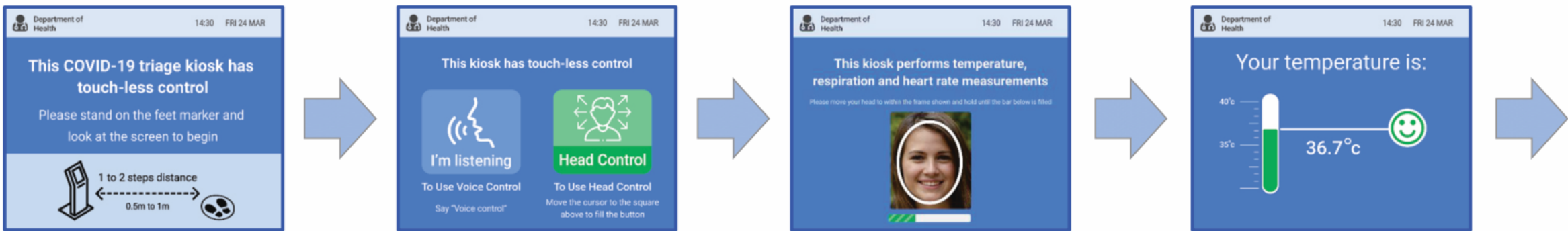
Configurable Questionnaires
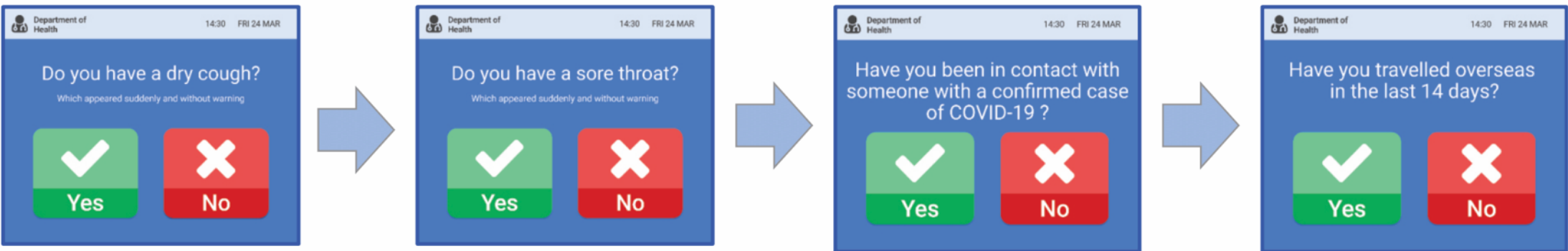
Customisable Notifications

Based on provided answers & diagnostics

USAGE DATA AND REPORTS

Real time monitoring and reporting tool with the following features:

☑Secure Real-Time Remote Monitoring

☑Performance Analytics

☑Usage Reporting, i.e. number of transactions and results

☑Access to anonymised client data

☑Content & Configuration Management

☑Assets Management

☑Secured Data & Logs Access via API or File Transfer

☑Responsive Web Design, display well on a variety of devices and window or screen sizes

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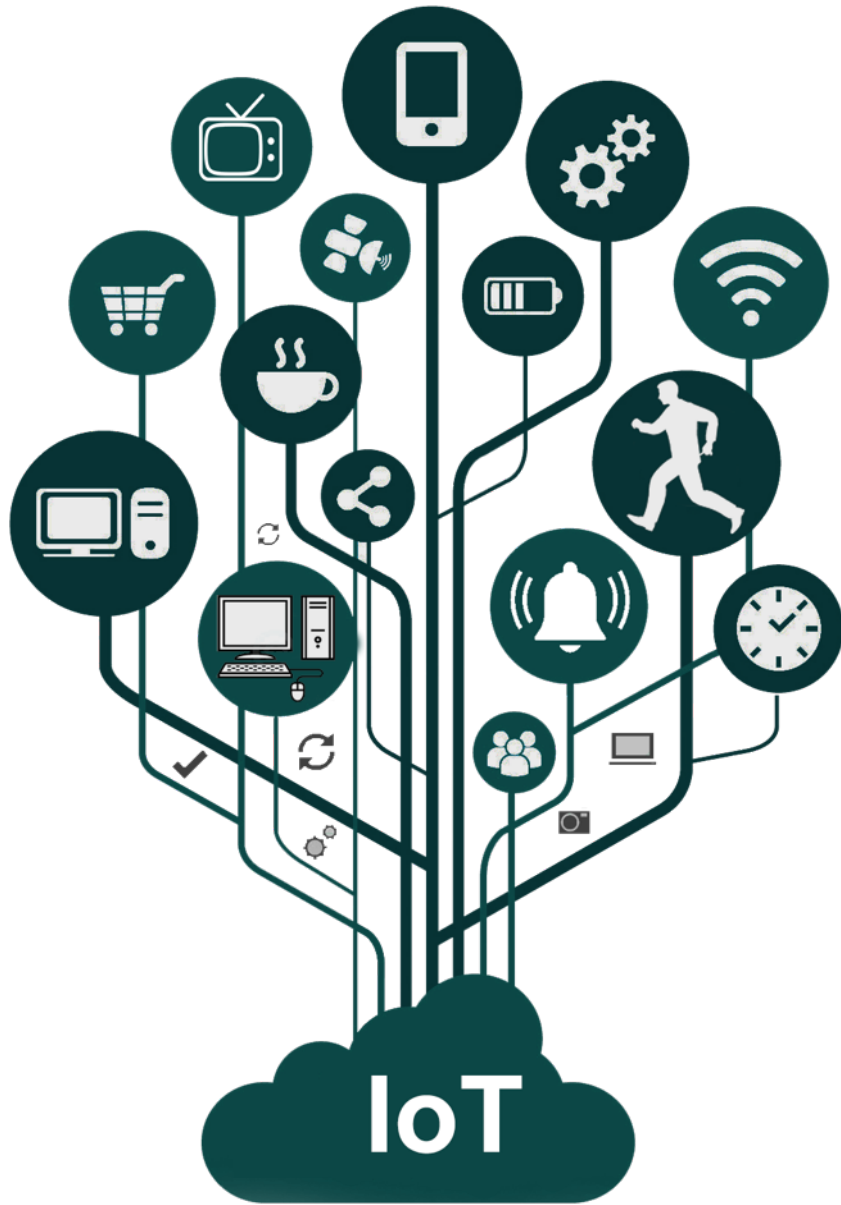
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