COVID19

Digital Prevention System for Government

The **COVID-19** Digital Prevention System has been validated by the **UN-WTO** & Awarded as a Top Solution Globally to mitigate **COVID-19's** impact on **Public Places & Tourism**.

UNWTO
World Tourism Organization

World Health Organization

SUSTAINABLE DEVELOPMENT GOALS

UNWTO
Healing SOLUTIONS | Tourism CHALLENGE
Supported by: World Health Organization

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COVID19 *Digital Prevention System for* **Government**

Product Overview

Smartphone apps or anonymous transit smartcards and dedicated terminals installed in public places.

Why COVID-19 is spreading fast?

Infected persons have an incubation period of about **14 days**, and there are no obvious surface symptoms.

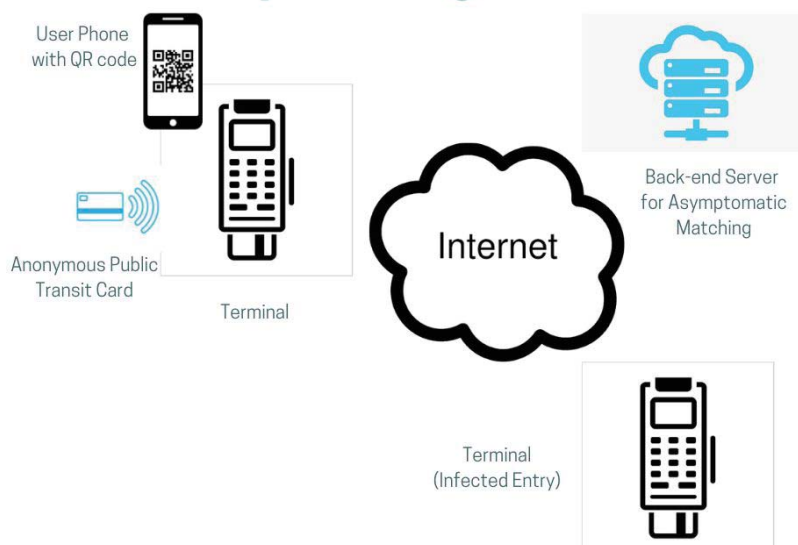Many people do not know if they have been in contact with **incubators**.

COVID19 Digital Prevention System (iBonus® DPS)

The most effective way to handle this problem is to use the smartphone apps or anonymous transit smartcards and also to install dedicated terminals in public places such as a library, cinema, school, and gym to record where and when the people have visited.

When a person is reported as virus-infected by medical authorities, the system immediately puts all persons who appear in the same place at the same time as the confirmed patient in the past **14 days** into an Alert list and transmits it to all terminals.
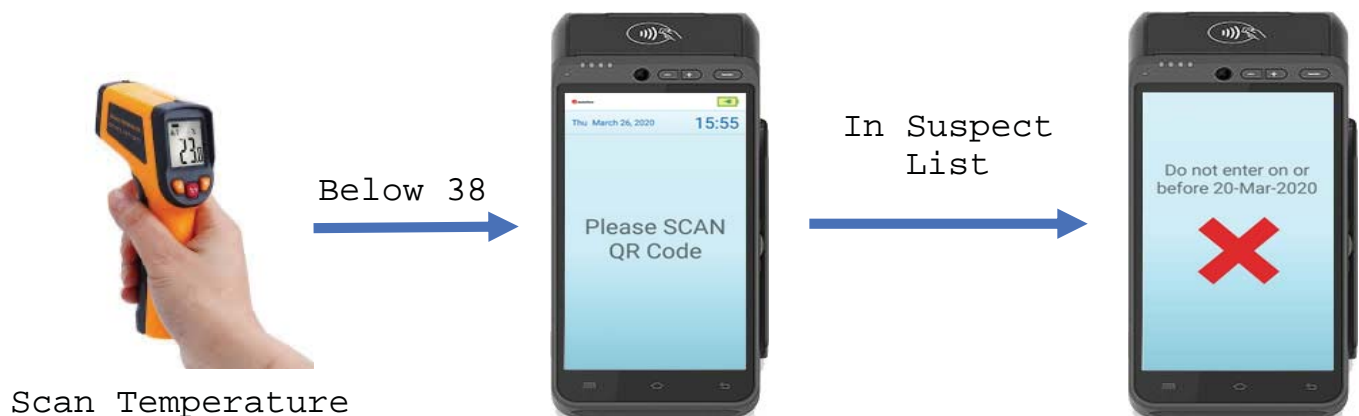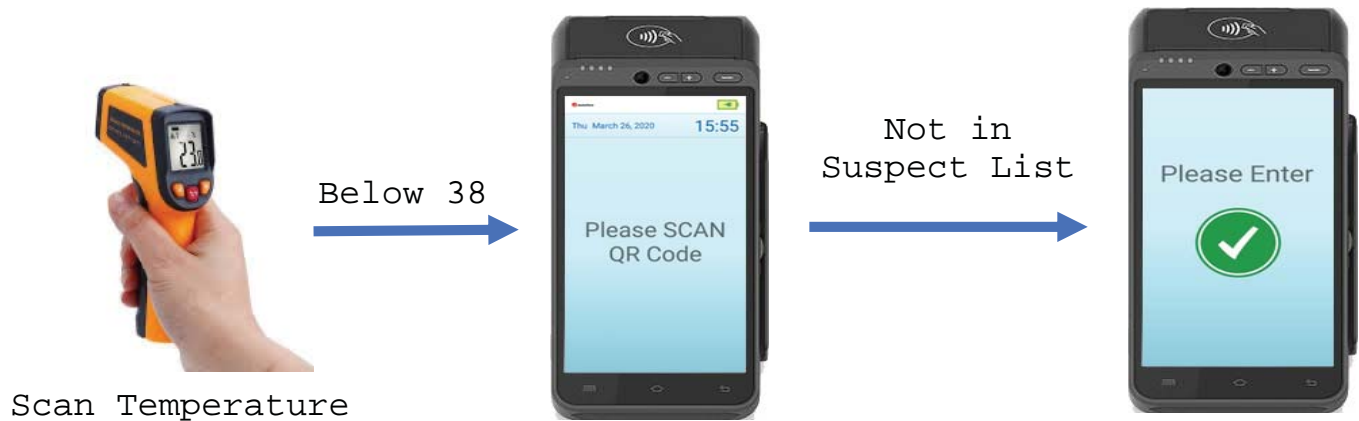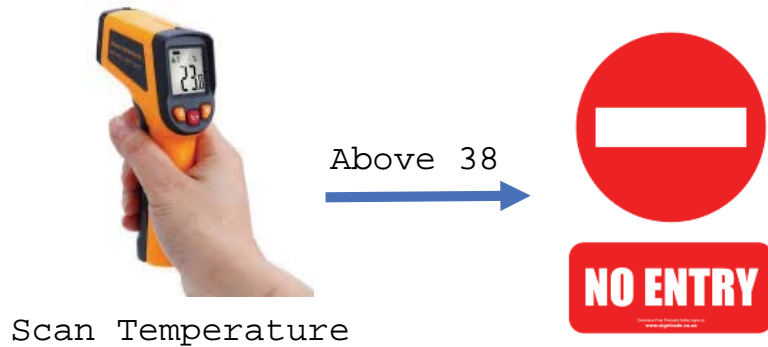
This terminal gives a friendly alert to potential **incubators** when they are entering public areas User's privacy is absolutely protected.

System Diagram

User Phone with QR code

Anonymous Public Transit Card

Terminal

Internet

Back-end Server for Asymptomatic Matching

Terminal (Infected Entry)

PACS in Action

Scan Temperature → Above 38 → NO ENTRY

Scan Temperature → Below 38 → Please SCAN QR Code → Not in Suspect List → Please Enter ✓

Scan Temperature → Below 38 → Please SCAN QR Code → In Suspect List → Do not enter on or before 20-Mar-2020 ✗

Different Terminal Options

Terminal - it logs the entry time and gives a friendly alert to potential incubators.

Terminal (No Alert) - it simply logs the entry time. To avoid social shaming, it does not give any friendly alert to potential incubators.

Terminal (Self Check) - allows users to check if they have had close contact with any infected persons. To avoid social shaming, this terminal is typically installed in government facilities.

Terminal (Infected Entry) - It is for medical authorities to report infected people. When the smartphone or smart card of the infected person is tapped on the Terminal (Infected Entry), the entry will be sent to the server. The server will put all users who appear in the same place at the same time **(+/- 6 hours)** as the infected person in the past **14 days** onto an Alert list and transmits it to all terminals. The alert list is valid from one day to fourteen days depending on the date of contact.

Technical Specifications

Terminal Hardware Specifications

▶ EMV approved POS device

▶ Android OS with 5.5" Display

▶ Support NFC, QR code, Barcode user interface

▶ 4G/3G/2G and WiFi communication

▶ Rechargeable batteries with MicroUSB interface

iBonus Server Software Requirements

▶ Windows 2016 and SQL Server 2017

▶ Intel i7 3GHz or above

▶ RAM 128G minimum

▶ RAID 2T Storage minimum

▶ Azure Cloud server supported

Key Benefits

1/ User's Privacy Protection

▶ Users are not required to enter other personal information (such as name, ID, address) except phone number.

▶ The user's phone number is converted to an irreversible unique ID. This ID cannot convert back to the user's phone number.

▶ Anonymous public transit smartcards can be used as an alternative to a smartphone App.

2/ Benefits to the Users

▶ Users can check if they have close contact with incubators and they isolate themselves in time to avoid spreading to their family members.

3/ Benefits to the Private Sector

▶ Private organizations, the retail industry, and restaurants can equip their own terminals and decide whether to allow persons in the Alert list to enter.

▶ To avoid social shaming in some countries, Terminal (No Alert) can be used. Without the alert function, they can still be benefited with big data. See "Benefits beyond Social Distancing"

4/ Benefits to the Border Control

▶ Airport custom and cross-border custom can equip a Terminal (Infected Entry) to put the visitors on the Alert list. Tourism and business travel activities can be recovered.

5/ Benefits to the Government

▶ There is almost no investment as the private sector will pay for a very small investment to protect their business and premises.

Technologies

▶ Over 20 years of proven off-line technologies.

▶ Off-line technology used in NATO in Iraq and Afghanistan, UNWFP in Syria.

▶ Off-line technology is used where the Internet is not reliable or unavailable.

▶ Off-line technology allows low-cost servers to handle billions of users and trillions of transactions.

Benefits beyond Social Distancing

▶ There are many research articles on the relationship between social gathering and **COVID19** spreading. Some examples:

▶ "What is the evidence for mass gatherings during global pandemics? " Oxford **COVID-19 Evidence** Service.

▶ What's the safest gathering size to slow the coronavirus? National Geographic.

▶ These have been summarized as a mathematical formula for the relationship between asymptomatic growth and social gathering.

Growth of Asymptomatic:

Asymptomatic Growth = (1-Participation%) x Gathering Size x Infection Rate %.

Or translate to our application:

Alert (0) / Alert (-1) = (1-Block%) x Gathering size x infection rate %

Whereas

▶ **Alert (0) / Alert (-1)**, the change of number of users on the alert list

▶ **(1-Block%)**, Block % is the percentage of users on the alert list voluntarily avoid going into public places

▶ The infection rate

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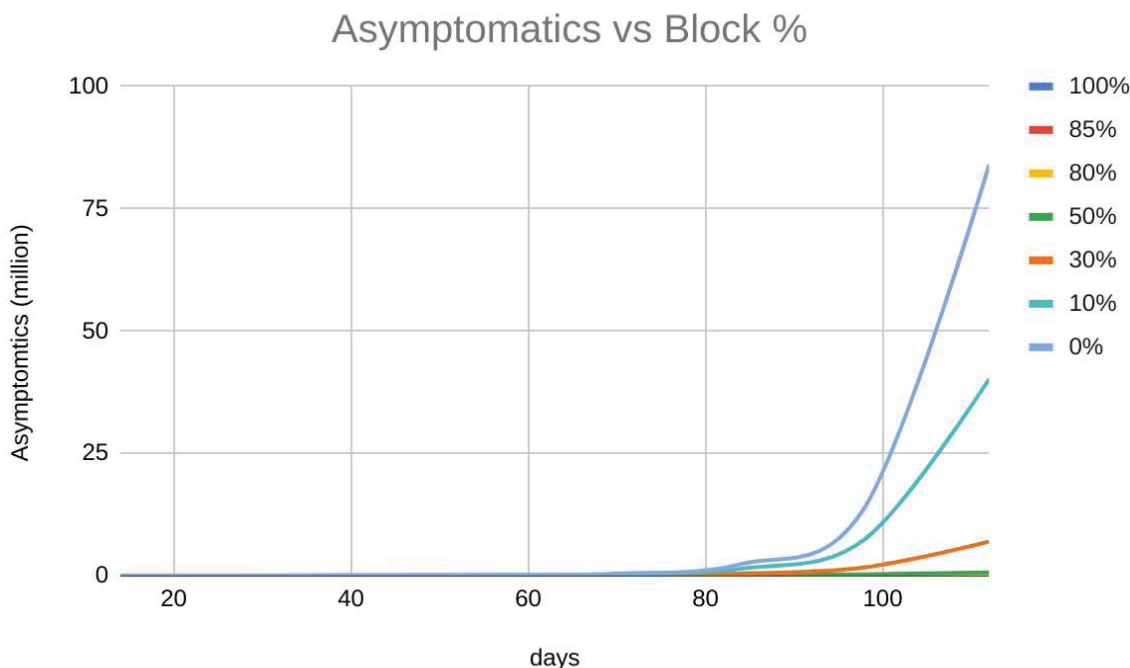# COVID19 *Digital Prevention System for* **Government**

Routes to Control the Growth of Asymptomatic

A consistent Asymptomatic Growth of less than 1, indicates that COVID-19 spread is under control and the daily economic activities can be resumed.

In addition, we can isolate the individual public places with high Alert list growth and then manage the 3 elements of the formula:

**Alert (0) / Alert (-1) = (1-Block%) x Gathering size x infection rate%**

▶ **(1-Block%)**, Block % is the percentage of users voluntarily avoid going into public places after knowing that they are on the alert list. Block % is assumed to be zero for general public places to avoid social shaming. However, in some critical organizations such as the armed forces and factories, mandatory blocking can help to reduce the spread significantly.

Asymptomatics vs Block %

This above figure shows that a 10% blocking rate can help to reduce the spread by 40%, and a 30% blocking rate can reduce the spread by more than 80%.

▶ **Gathering size**, the number of people gather over a relatively long period of time in a close environment. A large gathering size can be partitioned into a small size to reduce the growth of asymptomatic.
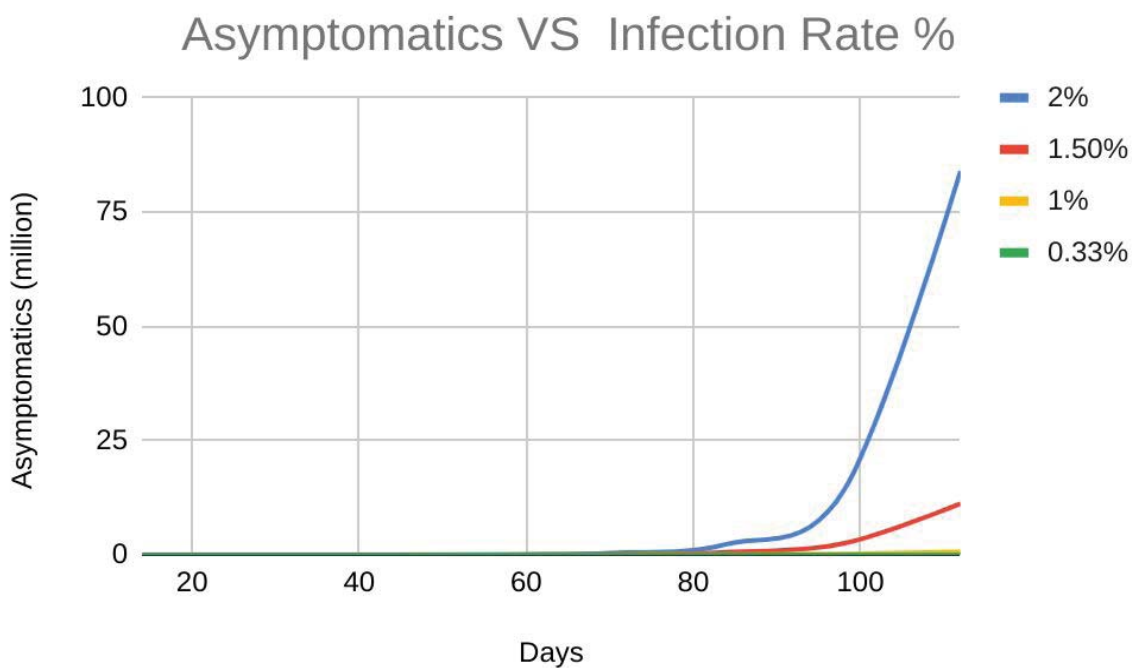
Asymptomatics VS Gathering Size
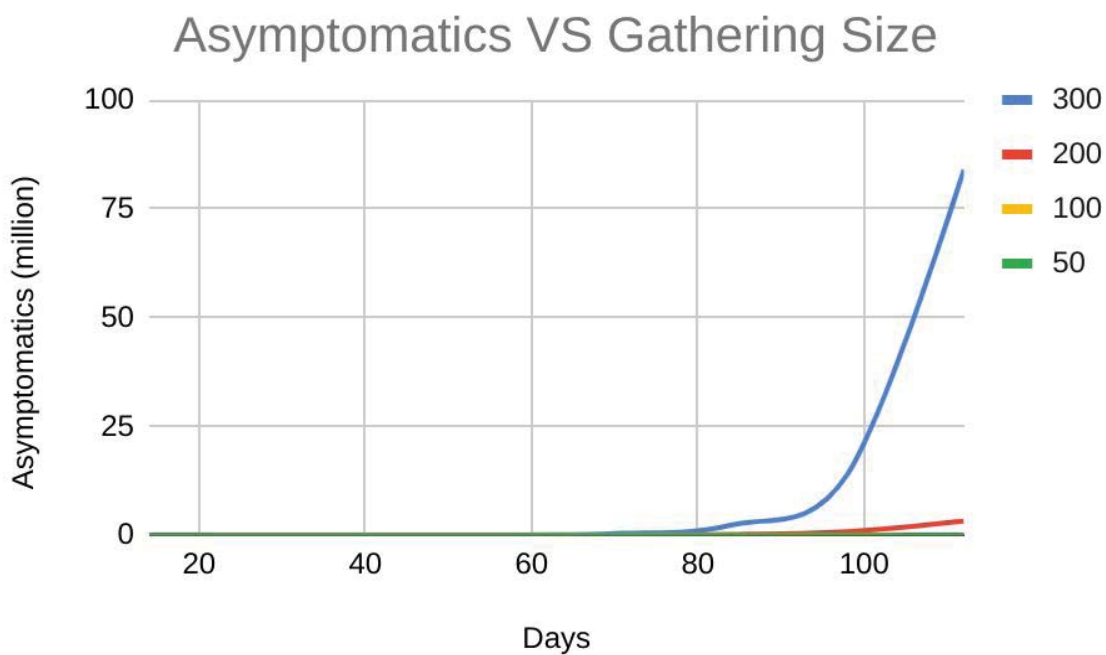
The above figure shows that the gathering size has a significant impact on spreading.

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▶ **The infection rate**, this rate is largely related to the nature of the gathering. A gathering in a canteen is believed to have a much higher infection rate than in the public library.

The above figure shows that the infection rate has a significant impact on spreading.

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Dashboard
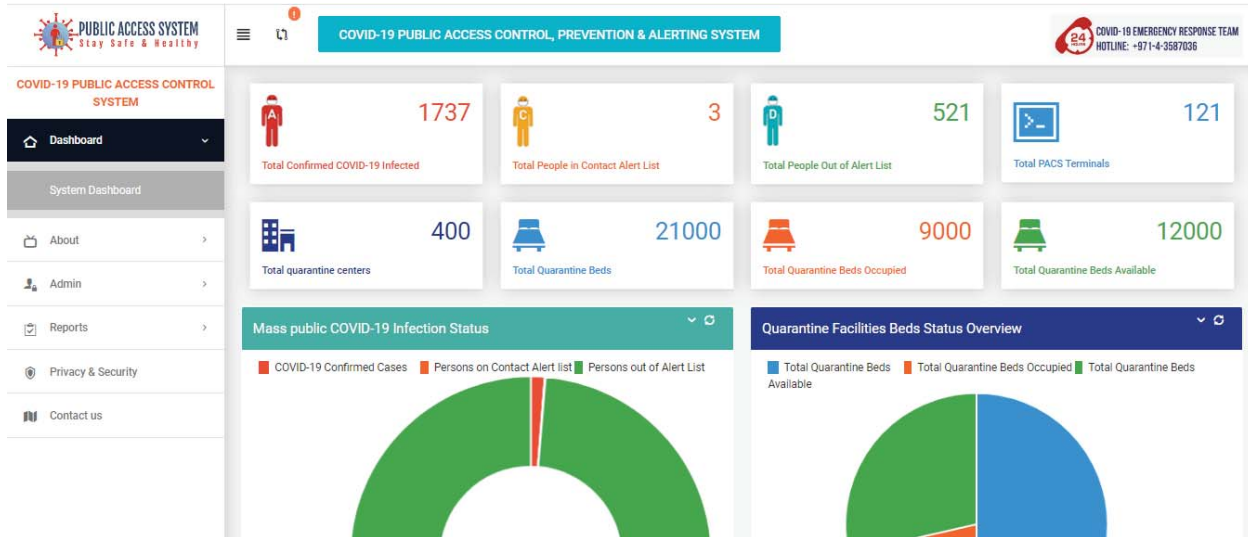
Extended Dashboard page..

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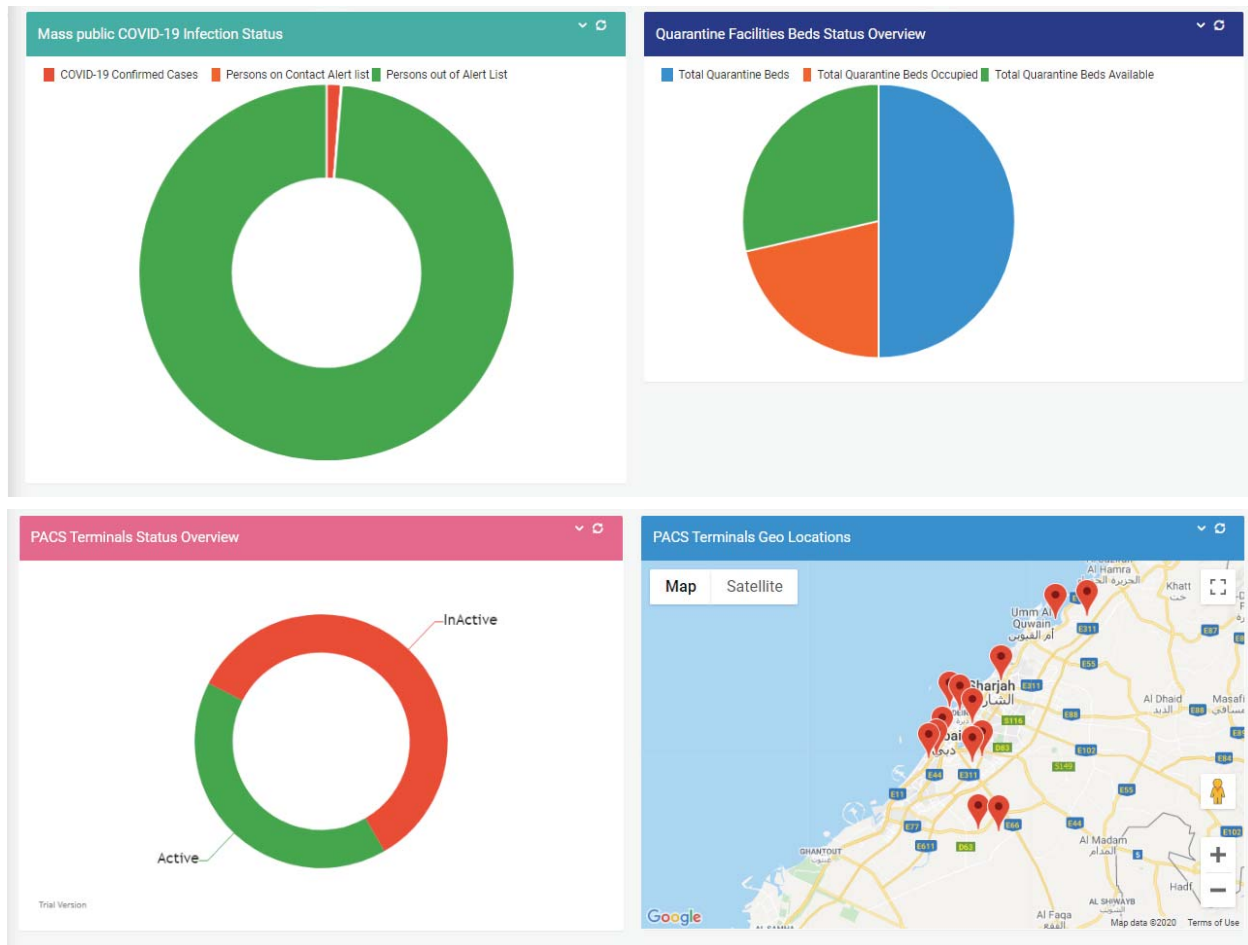
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		Alerts issued on date	Out of list on date	Summary History

SrNo	Day	Month	Contact list Alerts
1	Thursday	April-30	1
2	Wednesday	April-15	189
3	Tuesday	April-14	366
4	Monday	April-13	696
5	Sunday	April-12	485

Showing 1 to 5 of 5 entries

Previous | 1 | Next

Events | Clock IN

SrNo	Date	User	Type	Alert Type	Access Date	Device SN	Kept Alert Untill
1	4/30/2020 6:54:21 AM	123	Blacklist	ConfirmedCase	4/30/2020 5:54:19 PM	186CCA809259	5/30/2020 5:52:47 PM
2	4/30/2020 6:52:48 AM	123	Blacklist	ConfirmedCase	4/30/2020 5:52:47 PM	186CCA809259	5/30/2020 5:52:47 PM
3	4/30/2020 6:51:25 AM	12345	Blacklist	PersonInContact	4/30/2020 5:51:24 PM	186CCA809259	5/14/2020 5:51:24 PM
4	4/30/2020 6:51:13 AM	1234	Blacklist	PersonInContact	4/30/2020 5:51:12 PM	186CCA809259	5/14/2020 5:51:12 PM

Activate Windows

Confimed Cases Report

COVID-19 PUBLIC ACCESS CONTROL, PREVENTION & ALERTING SYSTEM

COVID-19 EMERGENCY RESPONSE TEAM
HOTLINE: +971-4-3587036

🏠 Home / Reports / Confirmed Cases

Support

SrNo	User	Device accessed	Access date	Kept alert until
1	123	4/30/2020 5:52:47 PM	4/30/2020 6:52:48 AM	20200430
2	94131597	4/12/2020 2:25:12 PM	4/15/2020 11:08:12 AM	20200405
3	95705300	4/12/2020 2:36:05 PM	4/15/2020 11:08:24 AM	20200413
4	93608967	4/12/2020 2:41:27 PM	4/15/2020 11:08:42 AM	20200408
5	91179614	4/12/2020 3:24:47 PM	4/15/2020 11:08:12 AM	20200414
6	96202195	4/12/2020 3:25:50 PM	4/15/2020 11:08:10 AM	20200403
7	90618989	4/12/2020 3:35:31 PM	4/15/2020 11:08:29 AM	20200413
8	95209766	4/12/2020 4:19:43 PM	4/15/2020 11:08:29 AM	20200403
9	90352309	4/12/2020 4:43:31 PM	4/15/2020 11:08:43 AM	20200413
10	96221987	4/12/2020 5:23:07 PM	4/15/2020 11:08:33 AM	20200414

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Cases Summary

SrNo	Date	Records	Terminals	Alerts	Alert List Growth
1	30/04/2020	85	1	1	0.00529100529
2	15/04/2020	428	11	189	0.51639344262
3	14/04/2020	766	11	366	0.52586206896
4	13/04/2020	1517	47	696	1.43505154639
5	12/04/2020	1016	50	485	

Showing 1 to 5 of 5 entries   Previous   1   Next

Out of List as On Date

SrNo	AccountID	Type	Removal Date
		No data available in table	
1	90000192	3	4/21/2020 7:08:53 PM
2	90000269	3	4/27/2020 8:46:32 PM
3	90000511	3	4/30/2020 10:45:06 PM
4	90000563	3	5/3/2020 6:18:09 PM

Showing 0 to 0 of 0 entries   Previous   Next

Blacklisted People in Contact

SrNo	AccountID	Type	Removal Date
1	1	2	5/14/2020 5:47:12 PM
2	1234	2	5/14/2020 5:51:12 PM
3	12345	2	5/14/2020 5:51:24 PM

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