

Self-quarantine Safety Protection App

- **Overview**

- Purpose: the app was developed to effectively support the monitoring of people under self-quarantine in the efforts of containing the spread of COVID-19. Two types of applications were developed to support both the citizens and assigned government case officers.

- **Key features**

- **Self-diagnosis:** People in self-quarantine will use the app twice a day to conduct a self-diagnosis concentrating on four symptoms*, after which the results will automatically be shared with an assigned case officer. The case officer will also be notified if such self-diagnosis is not carried out or if any symptoms have developed.

* Fever, cough, sore throat and respiratory difficulties

- **Location tracker:** Once quarantine area are registered, the app will send an automatic alert if a self-quarantined subject leaves the designated quarantine area.

* Location errors may occur due to technological difficulties in relation to receiving GPS data.

- **Others:** The app also includes guidelines on quarantine and the contact information of the Korea Centers for Disease Control and Prevention (KCDC) and the assigned case officers.

- **App distribution**

- Google Play Store for Android (Mar. 7th) and Apple App Store for iOS (Mar. 14th)
- Available in Korean, English and Chinese

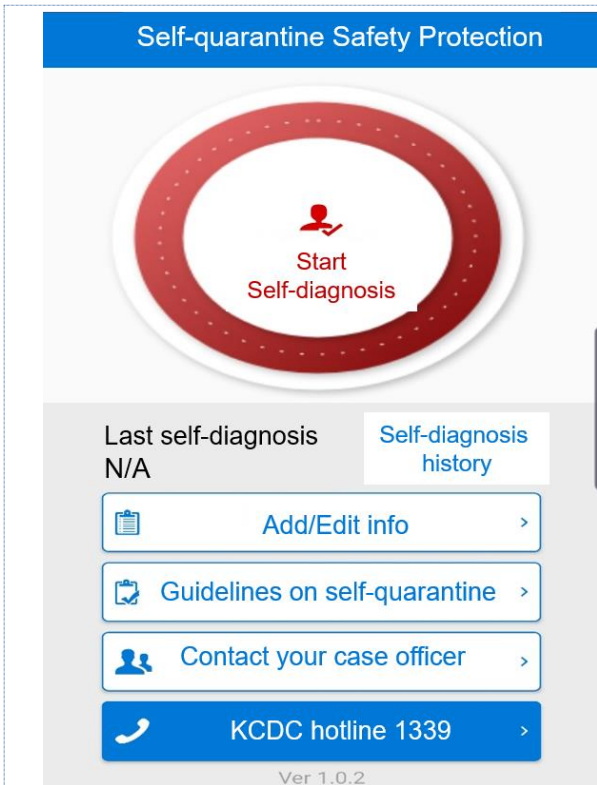
- **Development environment**

Category	Qty.	Software	Hardware Specification
Language		Server: Java App: Java (Android), Swift 5 (iOS)	
DataBase Management System	1	OS: Linux Oracle/PostgreSQL	CPU: Xeon Gold 3.2 GHz, 8 Core*2 Memory: 128 GB HDD : 600GB * 2
Web Application Server	2	OS: Linux Jboss/Tomcat	6Core, 3.4Ghz, 2cpu MEM : 32GB HDD : 600GB * 2
Web Server	2	OS: Linux Apache	
Push Server	1	OS: Linux	
Push notification		Public push	
Location information		Global Positioning System (GPS)	
Data communication		Wi-fi and mobile data	
Operating system		Android: Ver 5.0 and above iOS: Ver. 11.0 and above	

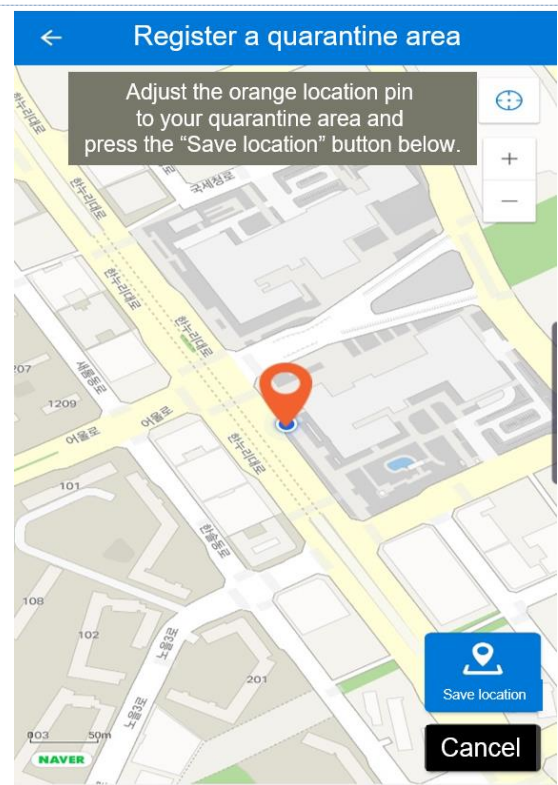
- **Necessary steps for localization**

- Building Open Street Map or Google Map
- Initializing Data
- Interfacing with local mobile operator's LBS platform
- Stabilizing the app: improving location accuracy, user training and temporal operation

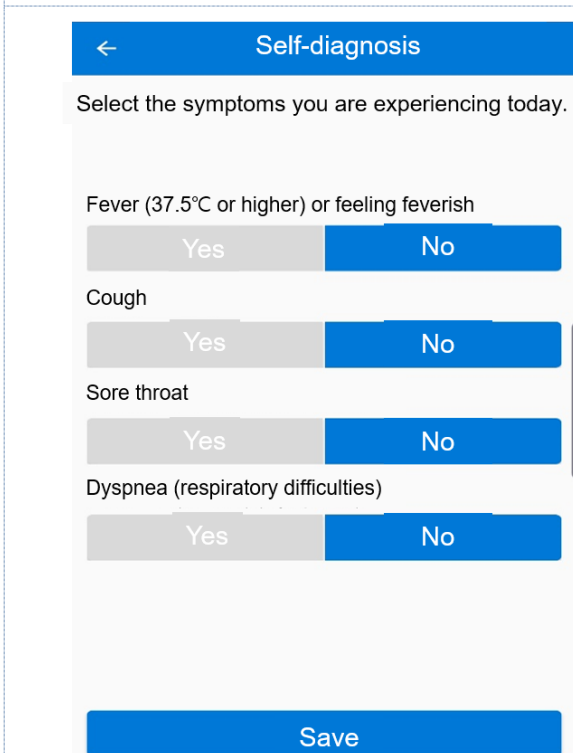
[Key features] App for self-quarantined residents



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<Location registration >

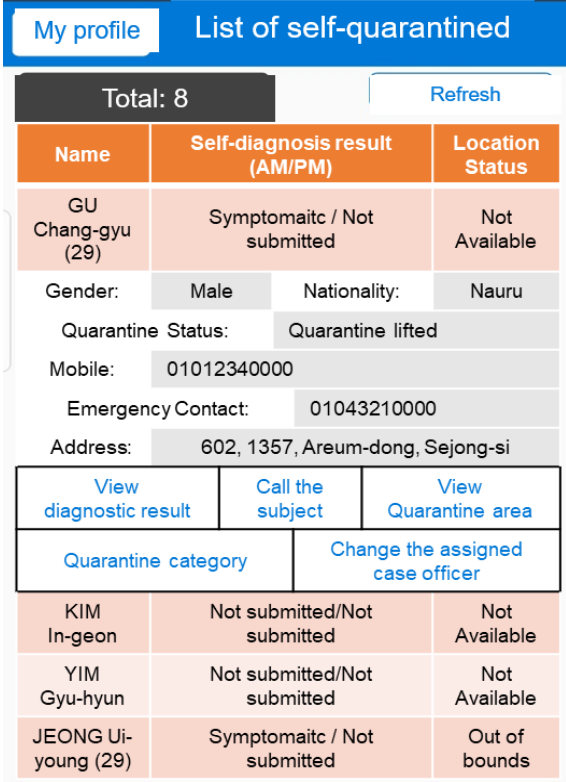
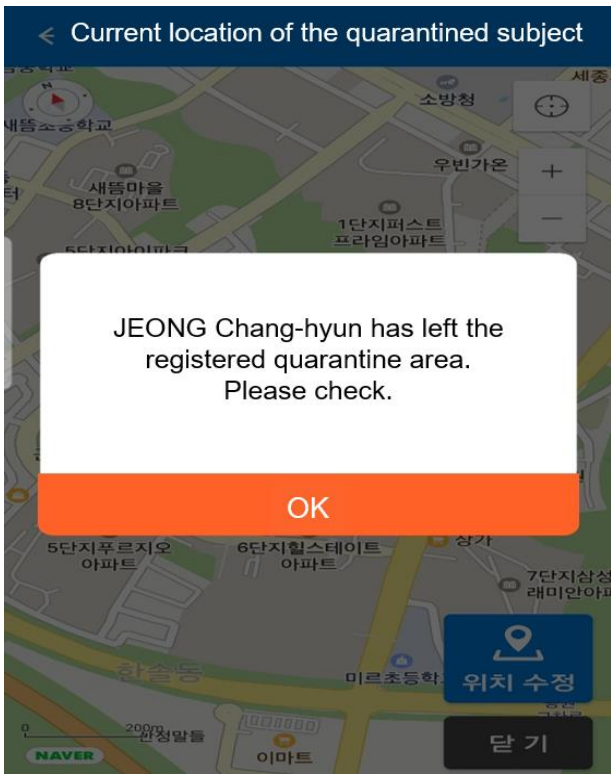
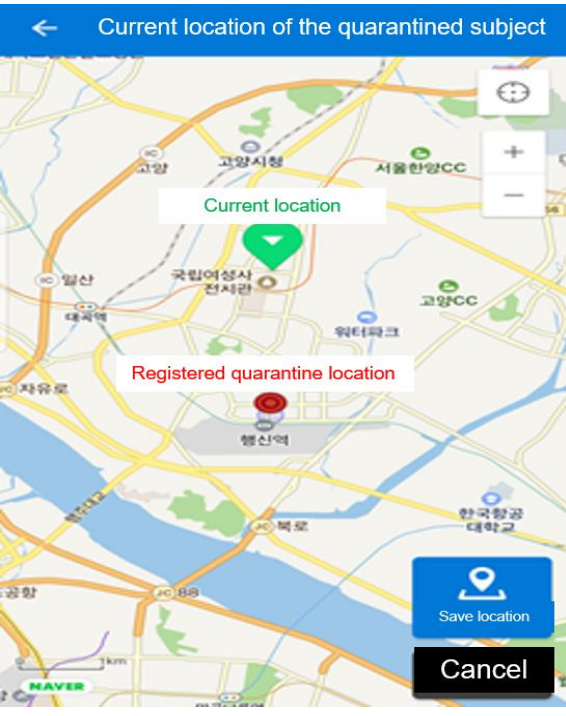
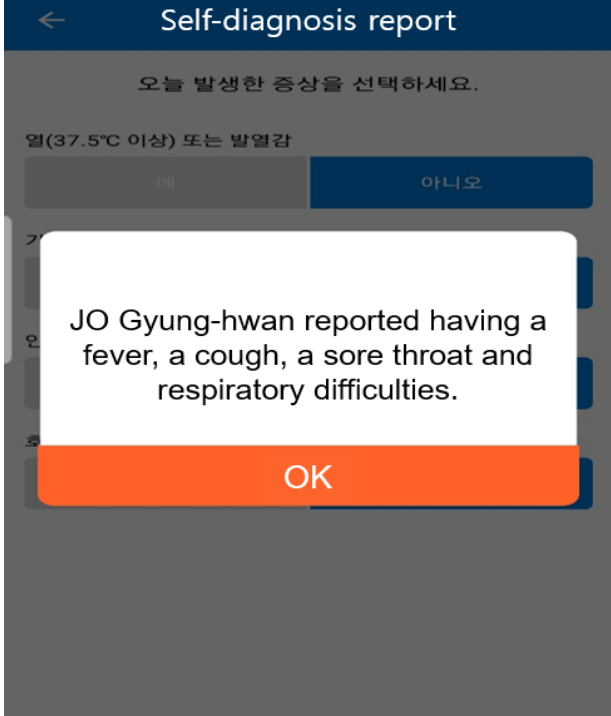


<Self-diagnosis >



<Guidelines on self-quarantine >

[Key features] App for assigned case officers

 <p>My profile List of self-quarantined</p> <p>Total: 8 Refresh</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Self-diagnosis result (AM/PM)</th> <th>Location Status</th> </tr> </thead> <tbody> <tr> <td>GU Chang-gyu (29)</td> <td>Symptomatic / Not submitted</td> <td>Not Available</td> </tr> <tr> <td>Gender: Male</td> <td>Nationality: Nauru</td> <td></td> </tr> <tr> <td>Quarantine Status: Quarantine lifted</td> <td></td> <td></td> </tr> <tr> <td>Mobile: 01012340000</td> <td></td> <td></td> </tr> <tr> <td>Emergency Contact: 01043210000</td> <td></td> <td></td> </tr> <tr> <td>Address: 602, 1357, Areum-dong, Sejong-si</td> <td></td> <td></td> </tr> </tbody> </table> <p> View diagnostic result Call the subject View Quarantine area </p> <p> Quarantine category Change the assigned case officer </p> <table border="1"> <thead> <tr> <th>Name</th> <th>Self-diagnosis result (AM/PM)</th> <th>Location Status</th> </tr> </thead> <tbody> <tr> <td>KIM In-geon</td> <td>Not submitted/Not submitted</td> <td>Not Available</td> </tr> <tr> <td>YIM Gyu-hyun</td> <td>Not submitted/Not submitted</td> <td>Not Available</td> </tr> <tr> <td>JEONG Ui-young (29)</td> <td>Symptomatic / Not submitted</td> <td>Out of bounds</td> </tr> </tbody> </table>	Name	Self-diagnosis result (AM/PM)	Location Status	GU Chang-gyu (29)	Symptomatic / Not submitted	Not Available	Gender: Male	Nationality: Nauru		Quarantine Status: Quarantine lifted			Mobile: 01012340000			Emergency Contact: 01043210000			Address: 602, 1357, Areum-dong, Sejong-si			Name	Self-diagnosis result (AM/PM)	Location Status	KIM In-geon	Not submitted/Not submitted	Not Available	YIM Gyu-hyun	Not submitted/Not submitted	Not Available	JEONG Ui-young (29)	Symptomatic / Not submitted	Out of bounds	 <p>Current location of the quarantined subject</p> <p>JEONG Chang-hyun has left the registered quarantine area. Please check.</p> <p>OK</p>
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 <p>Current location of the quarantined subject</p> <p>Current location</p> <p>Registered quarantine location</p> <p>Save location</p> <p>Cancel</p>	 <p>Self-diagnosis report</p> <p>오늘 발생한 증상을 선택하세요.</p> <p>열(37.5°C 이상) 또는 발열감</p> <p>예 <input type="radio"/> 아니오 <input type="radio"/></p> <p>JO Gyung-hwan reported having a fever, a cough, a sore throat and respiratory difficulties.</p> <p>OK</p>																																	
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