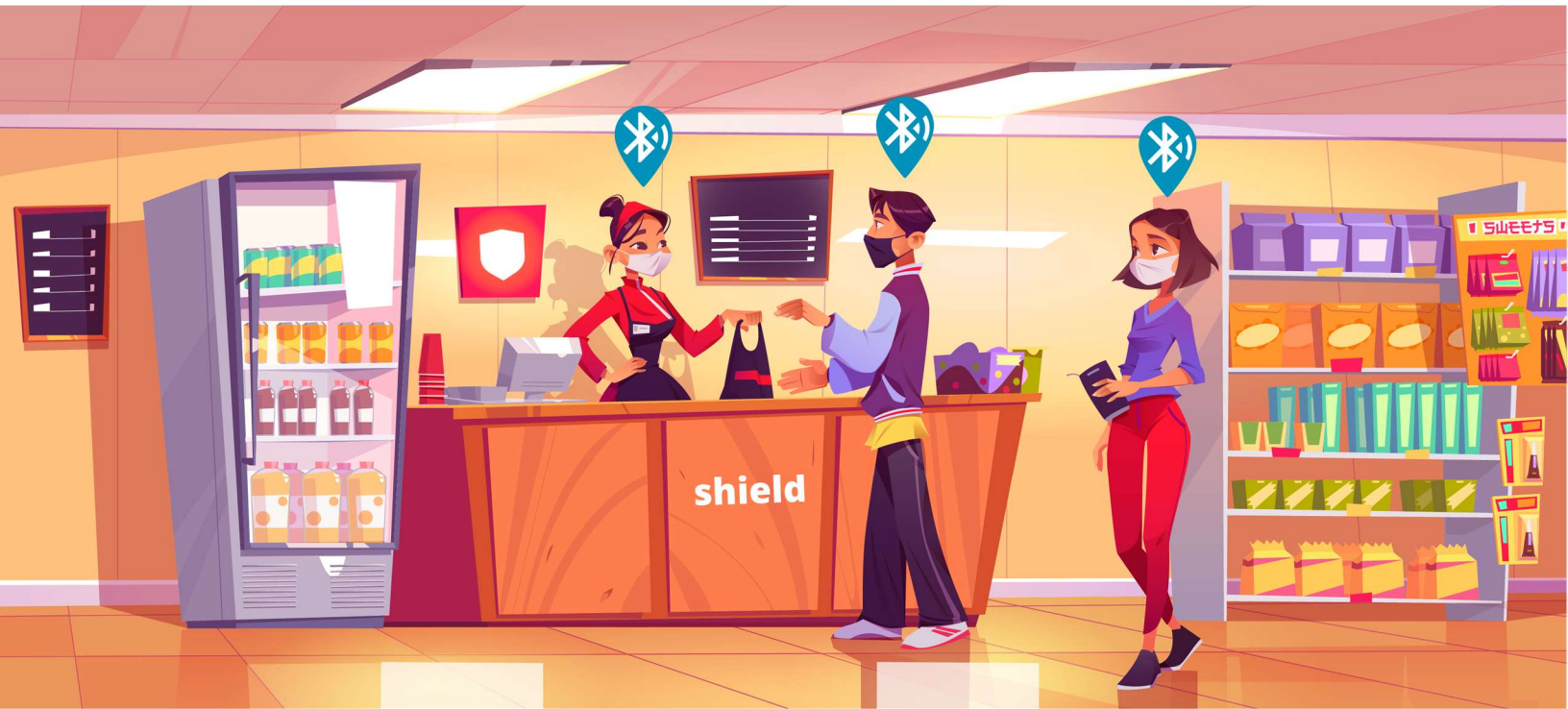




Shield



SOCIAL DISTANCING REMINDER DOCUMENTATION

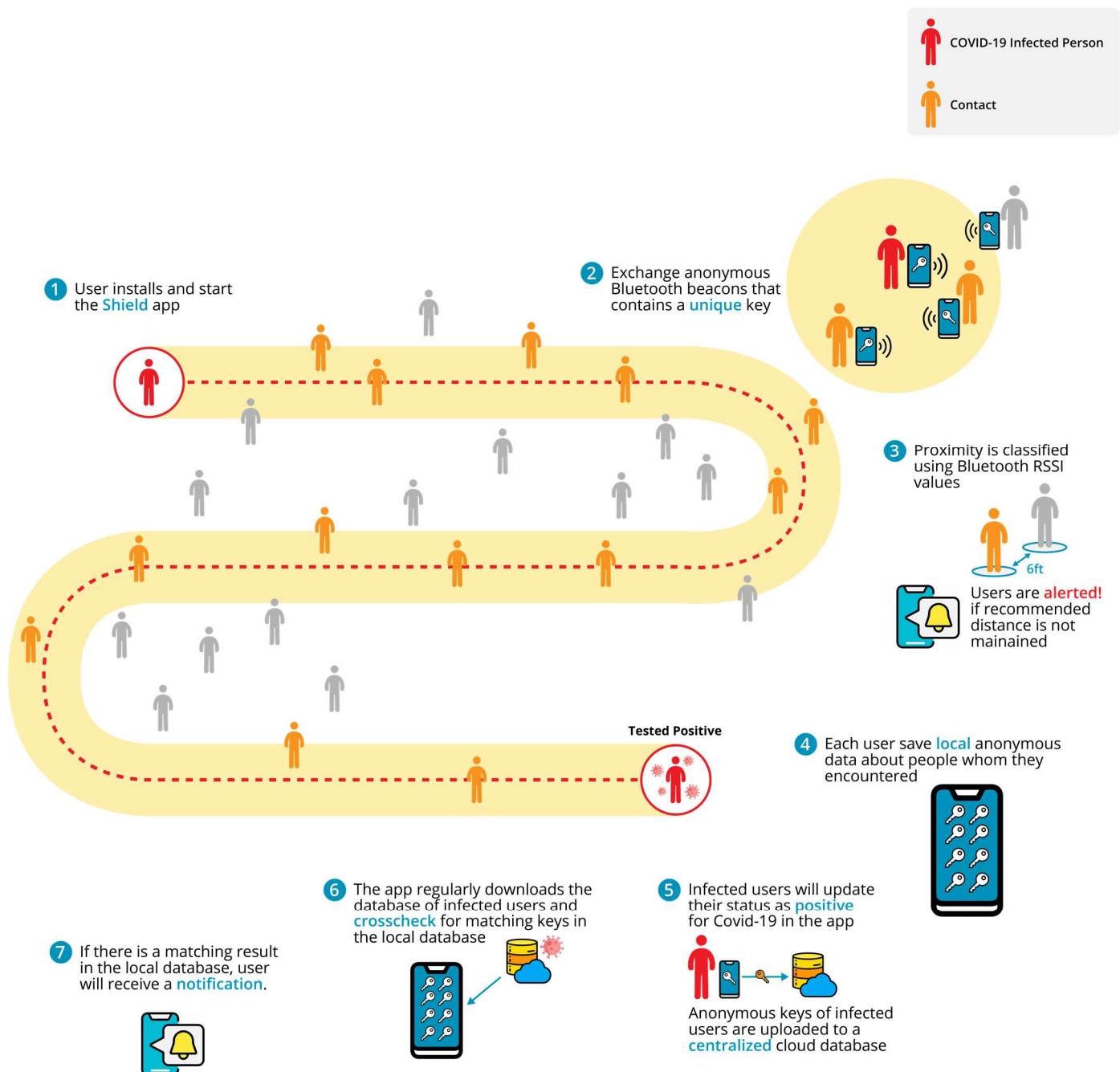
Group NOVA

170446L T. K. P. Perera
170504N P. A. J. Ranidu

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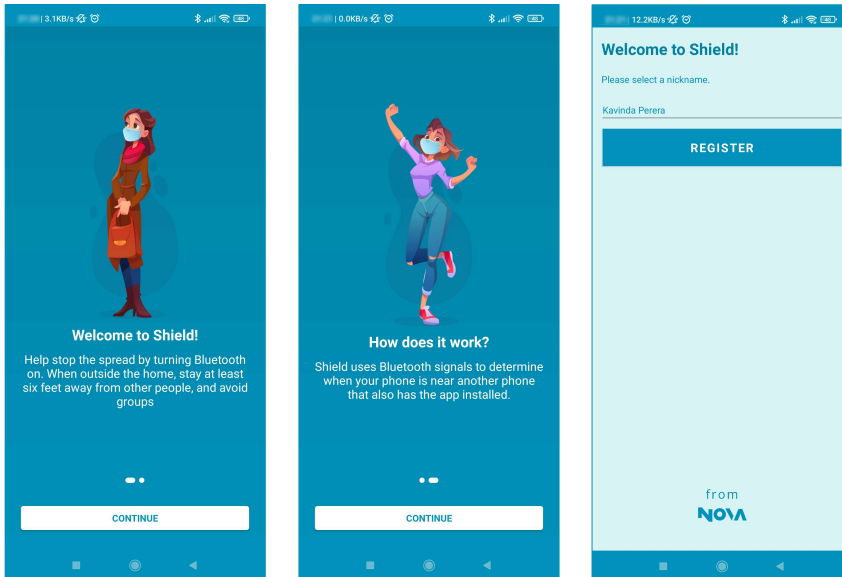
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How does it work?



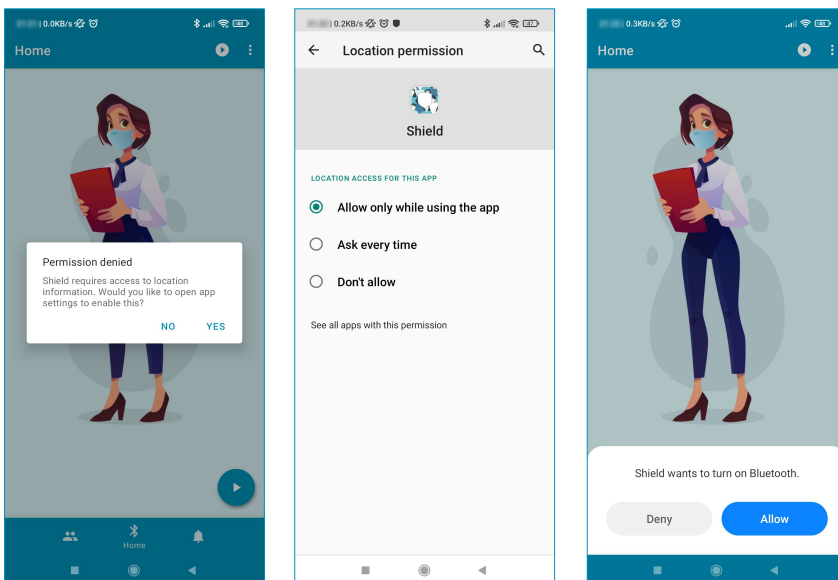
User Guide

Onboarding



- When a user first tries to install the Shield app, these 3 screens will appear in the shown order.
- The user can simply press the **CONTINUE** button on the first 2 screens and arrive at the *Registration Screen*.
- The user can enter a nickname to be used within the app and simply press the **REGISTER** button to complete the registration.

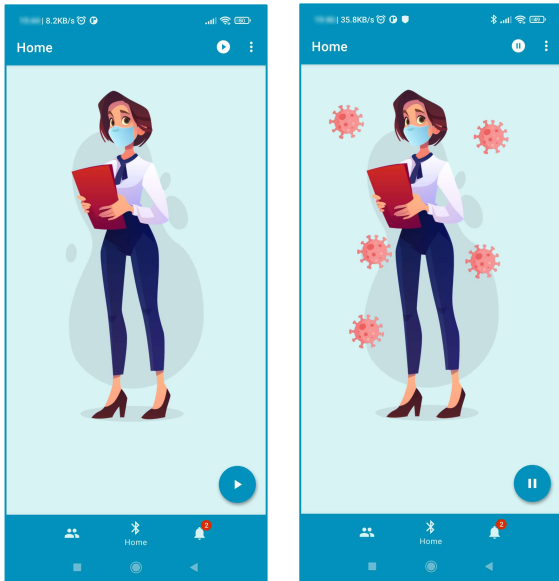
Permissions





- Shield app requires the users to grant location access permission.
- When the user first launches the app, a pop-up dialog box will appear as shown in the first figure. The user can then select the **Yes** option which will open the phone's settings. Then user can grant the required permission as shown in the second figure.

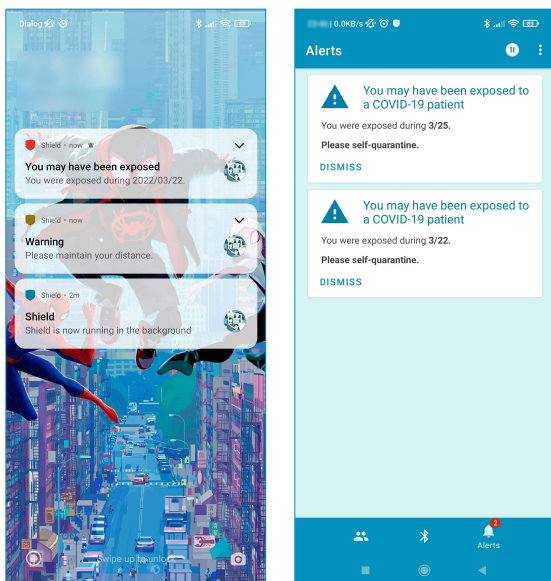
- In order to run the app, it needs phone's Bluetooth to be turned on. If Bluetooth is not on, then a pop-up dialog as shown in the third figure will appear.



Home



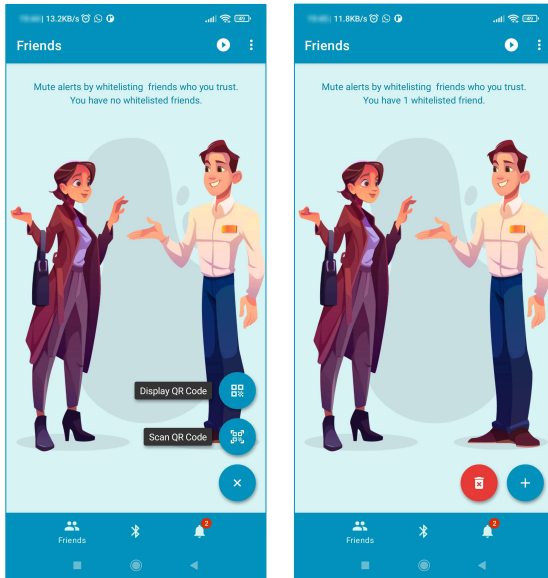
- A user can start the Shield protection service by pressing the  button on the bottom right corner of the home screen.
- This will start a simple animation on the home screen which indicates that the Shield protection is **ON**.
- The user can leave the app after this and still the application will be running in the background.
- If the user needs to stop the Shield protection, then he/she needs to press the  button.

Notification Types



- Shield consists of two main types of notifications:
 -  Exposed Notifications
 -  Proximity Alerts
- Proximity alerts are received if a user does not maintain the recommended distance (<6 feet) from another Shield user.
- Exposed notifications are received if a user has been exposed to a Covid-19 infected person within the last 7 days.
- These Exposed notifications can be also viewed by accessing the **Alerts Screen** by pressing the **Alerts** Tab on the bottom navigation bar.

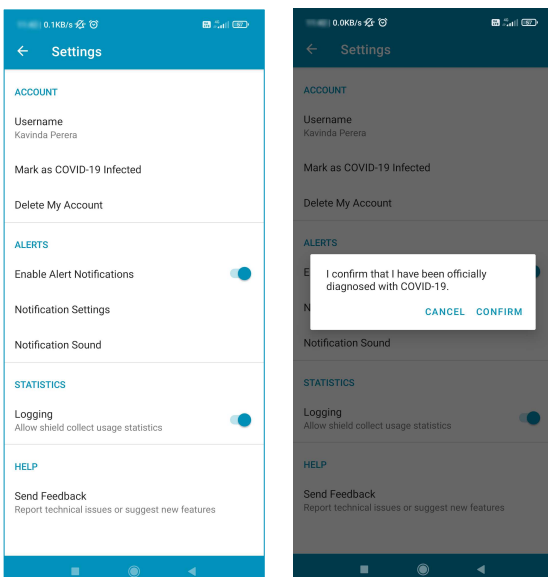
Friend List



- A user can access the **Friends Screen** by pressing the **Friends** Tab on the bottom navigation bar.
- By pressing the **+** button on the bottom right corner, a user can get the **Scan QR Code** & **Display QR Code** options.
- Using the **Scan QR Code** option, a user can scan the Shield QR Code of a close friend and add him/her to the whitelist.

- Using the **Display QR Code** option, a user can show his/her Shield QR Code to another person to scan.
- Once a user has added some friends to the whitelist, a **-** button is shown at the bottom right corner if the user wants to remove someone from the whitelist.

Settings



- A user can access the **⋮** menu which on the top right corner of home screen and go to the **Settings** Tab on that menu.
- It shows few options as shown in the figure here.
- By pressing the **Mark as COVID-19 Infected** option, a user can update the Firebase database so that other Shield users will get **Exposed Notifications** if they have been in contact with you within the last 7 days.

Individual Contribution Matrix

Task	Member
BLE Advertising and Scanning	T. K. P. Perera
Notification Service and Firestore Integration	P. A. J. Ranidu
Contact Records Database	T. K. P. Perera
Notification Records Database	P. A. J. Ranidu
RSSI Dataset	Both
Deep Learning Model	T. K. P. Perera

Source Code and APK

<https://github.com/kavindaperera/nova-shield>

<https://github.com/kavindaperera/nova-shield/releases>

Bluetooth RSSI Dataset and Model

<https://github.com/kavindaperera/nova-shield-proximity-classification>