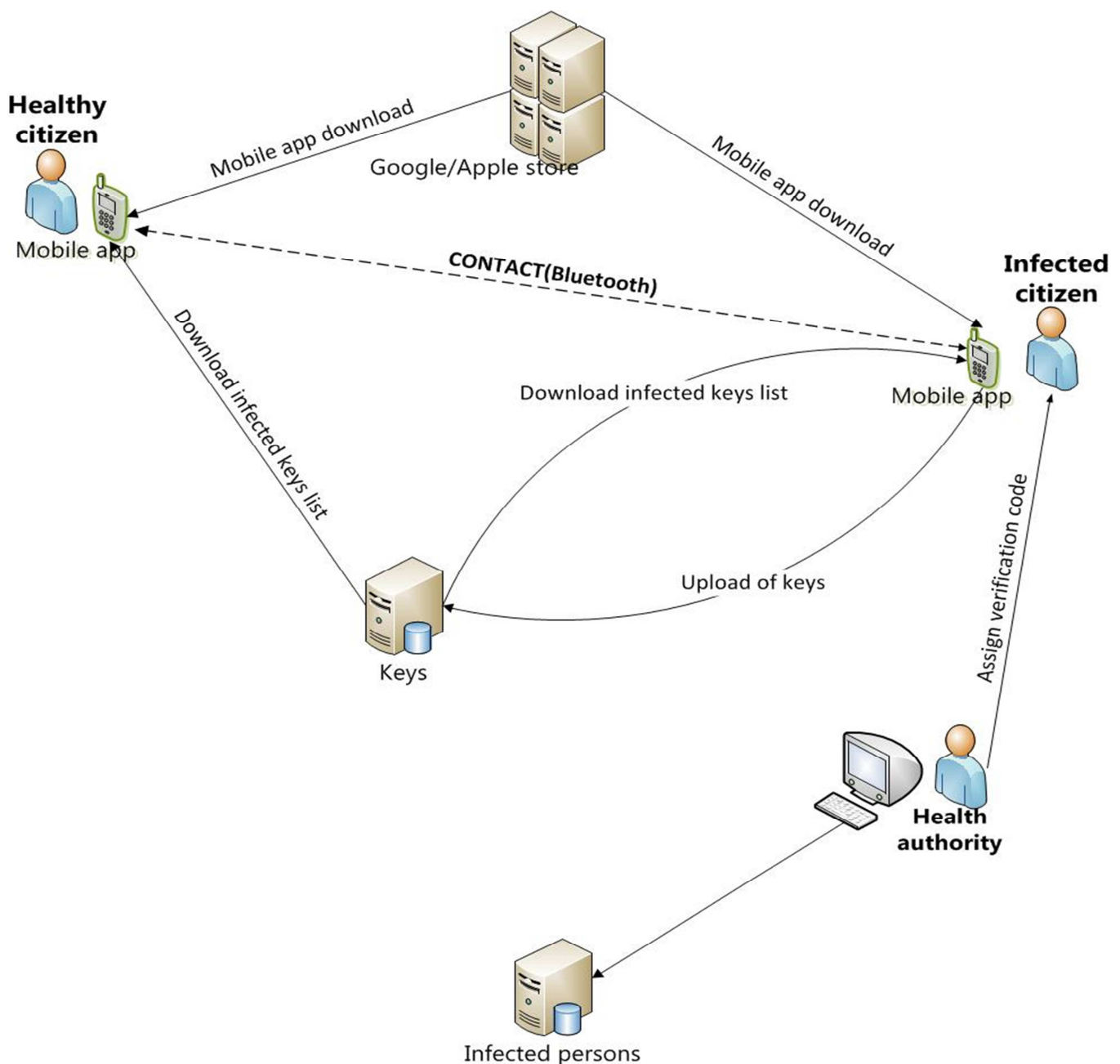


Introduction

This document provides an information for a technical audience. It represents the description of process with all the stakeholders of the matter and the recent state of the high-level architecture.

The reason for making and developing this project is to help in preventing and to stop expanding COVID-19. To be successful in this purpose people have to know, or to be conscious if they have already been in a contact with an infected person.

The process of informing other citizens is completely on voluntary basis and is supported by Public Health Authorities and other medical staff that are included in the process of medical treatment for people infected with the virus (Picture 1.).



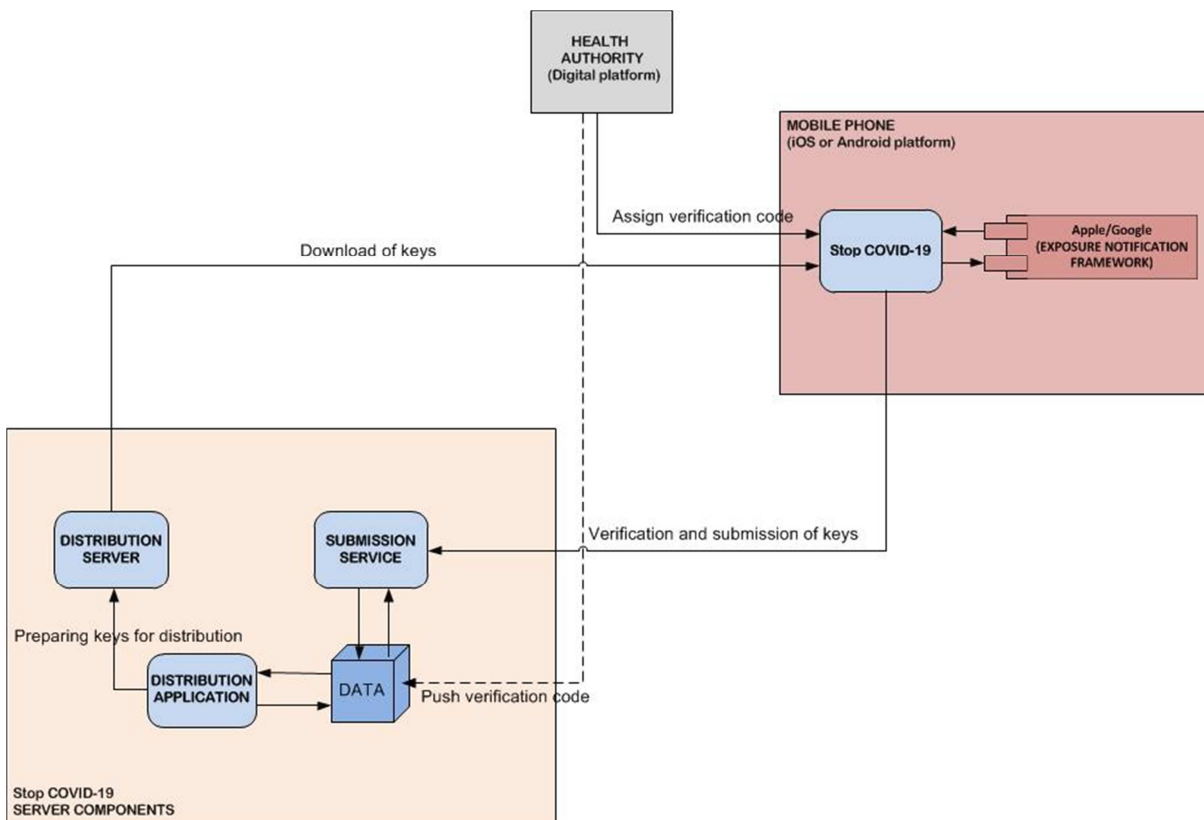
Picture 1. Process overview

Solution overview

The solution is based on specification and recommendation of Google and Apple as they have provided essential API that enables creating this system and is called Exposure Notification Framework.

The solution consists of three main parts (Picture 2.):

1. **Verification code** – is given to infected person by Public Health Authority
2. **Mobile application** – is installed on persons mobile phone
3. **Server components** – backend system indebt for distribution of keys



Picture 2. Stop Covid -19 high-level architecture

The **verification code** is randomly generated code, the purpose of which is to secure that only keys of infected person are uploaded to the server.

The **mobile application** is downloaded from Google/Apple store and can be used without any authorisation.

The Apple devices with OS version of at least 13.5 will be required for the system to work, as the framework is integrated into the operating system.

The Android devices will have feature integrated into the Google Play Services, which means that only this specific application needs to be updated for it to work. Devices starting with Android 6.0 (API version 23) and integrated BLE chips will be supported.

Main functionality of this applicaiton is to inform a person if it was in a contact with an infected person who was willing to share that information with the other people.

The person that gets infected and has confirmed positive test will be offered by official medical staff a verification code, so it can upload keys that are important for this functionality to work.

The key is called **Temporary Exposure Key** (TEK) and is created by **Exposure Notification Framework** using cryptography technology.

The Exposure Notification Framework is Google and Apple API developed for the purpose of identifying mobile phones on anonymus basis. It assures that no one can identify which mobile phone is behind Temporary Exposure Key besides this API.

The **server components** are designed as multiple modules that support process of distributing keys of infected persons.

The componets are:

1. **Submission service** – used for verification and uploading TEKs
2. **Distribution application** – prepares files for disribution and cleans backed data
3. **Distribution server** – holds files with TEK data that are consumed by Stop COVID-19 application

Cross-Border Interoperability

This funcionalitiy is still in development but is supported by architechture and compatibility of Exposure Notification Framework and the identifiers of the mobile devices can be matched regardless the mobile application that has implemented this API.

Further details will be added as soon as they are available.