

# QBeacon

## Smart Queueing and Social Distance Monitoring System providing Safe Proximity Marketing Services

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**Abstract-** COVID-19 has impacted our day-to-day lives in different ways. Health experts and governments across the world have been advising people to practice social distancing to halt the spread of the deadly coronavirus. QBeacon is an effective way for assisting people to follow social distancing norms by using WiFi direct mobile application. This application enables the user to communicate with peers who are connected to the QBeacon WiFi access point and also uses the Bluetooth in the user's device and Camera to calculate the proximity of the devices and pops an alert whenever social distancing norms are violated. QBeacon can be also used in e-commerce and collecting data regarding the travel history of an infected person, since the QBeacon stores the MAC address of the users whenever they connect to the network. Thus, providing an effective monitoring system for maintaining social distancing norms.

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### INTRODUCTION

Life has changed a lot due to COVID-19 pandemic and it is essential for people to wear mask, sanitize their hands and maintain social distancing. According to a survey by BBC India more than 69% of country's population don't follow social distancing norms. Referring to an ICMR study, one COVID-19 positive person can infect 406 people in 30 days, if social distancing measures are not in place. Thus, to assist people in maintaining social distance, there is a need for an effective monitoring system.

### OBJECTIVES

- I) To create an effective social distancing monitoring system.
- II) To use QBeacon for communicating with the peers in the network and carry out proximity marketing.

### QBeacon

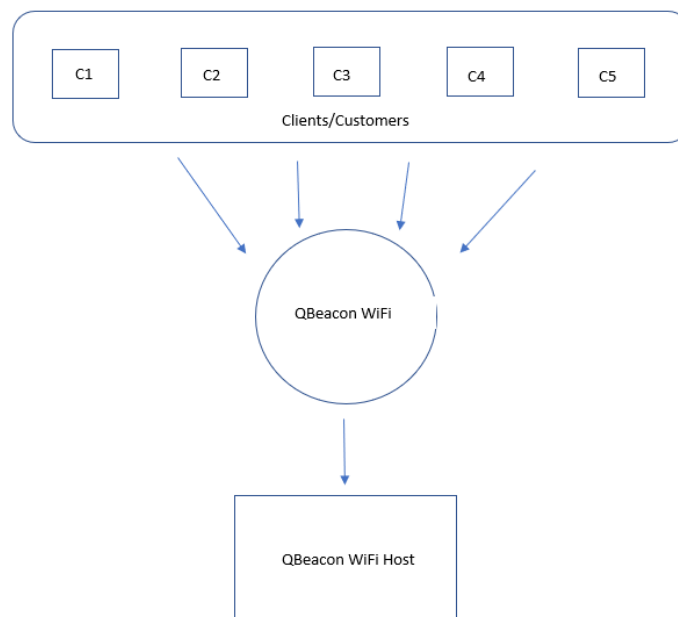
QBeacon is basically a WiFi direct application combined with AI based Social distance monitor which enables the clients connected in the network to transmit and receive data. QBeacon application installed in the user's device, permits the user to communicate with the peers connected in the network. And the application uses the Bluetooth technology present in the user's device to calculate the distance

between the peers in the surrounding and thereby alert the user, whenever the social distancing norms are violated. It also uses camera and AI to detect violation in social distancing.

## FEATURES OF QBeacon

- i) Assist the user in maintaining social distancing in public places.
- ii) QBeacon application enables the users to communicate with each other through WiFi and Bluetooth PAN.
- iii) QBeacon can be also used in for advertising purposes in shops and malls.
- iv) In hotels, restaurants and shops, orders can be taken through QBeacons.
- v) QBeacons can be used to provide information regarding the travel history of a person since, the QBeacons store the MAC address of the user devices whenever they connect to the access point
- vi) QBeacons can be also used for proximity marketing.

## BLOCK DIAGRAM



## PROJECT OUTCOMES

- i) Alerting people whenever social distancing norms are violated to halt the spread of corona virus.
- ii) Enable mom and pop shops to have a proximity marketing system in a low cost and attract customers in a most effective way.
- iii) Stores data and helps in determining the travel history of an infected person thus, easing the tracking process of the primary and secondary contacts.

- iv) Stored data and advertisements broadcasted through QBeacons helps the customers easily locate the availability of the needs and services.
- v) Broadcast awareness messages through QBeacons, in Health centres, hospitals, other Government offices and public places.
- vi) Provide effective queuing system and order handling system.

## **COMPONENTS USED:**

HARDWARE: Android or IOS device

SOFTWARE: Android Studio, Teachable tool, TF coverter

LANGUAGES USED: Flutter Framework, Dart

## **CONCLUSION**

QBeacon provides an economical and effective way to monitor social distancing norms by using the resources available with a every person. QBeacons has a scope in variety of applications from ensuring safety to commerce and there by aids the technology growth in various levels.

## **REFERENCES**

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