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QR Code to Track Covid-19 Patients

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Abstract - *In the current pandemic situation, it is becoming very hard for the police and the shop owners to keep track of the COVID-19 positive patients. People who are quarantined as going out, roaming and increasing the risk of spreading such a deadly disease to others. And in such case it is very difficult for the police to keep track whether the person going out to different shops is affected or no, As many people are tested each day, people with less symptoms are asked to quarantine themself at home, but people having so fear of spreading this virus, go out risking life of their own as well as others. To scan whether the person is properly cured from this deadly disease and the patient has completed his quarantine time is difficult and a step needs to be taken for the same. The main purpose of this project was to curb such deadly disease from spreading. A QR code can be generated for each tested patient and scanned by the police and other shops to restrict the affected people from roaming around and increase the chances of controlling the spread.*

Index Terms: - QR codes, QR Scanning, QR Generation.

1. INTRODUCTION:

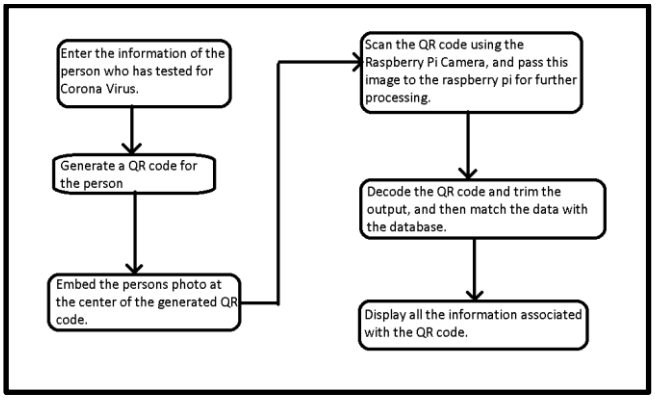
QR code can be a good solution as it can be scanned without coming in contact with anyone. QR code tracker can be a useful concept to track covid-19 patients and tested people with minor symptoms. This tracker can be useful to restrict the affected people to stay indoors and not risk the lives of others by spreading it. The concept is that each tested user should be given a QR code that can be scanned by each shop owner and police department to check whether the person is covid positive/ currently asked to home quarantine or is fully cured. Local Shop owners can scan each person's QR code before letting them inside the shop, industries can check whether the employees are tested Positive/ quarantined/ are cured before letting them resume the work, the police department can scan this QR code at toll plaza to make sure no patients go out of the state and increase the risk of the other state's public health. This will surely help everyone to be risk free.

2. PROPOSED SYSTEM:

2.1 Problem Statement:

" To Develop a program, that can generate a QR code with a photo of the user embedded on the QR Code which will only display the id when scanned by other users, and when scanned by official devices will display proper information of covid-19 affect on that particular user to control the spread of covid-19. Also enhance the authenticity of the QR Code by displaying the Image of the person when scanned. "

2.2 Proposed Architecture:



2.3 Proposed Methodology:

We will be using a QR code that has the ID same as AADHAR CARD number, as each AADHAR CARD number is unique and can become easy to track who the user is.

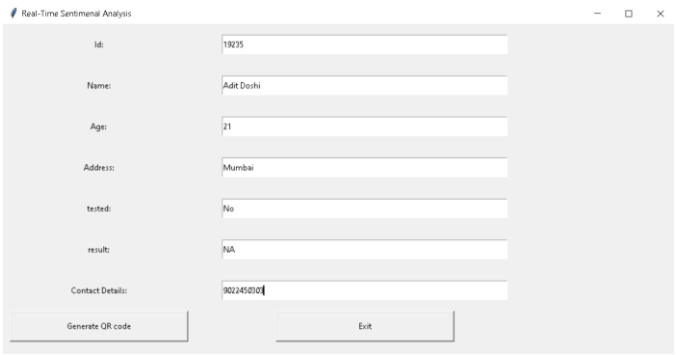
Steps involved: -

1. Whenever a user goes for COVID-19 test, a QR code should be Generated Along with the report.
2. The QR Code should contain the AADHAR number of the person(As it is unique and the database is already available).
3. People should scan their QR code, which will contain the ID(Aadhar number) which can later be matched with the database to give the output with multiple fields such as, Name, Image, Age, Test Done?, Result of the Test, Currently Home Quarantined?.
4. If the Result is 'NO', only then the person should be allowed to travel interstate and should be allowed to enter shops/ other crowded premises.

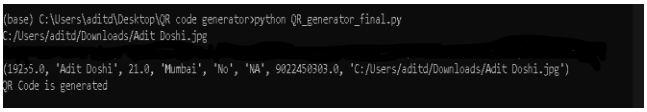
3. IMPLEMENTATION:

A) Generating QR Code.: -

The first step is to start by entering information of the user who is tested, this is required to generate the QR code for the user, this can be done by entering the necessary information in a simple GUI form. Information required are, ID(AADHAR NUMBER can be used for maintaining integrity and uniqueness), Name of the person who is tested, Age, Address(To make sure where he is from, when scanned by police), Is the person Tested, If yes, then what was the result, Result can be (positive, negative/ home quarantined), Home Quarantine is given to people with less to no symptoms but are feeling sick.



When the Qr Code is generated, it will display all information stored in the database.



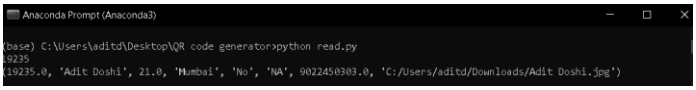
As We can see, once the necessary information is entered, it will generate a QR code, and will embed the users Photo at the very Center, so that the officials scanning the QR can verify whether the user carrying the QR code is the same person to whom it was issued, this is necessary as people can fool others by showing the QR code of someone else whose health is fine and the people who are affected by coronavirus can risk the life of others by using the QR code of someone who is fine and not affected.

The same enlarged photo will also be Displayed when scanned by the official device to make sure the photo on the QR code is not modified on someone else's QR code.

B) Scanner: -

When the QR code is scanned by an official device, it will display an ID, as the ID data is embedded in the QR Code, and then the ID is matched with the ID column of the Database, and all the details associated with the used, will be displayed to the officials.

While generating, we used the id - 19235.



As we can see, when the Same QR code is scanned, it gives all the information of the user which can help in controlling the spread of such a deadly virus.

C) Hardware Used: -

We require 1 raspberry pi, where the processing will be done, a simple kit which can store the database and compare the ID decoded from the QR code with the database ID column. Also, We require a Raspberry Pi camera that can capture the photo of the QR Code that will be sent to the raspberry pi for processing.

The same camera can also be used while capturing the image of the user, that has to be embedded on the QR code during the QR code generation process.

4. CONCLUSION

The new CoronaVirus also known as SARS-CoV2, SARS2 and COVID-19, has caused a global pandemic and a life threatening disease. As a vaccine is yet to come and cases are increasing each day, we have to learn to live with the virus and to do so, we have to take many precautions by avoiding coming in contact with a Covid affected person. To do so, we can implement this QR code in every public place to make sure no more harm is caused to people who are not affected. This will increase the availability of the beds in the hospitals and also increase the quality of the facility provided to the affected ones.

5. REFERENCES

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[3] QR code generation - qrcode · PyPI

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