Hospital Application For Different Uses

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Internet of Things

PROJECT REPORT

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Abstract— **This project is a part of different sub parts of a medical application which I personally named MEDICO, the health app. As per my idea it will be a application or website which will have a number of different functions out of which I have tried to work out some of the ML and AI based applications in this project.**

INTRODUCTION

This is a project for both the hospital side and the u[ser] side of a patient. There are some applications like [QR] code generator and scanner, Face mask detecti[on] Medicine recommendation system, Text detection fo[r] etc. which i tried to incorporate in this project. This v[ill] help a lot of project based on AI and ML part of the ap[p]

QR CODE GENERATION

As soon as the user enters the details to the Sign up page of the application the application would generate a QR code for verification at the time of the appointment

My work is to generate an verification and transfer the information to an already existing dataset of patients

MY PROGRAMME GENERATES THE QR AND THE QR HAS THE LINK OF THE EXCEL FILE WHERE DATAS OF ALL THE PATIENTS ARE KEPT

So by scanning the QR you will be diverted to the excel sheet where the application can add the name and details of the user given before
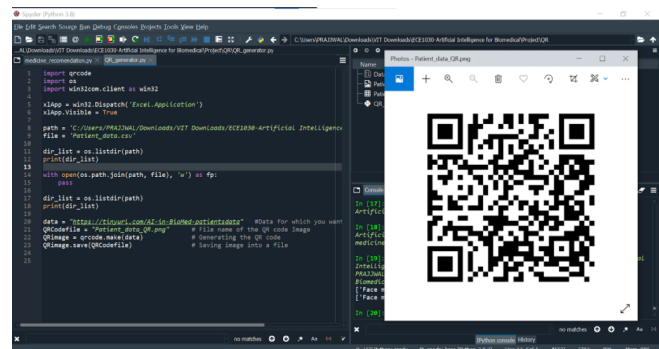
FACE MASK DETECTION

The patients must wear mask during the entry of the hospital. For that this detector is made and the application from the hospital side would be able to recognize if the person is wearing mask or not and shows the probability of how much percentage the system is sure about its result

Here I used machine learning algorithm using dataset with 2500+ masked and unmasked images each. Then i trained the model using k means algo and finally the programme is able to detect that the person is masked or not in real time scenarios using camera feed

TEXT DETECTION From the FORM

I tried to build a programme that extracts all the required details from a randomly shot picture of a form and store it in a excel form

This is the Template form on which i tried to apply my code. It can be changed to any of the form as i coded like that

Medicine Recommendation System

As per the prescription the patient will be able to search the name of the medicine in the excel file provided in the app. When they find it they can get related medicines from different vendors which are recommended for the medicine they have provided. They just need to enter the serial number beside the name of the medicine given in the excel sheet in the application

It is a recommendation system created by python and by training over 22000 medicine and its data related to the medicine, its descriptions, reasons, vendors, ratings etc

LINK:
https://colab.research.google.com/drive/1lLhQ6VJesRK8nVLN43BNOBM9rLsW5XNt?usp=sharing

Sample images of the filled form

Final Result on code and excel sheet

Percentage of completion

I feel like i have completed 90% of the project. But still I wanted to make a chatbot which couldn't be finished due to very high complications.

Also this project can be modified a lot with some app development and can be used for real time use. So many of other facilities can be included in this project

FUTURE ASPECTS

Merging the different codes to a single app to work in a synchronized manner

To add a lot of new applications

To convert the whole codes into application and website so that it can be user friendly

I will try to expand this project in the future and make it a real life working app for both the customers as well as the management side of an hospital

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