FINAL YEAR PROJECT REPORT

EFFICENT VEHICLE ROUTING MECHAISM FOR COVID-19 PATEINTS

In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)

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DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

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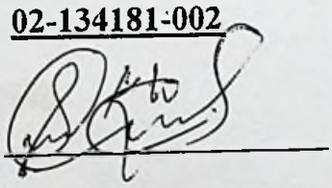
Signature : 

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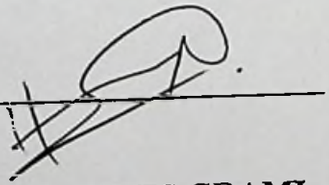
Signature : 

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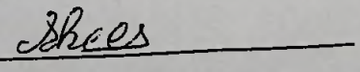
Signature : 

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EFFICEINT VEHICLE ROUTING MECHANISM FOR COVID-19 PATEINTS

ABSTRACT

To deal with worsening COVID-19 situation, we have to increase the efficiency of facilitating the patients so that they can remain safe. For this we have to develop a mobile application build on react native platform that links patient and driver using socket.io server. The app will help the patient locating the nearest vehicle and finding efficient and shortest path to reach the nearest hospital. On the other end it will help driver to locate shortest path to the patient. We may have an enroute testing facility available due to lack of testing capacities in hospital but our primary focus is to save patients time in reaching hospital. To sign up a user will register himself by providing first name, last name, email and password. These credential will be then saved in a database. After registration he will move to login page where he will provide his email and password, if the person is authentic and the credentials provided matched from the database the user will directed to page where he can select to be a driver or a patient. After selecting he will be directed towards home page. For patient home page has a search bar at the top where he can type the location and the app will determine the route on the google map API. The remaining part of the page is integrated with google map. As soon as patient select the location a pop from the bottom of the page will appear showing nearest vehicle and expected time to reach to you. If click the "REQUEST" button a request will be sent to the driver. Authentication has been used for login as driver or patient. The home page for driver consist of a google map where he can see the location to pick the patient. The driver will receive patient's location as soon as patient send the request. When the driver accepts the request, the patient will receive the notification and driver's background location to watch the trip. Scope of this android application is to show that the vehicle scheduling problem for high-risk individual transfer in to near hospital which is more difficult than most well-known

vehicle routing problems. We have used a **socket.io** server to connect driver and patient in real time. For login signup, authentication and controlling routes we have used rest API **Express Backend** and for database we have used **mongodb**. For maps we have used google maps API.

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