Threshold values to detect white colour stripes , then edge detection , followed by line detection using Computer Vision

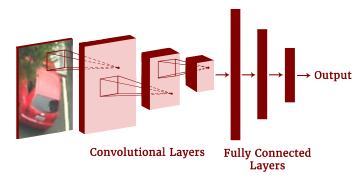
Empty Parking Lot

Red boxes drawn from pickled values containing co-ordinates of slots and Labeling the slot numbers



Cars in Parking Slots in Parking Lot

Detecting Parking Slot whether empty or occupied through trained CNN Model

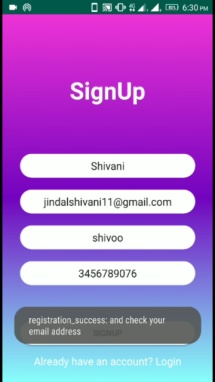
Empty parking spaces are detected with Test Accuracy of 99.28%

VGG-16 Convolutional Layers, followed by Dense layer of 512 neurons and dropout of 0.4 , finally Dense layer of 2 neurons for classifying empty or occupied parking slots

Information of how many and which Parking Slots Empty are send to the App

ANDROID

APP

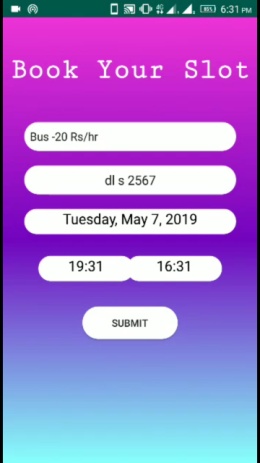
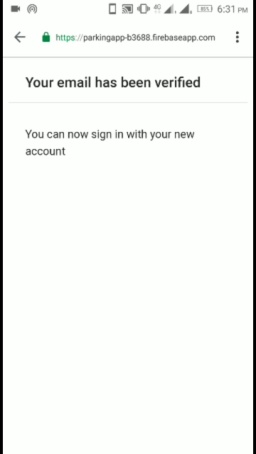
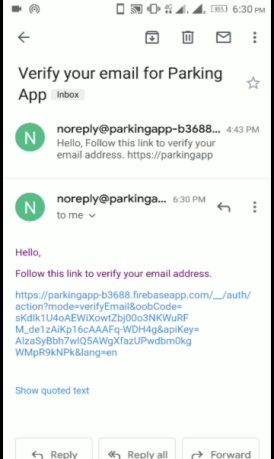
SIGN UP PAGE

INTERFACE OF APP

SPLASH SCREEN OF APP

ANDROID

APP

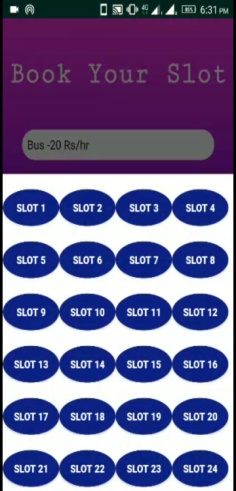
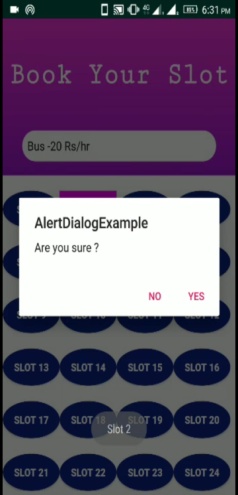
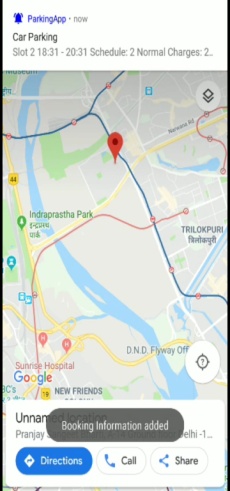
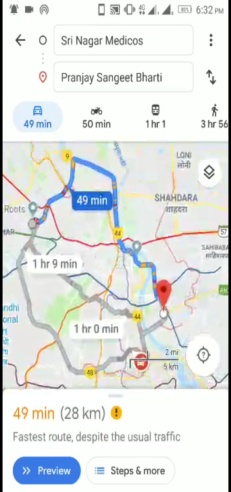
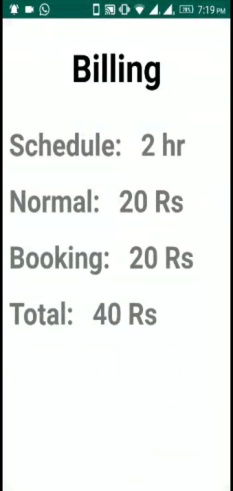
   

SLOT BOOKING PAGE ENETER DETAILS OF BOOKING LIKE TIME DATE ETC.

LOGIN PAGE

E-MAIL VERIFIED

VERIFICATION OF USER THROUGH E-MAIL

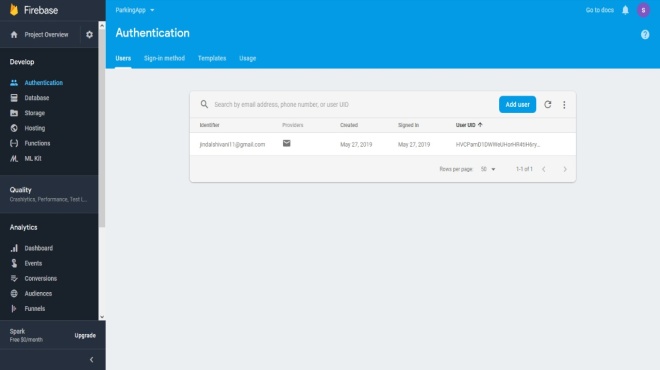
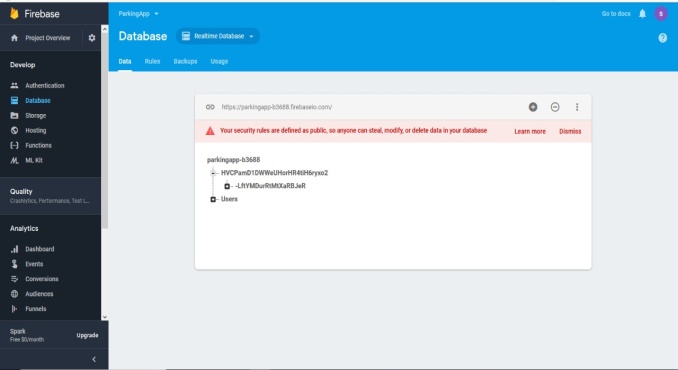
TOTAL PARKING BILL GENERATED Parking charges + Advance booking Charges = Total Charges

SLOT SELECTION

DIRECTIONS GIVEN FROM USER’S LOCATION TO THE BOKKED SLOT

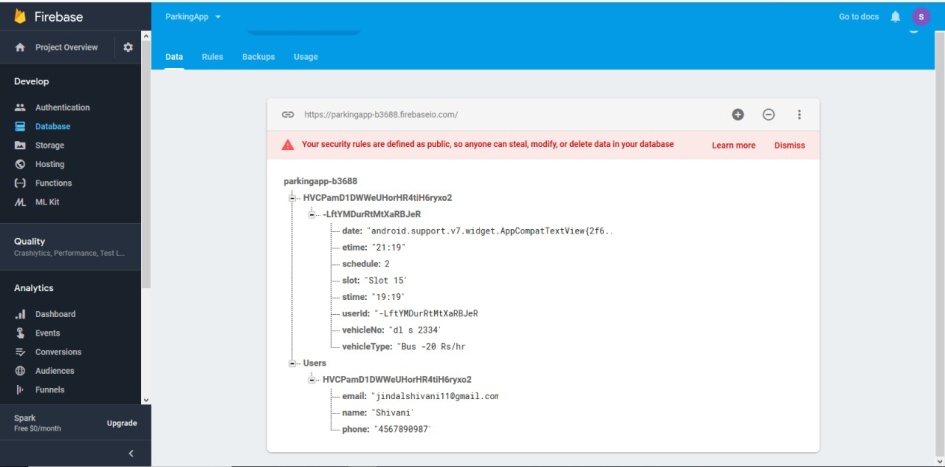
CONFIRMATION OF BOOKING

SLOT SELECTED BY USER

DATABASE CREATED WHILE LOGIN AND SLOT SELECTION

DATABASE CREATED WHILE AUHTENTICATION OF E-MAIL DURING SIGN UP



DATABASE CREATED FOR WHOLE PARKING APP CONTAINING EVERY INFORMATION OF USER LIKE DATE , TIMINGS ,SLOT NUMBER , BILLING , DETAILS OF USER (NAME ,E-MAIL,PHONE NUMBER ETC.)

DIRECTIONS THROUGH GOOGLE MAPS TO YOUR PARKING SLOT NUMBER

ENTER DATE OF PARKING , START-TIME , END-TIME

BOOK YOUR

SLOT

LOGIN /

SIGNUP

SPLASH SCREEN OF ANDROID APP

SELECT YOUR SLOT FROM SLOT BUTTONS

DATA STORED IN DATABSE CREATED USING FIREBASE

END

BILLING STATUS: Parking charges + Advance booking Charges = Total Charges

CONFIRMATION MESSAGE SEND TO THE USER ABOUT HIS SLOT BOOKING DETAILS