Project Report On

## Online Driver Search App

Submitted in partial fulfillment of the requirements of the degree of

Bachelor of Engineering

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##### CERTIFICATE

*This is to certify that,*

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*Class- BEIT Semester-VII have completed the Project* ***“Online Driver Search App”*** *Satisfactorily in the Department of Information Technology of as prescribed by the Mumbai University in the academic year 2020-2021*.

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**Project Report Approval**

This project report entitled ***“Online Driver Search App”*** by ***Akash vhotkar , Shubham surve and maaz wangde*** is approved for the degree of **Bachelor of Engineering in Information Technology**.

Date:

Place:

Examiners

###### 1.

**2.**

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## Abstract

The traffic congestion has been increasing in urban areas due to this studying alternative measure of mobility management, and one of these measures is carpooling. In theory, these systems could lead to a reduction in the use of private vehicles to achieve success there are limitations because of two reasons the psychological barriers associated with riding with strangers and the flexibility of poor scheduling. The limitation of traditional scheme has been overcome by studying a model of carpooling with this model new feature is introduced Establishing a base trust level for Carpoolers to find suitable matches for traditional group and at the same time allowing to search for a ride with the other alternatives group when numbers of pool has scheduled trip different from usual one. People are migrating from one place to another but due to insufficient public transport facilities people preferred to own vehicles. This lead to problem like number of vehicles traffic, fuel consumption, air pollution, parking problem and increase in overall expenses by using unique vehicles per user. To overcome this hurdle real time carpooling can be used. Concept of car polling is to share same vehicles by the passenger travelling in the same route instead of travelling by personal vehicles. This help us to resolve the problem of traffic jam fuel consumption and also controlling air pollution result in green environment. The android application will successful overcome the problem as android mobiles are easily accessible, available and user friendly to everyone

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# CHAPTER-1

### INTRODUCTION

* Many people own a vehicle but cannot drive, hence they prefer hiring a driver for long rides. Most of the people desire to be at ease during their journey and this can only be possible if the driver is decent & experienced. This android based Driver Search application proposed here will help you find the best drivers for your ride depending upon your location .
* A person can also be a driver by registering in our app with required details

* 1. **PROBLEM STATEMENT**

Taxi is an important transportation mode between commercial and private transportation, delivering millions of passengers to different locations in urban areas. However, the number of taxi is much less than its demand in peak hours of major cities, due to this many people stand at roadside waiting for the taxis. To overcome the problem one optimal solution is to increase the taxis. But it brings some negative effects, e.g., causing additional traffic on the road surface and more energy consumption, and decreasing taxi driver’s income. To address this issue, we introduce a carpooling system that accepts passengers’ real-time ride requests sent from smartphones and schedules proper car driver to pick up them via car sharing with time, capacity, and monetary constraints

###### OBJECTIVE

This android based Online Driver Search application proposed here will help you find the drivers for your ride. The drivers can set their profile by providing their driving experience and can upload the necessary driving details . Here you will find list of drivers according to your location etc

The users can get a list of the available drivers along with their details based on the location.

Thus, this android-based driver booking application will provide a user-friendly experience to both the users and drivers.

# CHAPTER-2

### Review of Literature

**2.1. Existing System**

###### Study Report 1

**Title of the paper-** Development of an Autonomous Driving Robot Car using FPGA.

**Author-** Akira Kojima and Yohei Nose, Department of Computer Engineering and Networking, Hiroshima City University, Japan.

**Published year- 2018 Proposed Work-**

In this paper, the robot car is developed using Xilinx FPGA Zynq 72020, which

Image recognition to detect dolls used as humans is implemented on PL as hardware logic. Image processing of lane keeping, navigation and motor control are implemented on PS as software program.

The system is using PYNQ environment which can control hardware by Python language.

###### Study Report 2

**Title of the paper-** A Novel Design of Autonomous Cars using IoT and Visual Features.

**Author-** B Padmaja,P V Narasimha Rao,M Madhu Bala and E Krishna Rao Patro,Department of CSE Institute of Aeronautical Engineering College Hyderabad, Telangana.

**Published year-** 2018

**Proposed Work-**

The proposed system utilizes mathematical models like neural networks and image processing techniques to sense the environment.

This is implemented as three major components: curved road detection (steering), road sign and signal detection and obstacle detection (collision avoidance).

Back Propagation is used for steering control with detection of curved roads; Haar features are used for road signal, sign detection and a distance sensor for collision avoidance.

Data collected from the sensors is sent to a server for processing. Based on the result, a

command is sent to the car.

A GPS module attached to the car identifies the location of the car and with the help of a 3rd party location service, route to destination is identified and directions are sent to the car.

Wireless networks are used to transmit data between sensors and the server. Python scripts are used to control and integrate all the units together. The designed system can attain high accuracy with real – time constraints.

###### Study Report 3

**Title of the paper-** Development of a Robot Car by Single Line Search Method for White Line Detection with FPGA.

**Author-** Hiromichi Wakatsuki, Takao Kido, Kenta Arai, Yuhei Sugata, Kanemitsu Ootsu, Takashi Yokota, Takeshi Ohkawa Graduate School of Engineering, Utsunomiya University, Japan.

**Published year-** 2018

**Proposed Work-**

This paper describes implementation of autonomous driving robot with image processing using FPGA. Hough transform which is generally used for white line detection, requires high computing cost. In addition, hardware implementation using Vivado HLS is described.

###### Study Report 4

**Title of the paper-** Working model of Self-driving car using Convolutional Neural Network, Raspberry Pi and Arduino.

**Author-** Aditya Kumar Jain Electronics and Communication Department, Dharmsinh Desai University Gujarat, India.

**Published year-** 2018

**Proposed Work-**

This paper proposes a working model of self-driving car which is capable of driving from one location to the other or to say on different types of tracks such as curved tracks, straight tracks and straight followed by curved tracks.

A camera module is mounted over the top of the car along with Raspberry Pi sends the images from real world to the Convolutional Neural Network which then predicts one of the

following directions .i.e. right, left, forward or stop which is then followed by sending a signal from the Arduino to the controller of the remote controlled car and as a result of it the car moves in the desired direction without any human intervention.

###### Comparison of existing system

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. No | Title | Year | Technologies used | Advantages | Limitations |
| 1. | Development of an Autonomous Robot Car using FPAG. | 2018 | Internet of things (IOT)  Raspberry Pi Image processing | 1. Functions such as lane detection,obstacle detection and signal detection are performed effectively in this project. 2. The most part of navigation, motor control and image recognition based on detecting colors for the robot car is written   as Python code. | 1. The Autonomous   Robot Car does not use GPS for efficient functioning.   1. Objects cannot be detected properly in bad weather. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. No | Title | Year | Technologies used | Advantages | Limitations |
| 2. | A Novel Design | 2018 | 1.GPS (Global Positioning System) 2.Neural Networks.  3.Image | 1.They are able to locate a | 1.Appearance-based |
| Of Autonomous | robot current position from | place recognition |
| Cars using IOT | reference images of | Could |
| And Visual | appearance- based place | fail to function |
| Features. | recognition with global | properly in natural |
|  | position information | environments like |
|  | processing | attached. | grassy areas, leafy |
|  |  | 2. GPS has the higher | streets and so on, or |
|  |  | accuracy and precision at | when a captured |
|  |  | place with good visibility. | image is entirely |
|  |  |  | occupied by |
|  |  |  | disturbances. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr.  No. | Title | Yea | Technologies used | Advantages | Limitations |
| 3. | Development of a Car with FPGA. | 201 | 1.Image processing. 2.FPGA.  3.Hough transform. | 1.Hough transform can obtain slope and position of a line segment and extract vanishing points of a road. Therefore Hough transform gives an advantage of stable and robust vehicle heading. | 1. By this high technology the cost may increase. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. No | Title | Year | Technologies used | Advantages | Limitations |
| 4. | Working model | 2018 | 1.Convolutional Neural | 1.Lane detection | 1.The model of car in |
| of Self-driving | Network. | algorithm works | this paper is not water |
| car using | 2.Raspberry pi. | efficiently. | resistant. |
| Convolutional | 3.Arduino UNO. | 2.Pi cam is a great | 2.The car does not |
| Neural Network, |  | gadget to capture time- | detect traffic signs or |
| Raspberry Pi and |  | lapse, slow motion with | signals. |
| Arduino. |  | great video quality. |  |

**CHAPTER-3**

1. **REPORT ON THE PRESENT INVESTIGATION**

###### System Methodology

###### 

* + 1. **Data Flow Diagram**

A screenshot of a computer

Description automatically generated

# CHAPTER-4

## Implementation Details

###### Class Diagram

A class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a showing the system’s classes, their attributes, operations (or methods), and the relationship among objects. Here is the relationship of patrolling robot with other objects.

A screenshot of a computer

Description automatically generated

Figure 4.1: Class Diagram

# CHAPTER-5

#### RESULT:

**Graphical user interface, application

Description automatically generated**

**Graphical user interface, application

Description automatically generated**

**Graphical user interface, text, application, Teams

Description automatically generated**

**CHAPTER-6**

* 1. **Conclusion & Future Scope**
* The solution is to hire a driver. This android based Driver Search application proposed here will help you find the drivers for your ride

# CHAPTER-7

### References

1. A. K. Jain, "Working model of Self-driving car using Convolutional Neural Network, Raspberry Pi and Arduino," 2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA), Coimbatore, 2018, pp.1630-1635.
2. A. Kojima and Y. Nose, "Development of an Autonomous Driving Robot Car Using FPGA," 2018 International Conference on Field-Programmable Technology (FPT),Naha, Okinawa, Japan, 2018, pp. 411-414.
3. H. Wakatsuki et al., "Development of a Robot Car by Single Line Search Method for White Line Detection with FPGA," 2018 International Conference on Field-Programmable Technology (FPT), Naha, Okinawa, Japan, 2018, pp. 415-418.
4. Ghazali, Kamarul, Rui Xiao, and Jie Ma. "Road lane detection using H-maximaand improved hough transform." Computational Intelligence, Modelling and Simulation (CIMSiM), 2012 Fourth International Conference on. IEEE, 2012.
5. R. Renjith, R. Reshma and K. V. Arun, "Design and implementation of traffic sign and obstacle detection in a self-driving car using SURF detector and Brute force matcher,"2017 IEEE International Conference on Power, Control, Signals and InstrumentationEngineering (ICPCSI), Chennai, 2017, pp. 1985-1989.
6. T. Do, M. Duong, Q. Dang and M. Le, "Real-Time Self-Driving Car Navigation Using Deep Neural Network," 2018 4th International Conference on Green Technology and Sustainable Development (GTSD), Ho Chi Minh City, 2018, pp. 7-12.
7. A. Agnihotri, P. Saraf and K. R. Bapnad, "A Convolutional Neural NetworkApproach Towards Self-Driving Cars," 2019 IEEE 16th India Council International Conference (INDICON), Rajkot, India, 2019, pp. 1-4.