College : L. D. COLLEGE OF ENGINEERING, AHMEDABAD
Department : Electronics & Communication Engineering
Discipline : BE
Semester : Semester 8
Project Name : Voice control and image vision robotic car
Team ID : 128772

Form 1 – APPLICATION FOR GRANT OF PATENT

Applicants :

Sr. No	Name	Nationality	Address	Mobile No.	Email Id
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Inventors :

Sr. No	Name	Nationality	Address	Mobile No.	Email Id
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3	Mandowara Bharat Shankarbhai	Indian	Electronics & Communication Engineering , L. D. COLLEGE OF ENGINEERING, AHMEDABAD , Gujarat Technologycal University.	9510522918	bharatmandowara99.99@gmail.com

I/We, the applicant(s) hereby declare(s) that:

Following are the attachments with the applications :

Form 2 - PROVISIONAL/COMPLETE SPECIFICATION

1 . Title of the project/invention :

Voice control and image vision robotic car

2. Preamble to the description :

Provisional

3. Description

a) Field of Project / Invention / Application :

Electronics and Communication, Personal assistance for domestic use or for industrial use

b) Prior Art / Background of the Project / Invention :

Nowadays Robotics plays a major role in lot of Automation fields. Before that robotic actions were controlled through wired connections. Our method is to control the robotic car using voice commands through Google Assistant. It is very helpful for differently-abled people to control this car.

c) Summary of the Project / Invention :

We have designed voice controlled robotic car which can receive commands through Google Assistance. Also it uses tensorflow lite model for object detection on pi camera having 5 mp still resolution. Live streaming of the object detection can be seen remotely on virtual screen using VNC Viewer.

d) Objects of Project / Invention :

1. We have designed specifically for a disabled person.
2. It is voice controlled hence it is easy to use.
3. It gives the ability to perform task or service for an individual.
4. It can be used in remote areas where human presence is not possible.

e) Drawings :

f) Description of Project / Invention : (full detail of project) :

After writing the code in Python IDLE of Raspberry Pi, as soon as we run the code the Pi gets connected to the Adafruit IO.
Once the Pi gets connected to Adafruit IO, message appears on the ouput window that it is ready for listening feed changes.
When a user gives the voice command through the Google assistant on mobile phone, it sends the data to the Adafruit IO cloud according to the applets designed in IFTTT.
Through the secret key used in program, all the data from Adafruit IO comes into the Pi. Then according to the commands, GPIO pins of Pi runs the motor drivers which in turn runs the motors. Thus the robotic car starts moving.
For object detection using Pi camera we have to create a virtual environment using command terminal. Once the virtual environment is established, live streaming video can be seen on the screen.
For detecting the object it creates the box on the object and using Google?s sample model it writes the object?s name on the box. It can detect upto 80 common objects.

g) Examples :

h) Claims (Not required for Provisional Application) / Unique Features of Project

1. Voice controlled robotic car which can be controlled through Google Assistant.
2. Image Vision for object detection using tensorflow lite model.
3. It can be controlled from a more distant location.

4. Claims

5. Date and signature

6. Abstract of the project / invention :

The major idea behind the project is to design and implement an Integrated Virtual Personal Assistant using IOT, which gives the ability to perform task or service for an individual.
Our solution integrated with machine learning powered object detection and voice assistance thus makes it smart robot that can interact with humans.

Form 3 – STATEMENT AND UNDERTAKING UNDER SECTION 8

Name of the applicant(s) :	I/We, Nagar Manthan Pravinbhai ,Modi Rutul Mahendrakumar ,Mandowara Bharat Shankarbhai
	Hereby declare :
Name,Address and Nationality of the joint applicant :	(i) that I/We have not made any application for the same/substantially the same victim invention outside India.
	(ii) that the rights in the application(s) has/have been assigned to

Name of the Country	Date of Application	Application Number	Status of the Application	Date of Publication	Date of Grant
N/A	N/A	N/A	N/A	N/A	N/A

(iii)That I/We undertake that upto the date of grant of the patent by the Controller, I/We would keep him informed in writing the details regarding corresponding applications for patents filed outside India within three months from the date of filing of such application.

Dated this 26 day of April 2021

To be signed by the applicant or his authorised registered patent agent :

Signature.....

Name of the Natural Person who has signed :

Nagar Manthan Pravinbhai ,Modi Rutul Mahendrakumar ,Mandowara Bharat Shankarbhai

To,
The Controller of Patents,
The Patent Office,
At Mumbai