

Follow Me Bot

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Abstract: Follow me bot is a robotic cart which is able to track and follow the target in unstructured environment. The system is designed to provide a contactless transport along with the target person. This is used in reducing the human efforts in domestic and industrial application. A follower robot can be more helpful in medical and military purpose where every human effort is precious and can cost us to great extent.

Keywords: Microcontroller 89c52, autonomous vehicle, remote controller, chassis, dc motor, decision-based mechanism, navigation, servo motor, HC-SR04 ultrasonic sensors, L298N Dual H Bridge Motor Controller, voice controller, HC-06 Bluetooth module, trolley.

1. Introduction

Follow me bot is an autonomous robot. Which can follow us via Bluetooth connection with the help of Bluetooth bot can detect our location and follow us It is a three-wheel robot which can carry about 15-20 kg of load. Which will follow you at safe distance of 2 meter? This bot is very compact and convenient to use. It has size of 1.5"x1.5". It has charge time of approx. 5 hours with a regular household socket of 15v. Just put bags on it and ready to go.

2. Literature survey

Electro maker [1] Object following robot which can find an object with range. Follow or avoid an object and human in specific distance. This robot has sufficient to cover the maximum area of provided space. It has an infrared sensor which is used to sense the obstacles coming in between the path of robot. It will move in particular direction and avoid the obstacle which is coming in its path.

It uses IR sensors and two IR transmitting circuitry. When the obstacles come in path of robot IR beam is reflected from the obstacle then sensor gives zero voltage to μc . This zero voltage is detected then μc decides to avoid the obstacle by taking left or right tum. If the sensor gives +5v to micro c that means there is no obstacle present in its path so it goes straight until any obstacle is detected.

Hackster [2] the "autonomous cooler bot" is an autonomous robot powered by an Arduino. By connecting to your Smartphone via Bluetooth, the robot can navigate by tracking a

phone's location. The device tracks and compares its own location to that of the host phone's GPS coordinates.

Piaggio fast forward [3] Gita is a two-wheeled, cargo-carrying device developed by Piaggio Fast Forward, a Boston area start-up and subsidiary of Piaggio. Gita was introduced in February 2017. Gita is designed to follow an individual around and carry up to 40 pounds of cargo.

Amir Hafizul Bin ABD Malek [4] Shopping trolleys are available in the shopping mall which are wheeled and are to be carried by the person. The shopping trolleys are available in various sizes and with baby sitters. Trolleys are fitted with the castor Wheels and normal wheels for easy to move on the floor while shopping. Some people are uncomfortable to carry the trolley since it is tedious and uncomfortable to push or pull it in the crowd. Automatic trolley for shopping mall which can sense us and follow us.

Willow Garage [5] Turtle Bot is a low-cost, personal robot kit with open-source software. Turtle Bot was created at Willow Garage by Melonee Wise and Tully Foote in November 2010. With Turtle Bot, you'll be able to build a robot that can drive around your house, see in 3D, and have enough horsepower to create exciting applications.

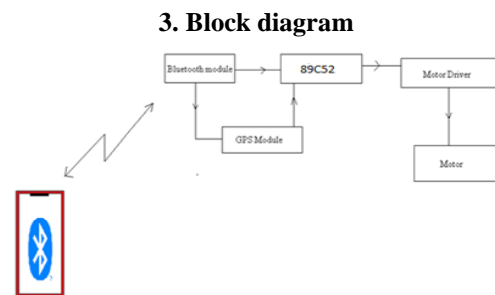


Fig. 1. Block diagram

A. Advantage

1. No more carry heavy loads
2. Large battery
3. More using time
4. High Quality material
5. Easy to use
- 5.0 Bluetooth connectivity

6. Splash proof
7. Reliable
8. Charging time of only 2hrs
9. Low cost

B. Disadvantage

1. Cannot detect obstacles.
2. No suspensions.
3. No high waterproofing.

C. Application

1. Industrial automated equipment carriers.
2. The robot must be capable of following a line.
3. Automated cars
4. Insensitive to environment factors like noise and lightning.
5. Tour guides in museums and other similar applications.
6. It should be capable of taking various degrees of turns
7. Deliver medications in a hospital.

4. Conclusion

With this, your new age bot is all set to accompany you wherever you go. We are very interested in trying to replicate our project. Our plan is to eventually upsize it a bit to use as a cart for carrying items while at the mall/market/shops.

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References

- [1] <https://youtu.be/vGDMpLMkWFg>
- [2] Spark fun, <https://www.sparkfun.com/products/13959>
- [3] ife.argument, <http://www.st.com/en/powermanagement/1296.html>,
- [4] D. J. S. P. S. Dhavale, and D. Shraddha, "IoT Based Intelligent Trolley for Shopping Mall," in *International Journal of Engineering Development and Research*, vol. 4, no. 2, pp. 1283-1285, July 2016.
- [5] <https://www.youtube.com/watch?v=COP9oBP1fTo>
- [6] <https://www.youtube.com/watch?v=MOEjL8JDvd0>