

CLEANING ROBOT USING ARDUINO

INTRODUCTION

Bluetooth controlled floor cleaner is a system that enables cleaning of the floor by the help of highly stabilized and rapidly functionalized electronic and mechanical control system. Current project work targets to use automatic floor cleaner for large floor in house-hold purposes and office floors. The cleaning purpose is specifically carried out by continuous relative motion between a scrubber and the floor surface. During the cleaning and moving operation of vehicle a propulsion mechanism such as driven wheels and guide wheels for the dry tracking on the floor surface to be cleaned, scrubbing action is done by the scrubber directing water towards rear end. An arduino controller is used to govern the motion of system which takes the input from sensor circuit and feeds it back to microcontroller which gives rise to the simulation of wheel in a synchronized manner. The new Bluetooth Controlled floor cleaner will save huge cost of labor in future.



NEED OF THE PROJECT

Cleaning is the essential need of the current generation. Basically in household floors the floor has to be cleaned regularly. Different techniques are used to clean the different types of surfaces.

The reasons for floor cleaning are

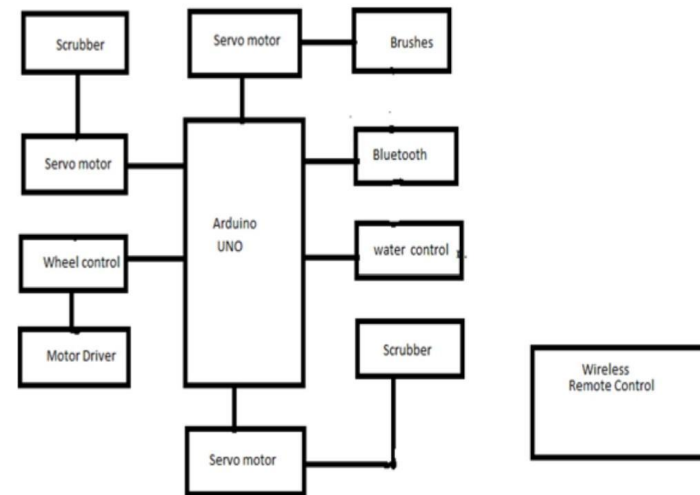
- Injuries due to slips on the floors are cause of accidental injuries or death. Bad practice in floor cleaning is a major cause of accidents.
- To beautify the floor

This project mainly focusses of moving a cleaner with a Bluetooth module so it can be more compatible or we can say user friendly to handle. We are mainly aiming to reduce effort as well as time that is needed to clean a floor traditionally. With the help of the designed module a person can control the whole working of the cleaner .



APPLICATIONS

- Debris particles are to be removed using vacuum cleaner or else broom.
- Floor cleaning solution should be used for appropriate floors. If it is stone surface, it should be cleaned using solutions for stones only. For ceramic floors acidic tile cleaning agent is to be used.
- A mop or scrubber is used to scrub and clean the floor.
- It can also be used in hospitals as it is really important for hospitals to be clean.



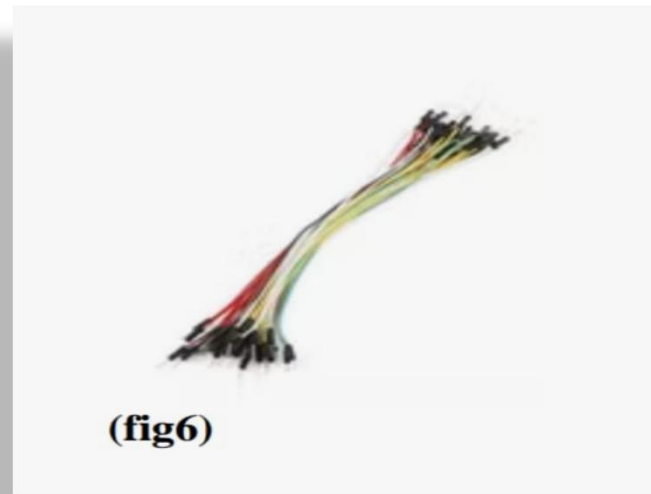
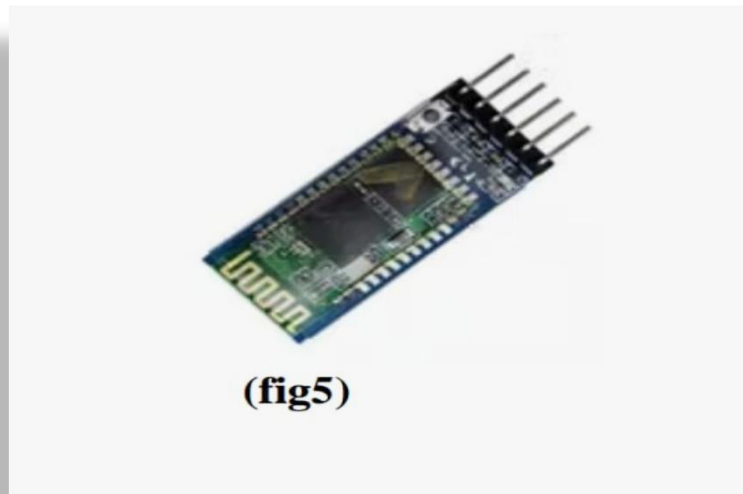
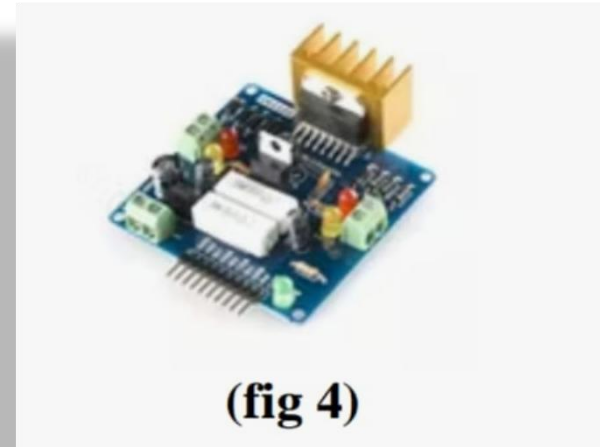
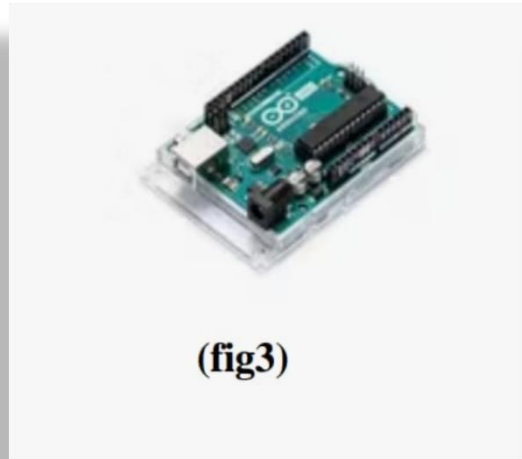
ADVANTAGES

- Save the time and energy.
- Lesser noise than standard cleaners.
- Controlling and tracking capabilities.
- Cleaning by itself.
- Different cleaning modes(forward,reverse and turning the device).
- Lightweight and compact design

DISADVANTAGES

- Some models can be costly.
- Risk of getting stuck.
- Risk of getting flipped over.
- Frequent mob changing can be required.
- Long cleaning times.
- Battery life.

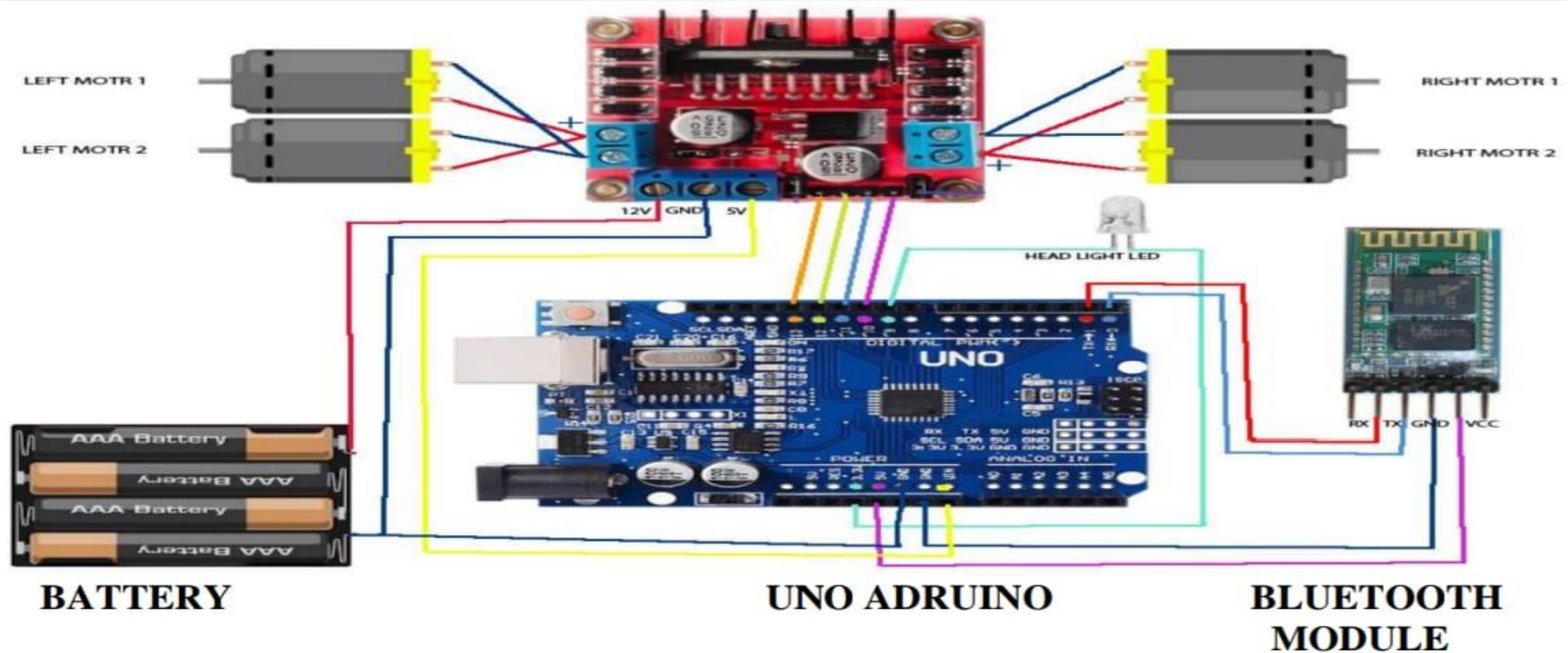
ELECTRONIC PARTS USED



Circuit Diagram

Circuit diagram

(fig 7)



FUTURE GOALS

- The scrubber design should be modified in future because the current design has few problems.
- Few of those are the motor is not detachable and the high rpm leads to vibration of the whole system.
- If these features will be modified, this will work well.
- The development can be made in the field of sensing and to detect as well as move in the direction of dust and thus resulting in better cleaning of floors.
- Monitoring, self-charging, lighter body weight and to set alarm on/off time manually are the future scope of this paper

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