Autonomous Path Cleaner
&
Automatic Battery Recharging Bot

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Problem statement

Develope an autonomous path cleaning and automatic battery recharging Bot using FireBird V.

Subgoals:-

1. designing a automatic cleaning broom
2. designing charging platform

Requirement Specification

- Bot should clean a surface given as grid.
- Bot should dump garbage when path gets covered.
- Bot should get recharged first if battery goes down below a certain level and thereafter it continues from a point where it left cleaning.

Issues encountered

- Bot balancing when carrying mounted setup over it.
- Designing Battery charging platform
- Approximation to input values of bot code to meet intended functionality.
- Unable to compute exact power left in battery so we took Voltage as reference.
- Weight of the mounted setup caused few problems

What we learned??

- How to Program a bot.
- How to design hardware to meet requirement specification.
- Experience of working in a group.
- A real demostration of embedded system.
- How to use sensors , motors and control it.

Future Work

- Sheduling the bots lined up to charge their battery at charging platform.
- **eg:- currently we are using single line for charging.**

- Implementing an interface to send command to bot for particular action using zigbee wireless communication.
- **.eg:- User can dynamically set values for Grid-dimension, add new path , remove or block old path , etc.**

- While returning to the charging point bot should be able to compute shortest path excluding paths having any bot.

- We can use one more sensor to monitor the

THANK YOU