Human Follower Robot

Group : 34
1705072
1705080
1705087
1705089

Department of Computer Science and Engineering
Bangladesh University of Engineering and Technology

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Motivation

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- Average Human carrying capacity is near 40 kg (1 ton)

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- But scientists suggest humans carry no more than 25kg for a healthy lifestyle
- Carrying items are especially hard when they are distributed into small parts, e.g. 20 small boxes of paper

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- But scientists suggest humans carry no more than 25kg for a healthy lifestyle
- Carrying items are especially hard when they are distributed into small parts, e.g. 20 small boxes of paper
- Even harder if one wants to carry way above his capacity! human labor is must

Our Proposal

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And human labor is costly, time consuming and inefficient!

Solutions???

Our Proposal

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Meet Our project proposal -

RFID Based Human Follower Carrier

Description

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- The cart can also avoid basic obstacles on its path
- The user can also feed basic commands to the cart like **parking** in a place, **summoning** it again if in the cart's range

Useful Scenarios

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There can be many uses to this cheap but user-friendly technology. Some are as follows:

- Shopping mall cart
- Airport luggage carrier
- OT Table
- Machinery Workbench
- Construction items carrier

...and much more!

Components : Processing Unit

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Components needed to build this project (tentative):

- ATMega32
- Motor Driver Processor

Components : Sensors

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Components needed to build this project (tentative):

- Ultrasonic sensor (more range), or
- Infrared sensor (more precise)

*subject to implementation

Components : Actuators

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Components needed to build this project (tentative):

- TT Gear Motor
- Servo Motor

Components : RFID Comm.

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Components needed to build this project (tentative):

- RF Nano, or
- NRF24LO1+RF Module

Components : Others

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Components needed to build this project (tentative):

- Wheels
- 18650 Li-on Battery
- 18650 Battery Holder
- Male and Female Jumper wire
- Base materials
- DC Power Switch etc.

Cost Effectiveness

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Let, average price for making a prototype cart = **3-4k BDT.**
Imagine a warehouse scenario with 10 human workers.

Each worker is paid = 10k/month
So, total cost = $10x10k = 1lac/month$

Each cart costs = 4k
So, total cost
$= 10x4k$
= 40k for lifetime

So automating this warehouse with our cart cuts cost and increases productivity!

Conclusion

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Since this is a really **cheap** setup, it could be used with any carrier that carries items in any scenario and make the process much easier, cost effective and user friendly.

Why carry things, when you can have your smartcart to carry it for you?

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Thank You!

Sourov — Shafayat — Fahmid — Noshin