參賽隊伍人員及機器人簡介

Team Member and Robot Introduction

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貳、機器人簡介

II, robot Profile

一、構想與策略分析

『綠豆沙一號』行走方式是用 PLC 傳輸訊號到 4 顆馬達來帶動 4 個輪子，在尋線功能用紅外線感測器來感測黑線以完成行進功能，夾爪機構主要用來夾住娃娃，排除木箱障礙是仿推高機方式使把木箱搬運到指定地點放置，『土石流區』需有避障之功能，所以使用光纖感測器來達成避障之功能

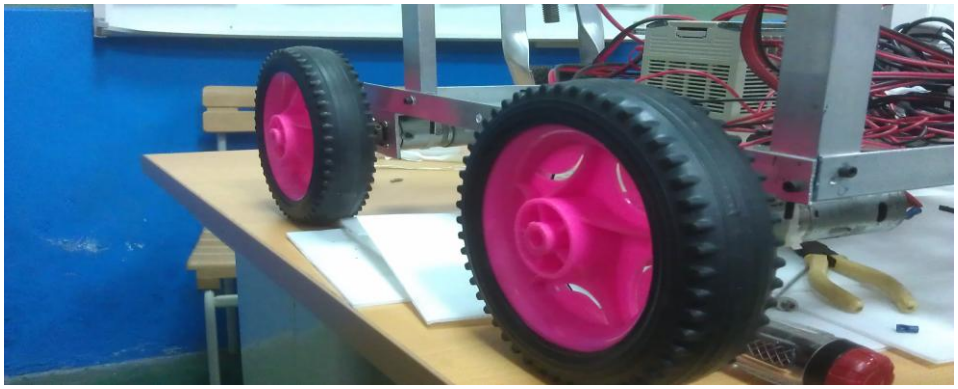
A vision and strategy analysis
1 green bean, "Walking PLC transmit signals to the the four motor to drive the four wheels the hunt function infrared sensor sensing the black line to complete the traveling function jaws institutions mainly used to hold doll, exclude Crate obstacle imitation pushing up handling the wooden box placed to the designated location, the mudslide zone "obstacle avoidance, so the use of fiber optic sensors to achieve obstacle avoidance function

二、機構設計

『綠豆沙一號』行走方式是用 PLC 傳輸訊號到 4 顆馬達來帶動 4 個輪子，在尋線功能用紅外線感測器來感測黑線以完成行進功能，夾爪機構主要用來夾住娃娃，排除木箱障礙是仿推高機方式使把木箱搬運到指定地點放置，土石流區需有避障之功能，所以使用光纖感測器來達成避障之功能

Second, the mechanism design
1 green bean, "Walking PLC transmit signals to the the four motor to drive the four wheels the hunt function infrared sensor sensing the black line to complete the traveling function jaws institutions mainly used to hold doll, exclude Crate obstacle imitation pushing up handling the wooden box placed to the designated location, mudslide area obstacle avoidance, so the use of fiber optic sensors to achieve obstacle avoidance function

三、輪子驅動設計



採用 4 顆馬達用來帶動輪子，把程式編寫好輸入 PLC 裡面，利用感測器去感應物件，PLC 收到感測器所感應到的訊號，經過 PLC 的程式來帶動機構，使綠豆沙一號可以移動。

Three wheel drive design
Four motor used to drive the wheels, good programming input the PLC inside, using sensors to sense objects, PLC received signal is sensed by the sensors to drive the agency, after the PLC program, the No.1 green bean can be moved.

四、電路設計

電路設計是用 PLC 的 VBO-32MR，所有機構都是經過 PLC 來操作全部機構運作，把程式編寫好輸入 PLC 裡面，利用感測器去感應物件，經過 PLC 的程式來帶動機構。

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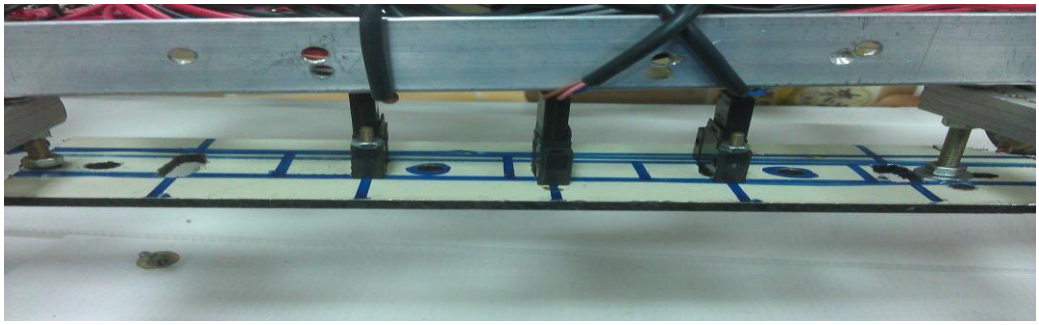
Fourth, the circuit design

The circuit design PLC's VBO-32MR, all agencies are after the PLC to operate all institutions functioning programming good input the PLC inside, using sensors to sense objects through the PLC program to boost the institutions.

五、感測器設計

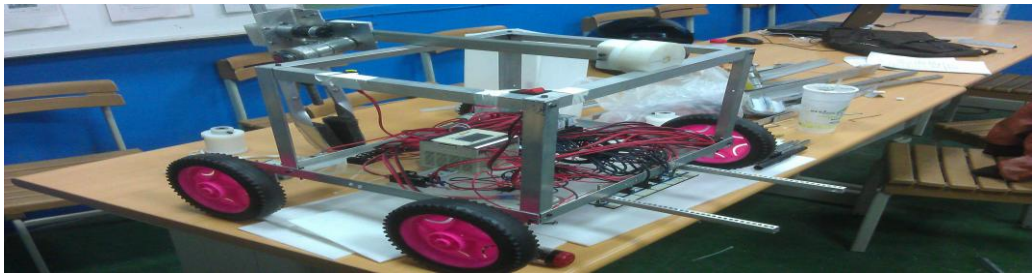


土石流區需有避障之功能，所以使用光纖感測器來分辨顏色使用來避開障礙物與夾取娃娃和黑線感測器循著黑色行走如果出黑線會自動修正在回歸黑線。

V., sensor design

The mudslide area obstacle avoidance, so the use of fiber optic sensors to distinguish the color to use to avoid obstructions gripping dolls and black line sensor follow black walking black line will automatically correct the reunification black line.

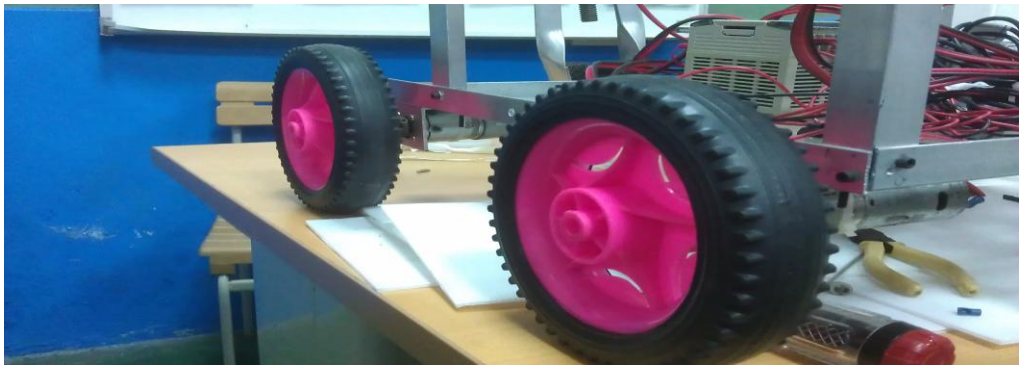
六、組裝、測試與修改



『綠豆沙一號』原本行進機構使用塑鋼加工成輪子來背覆履帶行走，後來因履帶會滑動故改用四輪驅動方式，排除檔在路上的障礙物是依照推高機的機構原理來設計，再來組裝夾爪機構，利用 2 軸(前後、上下)伸縮機構，來夾取物品。

, Assembly, test and modify
"The No.1 green bean" originally road agencies use the plastic steel processed into wheels to the back cover crawler, and later switch to four-wheel drive so the crawler will slide to exclude file the obstacles on the road to design institutions in accordance with the Forklift principle again assembled jaws institutions, 2-axis (back and forth, up and down) telescopic mechanism, gripping items.

七、機器人創意特色說明



行走用輪子採用娃娃車輪子，增添不少趣味

, Robotics innovative features
The walking wheels using dolls wheels add a lot of fun

參、參賽心得

參加這一次的比賽，看到各所學校的機器人後，讓我們學習到不少有關機構的設計，而我們已經盡了最大的能力，雖然我們棄權了，但也在這一次當中學習了不少，雖然努力不等於收穫，但我們也感受的比賽的氣氛，讓我們見識不少，能參加這一次比賽真的很開心。

Parameters, participating experience
Participate in this game, you see the school robot, so we learned a lot about the agency's design, we have to do their best ability, although we abstained, but also learn a lot this time which Although efforts are not equal to the harvest, but we also feel the game's atmosphere, let us appreciate many able to participate this time the game was really happy.