ABSTRACT SUBMISSION REPORT

COMPETITION: PIXELATE

TEAM ID: PX1080

TEAM LEADER- SACHIN MOHAN (9666165316)

TEAM INFORMATION:

NAME	SACHIN MOHAN	C R KARTHIK	SAYAN SAHA	DRON KUMAR
INSTITUTE	SVNIT	SVNIT	SVNIT	SVNIT
YEAR	B.TECH 2	B.TECH 2	B.TECH 2	B.TECH 2
COURSE	ECE	ECE	ECE	ECE

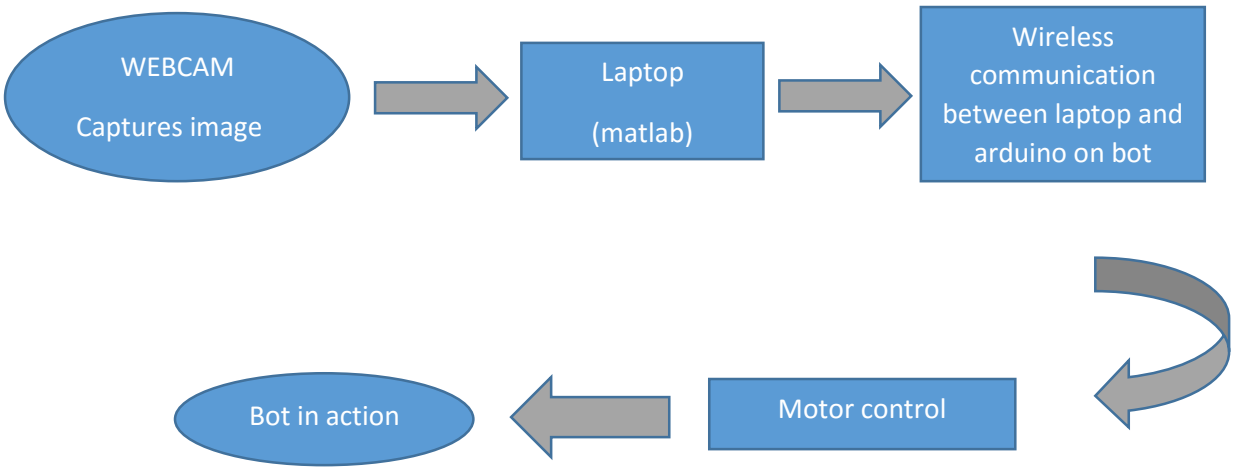
MECHANISM/IDEA EXPLANATION:

MECHANICAL PART:

We are using a servo motor of torque 3Kgcm at 4.8V for one limb keeping another limb of the gripping mechanism fixed. For the lifting mechanism of the block,we are using a 30rpm DC motor.

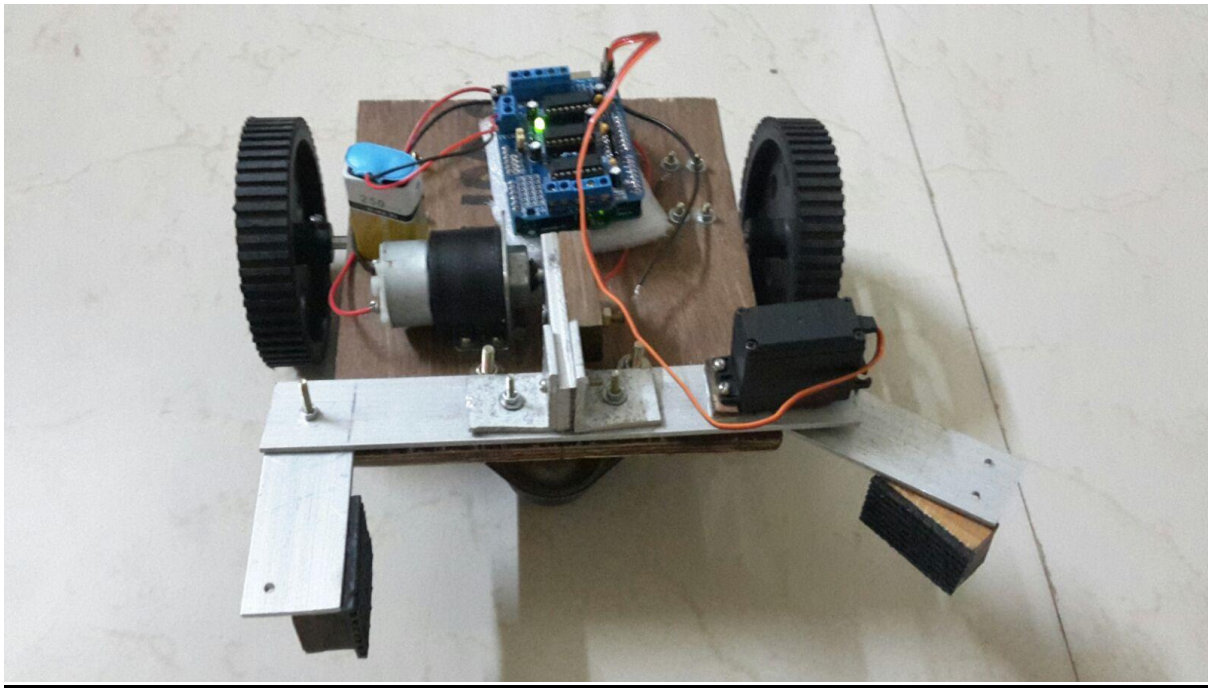
TECHNICAL PART:

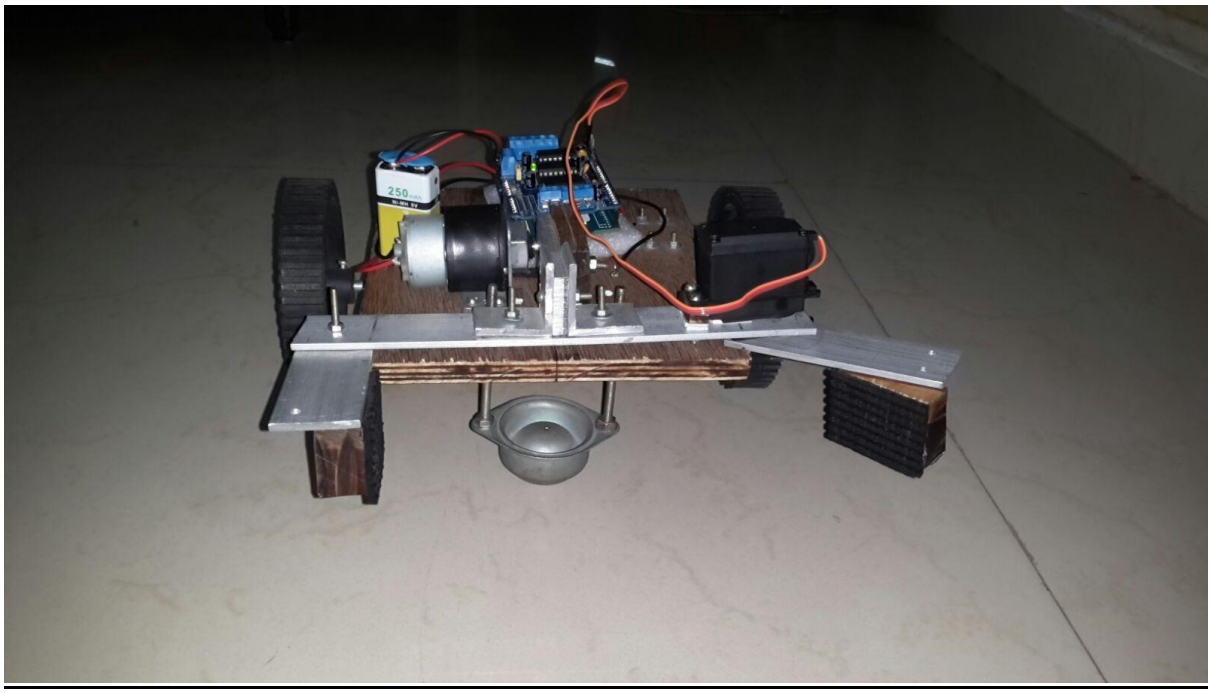
FLOW CHART



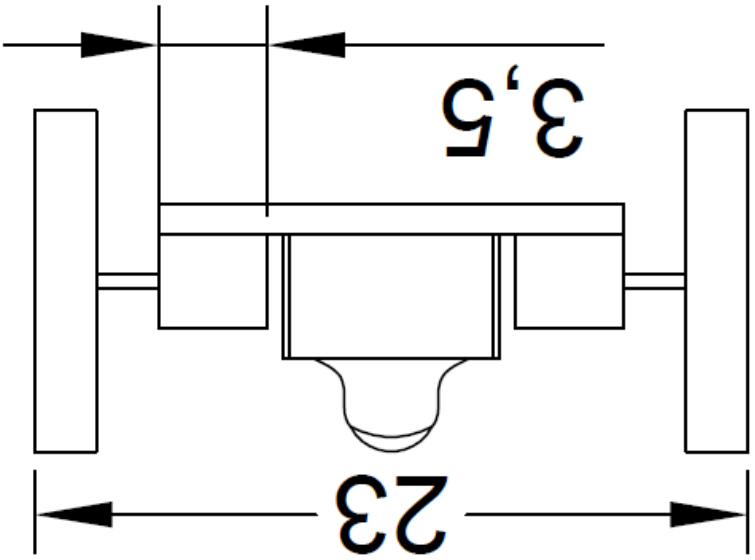
The whole process starts with the overhead camera taking image and then the image will be processes by matlab in the laptop. Using arduino hardware support in matlab we can write the program for controlling the motors in the matlab. The wireless transmission between laptop and arduino on the bot takes place by the help of xbee itself. Then the motors on the bot are controlled by the motorsheild on the arduino. This whole process ends with our bot running in action.

PICTURES OF THE BOT

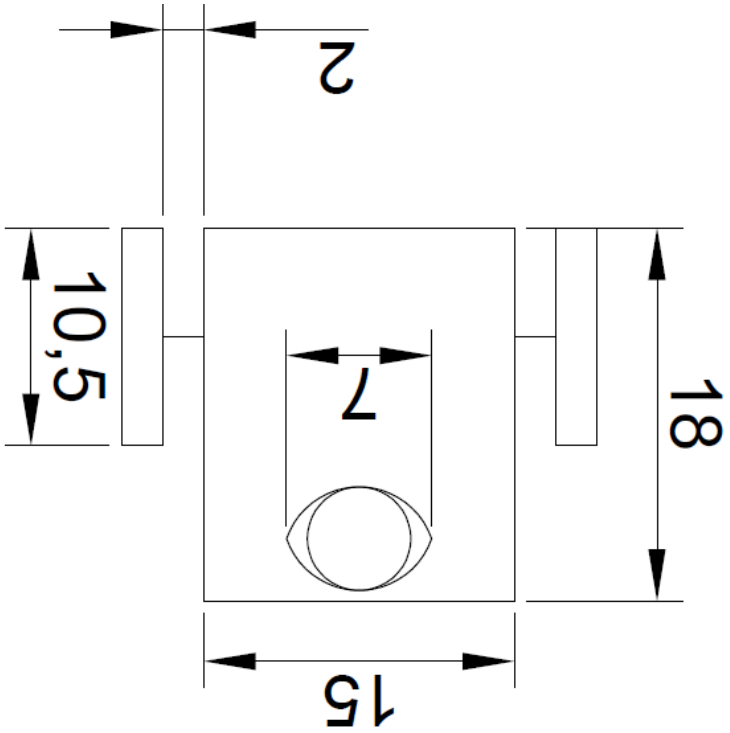




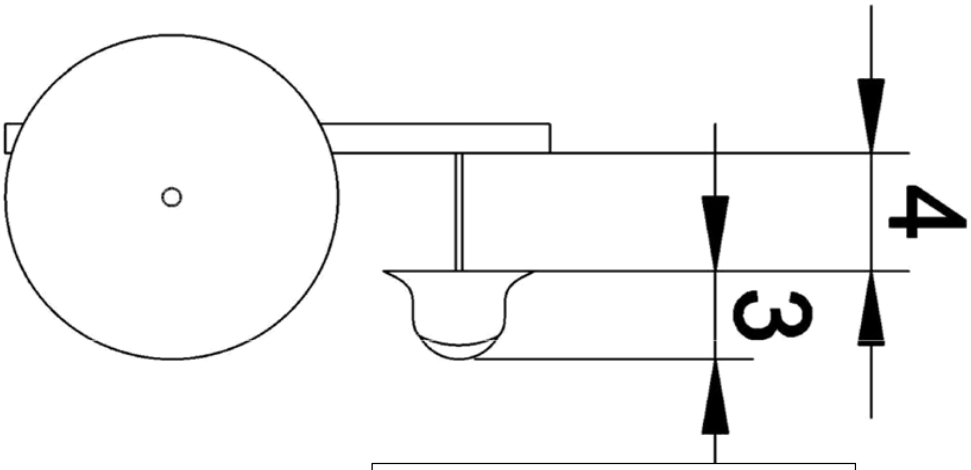
DESIGN OF THE BOT



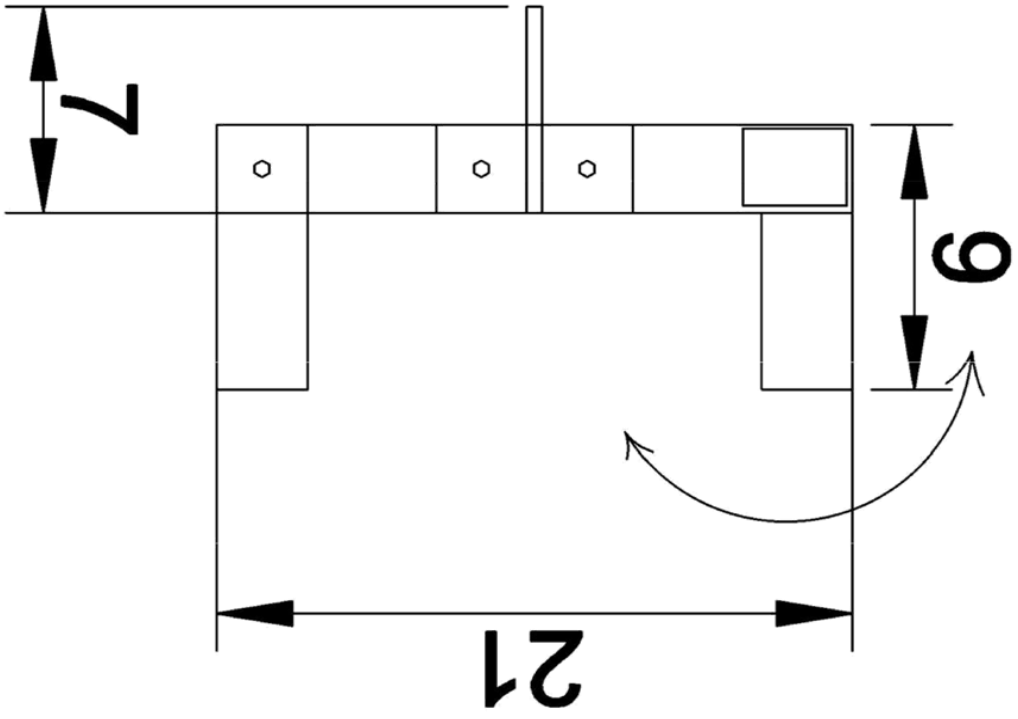
FRONT VIEW



BOTTOM VIEW



SIDE VIEW



TOP VIEW OF GRIPPING MECHANISM

LIST OF COMPONENTS

1. ALUMINIUM STRIP
2. 30 RPM DC MOTOR
3. 300 RPM DC MOTORS
4. SERVO MOTOR
5. CASTOR WHEEL
6. WHEELS
7. ARDUINO UNO R3
8. ADAFRUIT MOTORSHIELD V2
9. XBee 2mW Wire Antenna - Series 2 (ZigBee Mesh)
10. XBee / ZigBee Adapter board with USB interface
11. XBEE DIP Adapter

VIDEO OF WORKING MODEL

Techfest 2015-16,IIT Bombay (2).mp4

YOUTUBE LINK:

https://www.youtube.com/watch?v=C_Mq4khUeB0&feature=youtu.be