



Conference: Congreso Interdisciplinario de Energías Renovables -
Mantenimiento Industrial - Mecatrónica e Informática

Booklets



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Title: Control Automático de una maquina seleccionadora por color mediante la PixyCam CMUCAM5 para aseguramiento de calidad

Author: Pedro Ramón Oseguera-Espinoza

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Mail: *pedropiedra@hotmail.com*
RNA: 03-2010-032610115700-14

ECORFAN-México, S.C.

244 – 2 Itzopan Street
La Florida, Ecatepec Municipality
Mexico State, 55120 Zipcode
Phone: +52 1 55 6159 2296
Skype: ecorfan-mexico.s.c.
E-mail: contacto@ecorfan.org
Facebook: ECORFAN-México S. C.

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Introducción

- Maquinas seleccionadoras de la actualidad:
 - Costos elevados.
 - Diseños.
 - Etapa de control

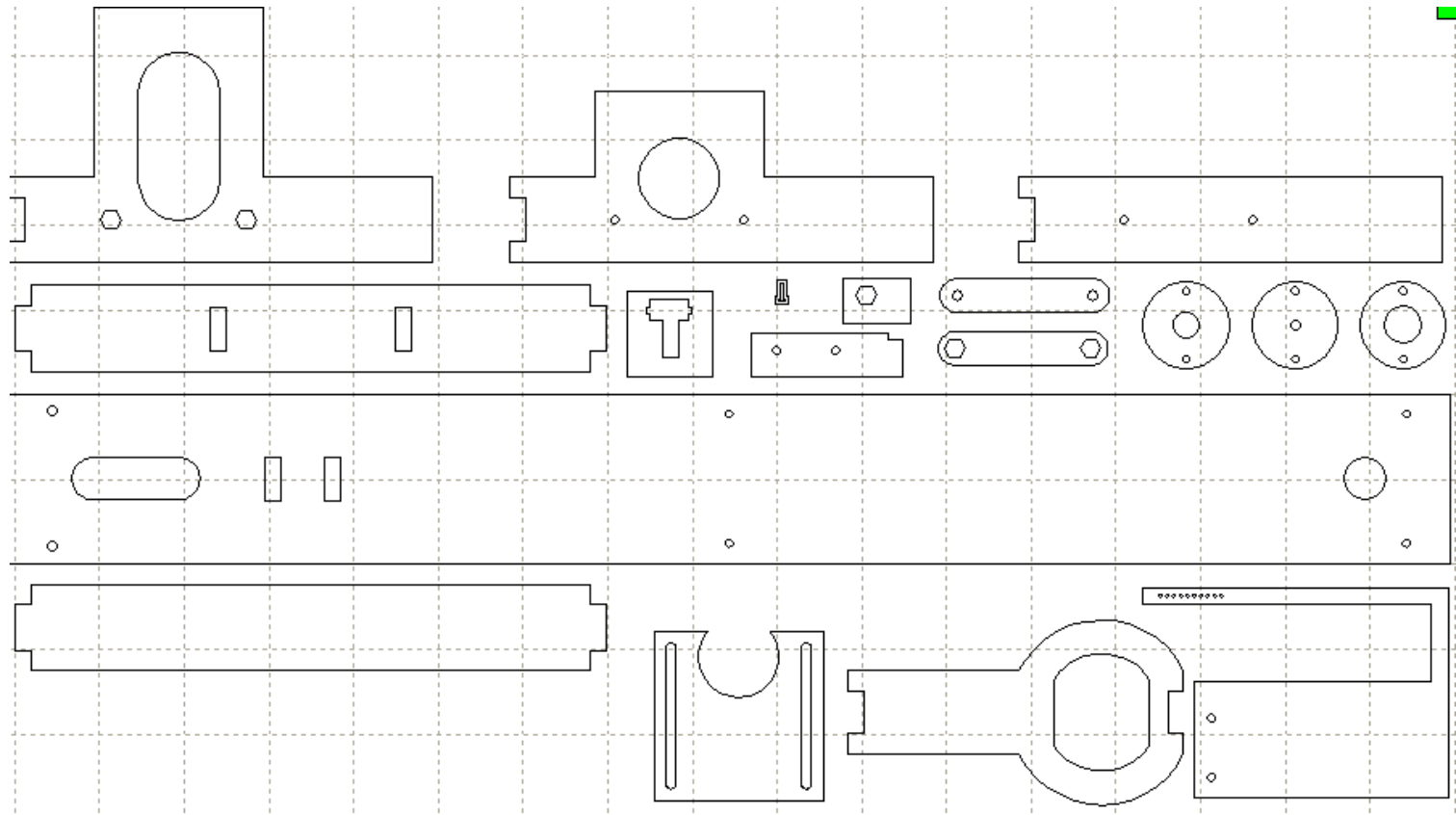


- Ventajas del prototipo:
 - Enfoque a pequeñas empresas.
 - Fácil configuración.



Desarrollo.

- Diseño Mecánico: CAD 2d



- Materiales:

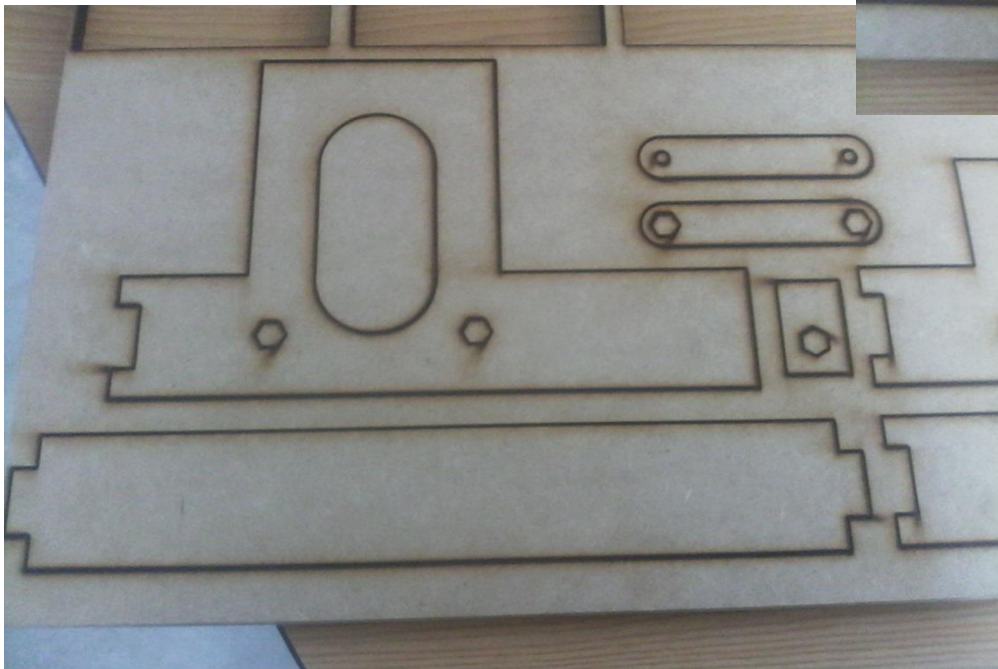
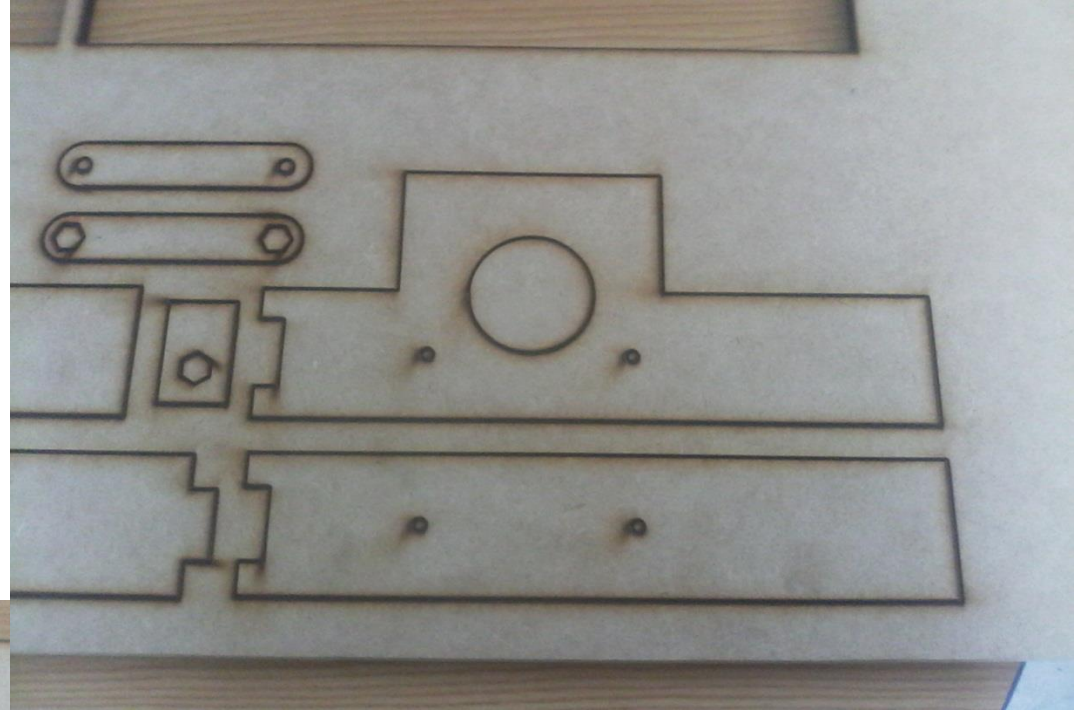


Material	Cantidad	Medidas
Tabla de MDF de 9mm	1	120*240 cm
Tabla de MDF de 3MM	1	60*120 cm
Palo de escoba de 1'''	1	2.5 mts
Tela yute	2mts	90cm
Cierre	1	30cm
Cojinetes	4	7/8
Varilla roscada	1	1/4*1mto
Bisagras	2	2''
Tornillos	2	3/16*1''½
Tornillos	8	3/16*1''
Tornillos	4	3/16*3/4

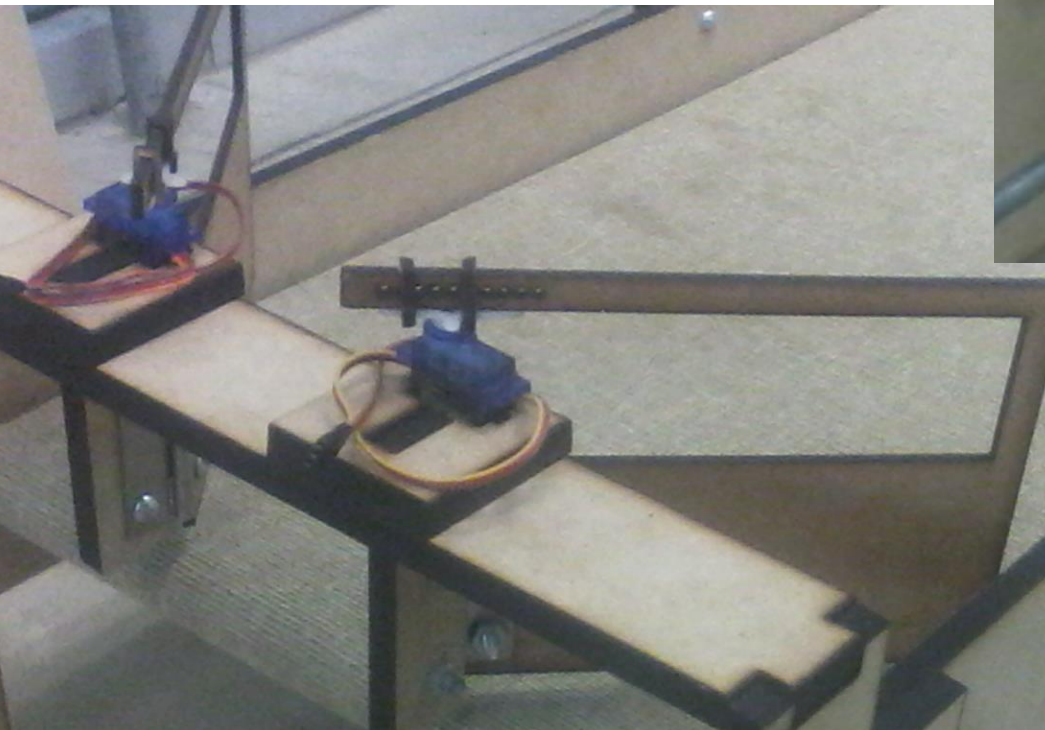


Tornillos	4	3/16*1/2
Tuercas	18	3/16
Tuercas	16	1/4
Servo	2	9gr
Arduino mega	1	
Pixy cam	1	
Motor	1	
Baquelita	1	5.5*7 cm
Triac bta 12	1	
Resistencias	2	47k Ω
Resistencia	1	100 Ω
Potenciómetro	1	100k Ω
Condensadores	3	0.1 μ F
Bornes	1	

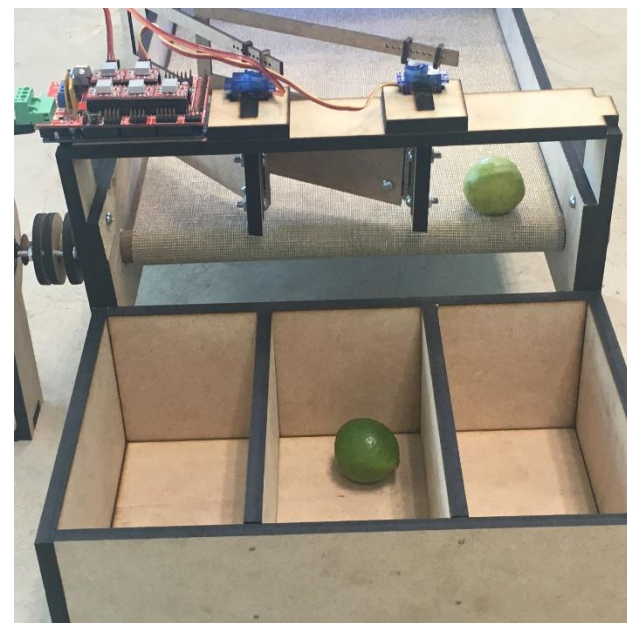
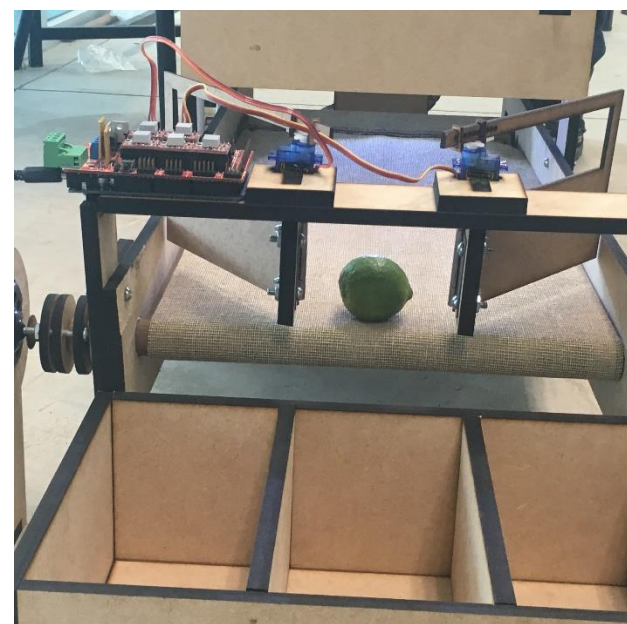
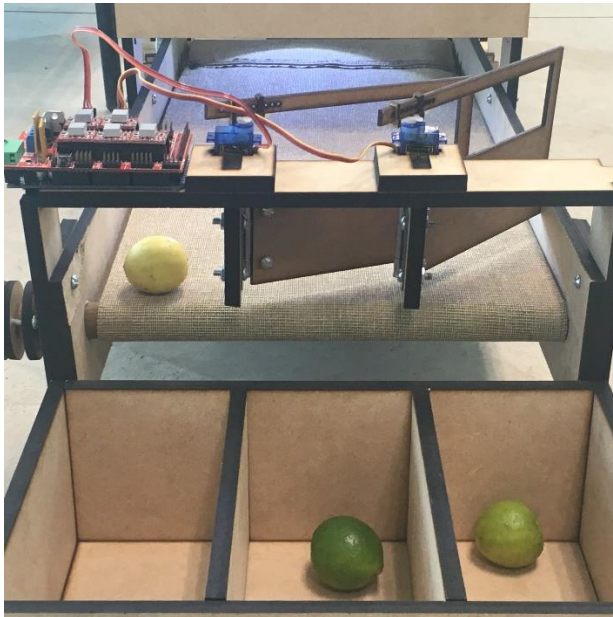
- Maquinado:



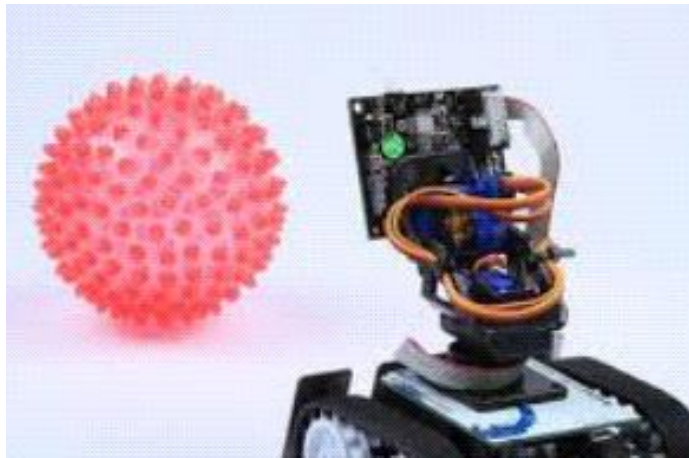
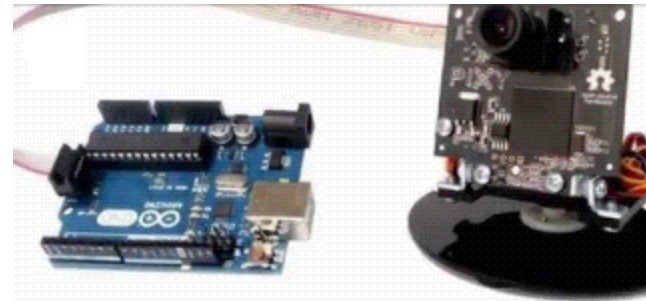
- Mecanismos:



- Casos de selección:



- PixyCam:





- Características:
 - Arduino, Raspberry Pi y BEAGLEBONE
 - Windows, MacOS y Linux
 - SPI, I2C, UART, USB o salida analógica / digital



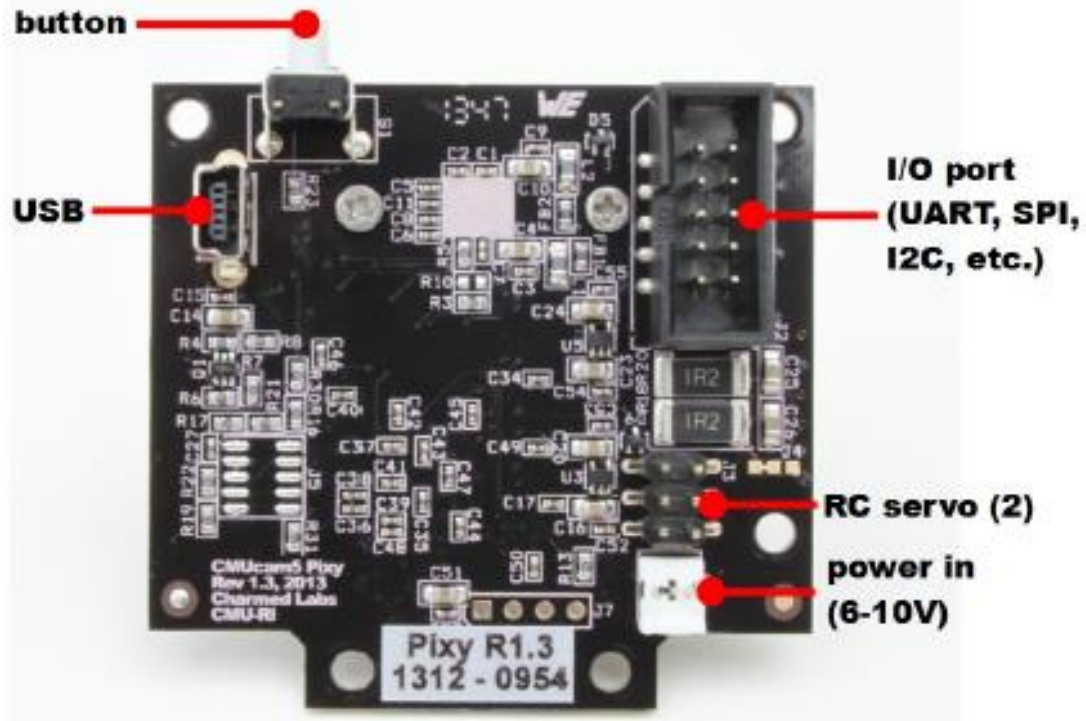
- Detecta objetos cada 20 ms.
- Pixy recuerda hasta 7 colores diferentes.
- Pixy calcula el color (tono) y la saturación de cada píxel RGB.



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REFERENCIAS

- [1] Carmen R. Berdugo Correa, Carmenza Luna Amaya. (2002). QFD y logística integral: La voz del cliente es el primer eslabón de la cadena. Ingeniería & Desarrollo, 11, 99-106.
- [2] Kunhimohammed C. K, Muhammed Saifudeen K. K, Sahna S, Gokul M. S and Shaez Usman Abdulla, Automatic Color Sorting Machine Using TCS230 Color Sensor And PIC Microcontroller. International Journal of Research and Innovations in Science and Technology Volume 2 : Issue 2 : 2015
- [3] Bruce G. Batchelor, Paul F. Whelan. (2012) Intelligent Vision Systems for Industry. E.U: Springer Science & Business Media.
- [4] Vision Artificial. (2011). Aplicación práctica de la visión artificial en el control de procesos industriales. Fondo Social Europeo. Union Europea. Recuperado de http://visionartificial.fpcat.cat/wp-content/uploads/UD_1_didac_Conceptos_previos.pdf
- [5] Open Electronics. (2016). Source Electronic Product. E.U. Futura Group srl. Recuperado de <http://www.open-electronics.org/pixy-camera-detect-the-colour-of-the-objects-and-track-their-position/>



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