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Title: Diseño e implementación de un prototipo de automatización y control sustentable para invernadero

Authors: Noé Guadalupe FLETES CAMACHO, Cesar Paul PAREDES VÁZQUEZ, José Miguel VACA ROSAS

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Mail: ngfletes@utbb.edu.mx
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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.

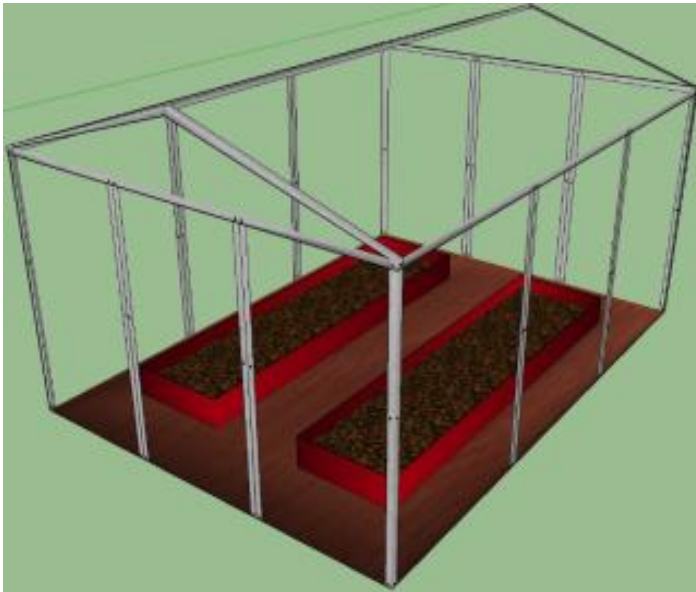
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PROTOTIPO DE INVERNADERO



DISPOSITIVO DE CONTROL

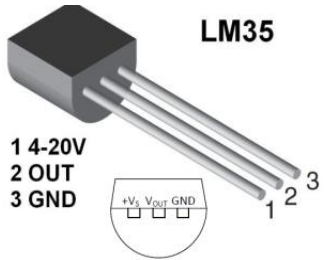


Arduino MEGA ATMEGA 2560

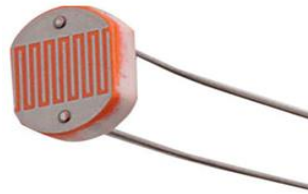


SENSORES

Sensor de temperatura LM35



Sensor para iluminación Fotorresistencia 9P5-1L



Sensor der humedad del suelo módulo HL-69



Sensor de humedad relativa HMZ



ACTUADORES

*Servomotor para
abrir cortinas*



*Bomba de agua sumergible
para sistema de riego*



*Ventilador a 5 Vcc
para ventilación*



Luminaria tipo LED



*Lámpara incandescente para
sistema de calefacción*



SISTEMA FOTOVOLTAICO

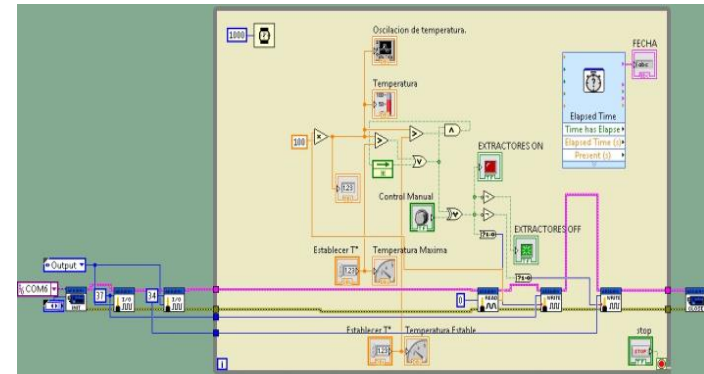
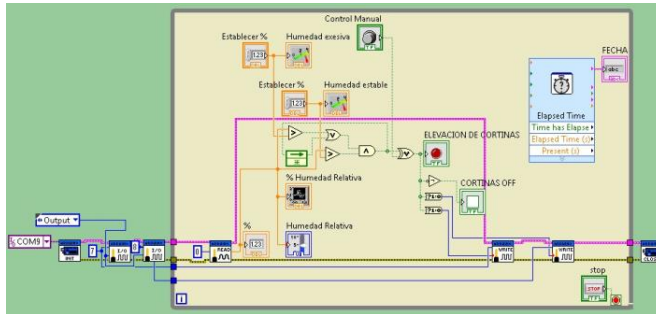
Panel solar y acumulador a 12 Vcc



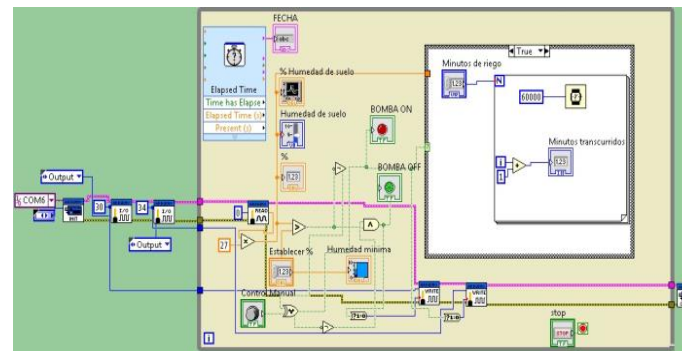
SISTEMA FOTOVOLTAICO

Control de temperatura

Control de humedad relativa



Automatización de riego.



PANEL FRONTAL; HMI AUTOMATIZACIÓN DE EXTRACTORES, CORTINAS, SISTEMA DE RIEGO E ILUMINACIÓN MANUAL.

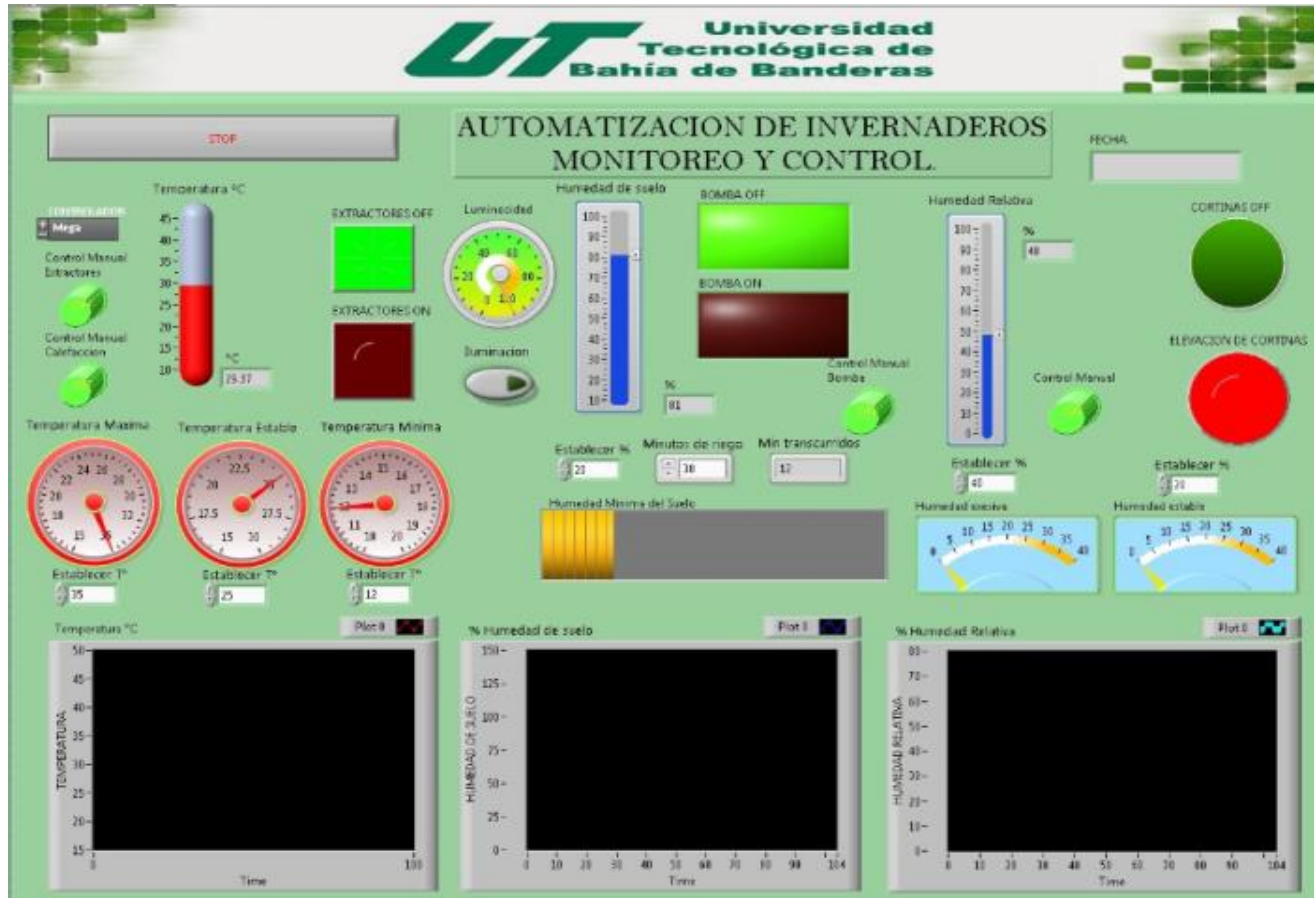
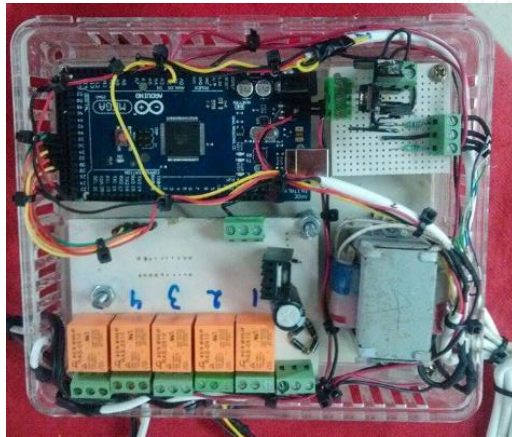
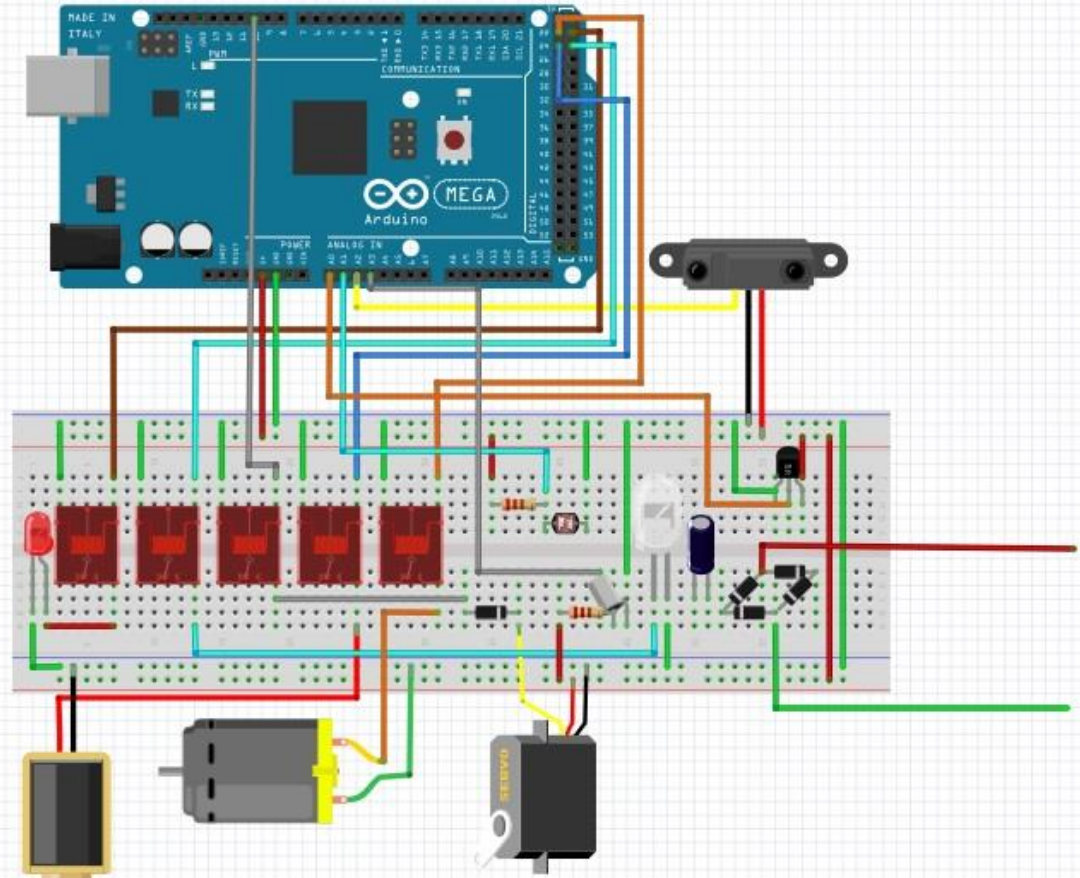


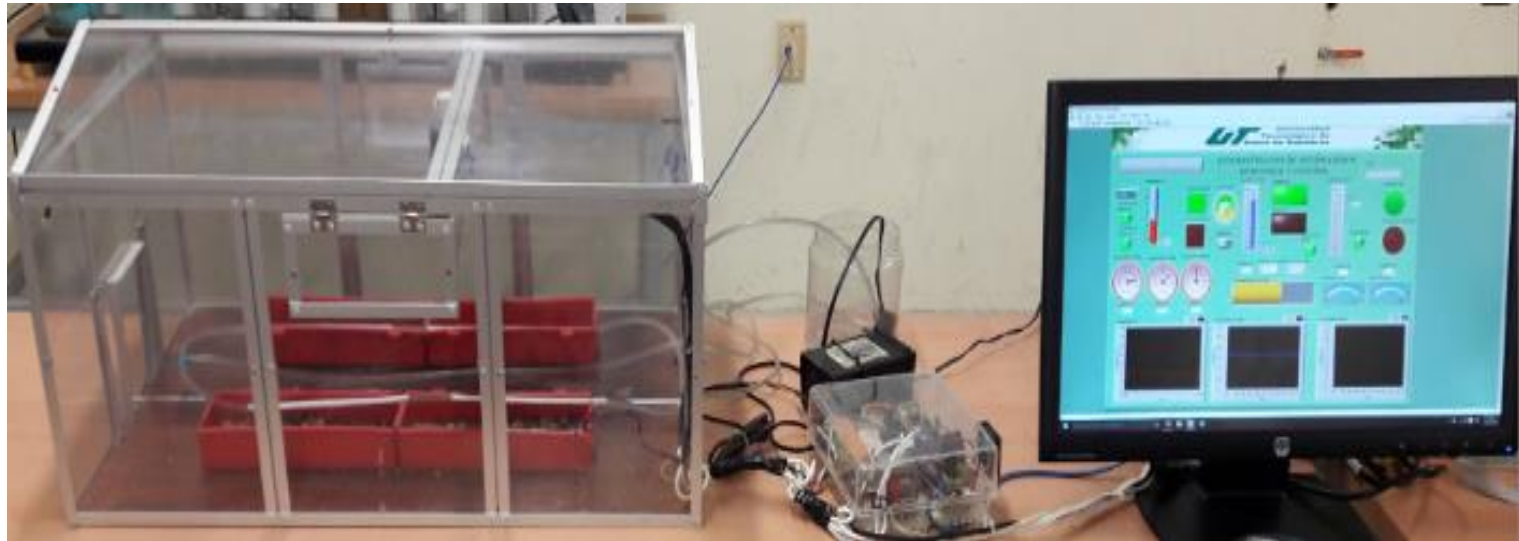
DIAGRAMA DE CONEXIÓN



fritzing



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