***INSECT ROBOT*** :-

I really like the popular set-up of [2 servos arduino insects](https://www.youtube.com/watch?v=tOsNXg2vAd4)on youtube. When I looked at it, I always remember what BEAM robotic guys did long before that set-up became favorite. These people who are analog robot fanatics did better on the gait due to better angle between the two motors ([microcore / bicore walker ,](https://www.youtube.com/results?search_query=bicore+microcore+walker) etc).

However, in my opinion, none of those mentioned before look more alive than [VBug1.5](https://www.youtube.com/results?search_query=beam+5+motor+vbug+walkman)(also known as Walkman) created by the founder of beam robotic, Mark Tilden. It’s using 5 motors, therefore it has more maneuverability.

Making a simple BEAM robot is not difficult, but building something as complicated as VBug1.5 could be distressing for an electronic novice like me. So, when I decided to make something like Tilden’s bugs, I had to settled with arduino platform, the easiest choice for non-engineers (or in my case, embarrassingly, an engineer wannabe).

As a result, I made [Walter,](http://chaoticvoltage.blogspot.co.id/2016/12/walter-arduino-insect-robot.html) a 4 legged arduino robot with 5 servos. You may wonder, if I wanted to make a look-alive bug robot then why I didn’t go with 8 or 12 servos instead. Well, I was thinking something simplest I can do to get most maneuverability I can have. I’m talking about using a lot of glue instead of making frames.

**BEHAVIORS**

Like many other arduino robots, Walter can avoid obstacles using HC-SR04 ultrasonic sensors. To add character as a bug, Walter also a photovore, means he is attracted to light. Photodiodes are used to detect light. There are random values generated in the arduino sketch to make Walter decides when he wants to stop to rest, and also to randomly changes his gait speed (3 speeds).

When I started, I intended to have tact buttons under each of Walter’s feet so he would have a surface sensors. But the battery (a portable power bank for smartphone) costs the servos to much weight. I know tact buttons weigh almost nothing to worry to add weight, but ironically the weight of the robot is not enough to able to pressed the upside-downed buttons.

I planned to make Walter version 2 with bigger servos and then included these buttons as surface sensors