

# JED-I Ball Shooter Project

## Mode of Operation

Friction and pressure-driven shooting mechanism

## Method of Operation

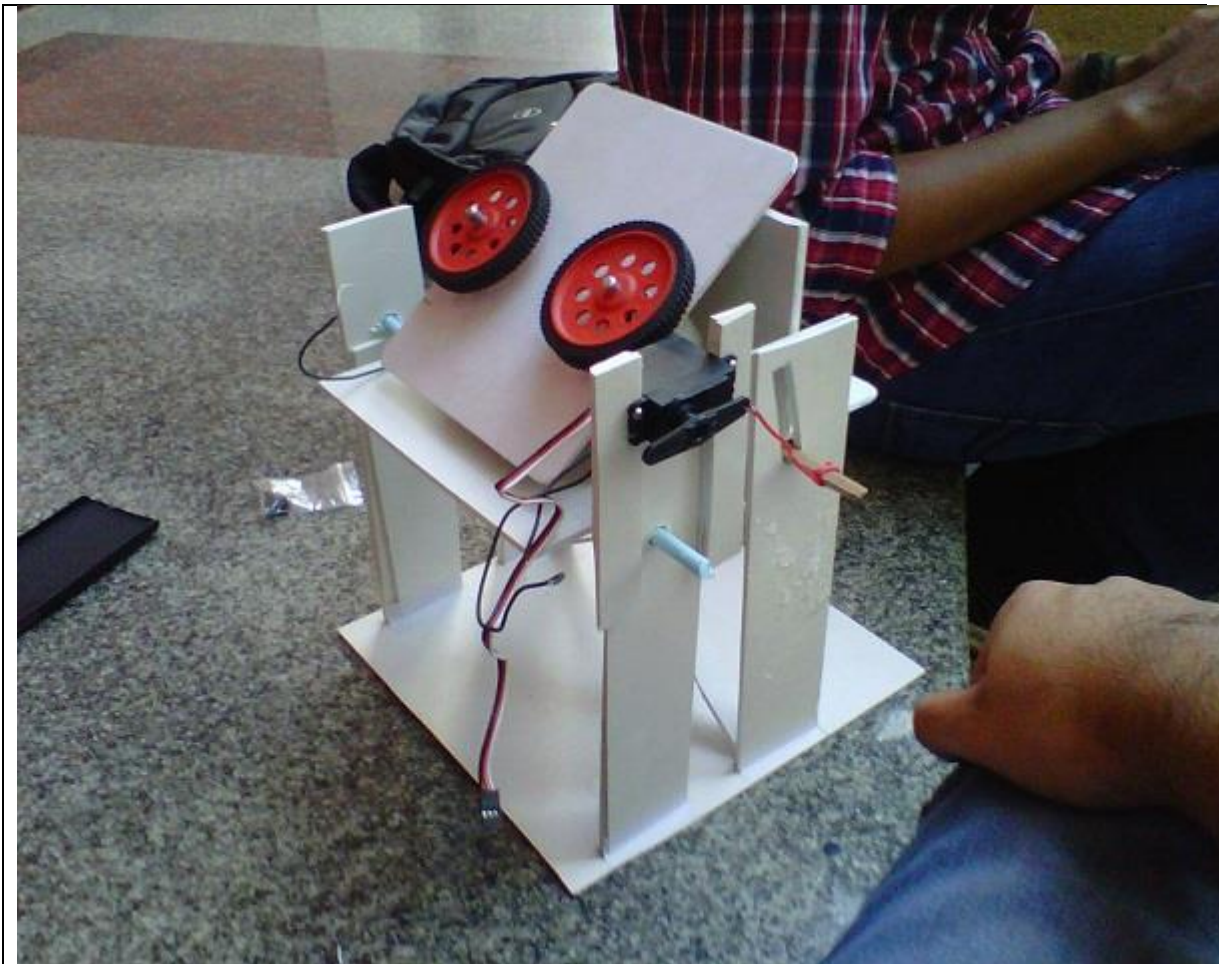
1. The ball is fed to the region between the two wheels
2. Then a force is applied onto the ball due to which the ball is projected away from the structure.
3. By varying the angle at which the ball is projected and also the voltage at which the two DC motors are powered, the velocity and consequently the distance can be varied as and when required.
4. The angle variation is done using a servo motor of relatively high capacity, so that it would have sufficient torque to pull up the mechanism as and when required.
5. The voltage supplied to the two DC motors were left untouched; instead, the distance to which the balls were projected was controlled solely by varying the launching distance, which directly affected the distance through which the ball travelled.

This design was chosen since it was relatively simple to implement, and produced more accurate and stable results than a catapult-driven mechanism. A catapult mechanism was decidedly unstable and produced erroneous results due to its instability.

This design was also chosen since it had already been successfully implemented in professional sports equipment, such as Tennis ball shooters, which have great precision and throwing power.

## JED-I Ball Shooter Project

### Image Gallery



Side View

## JED-I Ball Shooter Project



## JED-I Ball Shooter Project



Top View

## JED-I Ball Shooter Project

### References:

1. [ucdavis Archive](#)  
Some ideas for the structure
2. <http://goo.gl/4zCwGq>  
Images for shooting mechanisms
3. <http://www.instructables.com/id/Arduino-controlled-Ping-Pong-Balls-Launcher/>  
Some more concept ideas.

All of these references were considered in the conceptualisation of the mechanism for the ball shooting, and were implemented into the final concept in some form.