

# VEXetable (VEX-Vegetable) Chopper

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My entry for the VEX Product Design Challenge is the VEXetable Chopper. The VEXetable Chopper is able to slice large vegetables such as cucumbers and carrots. This robot cleanly and efficiently cuts vegetables to help with dinner preparation.

The process begins when the user presses the start button. The button causes four wheels to start spinning, acting as an intake. The wheels spin, pulling the vegetable under a limit switch across a cutting board. This limit switch triggers a knife to repeatedly pivot up and down, slicing the vegetable into pieces. After the vegetable passes through, the intake stops.

Another feature of the VEXetable Chopper is a “remote control”. Using this remote the user determines the chopping intervals rather than relying upon the automatic chopping motion. This allows for different size vegetable pieces. The remote control is based off of an accelerometer. As the user tilts the control up and down, the knife pivots up and down, slicing the vegetable into the desired sizes.

The VEXetable Chopper has a few built in safety features. One of these features is an L.E.D. Before the knife begins its chopping movement, the L.E.D. flashes three times to signal to the user that the knife is about to move. Along with the L.E.D. there is also a PIR sensor. A PIR sensor can detect motion. This is a useful feature because if the user is to place his or her hand near the knife, the knife will move down slowly, allowing the user to remove his or her hand. This also prevents the user from bumping into the knife when it is in the upward position. I believe this kitchen robot makes an ordinary chore like chopping vegetables much more fun and interesting.