**Abstract**

In my analysis, there are several components to the Kiva Amazon robot. The robot is not controlled by itself, it still needs to be managed by a person. In this case, the person will be one of Amazon’s employees. The employee runs functionalities through a computer and then from there it is transferred to a cloud that then controls the robot. The robot then acts according to the commands given. The different components that help it function are cameras, sensors, wheels, lifter, batteries and a main logic board. The way the robot is built seems as if everything is synched together. From the wheels helping the robot lift to the batteries having a connection to the main logic board and sensors as well, it all functions together.

**Functionalities and Classes**

Classes: employee, cloud, cameras, sensors, wheels, lifter, batteries, main logic board, computer

Attributes: name, employee # (employee), communication, commands, codes, servers (cloud), ball-screw, x shaped lifter, motor (lifter), LEDs, collision detection, filter logic, pressure sensor (sensors), two wheels (wheels), four lead acid batteries, thermocouples, charging station (batteries), dual camera imaging module, LEDs, image processing board (cameras), motor control circuitry, chassis (main logic board), functionalities, synchronization (computer)

Operation: control, input (employee)move forward, backward, left to right, counter rotate (wheels), look down, look up, illumination, Datamatrix detection (cameras), spinning, lift, torque power, stall power, lower (lifter), reading, movement (cloud), signal, stop movement, flashing, detection (sensors), power (batteries), power, sensors, cooling (main logic board), processing (computer)

The robot is meant to pick products from shelves and bring them to the Warehouse Amazon employees to later pack and ship the products.

\*Most of the functionalities I found on an article that I read about Kiva robots. The computer function aspect I found through the two videos that I watched.\*

**References**

[Meet the drone that already delivers your packages, Kiva robot teardown - Robohub](https://robohub.org/meet-the-drone-that-already-delivers-your-packages-kiva-robot-teardown/)

[Robots Kiva : Amazon - Bing video](https://www.bing.com/videos/search?q=kiva+amazon+robot&docid=607998074909573153&mid=B582A96ADE1248302064B582A96ADE1248302064&view=detail&FORM=VIRE)

[A Day in the Life of a Kiva Robot - Bing video](https://www.bing.com/videos/search?q=kiva+amazon+robot&docid=608027280690007144&mid=016EC4F054BA840A3A2E016EC4F054BA840A3A2E&view=detail&FORM=VIRE)

