# RoboNox

Team Hardik's submission

Picking the packages and putting them on slider

This is the first step of implementation.

Vacuum picker/ gripper is being used to pick the packages and place them on the slider. It will move up and forth (using rack and pinion mechanism), pick the package using suction, move back and down, thus placing the package on slider. Then the grip will be loosened by removing the suction, allowing the package to move forward on the slider.

Detecting the Barcode and Sorting using Servo Motor

We will use barcode scanner for scanning barcode (assuming barcode is on the top of the parcel) and detect the pincode and match it within the database of 3 pincodes and hence turn the slider belt towards the respective bot. After turning, conveyor belt will start moving and drop the parcel to the respective bot.
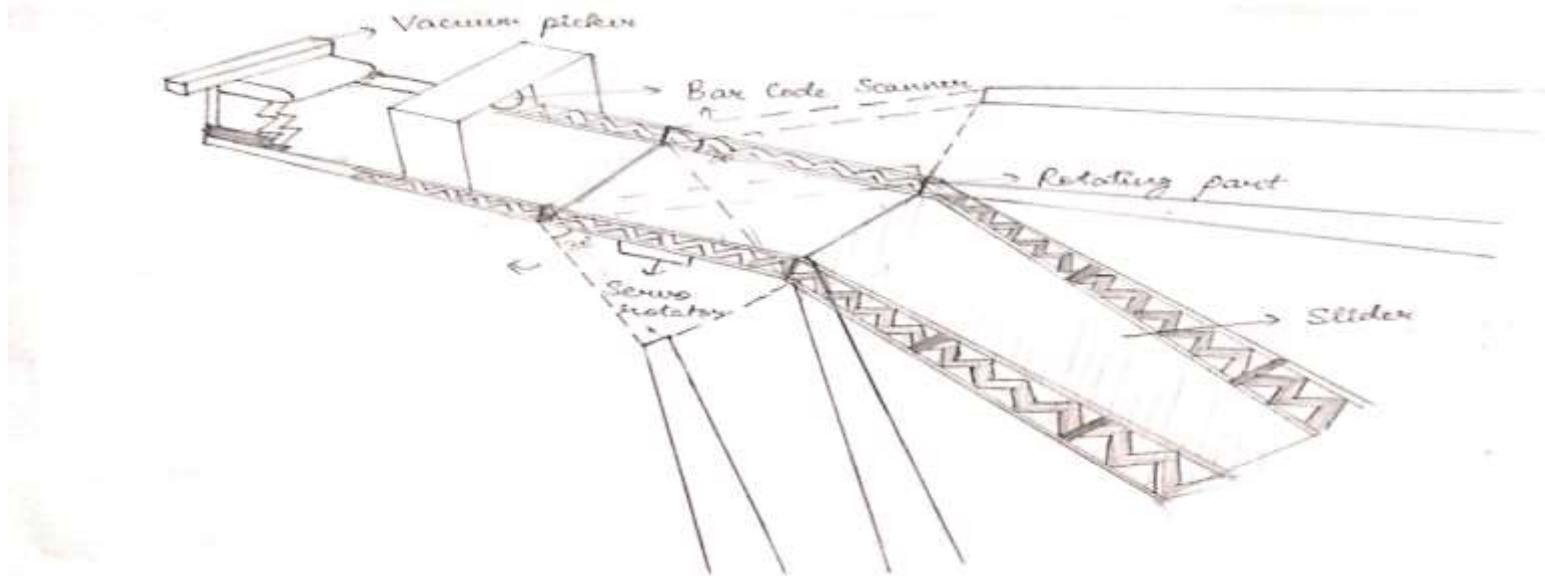
Motion of bot from unloading truck to loading cart-

- When the bot detects the weight of the package then a signal will be sent via Bluetooth module to the vacuum picker so that it stops the processing.
- According to the line follower mechanism, the bot then goes to the loading cart (50 metres away).

Lifting package to the height of the cart

A stepper motor is being used to lift up the platform on which parcel is placed. We will find the time taken by the platform to reach the height of cart after which it becomes diagonal, thus dropping the parcel in the cart. Then the platform would lower to back its initial height.

Bot Travelling To Initial Position

After reaching to the cart and transferring the parcel, bot will start moving in reverse direction to its initial position. When it will reach initial position, a signal will be send via bluetooth module to the shooter to start the process again.

Summary

- Use of 3 bots to travel to the respective carts would increase the cost but also increase the accuracy of the travel since bots have to move only in forward and backward direction.
- Use of Rack and pinion mechanism using DC motor in shooter/griper and raising the platform of bot would be very cost effective since it would avoid using a mechanical arm to pick and drop which is costly and hard to implement.