## Introduction:

A Vending Machine is an automated machine that provides snacks, beverages, tickets, so on, to the consumers after money, a credit card or a specially designed card is inserted into the machine. Unlike traditional method of selling goods, a vending machine can provide service 24 hours a day without the consent of the supplier.

In this project we’ll be dealing with the prototyping of the vending machine using FPGA. The prototype will be able to provide 4 set of goods depending on the selection.

## Construction & Working:

The prototype uses Spartan 6 FPGA as the central node. We will be using Stepper motors as the actuator for serving the 4 goods as per the project idea.

Activation of the vending machine is open for all in this project and hence there is no money or other set of authentication involved.

Goods will be selected by using external switches. In turn the logic behind the code should activate the actuator and serve the appropriate goods as the consumer desires.

Challenges to face currently are to create an efficient module for the FPGA, create a secure mechanical apparatus for the actuator to work on.

Future modification consists of creating authentication, more slots for goods, communication between the machines nearby and so on.

## Block Diagram:

USER OUTPUT

USER INPUT

STEPPER MOTORS

VENDING MACHINE MECHANICAL SETUP

INPUT SELECTION SWITCHES

SPARTAN 6 FPGA BOARD

EXTERNAL POWER SUPPLY

BLOCK DIAGRAM OF THE VENDING MACHINE PROTOTYPE