# Requirement Specifications

## MAIN OBJECTIVE

To develop a digital model of the physical Analytic Process Control station that can mimic all operations that occur on the physical station using Siemens NX and program these operation on the PLC s7 1200.

To develop a facial recognition system that will only allow authorized personnel to access the station through the PLC and a chat bot for communicating with the PLC through text.

To achieve this, below are required for the realization of the objective;

* A PLC s7 1200 compatible program for sequenced control operations.
* PLC logic and data that will communicate with the physical station.
* CAD model that can be simulated and that can receive signals from a PLC which will run it independently.
* Integration of the CAD model with PLC s7 1200.
* Python program that can be fed with pictures of allowed users and its able to deny access to unauthorized personnel.
* Python chat bot program enhance text communication between the PC and PLC
* Proper wiring of inputs and outputs to the respective sensors and actuators for the best control logic.