PLC Project Summary

- 2 PicknPlace feeders with 2 axes each
- Each feeder has (2x) Axis functions including Jog, Move to Pos, Stop and Reset
- Each feeder axis has HMI variables for:
    - Setting operation mode
    - Auto Mode, which has the following state machine:
        1. Reset
        2. Move to top
        3. Move to target 1 pos X
        4. Move to target 1 pos Y
        5. Grab
        6. Move back to top
        7. Move to target 2 pos X
        8. Move to target 2 pos Y
        9. Place
    - Manual Mode – Jog forward and backward with set velocity
    - Stop Mode – Executes MC_Stop
    - Historizing for Actual Position and Actual Velocity
    - Axis state and mode
    - Recipe for setting target positions and travel speeds
- Each feeder has Events
    - Messages for Mode switching
    - Alarms for axis errors (MC_MoveAbs, MC_Jog etc)
- Structure data types for:
    - HMI data
    - Auto Mode data
    - Manual Mode data
    - Feeder Info
    - Axis Info
    - Op mode control and status
    - Feeder Recipe
- Enums for:
    - Axis mode
    - Axis state
    - Station state

HMI spec requirements

- Header including company logo, current time, Machine name, last active alarm, PLC status
- Feeder number and mode selection buttons on the right side of the screen
    - Feeder 1 or 2 with indication of currently selected feeder
    - Op mode buttons for setting Manual, Auto or Stop modes
- Navigation menu on the left for switching between the following 7 pages:
    - Home page showing animation of feeder position
    - Auto mode – Display only of X and Y axes position, speed, mode, state
    - Manual mode – set manual motion speed and jog +/-
    - Trending – Actual position and velocity of each axis with the ability to set display period
    - Events with the option of filtering based on severity
    - Recipes – select, save and create recipes for each feeder
    - Settings – theme switching and localization select
- Ability to switch between metric (for German) and imperial (for English)