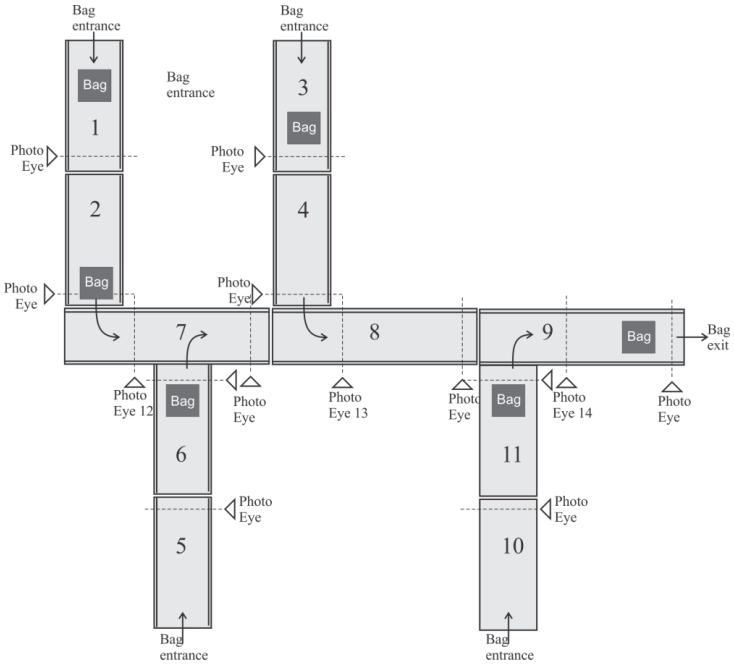
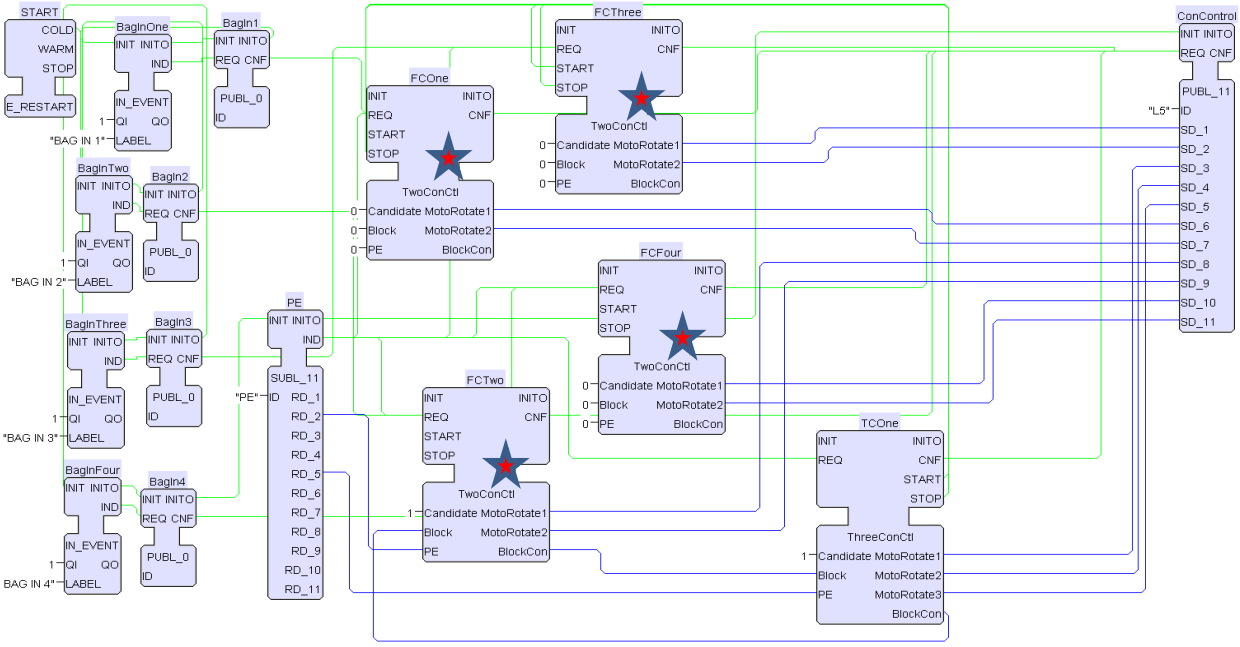
SUPPLEMENTARY INFORMATION

Description of the Baggage System





The System File BaggageSystemCTL

- The system file can be found in CS725 Folder
- Has an VIEW device for visualization (of ImageDev type) and a HMI device (of FRAME_DEVICE type) for control and HMI.
    - VIEW device has the following function blocks:
        - 4 instances of the **TwoConveyor** FB that Models the Conveyors 1 – 6 and 10, 11: Shows reusability.
        - 1 instance of the **ThreeConveyor** FB that Models the Conveyors 7 – 9
        - Each TwoConveyor FB controls the conveyor combination of two conveyors connected together and do not have any merge points.
        - The three conveyor FB controls three conveyor connected together and has four merge points.
        - The **View** block is responsible for the Visualization
        - The **ConControl** SUBL blocks provide the input to the Conveyor models. Note that the only controllable input the conveyor is to turn on/off the motor. These inputs come from the distributed controller.
        - The **PE** PUBL block publishes the PE (*Photo eye)* values to the distributed controller.
    - HMI device has the following function blocks:
        - 4 instances of the **TwoConCtl** FB that controls the Conveyors 1 – 6 and 10, 11 – Shows reusability.
            - FCOne – Conveyor 1 and 2 (MotoRotate1 and MotoRotate2 respectively)
            - FCTwo – Conveyor 3 and 4(MotoRotate1 and MotoRotate2 respectively)
            - FCThree – Conveyor 5 and 6(MotoRotate1 and MotoRotate2 respectively)
            - FCFour – Conveyor 10 and 11(MotoRotate1 and MotoRotate2 respectively)
        - 1 instance of the **ThreeConveyor** FB that controls the Conveyors 7 – 9(MotoRotate1, MotoRotate2, MotoRotate3 respectively)
        - The **ConControl** PUBL publish the motor rotate values to the conveyor models.

The **PE** SUBL block provides the PE input to the controllers. The PE FB outputs and the PE value they represent are • RD_1 – PE 2 • RD_2 – PE 4 • RD_3 – PE 6 • RD_4 – PE 11 • RD_5 – PE 7 • RD_6 – PE 8 • RD_7 – PE 12 • RD_8 – PE 13 • RD_9 – PE 14 • RD_10 – Future Use (for bonus questions) • RD_11 – Future Use (for bonus questions) • Note that the PE that don't have numbers in the figure means their number is same as the conveyor number that they are associated with.	The ConControl PUBL block is used to control the conveyor belts on/off and the Conveyor they represent are • SD_1 – Conveyor 5 • SD_2 – Conveyor 6 • SD_3 – Conveyor 7 • SD_4 – Conveyor 8 • SD_5 – Conveyor 9 • SD_6 – Conveyor 1 • SD_7 – Conveyor 2 • SD_8 – Conveyor 3 • SD_9 – Conveyor 4 • SD_10 – Conveyor 10 • SD_11 – Conveyor 11