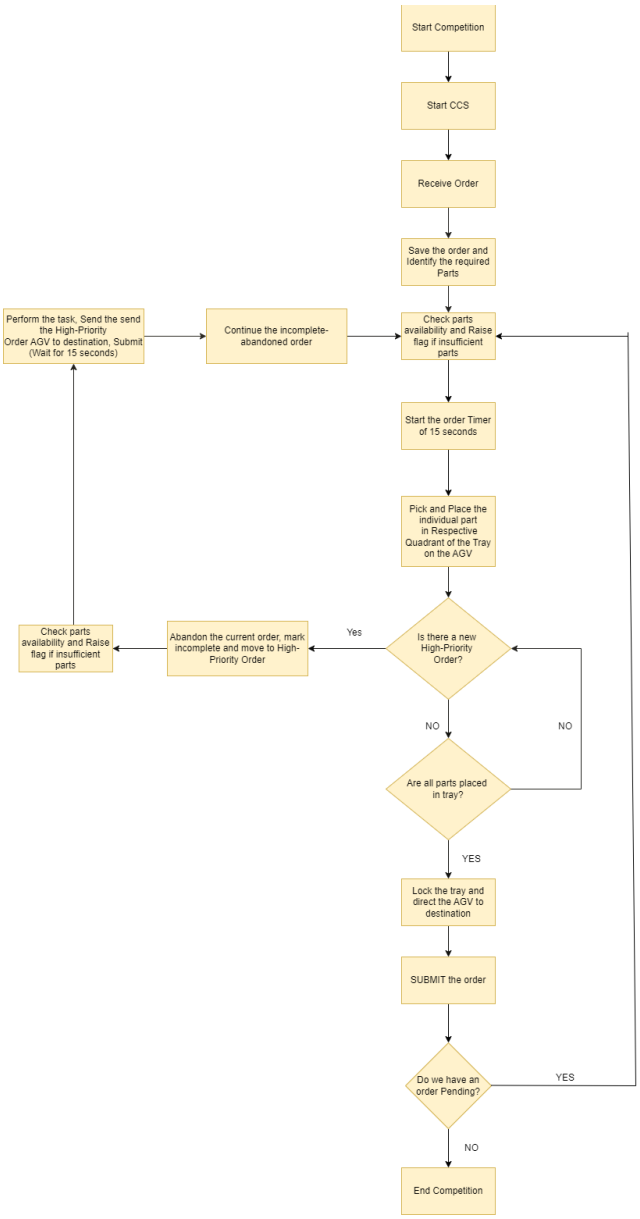
Architecture for ARIAC Kitting Task to Handle High-Priority Orders



Architecture Rationale:

- Upon receiving an order, it is stored in a data structure, and all the necessary parts for fulfilling the order are identified.
- Subsequently, the availability of these parts is checked. If there are insufficient parts available, the order is marked as incomplete and processed accordingly, indicating the shortage of parts.
- For the kitting task, where four items need to be placed in four quadrants of a tray, the process initiates the pick and place action for each item.
- Following the placement of each item, the system checks for any incoming high-priority orders. If such orders exist, the current order is halted, and the high-priority order is given precedence. If no high-priority orders are received, the system proceeds with the regular order until all four items are placed in the tray.
- During the execution of high-priority orders, there is no need to continuously check for new high-priority orders, as they cannot be announced consecutively.
- Upon completion of the high-priority order, the system resumes the previously halted order and treats it as a regular order.
- It's necessary to reassess parts availability after fulfilling a high-priority order, as some parts may have been utilized, potentially leaving insufficient inventory to fulfill the previously halted order.