

## INTRO/ABSTRACT

The UXA-90 Robots were made by a South Korean Company, RoboBuilder, between 2014 – 2015. Kennesaw State University CS Department had purchased back around 2018 but have been rarely tested. Our group decided to pick up on these robots and further pursue expanding on its current features and explore tasks outside of its preprogram actions.

## METHODS

Use of Distributed computing through ROS for robot programming. Through this meta operating system nodes are loosely coupled at runtime. Our nodes are built with C++ to communicate with UXA-90 prebuilt nodes. This communication is via message-passing.

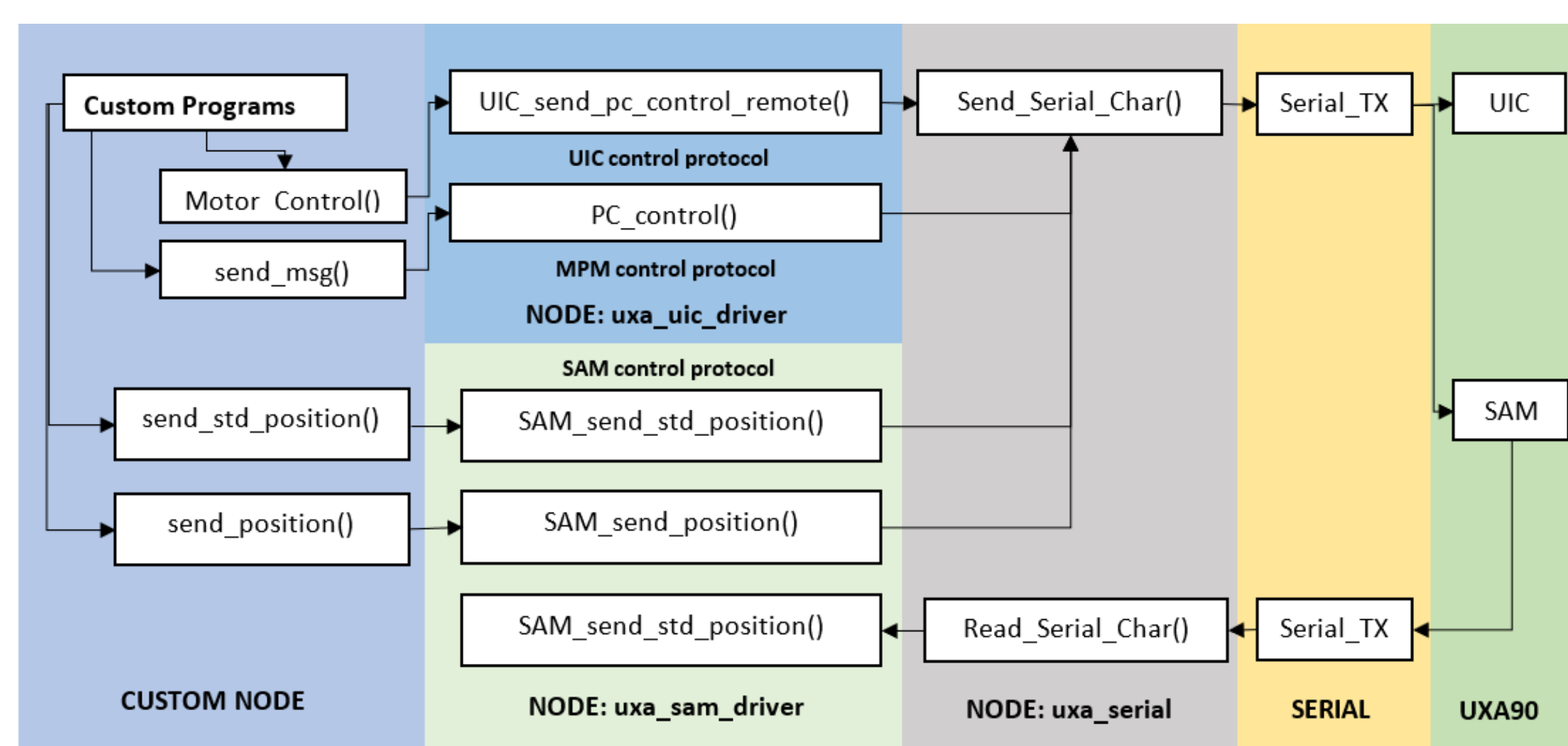


Fig.1 UXA90 communication protocol for custom programs (based on ROS manual for UXA90)

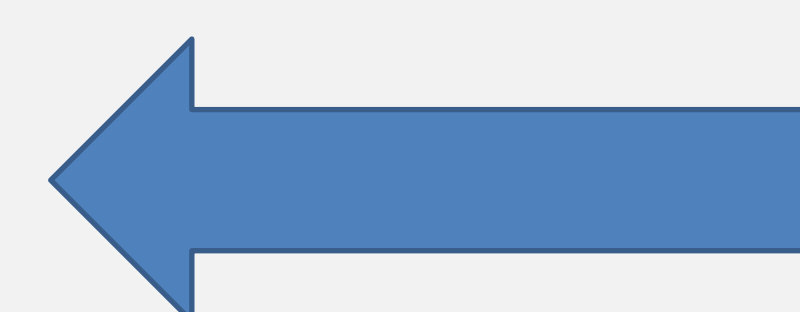
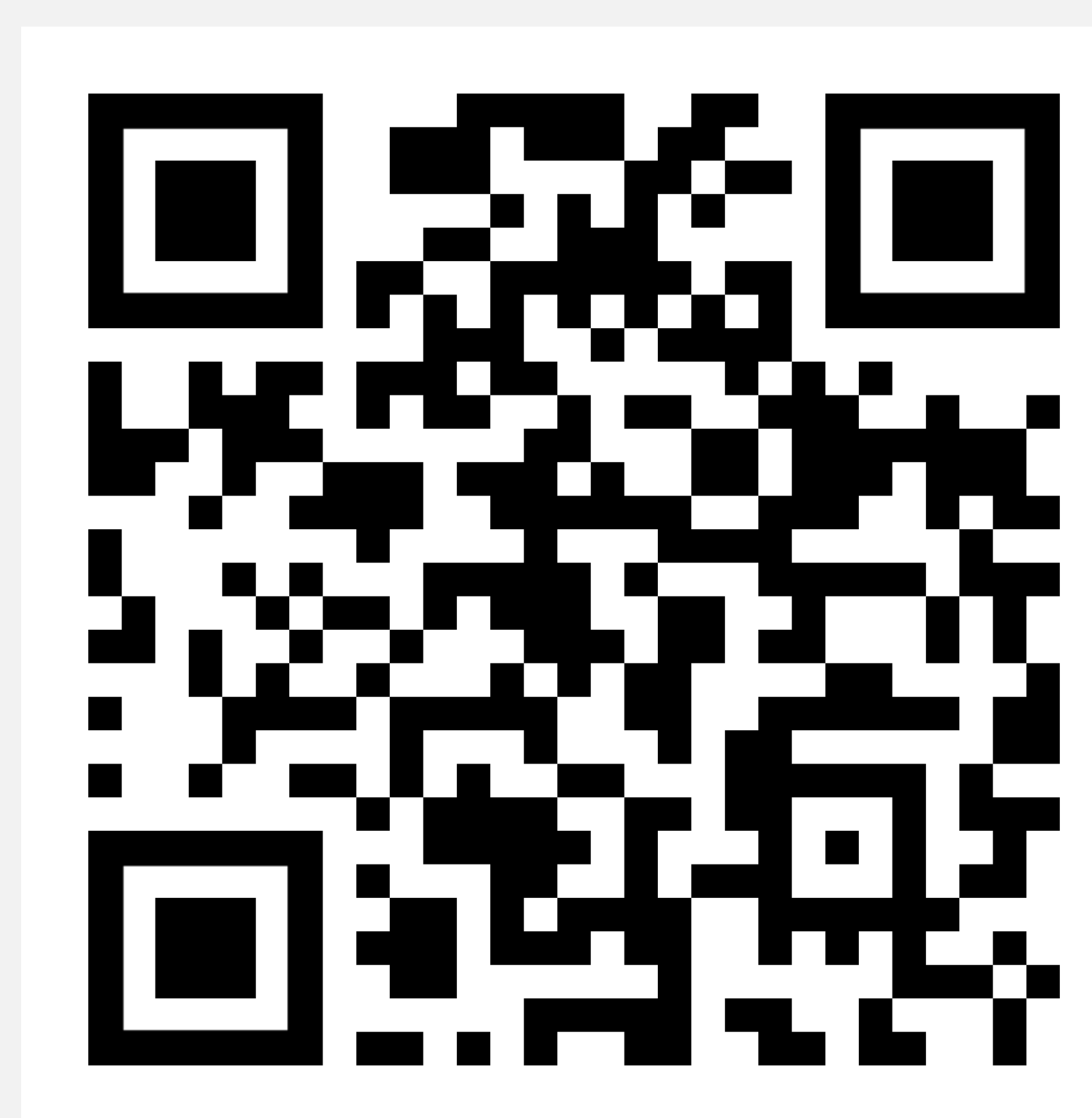
## RESULTS

We have gotten the robot to be fully operational and implemented our own custom packages to allow for further future experiments.

Resources:

- <https://www.robobuilder.net/uxa-90>
- <https://www.robotshop.com/en/robobuilder-uxa-90-humanoid-robot.html>

# Two UXA-90 humanoid robots were non-functional and in storage for years. We implemented an exploratory process to restore and expand their functionality.



Scan QR Code to visit our project website