

Autonomous Pick and Place System

Assistive Robotics for Amazon Centers

Project

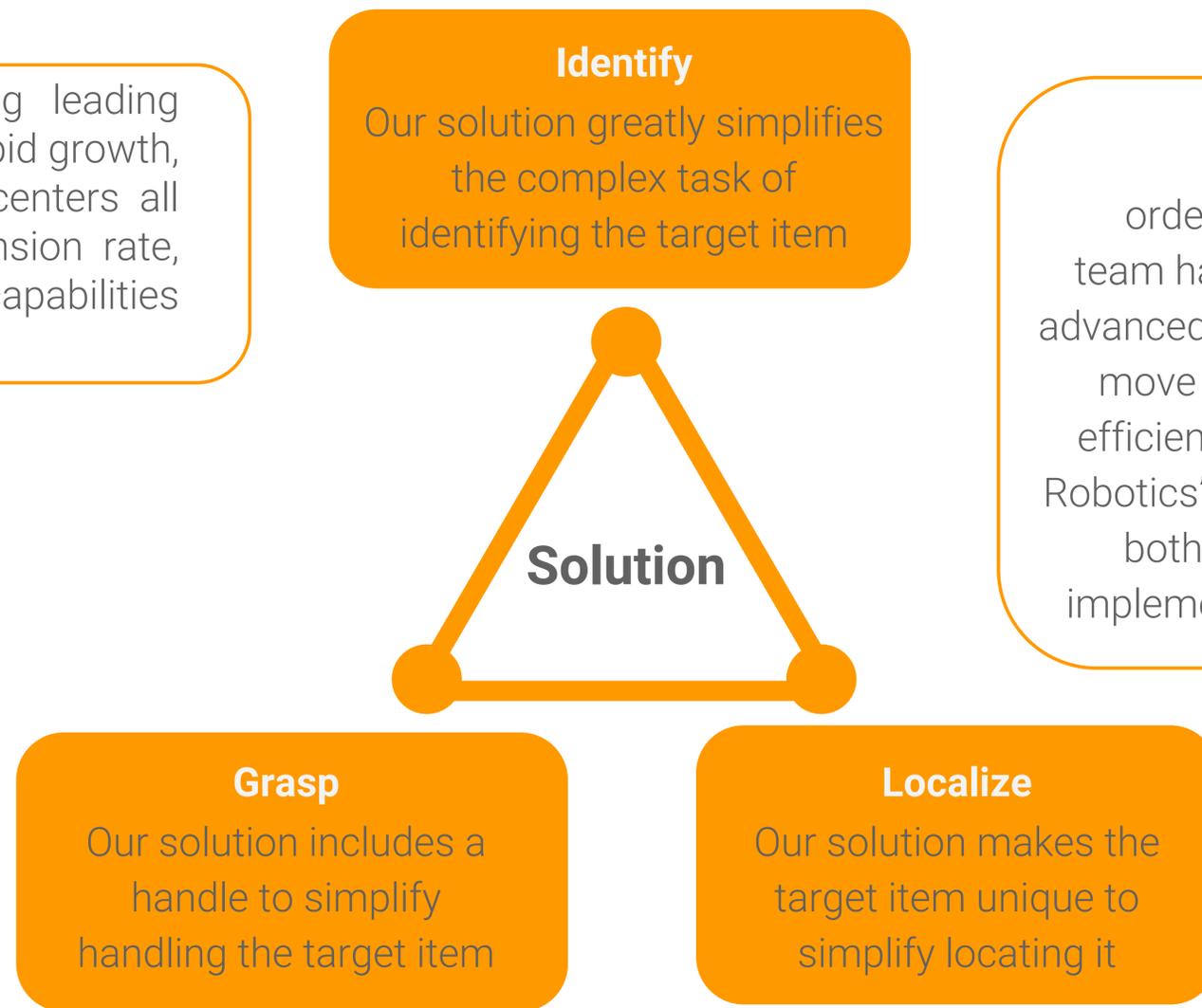
Amazon Robotics specializes in manufacturing leading technology for future Amazon operations. Due to rapid growth, Amazon is planning to expand by creating new centers all across the US. To support this exponential expansion rate, Amazon Robotics is augmenting their existing capabilities with robotic assistive systems.

Problem

Our objective was to design an architecture capable of autonomously transferring items from a storage tote to an order tote with high reliability and eligibility. To facilitate these goals, our design specifications allow for use of additional packaging placed over items to simplify the pick and place operation. This system should be able to handle items of varying dimensions, weights, and characteristics.

Results

To help perform the “pick and place” of ordered items into shippable containers, our team has designed, built, and demonstrated an advanced pick and place robotic system that can move objects from storage to shipment more efficiently. The system has surpassed Amazon Robotics’ minimum criteria and will be continued both as a SCOPE project and will have a trial implementation at an Amazon Robotics facility.



Continuing SCOPE project into next year

Large-scale trial implementation at Amazon facility

Liaison



Timothy Stallman

Advisor



Sam Michalka



Anna Buchele



Rocco DiVerdi



Yuzhong Huang



Hunter Normandeau



Selina Ziyu Wang



Juan Carlos del Rio