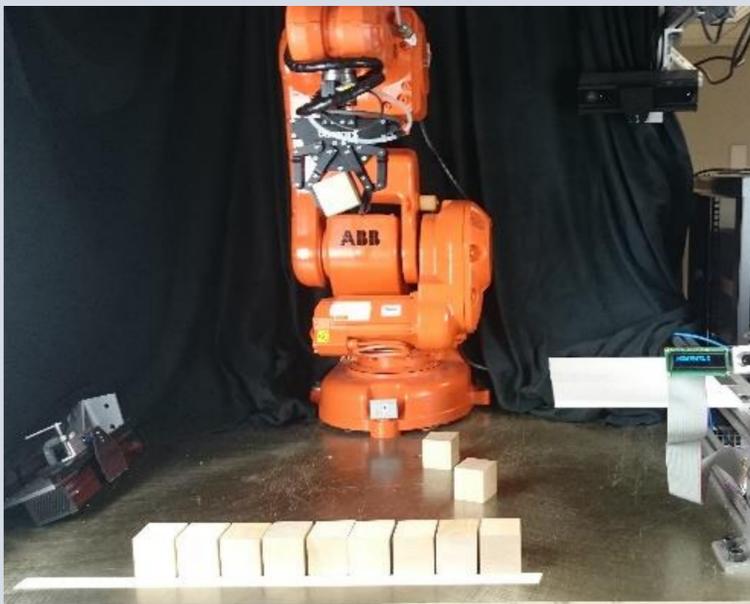


Autonomous Object Recovery in Manipulation Experiments

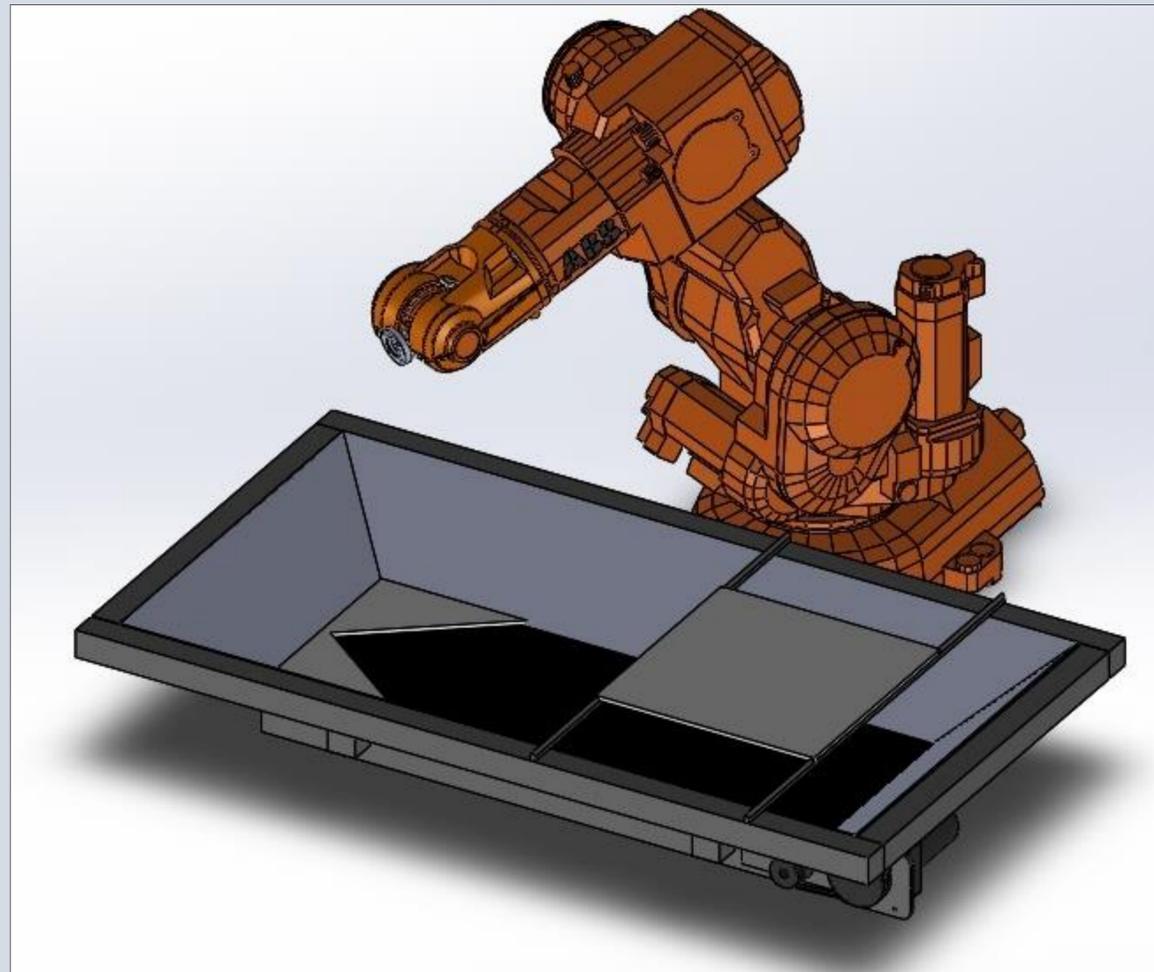
Ariana Keeling, Robert Paolini, Matthew Mason

Problem Definition

Robots often cannot recover dropped objects without human assistance. A mechanical recovery solution is desired.



Project Solution



The solution consists of:

- A conveyor belt
- Sloped walls to direct objects to the conveyor
- A device on the conveyor for object location and orientation
- A frame for support and to allow for test element mounting

Results

A prototype, pictured below, successfully relocated several different kinds of objects. An updated design is to the left.



Future Work

We will compare time spent testing before human reset both with and without the solution.

Design Criteria

The solution needs to be:

- Versatile
- Fast
- Efficient
- Small
- Reliable
- Unobtrusive

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