An OWL Ontology and Supporting SQL Database for Industrial Robotic Knowledge Representation

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Abstract— The IEEE RAS Ontologies for Robotics and Automation Working Group is dedicated to developing a methodology for knowledge representation and reasoning in robotics and automation. As part of this working group, the Industrial Robots sub-group is tasked with studying industrial applications of the ontology. One of the first areas of interest for this subgroup is in the area of kit building or kitting where is a process that brings parts together in a kit and then moves the kit to the assembly area where the parts are used in the final assembly. Kitting itself may be viewed as a specialization of the general bin-picking problem. This paper examines the knowledge representation that has been developed for the kitting problem and presents our real-time implementation of the knowledge representation along with a discussion of the trade-offs involved in its design.

I. INTRODUCTION

II. CONCLUSIONS AND FUTURE WORKS

A. Conclusions

B. Future Works