Times-and-events list for “Building a system for the Motoman Robot capable of autonomously picking up two or more specified cuboid items from specified bins of the Kiva shelf using both three fingers hands available, and put them in the Amazon order bin before 04/17/2015 – the position of the items is specified in 6D”

04/06/2014

== Motion Planning ==

- Finish the integration of the PRACSYS code with the APC software base on Baxter – Zak, Chupples, Kostas, Rahul(04/07/2015)

- Build and integrate a model and simulator of the Motoman Robot to the current APC software base – Zak (04/08/2015)

- Build models of the sensors and new grippers and add them to Motoman – Rahul (04/10/2015)

- Improve the PRACSYS code for manipulation – Zak, Andrew (04/10/2015)

- Build and integrate code for the communication of commands to, and state from Motoman to our APC code – Zak, Alberto (04/15/2015)

- Finish the integration of the PRACSYS code (including grasping) with the APC software base on Motoman – Zak, Chupples, Kostas, Rahul(04/15/2015)

- Optimize the operation of detecting a feasible grasp – Rahul, Thanasis (04/17/2015)

- Change prx\_motion\_planing3 to consider the right arm and the torso – Zak (04/17/2015)

== Grasping ==

- Build and integrate the grasp-pose code to the APC software base for the parallel gripper – Shaojun (04/07/2015)

- Build and integrate the grasp-pose code to the APC software base for the reflex hand – Chris (04/09/2015)

- Build and integrate the grasp-pose code to the APC software base for the vacuum gripper – Ainesh

- Build a system (a python file for the prx\_motion\_planing3 module) to inform about the quality of the grasp – Abhilash, Alberto (04/15/2015)

== Object Detection and Tracking ==

- Build a ros driver for the Intel RGBD sensor that publish the right messages for our APC system – Rohan, Rahul (04/08/2015)

- Make the code for the Intel RGBD sensor allow dynamic parameters changes via ROS – Rohan (04/15/2015)

- Change the object detection module to consider two sensors – Alberto, Colin (04/17/2015)

- Build a module for tracking the detected object and integrate it to the APC software base - Changkyu (04/13/2015)

- Build 3D models of all APC objects – Colin, Changkyu (04/17/2015)

- Adding a light source to the Motoman end effector – Chris (04/17/2015)

- Rebuild the 3D models' texture using images capture with the objects in the shelf and illuminated with our light source – Colin?

- Evaluate the performance of the object detection module with all APC objects – Colin, Alberto?

== Support Systems ==

- Build the health monitor module and integrate it with the APC software base

== Other Actions

- Build the Motoman platform

- Organize the Motoman transport

- Organize the other items transport (computers, sensors, tools, etc.)

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Times-and-events list for “Building a system for the Motoman Robot capable of autonomously picking up two or more specified cuboid items from specified bins of the Kiva shelf using a vacuum gripper and a three fingers hand, and put them in the Amazon order bin before 04/06/2015 – the position of the items is specified in 6D”

03/10/2014

== Motion Planning ==

- Build models of the sensors and new grippers and add them to Baxter – Rahul (03/23/2015)

- Finish the integration of the PRACSYS code with the APC software base – Zak, Chupples, Kostas, Rahul(03/23/2015)

- Build and integrate a model of the Motoman Robot to the current APC software base – Zak (03/25/2015)

- Build and integrate code for the communication of commands to and state from Motoman from/to our APC code – Zak, Alberto (04/03/2015)

- Build models of the sensors and new grippers and add them to Motoman – Rahul (04/06/2015)

== Grasping ==

- Build and integrate the grasp-pose code to the APC software base for the parallel gripper – Shaojun (03/23/2015)

- Build and integrate the grasp-pose code to the APC software base for the reflex hand – Chris (03/31/2015)

- Build and integrate the grasp-pose code to the APC software base for the vacuum gripper – Ainesh (03/31/2015)

== Object Detection ==

- Make the Intel RGBD sensor work with large cables – Alberto, Rohan, Kostas (03/20/2015) - OK

- Mounting the sensor in Motoman – Chris (03/25/2015) - OK

- Build 3D models of all APC objects – Colin, Changkyu (03/25/2015)

- Build a ros driver for the Intel RGBD sensor that publish the right messages for our APC system – Rohan, Rahul (03/25/2015)

- Make the code for the Intel RGBD sensor work on Ubuntu 12.04 and allow dynamic parameters changes via ROS – Rohan (04/02/2015)

- Evaluate the performance of the object detection module with all APC objects

- Add a camera in the end effector -

== Support Systems ==

- Build the health monitor module and integrate it with the APC software base

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Times-and-events list for “Building a system, composed of ROS modules, capable of autonomously picking up two or more specified cuboid items from specified bins of a shelf using a vacuum gripper and the reflex hand and put them in an order bin before 02/28/2015 – the position of the items may vary in x, y, and z”

-> The current system achieved the specified strategic objective for the parallel gripper. But there are bugs in the MoveIt! Plannner and the openni driver.

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Times-and-events list for “Building a system, composed of ROS modules, capable of picking up a specified cuboid item from a specified bin of a shelf and put it in an order bin before Christmas” -> OK.

11/24/2014

- Item acquisition (5 copies of item 3) - Kostas (11/25/2014) – (11/27/2014) - OK

- Registration of our team - Kostas (12/22/2014)

- Film of Baxter in action for registration - Thanasis (12/05/2014) – (12/05/2014) - OK

- Film of Baxter representing the best capability we have - Rahul (12/19/2014) - OK

- Examine Yaskawa Motoman opportunity - Kostas (12/01/2014) – (12/16/2014) – OK

- We are going to apply for the robot - Kostas (12/17/2014) - OK

- APC mailing-list signup http://www.freelists.org/list/amazonpickingchallenge - Zak (11/24/2014) – (11/24/2014) - OK

- Baxter’s computer setup - Rahul, Ainesh (12/11/2014) - OK

- OS and libraries installation and repository setup (everybody in the group must be able to login in the machine and update the repository) - OK

- Mock Workcell implementation V1 - Rahul, Chuples, Alberto (12/05/2014) – (12/05/2014) - OK

- Vacuum gripper’s hardware implementation V1 - Alberto, Kostas (01/10/2015) - OK

- Vacuum gripper’s driver implementation V1

- Baxter’s vision sensors hardware setup V1 - Alberto, Shaojun (12/12/2014) - OK

- Verify synchronization and calibration with camera in Baxter's hand – OK

- Check the Creative Senz3D sensor - OK

- Baxter Controller V1 - Rahul, Zak, Andrew, Chuples (11/26/2014) – OK (MoveIt! version)

- Messages definition, roslaunch, test data, readme-rahul.txt, Mercurial setup - OK (MoveIt! version)

- Baxter Controller V2 – Andrew, Rahul (12/05/2014)

- Messages definition, roslaunch, test data, readme-andrew.txt, Mercurial setup

- Baxter Simulator V1 - Rahul, Zak, Andrew, Chuples (11/26/2014) - OK

- Arm Path Planner Module V1 - Chuples (12/05/2014) - OK (MoveIt! version)

- Messages definition, roslaunch, test data, readme-chuples.txt, Mercurial setup

- Gripper Motion Planner Module V1 -

- Messages definition

- 3D Mapper Module V1 – Alberto, Colin, Shaojun (12/12/2014) - OK

- Evaluation of a solution using many large markers on a table between Baxter and the shelf

- Messages definition - OK

- Packaging as a ROS module - OK

- Module Evaluation - OK

- Documentation – OK (how to use)

- Localizer Module V1 – Alberto - OK

- Messages definition - OK

- Packaging as a ROS module - OK

- Module Evaluation - OK

- Documentation – OK (ohw to use)

- Behavior Selector Module V1 – Alberto - OK

- Messages definition - OK

- Item Recognizer Module V1 – Alberto - OK

- Item 3 3D-modeling – Colin (12/15/2014) - OK

- Opencv linemod capabilities evaluation (6D position output available? How does it compares with PCL linemod (experiments with a research database?)?) - Shaojun (12/12/2014) – OK (we are using the OpenCV version used in ORK)

- Detaching from PCL/Opencv – Alberto (??/??/201?) - OK

- Messages definition – Alberto (12/15/2014) - OK

- Packaging as a ROS module - Shaojun (12/22/2014) - OK

- Module Evaluation - OK

- Documentation - OK

- User Interface Module V1 - OK