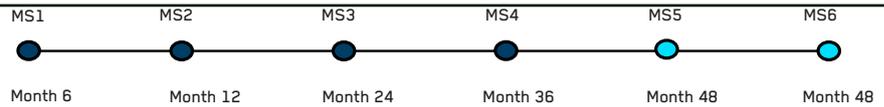


Milestone 4

By Marco Bonini



Milestone 4 was set officially to be reached at the end of January, with a successful demonstration of the RobLog system under relaxed constraints. Specifically the advanced demonstrator should (and will) perform the full unloading of a single object of the class chosen by the user (e.g. a barrel or a parcel) – the weight of the items is however limited to 5 kg. The advanced demonstrator is based on the Parcel Robot hardware platform, but in this Milestone, it is featuring a new motion and grasp planning module based on MoveIt (<http://moveit.ros.org/>). The same software for the motion planning has been foreseen for the industrial demonstrator, which should perform in this milestone the unloading of light weight sacks (5 Kg) from a mock-up container. The industrial demonstrator is based on the Empticon hardware platform, which has been re-designed in this project period by the consortium. The re-design consists of a reinforced and slightly modified kinematic, a new gripper and a new control. The design and integration effort of such a machine has been so high, that even though the machine is fully integrated and potentially ready for running in autonomous modality, this functionality will not be shown at the 3rd RobLog Review Meeting (23rd and 24th of April); the final testing of the reinforced Empticon in autonomous modality will be conducted before the CEMAT 2014 (19th of May 2014), where the new Empticon machine will run demos in fully autonomous mode, fulfilling the objective of Milestone 4 of the RobLog project.

The Men that Saved the Damaged Industrial Demonstrator

By Teresa Rittel

Aside from a dramatic title, the true efforts and learnings that came from the integration of the new Industrial Demonstrator were bountiful. In the last week of February, the newly reinforced Empticon from Qubiq was delivered to BIBA. The platform of the machine itself is a result of new design, taking into consideration the payload of coffee sacks (70kg) along with the need to have an accurate positioning system. Full integration of software and mechanics began immediately after delivery, with specific mechanical focus for attaching the NeedleChainGripper to the head. After the new machine was fully assembled, testing began in the laboratory environment. The testing parameters included test of hardware interfaces and the movement of each axis. During one of the tests, a mishap occurred and the Empticon's frame crashed. As the head was attempting to lift, parts of the kinematics collapsed due to weak support structures. Members from BIBA (Moritz Rhode, Stefan Kunasck, Claudio Uriarte, Rafael Mortensen) and Alexander Andersen from Qubiq reacted immediately to diagnose the problem and developed a working

solution. New structure parts were designed and in one week manufactured and installed on the Empticon. Since the 26th of March, the Empticon was back up and running, and ready for further testing.

The demonstrator will make its debut and functioning capabilities at the 3. Period Review later this month at BIBA.

More Interesting Updates...

By Teresa Rittel

-BIBA received the VelvetGripper from UNIPI. Christian Müller and Narunas Vaskevicius successfully integrated it into the Industrial Demonstrator and were able to grasp objects

-the Flystick has also been further integrated and allows for more joint mobility. More details to come...

Important Dates



* 3rd Period Review
April 23-24, 2014

* CEMAT 2014
May 19-24, 2014