**MANIPULATION PROTOCOL TEMPLATE**

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| Reference No / Version |  |
| Authors |  |
| Institution |  |
| Contact information |  |
| Purpose | Explain here which aspect of the robot’s ability you would like assess, and why this protocol is suitable for that purpose. |
| Task Description | Task description is a high level information about the protocol without going into detail of the experimental setup and procedure. It describes the main action(s) of a task and (most of the time implicitly) the expected outcome(s). |
| Setup Description | List of objects and their descriptions:  The objects used in the experiments (either as targets, obstacles or clutter) are presented here. These objects should be easily accessible by the researchers. If YCB object are used (recommended), the names of the objects suffice. Otherwise, please also provide the physical properties and ways of obtaining the objects. |
| Initial and target poses of the objects:  The initial and target positions of each object should be defined precisely for all the scenarios. Preferable printable stencils can be used as [in this paper](http://ieeexplore.ieee.org/document/7989545/). |
| Description of the manipulation environment:  Description of the surroundings is given here. E.g. table height, background clutter, properties of a shelf etc. ([in this paper](http://ieeexplore.ieee.org/document/7989545/), an easily accessible IKEA shelf is used, which is a good practice). |
| Robot/Hardware/Software/Subject Description | Targeted robots/hardware/software:  In this field, the specifics of the robot setup is described. Does the protocol require a specific robot or gripper? Is a particular software package required? |
| Initial state of the robot/hardware/subject with respect to the setup:  The initial pose of the system is defined here. If the task includes human subjects, how the subject is positioned with respect to the manipulation setup, and a priori information given to the subject about the task are described. |
| Prior information provided to the robot:  Information provided to the robot prior to the manipulation operation (e.g. the semantic information about the task, whether or not object models are available etc.) |
| Procedure | Actions needed to be taken to conduct the experiment are explained here step-by-step in detail. Pseudo code-like approach or a flow diagram can be used to describe the sequence of steps. |
| Execution Constraints | The constraints on how to execute the task are provided here. For instance, the Box and Blocks Test requires to transfer one block at a time, or if the task is “fetching a mug”, the robot may be required to grasp the mug from its handle etc. |