SAP (Simple as Possible) Admittance Control

The first place to start with the comparison of Control Systems is the SAP Admittance control. This will provide the baseline form which everything else can be measured.

Admittance Control was chosen as the low level Control scheme because it is based on an inner position loop. This has 2 benefits: the kinetics of the myPAM can be ignored and it means that force is only required to be measured at the end effector, rather than at each joint.

The block diagram for SAP is shown by figure number:

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| Figure number: A block diagram for SAP |

A force sensor must be used for the end effector. Initially, for testing, a fancy 6DoF sensor will be used. This is an expensive solution, so another way will be found once the coefficients have been determined. In order to design the force sensor, it is important to be aware of the maximum interaction forces that will be present.

Potential sensor 1: similar to RR:

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| Figure number: RR 3 DoF Force Sensor |