

Events	Software Components	Hardware Platforms	
		<i>Sensors</i>	<i>Memory</i>
Stationary Robot – Gripper Closed	Force Slip Detector	Force sensor	-
Stationary Robot – Gripper Open	Tactile Slip Detector	Tactile sensors	-
Moving Robot	Combined Slip Detector	Both	>250 MB

Variables	Domain/Data Type
Stationary	Boolean
Gripper Status	Boolean
Software Component	Enum {Force Slip Detector, Tactile Slip Detector, Fused}
Hardware Platform	Enum {A, B, C} – indicating the platform identity
<i>Attributes</i>	
Force Sensor (presence)	Boolean
Tactile Sensors(count)	Positive Int
Memory Capacity	Positive Int

Valid configurations based on requirements:

R1 : The force slip detector should be deployed on a platform to which the force sensor is connected.

- Stationary = True, Gripper Status = True (closed), Slip Detector = Force, Platform with: Force Sensor = True, **Tactile Sensors ≥ 0 (any), $x < \text{Memory Capacity} < y$.**

R2 : The tactile slip detector should be deployed on a platform to which all tactile sensors are connected.

- Stationary = True, Gripper Status = False (open), Slip Detector = Tactile, Platform with: Force Sensor = False, **Tactile Sensors $\geq z$, $a < \text{Memory Capacity} < b$.**

R3: The combined slip detector should be deployed on a platform with at least 250MB working memory.

- Stationary = False, Gripper Status = True (closed), Slip Detector = Fused, Platform with: **Force Sensor = False, Tactile Sensor ≥ 0 , Memory Capacity ≥ 250 MB.**

Note:

- Bold faced variables are helpful to rank suitable platforms.
- Constants a,b,x,y,z need to be picked based on the slip detection algorithm