## Concept Generation

<table>
<thead>
<tr>
<th>Function</th>
<th>Concept Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locate Object</td>
<td>Visually, Laser, Electric Pulse, Sonar, Camera</td>
</tr>
<tr>
<td>Position Manipulator</td>
<td>McKibben, Hydraulics, Internal Combustion, Gears, Electronic Actuation, Leverage</td>
</tr>
<tr>
<td>Grasp Object</td>
<td>Clamp, Magnet, Hand, Adhesive, Spring, Hook, Net, Box, Scoop</td>
</tr>
<tr>
<td>Support Object</td>
<td>Frame (various materials), Straps, String, Seat, Buoyancy, Magnetic Field, Gravity, Black Matter, Suction</td>
</tr>
<tr>
<td>Translate Manipulator</td>
<td>Gears, Piston, Hydraulics, Linear Actuator, McKibben Muscles, Solenoid, Pulleys, Leverage, Prismatic Joint, Gravity, Wheels, Combustion, Magnetic, Spring</td>
</tr>
<tr>
<td>Rotate Manipulator</td>
<td>Same as Translate Manipulator</td>
</tr>
<tr>
<td>Relax Grasp</td>
<td>Open Valve - See Grasp Object</td>
</tr>
<tr>
<td>Open Fingers</td>
<td>Spring, McKibben Muscles, Magnets, Electronic Pulse, Rubber Band/ Elastic, Linear Actuator, Hydraulics, Gears, Motors, Water Pressure</td>
</tr>
</tbody>
</table>