

SYSTEM AND METHOD FOR CONTROLLING A ROBOTIC ARM

ABSTRACT

A robotic arm (104) assembly includes a robotic arm (104), a base (102), and a utility member (122), the robotic arm (104) extending between a root end (110) attached to the base (102) and a distal end (112) including the utility member (122). A method (200) for controlling the robotic arm (104) assembly includes: determining (202) a position of the base (102), the root end (110), or both relative to the environment (148); determining (204) a task position and orientation (152) for the utility member (122) within the environment (148); determining (206) a three-dimensional constraint of the environment (148); and determining (214) a path (150) for the robotic arm (104) through the environment (148) based on each of the position of the base (102), the root end (110), or both relative to the environment (148), the task position and orientation (152) for the utility member (122) within the environment (148), and the three-dimensional constraint of the environment (148).

[Figure 4]