**Class Project Proposal**

Build a robotic manipulator capable of going from one arbitrary position to another, both being defined by the user at any given instant. The path followed by the manipulator will be generated by using an algorithm that allows it to avoid obstacles also defined by the user. These positions and obstacles are framed within a grid arrangement (chess board) that corresponds to the base frame of the robot. After physically placing the obstacles in the chess board and providing their positions to the GUI along with the target positions, the robot finds a path to the target position without hitting any of the obstacles. Upon completion, the obstacles can be moved and the whole process repeated.

Proposed algorithm to implement, discussed in *“Real-time collision avoidance algorithm for robotic manipulators”* - Paul Bosscher and Daniel Hedman, 2009

Diagram

Description automatically generated