Functional Requirements:

* The system moves on a base with wheels and has a humanoid upper body.
* The system cannot climb stairs; thus, any regions with stairs are inaccessible by the robot.
* The system can detect and avoid obstacles, whether they are stationary or moving
* The system is as tall as an average adult.
* The system cannot exit the bar.
* The system cannot enter behind the bar nor the kitchen area.
* The system is aware of the floor plan of the bar and all facilities within it.
* The user must call the system before attempting to request any other service

Non-Functional Requirements:

* <Speed> The system moves at average speed of 1.5 m/s
* <Capacity> The system moves on 4 wheels
* <Performance> The system has 2 humanoid arms with grippers as end-effectors
* <Capacity> Obstacles are objects larger than 4cmx4cmx4cm
* <Reliability> The system cannot avoid obstacles moving towards it faster than 2 m/s or 3m/s in any other direction
* <Capacity> The system is 1.7m tall
* <Performance> The system requires a maximum time of 20 seconds to reach any part of the bar.
* <Security> The system does not collect any personal data about the customer
* <Security> The system prioritises the user's health and safety over anything else.
* <Security> The system has ultrasound sensors to detect obstacles
* <Security> The system has bump sensors to detect collisions
* <Security> The system stops moving when it collides with an obstacle

Assumptions (Global)

* The bar floor is levelled.
* Security checks ID of customers, prior entering the bar, to make sure customers are over age.
* The floor can sustain the weight of the robot
* The bar operates only with card payments
* The spacing between the tables is large enough for the system to move between the tables
* The bar staff has a basic knowledge of the maintenance for the system

Notes: