一張含有 文字, 螢幕擷取畫面, 圓形, 設計 的圖片

自動產生的描述

# State & Internal Transtions

* IDLE: This is the initial state. In this state, the robot does not perform any actions. When entering the main loop, it will immediately transition to the FIND\_WALL state.
* FIND\_WALL: In this state, the robot will find the nearest wall and move to it. Once the wall is found, it transitions to the MOVE\_ALONG\_WALL state.
* MOVE\_ALONG\_WALL: In this state, the robot will move along the wall. If the robot hits a wall, it transitions to the CORNER\_TURN state. If a robot hits another robot, it transitions to the REVERSE\_DIRECTION state.
* CORNER\_TURN: In this state, the robot will turn around the corner. Once the turn is completed, it returns to the MOVE\_ALONG\_WALL state.
* CHASING: When a robot scans another robot, it will enter this state and chase the target. If the robot hits the target, it transitions to the REVERSE\_DIRECTION state.
* REVERSE\_DIRECTION: In this state, the robot will change its movement direction and return to the MOVE\_ALONG\_WALL state.

# External Transitions (event)

These event handlers work with the states and transitions of the state machine to control the robot's behavior.

* onHitRobot: This method will be called when the robot hits another robot. If the robot is not chasing the target (CHASING state), it will change the movement state to REVERSE\_DIRECTION, that is, change the movement direction.
* onHitWall: This method will be called when the robot hits a wall. If the robot is not chasing the target (CHASING state), it will change the movement state to CORNER\_TURN, that is, turn around the corner.