UML Class Diagram

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ObjectDetection

- nh : ros::NodeHandle
- publishLocation : ros::Publisher
- subscibeImages : ros::Subscriber
- publishingRate : float
- convertedImage : cv::Mat
- objectLocation : cv::Rect

+ ObjectDetection()
+ ~ObjectDetection()
+ convertImage(const sensor_msgs::Image::ConstPtr&) : void
+ getObjectLocation() : cv::Rect
+ templateMatching(cv::Mat) : bool

ObstacleAvoidance

- nh: ros::NodeHandle
- subscibeSensor: ros::Subscriber
- obstacleDetected:: bool
- linearVelocity: const float

+ ObstacleAvoidance()
+ ObstacleAvoidance(float) : explicit
+ ~ObstacleAvoidance()
+ checkObstacle() : bool
+ setObstacleDetected(bool): void
+ getObstacleDetected(): bool
+ laserSensorCallback(const sensor_msgs::LaserScan::ConstPtr&): void

TurtleBot

- nh : ros::NodeHandle
- velocities : geometry_msgs::Twist
- publishVelocities : ros::Publisher
- linearVelocity : float
- anguarVelocity : float
- publishRate = 2 : int const

+ Turtlebot()
+ Turtlebot(float, float)
+ ~Turtlebot()
+ moveForward(float): float
+ turn(float): float
+ collectObject(): bool
+ moveBot() : void
+ resetBot() : bool
+ checkVelocityChanged() : bool