TerpRescue

- rawMap: nav_msgs::OccupancyGrid
- synthesizedMap: nav_msgs::OccupancyGrid
- currentLocation: geometry_msgs::Pose
- tags: vector<struct>
- lidar: vector<float>
- camera: sensor_msgs::Image

- recognition: Localizer

- lidarSubscriber: ros::Subscriber
- cameraSubscriber: ros::Subscriber
- odomSubscriber: ros::Subscriber
- mapPublisher: ros::Publisher

+ TerpRescue()
+ visualization(): void
+ detectTags(): void
+ getLidar(): vector<float>
+ getCamera(): sensor_msgs::Image
+ getRawMap(): nav_msgs::OccupancyGrid
+ getSynthesizedMap(): nav_msgs::OccupancyGrid
+ getCurrentLocation(): geometry_msgs::Pose
+ getTagInformation(): vector<struct>

- lidarCallback(sensor_msgs::LaserScan, this): void
- cameraCallback(sensor_msgs::Image, this): void
- odomCallback(nav_msgs::Odometry, this): void
- mapCallback(nav_msgs::OccupancyGrid,this): void

Localizer

- tags: vector<struct>
- lidar: vector<float>
- camera: sensor_msgs::Image
- currentLocation: geometry_msgs::Pose

+ tagDetection(sensor_msgs::Image image, vector<float> lidar, geometry_msgs::Pose currentLocation): void
+ getTagInfo(): vector<struct>

- tagRecognition(): void
- locateTag(): void
- transformationTagPosition(): void