**RoboCode - Robot Wars**

**OZONE TEAM**

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***July 2018***

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# Introduction

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# Robot Details

## Team Leader: Captain

* **Summary:**

\_ This is a robot which extended from TTeamLeaderRobot class, it scans and broadcast message to other members. Including: team colors, Enemy information, custom message,…

\_ It moves randomly to any point in the battle field and it able to change direction when hit a robot or hit by bullet.

\_ Scan , count enemy in 250 turn and broadcast message base on strategy set before. There are 3 special strategy and basic strategy:

+ Use “linear targeting” to robots which move on border sentry as leader scans

+ If there are some disable robot (0 energy robot), leader will go to its position and ram

+ If the number of enemy is less than 2, instantly use “linear targeting”

+ basic strategy: move in line and fire at the point

\_ Before dead, it broadcasts message to other member to change strategy.

* **Detail:**

int numberEnemy = 5;

int numberMember = 5;

double enemyX;

double enemyY;

Target enemy;

Boolean finishScan = false;

1. onRun()

set color;

Broadcast color’s message to members

While(true){

Random move;

}

1. onStatus()

setTurnRadarRightRadians(Double.POSITIVE\_INFINITY); // to turn radar

1. onScannedRobot()

if( scanned robot is member){

skip;

}

Add scanned robot names in a Hash Set;

numberEnemy = Set.size();

if( finish scan & numberEnemy < = 2){

use Linear Targeting;

broadcast info to members;

}else {

If(scanned robot in sentry border){

Use Linear Targeting;

Broadcast info to members;

}

Else if(get scanned robot energy = 0){

Go to that robot position and ram;

}else {

Basic strategy: broadcast info to members;

}

}

## Team Member 1: EdgeLeftMO3

## Team Member 2: EdgeRightMO3

## Team Member 3: TrivelaMO3

* **Summary:**

\_ This robot moves to 4 specific points randomly, depends on where to start (Left Bottom or Right Top). 4 specific points are located in middle of the map, look like a rectangle.

\_ On message received, the robot finds the point and turn gun to the target to fire with adaptive fire power.

\_ On hit robot, will go back if the target ahead and reverse.

* **Details:**

1. Run method:

\_ There are 4 point (X,Y): start, second, third and fourth point

Void Run(){

Zone = Battle Field Width / 2; // to know where the robot is.

If( getY() < zone) {

Set up 4 points;

}else {

Set up different 4 points;

}

While (true){

If(not melee mode){

Move to 4 points;

}else if( target not null){

Move to target position;

}

}

}

## Team Member 4: WallyMO3

* **Summary:**

\_ Move around the outer edge, if something stand on its way it turn away and continue to move around the wall

\_ On message received, the robot finds the target’s position and turn gun to it then fire with adaptive fire power.

\_ On Melee mode, the robot will get close to enemy position.

* **Details:**

1. Run method:

\_ Initialize move Amount to the maximum possible for this battlefield.

\_ Turn left to face the wall by getHeading() % 90

\_ While loop move ahead and turn 90 degrees

Code:

Boolean melee = false; (true is Ram mode, false is normal mode)

Double moveAmount;

Target target;

If(not\_melee\_mode){

Move ahead(moveAmount);

TurnLeft(90.0D);

}else if(target is not null){

Go to target position and smash to get ram point

}

1. On Message Receive:

\_ If message is target, find enemy point and fire base on distance between member and enemy

\_ If message is colors, change member’s colors

\_ If message is string “dead”, member will be noticed that leader has dead, revenge mode incoming

Code:

If(message is target){

Get my position;

Get enemy information;

If(count number of enemy < = 2){

Set melee mode true;

Set target;

Find enemy point;

}else{

Melee mode off;

Find enemy point;

}

}else if(message is “dead” from captain){

Set melee mode off;

}