**RoboCode - Robot Wars**

**OZONE TEAM**

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# Introduction

The first time in DC‘s history, there is a Robocode – RoboWar competition have been organized, which helps DC9’s member relax after working and best chance to improve logical thinking, make people get more enjoyable, interested with their job.

To get this chance, Dev2 project also launch Robocode – Robowar with two strong and friendly teams have taken part in the attractive wars and rewards. We are one of two mention teams above, hopefully to bring the cute, discipline, interesting robot team to people.

There are five members in our robot teams (RT) with one robot lead and four robots members. They are inherited from robocode.tma.TTeamLeaderRobot or robocode.tma.TTeamMemberRobot follow the competition’s rule.

They are smart, strong and fast, we have prepare very carefully for our children – RT, so we try our best to playing and help DC9 challenge more successfully.

Hopefully, this program bring us many happiness and effectively in jobs, our friendly environment. DC9 will continue launch many many games for our developers.

Have a nice program!

Cheers,

More information about this team will be continue in next chapter…

# 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

* **Summary:**

EdgeLeftMO3 is a member robot, which support the left of the team. It will receive the message from the leader to fire the enemy and automatic handle change its path when listening robot event.

* **Details:**

1. onMessageReceive(Event)

IF message receive is the color type THEN

Change itself color

ELSE IF message receive is the enemy type THEN

Fire enemy by message

1. run()

SET TRUE gun/ radar for robot turn

IF current point is bottom left THEN

SET 3 points point1= (60, 120), point2= (60, 970), point3= (600, 970)

ELSE SET 3 points point1= (964, 904), point2= (964, 60), point3= (600, 60)

LOOP (true)

IF enemy number > 2 THEN

Robot go to point1, point2, point3

ELSE IF have received an enemy info THEN

Set velocity is 8

Robot go to enemy position

1. onHitRoBot(HitRobotEvent)

IF HitRobot is teammate THEN

Turn right 90 D

ELSE

fire HitRobot

IF HitRobot is front of THEN

Back 100

ELSE ahead 100

1. onBulletHit(BulletHitEvent)

IF not hit teammate THEN fire

## Team Member 2: EdgeRightMO3

* **Summary:**

EdgeRightMO3 is a member robot, which support the right of the team. It will receive the message from the leader to fire the enemy and automatic handle change its path when listening robot event.

* **Details:**

1. onMessageReceive(MessageEvent)

IF message receive is the color type THEN

Change itself color

ELSE IF message receive is the enemy type THEN

Fire enemy by message

1. run()

SET velocity is 4

SET TRUE gun/ radar for robot turn

IF current point is bottom left THEN

SET 3 points point1= (100, 60), point2= (970, 60), point3= (970, 600)

ELSE SET 3 points point1= (924, 984), point2= (60, 984), point3= (60, 400)

LOOP (true)

IF enemy number > 2 THEN

Robot go to point1, point2, point3

ELSE IF have received an enemy info THEN

Set velocity is 8

Robot go to enemy position

1. onHitRoBot(HitRobotEvent)

IF HitRobot is teammate THEN

Turn right 90 D

ELSE

fire HitRobot

IF HitRobot is front of THEN

Back 100

ELSE ahead 100

1. onBulletHit(BulletHitEvent)

IF not hit teammate THEN fire

1. onHitButllet(HitByBulletEvent)

## 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;

}