
Subject: Turret and GT not shooting

Posted by [robbyke](#) on Mon, 11 Jun 2012 02:58:57 GMT

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the turret and GT models wont fire

theyll only fire when someone is nearly in it

i thought it was my scripts first but then every defence should have the problem or am i wrong?
header file

```
class KB_Base_Defence : public ScriptImpClass {
    unsigned int id1;
    unsigned int id2;
    unsigned int id3;
    unsigned int objtype;
    int CurrentTarget;
    bool Firing;

    void Created(GameObject *obj);
    void Enemy_Seen(GameObject *obj,GameObject *enemy);
    bool IsValidEnemy(GameObject* WeaponObj, GameObject* EnemyObj);
    void Action_Complete(GameObject *obj,int action_id,ActionCompleteReason complete_reason);
    void Timer_Expired(GameObject *obj,int number);
    public: void Register_Auto_Save_Variables();
};
```

cpp file

```
void KB_Base_Defence::Created(GameObject *obj)
{
    Vector3 pos,pos1,pos2,pos3;
    GameObject *object;
    objtype = Commands->Get_Player_Type(obj);
    Commands->Enable_Hibernation(obj,false);
    Commands->Innate_Enable(obj);
    Commands->Enable_Enemy_Seen(obj,true);
    pos = Commands->Get_Position(obj);
    CurrentTarget = NULL;
    pos1.X = pos.X - 10;
    pos1.Y = pos.Y - 10;
    pos1.Z = pos.Z + 2;
    pos2.X = pos.X + 10;
    pos2.Y = pos.Y;
    pos2.Z = pos.Z + 2;
    pos3.X = pos.X + 10;
```

```

pos3.Y = pos.Y - 10;
pos3.Z = pos.Z + 2;
Firing = false;
object = Commands->Create_Object("Invisible_Object",pos1);
if (object)
{
    id1 = Commands->Get_ID(object);
}
object = Commands->Create_Object("Invisible_Object",pos2);
if (object)
{
    id2 = Commands->Get_ID(object);
}
object = Commands->Create_Object("Invisible_Object",pos3);
if (object)
{
    id3 = Commands->Get_ID(object);
}
Commands->Start_Timer(obj,this,10,1);
}

void KB_Base_Defence::Enemy_Seen(GameObject *obj,GameObject *enemy)
{
    GameObject *o = Get_Vehicle(enemy);
    if (o)
    {
        enemy = o;
    }
    ActionParamsStruct params;
    Vector3 pos,pos2;
    float maxattack;
    float attacktimer;
    pos = Commands->Get_Position(obj);
    pos2 = Commands->Get_Position(enemy);

    if (IsValidEnemy(obj,enemy) && !Firing)
    {
        maxattack = Get_Float_Parameter("MaxAttackDistance");
        params.Set_Basic(this,100,2);
        if(Get_Int_Parameter("AdjustAim") != 0 && enemy->As_SoldierGameObj())
        {
            params.Set_Attack(Commands->Get_Position(enemy),maxattack,0.0,true);
        }
        else
        {
            params.Set_Attack(enemy,maxattack,0.0,true);
        }
        params.AttackCheckBlocked = false;
    }
}

```

```

params.AttackForceFire = true;
Commands->Action_Attack(obj,params);
CurrentTarget = Commands->Get_ID(enemy);
attacktimer = Get_Float_Parameter("AttackTimer");
Commands->Start_Timer(obj,this,attacktimer,2);
}
}

bool KB_Base_Defence::IsValidEnemy(GameObject* WeaponObj, GameObject* EnemyObj) {
if (!EnemyObj) return false;
if (Commands->Get_Player_Type(EnemyObj) == Commands->Get_Player_Type(WeaponObj))
return false;
if (Commands->Get_Health(EnemyObj) <= 0) return false;
if (!Commands->Is_Object_Visible(WeaponObj, EnemyObj)) return false;
if (Is_Script_Attached(EnemyObj,"KB_Friendly_Zone_Generated")) return false;
if (EnemyObj->As_VehicleGameObj() && Get_Vehicle_Driver(EnemyObj))
{
if (Is_Script_Attached(Get_Vehicle_Driver(EnemyObj),"KB_Friendly_Zone_Generated")) return
false;
}
float minattack = Get_Float_Parameter("MinAttackDistance");
float maxattack = Get_Float_Parameter("MaxAttackDistance");

Vector3 WeaponObjPos = Commands->Get_Position(WeaponObj);
Vector3 WeaponObjPosXY = WeaponObjPos;
WeaponObjPosXY.Z = 0;

Vector3 EnemyObjPos = Commands->Get_Position(EnemyObj);
Vector3 EnemyObjPosXY = EnemyObjPos;
EnemyObjPosXY.Z = 0;

float DistanceXY = Commands->Get_Distance(WeaponObjPosXY, EnemyObjPosXY);

return DistanceXY > minattack && DistanceXY < maxattack;
}

void KB_Base_Defence::Action_Complete(GameObject *obj,int action_id,ActionCompleteReason
complete_reason)
{
if (action_id == 2)
{
Commands->Action_Reset(obj,100);
}
}

void KB_Base_Defence::Timer_Expired(GameObject *obj,int number)
{
ActionParamsStruct var;

```

```

GameObject *object;
float f;
if(number == 1 && !Firing)
{
    f = Commands->Get_Random(0.0f,2.9999f);
    switch (__min(int(f),2))
    {
    case 0:
        object = Commands->Find_Object(id1);
        if (object)
        {
            var.Set_Basic(this,70,1);
            var.Set_Attack(object,0.0,0.0,true);
            Commands->Action_Attack(obj,var);
        }
        break;
    case 1:
        object = Commands->Find_Object(id2);
        if (object)
        {
            var.Set_Basic(this,70,1);
            var.Set_Attack(object,0.0,0.0,true);
            Commands->Action_Attack(obj,var);
        }
        break;
    default:
        object = Commands->Find_Object(id3);
        if (object)
        {
            var.Set_Basic(this,70,1);
            var.Set_Attack(object,0.0,0.0,true);
            Commands->Action_Attack(obj,var);
        }
    }
    Commands->Start_Timer(obj,this,10,1);
}
if(number == 2)
{
    if(!IsValidEnemy(obj,Commands->Find_Object(CurrentTarget)))
    {
        Commands->Action_Reset(obj,100);
        Firing = false;
    }
}
}

void KB_Base_Defence::Register_Auto_Save_Variables()
{

```

```
Auto_Save_Variable(&id1,4,1);
Auto_Save_Variable(&id2,4,2);
Auto_Save_Variable(&id3,4,3);
Auto_Save_Variable(&objtype,4,4);
}
ScriptRegistrant<KB_Base_Defence>
KB_Base_Defence_Registrant("KB_Base_Defence","MinAttackDistance=0.0:float,MaxAttackDistance=300.0:float,AttackTimer=10.0:float,AdjustAim=0:int");
```

this is my defence AI
it targets both vtol and ground
and is power independant

ive made it using several ai scripts from TT

edit : fixed the spoiler things

Subject: Re: Turret and GT not shooting
Posted by [danpaul88](#) on Mon, 11 Jun 2012 07:49:00 GMT
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For reference, dp88_AI_Turret also supports targeting VTOL and ground and is optionally power independent (it also supports target priorities, such that you can instruct it to prefer shooting infantry instead of vehicles if there are any nearby, or to try and finish off badly damaged targets before healthy ones).

For reference;
Toggle Spoiler

Anyway, it sounds to me like your sight range might be too small in your LE preset. The sight range variable determines how far away the defence can 'see' enemies and thus shoot at them.

File Attachments

1) [ai_turret.jpg](#), downloaded 509 times

Detailed Description

Author:

Daniel Paul (danpaul88@yahoo.co.uk)

A custom designed turret AI code designed to allow maximum flexibility in implementation without needing multiple

The turret AI uses a priority based system to 'intelligently' pick targets based upon a range of criteria such as the in the script parameters to give you a high degree of control over which of several targets a turret will choose to concentrate their fire on a single target for maximum impact.

Parameters:

| | |
|-----------------------------------|---|
| Priority_Infantry | Base targetting priority for infantry targets, or 0 to ignore infantry |
| Weapon_Infantry | Weapon to use against infantry targets: 0 for primary fire, 1 for second |
| Splash_Infantry | Determines if we should try to damage infantry with splash instead of |
| Priority_Light_Vehicle | Base targetting priority for light vehicle targets, or 0 to ignore light ve |
| Weapon_Light_Vehicle | Weapon to use against light vehicle targets: 0 for primary fire, 1 for s |
| Priority_Heavy_Vehicle | Base targetting priority for heavy vehicle targets, or 0 to ignore heav |
| Weapon_Heavy_Vehicle | Weapon to use against heavy vehicle targets: 0 for primary fire, 1 for |
| Priority_VTOL | Base targetting priority for flying targets, or 0 to ignore flying targets |
| Weapon_VTOL | Weapon to use against flying targets: 0 for primary fire, 1 for seconda |
| Min_Attack_Range | Minimum distance at which the turret can engage enemies when using |
| Max_Attack_Range | Maximum distance at which the turret can engage enemies when using |
| Min_Attack_Range_Secondary | Minimum distance at which the turret can engage enemies when using |
| Max_Attack_Range_Secondary | Maximum distance at which the turret can engage enemies when using |
| Modifier_Distance | Priority modification to apply based on distance to target. Higher valu |
| Modifier_Target_Damage | Priority modification to apply based on damage a target has already s |
| Modifier_Target_Value | Priority modification to apply based on the value of the target. Higher |
| Requires_Power | Specify whether this turret requires base power to operate: 1 to requ |
| Debug | Specify whether to produce a debug logfile about the turrets targetting |

Note:

Vehicles are always classified as light vehicles unless they have the **dp88_AI_heavyVehicleMarker** scrip

Warning:

Never leave the Debug parameter enabled when releasing your mod, it will clog up everyones machines wi

Member Function Documentation

```
void dp88_AI_Turret::attackLocation ( GameObject * obj,
```

Subject: Re: Turret and GT not shooting

Posted by [robbyke](#) on Mon, 11 Jun 2012 12:49:51 GMT

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yea it hought that to at first but i already doubled it

and it was set at 100 first

the strange thing is that its only those 2 :s

the agt and obelisk work just fine

even the tailgun does (wich makes it even worse as gt is a tailgun)

Subject: Re: Turret and GT not shooting

Posted by [danpaul88](#) on Mon, 11 Jun 2012 13:07:42 GMT

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Try using different combinations of the 'Aim 2d', 'Sight down muzzle' and other such options to see what works best, I don't have access to my LE here to see how I usually set mine up but playing around with those usually helps.

Subject: Re: Turret and GT not shooting

Posted by [robbyke](#) on Mon, 11 Jun 2012 15:39:18 GMT

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no difference

i tried another script

i tired to use m00_base_Defence and that one worked

but jfw_base_defence didnt :s

edit :

Found it

```
if (!Commands->Is_Object_Visible(WeaponObj, EnemyObj)) return false;
```

apparantly turret and gt cant really "see"

EDIT 2 :

my guns wont stop shooting anymore :s

they just keep firing against the wall until the target is totally out of range

```
WeaponObj->As_SmartGameObj()->Is_Obj_Visible(EnemyObj->As_PhysicalGameObj())
```

thats the check i use now (it works for the turret and gt)

Subject: Re: Turret and GT not shooting

Posted by [reborn](#) on Wed, 13 Jun 2012 21:57:34 GMT

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danpaul88 wrote on Mon, 11 June 2012 03:49 For reference, dp88_AI_Turret also supports targeting VTOL and ground and is optionally power independent (it also supports target priorities, such that you can instruct it to prefer shooting infantry instead of vehicles if there are any nearby, or to try and finish off badly damaged targets before healthy ones).

For reference;
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Anyway, it sounds to me like your sight range might be too small in your LE preset. The sight range variable determines how far away the defence can 'see' enemies and thus shoot at them.

Very nice documentation, DP. As a community, we tend to lack proper documentation, good job!

Subject: Re: Turret and GT not shooting

Posted by [danpaul88](#) on Thu, 14 Jun 2012 08:06:37 GMT

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I have found the best way to handle 'stop shooting at stuff you can no longer see' is to record the last time you 'saw' the enemy (via the Enemy_Seen) event and have a timer that fires regularly to check that against the current time. If you have not 'seen' the enemy you are trying to shoot at for more than 2 or 3 seconds you should probably stop shooting at them.

Alternatively if you change;

```
params.AttackCheckBlocked = false;  
to  
params.AttackCheckBlocked = true;
```

I believe you will get an ActionComplete and it will stop firing if it can no longer shoot at the target, but I am not 100% sure what AttackCheckBlocked does so you will have to experiment (this is the sort of thing I would like to document so let me know your results if you do try this)

reborn wrote on Wed, 13 June 2012 22:57

Very nice documentation, DP. As a community, we tend to lack proper documentation, good job!

I am actually working on documenting all of the TT stuff in that fashion but there's an awful lot of it so it's slow going. Jonwil has done a bit too.

Another example;

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File Attachments

1) [ar_miner_ai_docs.jpg](#), downloaded 415 times

| | |
|------|----------------------|
| int | oreFieldValue |
| int | oreLoadLevel |
| int | oreValue |
| bool | useAI |
| bool | animating |
| int | aiState |

Detailed Description

Author:

Daniel Paul (danpaul88@yahoo.co.uk)

This class contains the basic logic for the ore miners used in Apocalypse Rising and supports both AI and player controlled miners. The miner is a script zone with the **dp88_AR_Ore_Field_Zone** script attached to it, which determines the value of each ore 'unit' and the time it takes to mine each unit. The miner also has several other scripts.

The miner can hold up to a configurable number of ore units, each of which takes a configurable amount of time to mine from an ore field whilst ore units are 'collected'.

Miners can deposit ore at any time as long as they have at least one unit mined, with the total value of the deposit determined by the **oreValue** parameter. Ore deposits are achieved by entering a script zone with the **dp88_AR_Ore_Deposit_Zone** attached to it.

When the AI is enabled the miner will use the pathfind grid to locate the nearest ore field and drive to it to begin mining. It will then drive to an ore deposit zone and drive there to unload it's ore. This will be repeated ad-infinity until the miner is destroyed. If you are using the AI, you should place pathfind blockers around the problematic areas and re-generate pathfind data to make it work.

Parameters:

| | |
|-------------------------|---|
| enableAI | Specifies that this miner should use its AI to mine autonomously. 1 to enable AI, 0 to disable AI. |
| loadLevels | Specifies the total number of ore units this miner can hold at any time |
| orePerLoadLevel | Amount of ore mined in each unit, this is multiplied by the oreValue parameter in the ore field script to determine the value of each ore unit |
| timePerLoadLevel | The amount of time, in seconds, it takes to mine one ore unit from an ore field |
| unloadtime | The amount of time, in seconds, it takes to unload all ore units at an ore deposit zone |
| aiStartDelay | If the miner AI is enabled this specifies the initial delay before starting the first AI action. If the AI is disabled, this parameter is ignored, overriding this one. |
| dockAnimation | An optional animation to be played when depositing ore at a refinery |
| dockSound | An optional sound effect to be played when depositing ore at a refinery |
| miningAnimation | An optional animation to be played in a loop whilst mining in an ore field |
| miningSound | An optional sound effect to be played each time the ore load level increases |

Note:

Because this script is designed to act as a base class for both types of AR miner it is not named after either. However, because there is no additional logic required for the Soviet War Miner there isn't actually a derived class. LevelEdit is really an instance of this base class script.

Subject: Re: Turret and GT not shooting
 Posted by [robbyke](#) on Thu, 14 Jun 2012 09:25:01 GMT
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danpaul88 wrote on Thu, 14 June 2012 10:06Alternatively if you change;

```
params.AttackCheckBlocked = false;  
to  
params.AttackCheckBlocked = true;
```

i tried that:

my gun would stop shooting BUT it would still follow the target

so it wont give an action complete it just wont fire

as soon as target pops up again it will fire again

however this is what happened in my case could be this is not for all cases

if you want i can try it out to full extend

i think its just that it wont attack if it cant hit a target but it wont lose track of it (you need to do action reset for it)

Subject: Re: Turret and GT not shooting
Posted by [danpaul88](#) on Thu, 14 Jun 2012 10:28:54 GMT
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Looking at your code, there is a problem with your Timer_Expired function. In the case that timer number == 2 and IsValidEnemy returns true you don't restart the timer, thus you never re-check the enemy is valid after the initial check. That could be the source of your problems.

Subject: Re: Turret and GT not shooting
Posted by [robbyke](#) on Thu, 14 Jun 2012 12:20:01 GMT
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it indeed was ive changed the check

but i used it for continuous fire

else full automatic guns keep pausing there fire

ive now changed that to 10 seconds

and removed the check for a valid target

PS: even with that check if i had check attack blocked and it would do action complete (becuase it cant hit his target) it would reset

so the checkblocked will only stop its fire when he cant hit you
