

TankWar 1.0 – Project Overview

Version 1.00 (15.01.00)

Change History

When	Who	Why
Jan 15, 2000	Gitm	Initial version

Introduction

A long, long time ago (around 1989/1990 I think) my friends and I used to play this wonderful two player tank game – it managed to chew up quite a bit of time that should have gone into study. In the game, each player had control of a tank, you had to zip around the map and try to capture the other players flag and return it to your base – in the meantime you got to shoot things up, lay mines etc, etc.

The game supported CGA & EGA only, two player mode was supported by shared keyboard (annoying, and you could see where the other person was on the screen) or through a null-modem cable connecting the two machines.

In the years since I've looked for a similar game for the Windows platform. I've found a few nice games with a similar theme (See Appendix A: TankWar Like Games), but none of them allowed internet play on the Windows platform. So, being a developer – and wanting to get my hands dirty with DirectX, the obvious solution is to write my own version.

I'm certain I'm not the only person who would be looking for such a game and I'm also certain that there are a lot of people in the wide internet world who would like to contribute to such a project so TankWar is being made as an opensource, freeware project hosted by SourceForge. Anyone who would like to contribute is welcome to join the project. You don't have to be a coder – the game requires sprites, textures, levels, sound and any number of things.

The TankWar homepage can be found at <http://tankwar.sourceforge.net>

Goals

There are a number of goals I'd like the game to meet. This is a brief list.

1. Playability

The original game that I enjoyed so much was very addictive. Most Bolo supporters report the same feeling about that particular game as well. TankWar should provide a smooth and enjoyable playing experience.

2. Small Footprint

Quake 3 is great – as long as you have a spare 500Mb to install it. The demo version itself is well over 30Mb to download. To help the spread of the game it would be nice to keep the basic version of TankWar down to a reasonable size.

3. Extensible

Most games provide a means for the player to customise the game with new levels, new graphics etc. TankWar should provide the same ability.

4. Fast Network Play

A lot of people still connect to the internet via modem – the TankWar protocol should be optimised for such low-speed connections.

Game Play Modes

Four game play modes should be supported. Each mode should be playable in a network game against other humans, against bots or a mixture of both.

Capture the Flag

In this mode each player has a tank, a base and a flag. The goal is to capture the flags of the other players and return them to your base. When one player has captured all other flags the game ends and that player wins.

Team Capture the Flag

The same concept as Capture the Flag but players combine to form two or more teams. The team that captures all other teams flag wins.

Deathmatch

This is an open-ended game mode. The goal is to kill other players. When a player is killed they re-generate at their base and re-enter the game. Score is kept by the number of kills each player clocks up.

Team Deathmatch

The same gameplay as Deathmatch but players combine to form teams and score is kept on a team basis rather than an individual player basis.

Implementation Notes

These notes are simply ideas I've had while thinking about how to implement the project. All points are open to discussion.

Network Play

There are two ways the network play could be implemented – client/server style or token ring style (in the manner of Bolo). TCP would be the protocol of choice, it may be worth implementing IPX/SPX support as well.

Would it be worth implementing a TankWar super-server ? No user interface – just a server that could serve multiple games from a service provider ?

Maps, Textures and Sprites

TankWar is best suited to a top-down tiled map style of game. People must be able to add new maps, or add new tile/sprite sets to customise the look & feel of the game. Ideally these should be packaged into single files that can be downloaded and added to the game fairly easily.

Bots

It must be easier to add new bots to the game. Obviously the base version will come with at least one bot to support offline play but it should be easy to allow people to develop their own bots.

What I had in mind was defining a set of COM interfaces that the game used to communicate with a player (human, remote or a bot). Any new bot would be written to support these interfaces (which could be done in C++, Delphi or Visual Basic) and register itself in a particular component category for the game to pick up and allow the user to select from. It would also be possible to write a bot that supported ActiveX scripting and allow people to write bots in VBScript or JavaScript.

Tools

Naturally – to simplify the development of new levels, graphics and bots a few tools would be required.

TWEDIT – The Level Editor

This tool is used to develop and package new levels – including sprites and tiles. The graphics would still have to be drawn externally (there are already good graphics programs out there – why try and build a new one) but should support basic tweaking of the graphics.

TWSDK – The Bot SDK

Basically a setup program wrapped around the files required to develop bots.

Summary

This document has been a very brief description of the ideas and goals behind the TankWar project. If you are interested in joining the project – please visit the project page at SourceForge (<http://tankwar.sourceforge.net>) and sign up.

The next steps to take to get the game under way are (not necessarily in order) :

1. Define the gameplay and rules

2. Define the objects required by the game
4. Define the networking model for internet play
5. Develop the core game engine and Bot interface
6. Define the level file format
7. Develop the level editor
8. Develop a simple Bot
9. Design the first level

Appendix A: TankWar Like Games

Name	URL
Netmaze	http://netmaze.mobilixnet.dk/index.html Multiplayer tank game for DOS using IPX networking protocol. Written in Pascal/ASM (source available).
Bolo	http://www.lgm.com/bolo/ Multi-player tank game for Apple Macintosh. Uses AppleTalk or UDP for networking. Interesting token-ring style communication protocol.
WinBolo	http://members.xoom.com/jamorrison/winbolo.html Only discovered this the night I was writing the first version of this document. Supposedly a Bolo clone for Windows. I'm in the process of testing it now.

Appendix B: Important Project Locations

TankWar Homepage: <http://tankwar.sourceforge.net>
 Project Page: https://sourceforge.net/project/?group_id=1476
 Mailing List Page: <http://mail1.sourceforge.net/mailman/listinfo/tankwar-discuss>
 Mailing List Address: tankwar-discuss@lists.sourceforge.net