An up-to-date overview of free software and its makers

PROJECTS ON THE MOVE

Even admins get bitten by the gaming bug. Frets on Fire lets you train for an air guitar competition. Or try the free business simulation clones Transport Tycoon, Simutrans, or OpenTTD. **BY CARSTEN SCHNOBER**

When future historians look back on our civilization, they might find it difficult to explain the phenomenon of rock fans playing air guitar accompanied by dance-like moves. With air guitar enthusiasts in mind, a group of Finnish programmers developed software that provides guidance and training in a kind of tongue-in-cheek air guitar competition.

Frets on Fire

Frets on Fire [1] (Figure 1) brings precision to your air chords by replacing the air guitar with a computer keyboard. The main menu even reveals a set of recommended poses.

Keys F1 through F5 simulate the strings on a guitar. In the 2D shooter genre, the player typically maneuvers an object or character up and down and from side to side through a two-dimensional world with the goal of shooting attackers or moving around obstacles. In Frets on Fire, the player collects points by pressing the right keys at the right moment as notes rain down. However, the game doesn't simply copy old ideas. In fact, the creative use of the keyboard deserves praise: If you pick up the keyboard with both hands and place the fingers of your left hand so they touch the five function keys, playing chords is actually quite intuitive.

The notes you must hit are gleaned from the tune of a rock song chosen when you launch the game. Unfortunately, copyright restrictions prevent the game from using popular hits; instead, the open source community has donated hundreds of self-composed songs that any virtual guitar hero is bound to enjoy.

The developers, going by the name Unreal Voodoo, are not the first to have implemented air guitar mastery in software. RedOctane [2] published part 1 of its Guitar Hero video game back in 2005, using its own pseudo–guitar-styled device as a controller. As a commercial manufacturer, RedOctane included popular songs from rock legends of the past decades on the game DVD.

Users with the first or second part of Guitar Hero can rehash the music files for use with Frets on Fire. To access the songs from the commercial game, the program's internal import function simply needs an Ogg Vorbis encoder. Depending on your CPU, the computationally expensive process might take a couple of hours to complete.

The development team comprises programmers from a range of disciplines. The main programmer, Sami Kyöstilä, is an information technologist and is responsible for 3D graphics; game play is the responsibility of Joonas Kerttula; and Tommi Inkilä contributes the musical parts. Although the graphics and sound features of various operating systems access multimedia hardware in different ways, the Python language gives the team a platform-independent approach. Linux

Figure 1: Frets on Fire picks up on the 2D shooter theme, but instead of blasting enemy space ships, the object is to hit the right notes on an air guitar.

Figure 2: Simutrans lets the player set up a transport network to take people and goods to their destinations.

users simply need an SDL-compatible sound card and an OpenGL graphics card; on Windows, the program relies on DirectX. Frets on Fire also is available for Mac OS X, and other Unix systems can join in the fun if they have drivers for the required hardware.

Simutrans

The MicroProse computer game manufacturer had the idea 20 years ago to create virtual railway landscapes. In 1994, MicroProse released Transport Tycoon, similar to Railroad Tycoon released four years earlier, wherein a model railway fan became a railroad tycoon, set up a transport network, and did battle with computerized competitors.

Now MicroProse has released both original versions as free downloads, but two other free projects are working toward not just emulating Transport Tycoon but improving it. In 1997, Hansjörg Malthaner created Simutrans [3] (Figure

2) but withdrew from the project in 2004, handing over development to a team of programmers.

Simutrans supports a full range of vehicles – planes, ships, trains, streetcars, trucks, coaches – and the corresponding infrastructure to transport passengers and goods. The game starts in the year 1880 and will take you up to 2050, reflecting historical development by not letting you use transport technologies before they became available in the real world. Fueled by the progression of time and influenced by the infrastructure set up by the player or competitors, new industries arise and in turn create new goods that need to be transported.

Recently, developers have been modularizing Simutrans. The system platform displays various graphics packages – called paks – onscreen that define the game's visuals and can also redefine the cost of certain means of transportation and goods or completely disable them.

The basic package, Pak64, was created by Malthaner and is the default package to which new features are added. For larger buildings and vehicles, you should opt for Pak128, recommended for high-resolution screens.

Also, the Simutrans homepage offers numerous add-on paks. Some let you play in a comic book world or in environments that reflect Japanese, British, German, or Baltic ar-

chitecture; other packages send the players to monochrome worlds, or even to Mars. Makeobj, also available to download from the Simutrans page, gives you scope for creativity by letting you add PNG files to create your own paks.

OpenTTD

The OpenTTD project [4] (Figure 3) also is approaching a new release. Again, the software emulates Transport Tycoon, but the motivation for the project was the ineffectual artificial intelligence in the original game that spoiled the fun for many gamers. However, the developers are quite happy to use the proprietary Transport Tycoon graphics.

OpenTTD offers insights into artificial intelligence programming. Beta version 0.7 includes an AI interface, NoAI, that lets users integrate their own developments into the game. The API allows developers a free choice of programming language, although the OpenTTD developers recommend Squirrel.

OpenTTD and Simutrans are open to help, and both projects need translators. Whereas OpenTTD focuses on artificial intelligence, Simutrans focuses on gaming logic and visuals, providing something for anyone interested in game programming. ■

Figure 3: Like Simutrans, OpenTTD is a clone of the classic Transport Tycoon game and uses the graphics supplied with the original game, but with a new artificial intelligence package.

INFO

[1] Frets on Fire: *http://fretsonfire.sourceforge.net*

[2] RedOctane: *http://www.redoctane.com/*

[3] Simutrans download: *http://www.simutrans.com*

[4] OpenTTD: *http://www.openttd.org/en/*