



Department of  
Computer **and** Information Science

# Unknown Horizons - An Open Source Project Evolves

Thomas Kinnen

TDT10 - New Software Technology: COTS and Open Source  
Software

## Table of Content

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>History</b>	<b>2</b>

## 1 Introduction

### 1.1 Motivation

*Unknown Horizons*<sup>1</sup> is an open-source real-time strategy game developed by a team of programmers, artists, game designers and many more around the globe. The first revision to the current project was committed in late 2007<sup>2</sup>. The idea started out in 2005 under the name *OpenAnno* and was renamed to *Unknown Horizons* in 2008.

Over the years the project grew to a small team of more than 10 active developers and many patch contributors. The recent release version of *Unknown Horizons* has been downloaded more than 10000 times<sup>3,4</sup>, a rather big user-base compared to the team size.

In this document I want to give a personal report on the work I have done on *Unknown Horizons* in the past years and give an overview of how certain parts of the project's organization have evolved.

### 1.2 About Me

My name is Thomas Kinnen, I'm currently doing my Masters in Computer Science. On the development team and in the code repository I am mostly known by the nick-name *nihathrael*.

I started working on the project in early 2008, shortly after the first commits had been committed to the repository. The project had come to a nearly complete halt when I joined, so I set out to bring it back to life.

Since November 2008 I am one of the two project coordinators, with focus on code direction and introduction of new potential members to the team and code. In this position I got a good view into most of the necessary parts of an open-source game development team. This includes public relations, mentoring new members, graphics, content, programming, code design, leading meetings and many more in the context of an open-source game.

---

<sup>1</sup>Unknown Horizons website: <http://www.unknown-horizons.org>

<sup>2</sup>First commit to *Unknown Horizons*: <https://github.com/unknown-horizons/unknown-horizons/commit/53eec12fd8bb52ac1a6ccfdb097296c479499dfd>

<sup>3</sup>Sourceforge download statistics: <http://sourceforge.net/projects/unknownhorizons/files/Unknown%20Horizons/2011.2/>

<sup>4</sup>Chip.de download statistics: [http://www.chip.de/downloads/Unknown-Horizons\\_33713541.html#sp=unknownhorizons&N=0&pos=1](http://www.chip.de/downloads/Unknown-Horizons_33713541.html#sp=unknownhorizons&N=0&pos=1)

## 2 History

In this section I present the history before and during my time as part of the *Unknown Horizons* team. I will give only a brief overview of the history before I joined the project as the current state has nothing but the idea in common with the older versions.

### 2.1 Pre History

The idea for the *Unknown Horizons* project existed long before I joined the team in 2008. The project's first name was *OpenAnno* for which the original sourceforge.net project was registered as early as July 2005<sup>5</sup>. The original announcement for OpenAnno can be found on the german linux forums: <http://linuxforen.de/forums/showthread.php?t=188350>. Version 3.5 (See screenshot in Figure 1) of OpenAnno was released in early 2006<sup>6</sup>. After a rewrite to C++, version 0.0.1.0 of OpenAnno was released in September 2006<sup>7</sup>.



Figure 1: Early screenshot from OpenAnno 3.5 - taken from Softpedia.com

In April 2007 *LinuxDonald* (Thomas Kowaliczek) took over the project from *The Brain* (Martin Gerhardy)<sup>8</sup>.

<sup>5</sup>Original sourceforge.net project: <http://sourceforge.net/projects/openanno/>

<sup>6</sup>Link to a download site: <http://happypenguin.org/newsitem?id=6154>

<sup>7</sup>Release announcement 0.0.1.0: <http://da.zfx.info/developia/viewarticlecomments.php?cid=28999#29101>

<sup>8</sup>Original Blogpost by LinuxDonald (German): <http://www.linuxdonald.de/blog/?p=4>

The project took an interesting turn in August 2007 when the team decided to split the project into a 2D and a 3D version<sup>9</sup>.

OpenAnno 2D was restarted in September 2007, using FIFE<sup>10</sup> as its graphics engine. The team was hoping the collaboration with a dedicated graphics engine would make their work easier, as they had previously stalled on implementing different terrain heights and were having trouble getting all the work done. OpenAnno 3D was dropped in the same decision as the team had realized that the burden of developing two games basically in parallel was not a viable option. This presented a radical cut in the development of OpenAnno, as the core repository had over 1000 commits at that time<sup>11</sup>. Restarting meant throwing years of development over board to start again from scratch.

## 2.2 History - 2008

In March 2008 I joined the project as a novice programmer. When I joined the project had almost come to a halt, amazed by the idea of writing an open-source game in the footsteps of *Anno 1602* I decided to give it a try non-the-less. The entire code was removed and I started from scratch, using only the graphics we had. Motivated by the new start *spq* quickly joined me in my efforts only 18 days later. *spq* and I had a lot of time at our disposal, so with the help of many other old and new members development of *OpenAnno* progressed quickly, we hit 500 commits to the repository by June 2008 and finished our first milestone 2008.1 by July 8th. The 1000. commit followed quickly by July 16th. At the end of July the team had its first meetup at the *Dusmania 2008* hobby game developers conference and was awarded 2nd place in the category best game.

On the October 1st *OpenAnno* hit a major milestone with its first public release: Version 2008.1. The release received quite a lot of coverage and was featured on some big websites like the german magazine *chip.de*<sup>12</sup> and the freegamer blog<sup>13</sup>

During this time it became clear that *LinuxDonald* would not be able to continue doing the project management due to a lack of time on his side. After a long meeting and a vote at the beginning of November it was decided to split the position in two team coordinator jobs. *Nightraven* (Tobias Schröfel) was assigned to public relations and advertising and guiding game design decisions. I was chosen to assign tasks and guide the development of the codebase. Tasks for both project coordinators were defined as posting news updates, guiding discussion on IRC and helping new interested developers join our project. LinuxDonald agreed to continue hosting the website and repository infrastructure, showing it was not the lack of interest but the lack time that caused him to step down.

---

<sup>9</sup>Splitting 2D/3D blogpost: <http://www.linuxdonald.de/blog/?p=13>

<sup>10</sup>FIFE website <http://www.fifengine.net>

<sup>11</sup>Blogpost about the 1000th commit: <http://www.linuxdonald.de/blog/?p=6>

<sup>12</sup>Chip newsentry to 2008.1:<http://www.chip.de/news/OpenAnno-Strategiespiel-Klassiker-als-Open-Source-33713075.html#sp=openanno&N=0&pos=1>

<sup>13</sup>Freegamer blogpost: <http://freegamer.blogspot.com/2008/10/lavirinto-3d-060-balazar-3-01-openanno.html>

### 2.3 History - 2009

The year 2009 started with a big change: The project was renamed to *Unknown Horizons*. This was done for two reasons:

- Copyright concerns about the word "Anno" being licensed by *Sunflowers* in Germany
- Separate the game from the original Anno series, underlining it not being a clone

As *Unknown Horizons* is not a formal organization or company any lawsuits against the name (or any other part of the project) would result in the lawsuit going against the project leaders Nightraven and/or me. Therefore we decided to change the name to something completely new, leaving us on the safe side of things.

This is the original commit from the official repository performing the renaming:

#### Listing 1: Commit 1831 renaming OpenAnno to Unknown Horizons

```
1 Author: nihathrael
2 Date:   Fri Feb 20 16:39:37 2009 +0000
3     * Renamed all occurrences of OpenAnno to Unknown Horizons
4     * openanno.py is now named run_uh.py
5     * openanno.sqlite ist now named game.sqlite
6     * Goodbye OpenAnno ;( Off to new shores we go :)
```

Besides this big change, 2009 was a regular development year for *Unknown Horizons*. The team released three new versions of *Unknown Horizons*:

- 2009.0
- 2009.1
- 2009.2 + bugfix release 2009.2a.

The releases generated over 35 thousand downloads on sourceforge alone.

The release 2009.2 was featured in the big german computer magazine *c't*<sup>14</sup> and was delivered with the magazine's dvd shipped with each copy.

### 2.4 History - 2010

In 2010 the team decided to move away from the subversion<sup>15</sup> revision control system and switch to git<sup>16</sup>. With this switch, the repository hosting was also moved to github.com. Github is a collaborative source-code hosting website which deeply integrates git into the website. It makes it easy for developers to submit patches and even easier for the team to merge it. This also moves the source-code hosting away from our own servers, making it much more reliable and cheaper.

The team only released one release: Version 2010.1. It introduced a network mode, allowing the player to play with other players over the internet or a local area network.

<sup>14</sup>[http://www.heise.de/software/download/cdd\\_95\\_9](http://www.heise.de/software/download/cdd_95_9)

<sup>15</sup><http://subversion.tigris.org>

<sup>16</sup><http://git-scm.com/>

## 2.5 History - 2011

2011 has been an exciting year for *Unknown Horizons* so far. Early 2011 the team decided to apply for the *Google Summer of Code*<sup>17</sup> program. The application was accepted and *Unknown Horizons* was granted 3 student slots. The team had applied together with the graphics engine FIFE and it was decided that 1 slot would go to FIFE and 2 to *Unknown Horizons*. The three students which were chosen, were chosen for the following projects:

- Artificial Intelligence Player for *Unknown Horizons*
- Combat for *Unknown Horizons*
- Performance Improvements for the Rendering Pipeline in *FIFE*

Before the students started their work, the team released version *2011.1* of *Unknown Horizons*.

The three students did excellent work during the 3 months of their active work on both *Unknown Horizons* and *FIFE* and all easily passed the final evaluation. Following up on the *Summer of Code* Google invited two members of each organization to participate in the mentor summit at their campus in Mountain View. Christoph Ölmüller, who did the administrative work for GSoC for *Unknown Horizons*, and me got the chance to go and meet many fellow open-source game developers from other projects like *Battle for Wesnoth*, *Worldforge* and *Hedgewars*.

*FIFE* released version *0.3.3* of their engine on October 7th, followed by bugfix release *0.3.3r2* on November 2nd. This release includes all changes done by their student *kozmo* (Kajetan Świerk). *Unknown Horizons* will release *Unknown Horizons* version 2011.2 during the 2nd week of November, containing all changes made during the *Summer of Code* and the regular development.

## 2.6 Problem Statement

## 2.7 Project Context

---

<sup>17</sup>Official GSoC website: <http://www.google-melange.com/gsoc/homepage/google/gsoc2011>