



“Lessons Learned, from Games Preserved”

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Who Am I

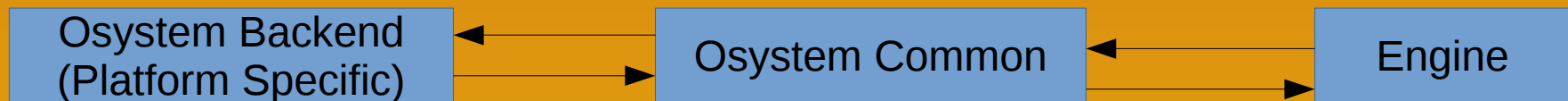
- Grew up gaming and learning to code with the BBC Micro/Archimedes, Commodore 16(!) and Amiga – learnt Unix & VMS by doing naughty things to the Tassie VAX cluster (any locals remember davros and typhoon? :)
- Retro-Gaming Enthusiast by night, Systems Admin for a Perth-based Data Centre and Hosting Company by day
- Became Project Lead of ScummVM in Feb 2002, retiring as co-lead (from a team of 3) in Dec 2008
- 10th linux.conf.au, first talk submission :)

What is ScummVM?

- ScummVM is a collection of interpreter implementations for classic adventure games
- Founded by Ludwig 'ludde' Strivegus (uTorrent, OpenTTD, now at Spotify) in 2001, along with Vincent 'yaz0r' Hamm (now at Oculus), with the goal of building an interpreter for SCUMM-based games by LucasArts/LucasFilm games.
- Designed to be highly portable
- ... evolved to become something much much more

Portability

- ScummVM architecture evolved early on to maximise portability by abstracting backend and common functions ('Osystem'), with each port supplying a Osystem backend class (with platform specific overrides and subclassing where necessary)



- Carefully developed coding standards to encompass 'lowest-common-denominator' C++ implementations. No STL, Exceptions, etc
http://wiki.scummvm.org/index.php/Coding_Conventions
- Ssennaidne
- Endianness
- Segment size limits on various platforms

Reimplementing Engines

- Most game studios developed their own engines, often used across a family of games. Examples: SCUMM (LucasArts), AGI/SCI (Sierra), Virtual Theatre (Revolution), AGOS (Adventure Soft)
- Reverse engineer:
 - Container files
 - Graphics formats (background, actors, sprites)
 - Audio formats (voice, sfx, music)
 - Scripting engine (where scripted... hopefully easy to find a opcode jump table).

(The last usually requires nothing less than deep-dive disassembly, but file formats can and have sometimes been derived from existing tools or simple common sense)

Cooperation with Right Holders

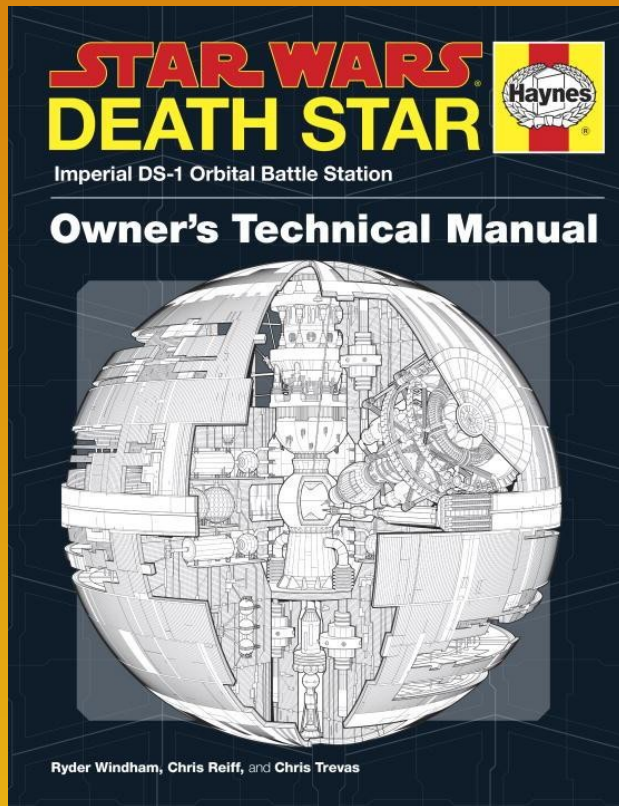
- From the very beginning, the project has tried to respect the games we aim to preserve...



Cooperation with Right Holders

- From the very beginning, the project has tried to respect the games we aim to preserve...
- Absolutely ZERO tolerance for piracy (banhammer always on standby). Game detector is coded to reject known cracked variants, and bugs caused by cracks are kept in a special “Do not fix” list.
- Encourages and assists in license compliant use of ScummVM for re-releases; GOG Partnership, etc.

... sometimes not successfully



DMCA notice received from LucasArts in 2002, stating we were distributing LucasArts IP

- Counter-notice and assistance of Roblimo and OSTG (owners of SourceForge at the time)
- Many, many late night discussions w/ LucasLegal over the course of four years and as many different legal counsel
- Also one known GPL violation by Atari & Majesco, despite the projects stance mentioned on previous slide. This was 'settled', although not in a super-satisfactory way.

But usually “For The Win”!

- Revolution Software supplied source code for Beneath a Steel Sky, Lure of the Tempress, Broken Sword 1, Broken Sword 2. Permitted freeware distribution of BASS, Lure!
- John Passfield and Steve Stamatiadis supplied original source code and permitted freeware release of the Australian game ‘Flight of the Amazon Queen’!
- Discworld source was obtained thanks to the a multi-year coordinated effort, with the direct permission of Sir Terry Pratchett, his agent and the original developers
- Wyrmskeep Entertainment supplied source to their engine
- Adventure Soft provided code for several versions of their engine, a graphical variant of AberMUD V which was used in several titles (eg. Simon the Sorcerer, Elvira...)
- Nayma Software provided code for their game Tony Tough
- LK Avalon supplied source for their games Softys and Sfinx, and permission to translate them into English and redistribute them!
- Electronic Arts have an NDA with the team in the name of preservation, and have provided code for two games in the ‘Lost Files of Sherlock Home’ series
- ... **this list is not even complete!** Lesson: Original right holders are people who often care as much about preservation as the players. This even extends to some unexpected places such as larger studios :)

“It worked yesterday, I swear”



SCUMM itself was used across a decade of games – supporting 8-ish major versions which used two major evolutions of the scripting engine & file formats.

During the early days of heavy development, this meant often having to perform build-by-build regression testing to fix issues.

Managing regressions became less nightmare-inducing due to two key process improvements instigated by my teammates.

Max (Fingolfin) Horn (former co-lead and a key architect of Osystem) pushed for proper code review process, and Eugene (sev) Sandulenko (current project lead) formalized a stricter release management and testing regime.



Project Growth

“That’s the second biggest set-o-VMs I’ve ever seen!”
- Not Guybrush Threepwood

- ScummVM has been a regular participant in the Google Summer of Code program for many years – while not being personally involved, excellent mentoring by team members has led to increased retention of student participants with some becoming longer term contributors
- Cooperation with developers has provided the project with original code access to several engines, making their implementation less dependant on the advanced skill requirements for RE and disassembly
- An example of some areas currently in heavy development include Sierra SCI32 and Macromedia Director support

There Is No Cabal...

Apr 1, 2004: Announcing CABAL

Posted by fingolfin

April 1st, THE INTERNET: The [FreeSCI](#), [Sarien](#) and [ScummVM](#) teams today announced the formation of CABAL (Coalesced 'Adventures beyond Architecture' League), a universal adventure game interpreter. This new project will unite the strengths and capabilities of the projects involved, creating what the project members believe will be a revolution for adventure game fans around the globe.

When asked about the relevance of CABAL for the worldwide adventure gaming market, ScummVM project lead Max Horn commented that "[with] the market for adventure titles waning, we believe that the formation of a project with the explicit goal of running every adventure game ever released will infuse it with new life." FreeSCI maintainer Lars Skovlund added that "this will certainly cause an upheaval in the gaming world. Adventure game fans around the world, rejoice!".

In addition to supporting LucasArts' SCUMM games (including famous titles such as "Monkey Island", "Indiana Jones" and "Sam and Max"), Sierra's SCI and AGI lines ("King's Quest", "Leisure Suit Larry", "Space Quest"...), and other games already supported by the retrospective engines, the newly united team plans to continue to add further titles to their already impressive list.

Some of the juicy new modules include:

- An Infocom module (based on the [Frotz Z-machine interpreter](#)), so you can now play your favorite text adventures anywhere you go!
- [Exult](#) is being merged in as a plugin, allowing Ultima 7 fans around the world to play their favorite game on the many platforms already supported by the CABAL component engines - including Palm/PocketPC PDAs and the Dreamcast.
- Revolution software has offered the source-code for Broken Sword 3, which will be added to the titles supported by the upcoming CABAL3D project - alongside with Grim Fandango and, possibly, Ultima IX (negotiations are ongoing).
- Support for the SNES games Final Fantasy IV through VI (Japanese numbering, i.e. FF2/FF3 according to US releases) is planned for sometime this Fall. Whilst these are not strictly adventure games, the storyline and plots in this series are more imaginative than any 'action adventure' title published in recent years.

Offers by various companies, including Microsoft and Amiga International, to buy out the team have been gently but firmly declined by the leads of the joint project. "We know that we could earn a lot of money from this, but we are idealists and at this time we have the goal to reform the worlds adventure market. Once that is achieved, we can reconsider about making some money out of this."

There Is No Cabal...

Apr 2, 2004: There is no Cabal

Posted by fingolfin

CABAL team splits over fundamental design issues

After yesterdays ground-breaking announcement, we are sad to announce the immediate disbandment of the CABAL team. Over the last several days there has been heated debate regarding several important design issues, and current tension in the team has risen to an insurmountable level.

"It's really unfortunate", Max Horn, senior developer on ScummVM and Exult, was quoted as saying, "but [former FreeSCI maintainer] Christoph [Reichenbach]'s ideas of aligning curly braces with the left-hand side of function declarations while appending them to the end of the line for 'while' and 'for' loops did not make any sense at all."

The latter replied by pointing out that "using anything but tabs for indentation is calling for trouble."

Claudio Matsuoka, of the Sarien project, pointed out his disappointment and noted that he didn't see much of a point in trying to co-operate with people entirely incapable of reaching agreements on such trivial issues. "I mean, we haven't even resolved the entire EMACS vs. vi dispute, and they're already at each other's throats again."

James Brown, another senior developer on the ScummVM project, sadly announced that he was laughed out of the project mere hours before a decision to split was made. "They just said I didn't belong, since I prefer nano as a editor..." he admitted.

Two years later...

There Is No Cabal...

May 24, 2006: **Second life for Sarien?**

Posted by aquadran

Hi folks!

As you may have noticed, we are now including the AGI engine in our development source tree aka SVN. This engine allows you to play early versions of games such as Larry 1, Space Quest 1&2, King's Quest 1-4, Police Quest 1, and numerous fanmade games. It is based on the [Sarien](#) code, with its authors expressed permission.

We would also like to clarify that we don't have any plans to add support for SCI games in the foreseeable future. Furthermore, AGI is an in-development engine, so it will not be included in the upcoming 0.9.0 release.

PS. This is not part of the [CABAL](#) project :-)

Two 3/4 more unforeseeable years later...

Feb 15, 2009: **FreeSCI SCI engine implementation has been merged in**

Posted by sev

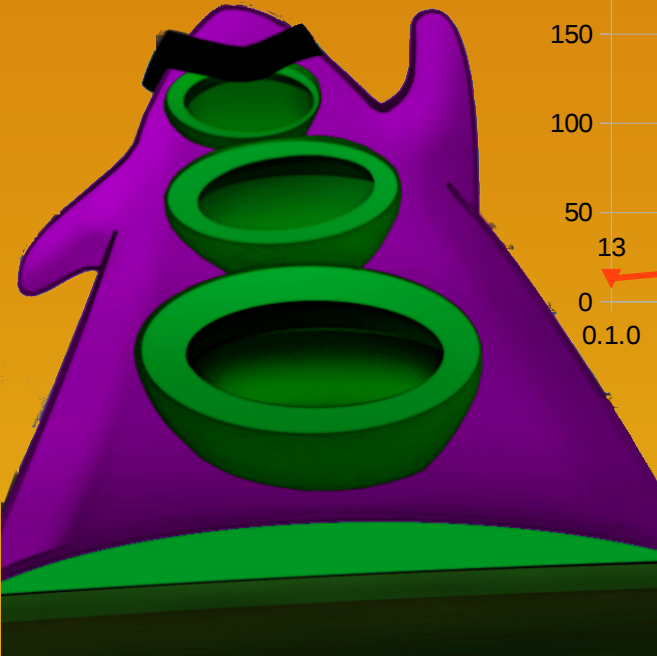
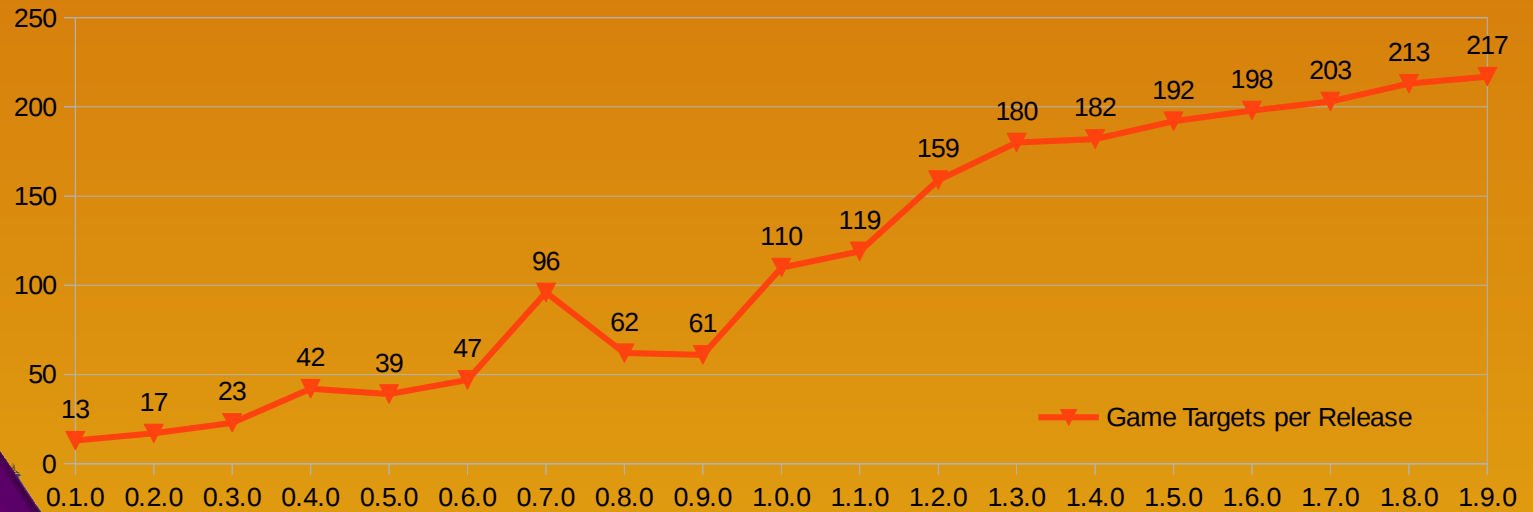
Well, it is true. FreeSCI code now lives under engines/sci.

Most attentive users who watch our development list perhaps noticed that there exists yet another SCI1 engine implementation made from scratch. But for the benefit of everyone it was decided that the joint effort is much better.

Of course, don't expect any magic from it. First, the engine is not announced as supported yet. It is in early stages of integration. Then, you should keep in mind that after the merge will settle down, only SCI0, SCI01 and SCI1 games will be supported. However, due to the fact that some of ScummVM developers are interested in SCI development for some time now, we look forward to speeding up the work on the engine.

In the meantime, please, help us some more with 0.13.0 version [playtesting](#).

“Take on... THE WORLD”



- Scope was extended mid-2016 to encompass 2D RPG games.

So what about the name?!?

“Script Creation Utility (for) Maniac Mansion Virtual Machine”

- **Self-inflicted Creative Urge to Make More Virtual Machines**
- **Sentimental Community Undertaking Maintaining Marvelous Visionary Masterpieces**
- **Script Cruncher Undertook by Mad Meditative Vile Minions**
- **Superevil Computer-programmers Using Malicious Machine-code for Villainy Masterhood**
- **Set of Clumsy but Universal MultiMedia-related Virtual Machines**
- **Strict Club of Uber-Majestic Mad Virtual Machines**
- **Set of Cool Uber-Merriment <M> Virtual Machines**
- **Someday Crowds will Unload Mighty, Mad and Valor Meltdown**
- **SCummvm is not a Usual Man-Made Valued Merchandise**
- **Sorta Cool UltiMative gaMe Virtual Machines**
- **Soon Computer adventUre gaMes May conVince Masses**
- **SCripted, Universal and Multipurpose interpreter for Many-games Virtual Machine**
- **Standard Classic Universal Multi Misery Virtual Machine**

(Src: ScummVM Wiki)

People are ++Tricky; (& mea culpa :)

- Contributors have retired from the project for a wide variety of reasons... the two most common being “Life” (see: don’t talk to me about), burnout and exhaustion, and disagreement with the projects scope (Lesson: Amazingly talented people have strong options; Corollary: You can’t please everyone equally).
- Meritocracy is a common governance model for this kind of project, but is terribly subjective. Certain decision-making processes in the project are now (theoretically) done on a more democratic model, such as new engine PR’s
- I personally dropped the ball badly in 2007/2008 due to starting a new full-time position with a lot of responsibility. I began actively avoiding using a computer outside of the office (being in a house with only dialup helped...), and did not own up to the responsibilities I was shirking. This put my co-leads in a very unfair and difficult position.

Thanks!

- Ludwig 'ludde' Strivegus and Vincent 'yaz0r' Hamm for starting this whole journey and entrusting me with it way back when.
- Max 'Fingolfin' Horn (former co-lead), Eugene 'sev' Sandulenko (current lead) for keeping the project alive through the good times and bad!
- Arnaud 'Strangerke' Boutonné (PR and Admin) for invaluable feedback on the slides
- Every game developer who has supported the project and assisted with locating and clearing rights for original code and assets! Personal thanks to Tony Warriner & Charles Cecil (Revolution Software) / John Passfield (Red Sprite Studios) & Steve Stamatiadis (SpaceCaptSteve) / Chris Bateman (iHobo) & John Young (Trion Worlds) / Louis Castle (Castle Productions)
- All former, current and future ScummVM contributors, engine maintainers and porters. Basically if you are listed here <https://www.scummvm.org/credits/> , you are amazing and have my everlasting(*) gratitude for your contribution :)
- <http://www.scummvm.org/> (main site) & <http://wiki.scummvm.org/> (lots of engine info & specs)
- #ScummVM on FreeNode
- <http://github.com/scummvm/>

* Offer expires at heat death of current universe