

TempleOS and HolyC

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All content related to Terry A. Davis, TempleOS, J Operating System, SparrowOS, or LoseThos should be considered public domain.

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Academic work

This work was written as a seminar project for a 4IZ552 Course - Electronic Typesetting and Publishing at the Faculty of Informatics and Statistics at Prague University of Economics and Business.



Feel free to find out more at the <https://fis.vse.cz/> faculty website.

Important remarks

The author of this presentation prepared the slides with respect to Terry A. Davis, who was affected with his mental illness, and primarily focuses on the technical aspect of the TempleOS and HolyC.

Additionally, the author describes the problems of Terry as they are, in a way not to harm or make fun of him.

If you find something inappropriate in this presentation, let me know at the jure01@vse.cz email address.

Thank you.

Quotes

Davis was clearly a gifted programmer – writing an entire operating system is no small feat – and it was sad to see him affected by his mental illness.

– Thom Holwerda

You can imagine how over time one man might build a house, but this is like building a skyscraper, on your own!

– Anonymous

About Terry A. Davis

- Dec. 15, 1969 – Aug. 11, 2018
- Electrical engineer and programmer
- TicketMaster employee (1990 – 1996)
- Diagnosed with bipolar disorder and schizophrenia
- Deeply believed in God

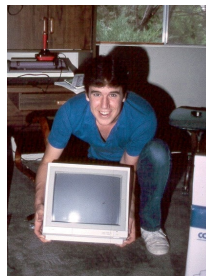


Figure: Young Terry Davis

Image by Davis, 2017a.

Development Era

- Started development after God told him
- Shared his work on Reddit, OSDev, Hacker News
- Used losethos and TrivialSollutions usernames
- Got banned frequently
- Many posts deleted for rudeness and spam
- Uploaded TempleOS videos on YouTube later
- Gained community of supporters and trolls

Homeless Era

- Denied medication to increase creativity
- Sentenced for attacking his father
- Lived in a van as homeless
- Deleted most videos from his YouTube
- Died after being hit by a train

Image by Davis, 2017a.



Figure: Terry in a van

Controversies

- Use of profane and offensive language
- Racist and homophobic slurs
- Paranoid about CIA "Glowies"
- Delusional relationship with Diana
- Narcissist traits
- Flame wars on forums and his website

I'm the smartest programmer that ever lived.

– Terry A. Davis

Ancestors

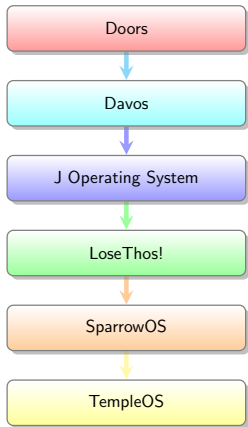


Figure: LoseThos! logo

Image by Terry A.
Davis Taught Us How
To Talk To God
[@Davisanism], 2023



Figure: SparrowOS logo

Image by Absolute
Terry Davis, 2021a.

What is TempleOS?

- 64-bit operating system
- Created by Terry A. Davis
- God's Third Temple
- About 100 000 lines of code
- Developed over 10 years
solely by Terry



Figure: TempleOS logo

Image by Davis, 2017a.

What makes TempleOS unique?

- Ring 0 - everything runs in kernel
- Very own RedSea file system
- HolyC language
- Encoding of files
- Own 2D and 3D libraries
- Design
- Backstory
- 16-bit colors
- 640×480 resolution
- Single Voice Audio

How can I download TempleOS?

- Official website <https://templeos.org/>
- The size of ISO is 15.6 MB!
- Or try it online, eg. at <https://instantworkstation.com/virtual-machine>

System requirements

- 512 MB of RAM
- 64-bit, x86 processors
- Keyboard
- Runs in virtual machines too

Keyboard shortcuts

- **Space** → Left Click
- **Enter** → Right Click
- **F1** → Help
- **Ctrl** + **M** → Personal Menu
- **Esc** → Save and exit
- **Shift** + **Ecs** → Abort and exit
- **Windows (Super)** → Pull-Down Menu

Keyboard shortcuts

- **F7** → God Word
- **Shift** + **F7** → God Passage
- **F6** → God Song
- **Shift** + **F6** → God Doodle
- **Ctrl** + **Alt** + **B** → Bible

I like elephants and God likes elephants... If you don't wanna go for realism, you can go for better than realism... How about an elephant with blue eyes!

– Terry A. Davis

God Word

Generates random words



A screenshot of a window titled "God Word". The window has a menu bar with "MENU" and "EX". Below the menu bar is a text area containing several lines of random words. The words are: "untruth trees skins filths thirsted recently baptised below pass announced sea", "difficult latinum sobriety transformed loving issue chapter formation doubtful", "Copy this file to your /Home directory and modify it. This version is the", and "default.". The text is displayed in a monospaced font. The window is titled "God Word" and has a menu bar with "MENU" and "EX".

Figure: God Word. Own work.

God Song

Generates random songs

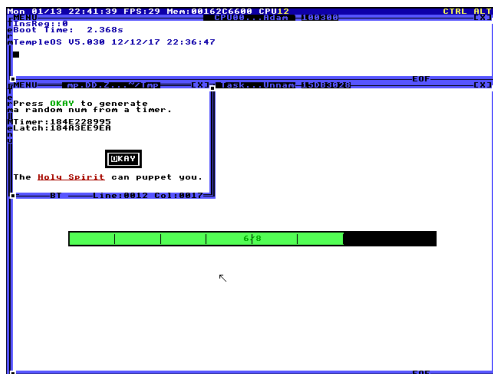


Figure: God Song. Own work.

Risen - TempleOS Hymn

Original available here:

<https://www.youtube.com/watch?v=hmjU-6tkEc8>

Community Remixes:

- Remix

https://www.youtube.com/watch?v=IdYMA6hY_74

- Techno

<https://www.youtube.com/watch?v=mR8Cg1DnoRU>

- Synthwave

<https://www.youtube.com/watch?v=liMUF306cHs>

God Doodle

Draws random doodle

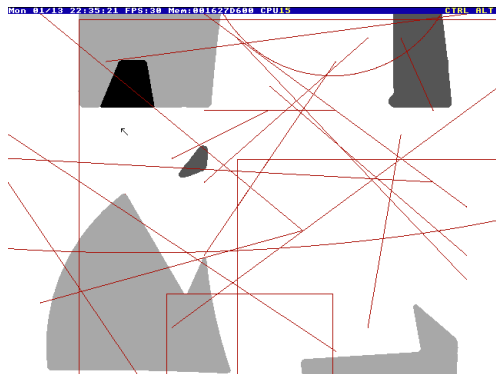


Figure: God Doodle. Own work.

Bible

Bible implemented directly to TempleOS

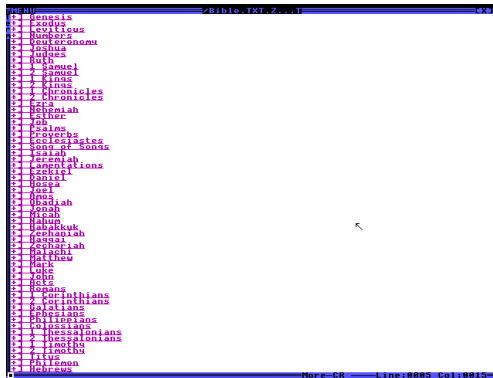


Figure: Bible. Own work.

Fun Games Menu



Titanium

Defender game



Figure: Titanium. Own work.

Black Diamond

Slope skiing game

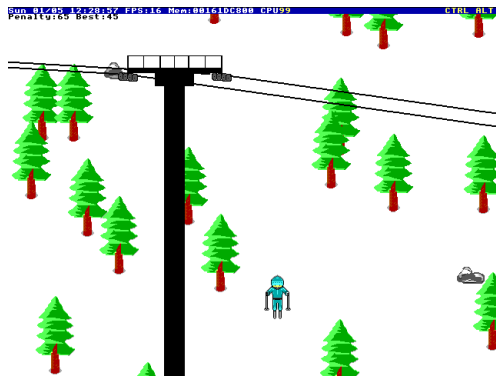


Figure: Black Diamond. Own work.

Flapbat

Bat eating bugs game



Figure: Flapbat. Own work.

Varroom

Cart racing simulator

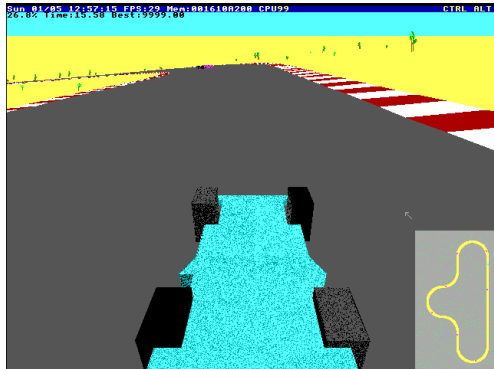


Figure: Varroom. Own work.

FlatTops

Battleship game

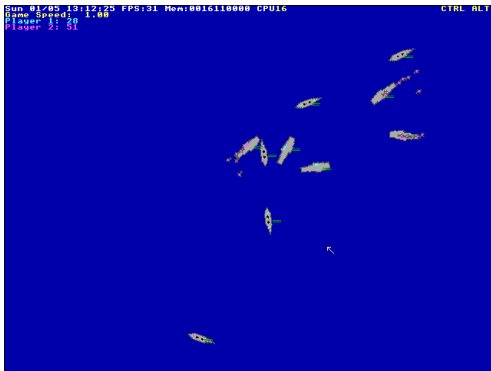


Figure: FlatTops. Own work.

BomberGolf

Bomber plane game

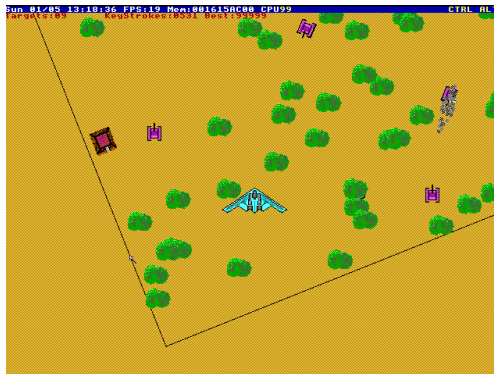


Figure: BomberGolf. Own work.

KeepAway

Basketball game



Figure: KeepAway. Own work.

Rawhide

Game where the goal is to round up the cattle



Figure: Rawhide. Own work.

X-Caliber

Spaceship shooting plasma balls game



Figure: X-Caliber. Own work.

Wenceslas

Game where the goal is to guide peasants to warm



Figure: Wenceslas. Own work.

Battlelines

Two battle lines eliminating each other game



Figure: Battlelines. Own work.

Unfun Games



Figure: Unfun Games. Own work.

Write games, don't play them.

– Terry A. Davis

Talons

Bird catching fish simulator

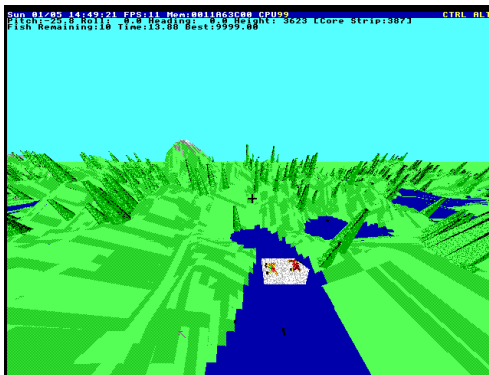


Figure: Talons. Own work.

Castle Frankenstein

DOOM-like game



Figure: Castle Frankenstein. Own work.

Zone Out

Tank paintball game



Figure: Zone Out. Own work.

To The Front

Militant king war strategy game

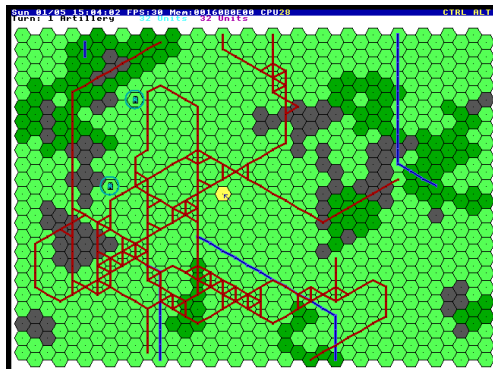


Figure: To The Front. Own work.

Span

Bridge building game

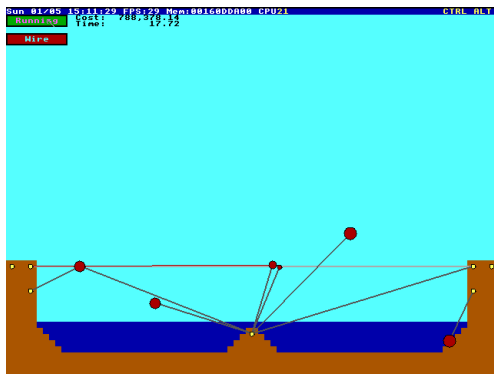


Figure: Span. Own work.

Tree Checkers

Abstract game based on Checkers

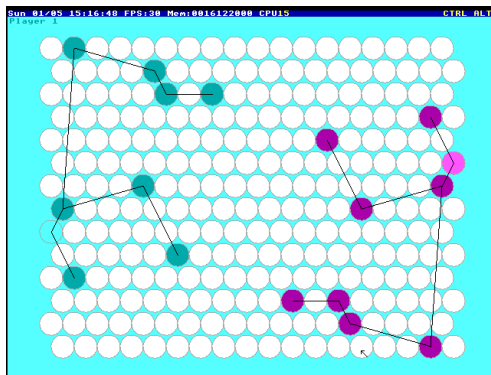


Figure: Tree Checkers. Own work.

Digits

Game for training short term memory

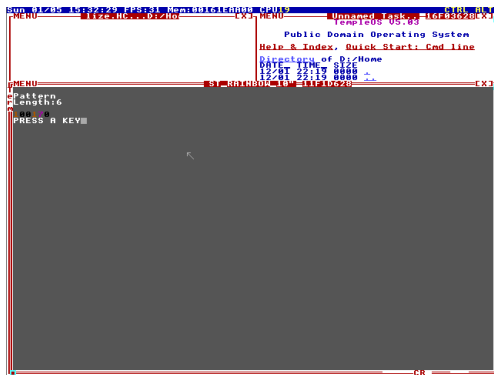


Figure: Digits. Own work.

Code Scraps



Figure: Code Scraps. Own work.

Strut

StarWars game - spaceship constructing strategy



Figure: Strut. Own work.

Big Guns

Destroy land with a cannon game

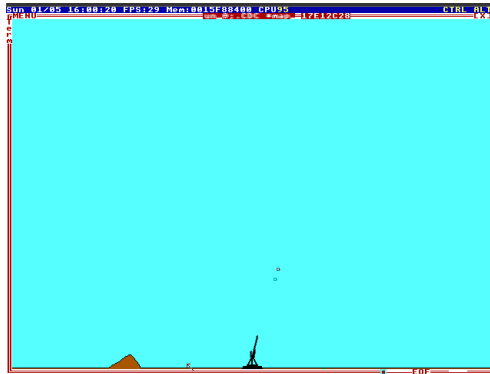


Figure: Big Guns. Own work.

The Dead

Shooter protecting themselves from zombies game

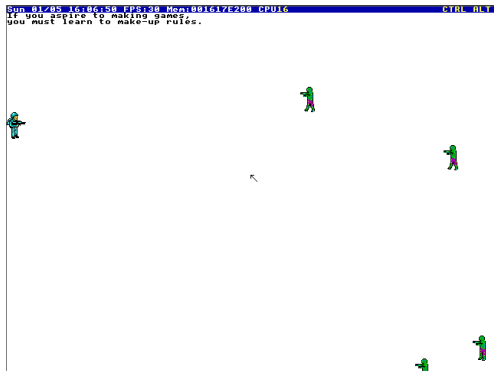


Figure: The Dead. Own work.

DunGen

Kill the enemies game, where the player's vision is limited

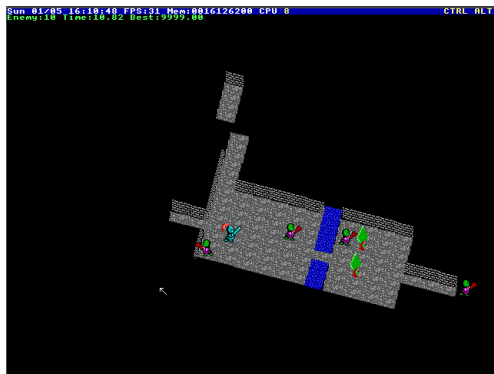


Figure: DunGen. Own work.

Models

Allows creating models of people and balls

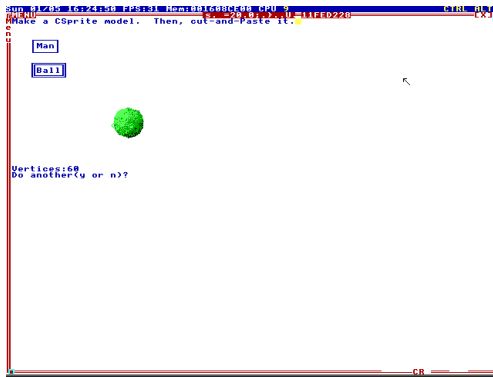


Figure: Models. Own work.

Nongames



Figure: Nongames. Own work.

Jukebox

Jukebox with 3 songs

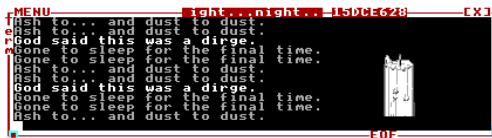


Figure: Jukebox. Own work.

Simple piano program

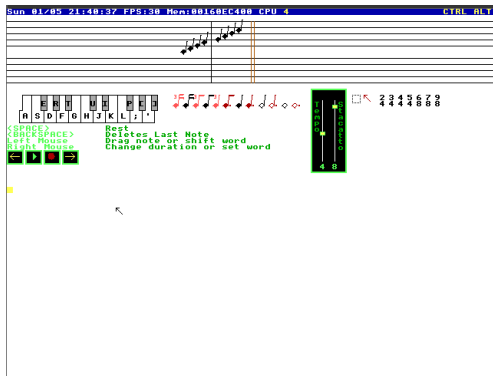


Figure: Psalmody. Own work.

Logic

Logic gates visualization tool

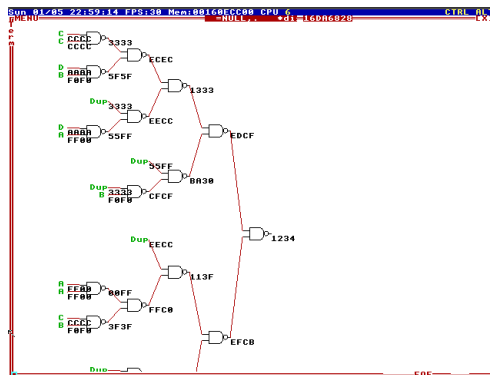


Figure: Logic. Own work.

Vocab

Program to train vocabulary

```

TOS
TOS Menu
HolyC
Forks
References

Vocab

Program to train vocabulary

1
2 Same as Anlace.
3 The son or husband of Gaia (Earth), and father of Chronos (Time) and
  the Titans.
4 A merchant.
Answer: 4
Correct

Arpent stop:
1 Hung with a bell or bells.
2 The Anglicized form of the French arpenteur, a land surveyor.
3 Having always the same form, manner, or degree; not varying or
  variable; unchanging; consistent; equable; homogenous; as, the dress of
  the Asiatics has been uniform from early ages; the temperature is
  uniform; a stratum of uniform clay.
4 A portoullis, or herse.
Answer:
EOF
```

Figure: Vocab. Own work.

HolyC

- Stands between C and C++
- Community compilers for MacOS and Linux
- Uses Just In Time compiling
- No main() function
- Specific traits shown on next slides

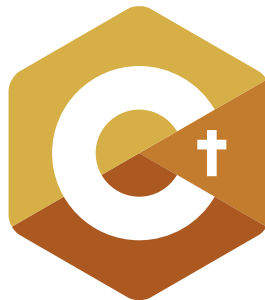


Figure: HolyC logo

Image by 1ctinus, 2020.

Holy C - Base types

- F64 - 64-bit floating point type
- U64 - Unsigned 64-bit Integer type
- I64 - Signed 64-bit Integer type
- U32 - Unsigned 32-bit Integer type
- I32 - Signed 32-bit Integer type

Holy C - Base types

- U16 - Unsigned 16-bit Integer type
- I16 - Signed 16-bit Integer type
- U8 - Unsigned 8-bit Integer type
- I8 - Signed 8-bit Integer type
- Bool - Signed 8-bit Integer type
- U0 - void type

Holy C - Functions

- Invoked without arguments
- Default arguments allowed at any point in the definition
- The , sign allows logical order
- ... for variable argument counts
- for loops don't require { and }
- No Main() function

Holy C - Switch case

- More efficient than if statements
- Implemented with a jump table
- Can be nested as sub switch too

Holy C - #exe{ }

This feature allows programs to insert text into the compiled stream of code.

Holy C - Hello World

```
U0 Hello(){  
    "Hello - World\n";  
}  
Hello;
```

Code by barretone, 2018.

Holy C - Switch

```
164 i;  
    for (i=0;i<20;i++)  
        switch (i) {  
            case: "Zero\n";      break;  
            case: "One\n";       break;  
            case: "Two\n";       break;  
            case: "Three\n";     break;  
            case 10: "Ten\n";    break;  
            case: "Eleven\n";   break;  
        }
```

Code by ZealOS, 2025.

Holy C - #exe{}

```
#exe {  
    if (!kernel_cfg->mount_ide_auto_hd_let)  
        kernel_cfg->mount_ide_auto_hd_let='C';  
    if (!kernel_cfg->mount_ide_auto_cd_let)  
        kernel_cfg->mount_ide_auto_cd_let='T';  
    StreamPrint(" blkdev.first_hd_drv_let=%d;",  
        kernel_cfg->mount_ide_auto_hd_let);  
    StreamPrint(" blkdev.first_dvd_drv_let=%d;",  
        kernel_cfg->mount_ide_auto_cd_let);  
}
```

Code by Davis, 2017a.

Holy C - Useful websites

- Website with documentation:
<https://holyc-lang.com/>
- Compiler for Linux and MacOS:
<https://github.com/Jamesbarford/holyc-lang>

ZealOS

- Modernized version
- 32-bit colors
- 60 FPS
- Scalable resolution
- Allows networking using Ethernet

<https://github.com/Zeal-Operating-System/ZealOS>

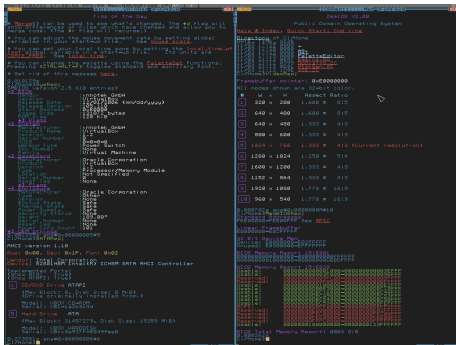


Figure:
ZealOS logo

Figure: ZealOS

Both images by ZealOS, 2025.

ZenithOS

- 60 FPS
- VBE graphics with variable resolutions
- HolyC replaced with CosmiC.
- Reformatted code with renamed functions
- 32-bit colors

<https://github.com/PasqualeLivecchi/ZenithOS>

ZenithOS

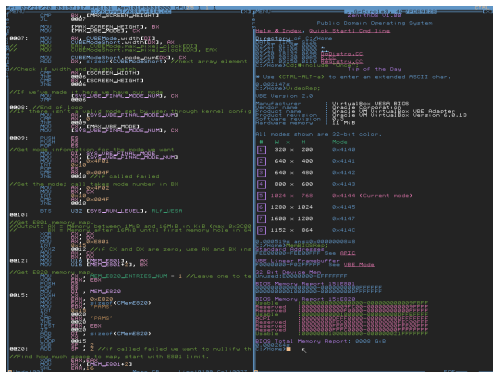


Figure: ZenithOS

Image by Livecchi, 2024

TinkerOS

- Improved installer
- More apps (eg. AfterEgypt)
- Screenshots
- API extensions

<https://tinkeros.github.io/WbGit/>

TinkerOS

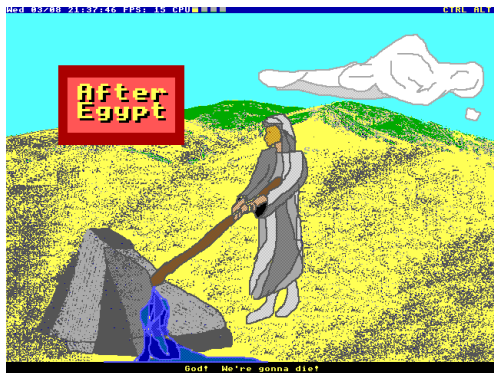


Figure: AfterEgypt

Image by tinkeros, 2024.

Shrine

- Package downloader
- Lambda Shell (more UNIX-like)
- TCP/IP internet access
- Origin from the Czech Republic

Shrine is a TempleOS distribution full of sin.

- Minexew

<https://github.com/minexew/Shrine>

References I

-  1ctinus. (2020, October). English: The Unofficial Logo of the programming language of HolyC, an SVG version of Smokeytube's logo. Retrieved January 3, 2025, from https://commons.wikimedia.org/wiki/File:HolyC_Logo.svg
-  Absolute Terry Davis. (2021a). 32 - SparrowOS v1.02 Quick Tour (SparrowOS) [2012]. Retrieved January 13, 2025, from <https://www.youtube.com/watch?v=zFJZck44J40>
-  Absolute Terry Davis. (2021b). Terry Demonstrates A Logic Program He Made In School. Retrieved January 5, 2025, from <https://www.youtube.com/watch?v=tSmCA5sfCPU>
-  Barford, J. (2024a). Jamesbarford/holyc-lang: HolyC compiler & transpiler. Retrieved January 3, 2025, from <https://github.com/Jamesbarford/holyc-lang>

References II



Barford, J. (2024b). Welcome to HolyC! — HolyC. Retrieved January 3, 2025, from <https://holyc-lang.com/docs/intro>



barretone. (2018). Barrettotte/TempleOS-and-HolyC: A very brief adventure in TempleOS and HolyC. RIP Terry Davis. Retrieved January 14, 2025, from <https://github.com/barrettotte/TempleOS-and-HolyC/tree/master>



Božović, D. (2024, August). *TempleOS: Architecture and principles of lightweight operating system development* [Doctoral dissertation]. <https://doi.org/10.13140/RG.2.2.34698.27845>

References III



Creative Commons. (2012). Public domain. Retrieved January 14, 2025, from <https://mirrors.creativecommons.org/presskit/buttons/88x31/png/publicdomain.png>



Davis, T. A. (2017a). Terry A. Davis - TempleOS Archive. Retrieved January 13, 2025, from http://archive.org/details/TerryADavis_TempleOS_Archive



Davis, T. A. (2017b, January). Terry A. Davis - TempleOS Photos. Retrieved January 14, 2025, from <http://archive.org/details/TempleOSPhotos>



Davis, T. A. (2018a). TempleOS. Retrieved January 3, 2025, from <http://www.templeos.org/>

References IV



Davis, T. A. (2018b). Terry Davis. Retrieved January 3, 2025, from https://www.youtube.com/channel/UCJZTn-fPu-ulA55UI47_cXg



Eddy, D. (2017). TempleOS Hymn Risen (Remix) - Dave Eddy - YouTube. Retrieved January 14, 2025, from https://www.youtube.com/watch?v=IdYMA6hY_74



Fireship. (2022). TempleOS in 100 Seconds. Retrieved January 3, 2025, from <https://www.youtube.com/watch?v=h7gf5M04hdg>



FIS VŠE. (2021, March). Logo fakulty a šablony dokumentů (Faculty Logo and Document Templates). Retrieved January 14, 2025, from <https://fis.vse.cz/fakulta/logo-fakulty/>

References V



Fredrik Knudsen. (2018). TempleOS — Down the Rabbit Hole.
Retrieved January 3, 2025, from

<https://www.youtube.com/watch?v=UCgoxQCf5Jg>



Hardest question in programming : R/TempleOS_official. (2020).
Retrieved January 13, 2025, from

https://www.reddit.com/r/TempleOS_Official/comments/hk8zdr/hardest_question_in_programming/



instantworkstation. (2024, January). Use TempleOS in web
browser. Retrieved January 3, 2025, from

www.reddit.com/r/TempleOS_Official/comments/196hcum/use_templeos_in_web_browser/

References VI



Is there anything especially unique about HolyC compared to C? : R/TempleOS_official. (2020). Retrieved January 13, 2025, from

https://www.reddit.com/r/TempleOS_Official/comments/jpdt8/is_there_anything_especially_unique_about_holyc/



Kim Jong Un. (2021). Terry Davis: Literally the smartest programmer thats ever lived. Retrieved January 3, 2025, from <https://www.youtube.com/watch?v=PMJFOtjiYbM>



Linus Tech Tips. (2020). I've never seen ANYTHING like this before... Temple OS. Retrieved January 3, 2025, from <https://www.youtube.com/watch?v=LtlyeDAJR7A>

References VII



Livecchi, P. (2024, November). PasqualeLivecchi/ZenithOS [original-date: 2020-06-02T20:10:47Z]. Retrieved January 14, 2025, from

<https://github.com/PasqualeLivecchi/ZenithOS>



McManus, P. (2019). The Digital Human - Series 18 - Devotion. Retrieved December 2, 2024, from

<https://www.bbc.co.uk/sounds/play/m000b4r3>



Minexew. (2020). Minexew/Shrine [original-date: 2017-01-28T19:38:57Z]. Retrieved January 13, 2025, from


<https://github.com/minexew/Shrine>



nick_h. (2005). The J Operating System – OSnews. Retrieved January 13, 2025, from [https:](https://www.osnews.com/story/13117/the-j-operating-system/)

[//www.osnews.com/story/13117/the-j-operating-system/](https://www.osnews.com/story/13117/the-j-operating-system/)

References VIII

-  pavroo. (2023, March). Shrine. Retrieved January 13, 2025, from <https://archiveos.org/shrine/>
-  Sanctum Audio Productions. (2021a). TempleOS Hymn Risen [Synthwave Remix]. Retrieved January 14, 2025, from <https://www.youtube.com/watch?v=liMUF306cHs>
-  Sanctum Audio Productions. (2021b). TempleOS Hymn Risen [Techno Remix]. Retrieved January 14, 2025, from <https://www.youtube.com/watch?v=mR8Cg1DnoRU>
-  slendi.dev. (2018). The Temple Operating System. Retrieved January 14, 2025, from <https://templeos.slendi.dev/Wb/Kernel/KMain.html>

References IX

-  TempleOS Archive. (2021). TempleOS Games. Retrieved January 14, 2025, from https://www.youtube.com/channel/UCRiRce7tJEMT_6mjxVY60uA
-  Terry A. Davis Taught Us How To Talk To God [@Davisanism]. (2023, August). "LoseThos" logo created by Terry Davis. Retrieved January 14, 2025, from <https://x.com/Davisanism/status/1687909453801152513>
-  Terry A. Davis [Page Version ID: 1269091687]. (2025, January). Retrieved January 13, 2025, from https://en.wikipedia.org/w/index.php?title=Terry_A._Davis&oldid=1269091687
-  tinkeros. (2024). The TinkerOS Operating System. Retrieved January 13, 2025, from <https://tinkeros.github.io/WbGit/>

References X



Totty, H. (2019). A Language Design Analysis of HolyC - Harrison Totty. Retrieved January 12, 2025, from <https://harrison.totty.dev/p/a-lang-design-analysis-of-holyc>



WolfButrin. (2020). I like elephants and god likes elephants - Terry A Davis. Retrieved January 14, 2025, from <https://www.youtube.com/watch?v=l6Fn6aRPuGA>



ZAMORA. (2019). TempleOS Hymn - Risen. Retrieved January 3, 2025, from <https://www.youtube.com/watch?v=hmjU-6tkEc8>



ZealOS. (2025, January). Zeal-Operating-System/ZealOS [original-date: 2021-06-30T15:05:22Z]. Retrieved January 3, 2025, from <https://github.com/Zeal-Operating-System/ZealOS>