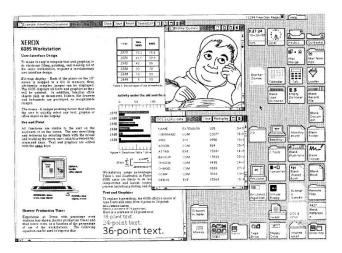
# Brand New You're Retro The Regolith Desktop Environment

# **Session Overview**

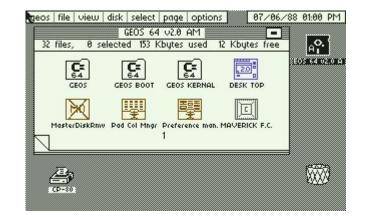
- A super brief "about me"
- A brief tour of the Regolith Desktop environment
- A brief comparison with other environments
- ...but why?



https://www.digibarn.com/friends/curbow/star/retrospect/

#### About Me

- Software Maker / Professional Developer
- First PC: TI-99/4A / First Desktop: GEOS on Commodore 64
- Began working on Regolith in 2017 when switching back to Linux after a long stretch on OS X
- Identified a need to build & package various open source projects to make maintaining your own X11 desktop require less skill and time, and prioritize inclusivity



https://en.wikipedia.org/wiki/File:GeOS\_Commodore\_64.gif

# Terms / Concepts

- Advertisement
- Composition
- Conservation of Complexity
- Meatspace
- "The Zone"
- Office Ashtrays



https://foter.com/free-standing-ashtray

#### **Desktop environment**

From Wikipedia, the free encyclopedia

This article is about the operating system and user interface schema. For desktop computing in general, see <u>desktop computer</u>.

In computing, a **desktop environment** (**DE**) is an implementation of the <u>desktop metaphor</u> made of a bundle of programs running on top of a computer <u>operating system</u> that share a common <u>graphical user interface</u> (GUI), sometimes described as a <u>graphical shell</u>. The desktop environment was seen mostly on <u>personal computers</u> until the rise of <u>mobile computing</u>. Desktop GUIs help the user to easily access and edit files, while they usually do not provide access to all of the features found in the underlying operating system. Instead, the traditional <u>command-line interface</u> (CLI) is still used when full control over the operating system is required.



#### http://www.gregdonner.org/workbench/wb\_20.html

# Fundamentally, what does a DE need to do?

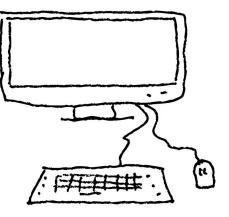
- Manage applications (launch, close, swap)
- Observe and configure the machine (wifi, screen, bt, CPU utilization, etc.)



https://en.wikipedia.org/wiki/Common\_Desktop\_Environment#/ media/File:CDE\_Application\_Builder.png

#### A Tour of Regolith Desktop - Interface

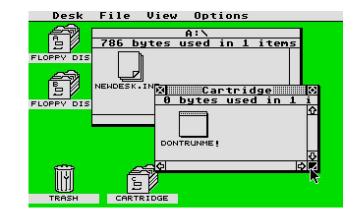
- Window Management
  - Tiling
  - Floating
  - Workspaces
- Launcher
  - Apps
  - $\circ \quad \text{ Commands} \quad$
  - Notifications
  - Keybindings
  - $\circ \qquad \text{Windows}$
  - Files
- Bar
  - Workspace
  - Status indicators
- Control Center
  - System Management
- Looks





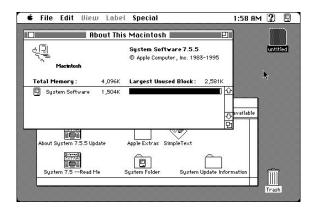
# A Tour of Regolith Desktop - Under the Hood

- Regolith Xsession based on i3-gnome-flashback project
- Xresource loading
- i3 config loading
  - User extensions to turing complete configuration languages
- Packages as configuration
  - Runtime discovery of functionality
  - conf.d style configuration
- Modularity
  - Soft dependencies across packages where possible
  - Overriding default Xresources



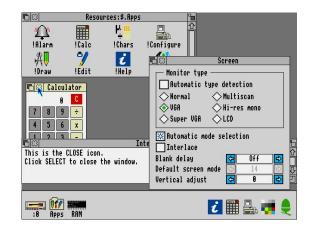
#### Other Regolith Info

- May be installed as packages into existing system or Ubuntu-based ISO
- Supports Ubuntu & Debian, Arch has a community-supported port, work continues on Fedora, other distros
- Independent build logic and infrastructure (unfortunately)
- Currently runs on X11, Wayland porting underway
- As a project, Regolith's primary function is to manage complexity of existing systems to the benefit of users.



# Comparison w/ other environments

- Application windows as pages on a physical desk
- Docks
- Global Menus
- Pop-ups
- Composition
- Shine and Polish



# ...Why?

- Tesler's Law
- Fragmentation and specialization of personal computing devices
- The Lowest Common Denominator problem
- Traditional DE metaphors have their roots in pre-PC culture
- Art / Aesthetic / Identity



Tesler's Law

#### Law of conservation of complexity

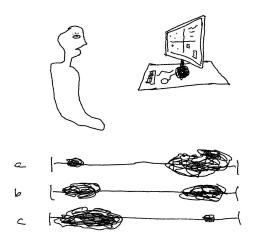
From Wikipedia, the free encyclopedia

The **law of conservation of complexity**, also known as Tesler's Law,<sup>[1][2][3]</sup> or Waterbed Theory,<sup>[4]</sup> is an <u>adage</u> in <u>human–computer</u> <u>interaction</u> stating that every <u>application</u> has an inherent amount of <u>complexity</u> that cannot be removed or hidden. Instead, it must be dealt with, either in product development or in user interaction.

https://en.wikipedia.org/wiki/Law\_of\_conservation\_of\_complexity

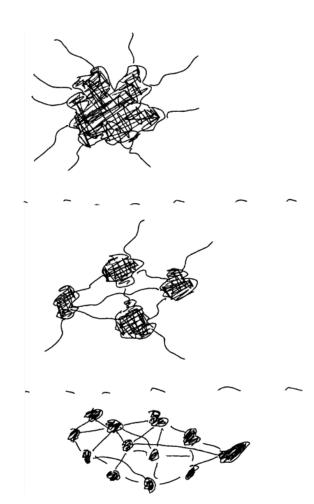
An **adage** (<u>/'ædɪdʒ</u>/; Latin: **adagium**) is a concise, memorable, and usually <u>philosophical aphorism</u> that communicates an important truth derived from experience, <u>custom</u>, or both, and that many people consider true and credible because of its longeval tradition, i.e. being handed down generation to generation, or <u>memetic replication</u>.

#### Visualization of Tessler's Law



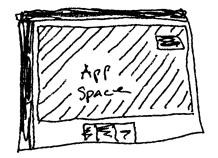
# "...Dealt with..."?

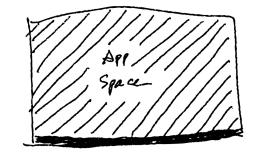
- "...so you can focus on your business logic..."
- By expressing workflow visually via advertisements, some environments favor discoverability. Other environments push more of the workflow into the user's mind, favoring productivity.

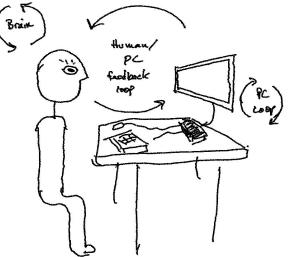


#### The efficiency of a desktop environment

- How much time it takes to get a given task done in one environment vs another
  - How much work (scanning, movement, coordination)
  - How much application fidelity is provided to the user for a given task
  - How much slow-loop iteration occurs as part of completing a given task
  - How much distraction occurs as part of completing a given task







#### The Tradeoff

- Some users prefer to trade ambient discoverability for more efficiency. Or, the discoverability of a given interface loses value after familiarity is gained.
- Efficiency can be gained by minimizing redundant physical aspects of the human/PC feedback loop. (pushing a mouse cursor across a screen, etc.)
- Efficiency ca be gained by yielding higher application fidelity.

# Why Regolith may be more efficient

- Slow-loop work is pushed into the fast-loops of PC and human where possible and convenient
- Application fidelity is greater at the cost of visual discovery and other advertisements
- A reduction of general complexity by letting go of past metaphors



# Q & A

- Ken Gilmer
- Regolith Desktop
- <u>www.regolith-desktop.com</u>

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- <u>https://en.wikipedia.org/wiki/PARC\_(company)</u>
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- <u>https://archive.org/details/amiga-user-interface-style-guide/page/20/mode/2up</u>