Lumina

A Fresh Approach to Desktops

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What is Lumina?

- Lumina is a desktop environment primarily designed for Unix-like operating systems
- It is written completely from scratch using C/C++, relying on the Qt libraries for the graphical interface.
- Licensed under the 3-clause BSD license: *(paraphrased below)*
  - Redistribution of source code must contain the copyright notice and/or license.
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  - Names associated with the project cannot be used to endorse a derivative product without written permission.

What is a Desktop Environment?

- “Technopedia” Definition:

“Desktop environment (DE) is a graphical users interface (GUI) that enables a user to access and manage the important and frequently accessed features and services of an operating system.

A desktop environment is a default interface provided by virtually all modern operating systems, including Windows, Linux, Mac and more. This type of interface was developed to replace the command-line interface, which was used in legacy operating systems such as DOS and Unix. However, a user may still have command-line access for some system-level services that aren't accessible through a desktop environment.”

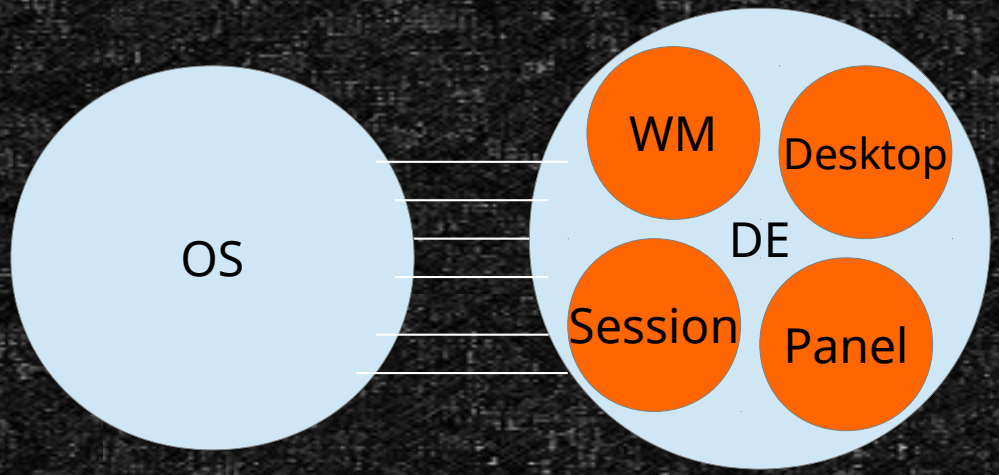
What is a Desktop Environment?

- Practical Definition:

  A graphical interface for the operating system

  - It is generally comprised of multiple binaries or processes which are started in a particular order and interact with each other.

    Examples: Window Manager, Session Manager, Desktop Interface, Panel Interface, Desktop Widgets, and Application Launcher.



What is an Operating System?

- “Technopedia” Definition:

“An operating system (OS), in its most general sense, is software that allows a user to run other applications on a computing device. While it is possible for a software application to interface directly with hardware, the vast majority of applications are written for an OS, which allows them to take advantage of common libraries and not worry about specific hardware details.

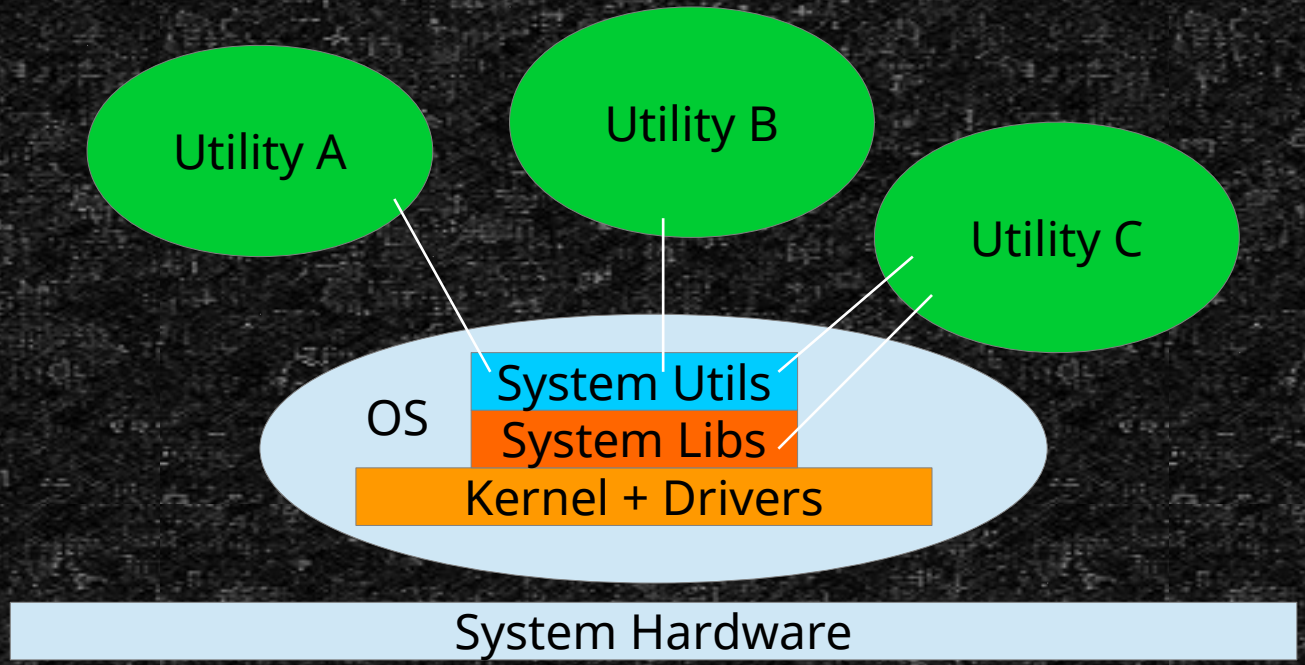
The operating system manages a computer's hardware resources, including: Input devices such as a keyboard and mouse. Output devices such as display monitors, printers and scanners. Network devices such as modems, routers and network connections. Storage devices such as internal and external drives.

The OS also provides services to facilitate the efficient execution and management of, and memory allocations for, any additional installed software application programs.”

What is an Operating System?

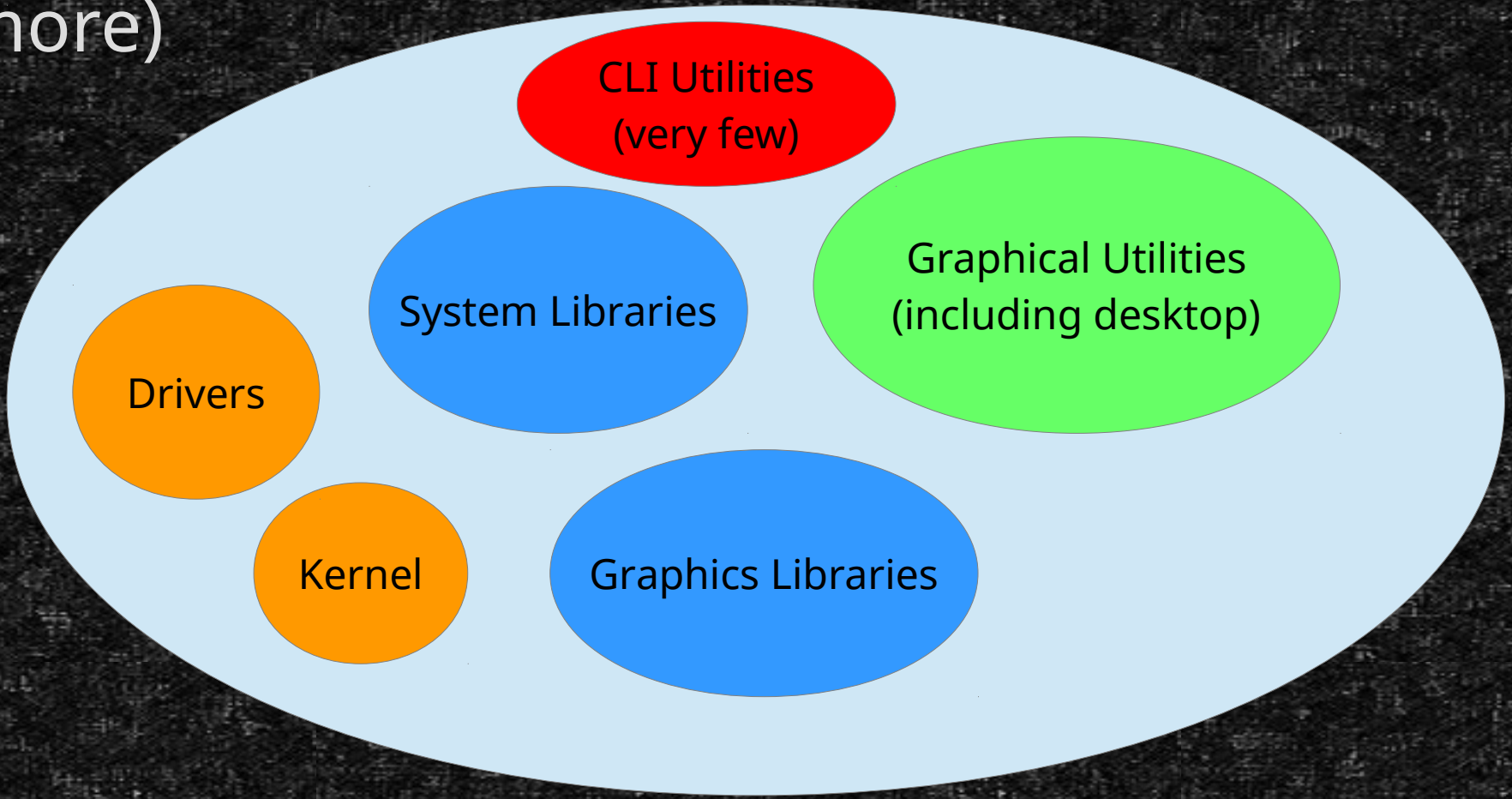
- Practical Definition:

  The combination of kernel, drivers, system utilities, and system libraries necessary to run the system. These are generally packaged together.



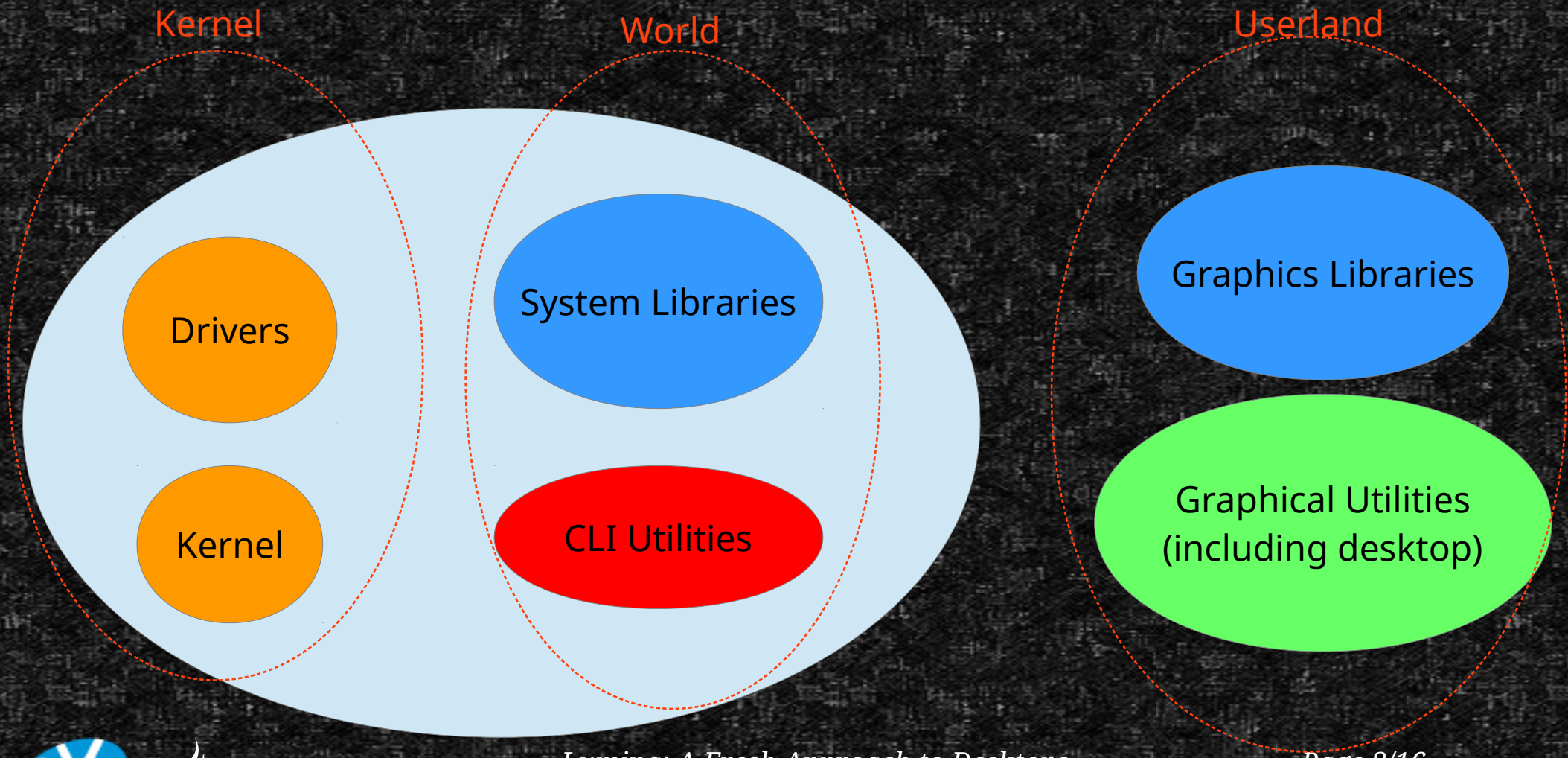
Types of Operating Systems

- Windows (guesstimation – probably contains more)



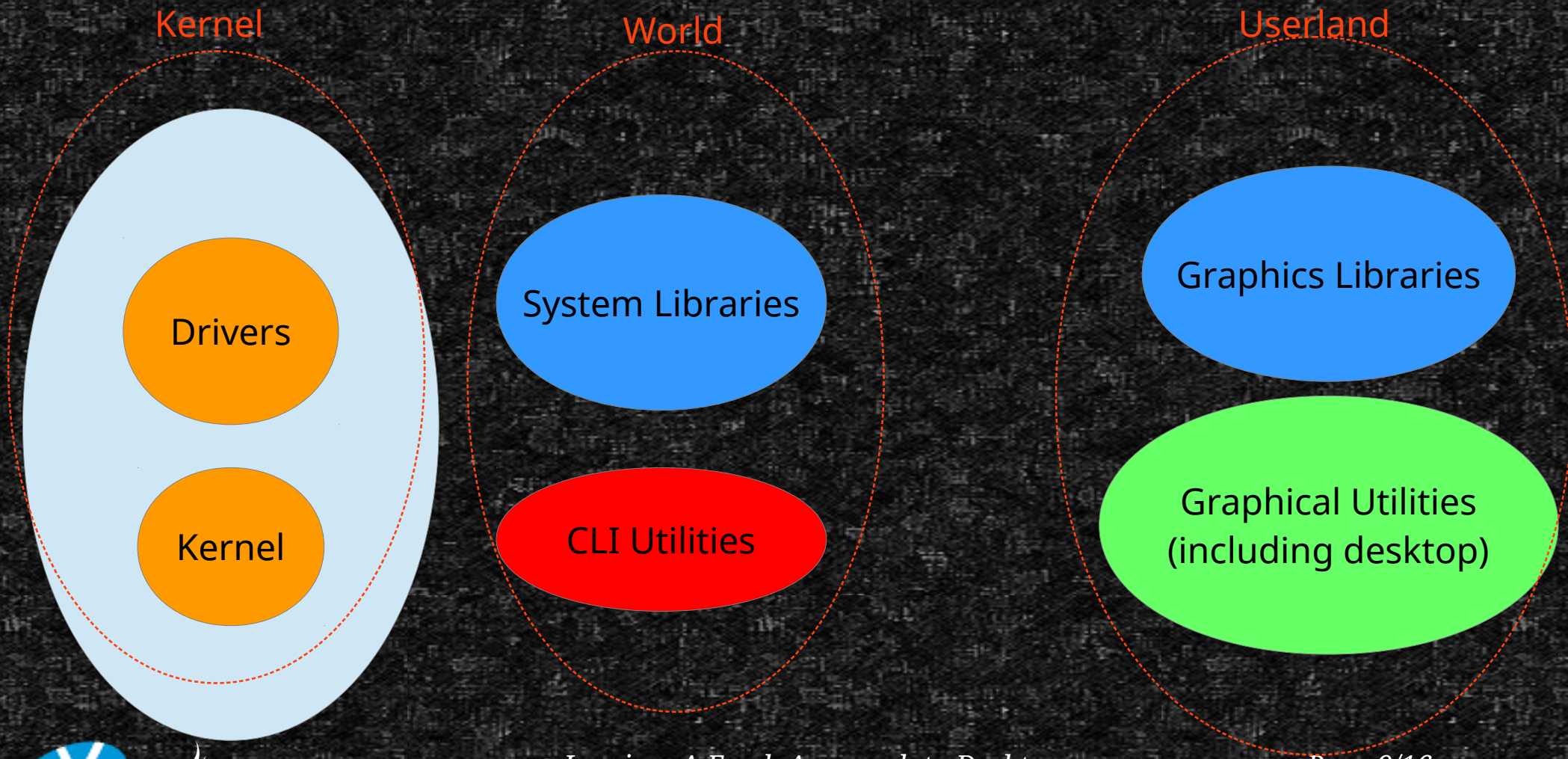
Types of Operating Systems

- Unix-Like (with FreeBSD terminology)



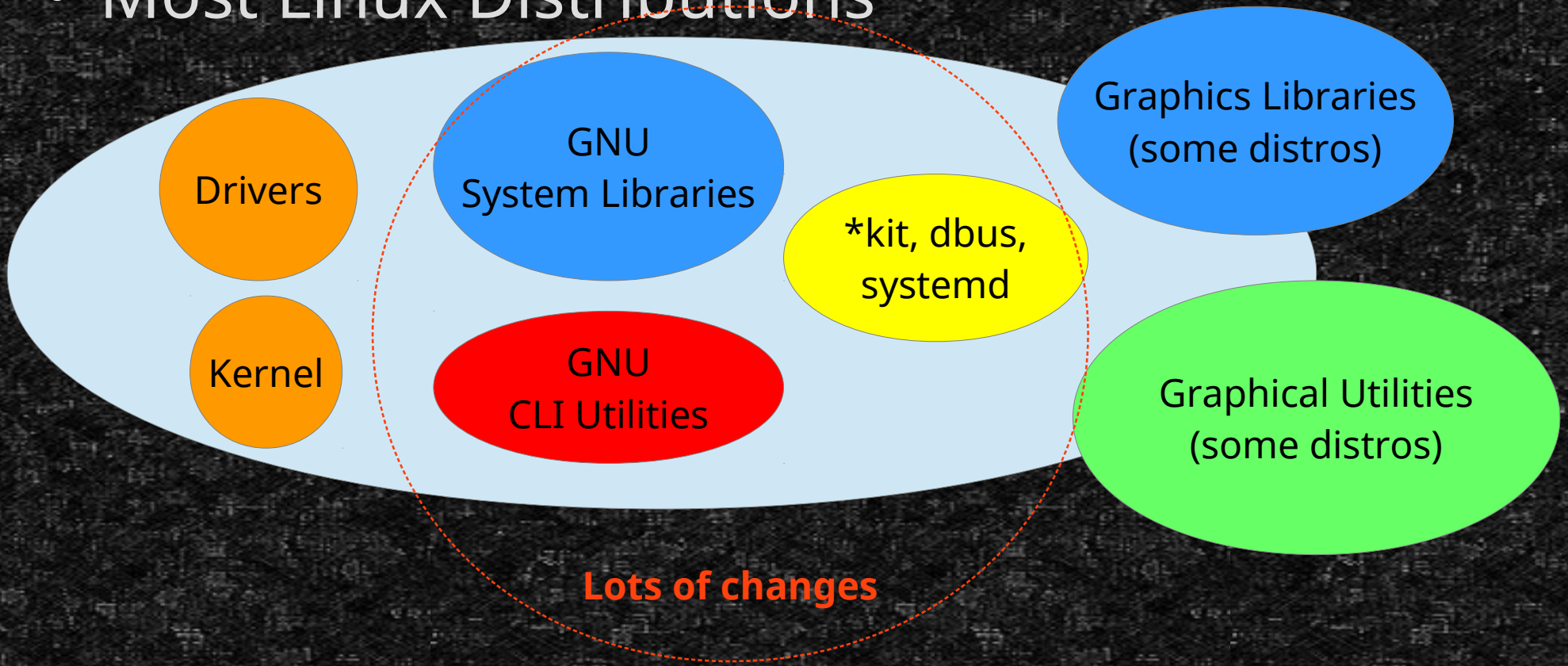
Types of Operating Systems

- Linux (not technically an OS)

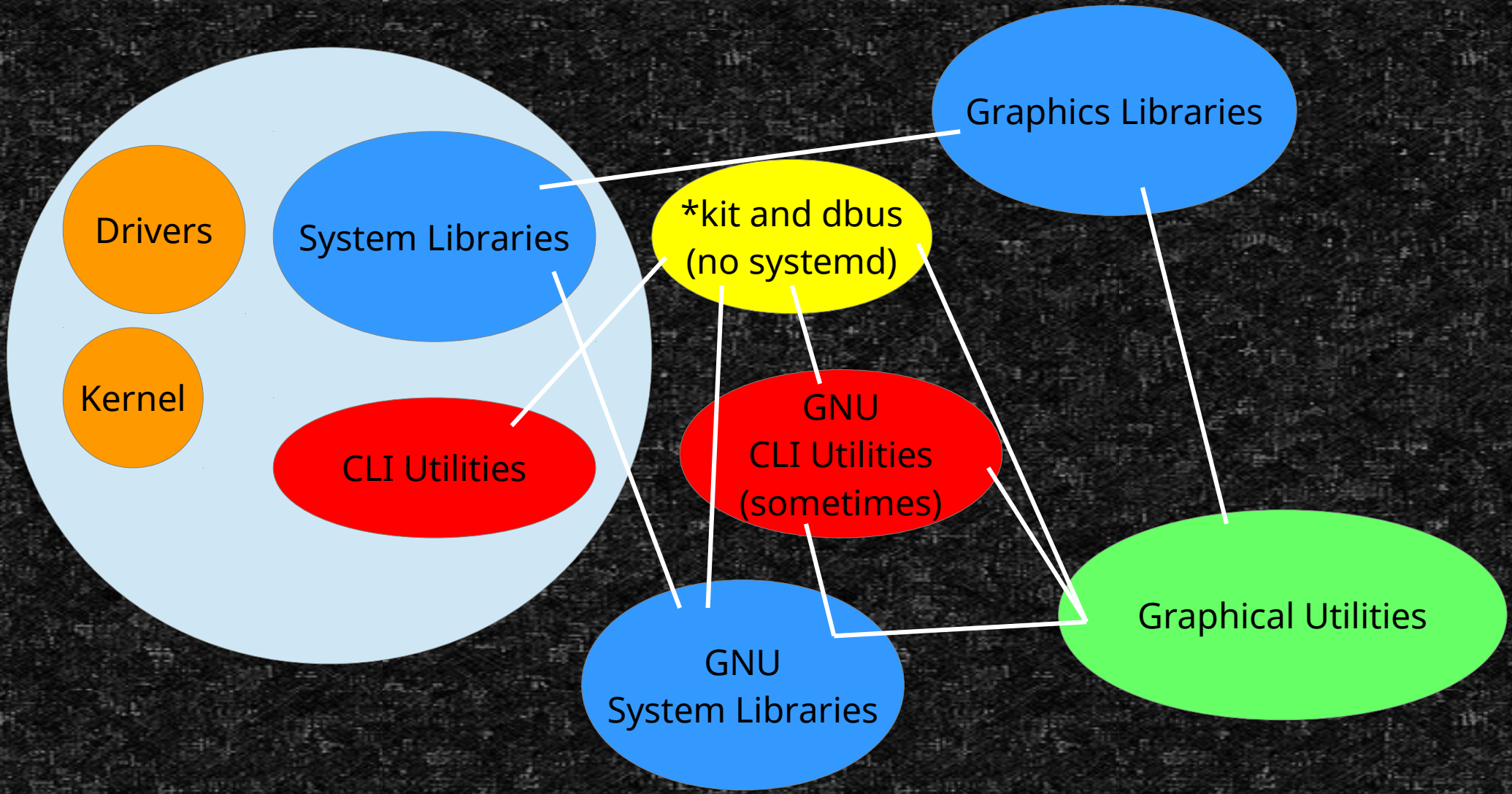


Types of Operating Systems

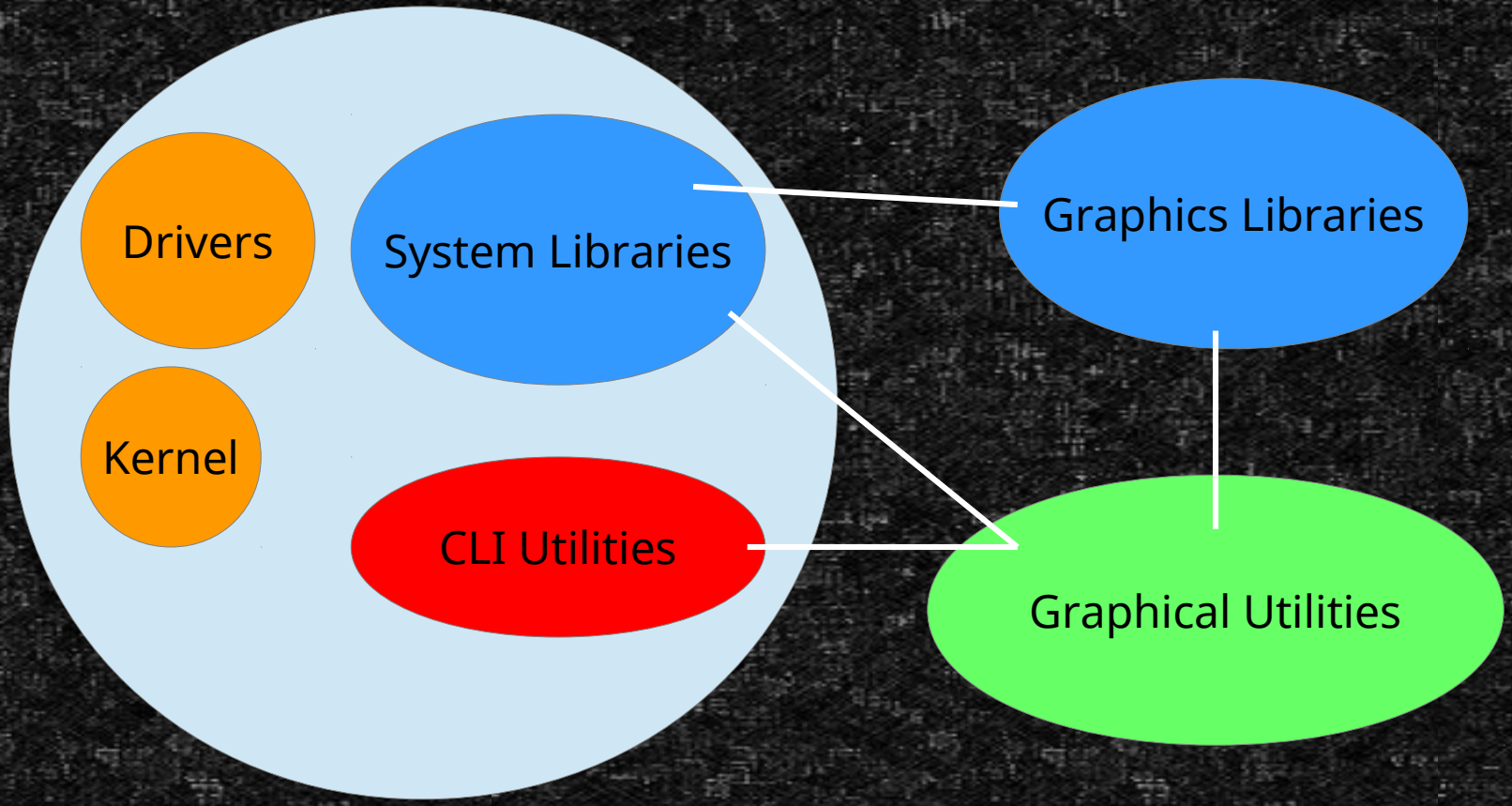
- Most Linux Distributions



Linux-developed Desktops on BSD



Lumina Desktop on BSD



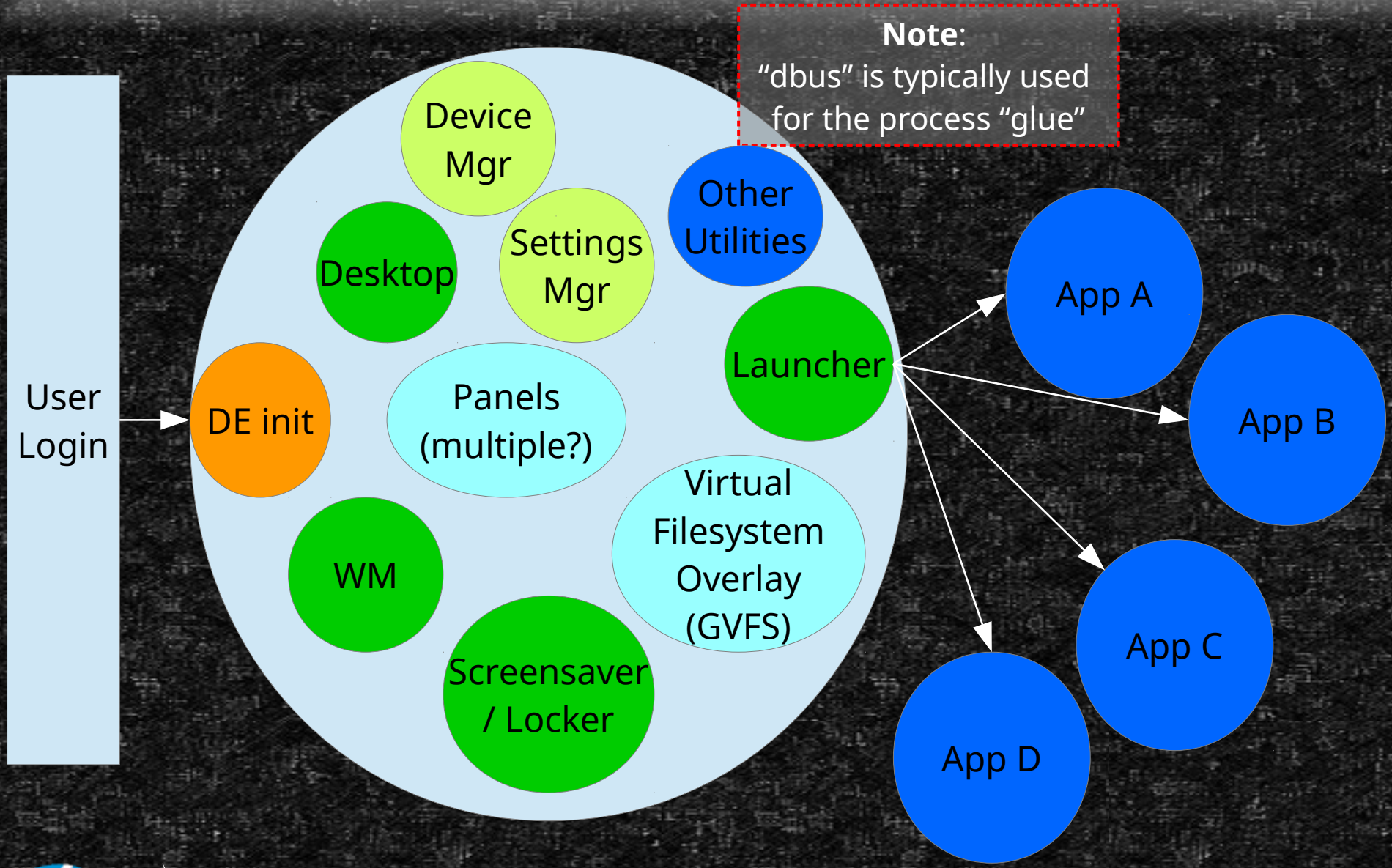
OS-Interface in Lumina

- Lumina has an “OS-Interface” concept
  - A single C++ class for common OS interactions

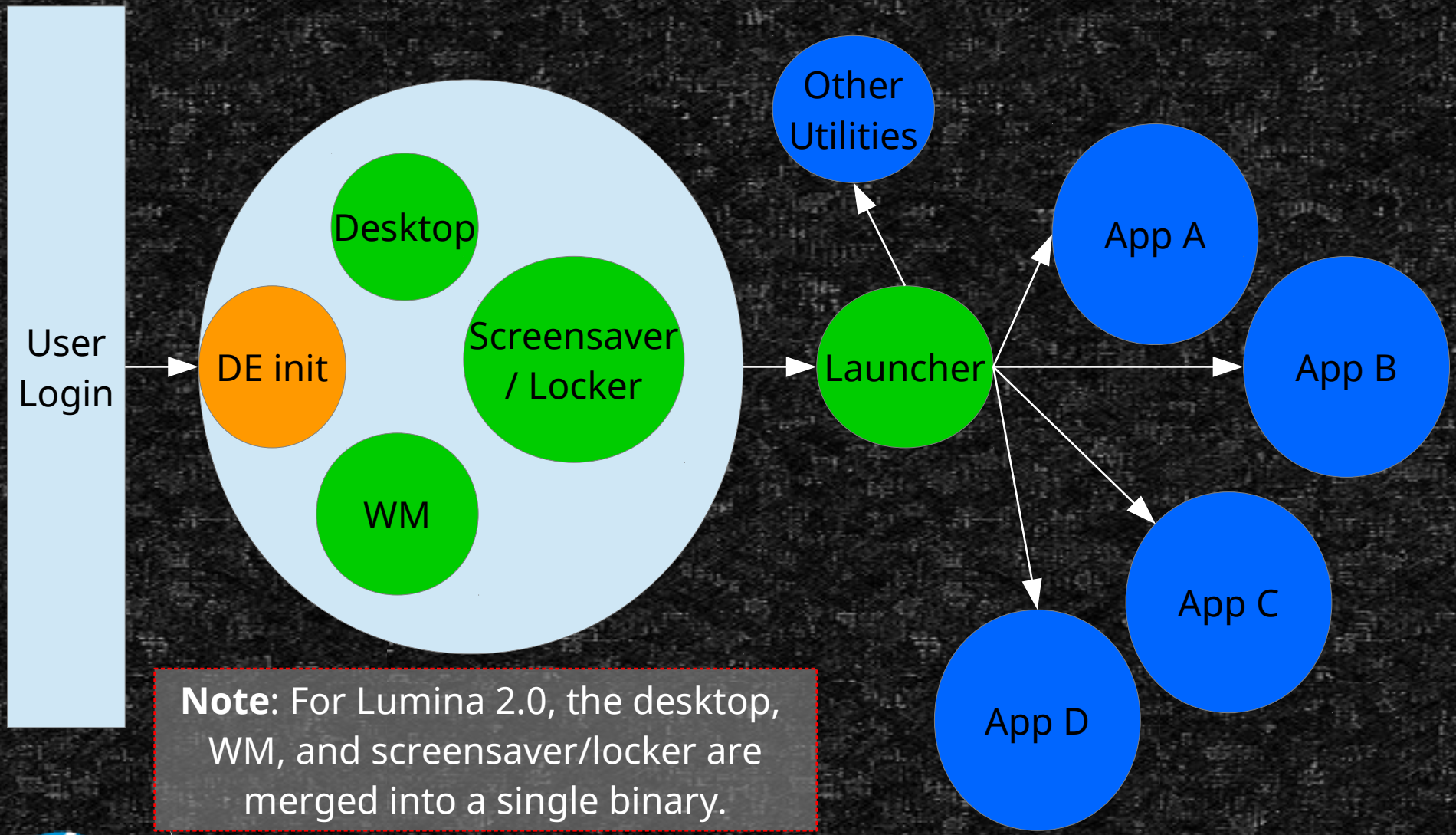
    Examples: volume, screen brightness, battery status, and shutdown
- Lumina treats the OS as **complete**. It expects the OS to have administration utilities included.

  Examples: networking, device, and user management

Linux Desktop Runtime



Lumina Desktop Runtime



Note: For Lumina 2.0, the desktop, WM, and screensaver/locker are merged into a single binary.

?? Questions ??

Websites:

http://lumina-desktop.org

http://www.trueos.org

Slides:

https://www.slideshare.net/beanpole135