Computational Fluency Workshop

Week 1 recap

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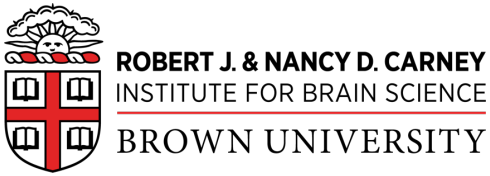
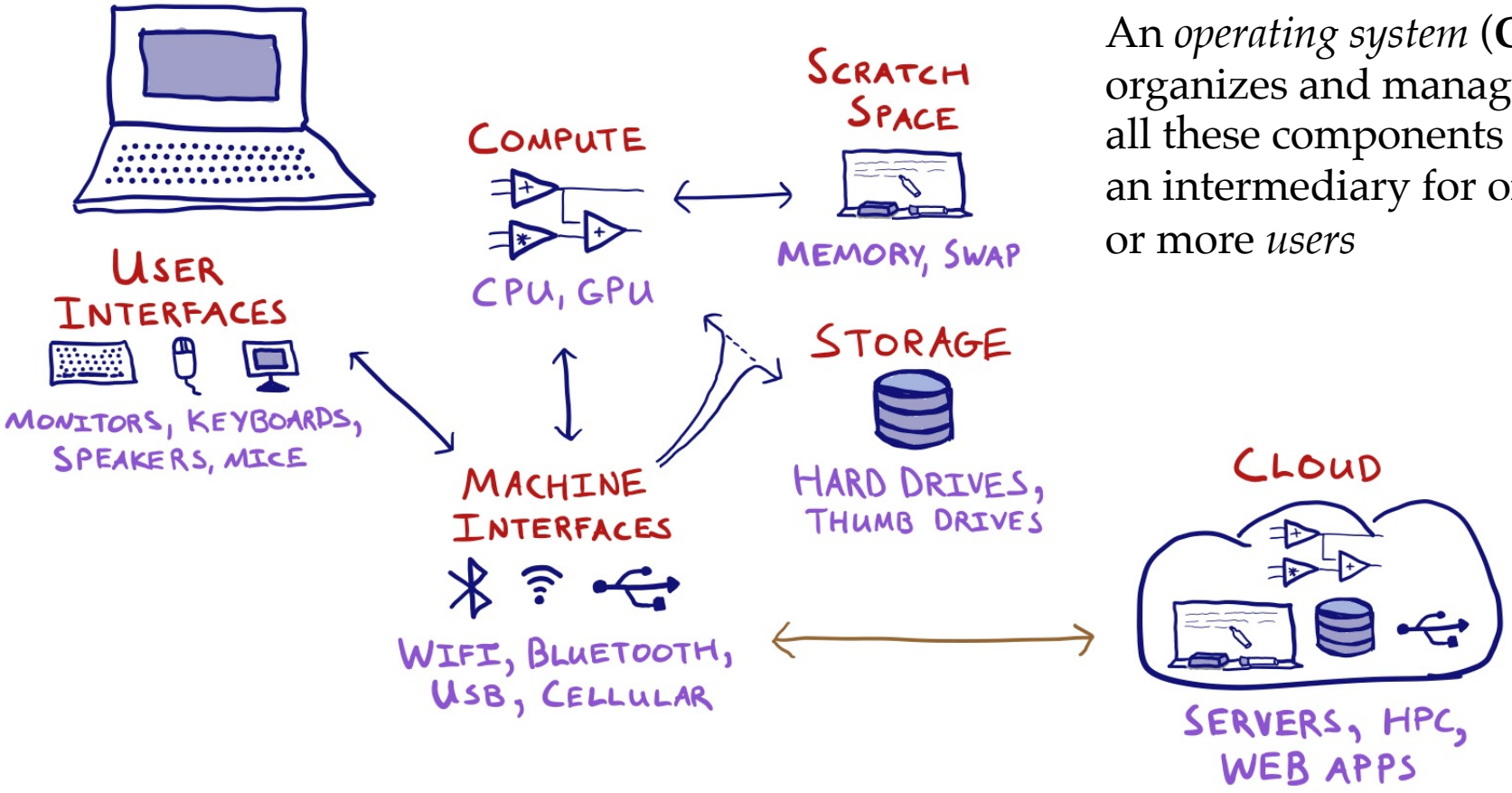


https://github.com/brownritt/cfsc2024

The core (conceptual) components of computers



An *operating system* (**OS**) organizes and manages all these components as an intermediary for one or more *users*

Concept highlights so far

- Processes and resources (CPU, memory)
- Filesystem hierarchy
  - Working directories
  - Absolute vs. relative paths
  - Search paths (for commands)
- Git (version control)
  - Local repo: change-add-commit
  - Remote repo: pull-push (also clone, fetch)
  - Merging
  - Forking
- Interfaces:
  - Terminals
  - IDEs (Spyder, Matlab, Rstudio)
  - Notebooks
- Packages (toolboxes, libraries)
- Virtual environments
  - Issue of software dependencies
  - Creating from command line
  - Creating from environment files
  - One project-one environment
- Coding practice:
  - Start with a skeleton, documentation, and TODOs
  - Encapsulate chunks into functions
  - Managing paths for ”portable” data loading