EmbryOS

Robbert van Renesse

A new educational operating system *family*

- For the RISC-V platform, both 32-bit and 64-bit
- Each family member is called a “chapter”
- Chapter 01 is the “hello world” operating system
- Chapter 12 has many O.S. features:
  - Time-sharing
  - User space / kernel space
  - I/O
  - Multi-core support
  - Windowing
  - …
- Fancy kernel logging

The EmbryOS family members

1. Hello World
2. Screen
3. CPU multiplexing
4. Timer interrupts
5. Terminal input
6. User space & system calls
7. Shell
8. Block devices
9. File Systems
10. Directories
11. Multi-core
12. Fancy Applications

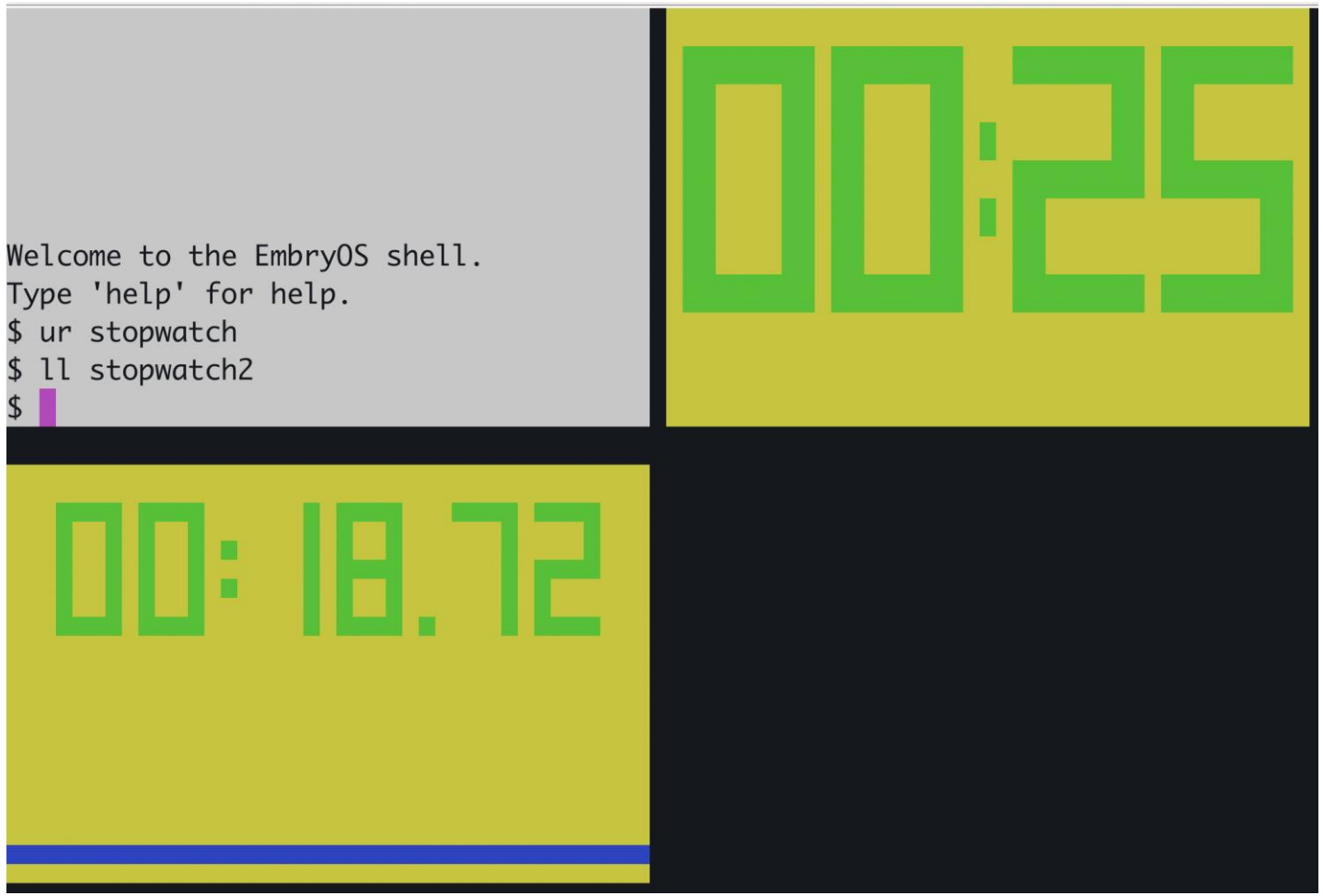
Learn about one concept at a time

- Start with Chapter 01
- Use your favorite LLM to ask questions about it

Projects

- Stopwatch: add support for real time
- Sleep: add support for processes waiting and update applications
- Multi-threading: implement user-space multithreading and build a game
- File system: build a realistic file system
- Paging: increase the virtual address space so the C* compiler can compile itself

Stopwatch


Welcome to the EmbryOS shell.
Type 'help' for help.
$ ur stopwatch
$ ll stopwatch2
$
00:25
00: 18.72

What you'll need

- Understand how to use terminal output (Chapter 02)
- Understand how "time" works (Chapter 04)
- Understand how to use terminal input (Chapter 05)
- Understand how system calls work (Chapter 06)

The pong.c application is a good example

Acknowledgments

- Yunhao Zhang for EGOS-2000 and many discussions
- Yacqub Mohamed for lots of help
- You for being willing to give this a shot

January 28
4:30-5:30 PM
Philips 101

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