

Nunya OS

Week 3



Update on the Week

- Windowing System
- Virtual Memory / User Space Memory
- Travis CI
- ISO Filesystem Read



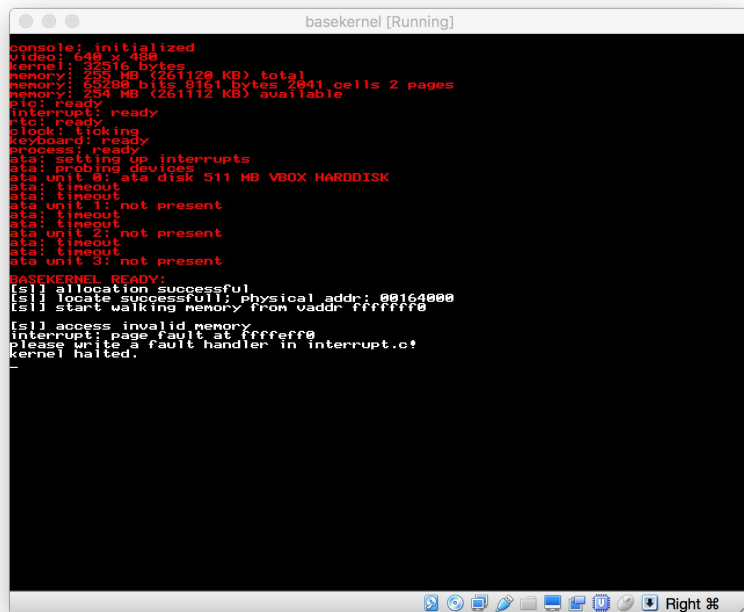
Windowing System

- Basic system with full bounds clipping
- window.h API now available



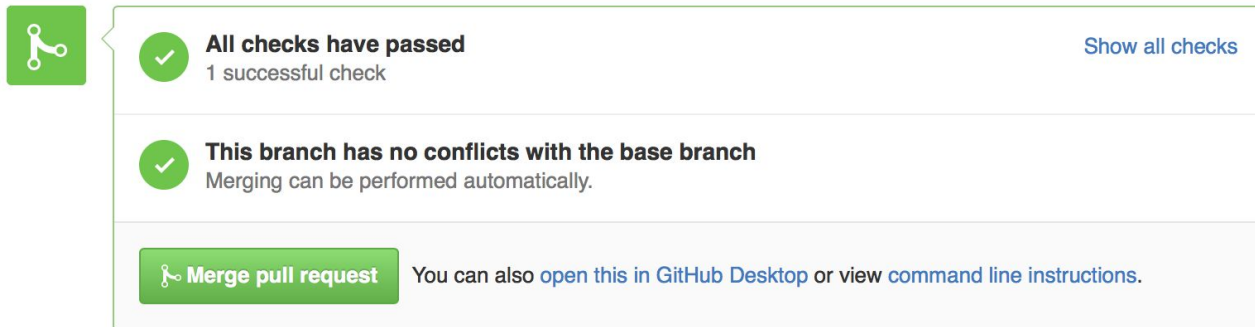
Virtual Memory

- Investigated the structure of physical memory
- Looked into the location of the video buffer in relation to VirtualBox
 - dedicated video memory discovered
- Successfully walked user memory




```
basekernel [Running]
console: initialized
video: 640 x 480
kernel: 32516 bytes
memory: 255 MB (261120 KB) total
memory: 63288 bytes 8161 bytes 2041 cells 2 pages
memory: 254 MB (261112 KB) available
pid: ready
interrupt: ready
ata: ready
clock: ticking
keyboard: ready
process: ready
ata: setting up interrupts
ata: probing devices
ata unit 0: ata disk 511 MB VBOX HARDDISK
ata: timeout
ata unit 1: not present
ata: timeout
ata unit 2: not present
ata: timeout
ata unit 3: not present
ata: timeout
BASEKERNEL READY:
[is] allocation successful
[is] locate successful, physical addr: 00164000
[is] start walking memory from vaddr fffffff0
[is] access invalid memory
interrupt: page fault at fffffff0
please write a fault handler in interrupt.c!
kernel halted.
```

TravisCI



A screenshot of a TravisCI status notification. It features a green square icon with a white Git branching symbol on the left. The notification is contained within a white box with a green border. The top section has a green checkmark icon, the text "All checks have passed" in bold, and "1 successful check" below it. A link "Show all checks" is in the top right. The middle section has another green checkmark icon, the text "This branch has no conflicts with the base branch" in bold, and "Merging can be performed automatically." below it. The bottom section has a green button with a white Git branching icon and the text "Merge pull request". To the right of the button is the text "You can also [open this in GitHub Desktop](#) or view [command line instructions](#)."

 **All checks have passed** [Show all checks](#)
1 successful check

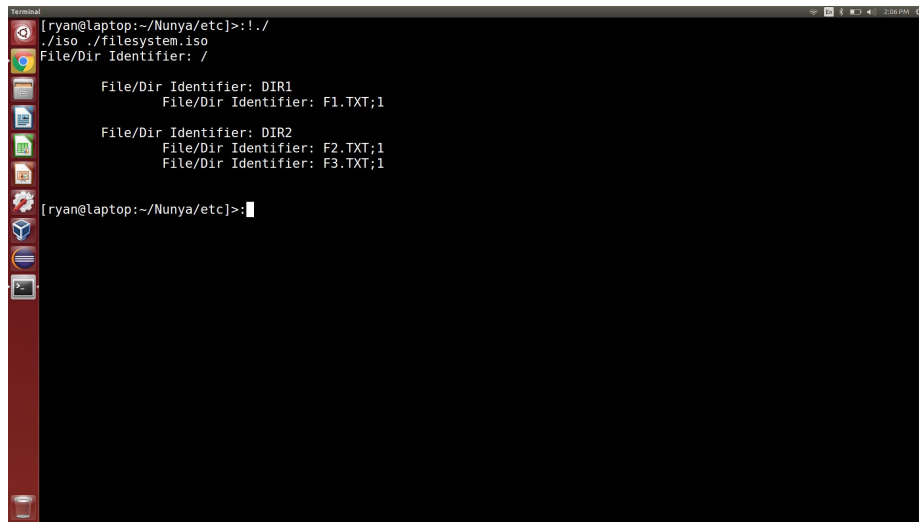
This branch has no conflicts with the base branch
Merging can be performed automatically.

[Merge pull request](#) You can also [open this in GitHub Desktop](#) or view [command line instructions](#).

- Now builds and tests for each pull request on master
- Issues with authentication / tokens / organization key policies
 - may need to make a Travisbot account

ISO Filesystem Read

- Can enumerate a file system tree
- Currently uses some outside libraries to run
 - `stdio.h`, `string.h`, `stdint.h`
 - Team effort to substitute in our own code
- Issues with VirtualBox recognizing CDs



```
Terminal
[ryan@laptop:~/Nunya/etc]:!./
./iso ./filesystem.iso
File/Dir Identifier: /
File/Dir Identifier: DIR1
File/Dir Identifier: F1.TXT;1
File/Dir Identifier: DIR2
File/Dir Identifier: F2.TXT;1
File/Dir Identifier: F3.TXT;1
[ryan@laptop:~/Nunya/etc]:
```

For Next Week(s)

- Decouple ISO filesystem from external libraries
- ISO filesystem write
- Continue to develop user memory plan
- Benchmark page swap policy
- Flesh out Window drawing (borders, titles, etc)
- PS/2 mouse support
 - Need to add history support to console
- Explore new Travis user repo to resolve issues



QUESTION TIME!

- How far can/should we deviate from the ISO standard?
 - Block size: 512 vs 2048
- More questions to come...

