Allen Hancock

Allen Hancock received his Bachelor's in Early Childhood Education at the University of Missouri - Columbia. This background in education keeps him coming back to MacTech. In 2000, Allen started the Mac Consulting Group, Inc. in Baton Rouge, Louisiana. There, he found his thrill in helping clients make the most of their computing experiences. In 2012, Allen sold the Mac Consulting Group to The Orchard. Over the course of his career, he met too many people as they suffered a failing hard drive without a current backup. As a means of preventing such loss, Allen founded Watchman Monitoring. Its namesake product is a Software as a Service tool which allows service providers to address such problems before it's too late.



MACTECH

The droid you're looking for…
how to boot any Mac for diagnostics and recovery

What are we going to cover?

- Last year we went over tips and tools to keep on your laptop to make your job easier.
- This year we're going to talk about tools to keep on a hard drive.

Why create one?

- Getting data off failed harddrives
- Running diagnostics
- Fixing tough issues (file deletions, etc)
- Installing Mac OS X without downloading it
- Storage for large, useful files (adobe CC installer, Xcode, etc)
- Can’t always rely on the internet being fast



Drive Setup

- Format the drive for the platforms you need
  - GUID will work for most
  - APM if you *still* have PPC computers.
- APM's downside is less flexibility with adjusting partitions later, best to keep one separate drive for 10.5/10.6 machines

Let us count the ways/drives…

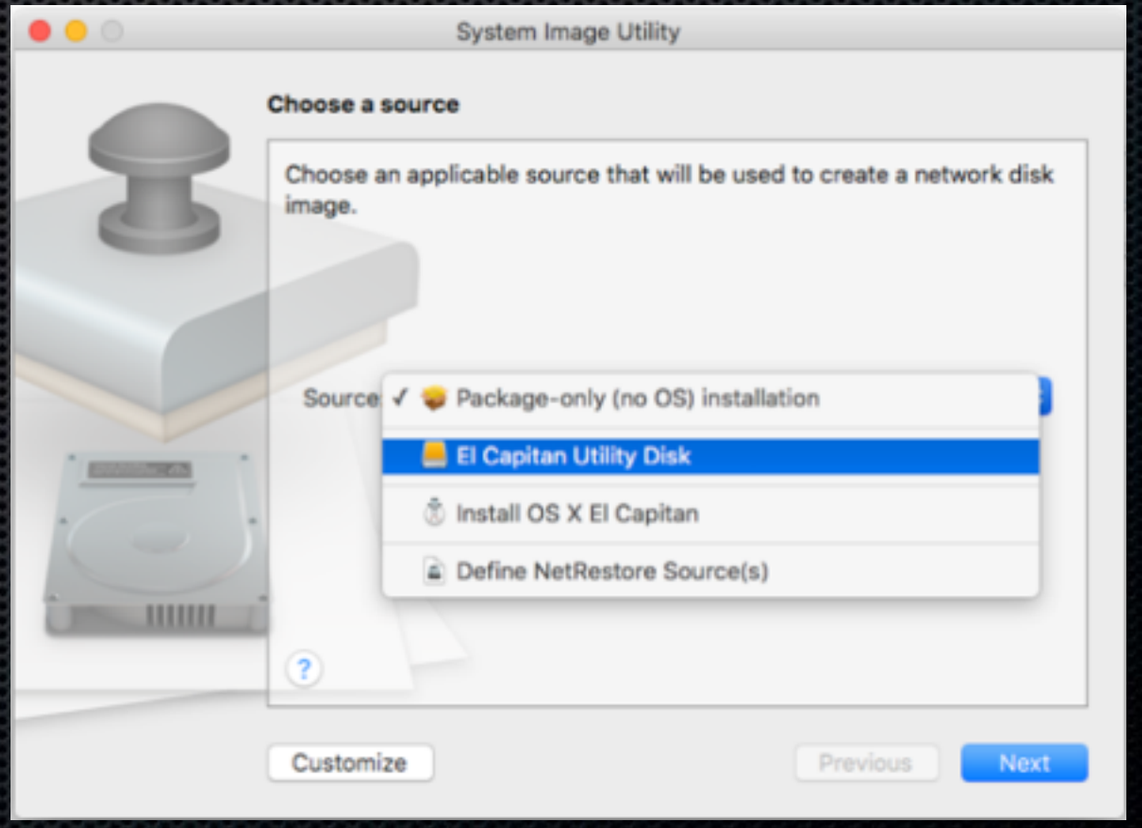
- Considerations for partitions:
  - How many OS to support booting from?
    - Different versions
  - How many OS installers to use?
  - How many devices to maintain?

Let us count the ways…

- Resolve:
  - One droid for older computers, if needed
  - One droid with 10.11 (latest)
  - One droid with 10.8 for medium-old
    - Each of these with a storage volume
  - Thumb drives for OS installers you use often
  - Netboot images of all.

Droids on the wire!

- Rich "Derflounder" Trouton to the rescue!
- https://derflounder.wordpress.com/2016/05/18/building-a-netboot-utility-disk/



Getting a clean slate

- Just launch Disk Utility, right?
  - Formatting options include Hard Disk Manager, Partition Manager, and iPartition
  - MacSales ships Drive Manager which works well.
  - The command line
- Free, just takes some effort

Getting a clean slate

- Terminal formatting goes like this:
  - diskutil list
  - diskutil listFilesystems
  - diskutil partitionDisk
    - simple, right?

Breaking up is easy to do

- diskutil partitionDisk /dev/disk6 GPT
  JHFS+ "Recovery HD" 1g
  JHFS+ "Install 10.8" 20g
  JHFS+ "Install 10.10" 20g
  JHFS+ "Install 10.11" 20g
  JHFS+ "Boot volume" 20g
  JHFS+ "Storage drive" 0g

(copy & paste in Terminal, all in one line)

Filling in the Blanks

- Recovery HD
  - May get this via a normal OS install.
  - Carbon Copy Cloner makes this easy.
  - Useful if you get a computer that won't boot your OS.
  - Useful for direct restoration of a Time Machine backup



Filling in the Blanks

- Installer Partitions
  - "createinstallmedia" makes this simple.
  - DiskMakerX is even easier



Filling in the Blanks

- Boot Partition
  - Install an OS like any other, create a user.
  - If space is an issue, install the OS on a larger partition, trim out print drivers, languages then clone in place.
  - Because of virtual paging storage space, skimping on the boot volume size may do more harm.

What a mess!

- With 3-4 Installer partitions, mounting this drive is a mess every time.
- Hide the volumes you don't need using chflags
  - sudo chflags hidden "/Volumes/Install 10.8"
- Undo with "chflags nohidden"

Hi ho, Hi ho...

- Storage Partition is where we get real work done.
  - Installers
  - Space for data recovery
  - Odds & ends
  - Emergency donor boot volume

Fill'r Up!

- The /Applications folder of your Boot volume is really what this session is all about. Let's dig in!
  - General Tools
  - Hardware Diagnostics
  - Disk Utilities
  - Data Recovery

But first, a message...

- A brief note that many of the tools in this deck are commercial, and a diagnostic drive which you own isn't always specifically covered by the license.
- When in doubt, the person who truly benefited from the software should end up owning a copy of their own.
- This may be one that you buy & keep, or one your end user buys. Playing nice gets better software.
- Same goes for open source tools. Karma rules.



General Tools

- DropCopy (not the Mac App Store Version)
- EasyFind
- Geekbench
- OmniDiskSweeper
- SnapNDrag
- TextWrangler



Hardware Diagnostics

- Coconut Battery
- Hardware Monitor
- Memtest
- TGPro
- Watchman Monitoring



Disk Utilities

- DiskWarrior
- Drive Genius
- SoftRAID
- Your favorite Remote Access

Data Recovery

- Carbon Copy Cloner
- CopyCatX
- DataRescue
- FileSalvage

But wait, there's more!

- The general computer setup is what this session is really all about. Let's document!
  - System wide preferences
  - User Preferences & Dock

System Setup

- Energy Saver - No sleep, no screensaver.
- Disable Spotlight
- Configure remote access
  - .com.apple.timemachine.donotpresent
- Increase the max open files
  - Stackoverflow link for plist



User Preferences

- Finder
  - Show all extensions
  - Show hidden files
  - Don't write .DS_Store
  - Sidebar & Dock

- Any other change you want to make as you go... we'll discuss how to "save" this setup in a coming slide.



Wait, Again?

- As time goes by, things will happen to your droids.
- New OS, bad cables, leaving one on-site.
- Here's how to get back to good, without having to learn a huge new workflow.

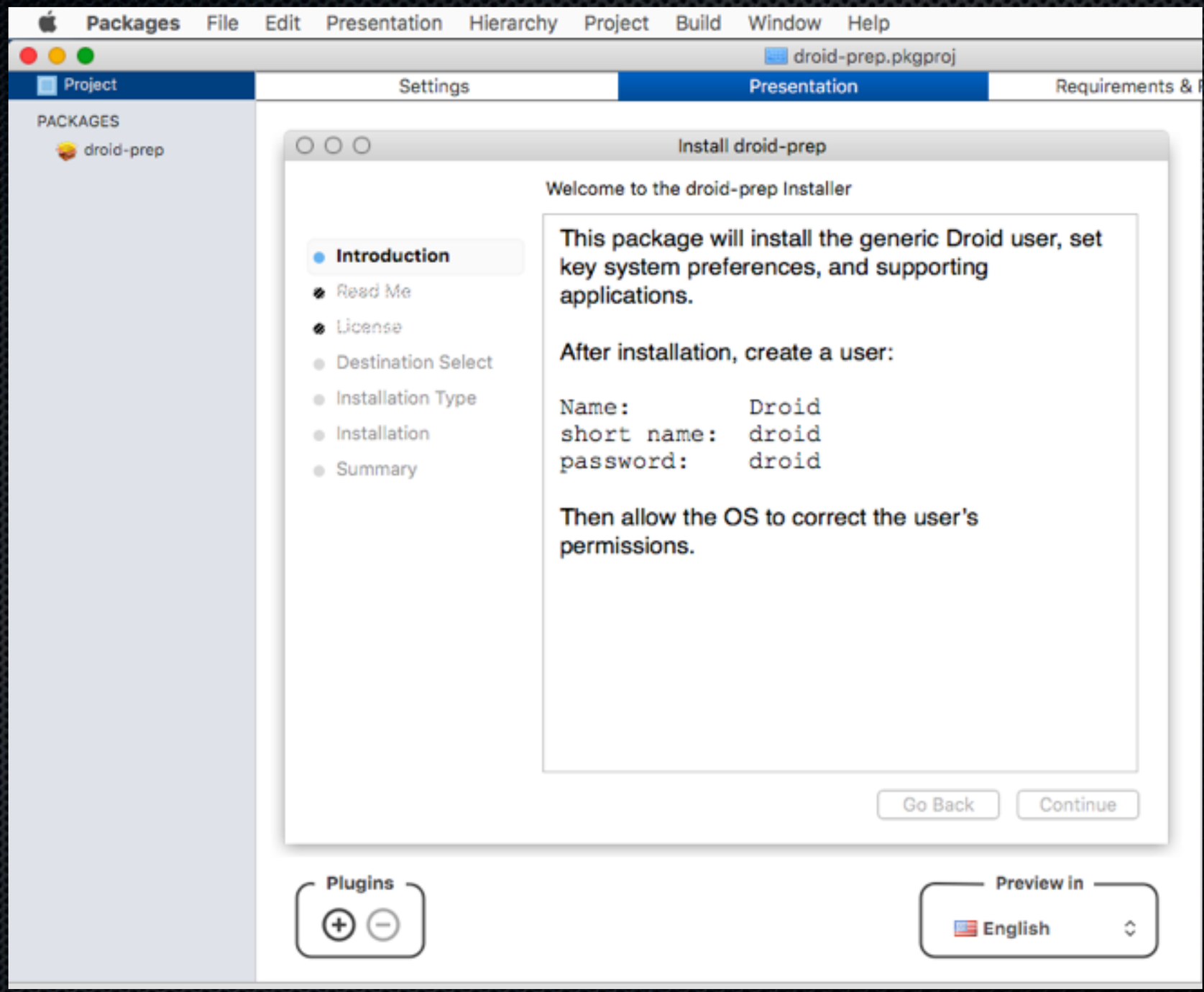
- Package the Droid's setup



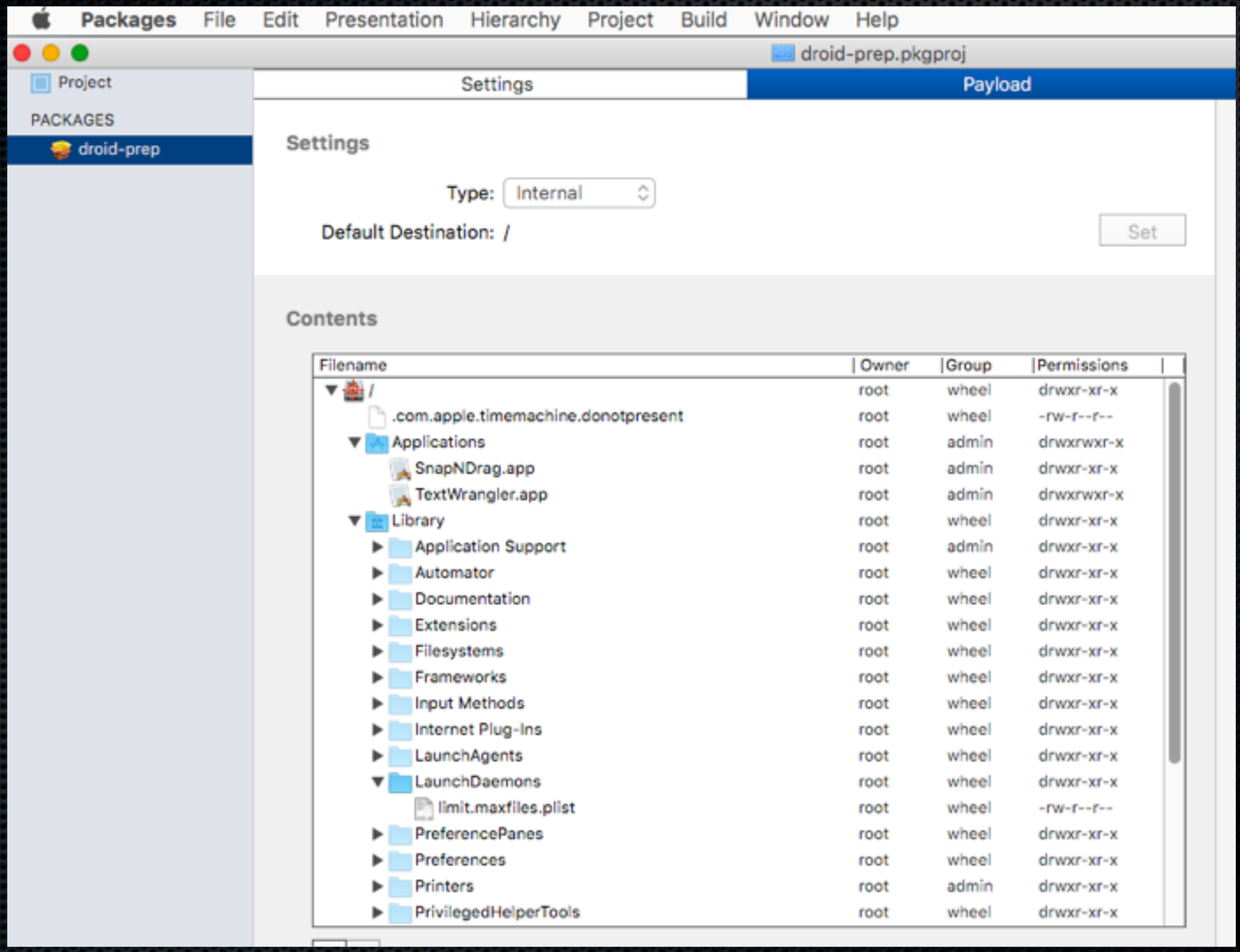
Checked vs Carryon

- There are other systems - autopkg, deploystudio, and others. If you are already familiar, they may be best, but for just making a droid, packaging your settings & installing fresh can be a benefit.
- We're going to track this at
- https://github.com/watchmanmonitoring/droid

Packaging


Packages File Edit Presentation Hierarchy Project Build Window Help
droid-prep.pkgproj
Project
Settings
Presentation
Requirements &
PACKAGES
droid-prep
Install droid-prep
Welcome to the droid-prep Installer
Introduction
Read Me
License
Destination Select
Installation Type
Installation
Summary
This package will install the generic Droid user, set key system preferences, and supporting applications.
After installation, create a user:
Name: Droid
short name: droid
password: droid
Then allow the OS to correct the user's permissions.
Go Back
Continue
Plugins
Preview in
English

Packaging


Packages File Edit Presentation Hierarchy Project Build Window Help
droid-prep.pkgproj
Project
PACKAGES
droid-prep
Settings
Payload
Settings
Type: Internal
Default Destination: /
Set
Contents
Filename
Owner
Group
Permissions
/ root wheel drwxr-xr-x
.com.apple.timemachine.donotpresent root wheel -rw-r--r--
Applications root admin drwxrwxr-x
SnapNDrag.app root admin drwxr-xr-x
TextWrangler.app root admin drwxrwxr-x
Library root wheel drwxr-xr-x
Application Support root admin drwxr-xr-x
Automator root wheel drwxr-xr-x
Documentation root wheel drwxr-xr-x
Extensions root wheel drwxr-xr-x
Filesystems root wheel drwxr-xr-x
Frameworks root wheel drwxr-xr-x
Input Methods root wheel drwxr-xr-x
Internet Plug-Ins root wheel drwxr-xr-x
LaunchAgents root wheel drwxr-xr-x
LaunchDaemons root wheel drwxr-xr-x
limit.maxfiles.plist root wheel -rw-r--r--
PreferencePanes root wheel drwxr-xr-x
Preferences root wheel drwxr-xr-x
Printers root admin drwxr-xr-x
PrivilegedHelperTools root wheel drwxr-xr-x

Checked vs Carryon

- Once you get your user account setup Just Right, dock, etc, we'll freeze-dry that by creating a pkg of the home directory.
- As you adjust system-wide settings, keep track and add them to a post-flight for the user installer.
- As new OS comes out, or you need to build a new drive, install the OS from scratch, set up a temporary user, then install your package.
- Create a new user to match the name you packaged, and when you log in, everything will be as you expected.



Follow on Github

https://github.com/watchmanmonitoring/droid

This is the droid you're looking for

This repository is designed to help build a "Droid".. an external hard drive used in troubleshooting, and often performing data recovery on OS X based computers.

Setup

Install a clean OS, created a user named `Droid`

- Install Packages.app
- Create a folder called `/Users/Shared/Development` for use as common starting ground in this package's scripts.
- Clone this repo*

```
git clone https://github.com/watchmanmonitoring/the-droid-you-are-looking-for.git /Users/Shared/Development/the-droic
```




Questions?



Allen Hancock
watchman@watchmanmonitoring.com

MACTECH PRO EVENTS

New York Mac Admins

- First Drink on us, bring your badge:

  Havana Social
  688 10th Avenue
  New York, NY 10019



- bit.ly/mtp-2016-nyc