

# Apple TV AirPlay

with Michael Page

Walford Anglican School for Girls



Hashtag : #xw13

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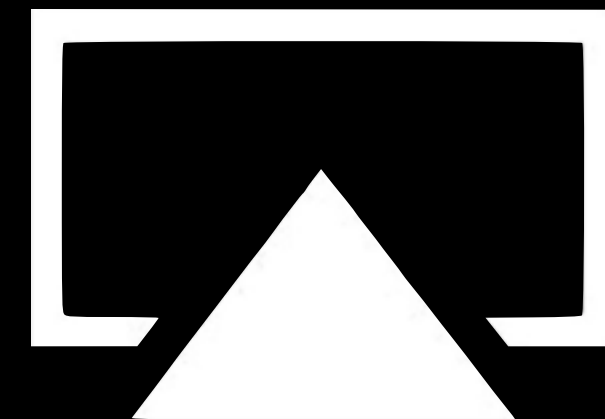
# Overview

What is AirPlay?  
Real world example



iOS passwords + AirPlay  
AirPlay security

Apple TV configuration



Wi-Fi requirements  
Bonjour gateways

DVDs + AirPlay

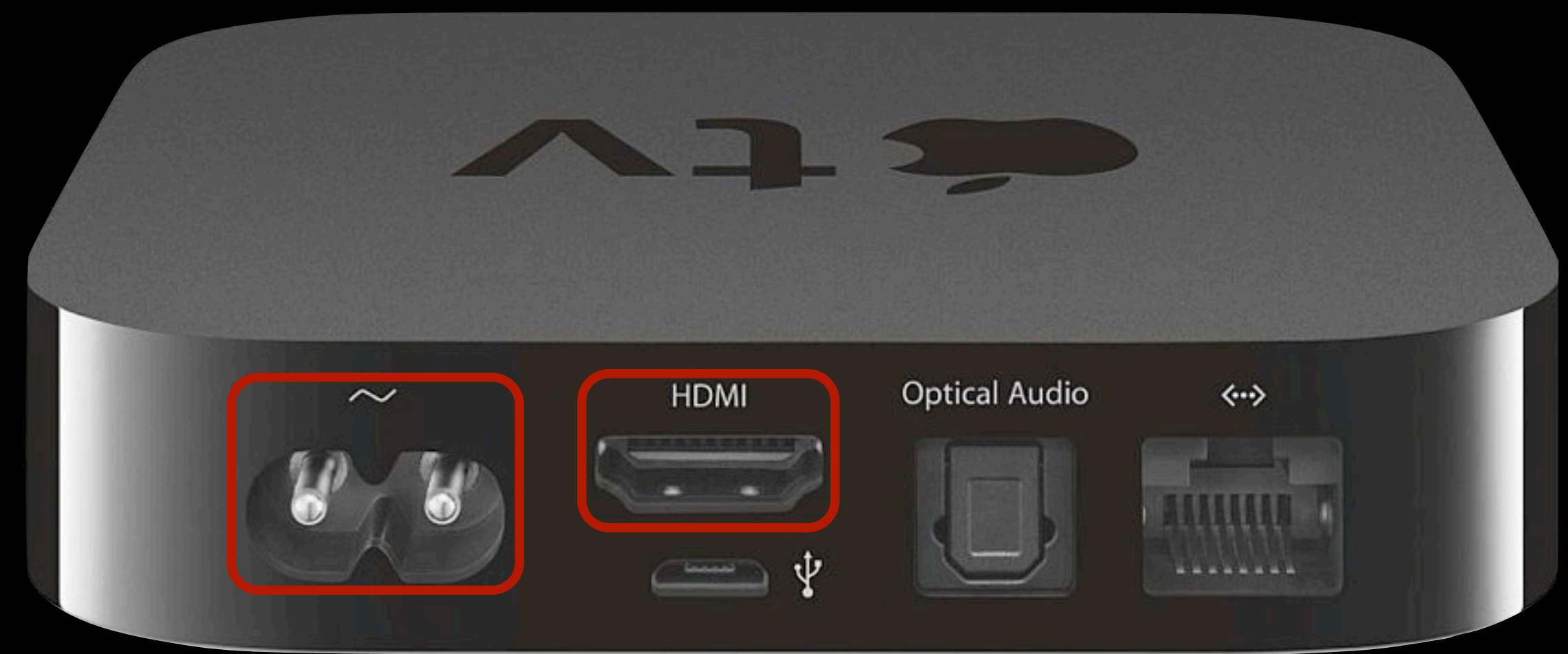


Apple TV updates  
Future of AirPlay

# Apple TV AirPlay Mirroring

- Wirelessly mirror an iPad, iPhone or MacBook
  - Removes the inconvenience of cabling
  - Screen sharing of a multiple devices with minimal fuss
  - Alters the classroom dynamic

# Apple TV AirPlay Mirroring



Apple TV  
RRP \$109

# Apple TV Configuration

- Label Apple TV with location
- Connect to a hidden WPA2 Personal Wi-Fi
- Configure device name to match label
- Disable screensaver and sleep
- Set 3rd gen Apple TVs to output 720p



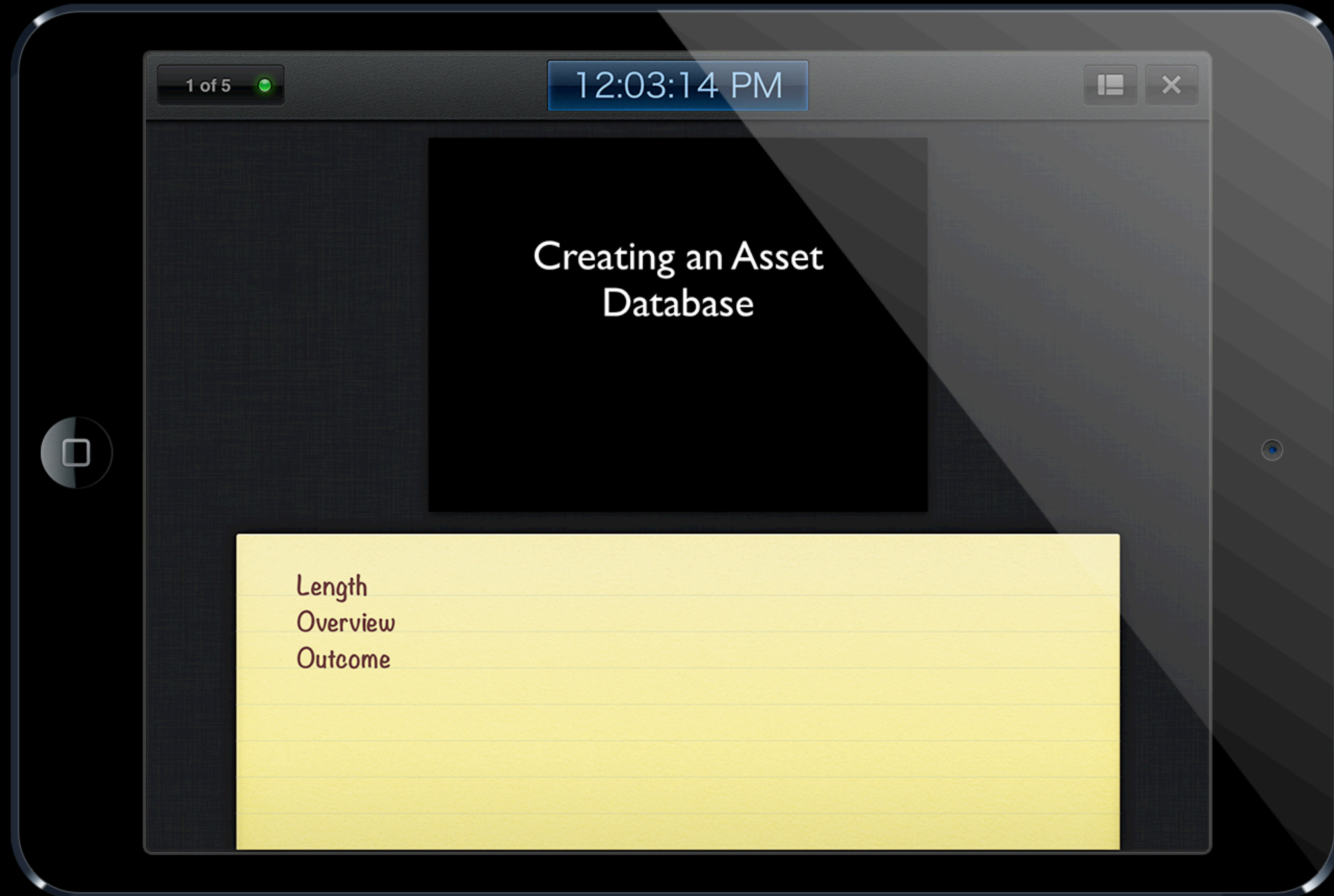
# AirPlay + Keynote



Hit Play

# AirPlay + Keynote

Current  
Slide



Presenter  
Notes

# AirPlay + Keynote

The screenshot shows a Keynote presentation window with a dark theme. At the top left, it displays "1 of 5" with a green dot. The time "12:03:18 PM" is shown in the center of the top bar. On the right side of the top bar are window control icons (maximize and close). The main content area is split into two columns. The left column is labeled "current" and contains a slide titled "Creating an Asset Database". The right column is labeled "next" and contains a slide titled "Overview" with a bulleted list: "• Why make an asset database?" and "• Demo".

Current  
Slide

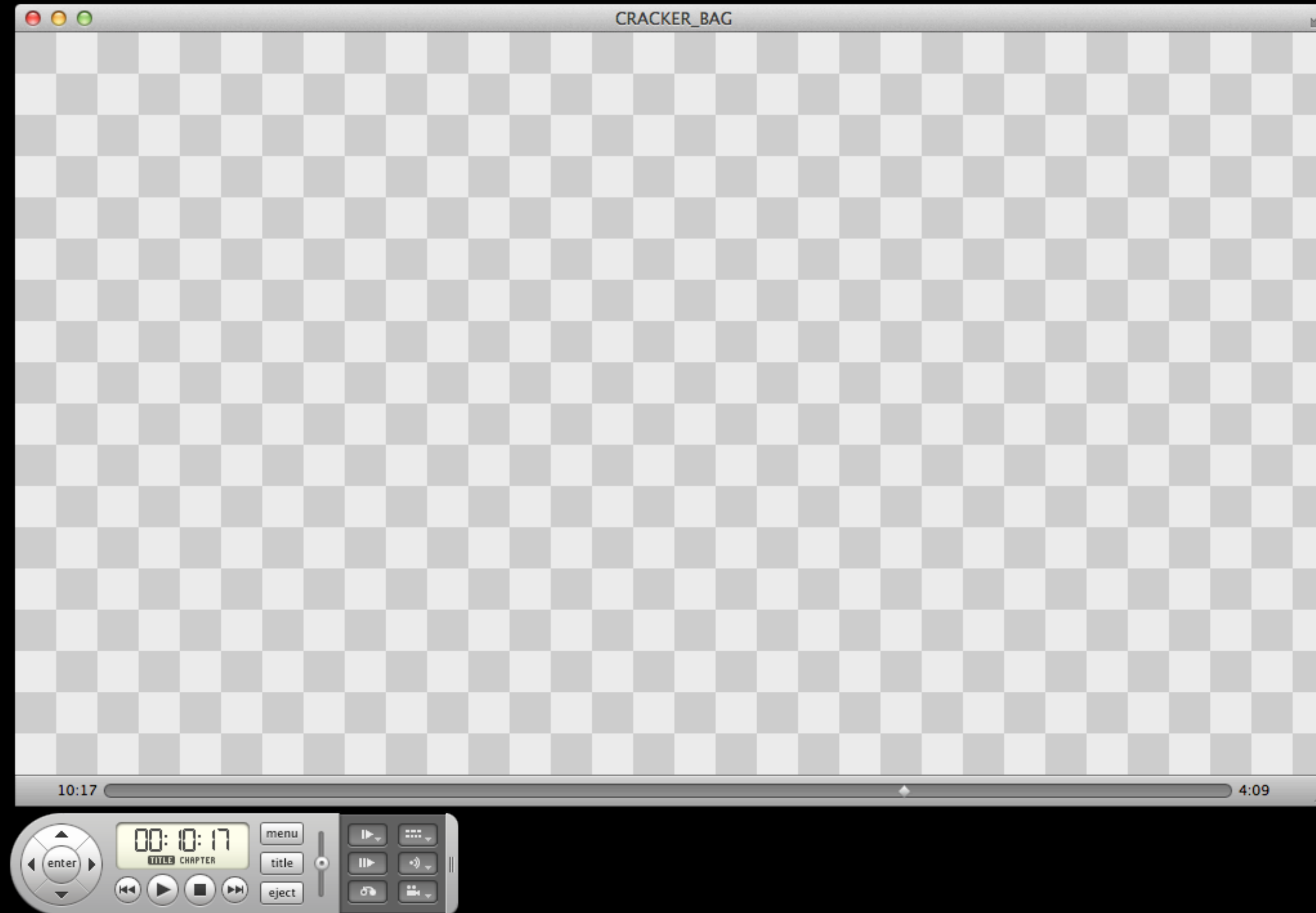


Next  
Slide

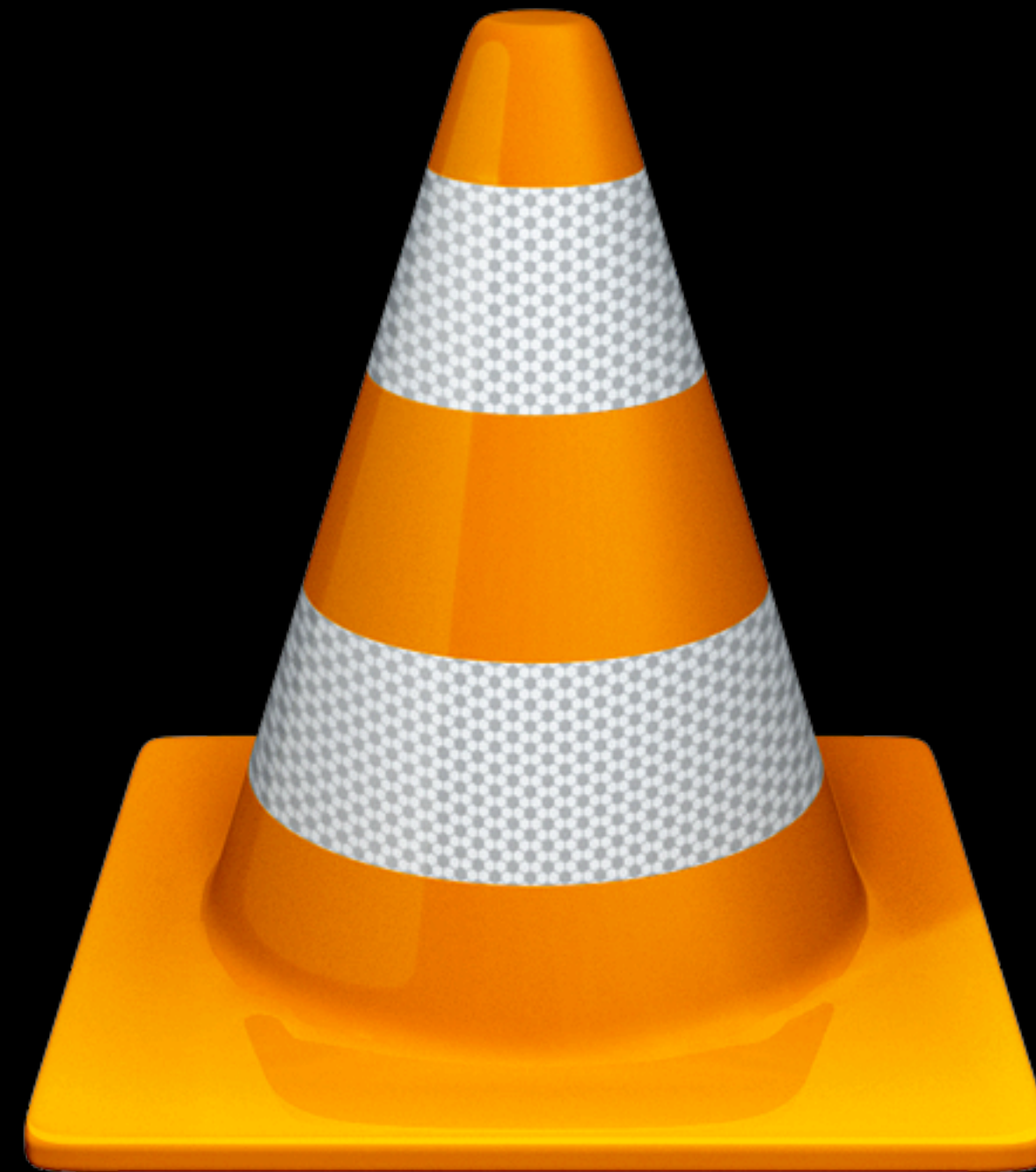




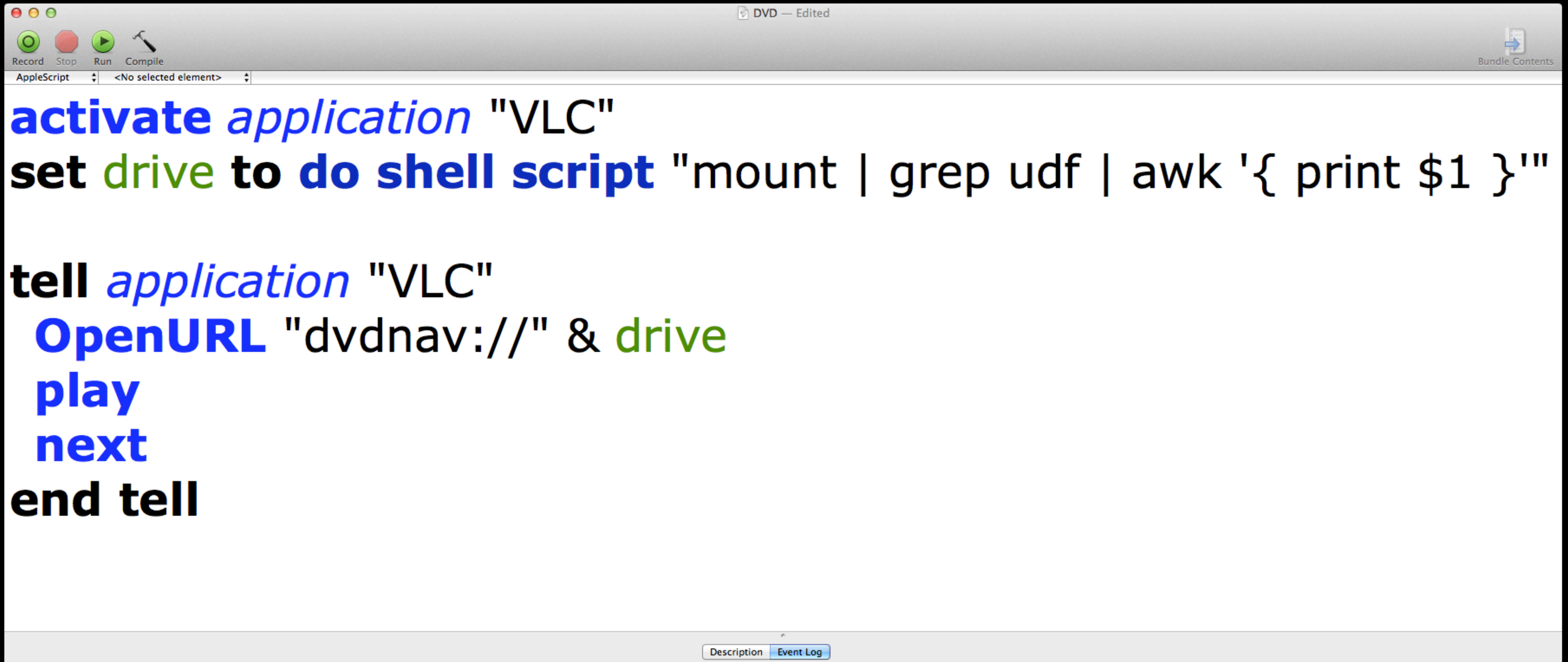
# AirPlay Mirroring + DVD Player



# Our Solution



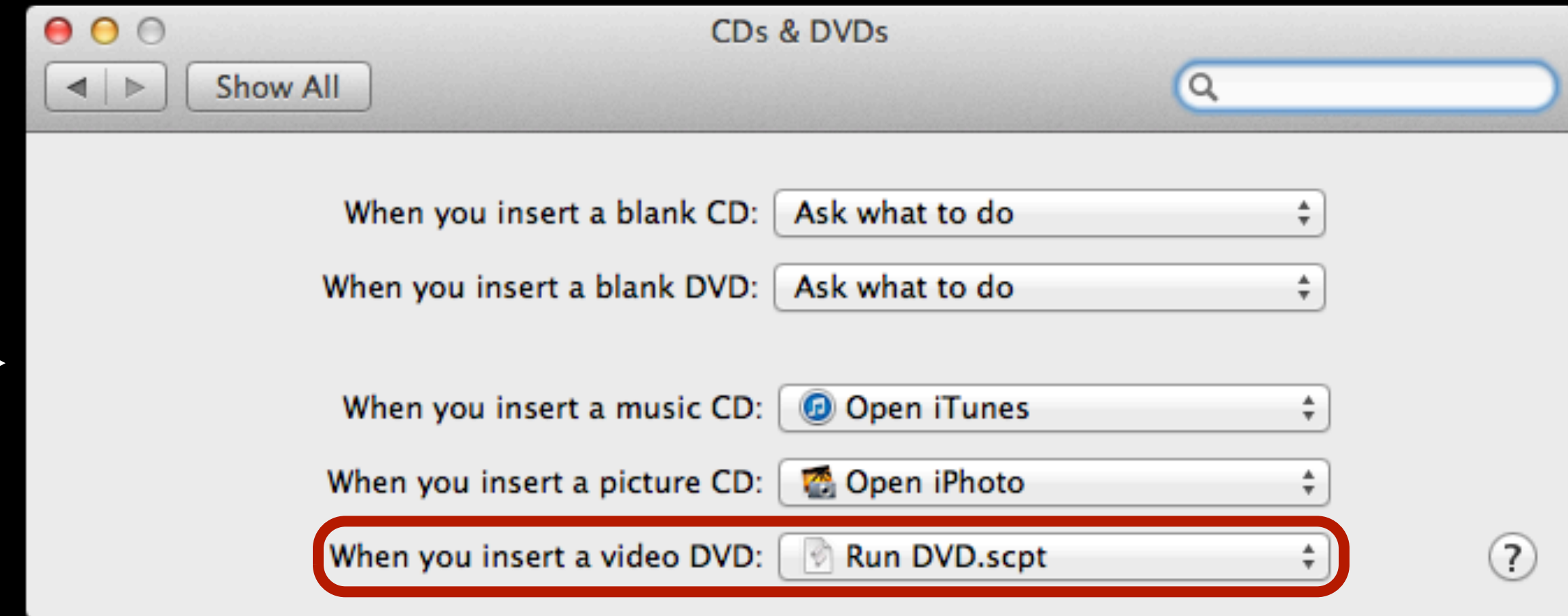
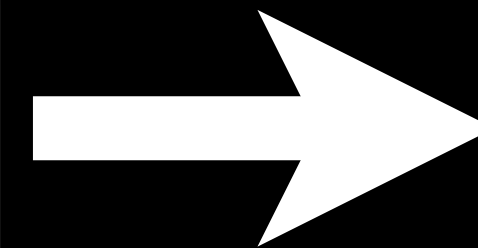
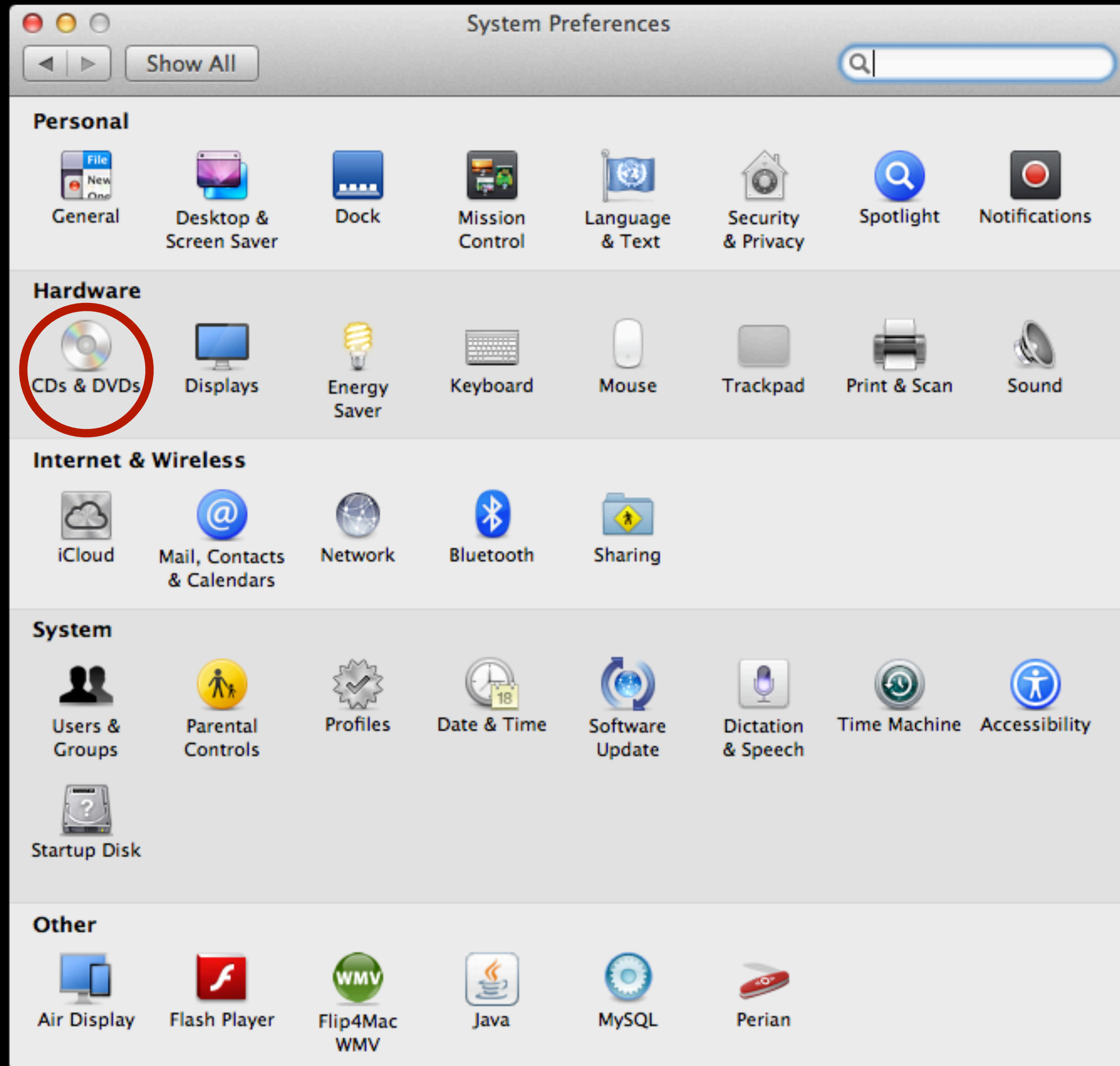
# VLC DVD Playback Script



```
activate application "VLC"  
set drive to do shell script "mount | grep udf | awk '{ print $1 }'"  
  
tell application "VLC"  
  OpenURL "dvdnav://" & drive  
  play  
  next  
end tell
```

The screenshot shows a macOS-style window titled "DVD - Edited" with a toolbar containing "Record", "Stop", "Run", and "Compile" buttons. The script text is displayed in a white area with blue and green syntax highlighting. At the bottom, there are "Description" and "Event Log" tabs.

# VLC DVD Playback Script



# ~/Library/Preferences/ com.apple.digihub.plist

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
  <key>com.apple.digihub.dvd.video.appeared</key>
  <dict>
    <key>action</key>
    <integer>6</integer>
    <key>otherscript</key>
    <dict>
      <key>_CFURLString</key>
      <string>file://localhost/Volumes/SYSTEM/.scripts/DVD.scpt</string>
      <key>_CFURLStringType</key>
      <integer>15</integer>
    </dict>
  </dict>
</dict>
</plist>
```

# AirPlay Mirroring + Passwords

Keyboard  
Feedback



# AirPlay Security

- Onscreen Code
- Set Password



# Apple TV Update

**An update is available for your Apple TV. Do you want to install it now?**

Your Apple TV will restart to begin installing the update. Do not unplug your Apple TV while it is updating.



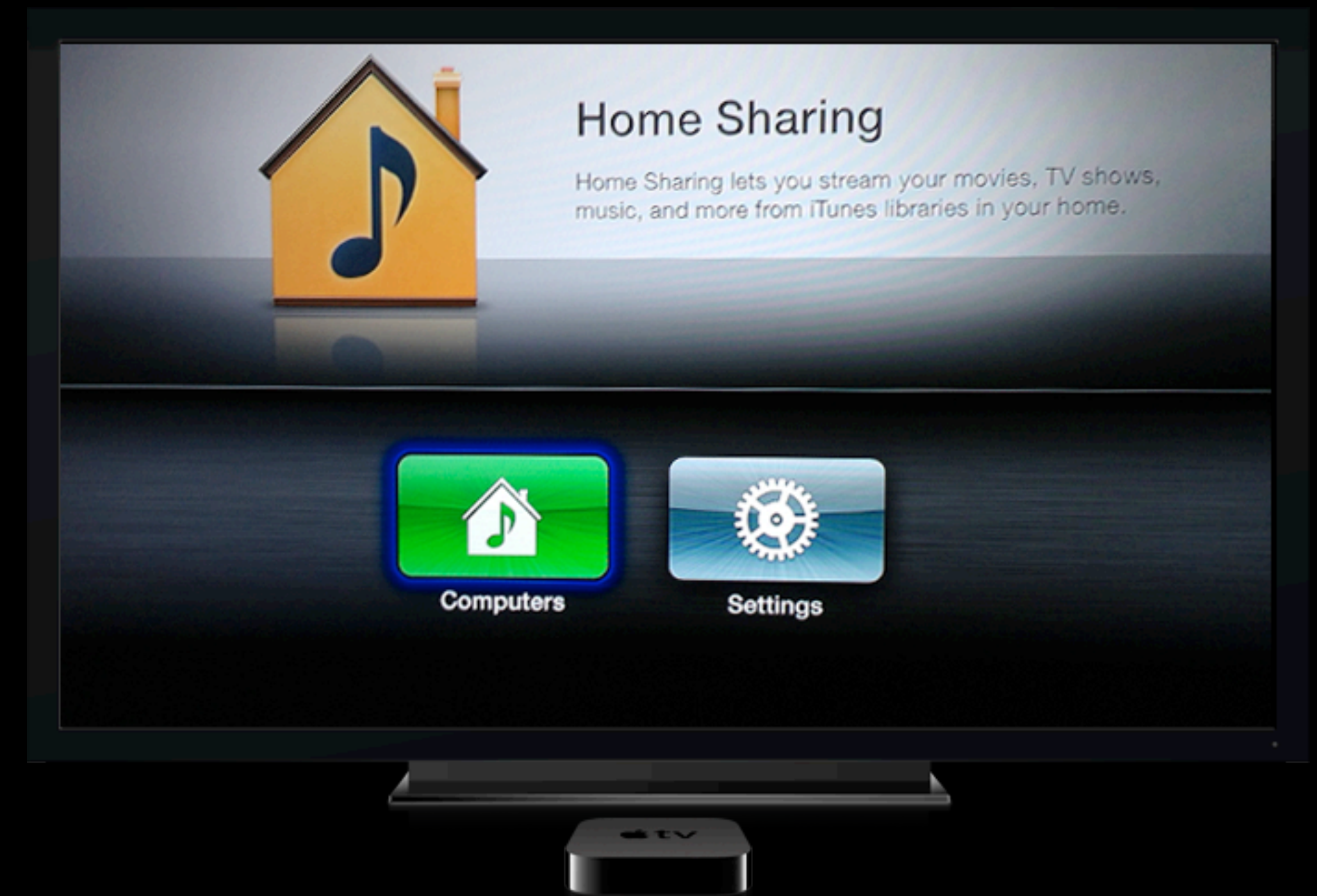


# Control Apple TV Updates

- Apply a separate DNS server to Apple TVs
- Set time.apple.com to resolve to your local time server IP address
- Block (DNS poisoning):
  - appldnld.apple.com
  - mesu.apple.com
  - appldnld.apple.com.edgesuite.net
  - itunes.apple.com.edgesuite.net

# Control Apple TV Updates

- Advantages include:
  - No update messages
  - No movie banners
  - Slightly faster boot times





# Wi-Fi Requirements

- Apple TVs will pick **2.4GHz** over **5GHz** signal.
- Ideally there should be an access point in each room.
- Wireless access point location is important, as air conditioner vents are very bad for SNR.
  - SNR needs to be at least 25dB (the higher the better)
  - Test with WiFi Explorer (Mac App Store)



# WiFi Explorer



# Bonjour

- Apple's Bonjour protocol is a simple multicast DNS.
- Aerohive's Bonjour Gateway allows advertising of Bonjour services (e.g. AirPlay, AirPrint, etc) over other subnets.
- Setup with a free virtual machine or using Aerohive hardware.
- Open source Avahi project



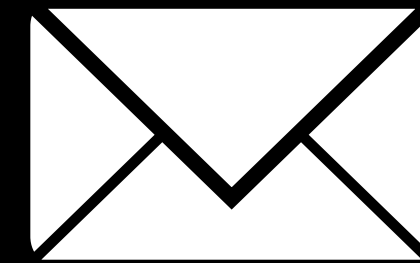
# Future

- Realm based Bonjour broadcasting
- iCloud Keychain
- iOS Developer Program



# Thank You

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