Porting AOSP for a new device

A presentation from Putti
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Step 1

- Choose a manifest
  - https://android.googlesource.com/platform/manifest

Step 2

- Have a working Linux kernel for your device
  - Mainline kernel is enough
  - AOSP has a fork of Linux that can also be used

Step 3

- Create a new device tree
  - device/common/populate-new-device.sh

Step 4

- . build/envsetup.sh
- lunch
- make -jN
- Flash system.img, userdata.img, boot.img from out/target/product/<device>/ to your device
  - Heimdall, fastboot, u-boot

Step 5

- Once you have init running after countless rebuilds & flashes get ADB running so you get easy access for shell, logcat, etc.
- Functionfs is an easy way to get it working at first

Step 6

- Fix all the fatal errors and non-running services shown in logs
  - adb logcat W
- You have to read the source code since there is not much documentation

Initial porting is now done

- From this point onwards there are plenty of other things to do but you should now have a device running AOSP with the minimum amount of work

Tips

- If you run a recent enough kernel with a graphics controller / card supported by a DRM graphics driver you should be able to use drm_hwcomposer + gbm_gralloc + mesa3d for graphics