



SAILING INTO PORTING WITH SONY OPEN DEVICES

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OUTLINE

Intro

Sony AOSP

Sony AOSP porting compare to X?

Sailfish OS Community ports for Sony Xperia devices

Questions and resources

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Notes: Intro

- Get more people into porting be it mainline or hybris -> Hybris porting especially for open devices is an easy entry pointing that can lead to other efforts such as mainline porting later. More on further slides.
- Sony AOSP is a good platform for new comers to delve into
 - Documentation is good, the pr
- I want to give back what I've learned over the years, I want to give more people the opportunity to have high quality ports
- If done right ports can work very good - the limitations reach their peak in the quality of the underlying hardware adaptation of the vendor. Qualcomm isn't good, others are worse
- Get more people into porting be it mainline or hybris
- Sony AOSP is a good platform for new comers to delve into
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About me

- ▶ Software engineer at Jolla
- ▶ I'm quite flexible, I work in quite many areas all over the place
- ▶ Mostly system-engineering, hardware adaptations related task
- ▶ Organize community infra, other community work



WHY CHOOSE SONY AOSP

- ▶ structure
- ▶ open communication
- ▶ long life time

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CONTRIBUTING TO SONY AOSP

- ▶ Easy to start with
- ▶ Requires only a device and a Linux computer
- ▶ Some programming skills
- ▶ Just follow their docs



HOW JOLLA CONTRIBUTES TO SONY AOSP

- ▶ Midrange Sony's as reference port
- ▶ Focus on refining our target devices hal
- ▶ Frequent general contributions



WHY ANOTHER HYBRIS PORT, WHAT ABOUT MAINLINE?

- ▶ Hybris ports are easier to get doing → more things can be reused
- ▶ Sony's hal is good and open
- ▶ Short vs. long time goals
- ▶ Downstream kernels vs. mainline kernel plus user land driver parts

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Notes: Why another hybris port, what about mainline?

- Downstream kernels are harder to maintain in the long run, they are stale unless downstream code is ported to newer versions

MAINLINE PORTING

- ▶ Mainline ports are a lot "cleaner" but require more effort
- ▶ For mainline an establish port such as PinePhone or SDM845 ports can be a good start
- ▶ Another example case would be Sailfish OS on KVM

REUSING EXISTING PROCESSES

- ▶ OTA infrastructure as used by Jolla ports
- ▶ Repository infrastructure
- ▶ Easier to stay up to date
- ▶ Other existing structures can be reinvented for community ports
- ▶ Can be reused in mainline somewhat

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└ Reusing existing processes

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Notes: Reusing existing processes

- OTA updates already work very similar to Jolla ports, community ports only need to trigger them a little different.
- Changes to device repository often apply to all devices of either all devices of the same
 - Android base
 - vendor
 - device release year
 - camera stack (Qcom CAMX vs. legacy)
- Kernel updates can be reused in the same way but sometimes require extra work because of hardware differences
- Changes can be taken very often as is
 - Device repository layout is already unified but Sony community port can reuse even more
 - Kernel updates are already tested by Jolla for the most part

PROJECT MANAGEMENT

- ▶ Issue tracking, take example of Jolla issue tracking
- ▶ See how the Sailfish OS docs can be used
- ▶ Document things that diverge, if need adjust official documentation

Releasing

- ▶ Dnf repodiff generates changelogs from bugtracker
- ▶ Manual changelog in addition for each release to make things less complex
- ▶ Proper issue tracking, diagnosing and writing diary can save a lot of time



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└ Project management

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Notes: Relasing

- Progress tracked through Github issues, changes go to rpm changelogs
- Plan things in the open, split tasks up.

BUILDING DROID-HAL PACKAGES ON THE OBS (ALMOST)

- ▶ Sometimes things don't work exactly on the Community obs
- ▶ A few scripts work around that such as when building droid-hal packages
- ▶ Easier less potential errors but can take more time

QUESTIONS AND RESSOURCES

- [1] "Open devices - open devices - sony developer world." <https://developer.sony.com/develop/open-devices>.
- [2] "sonyxperiadev/bug_tracker - github." https://github.com/sonyxperiadev/bug_tracker/issues.
- [3] "Supported devices and functionality - sony developer world." <https://developer.sony.com/develop/open-devices/get-started/supported-devices-and-functionality/>.
- [4] "Contribute - open devices - sony developer world." <https://developer.sony.com/develop/open-devices/more-information/contribute>.
- [5] S. L. Jolla & Community, "Sailfish x xperia android 11 build and flash sailfish os documentation." https://docs.sailfishos.org/Develop/HW_Adaptation/Sailfish_X_Xperia_Android_11_Build_and_Flash/.
- [6] D. V. A. D. Adam Pigg(Piggz), "Sailfish os dont be evil." <https://github.com/sailfish-on-dontbeevil>.
- [7] D. Caleb Connolly, Joel Selvaraj, "Qualcomm snapdragon 845." [https://wiki.postmarketos.org/wiki/Qualcomm_Snapdragon_845_\(SDM845\)](https://wiki.postmarketos.org/wiki/Qualcomm_Snapdragon_845_(SDM845)).
I list Postmarketos as reference here, no Sailfish OS port exists right now.
- [8] "build - sfos community ports for sony xperia devices." <https://github.com/SailfishOS-SonyXperia/bugs/issues/70>.
- [9] "bugs - sailfish os community ports for sony xperia devices." <https://github.com/SailfishOS-SonyXperia/bugs/>.
- [10] "Dnf-plugins-core: repodiff: Improve changelog output." <https://github.com/rpm-software-management/dnf-plugins-core/pull/456>.
- [11] "droid-prjconf-sync - build - sfos community ports for sony xperia devices." <https://github.com/sailfishOS-SonyXperia/build#droid-prjconf-sync>.
- [12] "build - sfos community ports for sony xperia devices." <https://github.com/SailfishOS-SonyXperia/build/blob/master/README.org>.

