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AOSP: A case study in writing a custom build system

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AOSP is a Linux operating system for smart phones, tablets, TVs and many other sorts of device, all of which fall under the broad term “embedded”. AOSP has it’s own build system, but it shares many characteristics with others. Initially it was based on GNU Make (Buildroot-like), then with Android 8 it began the migration to a new tool called Soong, with recipes written in a format called Blueprint. Soong and Blueprint have a lot in common with OpenEmbedded and Bitbake. Since Android 8, the migration to Soong has stalled, maybe because of the effort that would be required to move all logic from Makefiles to Soong modules and Blueprint

I want to explore the consequences of depending on a single-purpose build system and how AOSP has reacted to the challenges over the years. Points for discussion:

- writing build systems is hard, there are many corner cases
- could AOSP benefit from experiences of others (OpenEmbedded, Buildroot)?
- could there be a forum for build system maintainers?
- could there be a meta build system, meta meta data?

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