

Free/Open-source Hardware

An overview on the Open-source philosophy and Open Hardware state of the art

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Introduction

Free (as in Freedom)/Open-source Hardware are Hardware directives or designs that can be freely:

- Used
- Studied
- Shared
- Improved

FO-S Hardware can be observed in many variations such as:

- Electronics (the focus of this talk)
- Mechatronics (3D printers, Prosthetics, etc.)
- And many other

Introduction-Timeline and Licenses

- Hit some licenses here like the OHL etc. be fast we want to go to the eng. meat

Why Free/Open Hardware?

From the researcher standpoint:

- More tools available
 - Adaptable
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From the adept/costumer standpoint:

- Transparency and Respect for the user
- Reparability
- Upgradability

Open Hardware Projects

We can split open hardware projects into five main groups:

- Instruction Set Architectures (ISAs)
- Systems-on-Chip (SoC)
- Micro-controllers
- Embedded Systems
- Single-Board computers
- FPGAs

Open ISAs

Talk about AVR and the other Berkley ISAs up until RISC-V.

VexRISC-V for example. Full processors for implementation into FPGAs or silicon

Pinecil

Micro-controllers

Arduino

Single-Board Computers

VisionFive

FPGAs

ICeStorm, ICe40 board.