JASON KRIDNER - BEAGLEBOARD.ORG

What the open hardware movement is doing is truly amazing; this generation has unprecedented access to manufacturing electronic hardware. Nevertheless, this access is still not equitable and real barriers exist for many to impact the state of the art. Many lessons around the free and open source software movement can be applied to enable hardware collaboration, expanding that access and helping to accelerate progress. Jason Kridner will explore the lessons BeagleBoard.org has encountered for the open hardware movement particularly as part of collaborating in Linux and Google Summer of Code projects
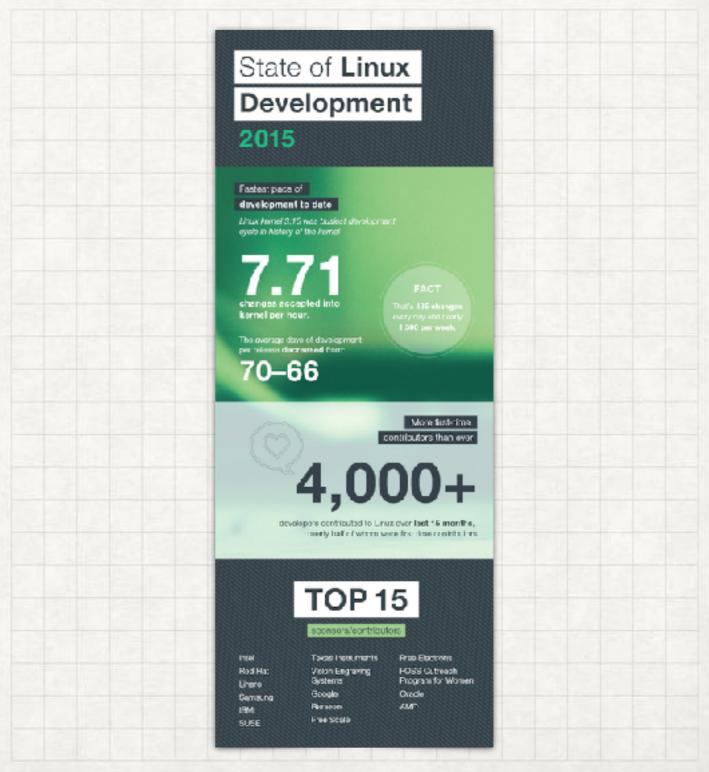
TAKE-AWAYS

- Don't just provide examples, contribute "upstream" to Linux and the open source projects you use, like KiCAD

- Bring new people into the contribution fold through programs like Google Summer of Code

- Help advance tools that will help foster collaboration

- BeagleBoard.org is here and ready to collaborate

WHAT IS LINUX AND WHY IS IT AMAZING?

- Nearly 12,000 developers from more than 1,200 companies have contributed to the Linux kernel since tracking began 10 years ago. Just since the last report, more than 4,000 developers from 200 companies have contributed to the kernel, half of whom contributed for the first time.

- The Top 10 organizations sponsoring Linux kernel development since the last report include Intel, Red Hat, Linaro, Samsung, IBM, SUSE, Texas Instruments, Vision Engraving Systems, Google and Renesas. It's worth noting that the FOSS Outreach Program for Women ranks #13 for contributions to the Linux kernel during this last cycle with the interns contributing 1.5 percent of the patches to Linux kernel 3.11. The complete top 20 contributing organizations can be seen in the full report.

- The rate of Linux development is unmatched; in fact, Linux kernel 3.15 was the busiest development cycle in the kernel's history. This rate of change continues to increase, as does the number of developers and companies involved in the process. The average number of changes accepted into the kernel per hour is 7.71, which translates to 185 changes every day and nearly 1,300 per week. The average days of development per release decreased from 70 days to 66 days.

- The number of paid developers is on the rise, as companies aggressively recruit top Linux talent. More than 80 percent of kernel development is done by developers who are being paid for their work. Volunteer developers tend not to stay that way for long.

State of **Linux**
Development
2015

Fastest pace of
development to date
Linux kernel 3.15 was busiest development cycle in history of the kernel

7.71
changes accepted into kernel per hour.

FACT
That's 185 changes every day and nearly 1,300 per week

The average days of development per release decreased from:

70–66

More first-time contributors than ever

4,000+

developers contributed to Linux over last 15 months, nearly half of whom were first-time contributors

TOP 15
sponsors/contributors

Intel
Red Hat
Linaro
Samsung
IBM
SUSE

Texas Instruments
Vision Engraving Systems
Google
Renesas
Free Scale

Free Electrons
FOSS Outreach Program for Women
Oracle
AMD

THE RIGHT TOOLS FOR COLLABORATION

HTTPS://GITHUB.COM/ABOUT

WHAT IS GOOGLE SUMMER OF CODE AND WHY IS IT AMAZING?

HTTPS://SUMMEROFCODE.WITHGOOGLE.COM

WHAT IS THE OSD3358?

DDR3 SDRAM 800MHz

Over 140 Resistors, Capacitors, and Inductors

TI Sitara AM3358 Cortex-A8 1GHz

Room for further integration?

TI TL5209 LDO 3.3V Out

TI TPS62517C PMIC
Vin: Battery, 5VDC, USB
Vout: 1.8V, 3.3V, Sys_Vin

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BEAGLEBOARD.ORG LOGO PROGRAM

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