

The Linux Kernel: Evolving into Sustainability.

Stuart Yeates

OSS Watch, Oxford University Computing Services, UK

© University of Oxford

This document is licensed under

<http://creativecommons.org/licenses/by-sa/2.0/uk/>

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

What is the golden rule of open source?

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

What is the golden rule of open source?
Don't fork

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

What was the first public act Torvalds did?

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

What was the first public act Torvalds did?
Fork

- MINIX was (and is!) a MInimal unIX
- Pedagogically focused
- Very widely used in teaching computer science
- Entire operating system source published in book form

MINIX Tensions

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

- Many students did third and fourth year projects on MINIX
- Scheduler particularly popular
- Frozen state of MINIX meant even successful projects couldn't get incorporated

- Relieved pressure on Tanenbaum
- Give aspiring operating systems hackers community
- Tanenbaum and Torvalds have _technical_ disagreements
- Tanenbaum and Torvalds have not “fallen out”

Questions ?

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

- “things seem to work”
- Perhaps the important aspect of participatory open source

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

- “I’ve currently ported bash(1.08) and gcc(1.40)”
- POSIX and Standard C

Managed Expectations

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

- “(just a hobby, won’t be big and professional like gnu)”
- “This implies that I’ll get something practical within a few months”
- “it probably never will support anything other than AT-harddisks, as that’s all I have”

Open to New Ideas, New Input and New People

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

- “I’d like to know what features most people would want. Any suggestions are welcome, but I won’t promise I’ll implement them :-)”
- “it probably never will support anything other than AT-harddisks, as that’s all I have ”

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

- Need
- Luck
- Hard work
- Skill

Questions ?

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

Where do open source developers come from?

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

- Raised from the user community (training)
- Raised from the academic community (training)
- Converted from normal developers (day job)
- Poached / shared / borrowed from other projects

How do you pick the good ones?

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates

What do you want them to be good at?

- Coding
- Testing in particular contexts
- Documentation
- Systems management
- Evangelism
- Answering user queries

Encourage people to do what they are doing anyway.

Multiple sources of resources are better than more resources from a single source, because individual sources come and go

- .com money (boom-bust cycle)
- Academic research (bleeding edge, long lead time)
- Enthusiasts (very stable)
- Hardware companies (only interested in low level issues)
- Services companies (want to make things hard)

A simple list of tasks that need doing with the software.
New features, new documentation, etc.

Suitable for:

- Software engineering second / third year projects
- Developers migrating from other projects
- Funded projects
- Communicating with other people where you envision the project going.

Questions

The Linux
Kernel:
Evolving into
Sustainability.

Stuart Yeates