

Show me the Money!

The economics of Free

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About Me

- ▶ Navin Kabra: @ngkabra & @punetech on twitter
- ▶ Currently: On a break for an year
- ▶ Previously: Symantec, Veritas, dotcom startup
- ▶ Education: PhD (CS, Wisconsin), B.Tech (IIT-B)
- ▶ Recent activities: PuneTech, Pune OpenCoffee Club



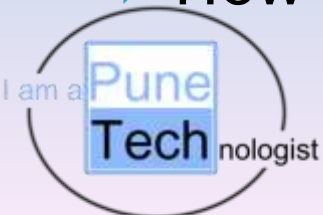
About this talk

- ▶ Not about technology
- ▶ Not about open source ideology
- ▶ About Economics

Free, free, free, ...

- ▶ Free IT
 - CPU: Google App Engine
 - Storage: Yahoo! Mail
 - Bandwidth: YouTube
 - Software Services
 - Most dotcom/web-2.0 sites
- ▶ Other free
 - Music, movies
 - Phone, video-conferencing
 - Information, lessons, tutorials, tutors
- ▶ List goes on...
- ▶ How does this work?
- ▶ Who pays? Who benefits?
- ▶ How should you survive?

Watch
out for
falling
prices



A photograph of a brown horse with a white blaze on its face, grazing on green grass in a valley. In the background, there is a calm lake reflecting the sky, and rocky, sparsely vegetated mountains under a cloudy sky. The text 'Ghoda Ghaas se dosti karega to khaayega kyaa' is overlaid in pink on the upper part of the image.

Ghoda Ghaas se dosti karega to
khaayega kyaa

If a horse befriends the grass, what will he eat?
i.e. everybody still has to make money. How to do it?

Picture courtesy: Francisco M. Marzoa Alonso,
<http://commons.wikimedia.org/wiki/File:ErcinaLakeHorse2.JPG>

Why is it important to study the economics of FREE stuff?



"When you have a working knowledge of economics, it's like having a mild super power."

– Scott Adams, creator of Dilbert

There are two kinds of free

▶ Free(gratis)

- Don't have to pay
- (as in "free beer")
- e.g. Internet Explorer



▶ Free(libre)

- Liberty to do what you want
- (as in "free speech")
- e.g. Mozilla Firefox



open source

Overview of this presentation

- ▶ Free(gratis) vs. Free(libre)
- ▶ The economics of Free(libre)
 - Who's paying? Why?
 - Who's making money? How?
 - What should you do?
- ▶ The economics of Free(gratis)
 - Why does this work?
 - Types of free
 - Money isn't everything
- ▶ Recession and Free

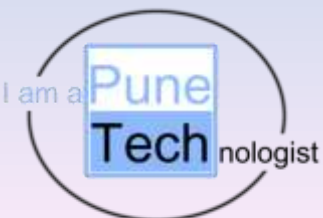


You are here



Economics of Free(libre): Questions

- ▶ Free & Open Source = FOSS = Free(libre)
- ▶ Who is writing FOSS? Why?
- ▶ Who is paying for FOSS? Why?
- ▶ Who is earning from FOSS? How?
- ▶ What you should know?



Who works on FOSS?

▶ Two types of developers

- In free time
- Hobby
- Passion
- Ideology



OR

- As part of job
- Paid by company that benefits from FOSS



Who pays people to work on FOSS?

▶ Gifts n Grants

- Academic projects
- Government



▶ (For profit) Businesses

- Pay for development / customization
- Closer look in later slides



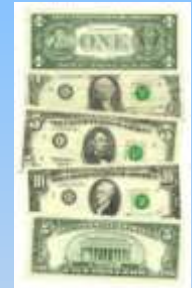
Detour: Cost of Software

Costs	Proprietary Software	In-house	Open Source
Cost of Development	Vendor pays	Customer pays	Customer shares
Cost per installation	Customer pays	N.A.	Free
Cost of Sales / Mktg	Non-trivial	None	Negligible



Detour: Business Differentiators

- ▶ Software isn't your business
 - It enables your business
 - Is it a differentiating or non-differentiating enabler?
 - Is it a Cost Center or a Profit Center
- ▶ Differentiating software
 - Amazon's recommendation service
 - Profit center
- ▶ Non-differentiating software
 - Barnes & Noble's website
 - Cost center

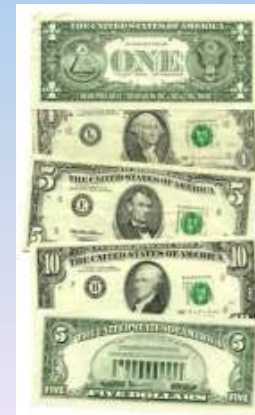


FOSS in the cost center

- ▶ Use FOSS for non-differentiating software
- ▶ You don't care if competitor gets a copy
- ▶ Reduces your "cost"



- ▶ Build in-house for differentiation
- ▶ Keep secret
- ▶ Don't mind spending



Types of Businesses who pay for Open Source Development

- ▶ Companies distributing FOSS packages
 - Free version & Paid proprietary version with better features (e.g. MySQL)
 - Free core + paid proprietary “accessories” (e.g. XenSource)
 - Free software + paid services (e.g. Red Hat)
 - Hardware vendors (make money from hardware)
- ▶ End-user businesses (or contractors)
- ▶ Service businesses (integrators)



What to do in your business?

Type of Business	Suggestion
Main income from selling shrinkwrapped software	FOSS might not be right for you
Selling software “solutions”	Use FOSS for your core components
Selling software services	FOSS makes it easy + cheap to do business
Anything else	Use FOSS for non-differentiating software



How to benefit if you develop FOSS as a hobby/passion?

- ▶ Contribute to FOSS for free
- ▶ Get hired by someone who values this



Misc: Why not FOSS cars?

- ▶ FOSS isn't the right solution for all situations



- ▶ FOSS works when
 - Cost of design is high
 - Cost of manufacturing & distribution low

Where are we...

- ▶ Free(gratis) vs. Free(libre)
- ▶ The economics of Free(libre)
 - Who's paying? Why?
 - Who's making money? How?
 - What should you do?
- ▶ The economics of Free(gratis)
 - Why does this work?
 - Types of free
 - Money isn't everything
- ▶ Recession and Free



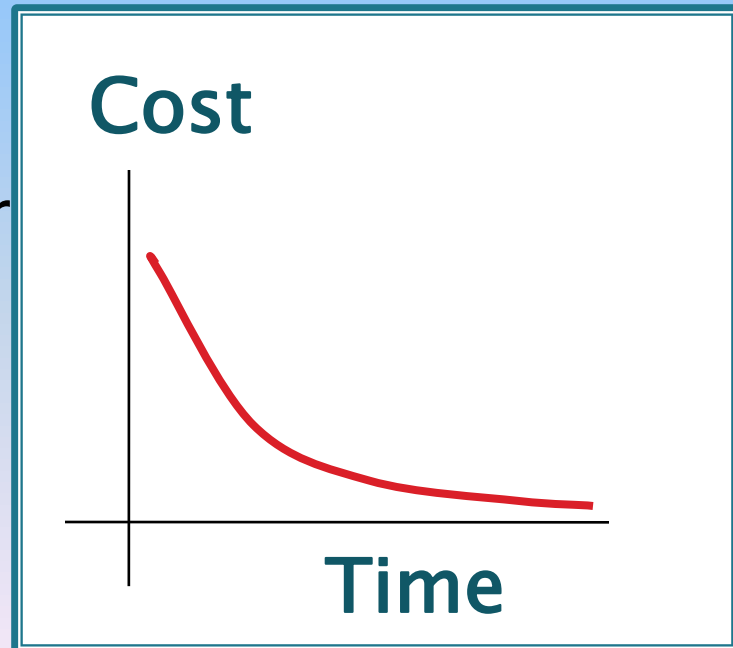
Economics of Free(gratis)

- ▶ Lots of free stuff being given away in the world today:
 - Hardware, software, entertainment, info, services
- ▶ Why does this make sense?
- ▶ (in other words: show me the money)



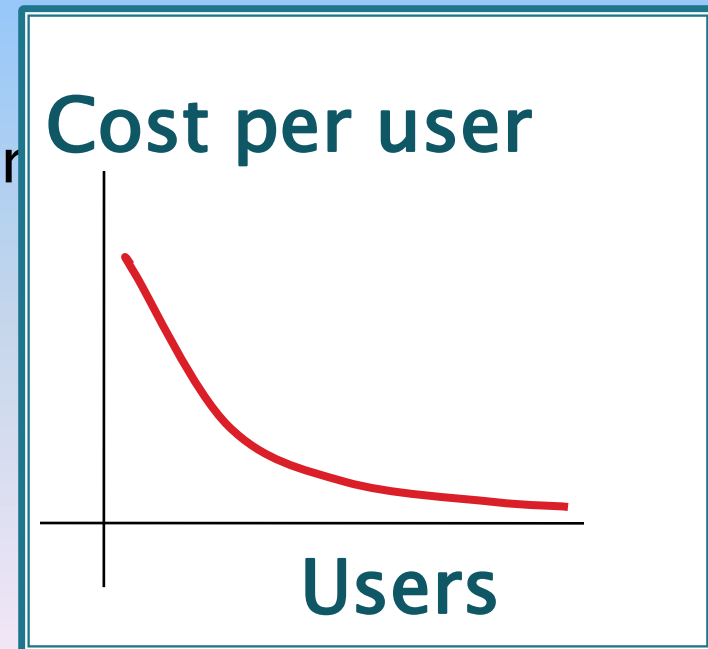
Drivers of Free: Hardware Costs Less

- ▶ Moore's Law alternative formulation:
- ▶ Cost halves every 18 months
- ▶ Exponential race towards zero
 - CPU, Network, Disk
- ▶ Many more users per server
- ▶ Cost per user = negligible



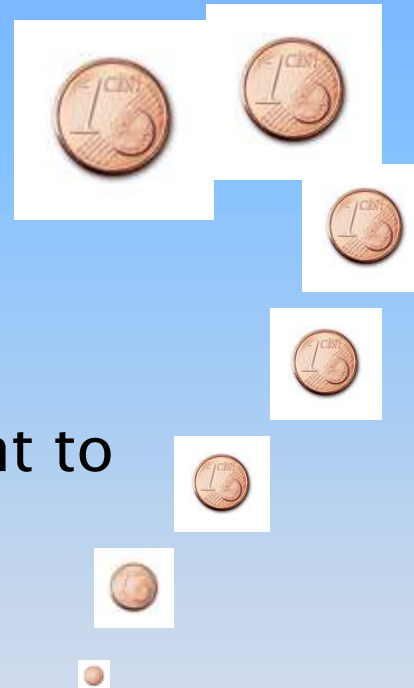
Drivers of Free: Software Costs Less

- ▶ FOSS reduces software cost
 - For non-differentiating software
- ▶ “Cloud” and “SaaS” to amortize software cost
 - For differentiating software
 - Develop once for millions of users
- ▶ Cost per user = negligible



Negligible \neq Zero

- ▶ Huge difference between Re.1 & Re. 0
 - Psychological difference
 - Charge Re. 1 and very few customers
 - Make it free and lots of customers
 - In today's world you can't charge even if you want to
- ▶ Someone's getting rich
 - How?





How to make money from FREE

- ▶ Someone else pays
 - e.g. Advertisements
 - (Not very viable as a pure online business in India)
- ▶ Cross-subsidy:
 - X is free, but customer pays for Y
 - e.g. Cheap razor and expensive blades
- ▶ Freemium
 - Basic free, charge for premium services
 - Premium customers subsidize free
 - e.g. Flickr charges \$30 p.a. if more than 200 photos
- ▶ Labor Exchange
 - Do X and get Y free (and vendor makes money from X)
 - e.g. Porn for CAPTCHA
- ▶ Gift Economy
 - Altruism still exists
 - e.g. Wikipedia
 - (Still not clear if this is really sustainable in the long term)



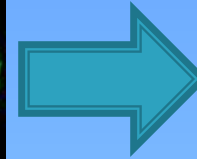
Money isn't everything

- ▶ (Didn't they teach you this?)
- ▶ Economics is management of scarcity
- ▶ The attention economy 
- ▶ The reputation economy 

Economy conversions

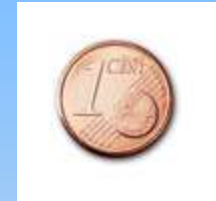
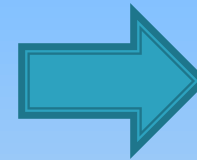
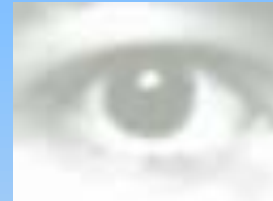
- ▶ Reputation → Attention

- e.g. Google pagerank (reputation) converts to traffic (attention)



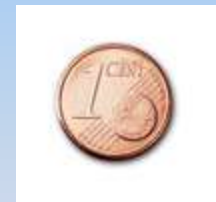
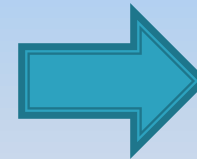
- ▶ Attention → Money

- e.g. Traffic (attention) converts to money (google adsense)



- ▶ Reputation → Money

- e.g. Get a job based on contributions to a FOSS project



Recession and FREE

- ▶ Effect of recession
 - Fewer paying customers
 - Less funding

- ▶ Cheaper than ever to run a business
 - Infrastructure is cheap: Cloud zindabad
 - Software is easy(ier): Develop on top of FOSS
 - Co-founders easier and cheaper
 - (Who wants a big company job now?!)
 - VC funding no longer that important



Further Reading – More detailed treatment of these concepts

- ▶ The emerging economics of open source business – Bruce Perens
- ▶ Why \$0.00 is the future of Business – Chris Anderson
- ▶ Paul Graham – Essays
- ▶ (Search in Google to find the above references)

Questions?

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