



Aalto University  
Media Factory

# Digital\_Fabrication\_Studio.03

## Intellectual Property, Open Design

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<http://www.slideshare.net/openp2pdesign>





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# Today:

- \* IP for Digital Fabrication
- \* Mass-collaboration + Open Design



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01.

# Intellectual Property: different ways of protecting your work

# Design and Piracy



Even design have to face piracy...

# Architectural design and Piracy



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Even architecture have to face piracy...

Source: <http://www.dezeen.com/2013/01/02/zaha-hadid-building-pirated-in-china/>

# Close to the Napster case of 3D Printing

The screenshot shows the homepage of The Pirate Bay. At the top, there's a navigation bar with links like "Search Torrents", "Browse Torrents", "Recent Torrents", "TV shows", "Music", and "Top 100". Below the navigation is a search bar with placeholder text "Search here..." and a "Pirate Search" button. There are also filters for "Audio", "Video", "Applications", "Games", and "Other", with "All" selected. A sidebar on the left features a "VIDEO" section with a thumbnail of a woman wearing sunglasses.

The main content area displays a promotional banner with the text "YOUWIN Voita en iPhone 4S" and a "Klikkaa hänen >>>" button. Below the banner is a table of search results for "Physibles". The table has columns for "Type", "Name", "Uploaded", "Size", "ULed by", "SE", and "LE". The results listed are:

Type	Name (Order by: Uploaded, Size, ULed by, SE, LE)	View: Single / Double	SE	LE
Other (Physibles)	3D Hollow Diamond		1	0
Other (Physibles)	Screwless Cube Gears		3	0
Other (Physibles)	Enclosed Cable Chain with Calibrator		2	0
Other (Physibles)	Raspberry Pi Case with VESA mount		3	0
Other (Physibles)	120 Cell Hecatonicosachoron by George Hart		2	0

There is a rising debate about 3D printing as the next possible source of piracy... so there could be even more laws and restrictions!

# DRM and Design



A group of designers have built a chair with a DRM system -- after being sat on eight times, it self-destructs.

Source: <http://www.wired.co.uk/news/archive/2013-03/03/drm-chair>

# DRM and Design

The screenshot shows a news article from TorrentFreak. The title of the article is "3D Printer DRM Patent To Stop People Downloading a Car". The article discusses a patent obtained by a company to stop future owners of 3D printers from printing whatever they like, such as a new pair of sneakers or even a car. It compares this to the impact of inkjet printers on the commercial print industry 20 years ago. The article includes author information (enigmax), publication date (October 12, 2012), and tags (3d printer, Physibles). There are also links for RSS feed, email subscription, and tipping.

**3D Printer DRM Patent To Stop People Downloading a Car**

enigmax | October 12, 2012 | 226 | 3d printer, Physibles | Print

DRM systems in the digital media world are nothing new and are utilized extensively in the music, movie and video games industries. Now, after applying four years ago, a company has this week obtained a patent for a DRM system that aims to stop future owners of 3D printers from printing whatever they like. The dream of downloading a new pair of sneakers or even a car might already be in jeopardy, before it's even begun.

During the last 20 years inkjet printers made an unholy mess of the short-run commercial print guy's business, enabling just about anyone to print on anything from paper to plastics with a relatively tiny outlay.

During the next 20 years the 3D printer will be the bogeyman affecting industries both far and wide and large and small, by giving the man in the street the ability to print physical objects as easily as he can print a family



Digital Rights Management could be a strategy for “protecting” design...

Source: <https://torrentfreak.com/3d-printer-drm-patent-to-stop-people-downloading-a-car-121012/>

# Digital Fabrication and copying...



But fabbing is only experiencing the same phenomena of design and manufacturing...

Source: <http://www.sculpteo.com/en/app/>

# Digital Fabrication and copying...

LIVING / POLTRONE E CHAISE-LONGUE / POLTRONE E POUF

← Prodotto precedente Prodotto successivo

## Santapouf di Campeggi

[Pin it](#) [Mi piace](#) 7

AZIENDA

Campeggi

Vai al sito →  
altro da Campeggi →

DESIGNER

Denis Santachiara →  
altro del designer →

CONDIVIDI

Stampa scheda →  
Invia ad un amico →  
Facebook →

**SHOP ONLINE**  
Acquista su made in design ●●●

**SCHEDA PRODOTTO**

<b>Nome:</b>	Santapouf
<b>Categoria:</b>	Poltrone e Pouf
<b>Azienda:</b>	Campeggi
<b>Stile:</b>	Design
<b>Designer:</b>	Denis Santachiara
<b>Anno:</b>	2011
<b>Materiali:</b>	Poliuretano espanso, PVC, lycra



Arredo al confine tra arte e industrial design, Santapouf di Campeggi si ispira alla forma delle sculture a profilo continuo, sperimentate a partire dal Paleolitico. Tra le più conosciute sono quelle dello scultore fiorentino Giuseppe Bertelli, che le ha proposte nella modalità seriale: viste di profilo ricordano il profilo di un volto



But fabbing is only experiencing the same phenomena of design and manufacturing...

Source: <http://atcasa.corriere.it/catalogo/prodotti/Campeggi/Santapouf.shtml>

# Digital Fabrication and copying...



But fabbing is only experiencing the same phenomena of design and manufacturing... So who copies who?

Source: <http://www.liveauctioneers.com/item/8263457>

# Digital Fabrication and copying... even the details



They were so eager to clone Arduino that they even copied the "MADE IN ITALY" (from ebay)

337 271 days ago

But fabbing is only experiencing the same phenomena of design and manufacturing... even details are copied!

Source: <http://twitpic.com/7t9879>

# Fashion Design and copying... “piracy” ?

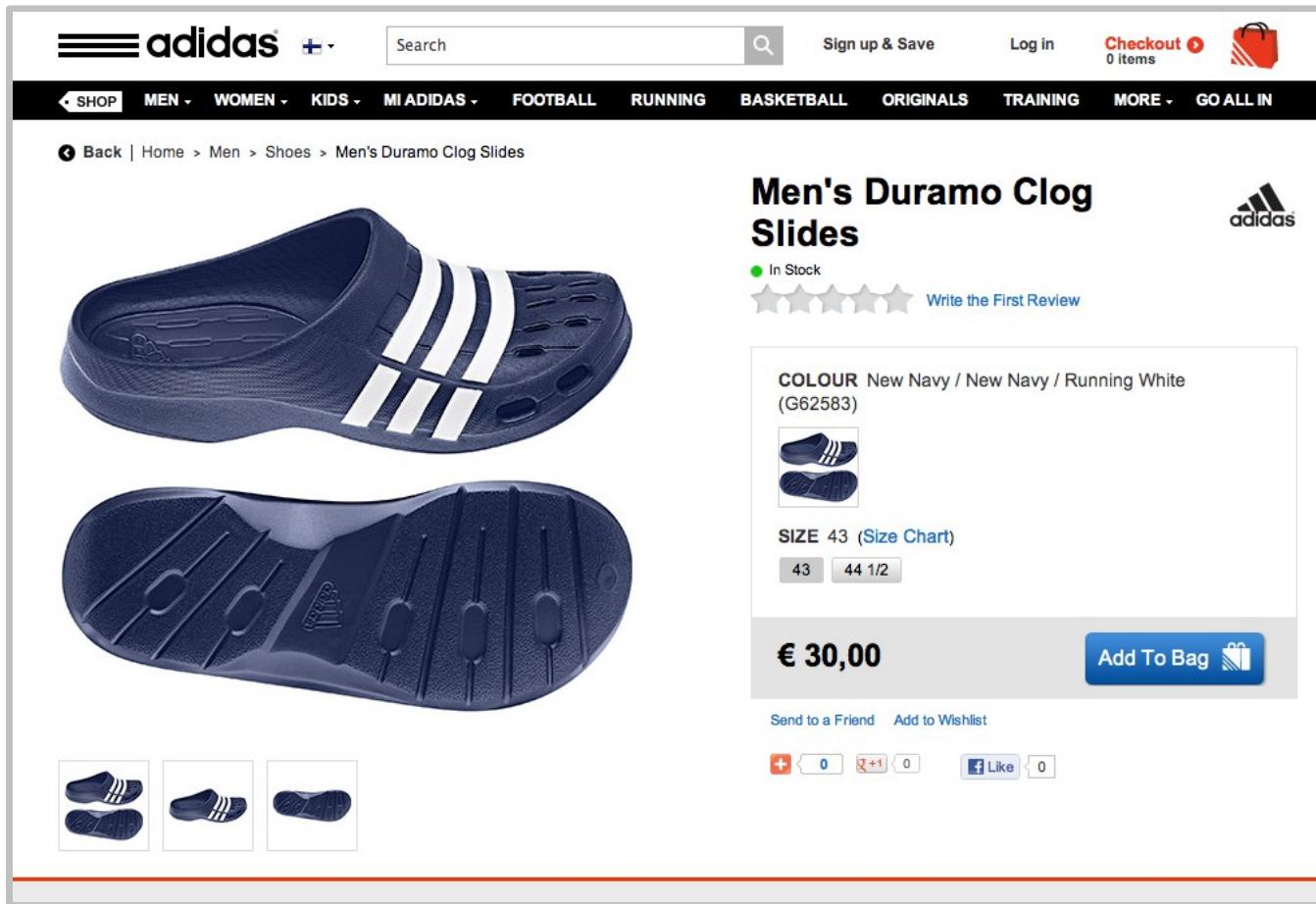


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Copying in Fashion Design is a common practice, because only the trademark is protected.. and that's how we they set trends!

Source: <http://www.refinedhype.com/hyped/entry/adidas-beachstar-sandal>

# Fashion Design and copying... “piracy” ?



The screenshot shows a product page from the Adidas website. At the top, the Adidas logo is on the left, followed by a search bar, sign-up options, and a shopping cart icon indicating 0 items. A navigation menu below includes categories like SHOP, MEN, WOMEN, KIDS, MI ADIDAS, FOOTBALL, RUNNING, BASKETBALL, ORIGINALS, TRAINING, MORE, and GO ALL IN. The breadcrumb navigation shows the user has gone back to the previous page, then Home, then Men, then Shoes, finally landing on Men's Duramo Clog Slides.

The main product image displays two dark blue clog slides with white stripes on the toe area. Below the main image are three smaller thumbnail images showing different angles of the shoes.

The product title is "Men's Duramo Clog Slides" in bold black text. To the right is the Adidas logo. Below the title, a green dot indicates "In Stock". There is a 5-star rating icon followed by the text "Write the First Review".

Product details include "COLOUR New Navy / New Navy / Running White (G62583)" with a small image of the shoes. The size "SIZE 43 (Size Chart)" is listed with buttons for "43" and "44 1/2".

The price is "€ 30,00" and there is a "Add To Bag" button with a shopping bag icon. Below the price, there are links for "Send to a Friend" and "Add to Wishlist". Social sharing icons for Google+, LinkedIn, and Facebook are also present.

Copying in Fashion Design is a common practice, because only the trademark is protected.. and that's how we they set trends!

Source: [http://www.adidas.fi/Men%27s-Duramo-Clog-Slides/G62583\\_640,fi\\_FI,pd.html](http://www.adidas.fi/Men%27s-Duramo-Clog-Slides/G62583_640,fi_FI,pd.html)

# Copyright ...

*Copyright essentially attaches to every original creative work that is fixed in a tangible medium. This includes most things that are written, drawn, or designed. However, the copyright only protects the actual writing, drawing, or design itself, not the idea that it expresses.*

Source: <http://www.publicknowledge.org/it-will-be-awesome-if-they-dont-screw-it-up>

Copyright =

- \* the right to copy (the rights to let or stop copying)
  - \* the author's rights (the rights to be credited)
-

# **Patent ...**

*Patent protection is not granted automatically. An inventor must apply for a patent on her invention at the Patent and Trademark Office (PTO). The invention must be new, useful, and non-obvious. In making the application, the inventor must disclose information that would allow others to practice the invention. Finally, patent protection is significantly shorter in duration than copyright protection.*

*Once an object has been patented, all copies, regardless of the copier's knowledge of the patent, infringe upon that patent. Simply stated, if you are using a 3D printer to reproduce a patented object, you are infringing on the patent.*

Source: <http://www.publicknowledge.org/it-will-be-awesome-if-they-dont-screw-it-up>

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# Copyright, Patent and originality ...

*In the world of copyright law, this intuition is correct. When a child in Seattle writes an ode to his pet dog, that work is protected by copyright. If, two years later, another child in Atlanta writes an identical ode to her pet dog (unaware of the first ode), the second work is also protected by copyright. This is possible because copyright allows for independent creation, even if the same work was independently created twice (or even more than twice). While a work must be original in order to receive copyright protection, the work does not need to be unique in the world.*

Source: <http://www.publicknowledge.org/it-will-be-awesome-if-they-dont-screw-it-up>

*However, and relevantly for reproducing 3D objects, patent law does have a novelty requirement. Patent law does not allow for parallel creation. Once an invention is patented every unauthorized reproduction of that invention is an infringement, whether the reproducer is aware of the original invention or not.*

Source: <http://www.publicknowledge.org/it-will-be-awesome-if-they-dont-screw-it-up>

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# Watch out when you enter this game...

Follow Christina Bonnington (@redgirlsays) on Twitter

## Apple and Samsung Both Owe One Another Damages

By Christina Bonnington August 24, 2012 | 2:37 pm | Categories: R&D and Inventions

[Follow @redgirlsays](#)

[Like](#) [Send](#) [47 people like this. Be the first of your friends.](#)

[Tweet](#) [+1](#) [Share](#)

273 8 10



The Apple iPad and a Samsung Galaxy Tab have a rough day in South Korea. Photo: Jon Snyder/Wired

A South Korean court ruled that both Apple and Samsung infringed on one another's intellectual property and owe each other damages.

Source: <http://www.wired.com/gadgetlab/2012/08/s-korea-court-rules-damages/>

# Trademark ...

*Trademark developed as a way to protect consumers, giving them confidence that a product marked with a manufacturer's symbol was actually made and backed by that manufacturer. As a result, trademark is not designed to protect intellectual property per se. Intellectual property protection is instead a side effect of needing to protect the integrity of the mark.*

Source: <http://www.publicknowledge.org/it-will-be-awesome-if-they-dont-screw-it-up>

*Because trademark protection is specifically geared towards preventing consumer confusion in the marketplace, trademark infringement is described in terms of "use in commerce." Unlike patent or copyright, it is not copying a trademark that creates a trademark violation. Instead, it is using that trademark in commerce (thus potentially confusing a consumer as to the origin of the product) that results in a violation.*

Source: <http://www.publicknowledge.org/it-will-be-awesome-if-they-dont-screw-it-up>

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# Trade Dress

*Trademark protection can extend beyond a logo affixed to a product to include the design of the product itself. However, in order to extend protection to product design, courts have required that trade dress acquire a distinct association with a specific manufacturer. Acquiring this type of distinctiveness takes time, and must be proven by survey results or some other proof of association in the eyes of the general public. As a result most product designs, even unique designs intended “to render the product more useful or more appealing,” will not be protected as trade dress.*

Source: <http://www.publicknowledge.org/it-will-be-awesome-if-they-dont-screw-it-up>

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# Trade Dress, an example



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A very recognizable shape...

Source: [http://en.wikipedia.org/wiki/Coca\\_cola](http://en.wikipedia.org/wiki/Coca_cola)

# Be careful: every country has its laws...

The screenshot shows the voga.com website with a navigation bar at the top featuring categories like Furniture, Office, Lighting, Accessories, In Stock, Sale, Designers, and 2nd Stock. Below the navigation is a breadcrumb trail: Home > 100% Legal. The main content area is titled "Legal statement". It contains text about Voga Limited being an English company that sells replica furniture and lighting, and how they operate under UK copyright law (Article 52 of the Copyright, Design and Patents Act) which provides 25 years of protection. It also mentions that Voga has obtained a legal review and that English law applies to their service. A note at the bottom states that it is legal for users within EU/EEA to buy and import replica furniture even if protected by intellectual property laws in their home country.

Voga Limited ("Voga") is an English company. We sell replica furniture and lighting of well-known designers.

We operate under the UK rule (article 52 in Copyright, Design and Patents Act) whereby protection for such designs lasts for only 25 years.

Voga has obtained a legal review of its services and business model. The unequivocal conclusion is that:

1) English law applies to Voga's service on voga.com; and

2) Voga's business model is compliant with English law. In other words: It is legal to use the service and buy products from [www.voga.com](http://www.voga.com).

Furthermore, it is legal for users within EU/EEA to buy and import replica furniture, lighting, etc., even if the products are protected by intellectual property laws in the user's home country.

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In UK copyright only lasts 25 years after the creation ...

# Licensing your project ...

*The main benefit of product licensing is that you do not have all of the risk and headaches that necessarily come with running your own business. It is quite true that you could make a lot more money if you sold your own idea (if you did not screw things up at any number of places along the way).*

Source: [http://www.core77.com/blog/columns/product\\_licensing\\_in\\_an\\_era\\_of\\_open\\_innovation\\_22953.asp](http://www.core77.com/blog/columns/product_licensing_in_an_era_of_open_innovation_22953.asp)

*Young designers often gasp when hearing that a good royalty rate might be 5% of wholesale cost (around 2% of retail price)—"but it is MY idea!" Seasoned designers understand that a designed product (not to mention one that is not engineered, sourced, and fully developed and tested) is but a small part of the business equation.*

Source: [http://www.core77.com/blog/columns/product\\_licensing\\_101\\_so\\_lets\\_talk\\_money\\_23366.asp](http://www.core77.com/blog/columns/product_licensing_101_so_lets_talk_money_23366.asp)

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# Creative Commons: licensing the sharing

The screenshot shows the Creative Commons homepage. At the top, there's a green navigation bar with the Creative Commons logo, a search bar, and links for About, Licenses, Public Domain, Support CC, Projects, and News. Below the header, a large banner announces the "OPEN EDUCATION VIDEO CONTEST WINNERS ANNOUNCED". It features a cartoon boy sitting at a desk with a rocket ship launching from his head, surrounded by mathematical equations like  $\Delta v = u_0 \ln \frac{m_0}{m_1}$  and  $a = km/h$ . To the right of the banner is a section titled "why OPEN EDUCATION matters WINNING VIDEOS ANNOUNCED" with a link to "Watch the winning entries in our open education video contest.". Below the banner, there are three main sections: "Mission", "License", and "Explore". The "Mission" section includes a "WHAT IS CREATIVE COMMONS?" section with text about sharing knowledge and creativity, and a "Learn about CC" button. The "License" section includes a "HOW CAN I LICENSE MY WORK?" section with text about the simplicity of choosing a license, and a "Choose a License" button. The "Explore" section includes a "LOOKING FOR CREATIVE WORKS?" section with text about finding music, video, writing, code, or other creative works, and a "Find CC-licensed works" button.

How to publish your content while at the same time enabling sharing and protecting your author rights.

Source: <http://creativecommons.org/>

# License: Review conditions

-  **Attribution:** Licensees may copy, distribute, display and perform the work and make derivative works based on it only if they give the author or licensor the credits in the manner specified by these.
  -  **Non commercial:** Licensees may copy, distribute, display, and perform the work and make derivative works based on it only for noncommercial purposes.
  -  **No Derivative Works:** Licensees may copy, distribute, display and perform only verbatim copies of the work, not derivative works based on it.
  -  **Share alike:** Licensees may distribute derivative works only under a license identical to the license that governs the original work.
-

# License: Select license



Attribution



Attribution - ShareAlike



Attribution - No Derivatives



Attribution - Non-Commercial



Attribution - Non-Commercial - Share Alike



Attribution - Non-Commercial - No Derivatives

Most Free

Least Free

# Creative Commons: licensing the sharing

The image shows a step-by-step wizard for selecting a Creative Commons license. It consists of four panels connected by arrows:

- License Features**:
  - Allow modifications of your work?  
Yes (selected) / No / Yes, as long as others share alike
  - Allow commercial uses of your work?  
Yes (selected) / No
  - License Jurisdiction:  
International
- Selected License**:

Attribution 3.0 Unported

CC BY icons

This is a Free Culture License!

Free Cultural Works APPROVED FOR WORKS badge
- Help others attribute you!**:
  - Title of work: [input field]
  - Attribute work to name: [input field]
  - Attribute work to URL: [input field]
  - Source work URL: [input field]
  - More permissions URL: [input field]
  - Format of work: Other / Multiple formats
  - License mark: HTML+RDFa
- Have a web page?**:
  - CC BY icon
  - This work is licensed under a Creative Commons Attribution 3.0 Unported License.
  - Copy this code to let your visitors know!

```
<a rel="license" href="http://creativecommons.org/licenses/by/3.0/deed.en_US"></a><br />This work is licensed under a <a rel="license" href="http://creativecommons.org/licenses/by/3.0/deed.en_US">Creative Commons Attribution 3.0 Unported License</a>
```
  - Normal Icon (selected) / Compact Icon

How to publish your content while at the same time enabling sharing and protecting your author rights.

Source: <http://creativecommons.org/>

## Everything is a Remix #01



**Everything  
is a Remix**

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BugLabs has been much more successful in offering completely open products.

Source: <http://vimeo.com/14912890>

## Everything is a Remix #02



**Everything  
is a Remix**

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BugLabs has been much more successful in offering completely open products.

Source: <http://vimeo.com/19447662>

## Everything is a Remix #03



**Everything  
is a Remix**

---

BugLabs has been much more successful in offering completely open products.

Source: <http://vimeo.com/25380454>

## Everything is a Remix #04



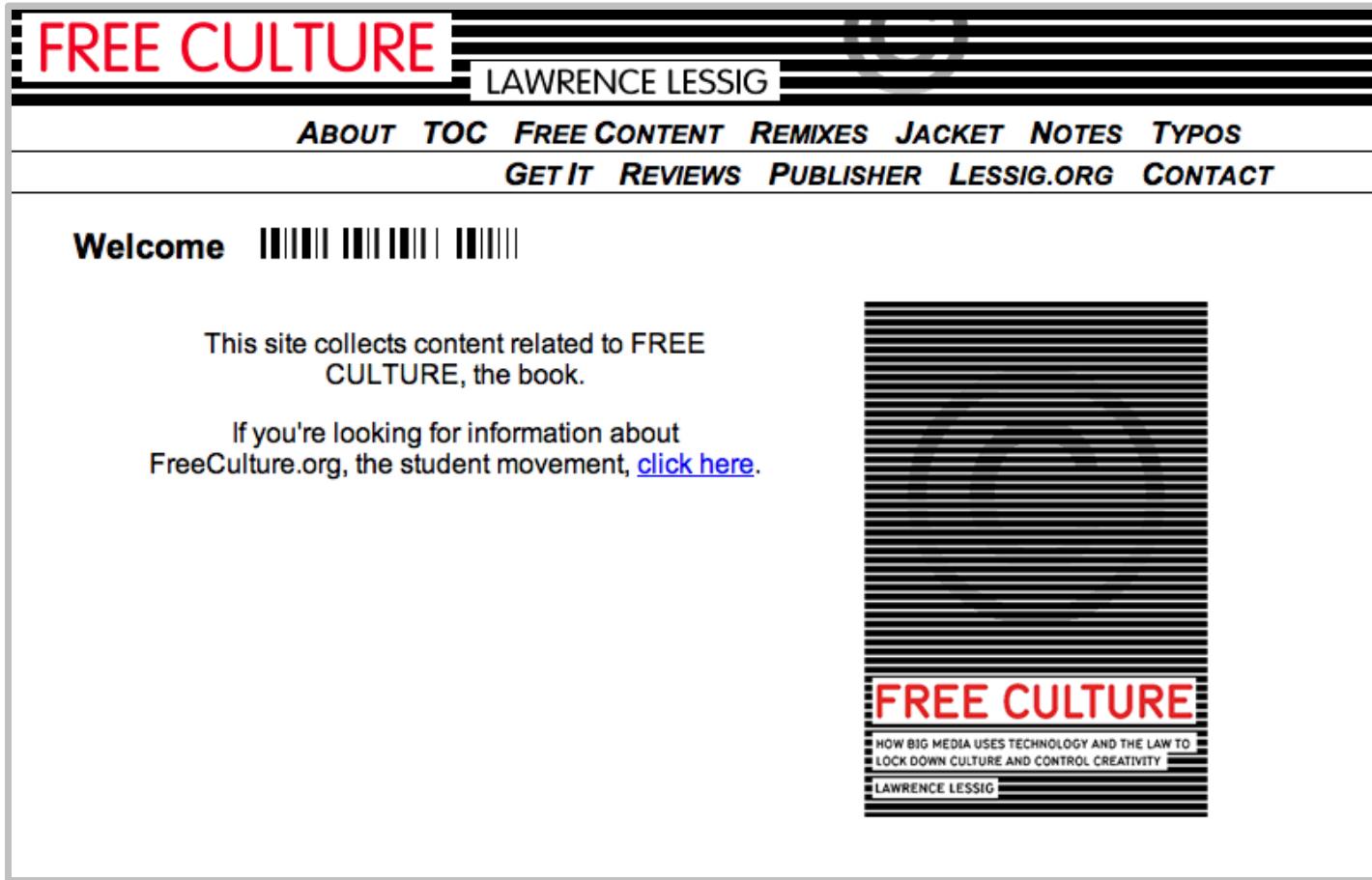
**Everything  
is a Remix**

---

BugLabs has been much more successful in offering completely open products.

Source: <http://vimeo.com/36881035>

# For a further reading on the topic ...



The screenshot shows the homepage of the Free Culture website. At the top, there is a red banner with the text "FREE CULTURE" and a black banner with "LAWRENCE LESSIG". Below these are two rows of navigation links: "ABOUT TOC FREE CONTENT REMIXES JACKET NOTES TYPOS" and "GET IT REVIEWS PUBLISHER LESSIG.ORG CONTACT". The main content area has a "Welcome" message followed by a barcode graphic. It states: "This site collects content related to FREE CULTURE, the book." and "If you're looking for information about FreeCulture.org, the student movement, [click here](#)." To the right of the text is a small image of the book cover for "FREE CULTURE" by Lawrence Lessig.

**FREE CULTURE**

LAWRENCE LESSIG

**ABOUT TOC FREE CONTENT REMIXES JACKET NOTES TYPOS**

**GET IT REVIEWS PUBLISHER LESSIG.ORG CONTACT**

Welcome

This site collects content related to FREE CULTURE, the book.

If you're looking for information about FreeCulture.org, the student movement, [click here](#).

**FREE CULTURE**

HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY

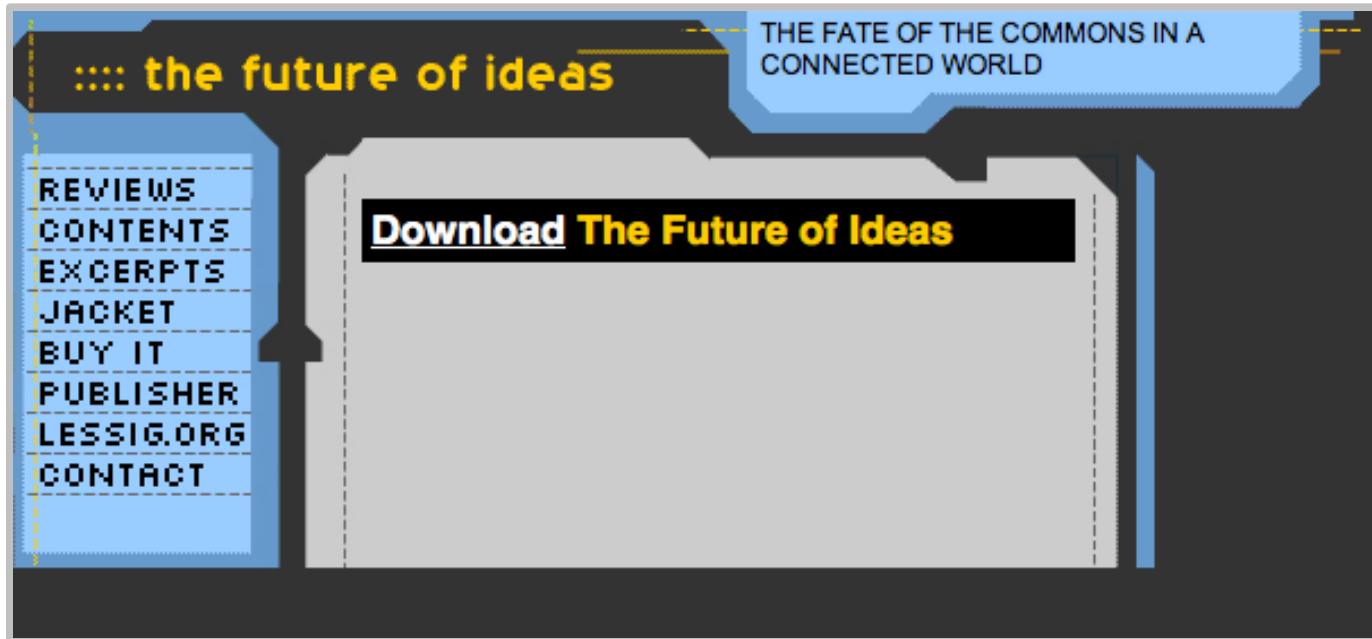
LAWRENCE LESSIG

---

An open and free book about Free Culture  
and Open Knowledge.

Source: <http://www.free-culture.cc/>

# For a further reading on the topic ...



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An open and free book about Free Culture  
and Open Knowledge.

Source: <http://www.the-future-of-ideas.com/download/>

# For a further reading on the topic ...

The screenshot shows the homepage of the Sharing website. At the top, there's a navigation bar with links: About, Buy, Code, Comment, Datasets, Download, Media, and Models. To the right of the navigation is the book title "Sharing: Culture and the Economy in the Internet Age" by Philippe Aigrain, along with a small logo of the Amsterdam University Press (AUP). Below the navigation, there's a section titled "About" with a quote from Prof. Juan Carlos De Martin. To the right of this section are three call-to-action boxes: "Author talks and events", "5 reasons to buy the paper book", and a thumbnail image of the book cover. The main content area below the "About" section discusses the augmented edition of the book and its features.

**About**

*“Anyone interested in the future of culture in the Internet age will want to read this carefully reasoned, pragmatic yet passionate book. Dr Aigrain enlightens our understanding of the present while opening our minds to new, better ways of reaping the cultural and social benefits of the digital revolution.”*

Prof. Juan Carlos De Martin - Co-Director, NEXA Center for Internet & Society, Politecnico di Torino

This site hosts the augmented edition of **Sharing: Culture and the Economy in the Internet Age**, a book by Philippe Aigrain, with the contribution of Suzanne Aigrain, published at **Amsterdam University Press** on February 1st, 2012 as a paper book and as an open access digital monograph. On this site, you can access the **source code** and **datasets** used in the book, **comment on each of the book chapters**, run our **economic models** for the financing of a sharing-compatible culture with your choice of parameters, and run our diversity of attention analysis software on your own datasets.

**Publisher and US distributor presentations**

In the past fifteen years, file sharing of digital cultural works between individuals has been at the center of a number of debates on the future of culture itself. To some, sharing constitutes piracy, to be fought against and eradicated. Others see it as unavoidable, and table proposals to compensate for its harmful effects. Meanwhile, little progress has been made towards addressing the real challenges facing culture in a digital world.

*Sharing* starts from a radically different viewpoint, namely that the non-market sharing of digital works is both legitimate and useful. It supports this premise with empirical research, demonstrating that non-market sharing leads to more diversity in the attention given to various works. Taking stock of what we have learnt about the cultural economy in recent years, *Sharing* sets out the conditions necessary for valuable cultural functions to remain sustainable in this context.

An in-depth exploration of digital culture and its dissemination, *Sharing* offers a counterpoint to the dominant view that file sharing is piracy.

— Philippe Aigrain  
with the contribution of Suzanne Aigrain

AMSTERDAM UNIVERSITY PRESS

An in-depth exploration of digital culture and its dissemination, Sharing offers a counterpoint to the dominant view that file sharing is piracy.

Source: <http://www.sharing-thebook.com/content/about>

# For a further watching on the topic ...



An open and free documentary about  
intellectual property and remix.

Source: <http://ripremix.com/> [http://www.nfb.ca/film/rip\\_a\\_remix\\_manifesto/](http://www.nfb.ca/film/rip_a_remix_manifesto/)



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02.

# Open Design: mass collaboration enabled by the Internet and other tools

# Web 2.0



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A new model of mass collaboration, based on user-generated content and commenting.

Source: <http://www.time.com/time/magazine/article/0,9171,1570810,00.html>

# Web 2.0

THE CREATIVE WORLD AT WORK™

create a portfolio post a job log in

## coroflot

design jobs portfolios member gallery employer directory groups genius my account

### Olivier Henrichot

STAFF

OVERVIEW  
→ PORTFOLIO PROFILE

Contact Olivier Share

follow

Last Login: 11 Aug 2011

Back To Thumbnails FOOTWEAR RUNNING (1 of 15) ← Previous Next →



Muscular (2003)

Description: Muscular fiber inspired shoe on track and field last.

Comments:

- Adrián Castro says: Excellent idea...cool!!! Posted 28 Jan 2009
- Jose Figueroa says: this is one of my favorite images in all of coroflot... Posted 27 Jun 2009
- s siddharth says: cool..!! Posted 26 Jul 2009

Tags: Design, Fila, Footwear, photoshop, Rendering, running

To add a comment you need to have a public profile. [Log In](#) or [Create an Account](#).

### Description

Muscular fiber inspired shoe on track and field last

### Comments



Adrián Castro says:  
Excellent idea...cool!!!  
Posted 28 Jan 2009



Jose Figueroa says:  
this is one of my favorite images in all of coroflot...  
Posted 27 Jun 2009



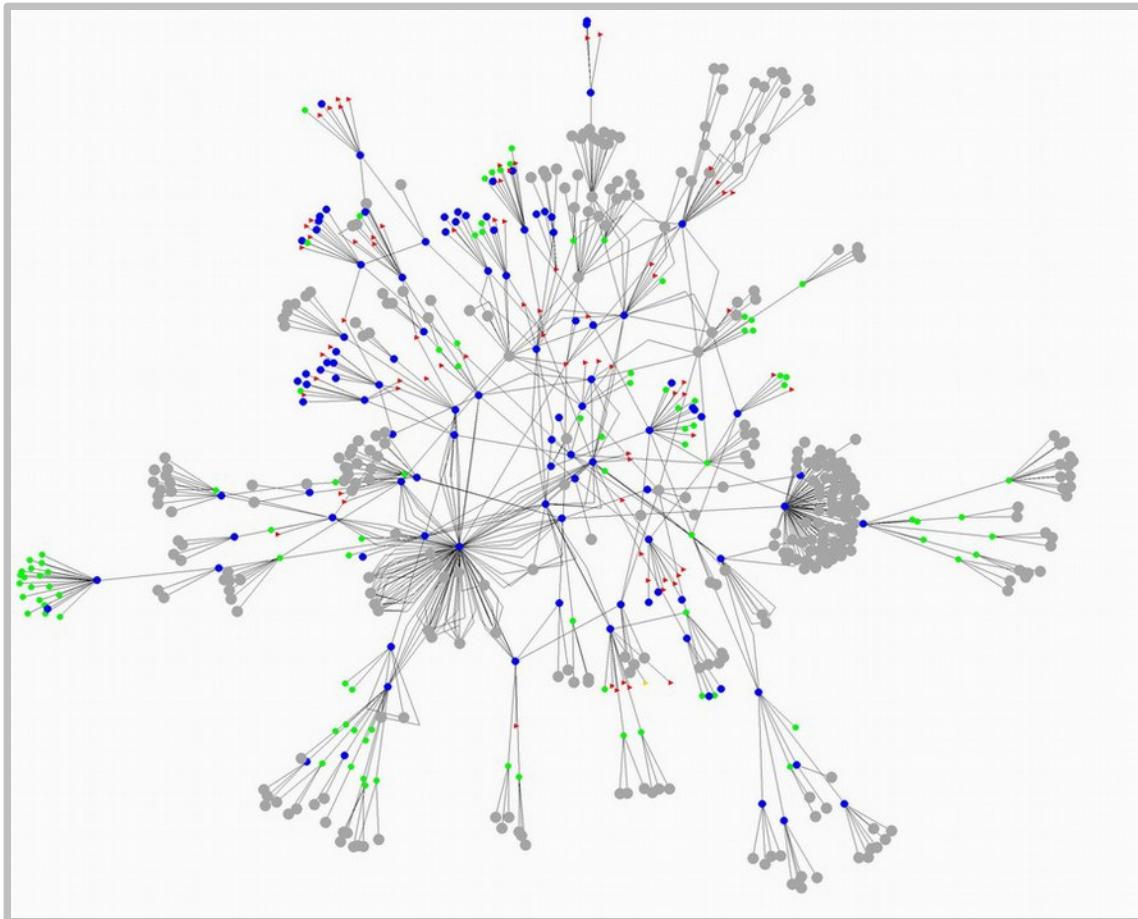
s siddharth says:  
cool..!!  
Posted 26 Jul 2009

To add a comment you need to have a public profile. [Log In](#) or [Create an Account](#).

And the same model can be applied to Design.

Source: <http://www.coroflot.com/heo/FOOTWEAR-RUNNING/1>

# Peer-to-Peer



More than about file sharing, peer-to-peer  
defines new dynamics between people.

Source: <http://home.comcast.net/~gregory.bray/>

# Peer-to-Peer

KIVA      GIFTS    LOGIN    REGISTER    MY BASKET

Lend    About    Community    Updates    My Portfolio

## Kanze Hanjari

Samburu, Kenya   Retail | Retail



A loan of \$225 helps Kanze Hanjari to purchase bundles of maize flour and wheat flour for resale.

0% raised, \$225 to go

Select amount to lend

\$25  

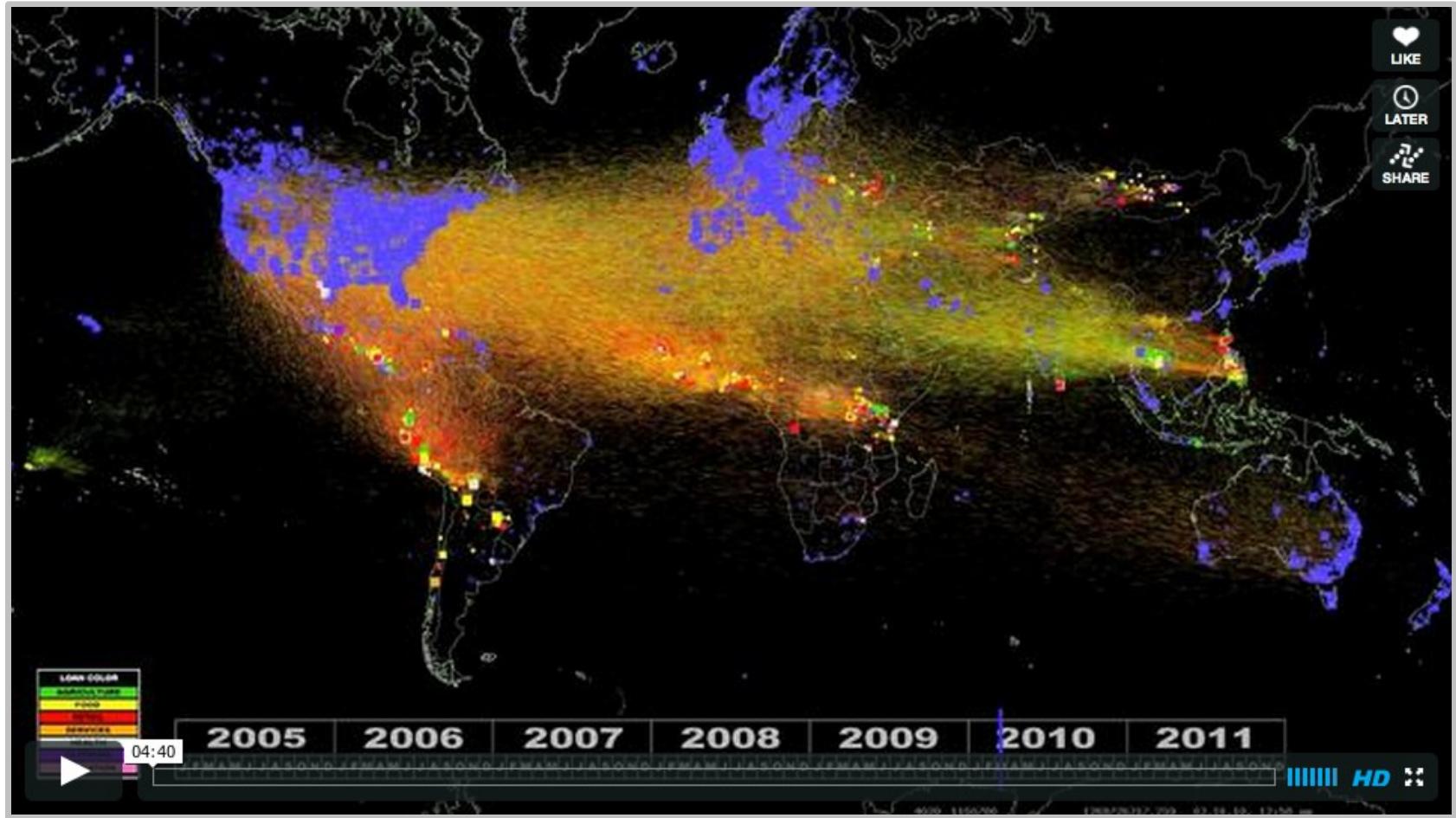
Repayment Term: 13 months (more info)  
Repayment Schedule: Monthly  
Pre-Disbursed: Aug 4, 2011  
Listed: Sep 9, 2011  
Currency Exchange Loss: Possible  
Default Protection: Not Covered

Your funds will be used to backfill this loan.  
Repayments will go to you.

And the same model can be applied to Design.

Source: <http://www.kiva.org/lend/333427>

# Peer-to-Peer



And the same model can be applied to  
Design, with important results!

Source: <http://vimeo.com/28413747>

# Crowdsourcing

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## Welcome To InnoCentive

Where the World Innovates

Are you looking to solve problems and accelerate your innovation capability?

**Drive Innovation »**



Are you passionate about solving important problems that really matter?

**Become A Solver »**



**Open Challenges** Show: **Featured Challenges** ▾ There are 114 active challenges | [View All »](#)

Challenge Title	Deadline	Active Solvers	Referral Award
A GRI (Glucose Responsive Insulin) for Better Treatment of Type 1 Diabetes	11/09/2011	32 active solvers	\$10,000 USD
The Economist/Qualcomm Challenge: Pictures of Tomorrow	10/31/2011	41 active solvers	\$100 USD

**NEWSFLASH**

InnoCentive and JDRF Partner to Combat Diabetes

JDRF is harnessing InnoCentive's Challenge Platform and Global Solver Community to uncover solutions for a transformative and sophisticated insulin drug for patients with diabetes to improve

Outsourcing a project or a task to an online crowd,  
more about competition than collaboration.

Source: <http://www.innocentive.com/>

# Crowdsourcing

The screenshot shows the homepage of DesignCrowd. At the top, there's a navigation bar with the logo 'DesignCrowd' (featuring a stylized blue starburst icon), 'Log in', 'Register', 'Help', and a green button 'Post a design project'. Below the navigation is a secondary menu with links to 'Categories', 'Get Started', 'Browse Projects', 'Portfolios', and 'About Us'. The main banner has a dark blue background with white text. It features the headline 'Custom Design. Online. Risk-free.' followed by a numbered list: '1) Post a project 2) Get 100+ designs 3) Select the best design'. Below this, two large statistics are displayed: '39,213 graphic designers' and '103 average number of designs / project'. There are two buttons at the bottom of the banner: a blue one with a play icon labeled 'See how it works' and a green one labeled 'Get started now'. Below the banner, the text 'As featured in' is followed by logos for 'YAHOO! FINANCE', 'smartcompany', 'Mashable', and 'TNW THE NEXT WEB'. At the bottom, there are four service cards with icons and prices: 'Web Design starting at €235' (with a smartphone icon), 'Business Card starting at €90' (with a business card icon), 'Flyer Design starting at €130' (with a flyer icon), and 'T-shirt Design starting at €130' (with a t-shirt icon). Each service card has a 'Learn More' button at the bottom.

And the same model can be applied to  
Design, with critica results!!

Source: <http://www.designcrowd.com/>

# Mobile: Single user designing, no collaboration



Collaboration is not only based on a single tool: not only on a PC!

Source: <http://www.mshape.com/>

# Mobile: Smart Mobs, Ubiquitous Computing



We could even (re)build a design from  
noncoordinated users.

Source: <http://grail.cs.washington.edu/rome/> <http://youtu.be/HrgHFDPJHXo>

# Open Source: open collaborative development



The most complete and promising model for mass-collaboration on the Internet.

Source: <http://www.buglabs.net/ford-buglabs>

# And hybrid models... like OpenIDEO

The Challenge 289 followers [Follow updates](#)

## How might we use social business to improve health in low-income communities?

**INSPIRATION** 290 inspirations | **CONCEPTING** 98 concepts | **EVALUATION** 20 final concepts | **WINNING CONCEPTS** Announced! | **REALISATION** Ongoing

Congratulations to all our contributors!

Check out the impact stories!

**Challenge Brief**

OpenIDEO has partnered with the Holistic Social Business Movement (HSBM) of Caldas – a joint venture between the Grameen Creative Lab and the Government of Caldas, Colombia – to consider how social businesses can improve the health of low-income communities in Colombia and around the world. Together, with your help, we hope to develop a set of implementable and high impact solutions to support and promote social business development and improve health in low-income areas like Caldas, where 26% of the population lives in extreme poverty.

**THE GRAMEEN CREATIVE LAB**  
Sponsored by:  
Grameen Creative Lab  
Challenge Start Date:

Crowdsourcing 50% + Web 2.0 30% + Open Source 20%.

Source: <http://www.openideo.com/>

# What is Open Source? A generic definition

A (software) project published with a **license** that facilitates its **access + modifying + sharing** in a collaborative way.

A (software) project developed **collaboratively** by a **community**, based not on hierarchy but on **reputation**.

---

# Why Open Source in Software?



Source Code (human readable) --> Binary Code (machine readable)

# Why Open Source in Software?



---

Source Code (human readable) --> Binary Code (machine readable)

# Why Open Source in Software?



---

Source Code (human readable) --> Binary Code (machine readable)

# Open Source Everywhere...

*“Software is just the beginning ... open source is doing for mass innovation what the assembly line did for mass production. Get ready for the era when collaboration replaces the corporation.”*

Thomas Goetz, Wired November 2003

Source: <http://www.wired.com/wired/archive/11.11/opensource.html>

---

Open Source as promising way to organise communities.

Source: <http://www.buglabs.net/ford-buglabs>

# Open Drinks



Started as an example or for marketing, now  
an important field of experimentation!

Source: [http://en.wikipedia.org/wiki/OpenCola\\_\(drink\)](http://en.wikipedia.org/wiki/OpenCola_(drink)) [http://en.wikipedia.org/wiki/Free\\_Beer](http://en.wikipedia.org/wiki/Free_Beer)  
<http://www.flickr.com/photos/16038409@N02/2327138220/in/photostream>

# Open Biotechnology

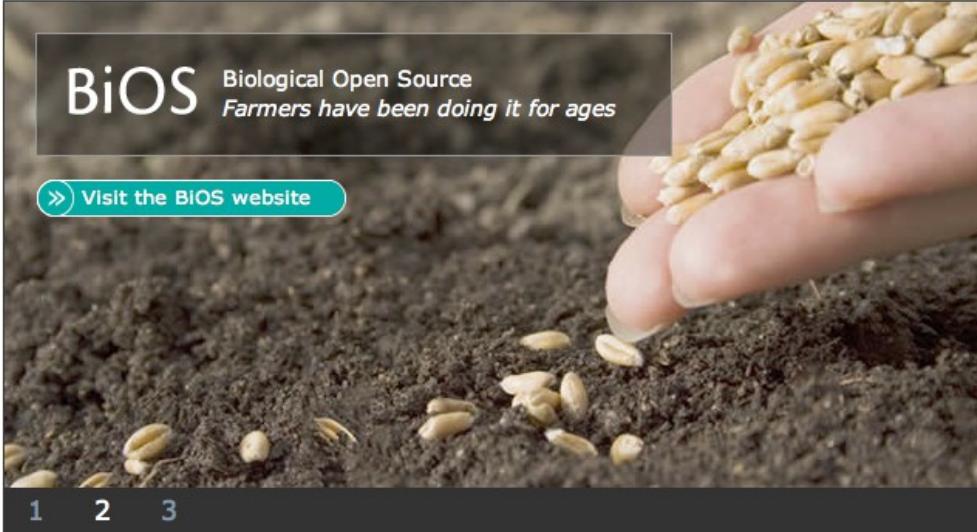
Go to the Cambia home page

**Cambia**  
enabling innovation

Cambia means change.  
Cambia is an independent non-profit institute **creating new technologies, tools and paradigms** to promote change and enable innovation.

Search this website

[Home](#) [About Cambia](#) [Media Centre](#) [Papers & Publications](#) [Contact Us](#)



**BiOS** Biological Open Source  
*Farmers have been doing it for ages*

[» Visit the BiOS website](#)

1 2 3

**Global Problems?**  
Disease, hunger, poverty, climate change... Most people see these as big worldwide problems.

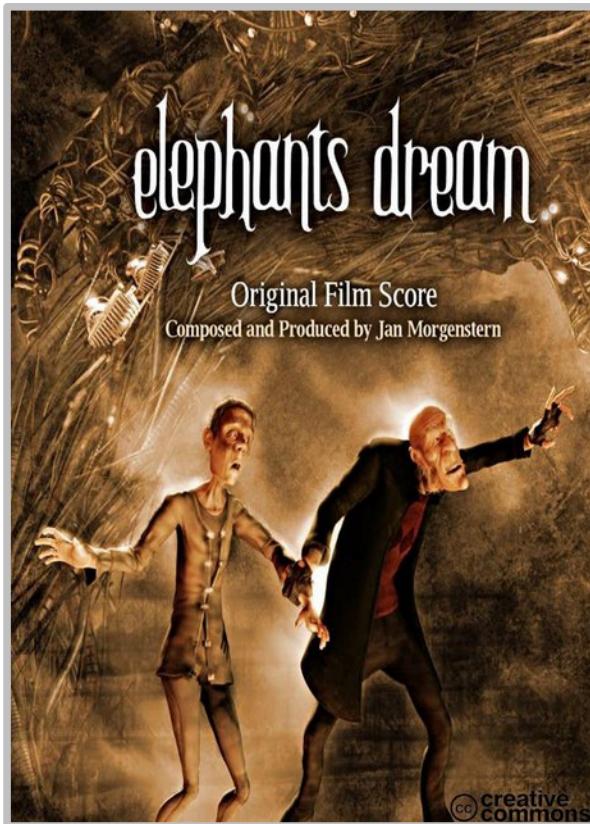
**We see them as symptoms.**  
It's time to change the way we look at the world. The people who experience these problems *are the solution*.

[» Cambia means change](#)

Applied in many different scientific researches.

Source: <http://www.cambia.org/>

# Open Movies + Videogames



Done with and for Blender (Open Source 3D modeling software).

Source: <http://www.elephantsdream.org/> <http://www.bigbuckbunny.org/> <http://www.sintel.org/>

# What is Open Design? A generic definition

a project published with a **license** that facilitates its sharing and that can be “compiled” or “manufactured” locally.

- \* sharing
- \* collaboration
- \* open licenses
- \* code --> artifact

Open Design refers to every kind of design projects that can be **shared in a digital format over** a network.

---

# Open Typography

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

abcdefghijklmnopqrstuvwxyz

“<<.:?!©\*¶§&/(| )[]{}€†‡@®™¿¡;,»”

The first open source font (2001) by Victor Gaultney, with a specific license: SIL Open Font License (OFL).

Source: [http://scripts.sil.org/cms/scripts/page.php?site\\_id=nrsi&item\\_id=Gentium](http://scripts.sil.org/cms/scripts/page.php?site_id=nrsi&item_id=Gentium)

# Open Fashion Design

openwear/  
collaborative  
clothing

INFO  
MEET THE COMMUNITY  
BROWSE CREATIONS  
COLLABORATIVE COLLECTION  
BLOG

search | keep in touch | help / support | log in **JOIN US!**

## Nadiuchka's Showbox

EXPERTISE: tailoring, fashion design, education

PROFESSIONAL from MILAN

Map

Lugano Varese Lecco Como Bergamo E60 E64 Busto Arsizio Rho Monza Monza Brianza Ovava Milano Lodi Piacenza Alessandria Voghera

ABOUT → PICTURES & CREATIONS →

NETWORK →

MY BLOG

FORUM

PICTURES & CREATIONS

PERSONAL PICTURE PERSONAL CREATION COLLABORATIVE CREATION CUSTOMIZATION

LATEST UPLOADS

BUY IT BUY IT BUY IT BUY IT

Visit Gallery

ACTIVITIES OF YOUR NETWORK

CREATIONS COMMENTS NETWORKING

Latest uploaded creations by collaborators

r0k0 uploaded: MEME expo panoji 2 08.04.2011 - 08:04

r0k0 uploaded: animacija\_IMG\_7018 06.04.2011 - 10:54

r0k0 uploaded: MEMEFEST expo Ljubljana debate 06.04.2011 - 10:10

r0k0 uploaded: MEME expo Ljubljana banners 05.04.2011 - 11:53

popland uploaded: fluo tshirt 17.01.2011 - 10:54

Open Fashion Design projects and brands.

Source: <http://www.openwear.org/>

# Open Architecture

The screenshot shows a web interface for the Open Architecture Network. At the top, there's a navigation bar with links for 'ABOUT', 'PROJECTS', 'COMPETITIONS', and 'PEOPLE'. Below the navigation is a 'PROJECT DETAILS' section for the 'Native Cultural and Learning Centre'. This section includes fields for 'NAME', 'PROJECT LEAD', 'LOCATION', 'START DATE', 'CURRENT PHASE', 'PROJECT TYPE', and 'STUDENT'. The 'NAME' field contains 'Native Cultural and Learning Centre'. The 'PROJECT LEAD' field contains 'Toronto, Ontario, Canada'. The 'LOCATION' field contains 'October 02, 2007'. The 'CURRENT PHASE' field contains 'Design development'. The 'PROJECT TYPE' field contains 'Community Center, Cultural Display, Education Facility - Training Center, Theater (Stage), Youth Center'. The 'STUDENT' field contains 'Jake Chakasim'. To the left of the details is a large image of a modern building with a wooden facade and glass windows, surrounded by trees. Below the image, there's a caption about the project's purpose and a statement from Jake Chakasim. On the right side, there's a 'COPRIGHT' section with icons for Creative Commons licensing and a link to 'More info about Creative Commons Licensing'. At the bottom right, there's a button for 'Open Architecture iPad App' with an icon of a globe.

Open Architecture Network

Welcome, guest: please register or log in to your account!

ABOUT PROJECTS COMPETITIONS PEOPLE

**Native Cultural and Learning Centre**

OVERVIEW TEAM UPDATES WORKSPACE CALENDAR FILES

**PROJECT DETAILS**

**NAME:** Native Cultural and Learning Centre  
**PROJECT LEAD:** Toronto, Ontario, Canada  
**LOCATION:** October 02, 2007  
**CURRENT PHASE:** Design development  
**PROJECT TYPE:** Community Center, Cultural Display, Education Facility - Training Center, Theater (Stage), Youth Center  
**STUDENT:** Jake Chakasim

**COPYRIGHT**

This work's Creative Commons license

More info about Creative Commons Licensing

Open Architecture iPad App

Explore Open Architecture Network projects from around the world on your iPad!

Download on iTunes

Aboriginal Toronto - where is it? We'd like to give that question an answer.

We are currently working to provide a centre to foster the cultural and educational development of native and newer Canadians in our city.

Cultures are not made of museum artifacts but living breathing people evolving everyday. We'd like to celebrate today's rapidly growing urban Native community, while providing the support and structure to welcome new urbanites and help native youth reach their full potential. We want to share and take pride in the legacy of the first Canadians.

Jake Chakasim, a member of the first nations community, has designed an environmentally-friendly building based on a traditional community centre - the longhouse.

The city of Toronto's cultural department and director Rita Davies support us wholeheartedly, as

Not as advanced as Open product design, but still part of an ongoing experimentation.

Source: <http://openarchitecturenetwork.org/>

# Open Architecture



WikiHouse 

PROCESS | ABOUT | PROTOTYPE | CONTRIBUTE

$d = D \neq d$   


design.is.design.is.not.design



Download houses and components which are created and shared by an open community of designers from around the world. Individual parts can be combined or adapted using the free program Google Sketchup.

1 2 3 4 5 6 7 8 9 10

powered by 

 Gwangju Biennale

Not as advanced as Open product design, but still part of an ongoing experimentation.

Source: <http://www.wikihouse.cc/>

# (Open) Design competitions

**(UN)LIMITED** Design Contest **2011**

form food fashion fusion

**Shades of Wood**

Product view Manual view

Designer: Jorn van Eck & Overtreders-W.  
Published: Sep 15, 2010  
Number of designs: 1  
Rating: 4.4 (12 votes)

Download blueprint



Contest winners

**Shades of Wood**  
Jorn erfde een oude schemerlamp van zijn opa...  
by Jorn van Eck & Overtreders-W

**Coolplus micro knitted shawl with transfer flex folie**  
Future vision on the production of...  
by Marina Toeters

**2 teaspoons // tablespoons at once!**  
In cooking recipes we often...  
by Eulàlia Llovet Vidal

**Magic Box (entirely new)**  
Last year Magic Box was a tool that helped you to make custom boxes...  
by Studio Ludens

Related products

**Floo's Bag**  
The idea was to make a bag using the laser cutter only. The art of ...  
by Floo

**Emergency Coat Rack**  
Never Have a Coat Hanging Emergency Again! Just Break Apart ...  
by D E Sellers

**ClickBag**  
The ClickBag is based upon the beatiful Floo's Bag.I wanted to design a ...  
by Jens

Most viewed products

Digital fabrication and FabLabs open new possibilities for Design competitions and Open Design.

Source: <http://unlimiteddesigncontest.org/>

# (Open) Design competitions

The screenshot shows a web page from the Domus website. At the top, there is a navigation bar with the word "domus" in blue, followed by "Sections", "Magazine", "Network", "Store", and "Events". There is also a search bar labeled "Search Domus..." and a "Sign up" button. A small Italian flag icon is visible. The main content features a large, intricate geometric model, possibly a 3D printed structure or a digital fabrication project, displayed in perspective. Below the model, a dark banner contains the text "Autoprogettazione 2.0: on display—". Underneath the banner, a smaller text block reads: "The selection committee has decided: here are the seven projects which will be on display at *The Future in the Making*, in Palazzo Clerici. A news report from Milan".

Digital fabrication and FabLabs open new possibilities  
for Design competitions and Open Design.

Source: <http://www.domusweb.it/en/upcoming-event/call-for-ideas-autoprogettazione-20--/>  
<http://www.domusweb.it/en/news/autoprogettazione-20-on-display/>

# Completely Open: Hardware, Software, Design

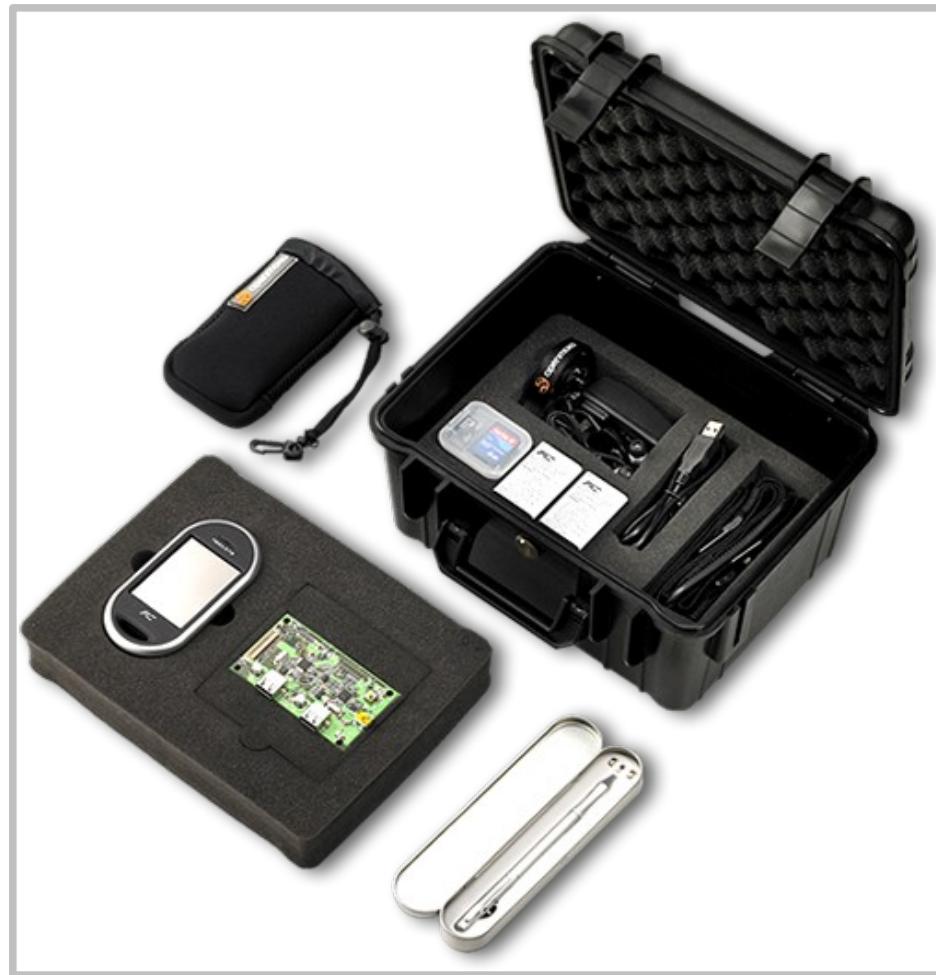


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OpenMoko was the first product to be completely open:  
open hardware, open source software, open design.

Source: [http://wiki.openmoko.org/wiki/Main\\_Page](http://wiki.openmoko.org/wiki/Main_Page)

# Completely Open: Hardware, Software, Design



OpenMoko was the first product to be completely open:  
open hardware, open source software, open design.

Source: [http://wiki.openmoko.org/wiki/Main\\_Page](http://wiki.openmoko.org/wiki/Main_Page)

# Completely Open: Hardware, Software, Design



BugLabs has been much more successful in offering completely open products.

Source: <http://www.buglabs.net/>

# BugLabs + Ford

Ford + Bug Labs Press Release

login  
sign up



Bug System  
Apps  
Store  
Support  
Community

Businesses  
Education  
Developers

Google™ Custom Search

Mailing List  
Feed



Ford and Bug Labs explore open innovation and crowd sourced, community-driven development

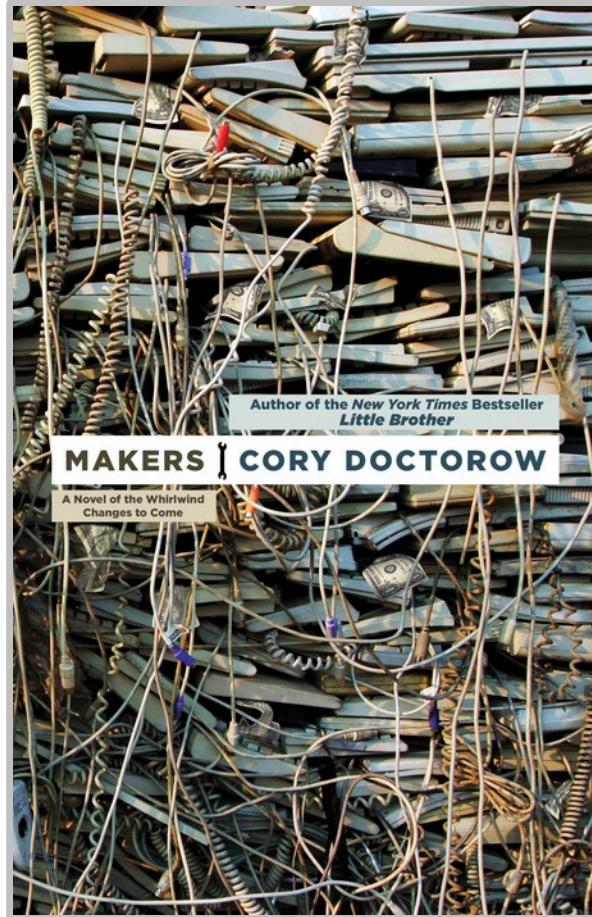
## Ford and Bug Labs Develop Open-Source R&D Platform for Socially-Networked In-Car Connectivity Innovation

- Ford and Bug Labs, an open-source hardware and software provider, announce a joint development project to research, develop and distribute open-source developer tools to advance in-car connectivity innovation

So successful that they just announced a partnership with Ford Car.

Source: <http://www.buglabs.net/ford-buglabs>

# Open Design: (almost) already successful

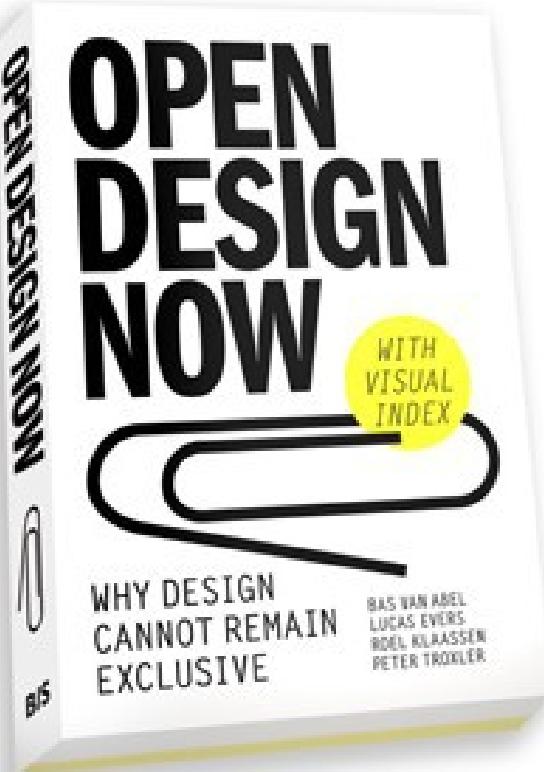


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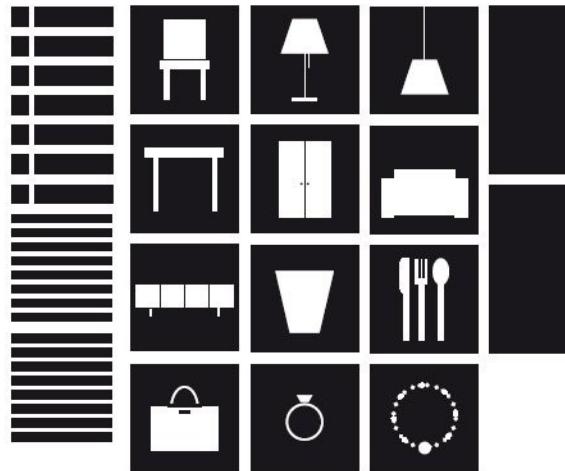
When you have a sci-fi novel from a popular author about open design and makers, they are not underground any longer.

Source: <http://craphound.com/makers/download/>

# Open Design: (almost) already successful



design for download



When a famous design company and the national organization of design embrace Open Design ...

Source: <http://www.buglabs.net/ford-buglabs>

# Open Design: (almost) already successful

The screenshot shows the Instructables website. At the top is the logo featuring a yellow robot-like character and the word "instructables" with the tagline "share what you make". Below the logo is a navigation bar with categories: Food, Living, Outside, Play, Technology, Workshop, and a category represented by three bats. The main content area displays a red header "Community : forums : community blog" followed by a title "Instructables Joins Autodesk". The text discusses the impact of the Instructables community and the company's vision. It then announces that Instructables is becoming part of Autodesk, expressing excitement for the future of the community.

**Instructables Joins Autodesk**

The Instructables community is incredible: you build, bake, and create amazing things, then share your projects and ideas with the world. I think it's great when someone builds a project using instructions from our site, but it's even more amazing when we inspire someone to start (or finish) that project they've always dreamed of. This has been my vision for Instructables: to have a positive impact on the world by giving passionate people great publishing tools to document their projects, and connect them to a community full of like-minded people.

Today I'm able to share my plan for accelerating that vision, and making Instructables an even better place to be. I'm proud to announce that **Instructables is becoming part of Autodesk**. Everyone here at Instructables HQ is absolutely thrilled, because this is going to be awesome for the entire Instructables community.

And when probably the biggest CAD design software house buys an open design community, there must be money ahead!

Source: <http://www.instructables.com/community/Instructables-Joins-Autodesk/>  
<http://techcrunch.com/2011/08/01/autodesk-acquires-diy-community-instructables/>

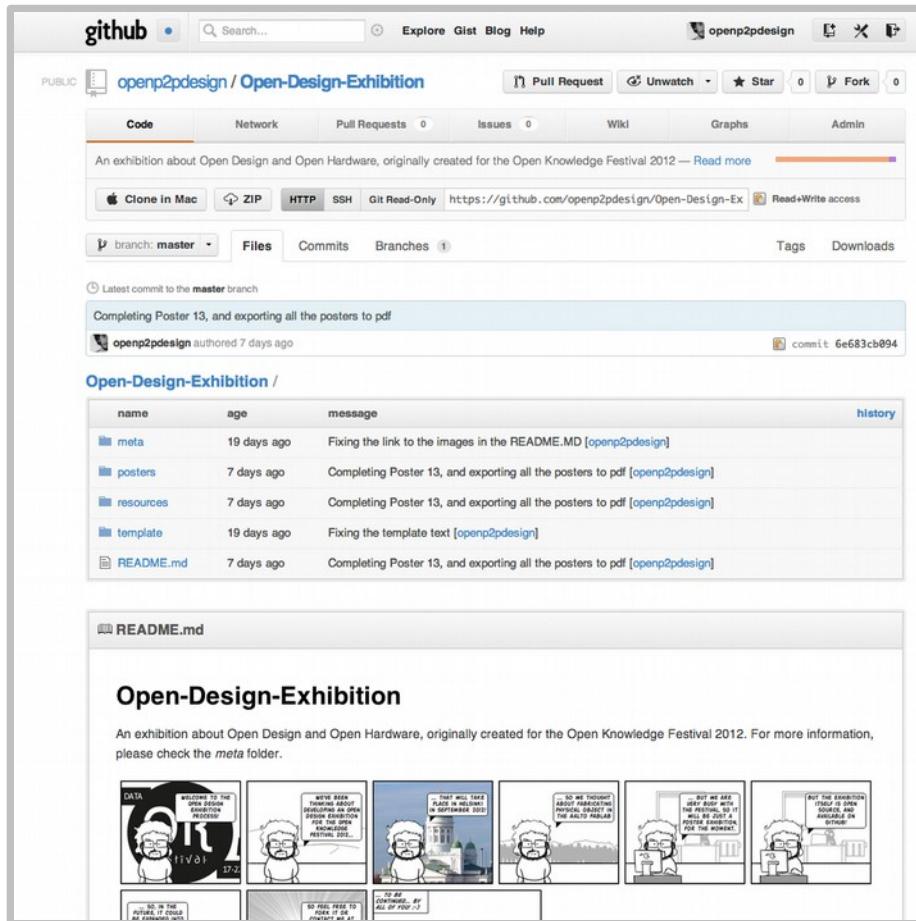
# Open Design: (almost) already successful

The screenshot shows the Autodesk 123D Beta 7 website. At the top, there's a dark blue header bar with the Autodesk 123D logo on the left, followed by navigation links: "About 123D", "Get Content", "Gallery", "Make It", "My Corner", and "Get 123D". On the right side of the header are "Login or Register", "My Cart (0 Items)", and "Support". Below the header, the main content area has a white background. A large title "Autodesk 123D Beta 7" is centered at the top of this area. To the left of the title, there's a text block: "Laser cutting workflows plus in-app access to fabbing services and free 3D models." Below this text is a yellow "Download" button. To the right of the text, there's a photograph showing a wooden laser-cut model of a Star Wars Millenium Falcon cockpit. The model is intricate, featuring various panels and structural elements. In the foreground, there are some smaller wooden pieces and a small metal fastener.

And when probably the biggest CAD design software house offers freeware software for makers, there must be money ahead!

Source: <http://www.123dapp.com/>

# More on the Open Design Exhibition!



An open exhibition about the most important Open Design projects:  
on Media Factory's walls and on GitHub!

Source: <https://github.com/openp2pdesign/Open-Design-Exhibition>

# Sketch Chair: Open Design as code

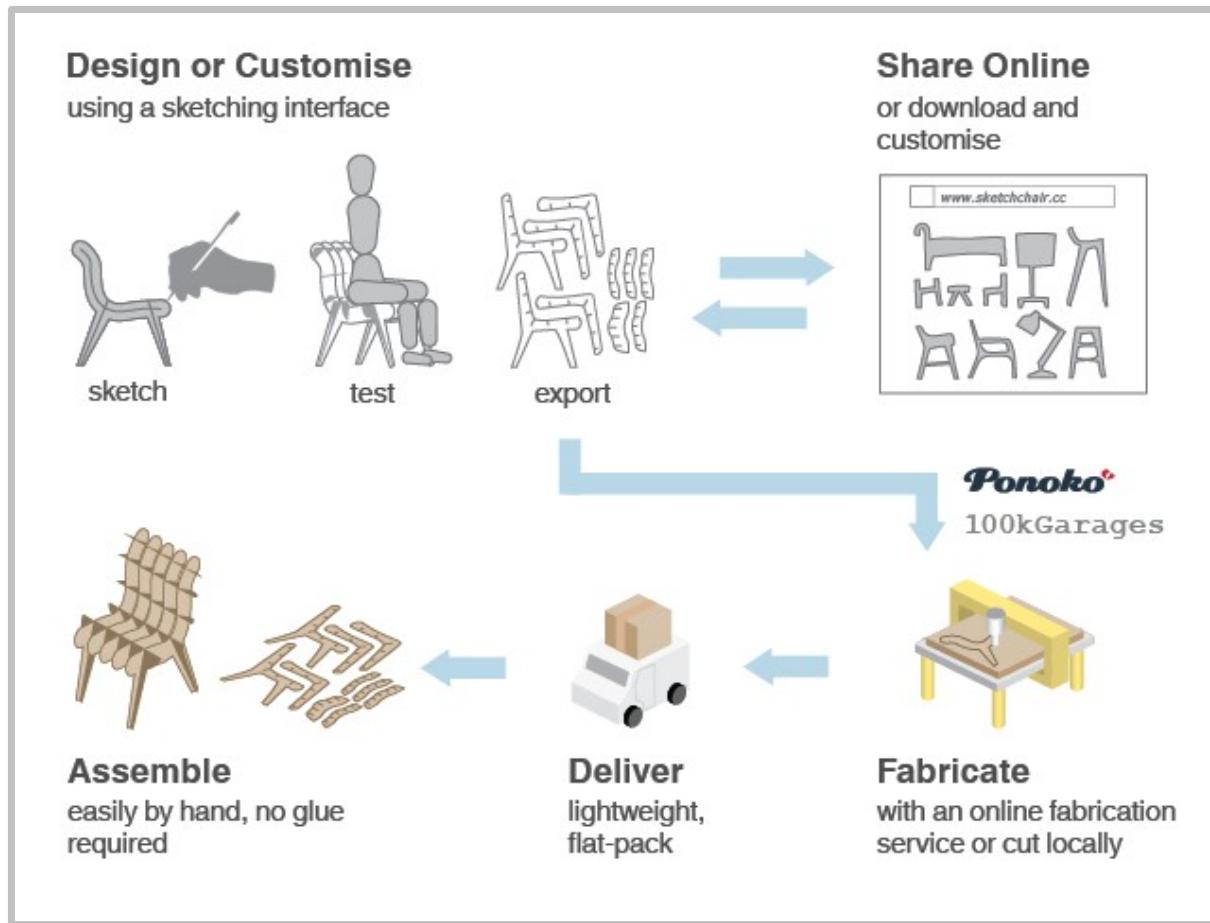
SketchChair



What is Open Design, if the chair is designed  
by a software?

Source: <http://www.sketchchair.cc/>

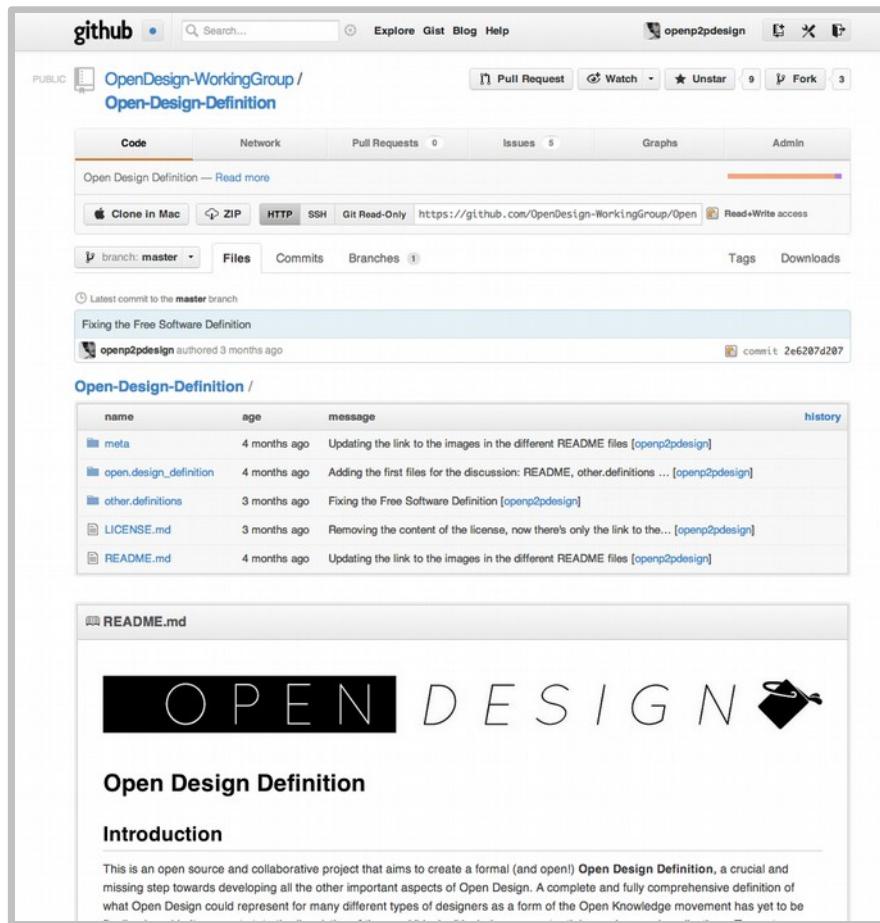
# Sketch Chair: Open Design as code



What is Open Design, is manufacturing and supply chain process?

Source: <http://www.sketchchair.cc/>

# ... and participate in the Open Design Definition!



And when probably the biggest CAD design software house offers freeware software for makers, there must be money ahead!

Source: <https://github.com/OpenDesign-WorkingGroup/Open-Design-Definition>

# The current status of Open Design

- \* single persons or small groups design a project and then just publish it online
  - \* lack of new tools, processes, systems that enable designers and users in developing open design projects
- > where is the collaboration?
- > where are the open processes?
- > where are the communities?



# The current status of Open Design

From: torvalds@klaava.Helsinki.FI (Linus Benedict Torvalds)

Newsgroups: comp.os.minix

Subject: What would you like to see most in minix?

Summary: small poll for my new operating system

Message-ID:

Date: 25 Aug 91 20:57:08 GMT

Organization: University of Helsinki

Hello everybody out there using minix -

I'm doing a (free) operating system (just a hobby, won't be big and professional like gnu) for 386(486) AT clones. This has been brewing since april, and is starting to get ready. I'd like any feedback on things people like/dislike in minix, as my OS resembles it somewhat (same physical layout of the file-system (due to practical reasons) among other things).

I've currently ported bash(1.08) and gcc(1.40), and things seem to work. This implies that I'll get something practical within a few months, and I'd like to know what features most people would want. Any suggestions are welcome, but I won't promise I'll implement them :-)

Linus (torvalds@kruuna.helsinki.fi)

---

So successful that they just announced a partnership with Ford Car.

Source: <http://www.cs.cmu.edu/~awb/linux.history.html>

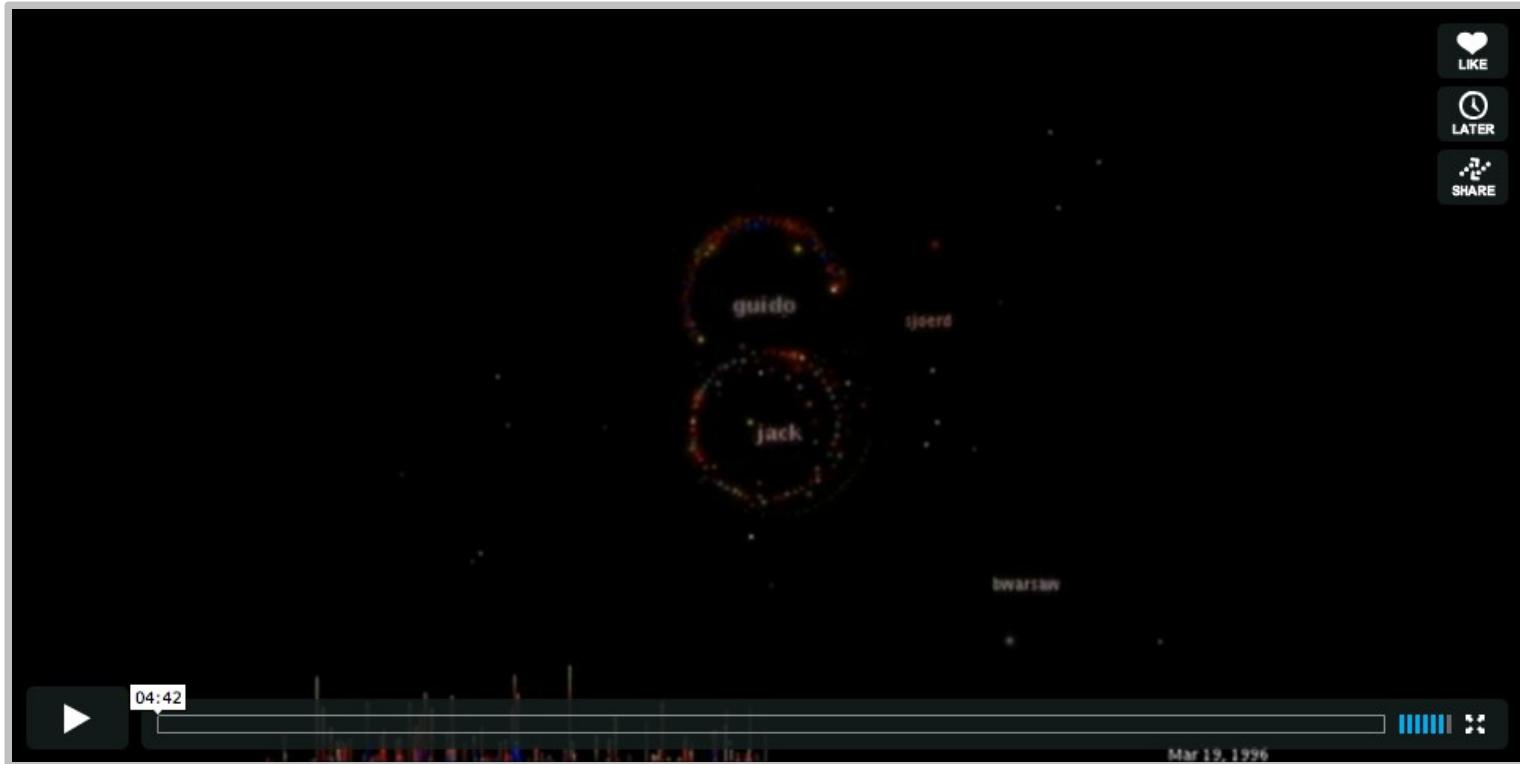
# The experience of a user of Open Source software

The screenshot shows the SourceForge homepage. At the top, there's a navigation bar with the SourceForge logo, 'Register', and 'Log In'. Below it, a large banner says 'Find, Create, and Publish Open Source software for free' with a search bar containing 'Search from 293,991 projects' and a 'Search' button. Below the banner, there are stats: 'TODAY: 3,506,302 DOWNLOADS', '5,259 CODE COMMITS', '3,374 FORUM POSTS', '577 BUGS TRACKED', and a 'MORE SITE ACTIVITY' link. On the left, there's a sidebar with categories like 'Audio & Video', 'Business & Enterprise', 'Communications', 'Development', 'Home & Education', 'Games', 'Graphics', 'Science & Engineering', 'Security & Utilities', and 'System Administration'. The main content area features 'Project of the Month' for 'OpenPetra', which is described as a free administration software package for non-profit organizations. It includes a 'Download Alpha 0.2.10' button. Below it is another project, '7-Zip', described as a file archiver with support for various compression formats, also with a 'Download' button.

The surface experience with open source software: not only finished products that can be downloaded and used!

Source: <http://sourceforge.net/>

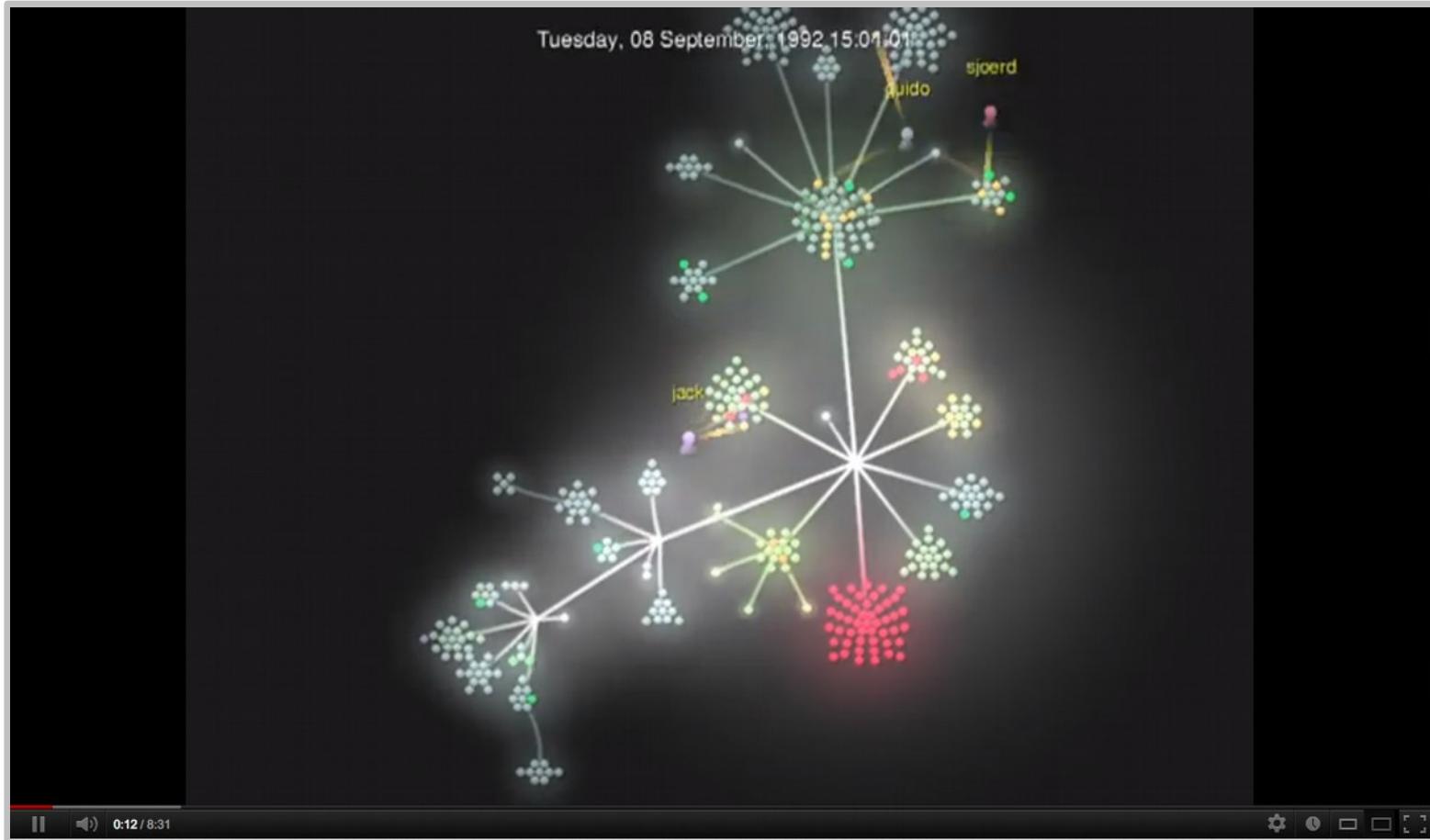
# ... the big picture of Open Source: the process



But there's a big process of collaboration  
behind the final product!

Source: <http://code.google.com/p/codeswarm/>  
<http://vimeo.com/1093745>

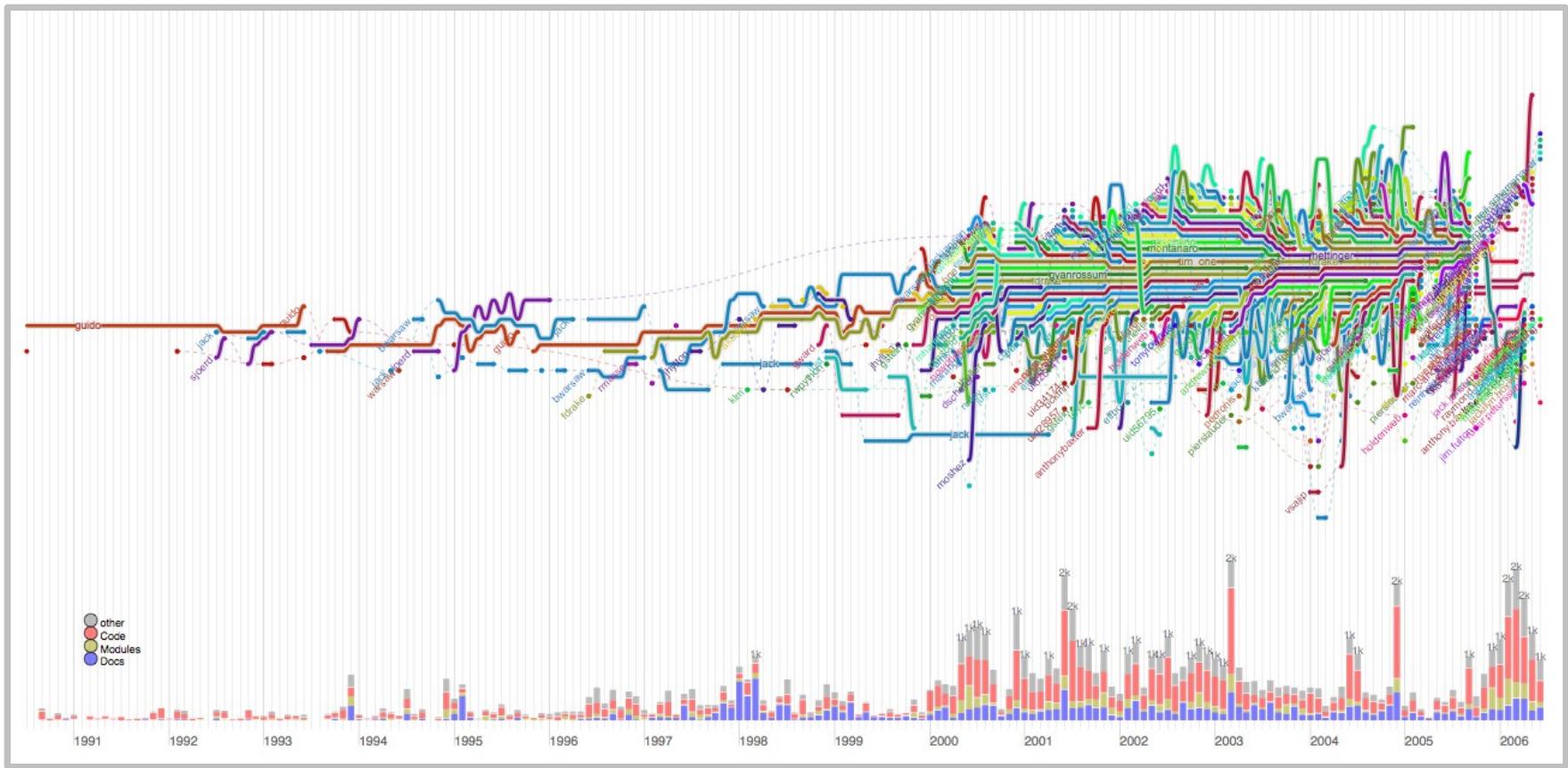
# ... the big picture of Open Source: the process



But there's a big process of collaboration  
behind the final product!

Source: <http://code.google.com/p/gource/>  
<http://youtu.be/aPk1BqK8zzI>

# ... the big picture of Open Source: the process



But there's a big process of collaboration  
behind the final product!

Source: <http://www.michaelogawa.com/research/storylines/>

# A more systemic definition of Open Design

A collaborative distributed **system** of design & manufacturing

- \* sharing
- \* collaboration
- \* open licenses
- \* open and distributed manufacturing technologies

A **system of agents** that:

- \* use
  - \* design
  - \* manufacture
  - \* market
  - \* distribute
  - \* manage the end-of-life
-



Aalto University  
Media Factory

05.

**Work for the next weeks:  
Clone the repository of the projects.  
Work in your folder, document ideas for a  
personal project with your README.md  
file.**

# Our repo on GitHub!

The screenshot shows a GitHub repository page for 'DigitalFabricationStudio / Project\_03'. The repository is public and contains one commit. The commit details are as follows:

File	Author	Date	Message
README.md	openp2pdesign	just now	Initial commit [openp2pdesign]

The repository description states: "The projects developed during the Digital Fabrication Studio course, 0.3 edition". The README.md file content is:

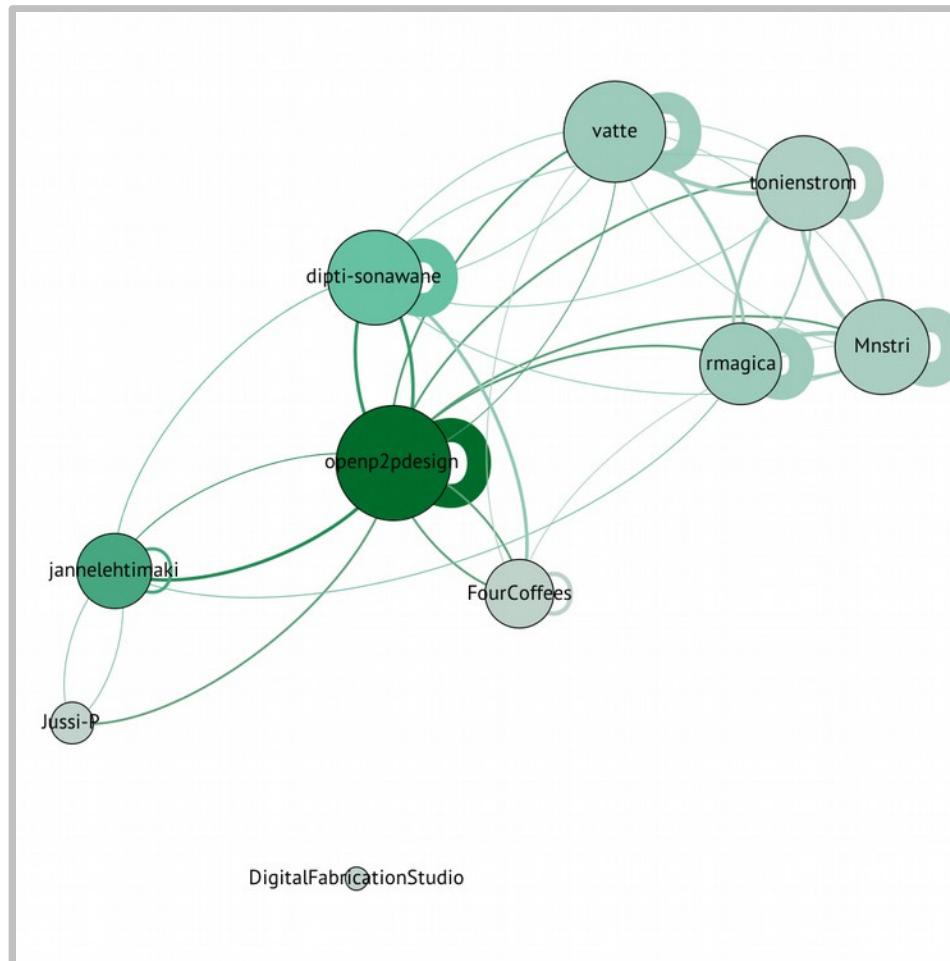
## Project\_03

The projects developed during the Digital Fabrication Studio course, 0.2 edition

This is where we will work together!

Source: [https://github.com/DigitalFabricationStudio/Project\\_03](https://github.com/DigitalFabricationStudio/Project_03)

# Past edition interactions



We can mine GitHub with its API and discover what have actually happened during the course.



Aalto University  
Media Factory

05.

Work for next weeks:  
choose a Creative Commons license  
for your projects, and add it to the  
Readme.md file.



Aalto University  
Media Factory

# Thank you!!

Massimo Menichinelli  
Aalto Media Factory  
[massimo.menichinelli@aalto.fi](mailto:massimo.menichinelli@aalto.fi)  
[@openp2pdesign](https://openp2pdesign.net)  
<http://www.slideshare.net/openp2pdesign>

