Open Source Design

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Outline

The Lies of "Free" Market

The **Laws of Free-Trade** dictate that when you exchange money for the purchase of any item, that item belongs to you without strings attached.

Mobile communication objects sold worldwide are restricted. Such mobile communication devices constitute nowadays the widest network around the globe, mostly used by citizens for private communications.

The Industrial Involution of Art

- **Who owns what**? In digitally produced contemporary art the tool-makers (and not the artists!) own the rights to reproduce the artworks.
- **Uniformed design**. In a globally connected world uniformity is marketed better than variety, simplifying cognitive processes: uncommon ground is seen as a threat, massive outreach is forced by flattening perception.
- **Industrialized creativity**. Improvised social forms built around close-knit networks and non-conventional human relationships are substituted by the absorption of human emotion into bureaucratic channels: the emergence of a social coolness, an efficiency of feeling. [1]
- **Futurist utilitarism**. Ideology and advertising have exalted the permanent mobilisation of the productive and nervous energies of humankind towards profit and war. [2]

[1] Rana Dasgupta, 2008, The Next Idea of the Artist, Liverpool Biennial

[2] Franco Berardi, 2009, The Post-Futurist Manifesto

GNU perspectives

Back in 1984 Richard Stallman, with help by Eben Moglen and others, drafted the GNU General Public License, granting users the rights to:

- Run for any purpose
- Study and adapt
- Redistribute
- Distribute modifications

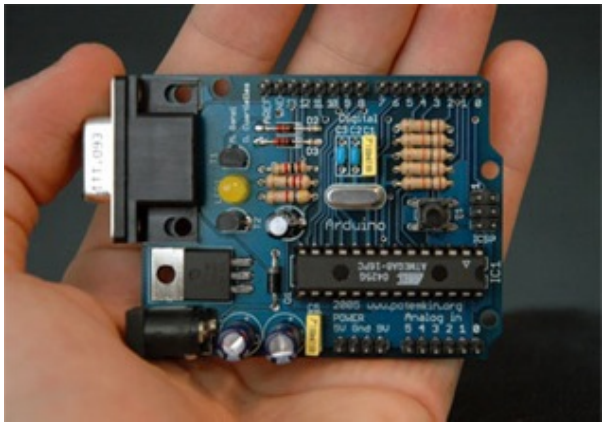
Tagtool

The Tagtool is an open source instrument for drawing and animation in a live performance situation.
The project aims to explore digital drawing as a means for communication - on stage, on the street and over the Internet.
The Tagtool is in use as a visual instrument in theatres, youth centers, at jam sessions with musicians and for performances in public spaces. It serves as a VJ tool, a creative video game for children, and an intuitive tool for creating animation.

Reactable

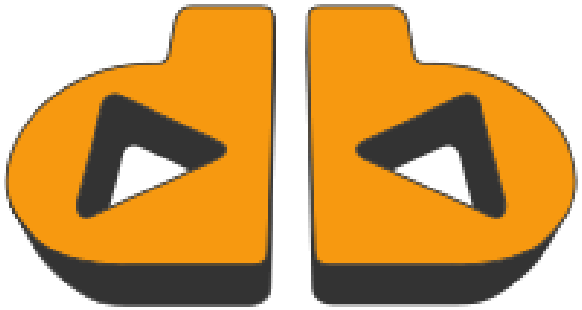
The Reactable uses a so called tangible interface, where the musician controls the system by manipulating tangible objects.
The instrument is based on a translucent and luminous round table, and by putting these pucks on the Reactable surface, by turning them and connecting them to each other, performers can combine different elements like synthesizers, effects, sample loops or control elements in order to create a unique and flexible composition.

Arduino



Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software.
It's intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments.
Arduino can sense the environment by receiving input from a variety of sensors and can affect its surroundings by controlling lights, motors, and other actuators.

dyne:bolic live CD

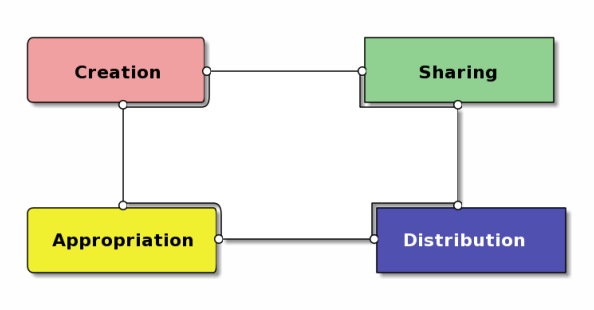


The **dyne:bolic** GNU/Linux liveCD multimedia operating system, developed from scratch since 2001 with the following focus:

- Ease of use, non invasive installation that co-exists with other systems
- Recycling of existing infrastructure, support for game consoles
- Oriented to production and not only fruition of media
- Enforcing privacy of users and independent distribution of information
- Self contained development toolkit

The Free Loop of Creation

An ideal **Semantic Square** (Greimas' Rectangle) to play with:



Design for Commoning[3]

Figure: Merzbau by Kurt Schwitters, Hannover 1933]

[3] Matt Ratto and Bronac Ferran, 2008

Design for Commoning[3]

It is important to recognise that the end goal of our work is not the creation of novel devices, new markets, or emergent forms of communicative activities. Instead, our goal is the development of a **generic information infrastructure** - and the tools and knowledge required to use, appropriate, rework, and innovate it.
We see such a resource, created, maintained, and owned by no one individual, institution, or company, as a necessary part of a **digital territory** in which a global, informed, and socially engaged citizenry has the potential to develop and grow.

Design for Commoning[3]

Such a terrain is not just about the technology; equally important is the development of the **critical making** skills that allow this citizenry to engage with their information landscape, to make educated political and economic as well as technical decisions.
The coming decade worldwide will be determined by the *strained relationship between formal and informal structures and environments*. A **design for commoning** one that views **uncommon ground as a resource**, rather than a threat is the way towards living together locally in a globally connected world.

Seven layers of Permaculture

In permaculture and forest gardening, seven layers are identified:

- The canopy
- Low tree layer (dwarf fruit trees)
- Shrubs
- Herbaceous
- Rhizosphere (root crops)
- Soil surface (cover crops)
- Vertical layer (climbers, vines)

The many connections in a wood contribute together to a proliferation of opportunities for amplifier feedback to evolve that in turn maximize energy flow through the system.

Permaculture Design principles [4]

These restatements of the principles of permaculture appear in Holmgren's Permaculture: Principles and Pathways Beyond Sustainability

- **Observe and interact** - By taking time to engage with nature we can design solutions that suit our particular situation.
- **Catch and store energy** - By developing systems that collect resources at peak abundance, we can use them in times of need.
- **Obtain a yield** - Ensure that you are getting truly useful rewards as part of the work that you are doing.
- **Apply self-regulation and accept feedback** - We need to discourage inappropriate activity to ensure that systems can continue to function well.
- **Use and value renewable resources and services** - Make the best use of nature's abundance to reduce our consumptive behaviour and dependence on non-renewable resources.

[4] Holmgren's 12 design principles

Permaculture Design principles [4]

- **Produce no waste** - By valuing and making use of all the resources that are available to us, nothing goes to waste.
- **Design from patterns to details** - By stepping back, we can observe patterns in nature and society. These can form the backbone of our designs, with the details filled in as we go.
- **Integrate rather than segregate** - By putting the right things in the right place, relationships develop between those things and they work together to support each other.
- **Use small and slow solutions** - Small and slow systems are easier to maintain than big ones, making better use of local resources and producing more sustainable outcomes.

Permaculture Design principles [4]

- **Use and value diversity** - Diversity reduces vulnerability to a variety of threats and takes advantage of the unique nature of the environment in which it resides.
- **Use edges and value the marginal** - The interface between things is where the most interesting events take place. These are often the most valuable, diverse and productive elements in the system.
- **Creatively use and respond to change** - We can have a positive impact on inevitable change by carefully observing, and then intervening at the right time.