

This is a Catalog of case-stories from the practice of lay-out, even if this practice is sometimes imaginary. They stories were selected after many discussions, workshops and brainstorms because they are each in their own way an invitation to rethink lay-out from scratch.

Digital Sensitivity

- Graphical shell
- Relational lay-out
- Conversational Control
- Shared undo history

Process Aware

- Orchestras
- Laidout distribute align tool
- Elision / Collision

Extended Dimensions

- Agile autonomous aerial robots
- Mixing streetnames and shapes
- The text box model
- Nested optimisation
- Multi-level type design interfaces

Engage and disengage

- Chevronnage
- Crossing the river
- Poetic linewrapping
- Vector declutch

The Catalog is compiled in the context of the Libre Graphics Research Unit, a traveling lab where new ideas for creative tools are developed. The Research Unit is an initiative of four European media-labs: Píksel in Bergen, WORM in Rotterdam, Medialab Prado in Madrid and Constant in Brussels. This cross-disciplinary project brings together typographers, web-designers, illustrators, graphic designers, cartographers, writers, artists and programmers who are dissatisfied with the shrink-wrapped relationships that proprietary software allows, and who have decided to use Free, Libre and Open Source software instead.

Collaborating on the design of posters, fonts, software, maps, websites and books, we end up using each others tools and methods, and learn about very different paradigms. As a result, our range of tools has expanded dramatically, and we started to experience from up close how digital tools are cultural objects. Each tool-of-a-trade is tightly linked to professional conventions and ways of doing. While using them side by side, we understand how much they are "path dependent", meaning that software, like any technology, is often the result of more or less arbitrary confluences of people and situations, sometimes leading to unreflected fossilisations (the text-box model) or other times unnecessarily overlooking relevant practices (chevronnage). How can we change the path of these tools, how to think about their direction?

We realised that at this moment, a precise and shareable way to speak about what constitutes lay-out, "a spatial arrangement of texts and other graphical elements", is missing. What exists, seems to have been directly exported from Gutenberg and shows surprisingly little traces of it's encounter with digital systems. Over the last months, without detaching from our working experiences, we have therefore tried to expand our vocabulary and find new perspectives.

From the ongoing conversations four axes of orientation emerged:

1. Digital Sensitivity,
2. Process Awareness,
- 3 Extended Dimensions
4. Engage and Disengage.

Although intimately related, they each offer a direction in which we would like to see digital tools develop.

This Catalog gathers very different stories in which we, sometimes with great difficulty, try to communicate our shared desires, and locate unrealised potential. Even though we would love to excite the Free, Libre and Open Source community to develop some of these ideas into concrete code, this is not a series of feature requests. It is a way to use software as a tool to think with, as location for a dialogue about practice and tools. By offering you this dense clusters of narrated practice, wishful thinking and sometimes productive misunderstanding, we hope to extend the conversation into the future.

Although information visualization is a relatively new field, it has a long history. The first information visualization was a map, and the first information visualization software was a spreadsheet. The history of information visualization is a history of the struggle to make sense of data. The history of information visualization is a history of the struggle to make sense of data. The history of information visualization is a history of the struggle to make sense of data.

Digital Sensitivity

Tools that combine digital, programmatic and computational possibilities with the sensitivity of a human designer. Can we overcome the inertia of digital objects if we extend the levels of access to code and design? How can we make programming and layout co-habit in more interesting ways?

Graphical Shell

Label for a wine bottle. Scribus + Pierre Marchand, 2006. Custom script for Scribus to generate a text where every letter has a random color.



How about?

Could we mix real programming into layout tools, to somehow link the tick (functionalities, workforce?) of a program to the rhythm of layout? We are not talking about the automatization of layout, but how laying-out could be brought on the same level as programming (and vice versa?).

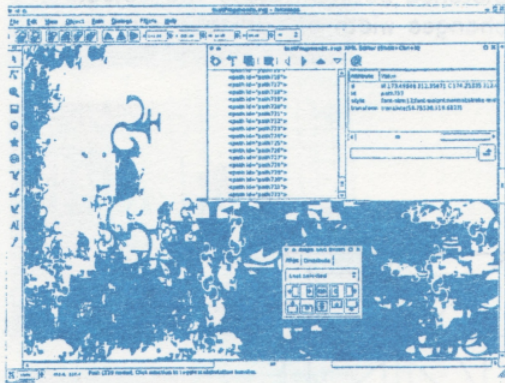
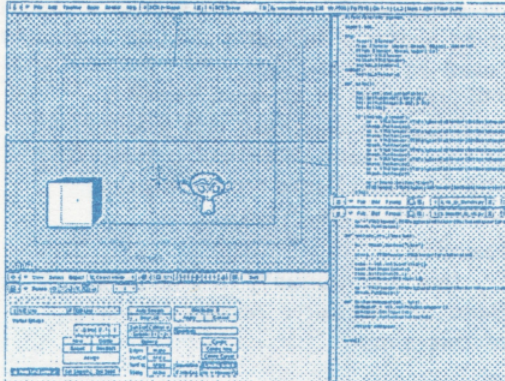
Scribus or Inkscape scripting APIs ('An Application Programming Interface is a specification intended to be used as an interface by software components to communicate with each other.') are just the beginning; the way Blender exposes its own actions very explicitly and in place of action, is already more appealing.

<http://www.uaberta.ca/CNS/RESEARCH/Vis/VTKBlender/blender-screen-shot1a.jpg>

But: there still are no tools that allow you to program at the same level as other layout work, by putting the programming interface at the same level as for example "Brushes" or "Properties Boxes", which would make it (literally) closer to the practice of design.

<http://inkscape.org/screenshots/gallery/inkscape-0.37-linux-xmlEditor01.png>

The Inkscape XML-editor is a hybrid: it is a



text-editor but it also is a console. The XML-editor is great for local editing, but what if it would offer some console-features such as auto-complete or find and replace? Could the browser be the place to go? Does this really need to happen inside each software itself? It may help us if we begin to think of this form of laying-out as a series of micro-commands that each execute discrete functions.

Related to

Shared undo history: it is a way to expose the inner vocabulary of a program, in a more radical way than most APIs would enable. Also, Pierre H sketched a proposal for a shell-on-canvas that would use a combination of the bash history functionalities like auto-completion, numeric arguments, piping or history of commands, with point and click operations.

Exercise

Comparing different ways code reveals itself in design tools (GIMP-scripting, Blender, Inkscape, Scribus etc.)

Relational lay-out

Proportional layout experiment, Gijs de Heij, 2012. Made to be viewed in a browser, css & javascript

How about?

What if we would introduce relationships between properties of objects and their environment. This experiment extends css through javascript, CSS be based on the css properties of others, the browser window, simply math or a combination of the three. Since the window properties are the only variable parameters at this time a window resize only invokes a redrawing of the layout. This experiment tries to create a responsive, flexible design. Ideally this tool should have an graphical interface that allows users to define how properties are related. Enabling the designer to play with different types of awareness, interconnectedness between objects and their surrounding.

Related to

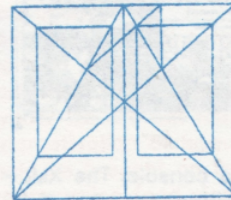
Pikxels and Lines Orchestra

Ultra-geometric space: What if we could generate believable layouts based on almost-right interpretations of classical rules? A persiflage on canonical grid layout or how to make Villard eat a snake? <http://pzwart3.wdka.hro.nl/~Ispeybroeck/whitespace/5.svg>

Exercise

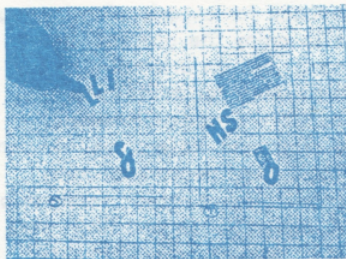
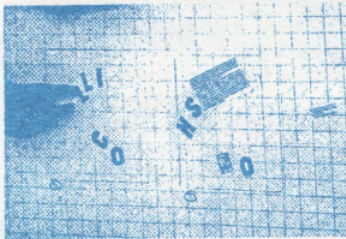
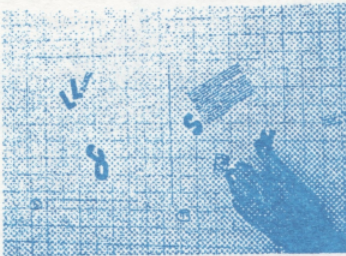
Try this out manually in Inkscape: Bend of this curve relates to filling of this shape

Distance between these two objects changes width of outline



Shared undo histories

Programs already save undo histories, so why can't we write those changes as commits? This idea got also referred to as "shared action lists", but that sounds a lot less promiscuous. We liked the possibility of distributing painful discoveries and propagating our mistakes



Conversational Control

Workshop during Brussels Co-position Research Meeting, February 2012, with Nik Gaffney as spontaneous and enthusiastic animator.

We worked on scenarios for potential conversations between computers and designers, interaction between design decisions and computational optimization. This prototype would also have an option to let you "just start over".

1. Do all these elements need to fit on one page? YES
2. Should all elements be legible? YES
3. Can we make this page bigger? NO
4. [system makes a proposal]
5. Do you like this better?
6. [user making changes] YES

How about?

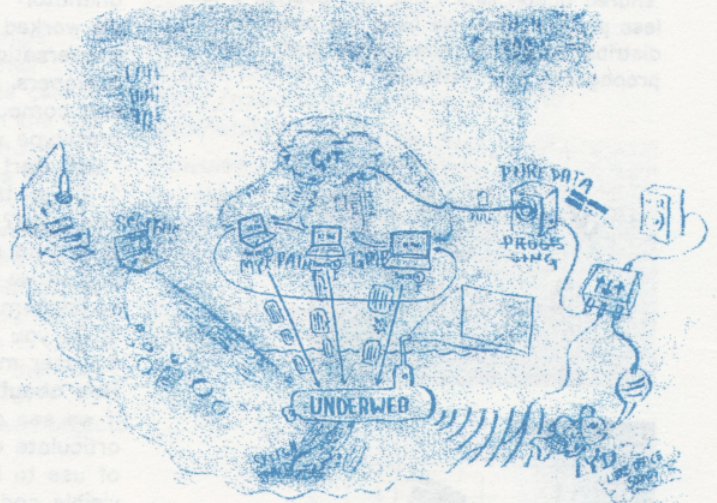
If we see design a practice that seeks to articulate collisions, how could computers be of use to help organise them, to make them visible and legible?

Exercise

Setup a multi dialog situation around a layout construction, with some questions to ask others, in rounds. And these rounds are commented as commits, to produce a written history of decisions.

Orchestras

Pikseles and Lines Orchestra map, Ana Carvalho, Pierre Huyghebaert and others (Bergen, 2012)



Process Aware

The way we do design results from many different practices and traditions. In digital tools, design comes into contact with yet another set of cultures, that of software development and programming. We are looking for tools that are history-aware, have a memory, and invite reflection and dialogue. Tools that make their processes explicit, make human-machine interactions available for questioning, and ultimately allow us to understand better how we relate to the world around us through software.

We are interested in tools that have ways of expressing their own character, and that are open for inter-action between processes. The prototype for a Pikseles and Lines Orchestra (PLO) was an experiment with three important features missing from most digital tools: sound feedback for experiencing lay-out differently, ways to enjoy the process of collaboration and a view on internal vocabularies. This sketch for a PLO was developed by The Libre Graphics Research Unit. In a single afternoon, several well-known Libre Graphics tools were networked using standard protocols. Instrumented versions of Scribus, MyPaint, SketchSpace and GIMP were made to send their actions (everything that was saved to the undo-history) as HTTP GET requests to The Underweb. Any completed brushstroke, transform or text-change made by any of the Orchestra's instruments could be displayed on a screen. From here, Lyd was used to sonify actions with the help of the LibreOffice soundlibrary. Simultaneously, players were saving their results into a git-repository. A PureData-patch then pulled from the repository and provided ambient sounds based on processing the outcomes of playing the instruments. Finally, an OpenFramework-

script visualised changes to the growing image-collection on-screen.

The players of the Orchestra delivered two sets of about an hour experimenting the improvised connections between design-production and experimental sound. The differences in tonality between the various instruments were obvious, even if this was just a try-out for a possible Pixels and Lines Orchestra. Scribus offered the widest spectrum of sounds, as its action-history is fine-grained, and the wide variety of operations clearly defined. The range of sounds produced by MyPaint appeared to be less varied than we expected; to turn a drawing tool into an instrument, it might have been more interesting to take mouse-positions and speeds into account. Although exciting because it being the only web-accessible instrument, SketchSpace remained ambiguous as an instrument due to its high granularity of actions that made it hard to actually perceive causal relations between a change on canvas and its sonification.

Adding sound-feedback to lay-out broke the usual boredom of putting elements to the grid. The pleasure of connecting these different tools through a minimum of negotiation allowed them to express their character to each other.

be the performative potential of lay-out and drawing? And how could all of this play together?

We could imagine using these rediscovered features in a new way to break the silence, introversion of software and to change their opacity.

Related to

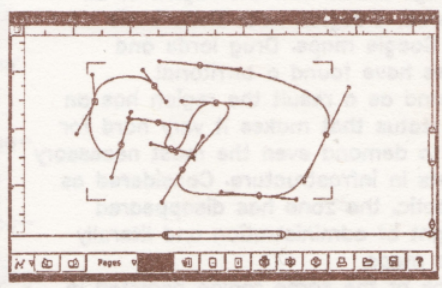
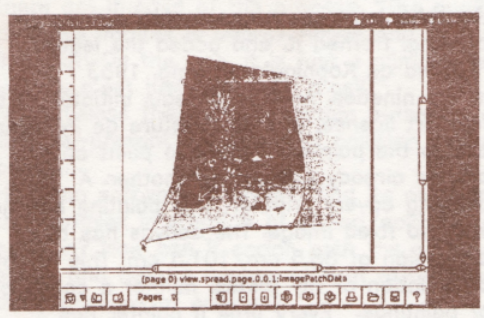
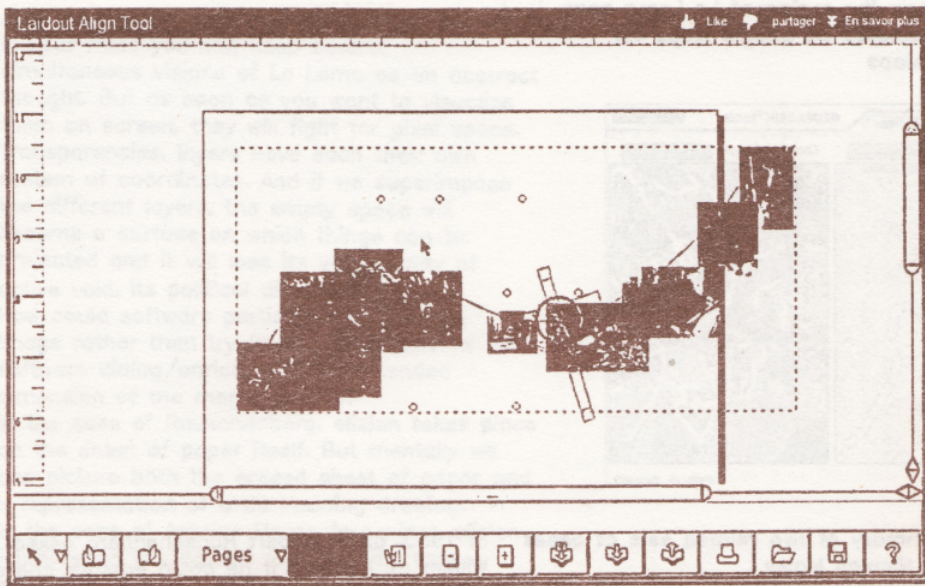
Instrumented Gimp (InGimp) : to make itself available for scrutiny, a version of Gimp was remade and exposes its users actions, with care about anonymization.
<http://www.ingimp.org/>

Exercise

Produce a lay-out with multiple people with tools that are "instrumented". Record some sequences of sound and design. See how the process of one modifies the other, back and forth. Modify the tools to be able to live tune the instrumentation, and to share the process, like with one person layouting, the other one instrumenting.

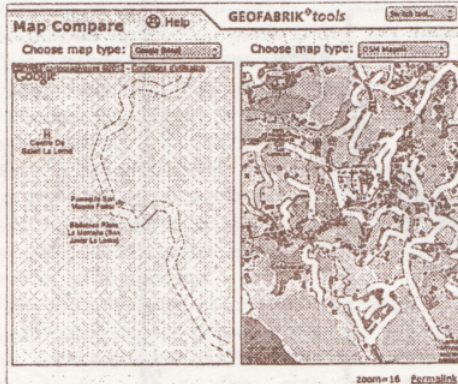
Libre Graphics Radio: find a way to broadcast the rhythm of daily digital work in the Libre design studio.

Elision/Collision



Elision/Colision

Comparing how the region of La Loma near Medellin is depicted on Google Maps vs. Open Street Maps



This is a summary of two related sets of cases proposed by Nicolas Malev .

The first image shows how the region of La Loma Hermosa, a region near Medellin, is depicted in Google maps. Drug lords and paramilitaries have found a territorial agreement and as a result the region has an ambiguous status that makes it very hard for inhabitants to demand even the most necessary improvements in infrastructure. Considered as too problematic, the zone has disappeared from the sight of administration and literally from Google maps

When we look at the same region depicted in Openstreetmaps, roads and houses are present in detail.

Your impulse might be to chose one map against another, but only once you have seen the different maps side by side, you begin to understand the empty zones in the Google map as a form of active erasure that follows a particular process. We can sense an image made of the multiple and contradictory visions, and have a sense of La Loma, but it is not an image we can see with our eyes.

In 1953, artist Robert Rauschenberg asked Willem de Kooning if he could erasure one of his works. De Kooning accepted and Rauschenberg spent one month erasing his drawing, framed it, and added the legend:

Erased de Kooning's drawing, 1953 .

In the nineties, Antoine Moreau, initiator of the free art license, started Peinture de Peintres: I ask to the painters I meet to paint on a canvas already painted by another. A painting covers another. This painting has no end. No fixed image. The canvas has a dimension of 88,5 cm/101,5 cm. This is not a compilation of my tastes, neither a collection of paintings. Every time a painter has 'covered' another painting, Moreau uploads a picture of the painting to his web gallery. <http://antoinemoreau.org/g/category.php?cat=4&expand=all>



How about...

In your mind you can keep several simultaneous visions of La Loma as an abstract thought. But as soon as you want to visualize them on screen, they will fight for pixel space. Transparencies, layers have each their own system of coordinates. And if we superimpose the different layers, the empty space will become a surface on which things can be projected and it will lose its very quality of active void, its political dimension.

How could software participate in such an image rather than try to represent it? How can software dialog/enrich with the extended dimension of the mental image?

In the case of Rauschenberg, elision takes place on the sheet of paper itself. But mentally we can picture both the erased sheet of paper and a representation of a de Kooning drawing.

In the case of Antoine Moreau's project, elision happens on the canvas too, but this time gradually, and with different intentions. Here there are images of the process: "The quality of these images is approximative and irregular. On the web, it is just a glimpse (sur le web, c'est juste un coup d'oeil)".

Nevertheless they have a certain authority: they re-present the space of collision and composition.

How can software intervene, find its place in the complex interaction of elision/collision/composition? How can it enrich both the pixel based and mental spaces without re-producing the processes of erasure?

Related to

Extended Dimensions

Ellision/Colision

Discovering how the region of the letter 'm' actually is defined in Google Maps 3D Open Street View



Extended Dimension

A respectful bug-report on Gutenberg's composition techniques that seem to have omitted the multi-directional nature of typographical writing or drawing. How can we think of layout as a practice of many dimensions, and go beyond the restrictions of a flat plane with horizontal lines and rectangles?

...through maps they can and sometimes have found a certain agreement and as a result the region has an intelligent status that makes it very hard to understand in terms of the most recent improvements in infrastructure. Considered as an environment, the zone has disappeared from the sight of administration and thereby from Google maps.

When we look at the same region depicted in OpenStreetMap, roads and houses are present in detail.

Your impulse might be to close the map against another, but only once you have seen the different maps side by side, you begin to understand the empty zones in the Google map as a form of active erasure that follows a particular strategy: we can sense on maps made of the multiple and contradictory systems and have a sense of La Loma, but it is not on maps we can see with our eyes.

Agile Autonomous Aerial Robots

Video documentation of experiments with Agile Aerial Robots helicopters. Research in the context of GRASP: General Robotics, Automation, Sensing and Perception (GRASP) Lab, at the University of Pennsylvania.

Is this an example of how collision is made productive?



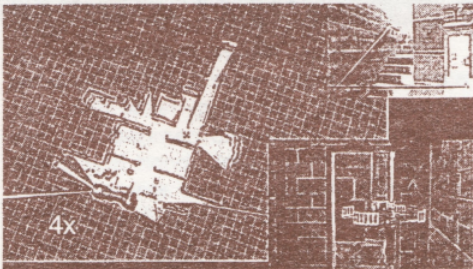
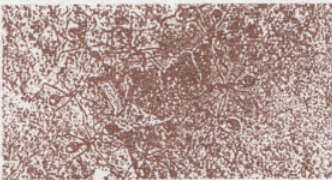
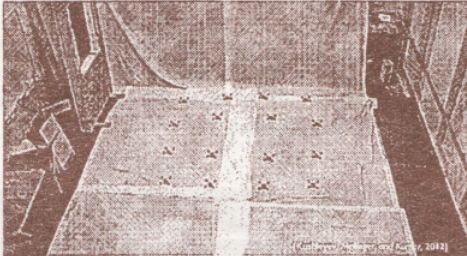
How about?

Inspired by Agile Aerial Robots, 'autonomous graphical units' could be an interesting idea to explore. Imagine a glyph that tries to find a place on a page, but it's not alone! Hello glyphs, you know what your mission is — find your position! How can elements move in a space and change themselves. Extending the dimensions of a glyph beyond x and y to help it find its place on the page. How could digital objects work together when they work with/from an experience of their environment. Sensitivity and sensibility.

Related to

"The Hz-program was a typographic composition computer program, created by German typeface designer Hermann Zapf. The goal of this program was 'to produce the perfect grey type area without the rivers and holes of too-wide word spacing.' "

<http://en.wikipedia.org/wiki/Hz-program>
http://www.typografi.org/justering/gut_hz/gutenberg_hz_english.html



Exercise

A whole class could be one single glyph. Each student is part of this glyph. How far can each letter be stressed, stretched and tortured?

What glyphs would withstand these changes, which would fall apart?

General scale of text: You know the "character". Two teams, each form a word and are dropped in a defined space. How could they be positioned.

Playing with agile but brainless glyphs. We can maybe replicate these spaces and observe randomisation. (white blanket, net).

Can we build a moveable glyph, a glyph with engines that are waiting for other glyphs to respond to? Write a program to make motors/sensors play together. This can be exercised through physical bodies too?

Mixing streetnames and -shapes

Area of Brussels depicted in Derouck map of Brussels, 1970 and in Google Maps, 2012



The first image is a detail of a map of Brussels drawn by hand. The level of precision and richness of hand-letting seems unattainable for automatic engines. If you precisely analyse this example, you realise there are many systems at work at once. A human being has organized the overload of streetnames through abbreviation, scaling, bending and alternated placement. Discerning playfully between different solutions, all streets have been given their place in a single, legible image. The way digital maps are currently produced is surprisingly crude. It seems that the only solution is to simply leave out information when trouble arises. If you look at the second example, you understand how this can result in very poor maps.

How about?

We make an engine that can combine computing and visual intelligence? How could we mix in human intelligence; a form of automatization that can be used in different systems?

Related to

<http://blog.flickr.net/en/2012/06/28/introducing-all-new-up-to-date-maps>

Nested Optimization

Elision / Collision

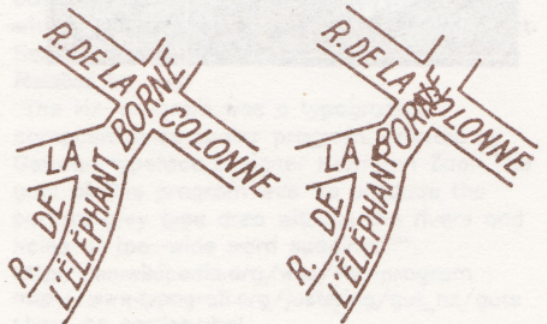
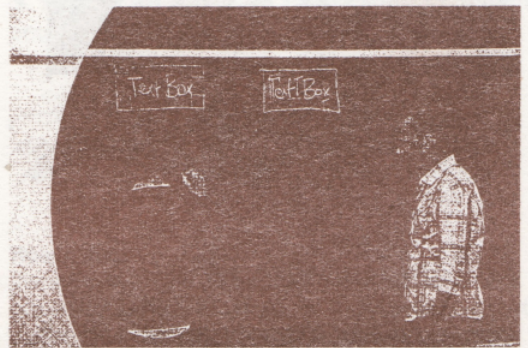
Exercise

Compare Googlemaps and OpenStreetMaps implementations: How are decisions made? What arguments, parameters are taken into account?

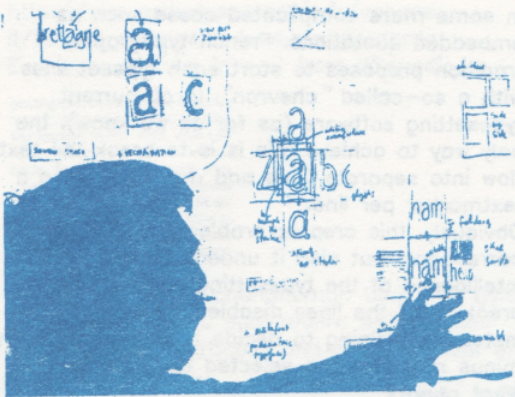
The Text Box Model

Co-position worksession at Baltanlabs, October 2011

In digital tools, type is still virtually encased in a square box, as if it was made of lead and not bits or let alone a set of coordinates. How can we think differently about the space that a glyph occupies?



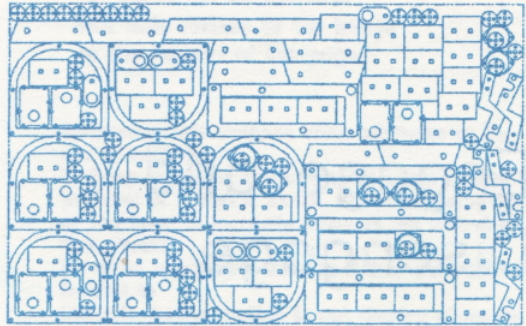
Multi-level type design interface



Co-position workshop, Brussels 2012
Type design is an iterative process of refining design directions. Starting from a better understanding of what happens when you design a font, we worked on a type design environment that moves more fluently between different scales of design: From single glyphs to letter-pairs and textblocks but also to move between different versions of both digital and hand-drawn sketches. Some of these features can be already discovered in Fontmatrix: <http://oep-h.com/fontmatrix>

Nested optimisation

Fieri-cut demo website
A software (Fieri-cut) automatically has laid out complex elements on a plane.



It is a solution, not a problem. How could this work for graphical elements, could be made useful for graphical elements. This one is interesting because we wonder if this was really automatically done. It shows a range of solutions for optimizations, or displays fuzzy logic. In this image the use of blue lines and black squares is interesting and seems to help system negotiate many levels of available space. Analysis is based on more complex references than just rectangular shapes. How about?
In current typesetting systems, linear flow is the main rule and there is no concept of multi-dimensional space.
Could there be lay-out systems that combines different systems of optimization, taking in different parameters for 'fit'?

Engage and Disengage

Exploring the rich space between destructive and non-destructive operations, we look for a non-binary state of digital objects. Lending terminology from digital rendering to driving cars or baking cakes, these examples show how fixed and fluid elements might mix and blend into each other.

Chevronnage

In some more complicated cases such as embedded quotations, French typographic tradition proposes to start each typeset lines with a so-called "chevron". In all current typesetting software (as far as we know), the only way to achieve this is to break the text flow into separate lines and manually place a textmarker per line.

Obviously, this creates problems in case of corrections, but also it underuses the intelligence of the typesetting engine. The breaking of the lines disables the engine instead of helping to decide the length of a line minus room for the selected text-marker.

What about?

We are wondering about the possibility of some sort of "half-declutch", a state between chained text and detached chains. Ultimately it might allow different, more rich relations between the behaviour of running text and its encompassing textframe.

« Voici l'intervention d'un locuteur qui se met brusquement à citer les paroles d'un autre ou un extrait d'ouvrage, par exemple le lexique de l'imprimerie nationale : « Une citation peut elle-même comporter une autre citation, dite de deuxième rang, qui devra être isolée de la première par des guillemets. « Lorsque la première citation est elle-même placée entre guillemets, chaque ligne de la seconde débute par un guillemet ouvrant. » Sur quoi le locuteur conclut son intervention, cédant la parole...
— ...à son contradicteur ! »

Vector declutch

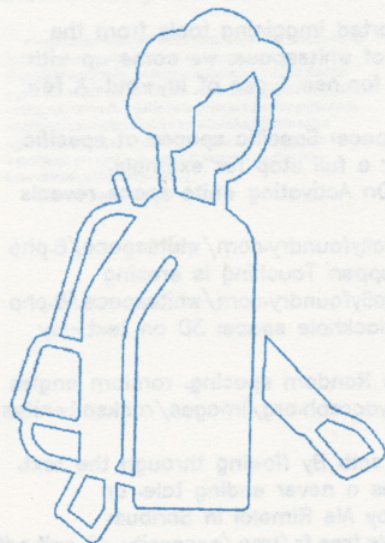
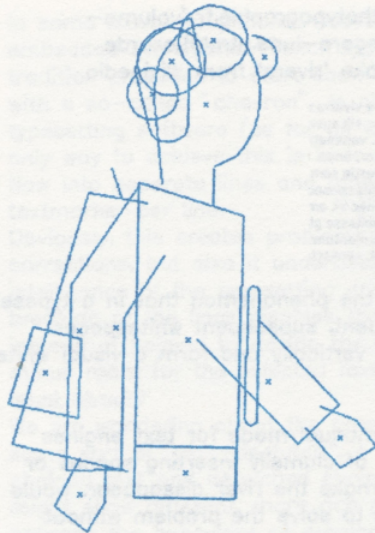
Ludi Loiseau, drawing for Ligue, based on Isotype

This image was drawn in Illustrator. The top-image is a screenshot from the wireframe preview, exposing the actual construction of the vector-image. The image below is a preview of the rendered output. The image is the result of a mix of overlaps, linestyles and other transformations. Some of these steps are "baked", or disengaged, meaning their transformations are processed into an actual stroke. Others are live effects applied to vector-objects.

The two images were juxtaposed because we needed to check if the drawing would not produce problems in production. Machines such as lasercutters and plotters, produce output based on the actual stroke of the image.

How about?

There could be an in-between view where wireframe and final rendering would be overlaid. It would be useful to expose more of the intermediate steps between the construction of the wireframe and how they are processed.



Related to

The XML-editor in Inkscape is already a start:

See also under: Process Awareness

Commit unbaked area only: From the understanding that design files are always collections of elements (each with their own properties and timelines), we tried to think how to version selectively. A design file contains both fixed and fluid areas (some elements stabilize early on, and others might keep changing), could we think of a way to mark areas as unbaked and only track changes for these areas?

Exercise

Study: What is transferred from a svg into a pdf, and which effects are being baked in the process?

Manual: Produce a series of images where wireframes are overlaid with their final rendering

Rebuild the image used in this entry in Inkscape to study the effect more closely

Compile a list of metaphors for the transition from 'live' to 'fixed':

Baking, Clutch - declutch,

Destructive operations, ...



Vector declutch

This Catalog resonates the voices of many people, amongst others:

Adam Hyde, Agnes Bewer, Aitor Mendez, Alessandro Rimoldi, Alexandre Quessy, Alex Leray, Ana Carvalho, Ana G. Angulo, Anais Alauzen, Angela Plohman, Anna Borcheding, Antoine Begon, Antonio Roberts, August Black, Aymeric Mansoux, Belen Lopez, Birgit Bachler, Brendan Howell, Camille Bissuel, Camille Pageard, Cedric Gemy, Chris Sugrue, Denis Moyogo Jacquerye, Dennis de Bel, Donatella Portoghese, Egil Møller, Elisabeth Nesheim, Eric Schrijver, Gisle Froysland, Jaime Munarriz, Jill Walker Rettberg, John Haltiwanger, Jon Nordby, Jorge Toledo, Letizia Jaccheri, Lieven Van Speybroeck, Lisa Haskel, Ludi Loiseau, Luis Conde, Marcos Garcia, Marie Frignet des Preaux, Michael Fournier, Michael Murtaugh, Michael van Schaijk, Miguel Gallego, Nathalie Trussart, Nicolas Maleve, Nik Gaffney, Oyvind Kolaas, Peter Westenberg, Remi Forte, Ricardo Lafuente, Ricardo Vega, Stephanie Vilayphiou, Thomas Laureyssens, Tom Lechner, Torstein Leversund, Walter Langelaar.

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To view this catalog (and it's pictures) in full resolution, head to LGRU-net

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Culture

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~~This booklet is available
online and was not
intended to be sold,
but for a few selected
shops, it's 20 euros.~~

