

Designing interaction through action: a comparative study on personal publishing tools

Claudia Gianelli, University of Bologna¹

Introduction

In this paper we will consider the question of design and of inter-action from two points of view: one concerning a semiotic approach to interfaces and one more specifically focused on design, standards and innovation. To maintain this double view we have chosen to consider the specific case of Open Source Software (OSS) and in particular its development seen in comparison with property software. Open source products, in fact, are often produced in reason of and against similar softwares already used and well known by the majority of users. These open products are developed both as “competitors” and as “alternatives” to their homologue produced by the great software companies. This process of competition/innovation involves different levels: not only the basic one of code and of the so-called “source”, but also the ability to translate a code into functions capable of being efficient and in interfaces supposed to be “effective”.

A specific role is, then, assumed by the definition and comprehension of web standards emerged *de facto*, considering the possibility to study and discuss standards in reason of their diffusion and stabilization. The diffusion of technologies like personal publishing makes possible a double direction for standards’ creation through practices: not only top-down, but also bottom-up, as we will try to show at the end of our work.

The specific case considered here is an example of how it is possible to study forms of innovation or re-combination of interaction that manipulate the dimension of action and its local management, more than the design of single elements (i.e. icons and metaphors). This involves a work radically based on relations at different levels - not only the one between a given interface and a typical user - and requires the consideration that these relations cannot be completely regulated but just guided and oriented by specific constraints. The role of space is quite exemplar: its organisation implies the definition of a sequence of points of view

1 claudia.gianelli3@unibo.it

contributing to build up the interface as a structure.

Opens source gives us the possibility to analyse not only a product but it allows us to access also the practice that contributed to build it up, somehow showing us explicit problems and limits of a design oriented towards action.

Assuming these brief considerations as the basis of our work, we have chosen to assume a comparative approach of analysis in this paper².

1. Analysing interfaces from the point of view of actions

Analysing interfaces from the point of view of actions involves a prior definition and discussion of what we consider an **interface**, and obviously interface design.

A good definition was given by Laurel (1990): here the interface is defined as a "contact surface" that "reflects the physical properties of the inter-actors, the functions to be performed, and the balance of power and control". But the interface is not only a surface, but it is also a structure locally determined by internal relations (i.e. structural relations) and by external relations (i.e. realized in use). Design contributes to build up relations and to manage them. These relations are at least of two levels: the first is the one concerning interface as a "space" or "surface" of action, while the other involves the definition of interface as a space of mediation between different actors (human and non-human). In this way, the interface assumes a role of mediator of spaces and bodies, in order to assure connection among them and orientation to the dynamic relations they can articulate.

In other terms, we can also say that the interface is not only an envelope for a structure, acting to contain it and to mediate with the external, but it itself can be articulated between interface/envelope and structure and so it can be considered as a "body" (see Fontanille 2004). A body in relation with other bodies: not only the bodies of users but also the body of the code (i.e. html), considered in its materiality.

To apply these general categories - such as space, relation, body - we have chosen to analyse two software (objects?) quite similar in their respective aims: they are both products known as WYSWYG ("what you see is what you get"). These products are Dreamweaver (Adobe) and NVU, a software developed in the ambit of open source (Mozilla Foundation). These publishing tools are similar in establishing a specific set of typical actions in terms of gestural procedures and restricted choices. A limited set of actions

² The interfaces we analysed are reproduced at the end of this paper to give a general overview. However, in reason of their complexity, they will be presented again and more specifically during our presentation.

is defined to allow users to pre-view each result of their actions, in order to manipulate not a code (html source, css) but the superior level generated by the code itself. In other words, this allows users to manipulate directly and in real time the final result of their designing activity, that is, to work on its effects. They share the same narrative programme (NP): not only to plan and design web pages, but also to see and verify them, to work on-line and readily on the effects of their actions.

There is a common possibility to manage at the same time code and appearance, and to be always on the process of interface generation. The organization of space in the two programs is oriented to action, to the possibilities to work on code, styles, visual graphics and so on. Therefore, if the final results can be considered almost the same, we have then to presuppose that there is a differentiation in the various **tasks** to be performed in order to manipulate objects such as code or layout. We define tasks as comprehending both the possible sequences of actions and gestures and both the objects towards these actions are directed. In this way we consider tasks not as pre-defined or typical behaviours, but as the realization of a specific configuration locally defined in the relation between interface and users.

This is useful if we consider that NVU is in itself a "product": we can retrieve and make visible its specific generation, showing how the process of design of its interface has been clearly influenced by the one of Dreamweaver, as a form of reconstruction and re-combination of the same structure.

Finally, we have to consider that this code (the "source") makes sense just because there is an actor (human or not) who manipulates and let it act: it is in reason of an external activity that it activates a process of self-delimitation that finally leads to implementation. In this sense, a code is not only the product of human actions, but also of technological ones: that is what lets it be able to circulate, to be modified and distributed.

2. Dreamweaver and NVU: re-acting on interface

2.1 Interface configuration: from code to design

Even taking into account the same **narrative programme**, we have to consider that it is differently articulated and modulated in the two softwares, above all for what concerns the level of code. It appears quite clear from a first lexical analysis of the two labels used in interface to identify these sequences of pure html or xml: NVU calls it "source", that is the "origin" and the "beginning" of the entire design process. Dreamweaver, instead, chooses a neutral term, "code", considered in a more technological way as the

product of the action of a specific actor, the so-called "coder".

Looking at the main window, the visualisation and organisation of spaces in NVU is developed on the same level (code, normal view, preview), while Dreamweaver moves on at least two different levels (code/design): similar elements are articulated and put into different configurations, so that they share similar results but they are related to various tasks or sequences of actions. This means that these configurations establish different relations among the same elements and also that they are realised into particular practices (i.e. sequences of actions as realisation of a task).

These considerations can be supported by the plastic configuration of the two interfaces: in Dreamweaver the three icons are on the same level and they emerge through a process of differentiation. This process is quite easily defined by basic categories such as active/non active or visible/invisible. In the case of NVU, the icons become "active" but following a continuum of visibility: what is foreground may be then in the background.

2.2 The use of tabs to organize spaces

The use of ***tabs*** can be taken as a good example of these different configurations in the two programs.

In Dreamweaver there is not a direct way to open tabs for new documents or pages, so that there is always the need to pass from the command "New" and from the different passages provided to build up a page. This requires an exact knowledge of the kind of page we want to create: being able to know before being able to do.

NVU uses tabs by a direct command (new) quite similar to the one used in web browsers, since it is provided a double choice between new tab and new window. This contribute to define a spatial and temporal distance, and consequently to articulate forms of differentiation through design of the content of the future pages

In NVU the spatial organisation of tabs (i.e. its plastic configuration) is reproduced and maintains the relations among normal vision/html tags/source/preview. The relations among these elements can be, in fact, considered from the point of view of their semiotic existence. In fact, each of them may be considered as the realisation of another one, or again the virtualisation of some of its properties. For example, the preview is capable to be assumed as the realisation/manifestation of all the other levels; or the html tags can be considered both as virtual properties realised in the normal view, but also as the intermediate

actualisation of the source.

On the other hand, in Dreamweaver the relations among code/split/design are somehow neutralised, taking account also of the absence of the preview in these basic commands. It is, instead, stressed the logic sequence of a mere process of presupposition: the code should precede manifestation (the graphic design) both from a logical and from a functional point of view.

The structure of the relations is reproduced in the re-organization of the working space performed by Dreamweaver – it constitutes effectively a form of re-mediation of action. In this case the spaces are re-organized and re-combined in function of the kind of relation the user can establish with the product. This involves a shift in the actions presupposed and expected and also a modification respect to the object to build up. For what is about the coder, the column of the main menu (CSS and so on) is on the left: this means that the actions provided here are logically presupposed to the action of code's modification. This implies a sort of punctuality of choices, from an aspectual point of view. On the contrary, the same column passes on the right side when designer layout is active. This implies that the main choices are ordered in order to follow the creation of the graphic layout for the web page. Then, **gestures** and actions are supposed to be iterative and repeated in this case.

2.3 Realised practices and design

In the two applications it is prefigured a different distribution of the sequences of actions that go to constitute autonomous **tasks** – i.e. narrative programmes such as creating a group of pages – with an orientation to the process or to the result (system).

In this way we can see how the two applications participate of relations with practices that radically differ among them: the one supposed by Dreamweaver is a professional practice of design. The practice considered by NVU is, instead, structured in order to adequate it to the future practice of use. This lets practice to influence not only design in general, but specifically how it is structured and defined as a “practice”, considered as a sequence of actions (and tasks). In fact, these sequences can be always variously combined and re-produced. We can say that NVU maintains the practice since it reproduces some of the relations among the elements of interface. These elements are specifically considered as part of the actions made on the interface and as part of the realisation of a concrete interaction with other bodies (human and not). From this point of view, there is a work on the virtual properties of the interface, capable to determine relations,

that are similar to the ones present on the interfaces produced by the software.

The organisation of interface as workspace seems to confirm this general orientation.

In particular, the framework of NVU (i.e. its plastic configuration) is maintained through all the levels of visualisation but it lacks in the case of code: the "opening" of space is linked with the openness of the source itself, as if this space would be defined as given of less constraints and as a sort of mediator for actions of a superior order. This means that here they are considered several relations to be realised with different bodies. One "open" space (source) supposes relations with expert users, given of a certain competence (they can do and they know how to). On the other hand, the space of normal view/design and of tags is built up for a relation with users radically interested and oriented to the result of their actions.

In other words, the same general space is fragmented and divided in order to manage relations oriented towards process and towards result. The object mediating the relations is about the same: it is constituted by the source/code that is differently manipulated in the two conditions. It implies that it is considered not only in reason of its role of mediator but also of its possibility to become an object (a body) articulating a structure and an envelope/interface to operate as "contact surface".

2.4 Structural constraints and practices: browsers and tabs

The use of tabs can help us to discuss the different orientation of the two applications respect to the practice of visualisation and navigation through web pages (i.e. the ***realised practice***). This is explicated by the fact that the two applications take into great account the role of web browsers and the manifestation of web pages on them.

In particular, we need to consider the constraints provided by web browsers as linked to the possibility to navigate through web pages. In this way, the browser is not just a tool or an object, but becomes an actor of mediation of the interaction among designers, web pages and sites, and users. In other words, the browser becomes a sort of "judge", which operates to regulate the space and time of inter-action. This forces to adapt the other elements of design to several standards defined by a specific software.

For example, a turning point in the definition of Mozilla Firefox has been the introduction of the specific function known as tab. Tabs give the possibility to open and visit a great number of pages in the same window. This makes faster to pass from a page to an

other, reducing (collapsing) the space and time of interaction. Better, there is a re-combination of space and time, since they become something different from simple constraints: they contribute to define locally the inter-action, also in terms of differentiation from the typical shemas we find in guidelines.

This function is quite novel, but we can suppose a growing influence, in the long term, on the plan of expression. In other words, it could take to a modification of the modalities of articulation of the relation between expression and content (i.e. semiotic function). This means a radical re-involvement of users' bodies, in reason of their perceptual dispositions and not only of their cognitive tasks.

Actually, we can consider this function not only in terms of management of interaction spaces. We may shift our attention to those similar phenomena which have recently modified the so-called "navigation styles". We are specifically referring to some new forms of production and publication of content on-line: web logs for example. Journals, diaries, reports, they all share a common configuration, became in the practice "useful" and "stunning". This form, in fact, permits to give an immediate visibility to new content and every kind of update. At the same time, there is been a gradual modification of the management of these spaces, since there was the need to open, reload and eventually read several pages, in order to verify in a very short time the presence of updates.

This possibility to "economize" lecture depends on the spatial configuration of the blog: in fact, a column-based structure has emerged right for its easiness to manage contents and to make immediately visible the most relevant space, the one of posts. So, a reader is able to perceive a sort of continuity, given by a coherence in the reproduction of style, titles, colours and so on. But, he is also able to perceive the sudden break given by each new post. A blog is in some way stable as discursive form right in reason of its structure capable of being broken and at the same time re-established: this creates in the reader a sense of "waiting".

The introduction of tabs maybe was due to these emerging needs, but maybe it is also an example of how standards and practices migrate and can be translated from a environment to the other, from the practice to navigation tools. Here, the navigation tools have been modified by a practice, in a sort of bottom-up affirmation of standards. This is probably explained by the fact that these different practices - navigation, software development, blogging - are grown in similar socio-cultural dimensions, characterized by a general "openness".

The effect grows if considering how tabs are now widely used also in other softwares, such as the one we are considering here.

Conclusions

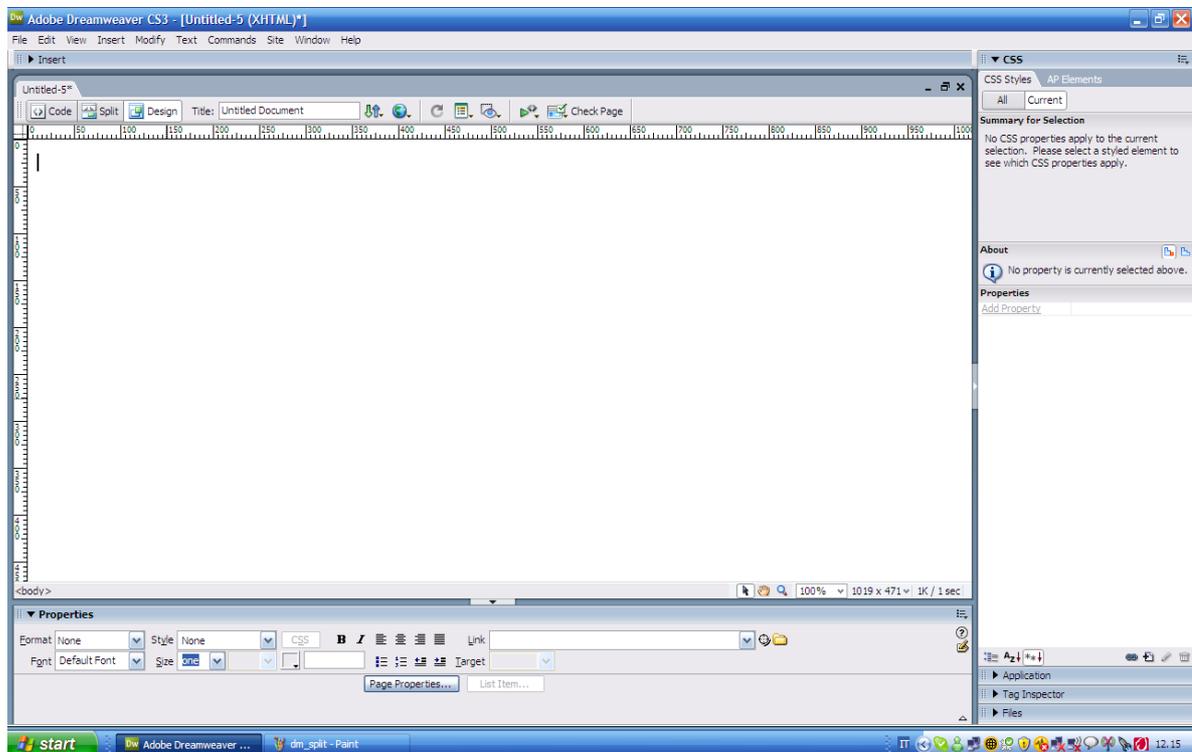
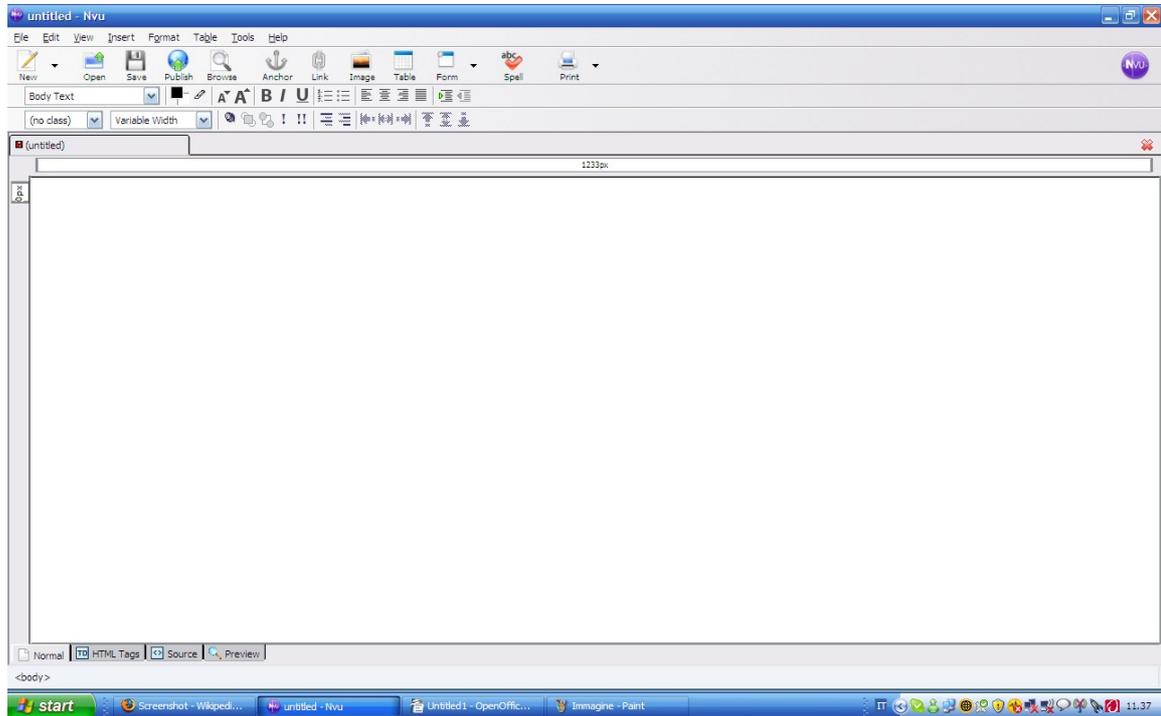
As we have briefly discussed here, the realised practices assume a crucial role in interface design. In particular, this is involved in the migration and definition of some configurations considered as "standard" or "typical". Some open projects have demonstrated us that there is a possibility to work on these basis, but attempting to re-new relations and actions. The study of these experiences could allow designers to understand how to maintain some standards and at the same time to give rise to a better interaction.

Our comparative analysis has made possibile to discuss some examples of how design can operate on space and action in order to orientate the realisation of specific practices.

Interfaces studied in this paper

Figure 1: NVU interface – general view

Figure 2: Dreamweaver, Adobe CS3 – general overview



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