**RESEARCH**

On the Pleasure of Coding Interface Narratives

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The practice of coding directly confronts the comics creator with digital technology in a way that can prove fruitful for the making and understanding of digital comics. This paper presents a personal critical reflection on the author’s own creative practice, addressing three theoretical and practical issues that mark the relationship between coding, interface and narrative in the creation of digital comics: the writing of the interface, the critical approach to the digital tool, and the inscription of the ‘reader-actor’ into the interface of the digital text.

**Keywords:** comics; constraint; digital tool; interface; narrative; reader-actor

Coding is an activity that makes me feel a kind of jubilation. This jubilation comes from the pleasure of resolving problems in a field in which I am nothing but a dilettante; just as one may find pleasure in fixing a water leak by herself, without the help of a plumber. This is the do-it-yourself pleasure of problem-solving, *bricolage*, or jigsaw puzzles. This exhilarating practice is also, to me, an integral part of making a digital comic which, in my own practice, always means developing an ‘interface narrative.’ Nonetheless, this approach does not reflect a consensus within the emerging world of digital comics: numerous digital comics artists have spoken about their resistance, reluctance, or lack of interest towards coding technology. Concurrently, there has been an increasing number of digital comics-making apps and their developers emphasize their user-friendliness and intuitiveness, putting creators further away from the actual code. The practice of coding, however, directly confronts the creator with technology in a way that can prove interesting or fruitful for the making...
of digital comics. Even though this interest is rooted in my own personal pleasure in coding, I propose to reflect from my own creative practice and to take a step back in order to address three theoretical and practical issues that mark the relationship between coding, interface and narrative in the creation of digital comics: the writing of the interface, the critical approach to the digital tool, and the inscription of the ‘reader-actor’ (Weissberg 2006) into the interface of the digital text as a material for the artist.

**Writing the Interface**

Starting with a comparison of the interfaces I developed for two of my digital comics, *La Justice est bovine* and *Romuald et le tortionnaire*, will be insightful to understand the importance of the interface within the creation of a digital comic.

*La Justice est bovine* ([Figure 1](#)) tells the story of two gang leaders as they face different types of justice. The reader navigates the narrative through the ‘turbomedia’ mode, sometimes known in English as ‘infinite comic.’ This digital comics format uses slideshow tools and follow certain ‘grammatical’ rules. Slides unfold one after the other as the viewer pushes the arrow key or clicks on the arrow button. When I created the improvised narrative of *La Justice est bovine*, I consciously opted for this preexisting format. In technical terms, I used a slideshow comics player already

![Figure 1: Rageul, A (2011) La Justice est bovine (online at Grandpapier) © Rageul.](image)
supplied by the publication platform hosting it. As a result, the ball was not in my
court: the player interface determines at once navigation and reading conditions,
spatial composition and graphic design in a predefined area of the webpage. The
choices made by the developer of this player thus determines the narrative rules
within which the digital comics artist is allowed to play, without giving her the
opportunity to directly edit the coded interface.

By contrast, instead of working with a comics making software and a preexist-
ing format, I developed my own interface for *Romuald et le tortionnaire* (Figure 2),
designed to serve its particular specific narrative. Romuald finds his life very bor-
ing. The reader, who is put into an all-powerful god-like position, is invited to bring
changes to Romuald’s life. Those changes can be undone by the reader, except that I
simultaneously highjack the reader’s god-like power by making some changes impos-
sible to be removed. Each chapter shows either an image swarming with details, fill-
ing the entire window of the web browser, or a juxtaposition of distinct strips. The
reader-actor explores the images by using the mouse, bringing changes to the narra-
tive as the mouse rolls over reactive zones on the image.

![Figure 2: Rageul, A (2012) *Romuald et le tortionnaire* (online at BleuOrange) © Rageul.](image)
These examples display two different approaches to digital art: either one writes for a preexisting interface, or one writes an original interface. At first glance, writing for a preexisting interface is similar to what happens in print comics: just as the book determines the format and length of the story, the interface predetermines both the way the narrative is told and its spatial configuration. But the implications of the interface go beyond the issue of material format. The framework established by the interface is indeed more constraining and affects the narrative at a deeper level than a comic book does, by determining in very specific ways how the story is going to be read. In this sense, adopting a particular type of interface – whether for instance a slideshow, a scroll comic, or a blog post – determines the specific ways in which the reader will navigate and explore the narrative, offering different choices and experiences. By contrast, the various material formats of print comics have less of a drastic impact on the way readers read the text at a formal level.

My preference for writing original interfaces results from my growing awareness of the role played by the interface in shaping the reception of the text, and precisely responds to the desire to design reading and reception conditions specific to the given narrative. An interface, of course, is never completely built from scratch but necessarily relies on basic user functionalities and coding languages. What I mean is that I start from a blank web page and not from a preexisting interface. It does not prevent me from referring to conventions and restraints which are already in use and that I could defamiliarise. The practice of coding and the writing of interfaces thus allow the artist to take the tools in her own hands in order to develop unforeseen functionalities or to rewire non-narrative functionalities for narrative purposes. This is the case in Romuald et le tortionnaire, for instance, in which the rolling-over system, ordinarily used to facilitate navigation by displaying further information or highlighting a link, is given a concrete narrative acting.

Coding, then, gives an opportunity to take control over the writing of the interface. In my own practice, I value coding as offering the possibility to design the modalities of organisation, narration and reception specifically for a given narrative. This creative approach understands the interface narrative as a whole and stretches the creative act to encompass not only the designing of the images and the narrative, but also the conditions and functionalities of their reception. This approach allows
me to devise new formats for each of my comic, and thus to create formats that are aptly suited to each distinct narrative project. By analogy with print comics, one can say I create both the narrative and the book. It also helps me turning modalities of reading that would be purely functional or navigational into signifying elements for the narrative. The pleasure I take in the practice of coding thus lies in the potentially unlimited types of formats I could invent and experiment with.

The significant role played by the interface in narrative design brings forth, from a theoretical point of view, an epistemological issue: it invites us to understand these digital narratives as interfaces because that is precisely their form. Jean-Paul Fourmentraux describes the technical device of Net Art pieces as follows: ‘every Net Art piece includes a front stage (the interface), a stage made of various elements which nourish the artwork (texts, sounds or images) and a backstage (where programming and fragments of computer application are kept hidden)’ (Fourmentraux 2012: 30). Even if all three components are just as important, the interface appears as the ‘front stage’. It presents on the screen a graphic representation of the whole technical device. As a consequence, Fourmentraux calls it ‘reductive.’ I prefer to call it ‘synthetic,’ which sounds less negative. And this synthesis of the device is nothing but the visible form of the digital text: how it is organised, how it presents itself to spectators’ perception and action. What is applied to Net Art works equally applies to all similar digital objects; that is to say to all multimedia objects that one can access through a computer or a mobile device. Digital narratives inevitably take the shape of an interface: the concept of ‘interface narrative’ precisely helps to understand and account for the way both dimensions are inextricably intertwined in digital objects. But it is also further interesting for the way it highlights the fact that there are no clear boundaries between digital comics and digital literature, video game, Net art, web documentaries, moving image, and other digital objects. It pinpoints the grey area in which those different categories overlap (Figure 3).

A Critical Approach to the Digital Tool

I have mentioned above that the practice of coding allows for the development, in a narrative context, of functionalities otherwise foreign to it. In this case, the artist adopts a specific attitude towards the technical object: he appropriates it and repur-
poses its usage, thus pushing for a kind of technological détournement, a creative hacking’ of the computer’s technology.

*Prise de tête (Go A-Head)* (Figure 4) tells the quest of the main character to find a new head – literally and metaphorically – after he has lost his. The chapter ‘The
Masks’ shows precisely how I have repurposed some of the digital functionalities: the détournement, in this case, relies on anchor tags included within the html code of the pages to subvert the conventional top-to-bottom scrolling movement. In html, an anchor tag is a link that allows for direct access to a definite position on the page by pointing to a clearly identified element. I assigned an identifier to the last element at the bottom of page 3. On page 2, the link to page 3 points to this identifier by means of an anchor tag symbolized by a hashtag in the url. In this way, the reader can gain access directly to the bottom of page 3 and is invited to read by scrolling the page from bottom to top. And so, she follows the actual course of the main character of the story as he is climbing a giant pile of heads upwards. Here, I thus highjacked the conventional use according to which the user is invited or supposed to scroll down from top to bottom.

As simple as it may seem, this kind of détournement/creative hacking of digital tools allows to approach digital technologies with a critical distance. That is also why I choose to define my own practice as a ‘critical practice.’ Whether intentional or unconscious, it leads to questioning digital tools on various levels. Firstly, it is a matter of seizing the digital tools for one’s own critical agenda, examining its unexplored potentialities. We are used to navigating a web page loading in the browser from the top position and scrolling down to the bottom, but that is just a purely conventional use. Nothing technically prevents us to do the opposite. I precisely take pleasure in trying to slip into the gap between the conceptual and technical limitations of the digital tool, knowing fully that conventional usages are always narrower than the technical possibilities. Maybe that is nothing but the definition of ingenuity: the joy to slip through conventional limitations as we can toy with the creative constraints.

I am particularly referring to the productive constraints adopted by the Oulipian or Oubapian workshops, with whom I claim a connection. By picking a computing norm to work – or play – with, I turn it into a productive constraint for my own creation. This leads us to another sort of pleasure: by devising non-conventional and potentially defamiliarising devices, I further try to come up with means of expanding the array of formal and narrative possibilities. This expansion affects both the digital tool and the grammar of comics: to me, it is just as important and amusing to
question computing codes as to challenge comics conventions. Both are inseparable anyways, since I argue that digital comics are interface narratives. Most of all, coding appears here both as a means to liberate oneself from standard formats and as a springboard for a critical reflection on the way digital tools condition their users.

Nowadays digital comics seem to stabilize into a limited number of recurrent formats: scroll comics formats, slideshow-like ‘turbomedia’/‘infinite comics’ formats, hybrid formats mixing moving and static images. Their widespread adoption by creators and readers alike reveal how such formats have been established as standards. This stabilization is further reinforced by the emergence and development of apps specifically designed to help making digital comics within specific formats. These tools present restricted functionalities specific to the objects they seek to help producing: the stabilization of digital comics formats is thus backed up by a standardization of their techniques and tools. This situation of increasing standardization has three significant consequences on digital comics, which some understand as risks against which coding can offer a kind of immunity. Jean-Yves Bosseur identified a first risk in his critique of audio-visual installations in the art world of the 1960s and 1970s: the ‘light’ or ‘thoughtless’ use of technological functionalities can lead to an accumulation of ‘gadget effects’ (Bosseur 2007). This excessive use of digital tools may make the artwork appear ‘as an evidence of a dependence on so-called technical progress’ (Bosseur 2007). This dependence appears when ready-made effects become for an artist the unique way to stage this or that situation, to express this or that feeling. But this dependence also refers to a wider acceptance beyond the individual artist, as it expresses how the repeated use of particular effects can lead to unquestioned, ‘invisible’ conventions. For Bosseur, one way to prevent that risk is to ‘start with given technological tools and to deviate them from their initially expected functions’ (Bosseur 2007). At the end of the 1990s, Michel Bret expressed similar fears about standardization in the field of 3D computer-generated graphics:

The style imposed [by the commercial generating programs] is photographic realism. Without contesting the validity of these options, one can yet regret
In order to foil these norms and transgress the ‘implicit aesthetics’ (Bret n.d.) of this software, Bret chose to design his own 3D generating program, which allowed him to have intelligent beings act in a world controlled by laws of physics other than those of the real world, something that commercial softwares were unable to offer. In this way, he prevented the software from dictating him a representation or simulation mode that tries to imitate the real world whereas one of the most attractive possibilities offered by computer models is to create worlds that do not correspond to the ‘real.’

What matters here is not only the risk to be subjected to a representation mode imposed by a software, but also the way that digital tools influence our perceptions of reality. In The Language of New Media, Lev Manovich draws out a state of the art of the question by relating it to the artist’s dilemma: how can she have a global, distanced view on the world, in order to represent and question it, while she is herself part of this world? The artist, in other words, does not have an ‘innocent eye’ (Manovich 2001: 237) but expresses herself by means of the language, codes and conventions of her time and of the world she is part of. The computer artists are no exception: she uses the languages and codes of what Manovich names ‘cultural interfaces’ (Manovich 2001: 237). Such interfaces manage cultural data organisation in the digital age, borrowing their conventions from analog medias as well as digital interfaces. This, to Manovich, raises an interesting paradox for digital tools. The more filters there are between the raw data and the user or developer, that is to say the more layers there are between the machine code and the graphical user interface, the more computation power is available to experiment and create totally new forms, because handling raw data is made easier. However, at the same time, the more filters there are, the more conventions manage each filter levels and hide language abstraction under a symbolic layer – literally a layer made of icons. In other words, from a technical point of view, the easier it is to experiment and invent new forms, the more conventions structure the use of the tool within some conceptual
limitations (Figure 5); and it is precisely difficult to avoid these limitations because they are embedded as cultural conventions.

When Michel Bret developed his own 3D computer-generated graphics program so as to move beyond the conceptual limitations of ‘cultural interfaces,’ he chose to program in low-level programming language, as closely as possible to the machine binary code and requiring to take care of how the hardware works. In doing so, he got rid of most filters that Manovich describes. Although it is rough, one can say that the graphic user interface of an app for creating digital comics constitutes a limited set of functionalities which are ‘pre-selected’ by its developer among the possibilities offered by the subjacent language. Even though I only use script languages, qualified as very high-level programming languages and close to the natural language, writing my own scripts allows me to suppress the first filter, the first symbolic layer, which is the graphic user interface. In this way, I am not constrained anymore by this ‘pre-selection’ and have access to some possibilities otherwise not allowed by digital comics making apps (Figure 5).

The second issue at stake in my practice of coding relates to the notion of creative freedom: I see coding as a way to free myself from standard functionalities and conventional uses, but also from the modes of representation imposed by apps and their creators. Consequently, by learning how to code, the digital comics artist can challenge the impact force of ‘cultural interfaces’, extending it from the eye of the artist to the eye of the spectator.

Figure 5: Diagram of the paradox of digital applications for creation. © Rageul.
Modeling Reader-Actors

What does the control on coding might entail, then, for the spectator or reader-actor of an interface narrative? I will draw from my comics performance *Cache-cache* (*Hide and Seek*) to tease out some answers. In this performance, as I simulate a live creation in front of an audience, I simultaneously explain the choices and actions made. In a sequence of the digital comic I use as a pretext, four characters are playing hide-and-seek: each respectively hides in one of the four panels. The mouse takes on an anthropomorphic aspect: it stands in for the fifth character – the seeker – and is controlled by the spectator (Figure 6). When the spectator is moving this character closer to one of the hideouts, the character hidden there escapes. When, on the contrary, she is moving the seeker away from the hideout, that character goes back hiding. If she tries to click, nothing happens. Based on this experience, the spectator expects the same to occur on the next page. And the same pattern indeed occurs in the first panel: the hidden character escapes as the seeker/mouse approaches. But in the three other panels, the same movements of the seeker don’t have any effects and the spectator realizes that a change has been introduced into the interactive modalities. She has to find other options to navigate the screen. The right one is to click on the first hideout in the first panel. That operation makes the seeker catch the hider while the three other hiders point weapons towards him.

This example shows how I can manipulate the spectator’s expectations to surprise or sometimes trick her – and that is the last reason for the pleasure I take in

![Figure 6: Rageul, A (2013) Cache-cache (video available online) © Rageul.](image)
It is also typical of the way the spectator discovers the rules and navigation modalities of an interface narrative while ‘reading’ and experiencing it, i.e. by means of trial, error, and adjustment. The more she tries, the more her behaviors and actions come close to what the author of the program expects. In this sense, I understand the program as a kind of spectator-modeling tool and the reader-actor as a material of the interface narrative. I find this theoretical premise to my practice of coding in Jean-Louis Weissberg’s (2006) reflections on the way the spectator adjust herself to the interface, which I further connect with Umberto Eco’s concept of the ‘model reader’ (1979). The program literally stages the spectator and guides her actions. In other words, the program assigns a role to the spectator within the text, as an element or a protagonist of the narrative. In that way, the spectator or reader-actor could even be seen as a material that the author models as she wants. According to Jean-Pierre Balpe, ‘[t]he interactive spectator is not external to the artwork but, as an element of the model amongst others, he is thought and built by it’ (Balpe 2000). Quite literally, the reader-actor’s freedom of action only fits within a space responding to the rules allowed by the program and defined by the artist-coder. The reader-actor then, is modeled by the program more than she might expect, and more than any non-interactive work could – considering interactivity applies exclusively to computing object and entails the spectator physically. Her place, the choices she can make or not, and in an interactive narrative, the roles she is assigned, contribute to model her. This term refers both to the fact of giving shape to an amount of clay for instance, and to the computational model. Algorithm builds a model of spectator by depicting her behaviors exactly like it depicts behaviors of any graphic elements or computational object taking part in the consumption of the text. But the flesh-and-blood reader-actor is not a computational object: as a result, when it comes to interactivity, there is always a necessary confrontation between the model and the empirical reader-actor. The singular subject is confronted with a generic model that she can more or less align on.

I would like to further describe how this confrontation and the adjustment of the reader-actor to the model unfold. I will draw from Jean-Louis Weissberg’s theory of a an ‘imaginary acted body’ (my translation from the French ‘corps imaginaire’).
acté’) (Weissberg 2006). I will apply it to the case of digital comics and suggest to expand the application of the concept beyond interactive systems that strictly suggest a physical action through an avatar or another embodied representation. By choosing to activate the narrative, the reader-actor subscribes to play a role as an actor but, unlike an actor, she runs through a part that is not yet known to her. She discovers the role as she is playing it, groping for what is expected from her. She doesn’t exactly perform a role: the role is literally applied to her in real time, depending on her actions and the choices she makes. Like a suit, the role planned by the program is not perfectly fitted. By a trial, error and adjustment method, the reader adjusts herself to the role little by little. If the spectator of Cache-cache doesn’t adjust her acting after observing that rolling over panels does not yield any effects, she refuses the role and thus gives up on the narrative. Accepting the model is an adjustment of the reader-actor to the model, and not the opposite. In that sense, one can say the program (re)models the spectator or, more precisely, the program is the tool used by the author to model the spectator as part of the interface narrative or as material of an art piece.

That the actions expected from the reader-actor are encoded in the program reveals what a narratological approach to interface narrative can hold for the reader-actor modeled through coding by the creator. The spectator model that the program builds is not only computational but also theoretical. One can say the interactive narrative assumes a model spectator or model reader-actor who is supposed to perform this or that action and adopt this or that behavior; just as much as a literary text is virtually addressed to a ‘model reader’ (Eco 1979) who is supposed to understand and interpret in a certain way. According to Eco’s theory of textual cooperation, the reader proceeds through the text by successively updating her global interpretation. She makes assumptions on the meaning of the whole text based on the parts she has already read. At each step forward through the text, she dismisses some hypotheses and refines the ones she has already formulated. In other words, each step reduces the openness of the work, to refer to another Eco’s concept (1989). At the end, her hypotheses are supposed to consist in an interpretation quite similar to the one the model reader could formulate. Eventually, the textual cooperation appears to be
a trial, error and adjustment method that allows me to postulate, by analogy with Eco’s two concepts, an interactive cooperation and a model reader-actor for interface narrative. However, model reader-actor of an interface narrative slightly differs from model reader of a text. The crucial difference lies in the realization and even the tangibility of the model reader-actor. The model reader of any text is just an abstraction, an analytic function and a symbolic representation of its reader detectable inside the text, between the lines, and of whom we cannot even affirm that the author has consciously formalized in mind. As for the model reader-actor of an interface narrative, she is concretely embodied and formalized into the computing program, take these lines of code for example:

```javascript
function catch() {
    var caughtCharacter = e.target || window.event.srcElement;
    caughtCharacter.src = 'url(empty-hideouts.png)';
    seeker.src = 'url(kidnapper-seeker.png)';
}
var mouse = document.getElementById('mouse');
addEvent(seeker, 'click', catch);
```

Those lines are an English translation of an excerpt of the fake code in French that I project on the screen when I am performing the aforementioned sequence of Cache-cache. They consist in a simplified and more intuitive version of the real javascript program on which the comic is based. All mouse-related references (e.g. ‘mouse’ or ‘click’) correspond to actions I expect from my model reader-actor. In fact, the reader-actor does control the mouse. All references to the mouse/seeker refer to the avatar of my reader-actor and consequently describe the role I want her to act out. So, the function called `catch()` written between braces describes the reactions of the hidden characters when they are caught by the seeker and the new behavior of the seeker who is turning into a kidnapper. In the two last lines, I assign this function to the click event, hence the function is also assigned to the reader-actor. Thus, this excerpt illustrates how the reader-actor is depicted in lines of code written by the artist or the developer. This depiction inside the program appears as a list of behaviors: the ones she is supposed to adopt facing specific situ-
ations. But while it is not an abstraction any more and the author or the developer clearly formalizes it, the reader-actor it depicts remains a model one because the actual, flesh-and-blood reader-actor may not adopt the expected behaviors. This is why I argue that the interface narrative introduces a model reader-actor who shares the functions of Eco’s model reader while being concretely ‘encoded’ into the program.

Conclusion
Integrating coding as part of my digital comics making gives me great pleasure for three reasons, which overlap with crucial theoretical issues. In each case, the pleasure I draw from my practice coding follows from the heightened control it gives me on the narrative. Coding allows me to reclaim control over preexisting interfaces, conventions and formats. It also allows me to take some control over the spectator by encoding her actions into the narrative. Coding is thus a way to reaffirm a place authors would have been more or less partially deprived of through the growing automatization of creation and interactivity. This desire for taking control has much to do with the leitmotif guiding both my creative practice and my research: my aim is to reveal and make use of the potential of technologies to produce specifically computer-based comics, as opposed to the so-called digital comics that simply uses the Internet and mobile devices as distribution platforms. My position thus attempts to subvert both digital technologies and comics in the aim to deeply hybridize them. While not the main argument of this article, the acceptation that digital comics are not only comics is implicit throughout these lines: this argument thus proposes an alternative to the way standardized digital comics have grown from commercial priorities and supposed audience expectations. In this sense, I claim a strong filiation with alternative comics. The pleasure of coding lies as much in the control as in the possibility to experiment freely for new ways of narrating with comics and computers.

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Competing Interests
The author has no competing interests to declare.

Author Information
All creative works mentioned in this article are available on my website www.anthonyrageul.net. Like the entire article, all quotes from original French publications are the author’s own translation. The concept of ‘reader-actor’ is borrowed to from Jean-Louis Weissberg (2006) and appears in French as a contraction of lecteur (reader) and acteur (actor): lectacteur. ‘Turbomedia’ is the name term coined by the French digital comics artist Balak. Marvel has collaborated with Balak on turbomedia comics that they have published under the label of ‘infinite comics’.

References


Rageul, A (alias Tony) 2009 *Prise de tête (Go A-Head)*. Available at: http://www.prisedetete.net/en/index.html [Last accessed 5 September 2017].

Rageul, A (alias Tony) 2011 *La Justice est bovine*. Available at: https://grandpapier.org/anthony-rageul/Turbomedia-de-24-sequences-en-24h [Last accessed 5 September 2017].


