

# What Is an Interface and Why Does a Digital Poet Care?

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## Abstract

The navigation, interaction with and exploration of digital content requires some form of interface. It is, in the simplest terms, the element connecting the human to the digital, an extension of the hand, eye, and ear. However, within digital poetry and writing, the interface is more than just a vehicle for content delivery. Instead, the interface is a critical literary component, as important to the creation and reading experience of a digital poem as the texts of words, images, sounds, animation, and code. Depending on the interface developed and how it is utilized, the digital poem changes shape, reconfigures meaning and becomes an interactive and responsive poetic/fictional creature. Since my first digital poem over a decade ago, interface has often functioned as the starting point, the generator of inspiration and driver of the creative process. This essay explores the role of interface in a number of my digital poems and fictions, explaining the origin and literary nature of particular interfaces. Additionally, it reflects on the methodologies for creating and mining code and software, as well as on the techniques needed to give birth to highly interactive and non-linear interfaces, such as game engines, infinite mosaic generators, and other organic digitally created applications.

*Keywords:* strange, sometimes intentionally confusing, digital poetry, interface, interactive writing, interactive art, creativity over all, ex-pat scared of the homeland, art-games, play, digital creatures

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In the broad and vague way that ideas and terminologies are classified, the term “interface” can be attributed to nearly anything, from a sidewalk to a word or symbol shared by two cultures to a common boundary between places, people, and things. Interface is a conceptual (as well as physical, electric, digital, or graphical) meeting place, a moment of translation between one entity and another. Yet, the word did not achieve its contemporary everyday usage (at least for those of us enamored with technology) until computers became ubiquitous in our lives. So, in worlds—such as digital poetry—ruled and run by computers, the notion of interface refers either to a hardware device or connection, such as a mouse or a router, or it is a software-based interface, with the idea of software extending to any collection of commands and codes. Examples always help. Imagine a situation in which photos are shared with others; nearly everything used to accomplish this task is an interface or is interfacing. The camera has an interface (buttons, screens) and is an interface (between the photographer and the image). When the photo is downloaded and any unwanted element of the image is removed with an image manipulation program, interfaces are again needed to allow digital bits (software, cords, a computer, OS, and other) to interact with hands and brains. Distributing the image by email again requires a whole range of interfaces, including an orbiting satellite, to reach another person’s computer. Another layer of interfacing is needed if the image is to be printed and shared in physical form.

As a creator of digital poetry, I, like anyone creating and publishing with digital devices, use/experience/encounter all these interfaces and more. But for this response and the idea of a digital poetry interface, I am referring to those code-created (either software-built or hand-typed) elements that allow the user/reader to interact with and experience my poetic

content. This includes such relatively obvious basics from buttons and mouse-responding animations to algorithmically derived content (born from data sets or user/reader activity) to the weather outside.

But these features still do not explain why interface is important to my digital poetry. To answer this question we should go back in time a bit and briefly explore the history of poetry. I do not pretend to be an expert in poetry's incredibly long history. But I do know poetry has long been a literary landing pad for those who want to experiment with form as well as play with how words and other texts can be organized on the page (or elsewhere). In the broader definition of interface, a rhyming couplet or a sestina, a prose poem or the stanza are all interfaces between the reader, the poet, and the poetic content. They help to guide both the reader and the poet, forming a common border, locked into a book. Poetry has a long tradition of using the poetic form to drive, serving as the engine of the poem. Historically, as new ideas, technologies, and cultural trends arrive, poets use them as poetic interfaces. Digital poetry is simply an extension of that long history; it uses the various possibilities of the computer to build the *new* interfaces, which will instigate new forms of interactivity.

Although I will be using the term (and variations of) "interactivity" to describe a vital/primary component to all of my digital poetry interfaces, there is an argument that none of my works, nor indeed most other digital poems, are truly interactive. I use game engines in such works as "Game, Game, Game and Again Game" (2007) and "I Made This. You Play This. We Are Enemies" (2008)—both featuring in the online platform *Digitalcreatures.net*—to study mouse driven responsiveness in "uncontrollable semantics" or to explore data driven interactivity in works, such as "Vholoce: The Weather Visualizer" (2007), and "Emotional Cities" (2011). While they do require the users to move, click, navigate, and play, is that level of action enough to be considered truly interactive?

Scott Rettberg (founder of the Electronic Literature Organization), referring to digital poet John Cayley's response to the Jeff Parker's 2001 essay, "A Poetics of the Link," writes:

Cayley explained that most works of e-lit are not interactive, but "transactional." The computer delivers output in response to the reader's input of the click. The reader is actually making only simple choices about the operation of the text, not eliciting a personalized response from the text or its authors, and not interactively manipulating the work. We transact with the text; we don't have a dialogue with it. ("The Pleasure (and Pain) of Link Poetics")

My response is yes and no. Cayley's description of interactivity in digital poetry seems to be implying that true interactivity requires some sort of Artificial Intelligence. Therefore, a truly interactive poem would "talk" back, offering a unique response to the user's/reader's clicks and key strokes. However, Cayley also uses the phrase "only simple choices," which would seem to suggest more complex "choices" would satisfy his conditions.

Besides semantics, whether interactive or transactional, is any of this a limiting factor to a digital poem? In the purest sense, yes, but then there has not been a computer or program designed that does not operate on the limiting choices of the user/reader. Rettberg answers Cayley by saying: "To argue that the link is inherently a constraint, rather than a liberating device, is not however to say that the reader of any text, in print or electronic format, isn't already 'liberated'" ("The Pleasure (and Pain) of Link Poetics"). Rettberg is drawing a

distinction between the reader's experience with, and the composition of, the digital poem. Every environment/machine/structure/poem ever created is governed to some extent by its uses of and reliance on limiting factors. I see those constraints as opportunities in the creation of a digital poem; they are tools and techniques for engaging with the text/media whatever audience comes along.

### **Processes, How-To, and How Do I Create These Strange and Wondrous Creatures?**

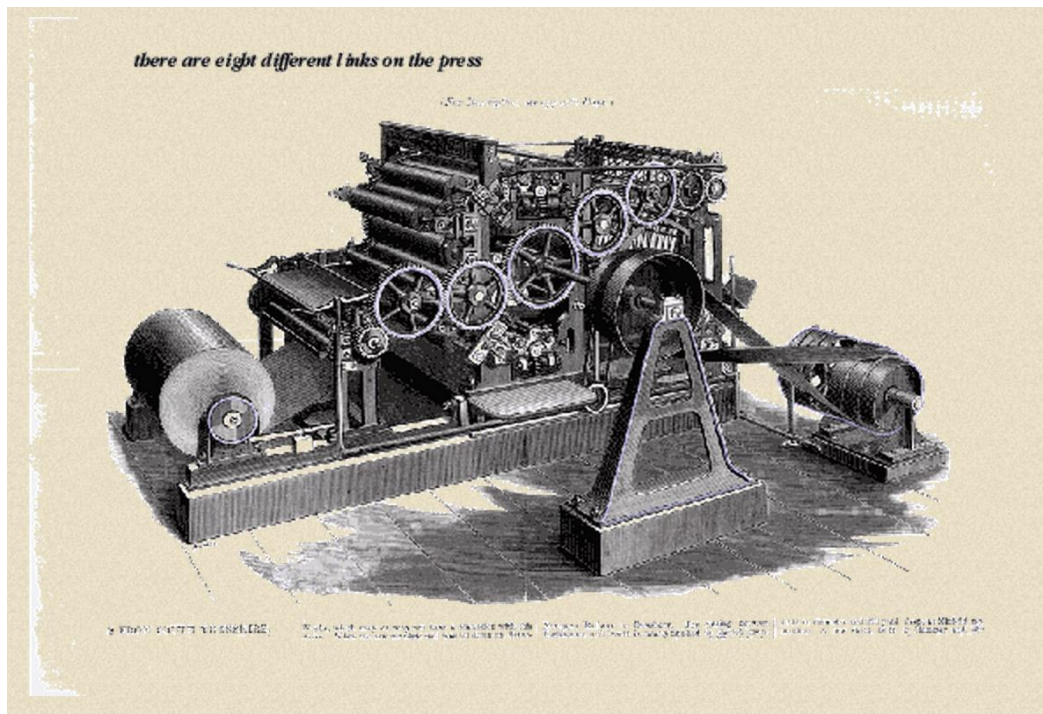
The same push-pull relationship digital poets have with theory and the problem (opportunity) of how to define digital poetry also impacts my creative process. There is no one use for a set of digital tools, texts or interfaces, no perfect fit or ideal electronic metaphor. In deciding on how to build/write these digital poems, I have forever been stretched between ideas and the possible configurations of the final creative product.

Thomas Swiss and Helen Burgess, in their 2012 essay "Collaborative New Media Poetry: Mixed and Remixed," expand on this idea by proposing that [u]nlike mainstream print poetry, which typically assumes a bounded, coherent, and self-conscious speaker, new media literature assumes a synergy between human beings and intelligent machines. In the case of new media poetry, the work sometimes remediates procedural writing, gestural abstraction, and conceptual art, while contributing to an emergent poetics (73-74). All these possible writing modes—these poetic approaches—are not so much a problem as they are a chance for the digital poet to explore and play within multiple writing processes.

Initially, I intended to create one large digital poem, an epic work using all kinds of interfaces. I wanted to create an immense interlocking work, with a central theme/story/point driving each of the interfaces. Extensive works such as these are important and can provide new directions to the field. However, with each new interface created, I found my attempts at tying them all together, anchoring them to the same chain in the same harbor with the same boat captain forced. The first few sections/interfaces of this larger digital poem were hully-gully, willy-nilly, particle boards. With enough pressure and adhesive, I could have continued smashing together the interfaces into a larger tome. The resulting digital poem would neither showcase the possibilities of these interfaces nor work poetically.

This realization or anti-realization led to my creating a series of smaller works, brief excursions into ideas and digital poems, poetic creatures with an interface like a skeleton. For example, I have experimented with the series, entitled "This Will Be the End of You" (2002), which includes the use of such interfaces as the color picker or a simple recombinatory engine built for a kid's game. Yet, these works are often lost, unable to escape the heavy thrust of the code from which they were derived. I would begin creating, working with the interface, but the initial results were ugly and lost. It appears the same concern that had turned me away from a larger serial compartmentalized (in terms of the interfaces) digital poem, the worry of forcing pre-written text into action-scripted holes, has been true for the interfaces as independently conceptualized creations. Yes, the difficulty of coaxing them into playing nice together still roamed, but the individual interfaces needed a guiding force, a country name, a flag, a song, and a hastily written constitution. They pleaded for a tether, an idea they could rally behind, something to run from and towards.

I have always been fascinated by invention, especially late nineteenth and early twentieth century medical and engineering feats as evidenced in my hypermedia work “This Will Be the End of You: Play 3: And the Last Machine with Moving Parts” (2002).<sup>1</sup> My first digital poem, aptly entitled “Machine Poems” (2000), a clumsy, barely clickable creation, is based on machines and inventions. The idea comes from the hours I have spent in the archive stacks at the University of Oklahoma library. With low ceilings, opaque cracked glass floors and the lovely smell of never-borrowed books, the place feels like a mysterious past. The feel of exploring the shelves has been entirely hypertextual. I would walk down aisles, ducking beneath low-hanging light bulbs, scanning for interesting spines, pulling out texts and images as I navigated the series. My favorite section has been “Engineering,” and its neighboring “History of Science.” In that area, there is a complete collection of nineteenth and twentieth century journals, chronicling all things (machine-and-invention) during the most exciting and prolific period for mechanical enlightenment. I was particularly drawn to the journal, entitled *Engineering*, as it was liberally peppered with detailed schematics and often discussed the more experimental outcomes of engineers and scientists. The bound volumes, especially those over a hundred years old, were coming apart, loose pages scattered on opening. What often fell out were diagrams and engravings of rarely seen machines. My first digital poem was built from these drawings and the poems I would write on the edges of such illustrations.



**Fig. 1** Jason Nelson’s “Machine Poems” (2000). It’s a copyright free image from *Archive.org*.

This fascination with machines, their creators, and their impact on how we feel/see/understand the world drives most of my digital poems. Whether those machines are medical discoveries, micro-organisms, steampunk gizmos, secret religions, or webscapes, the themes at the very

<sup>1</sup> The complexity of mechanical machines and the way they function and “come alive” in ways similar to their digitally coded counterparts has been a common thematic in the collection.

least heavily branch into the theme of invention/machine building. Indeed, the interfaces themselves are clearly machines/inventions. So, the choice to connect these interfaces to a story/character/invention/thematic architecture seems obviously inspired. They are what they are about. These are digital poetry inventions exploring themselves as inventions with me as the inventor.

There is a danger in what I am doing in these words, these descriptions, and interfaces. This relates to the same mechanisms that drive societies to rely solely on the internal combustion engine for motor movement, or to farm unsustainable crops in areas unsuited for such plants. Cultural momentum is a power force and often the first successful use/method is the one followed by future generations. Therefore, my use of these interfaces, my artistic process, might be misconstrued as *the* way/use. I am, generally, against the creation of a controlling canon, a list of “super” digital poems to be used as benchmarks for measuring the success of other creations. The words and interfaces in this submission are not maps, but rather they are annotated sketches of travel. They are designed to offer possible pathways and observations on the perils and joys of quicksand and mango trees along the way.

This process of creation is often scattered and messy, and very mood-dependent. One of the wonderful aspects of creating these art/poetry games is how they stimulate so many creative centers. On slow lazy days I might just text. When I feel uncreative, I will develop the source code and do all those mindless small tasks that working with software demands. Then, still other days I will create hundreds of music bits or video creations. Rarely do I get bored, because when one artistic component becomes too tedious to develop, I switch to other media. As Robyn Stewart suggests in her 2001 online essay, “Practice Versus Praxis: Constructing Models for Practitioner-Based Research,”

[w]e can use the notion of research as a way to develop better understandings of the changing and significant roles of artist, artworks and agency in this rapidly changing world. Perhaps this is a way to enhance the ability of our students (and ourselves in the process of collaboration) to move forward as effective, informed and prepared practitioners. To be an aware, knowledgeable and articulate practitioner surely is an enabling paradigm.

Stewart’s notion of “owning” our artistic and poetic practice encapsulates my, sometimes, somewhat chaotic creative practice. I am often moving quickly from media to media, project to project, forever researching new methods or interfaces or beginning one project that, eventually, becomes the fodder for an entirely different creation.

Another, less obvious, aspect of creating these games is turning off the computer. Sitting in front of a small screen, crouched hand around the mouse, elbows resting on the keyboard, is not exactly an inspiring way of life. Great artists are not great because of their skill or technique. Anyone can use Flash and Photoshop. It is our ideas, our strange ways of connecting different parts of the world or remorphing, retranslating what we experience into an artwork, that make us valued as practitioners. So, I create all my artworks in public. I will pick a coffee shop, or mall couch, or hotel foyer, turn on my laptop and create, while watching the world and people around me. Additionally, digital artists must be willing to fail, to spend dozens of hours (even hundreds) creating artworks that might, eventually, be deleted or have their pieces torn apart to be used elsewhere. Nearly every creation of mine has code/images/sounds from other failed artworks that clutter my hard drive.

## **Mining for Code: Exploring the Process of Getting and Creating Code for the Interfaces**

In Bowling Green, Ohio, where I taught writing for a few years and started as a digital poet, there is an eccentric and very talented (not to mention famous) sculptor. His creations are yard-filling collage/mechanisms of scrap metal. After gathering old metal fenders, piano wire, bike frames, heating coils at the scrap yard, he would spend time sorting them into piles. The inside of his barely standing barn workshop is packed with enough machine parts and construction materials to start a small, mechanized, Transformer-style army. During the early concept stages of a newly-commissioned sculpture, he would spend days or even weeks ordering, reordering, placing, and connecting metal pieces around the workshop into a possible design. For every finished sculpture he would create, there would be numerous other unfinished starts, or sketched ideas. In considering his process—of finding metal scraps, of thinking about their relationship with other metal parts, and of trying to create what is not there from what was around him—I remember thinking that he is a miner. He would dig through piles, sorting what he has found into categories of possibilities, and transforming those into valuable, unexpected, and beautiful creations.

I use a very similar method to create some of my own digital poetry interfaces. A self-taught code compiler, not trained as a programmer, I have been forced to search for examples and fixes for problems. In many of the same sites where I search for solutions, there are extensive collections of Flash source files (.fla extension). Exploring those sites, I have been able to find out what is possible with the (then) current Flash environment. Flash, or any software, for that matter, books, and courses offer an introduction to the interface, controls, and coding conventions, but the true power of the software is revealed in what others create.

A weekly task of mine is to search through specific sites—and find others—to download flash source files. When doing this, I try not to limit myself to one project or idea, and, instead, think, very much like the Ohio metal sculptor, of the possible (re)uses and marriages to other files. As I explore, new digital poems and interfaces are constantly emerging. On my many hard drives, there are hundreds, if not thousands, of .fla files, dumped into categories. There are mouse followers, XML examples, 3-D image galleries, interactive scripts, games, and anything that seems remotely usable.

One of the tricks to using found code and source files is to see beyond their graphics/theme and current usage. The most gifted coders are often woefully lacking in any artistic sensibility. Far too often the interfaces are either Star Trek-themed control panels or fantasy-related dynamic/interactive animations. So, instead of seeing some hideously ugly Sci-Fi menu, I try to see an interactive way of reorganizing coded text as links. I might then combine that code with a background pattern generator that might be found on any site.

One of the questions I am asked is: why don't I just make everything from scratch? Wouldn't it be more precise and give me greater artistic control if I built all my code from the ground up? I certainly have and will continue to "roll my own." Yet, it is important to understand that all code is built on other code.



## Multimedia Gathering and Building: I Am a Wordsmith, an Artist, Coder, a Researcher, an Animator, a Videographer, a Game Maker, a Recombinatory Physicist

Spending hundreds of hours creating digital artworks/poems each month, I often struggle with the implications of a self-interrupting process of artistic production. This ongoing problem—or perhaps opportunity—arises when I start a new project: often, between the start of the project and its completion, I will begin and finish other digital poems. This happens because I become bored with the original project mid-way through and need something else to distract/occupy my mind. This self-interrupting tendency is both beneficial, in that I am constantly making new works, and also detrimental when it comes to commissioned or deadline-dependent works. I have often toyed with the idea of starting new projects, just so I could finish a separate work.

My divided, multi-layered, and often distracted creative approach, a mostly accurate self-diagnosis, has also greatly influenced/determined my choice/desire to be a digital poet. Creating digital poems requires working with multiple software packages on a wide range of multi-media/coding/textual elements. On any given day, as I create new works, I might use four different programs, and a few different capture devices, jumping from project to project. There are so many different aspects to a digital poem, that when the mind gets bored, the writer/artist can move from writing poetic lines to composing short musical tracks, or instead of taking images of grocery items, one can record Public Radio through a “speech to text” program in order to generate abstract phrases and surreal stories.

For example, in a work like “Evidence of Everything Exploding” (2009), due to the top-down nature of the game interface, I have had to build new code and a playable environment.

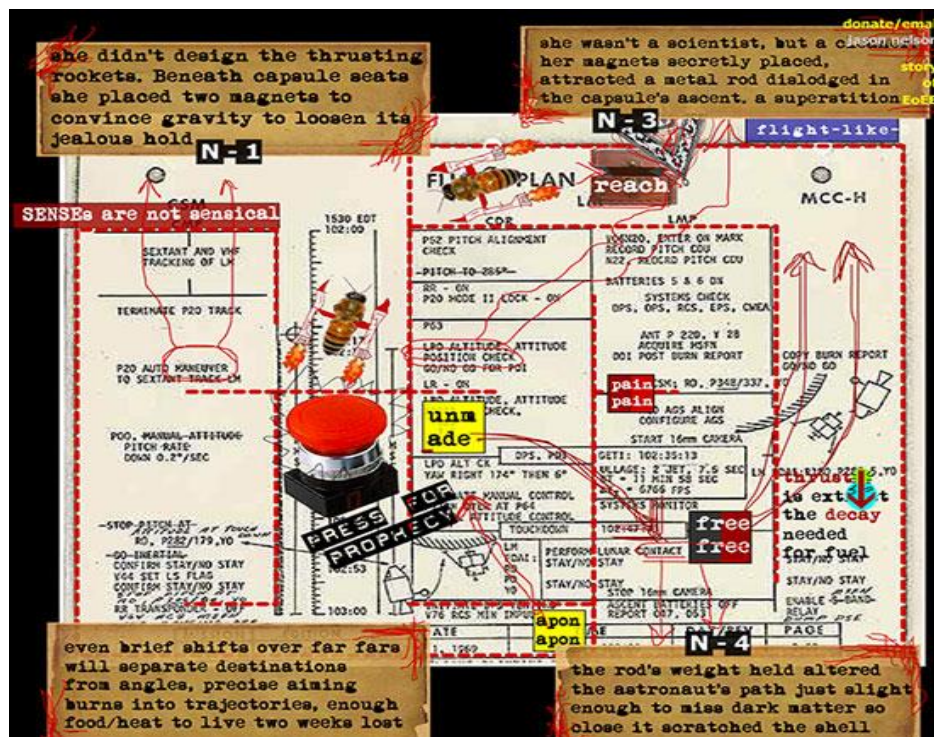


Fig. 2 Screenshot from Jason Nelson’s “Evidence of Everything Exploding” (2009).

I have found five different game engines, adapting code from each for the various functions of movement, reward, enemies, and content response. Once the interface is complete, I use Photoshop and Gimp for the background images, Illustrator for drawing, Soundforge and Fruity-Loops for sound (both backtracks and on-action sounds), adjusting recordings with Audacity, crafting text in Word, adding a database feature via php and html using Text-Wrangler, creating videos using various conversation methods, as well as any number of conversion and server-side tools. This list is, by no means, exhaustive but indicative of most of my creations.<sup>2</sup>

Between creating new digital poems, I am continually collecting new content, forever recording the world, buying old science texts, exploring theories and discoveries. Most important, in relation to this exegesis's central focus, I am collecting new possibilities for interfaces. These can manifest themselves in observational materials, inspiring patterns from a forest or examples of others' work in the digital realm, or articles about new software and interactive techniques, such as the X-Box Kinect and its camera-based motion sensors. More often, I am acquiring tutorials and code for new interfaces.

The primary tool for most of much of my work has been Adobe Flash. With its WYSIWYG creation environment (complete with drawing tools, animation layers, and an attached coding area for interactive elements, Flash ushers in a new era for digital poetry. The works created with this software aim for a multilayer and multimedia effect, while they are heavy on interactivity. Yet, because of changes in browsers and the introduction of Tablet computers, most web design/content experts have declared that Flash will meet its demise soon, at least as a creative tool for browser based content (Greenberg). Even Adobe itself has stopped supporting the Mobile Flash Player for Mac.

Therefore, since 2012, I have been mining for new techniques and interactive interfaces from JQuery and HTML5 development websites. This change in creative methods and tools has meant a vast change in how and what I create, a process I have yet to fully uncover, pulling me back to the realm of small experiments. In a very real way, being a digital practitioner of interactive content requires acceptance that every five or so years, the creator must be willing to rethink and revisit their approach. Being a digital poet, I need to be continually exploring a wide range of fields—technical, scientific, literary—and simply being curious enough about the world to recognize the possibility of tree roots being the genesis for a digital poem, of a lost gravity-driven satellite spinning through space, and of what light is left from the sun.

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<sup>2</sup> In "Graphoem" (2011), featuring on the online platform *Digitalcreations.net*, I combine xml driven graph text with manipulated video, while every level of "Evidence of Everything Exploding" (2009), featuring on the same platform, involves the full range of media/text and sound manipulation to create a multi-layered digital poem.



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