

Hyperfiction Authoring

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<http://www.gocek.org/actipub/> , actipub@gocek.org

Hyperfiction is a form of literature that gives readers some limited control over the flow of the story or poem. At predetermined points, the reader chooses how the action will proceed from a (usually) small number of predetermined options. For example, if a story has the school bully chasing little Tommy, the author can allow the reader to choose whether Tommy runs away or stays to fight. The author, of course, must write both subsequent plotlines, but it's a writing device that can be appealing if done well.

Hyperfiction has been present in hardcopy form for decades. In the previous example, if the reader wants Tommy to run away, the story continues on, say, page 45, otherwise, page 32. This can seem unwieldy on paper, but the advent of computers and electronic hypertext readers, including web browsers, finally makes this art form feasible. Technically, a hyperstory is just a bunch of linked pages, like any web site, although hyperstories tend to have a different logical link structure than your average web-based family photo album.

The hyper device is well suited for poetry and other forms of artistic literature. There is no technical reason that the approach is limited to fiction, but this discussion is aimed at the unique structures associated with typical novels, short stories, poems, and other creative writing.

The Art, Science, and/or Theory of Hyper-literature

The term "hyperfiction" will be used to refer to all forms of artistic writing that use a "hyper", or interlinked, structure. This includes novels, short stories, poems, etc. "Hyperfiction" is more common on the Internet than, say, "hyperpoetry". The term "hyper" additionally indicates that the reader takes actions that affect the flow of the work. A conventional novel is linear, i.e., the reader starts on page one and reads every page in order through the final page. Hyperfiction is not as linear; some pages may be read more than once, while some may never be read at all, depending on the reader's choices.

Hyperfiction, for the purposes of this discussion, does not include "adventure" games and the like. Such games are more commonly referred to as "interactive fiction", or "recreational hyperfiction". Interactive fiction has some structural similarities to hyperfiction, but interactive fiction, by definition, includes executable software, and is better described as a game genre than a literature genre.

Even though a hyperfiction work may not be linear, it has a describable structure. Otherwise, it wouldn't be viewable on a computer. The structure of a work of hyperfiction can usually be viewed as a tree or graph. These are mathematical concepts of some importance to the author, even if the author is only subconsciously aware of the structure.

A "tree" tends to have a beginning (the root) and endings (leaves), and "nodes" in between. Each node "branches" off to "children", and each node likewise has one or more "parents". The exceptions are that the root node has no parent, and leaf nodes have no children. A common form of tree is a genealogical family tree. In practice, there may be multiple roots, and the branches may crisscross. Think of what your family tree looked like when Aunt Millie remarried for the fourth time and her stepchild from the first marriage married a stepchild from the third. Trees are a form of "graph", and trees tend to be well ordered without too many branch crossings. When the tree gets really messy, mathematicians tend to just call it a graph. For the purposes of this hyperfiction discussion, each node represents a piece of the story, and the branches represent the choices that the reader makes.

An author must maintain some notion of the structure in order to ensure a logical flow from one piece of the story to the next. If a reader chooses to direct a character to run from a fight, the character shouldn't immediately get punched in the nose because the author didn't keep track of which web page links to which other web pages. The structure of a hyperfiction work can get pretty big, pretty quickly,

possibly too big to draw on a single surface. This statement isn't intended to scare authors; it's only intended to note that the structure must be considered.

This document does not present a comprehensive survey of the hyperfiction genre, but generalities are presented. Most readily available hyperfiction works tend to be collections of short, interlinked pages. Long, elaborate works exist, and there is no intent here to imply that existing works are inferior in any way. Until the mid-1990s and the widespread adoption of hypermedia readers, such as web browsers, hyperfiction was not very accessible, so the number of works available is limited, and many authors are still warily experimenting with the form. Internet information regarding existing works often refers to those works as "projects", indicating that the authors are still experimenting with the genre. Paper based hyper works have been available for some time, but readers find them a bit unwieldy. The artistic content of a non-linear work can get lost in its physical manifestation.

Hyperpoetry exists to a somewhat lesser extent than hyperstories. While modern poems may be heavily "themed", they tend not to be as heavily "plotted" as are stories, so there aren't as many opportunities to offer the reader choices. Hyperpoems tend to simply link the reader to other poems, possibly related, but not necessarily interwoven.

The non-linear nature of hyperfiction, coupled with widespread availability of hypermedia readers, offers authors exciting new opportunities. The genre is not for every author; if an author simply wants to give the reader a choice between two different stories, he or she should write two different conventional stories. The hyperfiction genre is better utilized when an author works *with* the non-linearity of the genre.

Just as there are many approaches to writing "good" conventional literature, there are many ways to approach hyperfiction. When a page of a story can be reached from multiple paths through the story, that page should seem "different", depending on what preceded it. When the reader is given a choice, he or she shouldn't be able to guess exactly what will happen next.

The comfort of the reader should be of concern to the author. Just because an author has come to terms with non-linear writing doesn't mean that readers have come to terms with non-linear reading. Let's say that page 1 of a hypernovel offers 30 links to subsequent pages. The reader must be made to feel that he or she is getting a full reading experience, even if some of the pages are never seen. If the reader feels that something is missing, and can't figure out the path to get to a comfortable place, then the reader will be a dissatisfied customer. That dissatisfaction isn't related to the writing talent of the author, but to the improper use of the hyper device. It isn't the job of an author to make the reader comfortable in a philosophical sense, but if hyperfiction is physically or structurally hard to read, the genre won't attract many new customers.

As for physical accessibility, an author should consider the needs of readers with physical disabilities. A full discussion of web accessibility guidelines can be found at

<http://www.w3.org/TR/WAI-WEBCONTENT>

If a user has to hit ctrl-alt-shift-tilde-P to get to the next chapter, readers without ten fingers may be unable to comply.

Hyperfiction has often worked well when presenting fantasy stories. Until the world wide web exploded into our homes in the last few years, most computer users also happened to enjoy this genre, and the hyper device is well suited. Fantasy stories often offer characters obvious choices: north or south, fight or run, magic or steel, good or bad? The fantasy and science fiction genres will continue to offer many opportunities for the hyperfiction author. All those fantasy lovers are still using their computers, so the audience is still hungry for more product.

Likewise, hyperfiction would be a good device for romance stories and erotic fantasy. Should Courtney stick with her promising career, or run off with the rich sheik? Should Dirk go for the blonde or the redhead? Readers have been second-guessing characters' decisions since cuneiform, and now authors can finally give them the choice.

An author should work with the hyper structure, and be careful not to let it control the literature. Much hyperfiction is characterized by short bits of prose, followed by choices. Sometimes, this is just right, and it can give a short story a poetic feel. But, the reader doesn't want to feel like the author broke up a page just to fill in that level of the story tree. Just because a work is billed as hyperfiction doesn't mean that the user should get a large number of choices. For a particular work, a smaller number of choices might work better.

ActiPub

ActiPub is an entry level product that provides a limited set of hyperfiction structures, and a link checker. It provides modified binary and trinary trees, where the root node has four branches instead of just two. Mathematically, the structure is fairly simple and regular. Each file contains text that is reached from only one previous file. A complete path through the tree, as sold, is eight files long, although each file can contain any amount of text.

The primary feature of ActiPub is its sets of hundreds of interlinked web pages. The structure of a story is therefore laid out, with tested links. An author can then concentrate on the story itself, without worrying about writing the HTML to get the reader to the next page or chapter. ActiPub is intended for use by authors who have used word processing software to practice their craft, but no programming experience is necessary. No special editors are needed; any text editor or word processor will do. Instructions are provided mainly to show the author how to avoid accidentally deleting the links between pages.

ActiPub's story structures use only about 800K (kilobytes) of disk space before an author adds story text, so the large number of files isn't a problem on any modern personal computer. It's handier just to have the files ready to be edited than to have to figure out how to create them as needed. An author who buys a copy of ActiPub is licensed to make as many copies of the files as needed, so that one copy of ActiPub can be used to author many hyperfiction works.

ActiPub includes maps of the story structures, and handy status forms with which the author can track the progress of the story. The status forms show which pages precede and follow each other page, and provide space for notes, such as modification dates. ActiPub includes an extensive discussion of the art of hyperfiction. ActiPub also includes statistics and instructions useful to an author who wants to substantially modify the provided story structures.

Why buy a bunch of web pages? Anyone can create a bunch of web pages, right? Well, sure, and anyone can write an operating system if she really wants to. ActiPub provides different forms of hundreds of pages. The links between each page are provided and tested. An ActiPub "default" story structure contains about 500 files, but it's easy to reduce the number of files actually needed by a particular story. It's a bit tedious to add more files; that's why the standard set is so large. If it turns out that authors are writing monstrous hyperstories, ActiPub will be updated in the future. ActiPub is not a creativity tool, but it can take the drudgery out of managing the hyper aspects of a hypernovel. That's not brain surgery, but it is drudgery, and ActiPub is cheap. An author saves days of HTML hacking by spending a few bucks on ActiPub.

As sold, ActiPub does not offer a story structure in which a file can be reached from multiple plotlines. The HTML can be edited and the links can be modified to achieve this. That type of modification can get tedious, and it makes ActiPub's maps obsolete. The provided file structure, then, is somewhat linear, but the number of plotlines is large. It's fairly easy to shorten the tree to reduce the number of files.

One easy way to modify the ActiPub pages to achieve a less conventional feel is to write text before and after the HTML links. There will still only be two (or three) links, i.e., reader choices, but the choices don't have to be made at the end of the file. The choices can be embedded in the middle of paragraphs.

The point of ActiPub is to provide a low cost, basic hyperfiction structure, with some opportunities for minor modifications that can be made while writing the story itself. If an author's favorite part of writing hyperfiction is the HTML, then ActiPub is the wrong product. But if an author wants to write hyperfiction without devising a web site, ActiPub is a cheap way to get started. The intent from the beginning was to make ActiPub as cheap as the works that would be created with it.

ActiPub also provides some "hooks" for easily adding background colors and images to the web pages, and additional hooks for providing images where the reader's choices should be made. A "plain" version of the pages is provided for authors who don't need these hooks.

The root node has four branches instead of two (or three) in order to provide some variability at the beginning of the structure. In a pure binary tree of nine levels, there are 511 story files, but every plotline starts with two of the first three files. ActiPub's initial four-way branch is seen as providing the reader with more choices when rereading the hyperfiction work in order to explore different plotlines.

For More Information

Check these web sites for information about hyperfiction. They were valid in October, 1999.
<http://cogsci.ucsd.edu/~arobert/hyperfiction.html>
<http://dialspace.dial.pipex.com/town/square/ga42/hyper/hyplinks.html>
<http://www.storyspawl.com/>
<http://www.web.net/~lrobinso/iah/iahbefor.html>

Other Tools

I have come across a couple of other tools for writing hyperfiction. ButtonTalk is a Macintosh (only) program that is offered at no charge for personal use, and for \$50 to commercial users. You can find it on shareware.com, but it's three years old and the documentation admits that it's unfinished.

Storyspace is a more complete tool for viewing and manipulating a hyperfiction graph, and is offered at \$245.

It wasn't trivial to produce the ActiPub pages, and I did some research for this document, so I don't feel bad about charging a small fee. If you find any other tools or need help, fire off an email to actipub@gocek.org. I am not interested in web site editors or adventure game authoring tools.