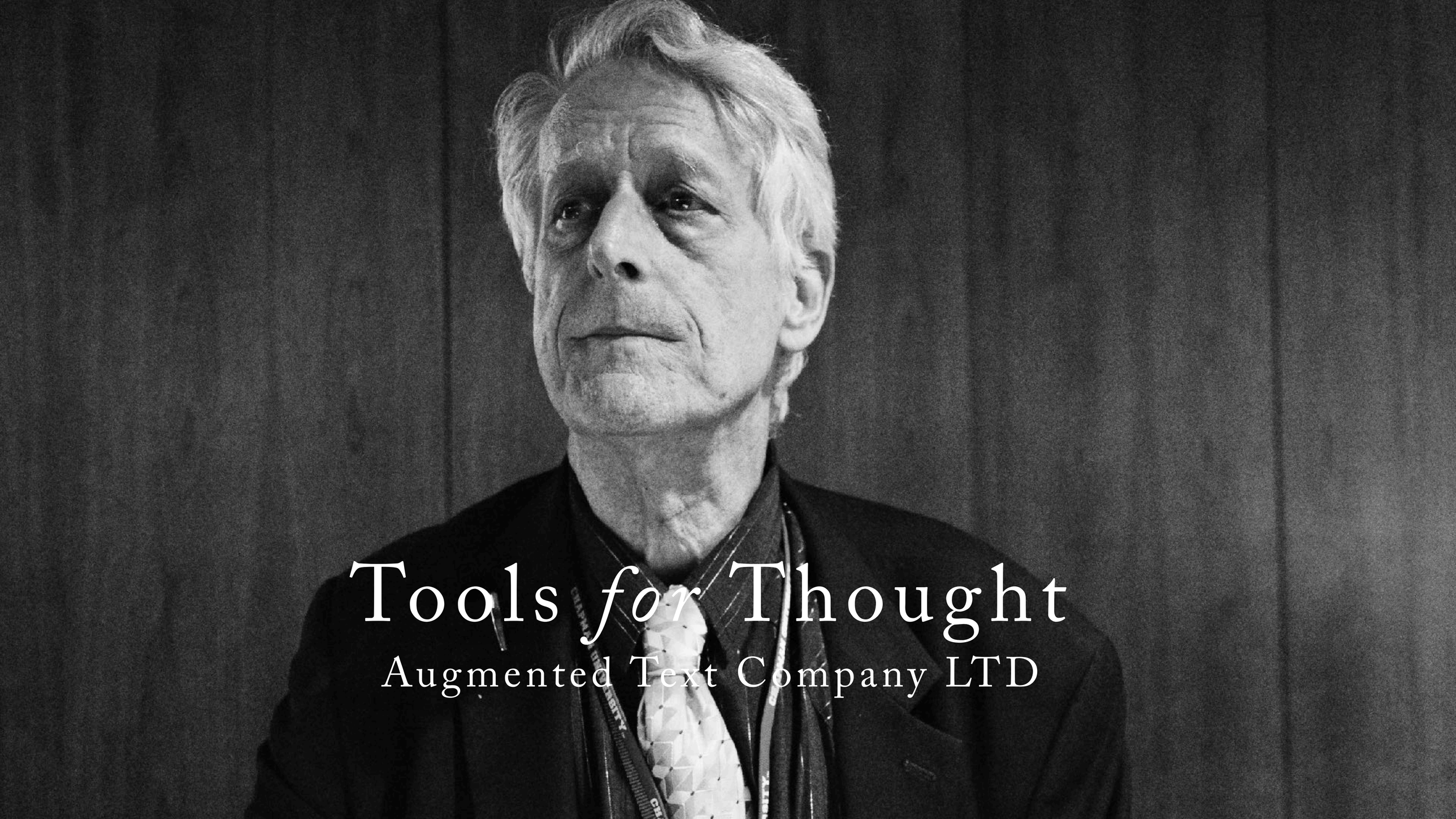
Tools *for* Thought

Augmented Text Company LTD



Tools *for* Thought

Augmented Text Company LTD

Tools *for* Thought

Augmented Text Company LTD

different augmentations

Second Brains

Graphs

Hypertext Systems

Documents

Authoring & Reading

Author

Reader

Second Brains

Graphs

Hypertext Systems

Documents

Authoring & Reading

Author

Reader

Source

Process

Product

Increase the power of the written word.

Increase the power of the written word.
Making documents more powerfully interactive
to support faster and deeper reading as well as
more thought out writing.

…by adding a few words at the end of a book.

…by adding a few words at the end of a document.

This approach builds more richly interactive environments where the elements in the environments are more aware of themselves, what their characteristics are, and their contexts.

The key is to let documents know more about who they are:
how to cite them, what they contain and how they are structured.

Paper-Meta

colophon on the verso of the title page

edition notice/copyright page

impressum/printer's imprint

9 8 7 6 5 4 3

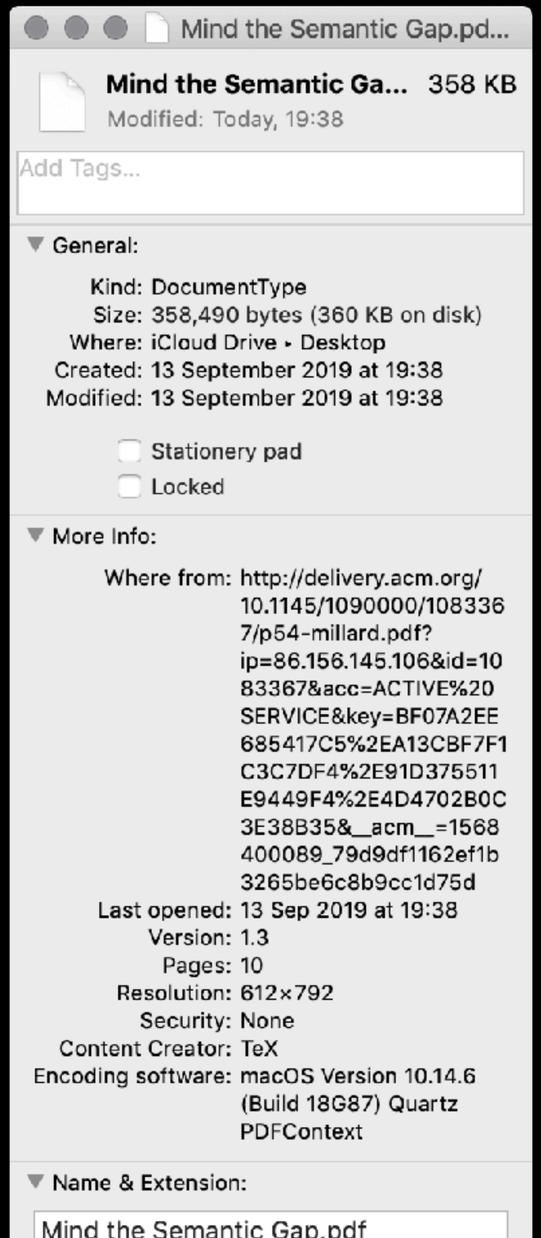
The Johns Hopkins University Press
2715 North Charles Street
Baltimore, Maryland 21218-4363
www.press.jhu.edu

ISBN 0-8018-5569-3
ISBN 0-8018-5568-1 (pbk.)

Library of Congress Cataloging-in-Publication Data
will be found at the end of this book.
A catalog record for this book is available from
the British Library.

For Ruth, Shoshana, Serena, and Noah

PDF-Meta


Mind the Semantic Gap.pd...
Mind the Semantic Ga... 358 KB
Modified: Today, 19:38
Add Tags...
General:
Kind: DocumentType
Size: 358,490 bytes (360 KB on disk)
Where: iCloud Drive ▸ Desktop
Created: 13 September 2019 at 19:38
Modified: 13 September 2019 at 19:38
Stationery pad
Locked
More Info:
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Pages: 10
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Mind the Semantic Gap.pdf

Paper-Meta

9 8 7 6 5 4 3

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Visual-Meta

Appendix

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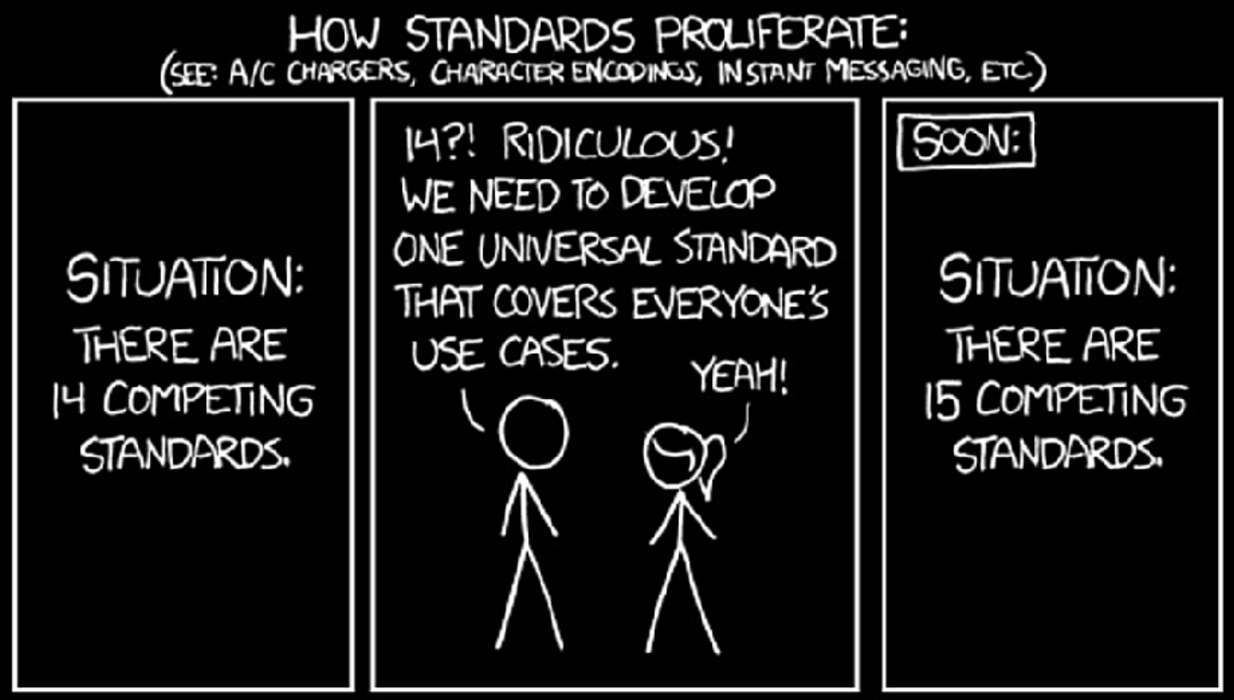
Visual-Meta

Not a new standard!

It is an approach



Standards. Munroe, 2020.

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The way reader software looks for Visual-Meta in a PDF is to parse it from the end of the document and look for @visual-meta-end}. If this is found, the software then looks for @ { visual - meta - start }and uses the data found between these marker tags.
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The first informational section is usually prefaced by @article{ for articles/papers or @book{ for books. The difference is useful to determine how to display the document, for example, in our 'reader' software @book{ opens to a single front page in full screen.
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@glossary{ This sections lists what terms are in the glossary.
Feel free to add your own tags but please describe them in this introduction section in order for others to derive value from them now and in the future.
This was written February 2021. More information is available from https://visual-meta.info or from emailing frode@liquid.info
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GLOSSARY
in full…

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COMPLETELY EXTENSIBLE

Just say what you add

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COMPLETELY
EXTENSIBLE

Go further…

Appendix *after the* Appendix

Annotations & Amendments

visual-meta benefits

visual-meta benefits

Advanced Interactions While Reading

fold, click on citations or endnotes in text, glossary, potentially change citation style

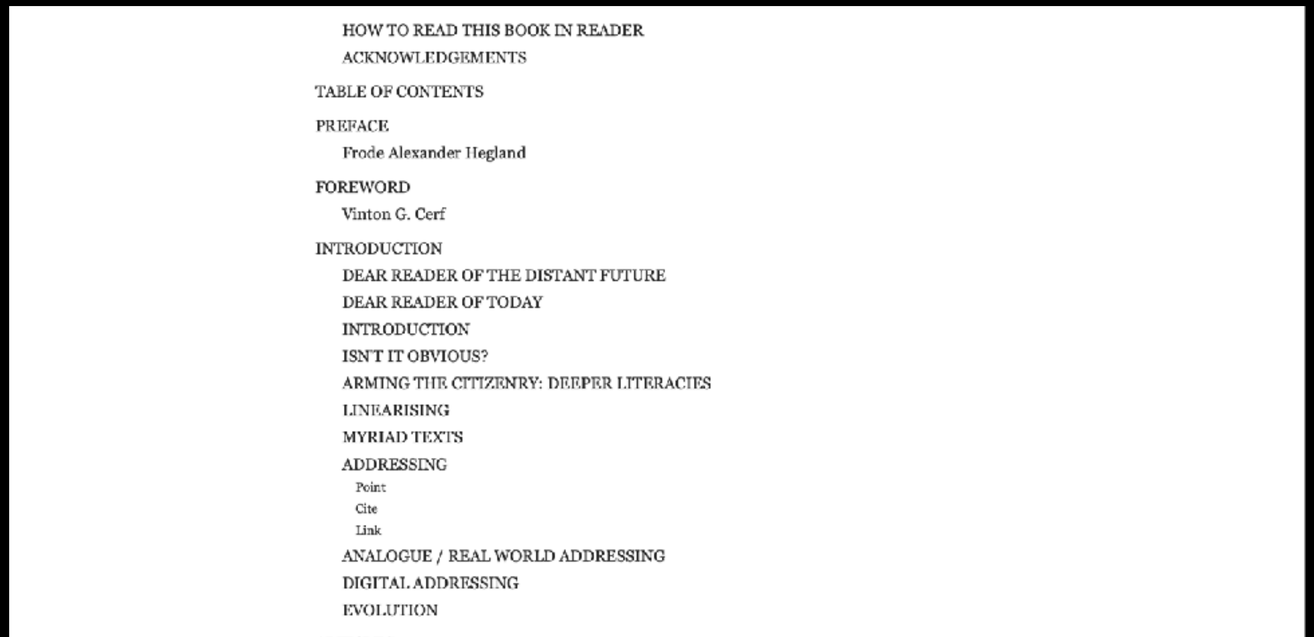
Author

Reader

visual-meta benefits

Advanced Interactions While Reading

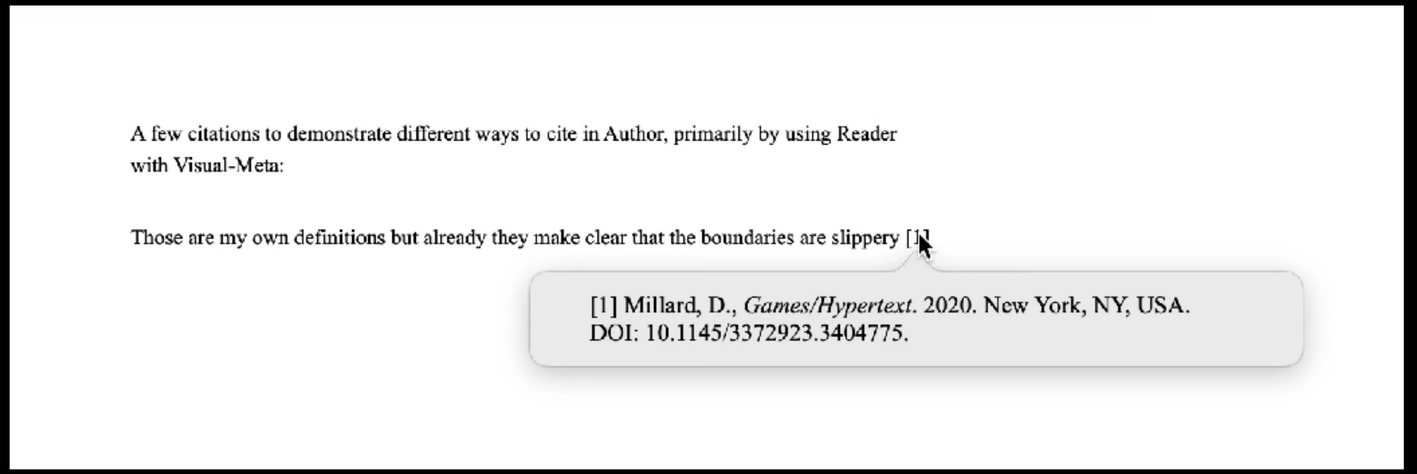
fold, click on citations or endnotes in text, glossary, potentially change citation style



visual-meta benefits

Advanced Interactions While Reading

fold, click on citations or endnotes in text, glossary, potentially change citation style



visual-meta benefits

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Author

visual-meta benefits

Advanced Interactions While Reading

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Advanced Interactions While Reading

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SRI Initially Stanford Research Institute, later just **SRI**. Major US research institution. **Doug Engelbart**worked here.

Augmented Text & Computer History

Yang, Hall, 2016) of student-teacher and academic-academic interaction via documents, with the aim of improving both reading and authorship.
SRI is a research organisation in California.

visual-meta benefits

Advanced Interactions While Reading

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visual-meta benefits

Advanced Interactions While Reading
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Augmented Citing
copy text and paste as citation

visual-meta benefits

Advanced Interaction

fold, click on citations or endnotes in te

Augmented Citing

copy text and paste as citation

Games/Hypertext

David E. Millard
dem@soton.ac.uk
University of Southampton
Southampton, UK

ABSTRACT

The relationship between hypertext research and games design is not clear, despite the striking similarity between literary hypertexts and narrative games. This matters as different communities are now exploring hypertext, interactive fiction, electronic literature, and narrative games from different perspectives - but lack a common critical vocabulary or shared body of work with which they can communicate. In this paper I attempt to deconstruct the relationship between literary hypertext and narrative games. I do this through two lenses. Firstly, by looking at Hypertext as Games; with a specific set of mechanics based around textual lexia and link-following (but with a tradition of exploring alternative Strange Hypertext approaches) resulting in a dynamic of exploration and puzzle solving depending on whether agency is expressed at the level of Syuzhet or Fabula. Secondly, by looking at Games as Hypertexts; that depend heavily on textual content, use guard fields, patterns, and sculptural hypertext models to manage agency, that experiment with aporia and epiphany, and that take place within a wider interlinked transmedia experience. This analysis reveals that Narrative Games are both more and less than Hypertext, with a wider set of mechanics and interfaces, but possessed of a core hypertextuality and situated within a greater hypertext context. This suggests that there is much value to be gained from interactions between the communities invested in interactive narrative, and significant potential in the cross-pollination of ideas.

CCS CONCEPTS

• **Human-centered computing** → **Hypertext / hypermedia**; • **Applied computing** → **Computer games**.

KEYWORDS

digital narrative, hypertext, hypermedia, interactive fiction, transmedia

ACM Reference Format:
David E. Millard. 2020. Games/Hypertext. In *Proceedings of the 31st ACM Conference on Hypertext and Social Media (HT '20), July 13–15, 2020, Virtual Event, USA.* ACM, New York, NY, USA. 4 pages. https://doi.org/10.1145/3372923.3404775

ACM Hypertext '20, July 13–15, 2020, Orlando, FL

ACM ISBN 978-1-4503-7098-1/20/07…$15.00
https://doi.org/10.1145/3372923.3404775

1 INTRODUCTION

What is the relationship between Hypertext and Games? Particularly *literary hypertexts* interactive digital texts of artistic merit, and *narrative games* interactive digital entertainment with significant story elements. Those are my own definitions but already they make clear that the boundaries are slippery. Interactive in what ways? How much text is enough to be a text? How significant should the story elements be within the game? Both definitions seem ergodic in the sense that Aarseth uses the term (meaning non-trivial effort to read) [1].

Nelson coined the term Hypertext, defining it as "a body of written or pictorial material interconnected in such a complex way that it could not conveniently be presented or represented on paper" [28]. This broad definition arguably applies to any digital media with complex interactivity or behaviour, including narrative games. But there are many more specific definitions. For Conklin "the essence of hypertext is its machine-supported linking" [11], whereas for Schraefel et al. hypertext is about associations in a broader sense [25], and it has been argued that both views (of hypertext as linking, and as knowledge construction) are valid [36].

Bernstein points out that hypertext challenges our existing understanding of narrative because it is "by definition, non-sequential while narrative is fundamentally about sequence" [8], but goes on to argue that reconciling hypertext and narrative is crucial, as so much hypertext fiction is dependent on plot. Short shares this concern, but expresses it as an unflattering comparison with works of Interactive Fiction (IF), describing "the bewilderment and disenchantment that IF players sometimes feel when they encounter the storyless meandering and opaque interaction style [of Hypertext]" [31].

We may also think that we recognise Games and Hypertexts when we see them. Joyce's *Afternoon: A Story* is clearly a hypertext, *The Witcher 3* by CD Projekt Red is clearly a game. But the grey zone is significant: *80 days* by Inkle is marketed as a game, but contains over 750k words and is driven by links[1], *Depression Quest* by Zoe Quinn is a Twine hypertext but the links do not behave as we expect and their bad behaviour is part of the story.

The relationship between Games and Hypertext matters. Interactive digital storytelling has its routes in the Hypertext Community, but now finds wide expression online through interactive fiction groups working with common tools such as Twine and Inform7, in the electronic literature community who embrace a wide set of technologies – many of them web-based, and the games industry where companies such as Telltale, Failbetter, and Quantic Dream have used bespoke engines to deliver complex multimedia storytelling experiences. These communities are seperate, we do not talk as much as we should, and partly that is because the relationships between the artefacts we create are unclear.

[1] https://www.inklestudios.com/80days/new_adventures.html

In this paper I want to deconstruct the relationship between Hypertext and Games. Firstly, by presenting how Literary Hypertext can be conceptualised as a Narrative Game, and secondly by exploring the reverse, the extent to which Narrative Games might be conceptualised as Literary Hypertexts.

Hypertext has been presented as a Method of Inquiry before [2], a lens through which to look at other domains, but here I am more interested in its characteristics as a medium. The intention is not to classify or pigeonhole, but rather to understand the spectrum of interactive narrative experience, reveal commonalities, and show why game design, interactive fiction, and hypertext theory should be linked.

2 HYPERTEXT AS GAMES

Literary Hypertext emerged in the 1980s, it took Nelson's rejection of hierarchy and order and applied it to fiction [10], rejecting the author as the authority in a story and instead turning to the reader as the locus of interpretation - the ultimate expression of Barthes' Death of the Author [3].

Hypertext achieves this through the link, clickable hotspots that appear either within a textual lexia or at the end of it [11]. Links can be simple (as in HTML) or complex structures in themselves with sophisticated anchors, direction, semantics, and multiple components (as in the Open Hypermedia Protocol) [23].

In Game Design terms following a link is therefore the primary mechanic of interaction within a Hypertext. When link following the lexia being read is replaced with a new lexia according to the link selected. Thus following a link is making a choice, rejecting the other links that are available, and pushing the narrative in a particular direction. Sometimes at the level of the Fabula, giving the reader agency over the events that occur within the storyworld, and sometimes at the level of the Syuzhet, limiting their agency to the way in which they experience an immutable storyworld [36].

From the perspective of the MDA framework [20], we could argue that the link following (Mechanic, leads to a (Dynamic of exploration or puzzle solving (depending on the reader's agency) in the context of dramatic tension, thus creating a narrative (Aesthetic in the player that is akin to reading (and emphasised by the textual framing of the experience).

This description of link following is a simplification. Mason and Bernstein point out the poetic impact of where we choose to split our lexia, and the different narrative functions of links (to timeshift, recurse, renew, or annotate) [24], all of which could be counted as mechanical variations. It also represents a view of links as a disjunction, choices between alternative lexia, whereas they have also been conceptualised as a conjunction where following a link elaborates the narrative but does not cut off other choices [30]. An example would be fluid links [37] where the destination text is expanded in place, shifting aside the current lexia rather than replacing it.

While we might therefore characterise Hypertext as having a core mechanic of link following, it is clear that many variations are possible. This has resulted in the identification of alternative *domains* of Hypertext, for example Taxonomic Hypertext [33] (where information is presented in a contextualised hierarchy) or Spatial Hypertext [23] (where lexia are arranged spatially, and a spatial parser makes sense of the emerging structure - for example, identifying lists or sets by layout, colour or shape). In this view, Hypertext as defined by link following becomes *Navigational Hypertext* [26], and even in this core domain other structures are common - such as trails [29], or virtual documents [38].

This potential for new hypertext structures and behaviours led to the idea of "Strange Hypertexts" [7], where hypertext developers and authors were encouraged to become more playful and adventurous with the medium itself. From a games perspective this is the equivalent of experimenting with new mechanics. Examples include locative hypertext [17] (where readers navigate by moving through space), sculptural hypertext [9] (where links are replaced by rules and constraints - what Short terms "qualities" [32]), and fractal hypertext [16] (where stories limitlessly unfold, in the ultimate realisation of fluid links).

Strange Hypertexts then, are really part of the grey zone between Hypertexts and Games. Examples (although not described by their creators as strange hypertexts) include Google's Editions at Play, with titles such as *All This Rotting* by Alan Trotter where the text disintegrates as you progress through the story to reflect the main character's memory loss, or *Breathe* by Kate Pullinger, a ghost story that picks up on the reader's geographical context to insert real places into the text - increasing immersion.

Hypertext becomes more game-like as the mechanics move further from lexia and text: in the non digital *Fighting Fantasy* books you must win dice battles to survive certain lexia, in *80 Days* you keep an inventory that opens new travel routes, and in *Sunless Skies* by Failbetter you cruise the desolate reaches, upgrading your steam locomotive and hunting sky beasts between encounters. These mechanics create additional experiences alongside the narrative, but integrated with it, extending and supporting the story.

Strange hypertext is thus not merely done for its own sake, but because these new mechanics add new ways of creating meaning and communicating story through interaction and play. In game design this is called ludo-narrative harmony, the alignment of mechanics with the themes and messages of the story [19]. Getting it right is seen as the high road of narrative design, manifest in games such as *Spec Ops: The Line* by Yager Development where the protagonist's PTSD leads to his unreliable narration, or *Brothers: A Tale of Two Sons* by Starbreeze Studios, where the use of dual stick control leads to an emotionally powerful phantom limb experience following the death of one of the brothers.

From this perspective extending the mechanics of hypertext systems is a necessary part of developing new hypertext stories, suggesting that rather than static domains, hypertext is best seen as a dynamic medium - just like games - that is polymorphic and shaped purposely for its affect on any given work.

In summary then, we can say that from this perspective literary hypertext appears as a subset of games, with a constrained set of mechanics based around textual lexia and link following, albeit with a history of pushing those boundaries with strange structures and alternative behaviours.

3 GAMES AS HYPERTEXT

The alternative perspective is to attempt to view narrative games as advanced hypertexts. Many narrative games are clearly textual,

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