

Electronic publishing: electric book or battery brochure?

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1. Introduction

Electronic publishing as a phrase is as meaningless as 'automatic' or 'user-friendly', only it is still serving an apprenticeship compared to the latter two. Yet, it is true that the electronic medium has arrived and we need a clear understanding of what it is. Looking at the products you find that it is not merely 'another medium', as papyrus replaced the clay tablet, but that the medium has introduced a vast array of functionality, forcing us to re-think and re-categorise.

Categorising electronic publishing products is a fascinating journey. It is an exercise in lateral thinking rather than a sorting operation. A selection of actual electronic publishing products is investigated and their functionality, applications and possibilities examined. From both the user's perspective and the publisher's viewpoint we systematise the products into meaningful categories, illustrated by typical examples.

Vannevar Bush's 1945 vision of the electronic desk has been realised — only it is individualised, and in full colour and motion.

2. The terminology

I first want to deal with the term 'publishing'. The Oxford English Dictionary says it means 'to issue copies' (amongst other less relevant descriptions). So when we use the term it has inherent in it the meaning or intention to produce copies or replicas for distribution. This would then exclude 'one-offs', even one-to-one communication, because these do not mean distribution. To illustrate the point: have you seen the effect of a love letter being distributed? The first part of the word is taken from the stem 'public', which indicates the intention to 'make public' or that it is 'for public consumption', and this is exactly why the likes of the love letter do not fit the category. Somehow the 'making public' of what was not intended for 'public consumption' is distinguished by the suffix '-gate'! With 'publishing' the aim is to communicate information / ideas / feelings / discussion by capturing text, graphics and

signs onto a medium or carrier. It is within this context of the word 'publishing' that I would like to discuss electronic publishing.

The word 'electronic' in the phrase 'electronic publishing' refers to the medium that is used as a carrier of the content. 'Electronic' in this sense usually refers to computer-enabled technologies such as CDROM or presentation systems. It is interesting that the accepted scope of the term excludes products that are not 'read / used / experienced' by means of the computer. You would not say a fax is electronic publishing, although you have produced it by means of, for example, a wordprocessing package and transmitted it by a fax card on the computer via a modem. So you find that the term is only used for publications that are enabled on the user's side by computer.

You might think this is new technology. It is in fact not: electronic publishing, that is electronic distribution of some information content, was already a well-known technique in the early fifties in the Southern African platteland. Very few media had the actuality, immediacy and speed of distribution of the platteland party telephone system! Technology development killed this.

3. The product

The technical aspects are well covered in the literature, which would include media such as CDROM and magneto-optical WORM (Write once, Read many). This would also cover the data formats (ISO 9660, CD-XA etc.) and even the software, and I would prefer my better qualified technical colleagues to expand on this topic.

I have specifically steered away from the temptation of giving you a technical lecture on the hardware and software variants. What is much more interesting is the content of electronic publications. Have you seen the fascination of the computer games? It is a far cry from the Battle of Britain comics we used to bury ourselves in. Why? The answer lies not even in the content itself but in the way in which it is presented to the consumer. More precisely, in the way in which the user deals with the content. Therefore I suggest that we take a journey through the available electronic publications with the aim of looking at the different ways in which content is presented and consumed by the user.

4. The linear route — the route march

To us, the post-papyrus scroll consumers, this is the only way to deal with content. You start at the point the author or publisher wants you to and you deal with the complete content from one end to the other. 'I just can't put down this book' is the aim of all authors. The presentation and usage is very much determined by the physical format. And we tend to han-

dle all content in this way. The company report, the dissertation, even the love story is presented and experienced in this linear format.

5. Holiday route schedule

The user is met at a known point and can move through the content choosing given alternative routes. The alternative branch routes are each in their own right actually linear routings from a given point to a given multiple choice point. Just like the travel holiday, there are alternative routes from the beginning to the end location. As the mapmaker, the author decides on the alternatives and has to provide the content for all given alternatives. Sometimes the choices simulate the number of choices in reality, but are often limited if compared with reality.

Many computer games allow players to choose the content they would like to deal with — certainly much more dynamic than the linear route, and the actual products show quite a few variations. The following variations are found:

- very large numbers of alternative routes;
- more than one possible end;
- more than one possible start point;
- the user often never experiences all the content.

The author determines the number of choices and the position thereof. Variations exist and in many cases the user does not deal with the complete content, and quite a few combinations and permutations are possible.

Some hypermedia systems never go beyond this level.

6. The maze

Users are offered one or more entry routes and have to choose alternatives, but there is only one correct one that leads them to the chocolate. A Christian philosophy principle: one preferred end, and along the route you can make the wrong choice!

7. Chinese braais

Chinese braais allow you to choose your own ingredients in the first place, and then you are allowed to cook them yourself. You can even choose any or all of the sauces, and include it before or after the cooking! In the Electronic Publishing products you select the content and have some choice in the elements, sequence and assembly thereof. The variables are many, the content virtually completely user-chosen and linked.

Some systems allow interactive linking with user-input into the content. A good-humoured, sharp group of friends often engages in interactive chatter. It starts with a joke or story told and the individuals will then engage in throwing in self-fabricated elements, related to the previous but offering another perspective. The basic content gets built out with these relevant pieces, but it is not predictable, nor is it repeat-

able. Hypertext is the text equivalent of this, best seen in text applications.

8. Perspective

Unlike the automobile market, 'new' is not always better. Each of the techniques of handling the content has its pros and its cons.

Linear movement forces you through all of the content in a specific sequence. Ideal for educational applications, but not necessarily for recreation. Ideal for the fiction teller, the propagandist, advertiser and chronologist.

The multiple choice route is ideal for applications where the means to the end is more important than the end in itself. Again powerful in education and training. Authoring or building up and testing of the alternatives is time-consuming and could be costly.

The maze is preferred for content where the actual choice is of utmost importance to reach the end. The author has to be analytical and testing done thoroughly.

The hyperlinked content is ideal for the knowledgeable, the limited scope environment or for recreation; useful in higher skill levels of learning or for evaluation; preferred technique for simulation of real life; building up of content more like building a cumulative database of content. Building the content could be left to specific specialists and brought into the system when ready. Interactive linking of the content by the author often limits the scope of the publication and linking by users could be very single minded. A combination of this plus indexing specialists could give the best results. I am of the opinion that hypertext and hypermedia applications are in dire need of indexing knowledge — it is no short cut or do-it-yourself trick.

Previous media allowed some of this. The fiction story chose the linear route, some travel or adventure stories allowed you some choice after each chapter, and the encyclopedia chose the Chinese braais. Close scrutiny shows that the media were often the limiting factor — try to have multiple choices in a paper-bound book or on an audiocassette. So we see that the development of alternative media opened new doors.

8. The media alternatives

Put the interaction with the content on one axis and the media on the other. So we add graphics, audio and moving video to text (Figure 1).

Electronic media brought us the possibility to integrate all these elements into one publication. We find the electronic media mind-boggling because of the impact of the integration. In aid of objectivity I suggest we use this matrix to identify what we are dealing with — remember to add feel and smell when we get there!

	Text	Graphics	Audio	Moving video
Linear route				
Route map				
Maze				
Multiple linking				

Figure 1: *Interaction with content on one axis, media on the other.*

9. Electronic publishing

Electronic mail brings mailboxes, bulletin boards and forums to the PCs of this world. The medium and its content is what Vannevar Bush envisioned after the Second World war. The

The author

most stunning is its immediacy — which is just adding to the speed of our already high-speed lives.

Databases are clear first products of the electronic publishing era, with paper indexes already secondary products in the mid-seventies.

Computerised text or multimedia presentations are fast to replace overhead projector media and glossy brochures. These applications are enhanced to multimedia collections with hypermedia links, of which the Hungarian archives are a good example.

Computer games flooded the full scope of the applications. Get a sound blaster card and experience the impact. Be warned — this will filter into the workplace and home and we had better be ready to evaluate the products, or build them ourselves.

A last word on electronic publishing: it might give us the tool to re-imburse the author directly for access to his product.

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Johan van Wyk has a BA(Hons) and an MBibl degree. He manages the development of the CSIR Worldnet Gateway; this includes electronic publishing developments using CDROM or traditional microcomputer database systems. His experience includes the selection, development, implementation and management of text retrieval systems; development of CDROM applications, including design, application and pre-mastering; information needs analysis; information management; information literacy; and indexing. Previous professional positions include Lecturer in Library and Information Science at the Rand Afrikaans University; Manager, Information Officers at Infoplan; and Information Planning with BankorpData.