CONTENT MANAGEMENT - THE USERS' REQUIREMENTS

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ABSTRACT

The trading of content between broadcasters requires that descriptive data and some versions or illustrations of the content may be quickly assessed and the commitment confirmed and honoured with the minimum of delay or administration. However, the ownership of content can be complex and anybody intending to trade the property of a third party has obligations to the owner and prospective purchaser.

The Atman project is seeking to model content trading using both archived programmes and live events coverage as examples. The issues raised and the overall requirements of such a system will be presented in the paper which will then extend the principles to the more general field of the supply of content by broadcaster to audience via the range of distribution methods available (PAL, DVB, DAB, Internet etc) whether the user watches live or records the programme.

INTRODUCTION

Whether the viewers go to the local Video Shop to rent a movie or watch live they are consumers of video entertainment. Their purchases are part of a long and complicated chain in which performers, television production teams, sponsors, distributors and other rights owners or agencies all play a part.

The process is currently referred to as 'Content Trading' and depends critically on the type of content involved. Transactions at all stages must protect owners’ rights to charge for, and protect their property whilst encouraging impulsive purchases where decisions may take place immediately prior to, or even during, a live event. Such impulsive decisions may even involve a distributor who decides to carry a topical event because it has unexpectedly achieved public interest. In the field of News and Current Affairs, such decisions are commonplace. The current AV content market is based on a 'hit and miss process' of advertising, producing extracts on tape and a many-to-many relationship between content provider and content consumer.

The ATMAN project will be described as an example of one way in which Content Trading can be improved within a commercially secure framework. This framework will then be examined to establish its application to the more general operations of trading content and delivering it to the audience.

ATMAN

The aim of the ATMAN project is to provide a trading mechanism (or broker) for all digital audio-visual material regardless of the final delivery mechanism to the audience. The project also aims to provide the technical, commercial and legal bases upon which a company could be established, the prime purpose of which is to collect AV content, perform value added
operations, and sell it on.

ATMAN aims to rationalise this scenario by acting as a 'broker' between provider and consumer, such that a many-to-one relationship exists between content providers and ATMAN, and a one-to-many relationship exists between ATMAN and content consumers.

ATMAN is able to identify individual sales and is thus able to notify rights collections (who may be part of ATMAN itself), so that digital trading does not cause a loss of earnings for those involved in the creation of the content itself.

One of the central concepts of ATMAN is the open access to information provided by such technology as the World-Wide-Web (WWW). ATMAN combines this powerful tool with the capability of broadband ATM to carry the content itself to provide a facility by which prospective buyers can browse or download in real-time (or faster) the digital content offered for sale.

A spin-off from the vast amount of metadata stored by ATMAN and the amount of information available about buyers and vendors is that Rights Collecting Agencies can identify sales and transfer of ownership: one of the worries of such Agencies in the past has been the thought that trading in digital media could lead to loss of content through unauthorised high-quality copies flooding the market, etc.

Furthermore, the development of high-speed mobile satellite links is now making it possible to sell content gathered by Satellite News Gathering (SNG) methods as soon as it is received.

**THE ATMAN MODEL**

Below is a simplified schematic showing the exchanges of data and content that is being modelled within the ATMAN project.

![Fig. 1 - The ATMAN Model](image)

**The uploading phase**

A Content Provider, who wants to make some Content Material available for sale through ATMAN, accesses the ATMAN Core System and uploads the Descriptive Information associated to the Content.

This Descriptive Information (or Metadata) must include:

- The location of the Content and a description of its form.
- Commercial conditions that would apply to the trading of the Content.
- Information to Market, or promote use of, the Content.
It could, additionally, include:

1. An audit trail of information about its component parts
2. Browse information in the form of heavily compressed images and sound
3. Descriptive notes that might be useful to any end user
4. Alternative usage information and cross-references

If it exists in a suitable form, the Content itself could be uploaded to the ATMAN Core System or it could remain resident on the Content Provider's site. In any case, the location and manifestation of the Content must be coherent with the associated Descriptive Information.

Retrieving phase

A Content Searcher accesses the ATMAN Core System and performs searches on the Descriptive Information. Having identified some content that could be of interest, he can view it and locate it. At this point, the Content Searcher can trade (under commercial conditions specified in the Descriptive Information) the contents he needs and consequently have it downloaded or delivered to an appropriate site.

Interactions with the "Rest of the World"

Because the Descriptive Information is available via the WWW, it can be access by anybody. In this way, the availability of content can be assessed without the need to be a member of the Content Users' Group of the ATMAN system.

Before a user obtains access to any Content, the ATMAN System Operators, however, require some verifiable establishment of:

- Credit worthiness
- Technical facilities to receive the Content
- Trust that the content will not be exploited beyond the contracted use.

General requirements of users in content

Basic requirements of users of a System like ATMAN include the standardisation of:

- cataloguing - with uniformity regardless of who provides the Content
- search and retrieval - which must be easy to use without training
- browsing interface
- network protocols

It is also necessary to accommodate:

- multiple users - including content providers who may have similar content and broadcasters who may compete for the same audiences
- Multi-linguism - applying to Content, Content provider and Content Searcher
- Access security - so that all users are properly verified
- Data Security - so that data paths cannot be intercepted

The user of any new content trading system needs encouragement and help in establishing his exploitation and benefit of the system and the Content that is accessed via the system. Understanding his viewpoint is vital in the development of such systems. It is also necessary to respond to his comments and criticisms. The creation of pilot systems and the field trailing in accurately realistic trading situations is vital. During such a trailing operation, the initial
expectations and reactions must be captured since they may dominate the uptake of the system.

The use of an Internet Browser for the user interface satisfies, in part, the main need for user-friendliness; at the same time it has the advantage of being a well-known tool for any Content searcher. This leads to consequent advantages in terms of user reaction and the time needed to be operative on the system.

The ATMAN system will trial the trading of archived television programmes and live coverage of events.

In the case of the Archived Programmes, the user model is complicated. The broadcaster derives obvious benefit from better knowledge of the range of archived programmes that could be available for purchase. The archive owner also extends his market and would expect to improve his income. A further benefit could extend directly to the home viewer who might search for an oft remembered favourite programme. He could obtain information about the programme and any intentions to broadcast or release recordings. He may even be able to browse the programme.

Live coverage of newsworthy or interesting events involves only the Content Provider, the Content Trading System Core and the Content User in the form of the broadcaster. (It is unlikely that individual viewers would become involved in trading access to live events directly within an ATMAN System.) This provides a significant technical challenge and it is unlikely that browsing would be offered. However, the trading of live events requires a Trading Model which can quickly respond to immediate decisions by broadcasters. They may be affected by the public interest in an event and change earlier decisions about broadcasting it. Such purchases would have to honour the commercial rights. A decision not to purchase might free rights for others. Whatever distributions are agreed, they must maintain the exclusivities which are an important part of the value of such Content.

Integration of multimedia delivery routes into the home (All Roads Lead to Home!)

The above description of the ATMAN System introduces one example of a system that be generalised for the trading and delivery of domestic entertainment, information and education. It could be applied to terrestrial, cable, satellite or pre-recorded discs or tapes. It already assumes the interworking of more than one medium: the Internet and an ATM delivery or a recorded medium conveying the content at broadcast quality.

It is reasonable to expect that the different delivery channels will be used to carry similar content but via different intermediate operators (broadcasters, network operators or publishers). We already have the chance to view a film via terrestrial analogue, satellite analogue, cable analogue and pre-recorded VCR tapes and soon there will be DVD, digital terrestrial, digital satellite and digital cable. This could confuse the domestic consumer of Content (i.e. the viewer). It is therefore worth taking the viewpoint of the viewer, in his domestic environment, in relating the proposed developments, one with the other, to try to simplify his situation.

Whilst the audience is becoming familiar with the growing range of delivery methods used for domestic entertainment, a significant problem still exists over setting VCR's and interconnecting the growing range of hardware. The broadcaster must take a lead in helping the viewer to fully benefit from the welter of technology.
Areas where help could be of immediate benefit are:

- Standardisation of coding and operation
- Automation or remote organisation of local storage
- Global navigation over a wide range of media where the Content is cross-referenced

The MPEG video coding standards already exist as a major unifying force. The heart of all digital boxes could be the same in future. However, that is still a long way from the complete standardisation of all image coding parameters - even the line rates are likely to vary over a wide range. We did not achieve world-wide standardisation with analogue services where we have PAL, SECAM and NTSC. In Europe, we have an example of a data service, Teleext, which operates similarly on different channels.

Progress could be made in identifying core services for each medium. The profile of the use of media then become familiar to the user who then feels his usage of that medium becomes secured.

**CONCLUSIONS**

There is a chance to develop the usage and integration of media if use is made of existing practices and the viewpoint of the user, and his ability to adapt, is closely studied.

Projects like ATMAN form a vital part of the bridge into the exploitation of new digital delivery and access technology.

Whether the use of new technology is for 'industrial' trading or the delivery of entertainment, information or education to the home it would help the user if recognisably common procedures apply and if they build on current experiences.

The integration of uses of new digital delivery methods together with a degree of specialisation and cross-referencing would be beneficial. The present welter of technology is giving many experts a hard time. The users need all the help they can get!