

REDUCING INFO-EXCLUSION OF MENTAL HEALTH SERVICE USERS THROUGH ONLINE CONTENT USING SYNCHRONISED MULTIMEDIA INTEGRATION LANGUAGE

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This paper describes how the multimedia mark-up languages SMIL and HTML+TIME were used to publish three types of online presentations of multi-modal artwork by mental health service users. This technology has the potential to bring the work of artists working with mental health services to a wider audience, at low cost, with fuller participation and also offers a number of new creative possibilities. The presentations included artwork, biography and audio transcripts in static files with the aim of reducing the info-exclusion of multimedia service user artists. The potential of server-side scripting integrating MySQL database contents dynamically into SMIL templates was investigated for its capacity to generate random or topical art displays 'on the fly'. In two prototype server-side applications, PHP scripts used user input to activate multimedia file pointers contained in the database. The feasibility of server-side scripting in terms of browser/player support and other issues is discussed.

Keywords: Information exclusion; arts; mental health; web multimedia; SMIL; TIME; XML

INTRODUCTION

This section outlines the major concepts and stages of the project.

INFO-EXCLUSION

Information exclusion is a problem that's receiving increased visibility within academic and government circles [1]. The term is closely linked to social exclusion. Haddon (2000) points out that Information and Communication technologies (ICTs) provide tools with which people can participate in society [2]. The development of ICTs offering global online delivery of diverse combinations of information and cultural products provides two new dimensions for analysis: interactivity and personalization. Interactivity allows web users, for example, to select the content they wish to consume in the order they wish to consume it, or to publish their own content for others. Personalization allows users to customize online content, so that it can be delivered automatically according to the settings they use most frequently.

It is also worthwhile considering terms closely related to info-exclusion. The 'digital divide' is frequently used to refer to disparity in economic status or access to IT, but is increasingly being overshadowed by the more inclusive concept of 'information literacy'. While this appears to make more room for socio-cultural aspects of information-related behaviour, there is a danger that it continues to advocate passive 'consumption' elements of the information life cycle allied to 'reading'. For this reason 'info-exclusion' is more germane to the conceptual antecedent of social exclusion by reinforcing the role of the web in empowering individuals to produce and publish information of all kinds in their own right.

ARTS AND MENTAL HEALTH

It is well documented that people who use mental health services (service users) in Britain face social exclusion in many aspects of their lives [3]. In the context of mental health and the arts, info-exclusion can result in a lack of awareness of the arts activities available to service users. This is of particular concern due to the rich corpus of anecdotal evidence on the positive correlation of arts activity with mental health – not to mention the scope for some intriguing cost-benefit analysis – as pointed out by the Acting Manager of an arts project affiliated to the Trustwide Arts Steering Committee (TASC) of the South London & Maudsley NHS Trust:

"It's very hard to quantify how the arts can help people's mental health but I think it's obvious when you come to a project like ours [...] I've heard people say, 'If it wasn't for Network Arts Lewisham I'd be in hospital' and the cost of treating someone in hospital is obviously far higher - hundreds of pounds a week - than what our arts project costs" [4]

What then are the characteristics of info-exclusion in this setting? The set of heuristics in Table 1 below was compiled by the authors following informal discussions with mental health service staff and service users. For some service users, the process of producing artwork per se is sufficiently therapeutic, but for others – who may be qualified artists – some public display of their work boosts self-esteem:

“There’s nothing better than seeing your work on a wall where everyone can see it, morale and confidence wise. It gives purpose.” [5]

TABLE 1 – INFO-INCLUSION HEURISTICS FOR SERVICE USER ARTISTS

Problems faced by service user artists	How ICTs can increase Info-Inclusion
Time-consuming, frustrating process to find arts funding information	Link to online funding information sources, can focus on individual rather than group applications
Local arts projects’ publicity depends on experience and enthusiasm of staff	Provide ‘unlimited gallery space’ to every artist on an equal basis
External display opportunities complicated by commercial considerations	Website displays saleable and non-sale artwork, allowing potential purchasers/other interested parties to contact artist easily via e-mail
Internal display opportunities limited by cost, space and media	Display multimedia artwork plus artist details to worldwide audience via the web at a low cost
Can be difficult to appreciate some work if viewer cannot identify with artist/context	User engages with work to higher degree when display is interactive
Service user artwork events marketed largely internally; institutional focus	Disseminate artwork event information with more ‘individual feel’ instantly to worldwide audience
Public only aware of most high profile deceased ‘asylum artists’ e.g. Richard Dadd or Louis Wain	Educate public on talent of contemporary service user artists
Online galleries based on competitive submission	Low pressure on fragile individuals, quick turnaround
Unsympathetic publishing environment beyond control of artists or staff	Artist trusts publisher so ‘safe’ space to publish artwork, and database-driven sites allow updating or deletion by hospital-based, non-technical personnel at any time

Yet social exclusion means that artwork produced by service users is rarely integrated into mainstream galleries, and lack of physical space and financial resources limits viewing opportunities within mental health or art therapy premises.

Electronic publishing and the World Wide Web would appear to be the ideal solution as the online medium transcends the barriers of cost and space. One example of a website displaying artwork by mental health service users is Artworks in Mental HealthTM, a UK-based non-profit initiative which maintains a ‘Virtual Gallery’ on the web [6].

While such online art applications have indeed generated publicity for offline events and deserved exposure for artwork from service users, they remain unsatisfactory for three main reasons. First, they can involve a commercial element with which some service users feel less comfortable, as explained by the artist X, a graduate of the Ruskin School of Art:

“ [...] once you start painting for the money does that contaminate the work? Are you doing things deliberately because you think people will want to buy? Are you deliberately doing a thin woman, who’s blonde, with that glass of wine, because you know that’s what people will buy? You contaminate the work, so I wanted to do work which was nothing to do with any of that [...] “ [7]

Second, competition-oriented projects often entail a complicated artwork submission process involving lags in submission-to-publication which are more frequently associated with print media. Third, there is often little opportunity to present mental health issues or individual biographical information in more detail.

The result is that most mental health service users in Britain are currently unable to access online information about each others’ artwork or to publish their artwork to a broader audience within society despite a frequently expressed desire to do so. An artist involved with South London & Maudsley (SLaM) mental health arts services explained:

“ [...] it [SLaM arts] takes that stigma away and encourages people to come out of themselves [...] people are taking more and more notice of it now, I think it should be publicised on a national level, including the quality of the work.” [8]

Furthermore, those websites which are operational rarely exploit the multimedia capabilities of distributed networks to their full potential. This is exacerbated by a tendency in the field to emphasise the visual arts due to their capacity to transcend language barriers in conveying strong or disturbing feelings, as an art therapist explains:

"There are many people who find it difficult to express how they feel in words, especially when things are painful, worrying or embarrassing. Painting, drawing and modelling in clay may express these feelings more powerfully." [9]

Generally service users who work outside the visual arts or creative writing – for example, musicians, performance poets, film makers and dramatic artists - are effectively excluded from publishing their work in digital form due to the greater technical demands of audio and video.

While the arts have often been marginalized as a ‘peripheral’ activity by funding bodies forced to cover a broad range of health and social issues, the vital dual role they play is being increasingly recognised. First, the

benefits they offer on a personal level to individual service user artists who are given a forum in which to share their experiences.

Second, by encouraging acceptance of people with mental health problems within society, the arts counter often erroneous media stereotypes, as the Acting Manager of an arts project explains:

“Through the tabloid press and sensationalist kind of reporting [...] you'll only ever hear about someone with schizophrenia when something terrible has happened and this is such a wrong picture to paint of people with these mental health conditions” [10]

Increased understanding of mental health via the arts can therefore enhance citizenship on a social level, leading to better health and social policy development both locally and nationally. This is highlighted by Moore's bisected model of social information need which distinguishes 'information for citizenship' from 'information for consumption'. In the former category, he posits that access to social information is critical to enable everyone to:

“[...] play their full part as active citizens, making democratic choices, holding organizations of all kinds to account and exercising their rights and responsibilities as members of society.” [11]

The South London and Maudsley NHS Trust Arts website (<http://www.slamart.org.uk>) on which this paper is based is the first NHS-linked website dedicated to showcasing mental health service user artwork from a local area. Launched in September 2002, the project has been welcomed by the community as an innovative way of tackling info-exclusion, building on media campaigns in Britain designed to combat the social exclusion of mental health service users:

“Many of our members have had exhibitions, many quite high profile, and perhaps maybe two or three hundred people might have come to a private view but I think what [this site] gives is the opportunity for people to show their art to [...] potentially millions of people, which I think is an amazing opportunity. It's something which our members appreciate and [it] gives motivation, makes people part of a worldwide community.” [12]

PROJECT CLIENT

The South London & Maudsley (SLaM) NHS Trust is the largest public health organization of its kind in Europe, with over 4000 staff operating from 183 sites. There are over 6,500 people with severe and enduring mental health problems living in its catchment London Boroughs of Croydon, Lambeth, Southwark and Lewisham; 2,700 of which use mental health day services provided by the Trust. SLaM has close links with the Institute of Psychiatry, the only UK postgraduate institution focusing on the practice and study of psychiatry and allied fields; and Bethlem Royal Hospital, founded in 1247 as 'Bedlam' and widely acknowledged as the first mental health asylum in the world.

PROJECT PHASE I

Phase I of the 'SLaMart' arts website was commissioned in Autumn 2002 by the Trustwide Arts Steering Committee (TASC) to promote the rich heritage of the Trust in relation to the Arts in mental health, and to support individual health service users by publishing and publicising their artwork. The project is therefore very much aligned with one of the Trust's core values, to value diversity and combat stigma and discrimination. It also benefits from the input of the Trustwide Arts Co-ordinator who, with a background in fine arts and marketing, is ideally placed to provide aesthetic and commercial expertise.

The gallery sections of the site work by drawing images dynamically from a Microsoft Access database. ASP (Active Server Pages) scripts grab file pointers from the database file stored in the web space then generate artwork images in the 'gallery' web pages displayed in the browser. The database also generates static html for news releases and annotated web links elsewhere on the site. The website was designed so that new bitmapped images and text attributes could be easily added by non-technical personnel, and includes the basic multimedia feature of audio poetry files in both RealMedia and WAV format.

The website was launched at the Trust's AGM in September 2002 after an intensive development period involving service user input from 10 local Trust-linked projects. The creation of the site is detailed in full in an MSc report published by City University [13].

PROJECT PHASE II & PHASE III

Feedback from service user artists and the client during the course of Phase I indicated genuine enthusiasm for extending the project to encompass a wider range of media types and for introducing an element of interactivity in artwork presentation. In the Spring of 2003 the development team was expanded from one to four, in order to manage fresh content acquisition, digitisation and transcription followed by database migration, scripting and research. Both phases are still in progress at the time of writing, so this paper presents preliminary findings.

METHODOLOGY

Initial online and offline feedback on Phase I from site users was combined with the results of usability testing carried out pre-launch. The client was interviewed for their assessment of Phase I of the project and to obtain their requirements for Phases II and III in terms of content, aesthetics and project budget. TASC members were also given the opportunity to contribute suggestions for further development.

The client required an interactive online electronic publication with extended multimedia capabilities at low cost so SMIL was selected as the best technical development platform. Unlike Flash and other proprietary streaming-media architectures, SMIL offers a text-based, w3c-approved development environment which is nonetheless capable of assembling audio, video and animation as well as text and images in dynamic presentations.

CONTENT ACQUISITION

For both phases this entailed gathering and processing images, audio, animation and video. In addition to widening the range of media in which artwork was presented, the content strategy also aimed to acquire more in-depth information on artists and the artistic process beyond the basic details gathered in Phase I. A number of interviews were carried out with service user artists and TASC-affiliated staff, from which audio extracts and textual transcripts were produced.

Consistent with content guidelines drawn up in Phase I of the project, care was taken to obtain informed consent from all contributors. This involved explaining the purpose and ‘look and feel’ of the proposed presentations in accessible terms, especially given the sensitive and biographic nature of the personal accounts obtained.

PHASE II METHODOLOGY

In this phase, the individual SMIL presentations were created as static files (where the content and timing of every presentation element was fixed via the source code of the file). While these stand-alone presentations limit user interactivity, they offer the developers greater flexibility in spatial organisation than that afforded by Phase III, which required that media elements be bounded within a fixed nine-panelled ‘grid’ structure.

SMIL 2.0 quickly proved to be a preferable option to the more basic SMIL 1.0 because of changes to its grammar, layout and timing, and the addition of “profiles” to boost compatibility between different sets of players and browsers. Regions of the screen containing any media can be animated; media clips in the same region can be linked via transitions (e.g. wipes and fades); and synchronisation functions provide better purchase on timelines. The newer version retains the characteristics which give SMIL advantages over older authoring languages more suited to CD-ROM delivery: comprehensive modularity and the facility to link to web pages and internal anchors.

The specification chosen for this phase is continued into Phase III, with the addition of HTML+TIME (Timed Interactive Multimedia Extensions) 2.0, a Microsoft flavour of SMIL currently supported solely by Internet Explorer 5.5 onwards in Windows. This browser-oriented variant offers some interesting alternative functionality.

RESULTS

PHASE II

Presentation one is based on video work by service user Paul Warwick, and displays extracts/video grabs from four titles. Presentation two displays a timed sequence of animated ‘close-ups’ on a painting by service user artist ‘X’, while the artist describes the symbolism in each part via an audio track. Presentation three is an interview with the Acting Manager of an arts project and contains quotations from Patch Adams M.D., the renowned American physician and social activist who advocates a holistic, humour-based approach to healing. By reflecting the inspiration this provided for the staff member in question, depth is added to the presentation:

“Health is based on happiness [...] from hugging and clowning around to finding joy in family and friends, satisfaction in work, and ecstasy in nature and the arts” [14]

Presentation four shows transcript extracts from an interview with a service user artist who recounts the story of how he ‘left a well-paid job’ as a newspaper sub-editor before experiencing mental health problems and the positive effect of arts activity on his subsequent recovery. This presentation displays covers from a magazine founded by the artist which scroll across the viewer’s visual field in parallel with audio extracts.

These SMIL presentations will eventually be made available via hyperlinks at the existing website.

PHASE III

While SMIL is a promising way of presenting digital multimedia content without requiring proprietary development tools like Flash, the drawbacks of traditional SMIL presentations as created for Phase II of the SLAMart site are obvious.

Like static HTML on a traditional website, presentations must be coded individually, with existing presentations “set in stone” as there is no way of adding new or removing obsolete content without manually modifying the underlying code. In comparison to HTML, however, this problem is reinforced by the fact that, somewhat paradoxically, there are few visual authoring tools for SMIL that might allow a site administrator to update a SMIL-based website or to create new presentations without possessing in-depth knowledge of the underlying mark-up language.

Phase III of the SLAMart project therefore aimed to overcome these constraints by creating a way of dynamically generating the multimedia presentations, and modifying the database created for the Phase I web pages to create the HTML+TIME and SMIL presentations. This phase had to be implemented under the significant constraint that all functionality had to be achieved using standard database and scripting solutions supported by an off-the-shelf, low cost website hosting package. An additional requirement was that the technical infrastructure had to work without requiring ongoing technical support.

DATABASE MIGRATION

The first step towards achieving this goal consisted of migrating the database from Access to MySQL to create an infrastructure better suited for the multiple concurrent connections required by a web database supporting multiple applications. The structure of the core database used for the Phase I website was converted to MySQL unchanged. The database structure was then extended to allow for more targeted querying of multimedia assets (see Table 2 below).

The current database contains separate tables for animation, images, audio and video artwork, each containing file pointers to the artwork files (most of them available in different file formats), textual transcriptions of poems and songs, finer categorization of the files, and further information. In addition, separate tables contain information about the artists and their medical conditions, and are linked to the artwork via foreign keys.

TABLE 2 – ARTWORK TYPES REPRESENTED IN PHASE III DATABASE

Medium	File types	Subtypes	Additional information available via database
Video	Quick Time, Real Media	Poem	title, duration, full text, artist’s details
		Personal (Interview, Biography)	title, duration, keywords, artist’s details
		Digital Art (short movie, experimental video)	title, artist’s details
Audio	Real Media, WAV	Song/ Poem	title, duration, full text, artist’s details
		Music	title, duration, artist’s details
		Personal (Interview, Biography)	title, duration, keywords, artist’s details
Images	.gif, .jpg		title, keywords, description, price, medium, style, size, artist’s details
Animation	.swf	Poem	title, duration
		Digital Art	title, duration, artist’s details

When conceptualizing the presentations, fundamental decisions had to be made about the degree of interactivity to be supported by the presentations.

“With web art the viewer or user is the ultimate creator through the very nature of its interface [...] The interactivity with web artwork is intimately part of the piece itself as the viewer is forced to make ‘arbitrary’ choices which ‘makes the viewer feel that he is actually participating in the unfolding of the work’ [15]

While this holds true for any “cyberspace” art exhibition, SMIL offers enhanced possibilities of increasing viewer’s participation, as it facilitates the coding of interactive effects that were hard to achieve previously. Ultimately, using SMIL, a user can even be permitted to fundamentally alter the intended display of a piece of art, e.g. when he is given the possibility of activating an audio clip multiple times, thereby giving a single voice polyphonic characteristics.

The dynamic generation of such artwork presentations has the potential to give the viewer even further control, as they are not limited to consuming pre-assembled combinations of artwork, but can be given next-to-unlimited options of selecting artwork and combining it into a single presentation. Such possibilities raise questions of art theory (does arbitrary combination of artwork add value, give new perspectives, create new artwork, or spoil existing artwork?) as well as of web usability (how much interactivity do users want, and how can we prevent them from getting lost in select-options?).

To investigate the problems in balancing interactivity and “multimediality”, we decided to support different levels of interactivity and different numbers of media types in two prototypes of database-driven multimedia presentations.

PROTOTYPE 1

Prototype One makes use of HTML+TIME 2.0 to play a presentation seamlessly in a web browser window. For this prototype, we limited the media types on display to sound and images, but gave viewers multiple options to control the display via a form preceding the actual creation of the presentations. Viewers can choose if they want to see images at all, and if so, are able to select any combination of artist, medium and style. They can also choose if they want to include audio elements, and, if so, select by artist’s name and/or clip subtype. All these selections are implemented via drop-down menus whose options are retrieved dynamically from the database.

For all these combinations, viewers can also control the temporal display of the artwork by choosing either a fully interactive presentation, where the start and duration of the display of any images and audio clips that match the viewer’s selection is triggered by button clicks, or alternatively an automated presentation, where images and audio clips run in a predefined sequence. When selecting such an automated presentation, viewers can choose the duration of the display of individual image elements (seen in Figure 1 below).



FIGURE 1 – PHASE II SCREENSHOT SHOWING CENTRAL ARTWORK IMAGE FLANKED BY ARTWORK AND AUDIO TRACK INFORMATION

PROTOTYPE 2

For Prototype Two, a dynamic SMIL 2.0 presentation targeted at RealOne player, the focus was on the inclusion of all media types available in the database. To avoid overtaxing users in their selection process, the interactive selection options preceding the creation of the presentation were reduced: viewers are able to select a presentation of all artwork by a specific artist (to achieve true multimedia presentations, only the names of artists who have artwork in different media types in the database are given as options), or a presentation of works by artists who experience similar mental health conditions.

PRESENTATION GENERATION

In both of the above prototypes, these user selections are forwarded to PHP scripts which start the creation of the multimedia presentation by executing content-independent instructions to create and append a variable with static HTML+TIME or SMIL code. This fixed code creates a basic template which determines the screen layout and the positions of the multimedia elements. The basic template for the HTML+TIME presentation divides the screen space into five regions, made up by <div> layers. The template screen area of the SMIL prototype is made up of a grid of nine panels or areas, each of which acts as a “home area” for one specific media subtype. In both templates, however, information relating to one single multimedia item can span up to three neighbouring areas.

To fill these templates with content and create a multimedia presentation based on user input, the script has to retrieve relevant content from the database, prepare it for display, synchronise both the sequential display of artwork and the parallel display of related information over several regions, as illustrated in Figure 2 below. Finally, the script must give users the opportunity to control the presentation, seen also in Figure 2 (top of middle column).



FIGURE 2 – PHASE III SCREENSHOT SHOWING CENTRAL ARTWORK IMAGE FLANKED BY ARTWORK AND ARTIST INFORMATION

In the PHP script that creates the SMIL presentation, a set of database queries checks, for each region, if artwork that meets the selection criteria exists. If artwork is available, a <brush> element sensitive to mouse clicks is created for the corresponding region, and a graphical button symbol indicating the region’s contents is displayed on top of this <brush> element. The individual works of art are retrieved by looping over query results, and echoed out in <seq> tags within the display areas.

By combining these sequences with <excl> and <par> containers, we ensure that clicking one of the <brush> buttons starts the sequential display of the artwork associated with this region and stops other artwork from playing. For artwork elements that have parallel textual information, neighbouring regions are used to display synchronised RealText files that are also created dynamically from database records.

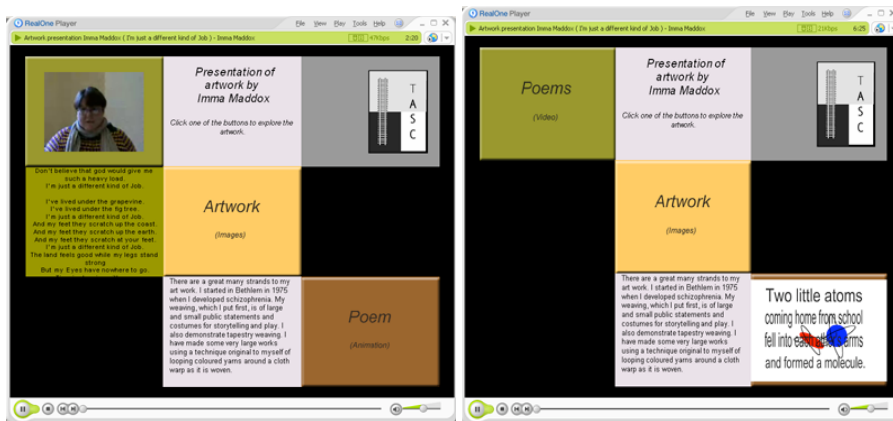


FIGURE 3 – PHASE III SCREENSHOTS SHOWING REALTEXT FILE SYNCHRONISED WITH A VIDEO CLIP (LEFT) AND AN ANIMATED PANEL (RIGHT)

For example, the screenshot to the left of Figure 3 shows the scrolling text of the poem (middle of first column) being read out by the poet in the video panel (top of first column). The screenshot to the right of Figure 3 shows a Flash animation based on a different four-line poem by the same artist (base of third column) [16].

DISCUSSION

Our experience has shown that HTML+TIME and SMIL are sufficiently similar to HTML to make the creation of dynamically generated, database-driven multimedia presentations feasible without requiring non-standard software or server extensions. Creating SMIL on the server-side could in some situations even be easier than creating dynamic HTML web pages, as SMIL’s “targetelement” attribute removes, to a certain extent, the need to code the visual screen display in linear fashion from top to bottom. Although this can help to use database recordsets more efficiently than in HTML, it must be mentioned that the need to repeatedly run database queries to synchronise elements of a timed presentation still puts a high load on any database.

In addition, the following issues (sub-headed below) have to be taken into consideration when using multimedia assets from the same database for display within different file types and in different player environments.

IMAGES

In SMIL, the display of assets that have an intrinsic height and width (e.g. images) is controlled via the “fit” attribute. For database-driven presentations, where assets may be used in several environments and sizes, it would make sense to have a “fit” option that shows such assets in their original size if this size is smaller or equal to the size of the display area, or to scale them down preserving their height-to-width ratio if they are bigger than the display area. Lack of such a value means that either cropping, distortion or artificial enlargement of assets has to be expected in a dynamically generated SMIL presentation, or versions of assets that are specifically resized to fit an area of a SMIL presentation have to be added to the database.

PLAYER SUPPORT

Another potential problem of storing multimedia files for different players in one database lies in varying file support between players: RealOne, for example, does not support progressive .jpps.

Problems become more obvious when it comes to including text elements in a presentation. While text for HTML+TIME presentations can be included directly from the database, and the resulting dynamically generated file can be echoed to the browser rather than being stored in a physical file on the server, this is impossible for SMIL presentations viewed in the RealOne Player. Although RealOne can play text written directly into a SMIL file, it is next to impossible to directly echo textual database content out into a SMIL file, as inline text in SMIL requires the use of escape characters, e.g. %20 to represent a space. Although this could be achieved via replacement operations, it is impossible to apply timing, positioning or basic styles to such inline text.

Hence, the only feasible way of synchronising multimedia elements with textual description in RealOne is the dynamic creation of RealText files together with the creation of the main SMIL file. While the use of RealText allows for interesting effects like text that scrolls with the words spoken in a video clip, its stand-alone file status has several drawbacks: it adds to the overall file creation time, the need to give users permission to write into server file space may raise security issues, and the fact that multiple files are created for one presentation raises the issue of housekeeping on the server.

DATABASE DESIGN

Proprietary RealText features like scrolling text may also have implications for database design. Ideally, text running in parallel with a video or audio clip needs careful synchronisation – at least an individually calculated “scrollingrate” attribute. For dynamically generated presentations, this scrollingrate would have to be stored in the database as an artwork attribute. However, as an abstract attribute like this cannot be determined without detailed knowledge of multimedia editing and authoring, decisions have to be made between making a database manageable by administrators without detailed multimedia knowledge, and including abstract information that could conceivably add value to a SMIL presentation.

OUTLOOK

Ongoing SMIL initiatives are not sufficiently developed to solve the presentation deficits identified in this project. For example, the Timed-Text format pending later this year to synchronise streamed text with audio and video would greatly improve the parallel delivery of the media types discussed in the previous section and simplify tasks such as captioning and subtitles [17].

CONCLUSION

While this pilot project is on a small-scale and results are as yet incomplete, three preliminary conclusions can be drawn with relevance for applications with similar technical aspirations or in related social sectors.

First, SMIL is confirmed as a relatively new but cost-effective means of generating powerful multimedia presentations that are widely accessible without requiring the purchase of specialist authoring or ‘playback’ software. Even so, sub-optimum browser support for SMIL continues to threaten the apparently all-embracing possibilities offered by dynamic creation of SMIL files. RealOne, which can safely be called the prime SMIL browser - in that it has the most satisfactory support for SMIL 2.0 and a significant market share - is occasionally peculiar and unreliable in its interpretation of basic SMIL features. Also, due to the gradual evolution of SMIL support, it is very likely that a presentation that plays without problems in one version of a player will nonetheless show inconsistencies in other versions. Furthermore, the expense and expertise required to generate and tailor good quality original content for such presentations should be seriously considered by organizations in the public or voluntary sector who consider it an ‘easily accessible’ development solution.

Second, the need to involve stakeholders in a meaningful way at all stages is crucial given the complex and time-intensive nature of the artifacts produced, and the *raison d'être* of this type of project – to combat the info-exclusion of a social group with sensitivity and effectiveness. Development teams lacking a background in the arts, social psychology and mental health awareness will have a steep learning curve, as health and social

services personnel have even less time or staff than their commercial counterparts to brief and liaise with content contributors.

Third, the unique contingencies – legal, semantic and syntactic - of different multimedia assets must be carefully considered by multimedia developers from the outset. From ensuring copyright-free background music and anticipating problems in the combination of several media elements to maintaining a positive perception of mental health services despite the negative experiences of individual service user artists.

The authors would like this project to serve as a model for the development of future work on online arts in healing, and to explore further imaginative ways of both connecting online service user artists and engaging the general public with mental health issues.

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