

Chapter Seven: Design of electronic surfaces for the interface

1. Surface Design and Interaction of Pathways

The interactive screens appear as a virtual stage upon which image/sound/text arrangements appear as if conjured from a dream or recollection. The surface of the screen represents dramatic action where the user making choices triggers transitions between content areas. Every screen place can be likened to the refrains of a musical composition, waiting to be played by the user.

The transition from page to screen, from the printed script to the electronic, creates the need to design the surface of the screen. This includes typography, layout of text and graphics that are visible in the frame, and the interface design or the system structuring user access and navigation of these surface elements. The arrangement of information on the screen and interactivity with that information triggers movement through the stories. Navigation of *metropolis*, *chineseBOX*, *jewelBOX*, and *pandorasBOX* stories are motivated by the player/participant's response to the screen environment. Slippage between and across these interactive screen surfaces, through participation in actions with the interface, provides for the player an experience that challenges traditional modes of narrative in audiovisual presentation and their perception of musical structure.

These traditional modes of narrative are also challenged in the interface design, where the user's desire to move through the image, sound and text arrangements produce a subjective interplay of textural meanings thrown up through the digital manipulation of photographs; digitised film footage; graphic and sonic representations of musical score; voice-over; and the creation of hypertext links. Furthermore, these interactions create a questioning of the relationship between the biographical, historical and musical narrative possibilities produced in the multimedia environment.

The *metropolis*, *chineseBOX*, *jewelBOX*, and *pandorasBOX* pathways are composed as a series of interactive screens and are designed to interact dynamically with each other. These screens are produced using the combination of multimedia software programs and create the seamless transition from one screen to the next. Every screen is designed to have a pathway element present, not visually, but concealed as an interactive hot spot triggered by mouse.

The designer/producer's orchestration of image, sound, and text relations and the player's navigation of these arrangements are analogous to the relationship between the composition and the performance of music upon the musical instrument. Composition is thus rendered as soundtrack, melodious vocal lyric and musical composition and referred to by graphic representation of the music scores and instruments. The significance of the musical compositions are both visual and auditory where individual notes and musical phrases are treated as icons which open up and into the different narratives. The graphic and sonic representations of the musical scores provide the transitions between past and present.

2. Interactivity

The primary modes of interaction involves the passing of the cursor across image and text and the clicking of the mouse on images on the screen that are programmed to precipitate dramatic action and the downloading of digital video and audio fragments.

3. Aesthetics

The use of Colour and Black and White Imagery

The audiovisual material was recorded and sourced from an original archive of material from my personal collection of documents and artifacts from my grandfather Sergei Ermolaeff; related to Russian jazz culture in Shanghai in 1930s and 1940s. This material has been enhanced by interviews with my father Serge Ermoll Jr. who is also a

jazz pianist. Material has been sourced from the documentation of classical Indian dance performances and interviews with the artists (*Odissi/ Kuchipudi*); and documentation of performances and interviews with Australian *Rembetika* group *Rebetiki Ensemble*. Additionally I have used existing archival material such as vinyl recordings of original music, and digitised recordings of vinyl, black and white photographs, news text, publicity material and concert posters, and film footage. Through the process of digital manipulation of these visual materials it has been possible to simulate film footage sequences. This has involved animating still photographs, tinting images and colourising in post-production.

3.1 Treatment of image

Digitised photographs

The digital manipulation of scanned photographs utilising Adobe Photoshop software effects and modifying details of the image have enabled the exploration of meanings thrown up by them as traces of the past, historical documents and sentimental objects. These photographic images consist of portraits of the musicians and artists; original artwork; publicity photographs of jazz entertainers; political icons and leaders; actors and actresses; performers; artists; family photographs and studio portraits; and specifically the documentation of the performances of *Odissi/Kuchipudi*, *Rembetika* and Australian Jazz.

Digitised film footage

The digital editing and manipulation of appropriated film utilising Adobe After Effects and Flash computer software has enabled me to experiment with the temporal flow of the moving images by altering the timing of frames per second; modifying motion by altering the moving image in motion settings and utilising filters; and in the layering of image sequences using cross dissolves, pixel dissolves and additive dissolves to refer to the passing of time and to act as transitions between sequences and interactive screens. The digitised film footage includes reportage; Super 8 home movie; and documentary material.

Digital Graphics

The digital graphics are composed of digitised musical score, personal letters and documents such as the imaging of the musical score as a pictorial script representing notes, chords and the imaging of hand writing in the form of intimate letters as a representation of the personal; the imaging of government documents, passports and identity papers. The digital manipulation of graphic resources involved the layering of images; cropping of images; zooming into details of images; altering the image sizes (dots per inch and dimensions); and altering the image hues and saturations, levels, and colour balance. Other items digitised were record labels; postcards; billboards; film posters; maps; stamps; bus tickets; corporate logos; political propaganda; consumer product brands from the ethnic community; currency (notes and coinage); newspaper imagery; and street signs.

Shockwave, Flash and QuickTime animations

Adobe Photoshop images and digital video sequences have been combined to produce QuickTime animations which have then been transformed into Shockwave and Flash movies. Digital image, sound and text resources are generated to produce moving image sequences that are edited together. During this process further effects, filters, transitions and tempo modifications alter the appearance of the image. In this important stage of production it is crucial that the most effective compression is utilised when combining these multimedia elements and exporting for use in the interactive programming environment of Director MX.

3.2 Treatment of Sound

The soundtrack elements have been generated and mixed utilising Pro tools computer software. Original musical performances have been recorded on digital video. Sound atmospheres have been recorded and sourced through accessing an audio archive and film soundtrack fragments and sound effects have been incorporated. The voice-over and interviews have been recorded and edited in the digital software

environment. *blackBOX* enables the player to listen to and to re-play audio fragments within the program.

3.3 Treatment of Text

The textual elements are derived from Sanskrit and greater mythic and religious texts and jazz and *Rembetika* lyrics. The Sanskrit texts researched include the *Mahabharata*, *Ramayana*, and *Vedas*. The ancient Greek texts researched include Ovid's *Metamorphosis*, Virgil's *Aeneid*, and allusion to ancient Greek culture in British literature, for example the poetry of Shelley and Byron. The texts researched for the *chineseBOX* section include Baptist and black suffragist texts relevant to the jazz genre; formal historical narratives; biographical texts, memoirs and personal papers; passports; documents; letters; reportage; newspaper clippings; and musical script. These texts form visual elements of the screen surfaces, inform the production of the soundtrack, and are able to be read as text, they also appear as graphic components in animation sequences.

3.4 Treatment of Time

Due to the nature of interactive digital media, narrative is no longer based on a fixed temporal flow where there can be an arrow through time that leads to a single goal. Interacting with the interface has dramatically altered the perception of time in experiencing the unfolding of a given plot. Each user will navigate the work at their own pace, and make decisions about how the story will unfold. This potential of infinite options is to a certain degree illusory, given that every screen is programmed to have certain outcomes in terms of the trajectory of plot. Nonetheless, these media do enable the player/participant to make the decision about the duration of images explored on each screen and the ability to move to another screen and area of content in the program or on the Internet. *blackBOX* invents a series of options for the player that

draws attention to the ways in which events in time are represented, recalled and embellished, specifically in relation to the temporal possibilities offered by these media.

3.5 Emotional Engagement with Multimedia

Michael Davis was engaged by the Institute for Interactive Media and Learning (2002) to develop a model of *emotional tagging* for the University of Technology's website www.uts.edu.au. In his model Davis plots emotional responses on three axes that capture user's emotion at various stages of engagement with the University of Technology website.¹ Davis's model proposes a psychological approach in understanding human interaction with multimedia products. Davis defines our experience of a new multimedia product as our *First Impression* and associates this with our sense of *Being and Identity* in the world. We emotionally respond to the product in terms of our personal feelings of *Fear and Safety* in relation to interacting with the product. Davis defines our active participation with the product as *Doing/ Action* and associates this with an emotional response to the product in relation to the extremes of *Anger and Love*; and finally Davis identifies engagement with the product as resulting in *Having/ Accomplishment* and he associates the emotional response to the product as moving between *Sadness and Joy*.

Michael Davis's² model of *emotional tagging*³ was enhanced in an unpublished paper (2002) by postgraduate student Jackie Morgan. Students were assigned various multimedia products and asked to analyse them using Davis's model of *emotional tagging*. Morgan developed her own personal theory of interaction design entitled "*Designing successful*

¹ R. Krstof and A. Satran, *Interactivity by Design*, Adobe Press, California, 2001.

² Jackie Morgan (unpublished) *Personal Theory of Interaction Design*, Digital Information and Interaction Design paper, Master of Interactive Multimedia, Institute for Interactive Media and Learning, University of Technology, Sydney, May 2002, p25. Morgan engages with Michael Davis's model of *emotional tagging*.

³ "In amnesic patients (hippocampal damage) it appears that...showed enhanced recognition memory for emotionally arousing story elements compared with the non-emotionally arousing elements, in Richter-Levin G, Akirav I, "Emotional tagging of memory formation-in the search for neural mechanisms", *Brain Research Reviews*, Vol. 43, No. 3., 247.

<http://www.ingentaconnect.com/content/els/01650173/2003/00000043/00000003/art00224> [accessed 14 June 2005].

interactive experiences". According to Morgan's paper, the intuitiveness of interaction with the multimedia product, its visual design and the user's familiarity with the media could be aligned with Davis's *Being/ Identity* axis. She pinpointed the area where the user considered navigation, consistency of interaction style and design in the context of media as aligned with Davis's *Doing/ Action* axis. The area where the user is influenced by *emotional* response in regard to a multimedia product is related to how well the media met his/her expectations. The content of the product, and the success of the user in achieving his/her goals in interacting with the media are associated with the *Having/ Accomplishment* axis.

Taking into consideration Davis's concepts, the designing of a multimedia experience⁴ moves the program developer from 'outcome' focussed planning to 'motivating' experience.⁵ Students learned that the key concern in creating an interactive experience was the ability to influence the emotional experience of the player/participant. Morgan's paper focused my attention, as her teacher, on the idea of 'emotional engagement' when approaching the development of an interactive script for my project *blackBOX*. The player/participant needs to be instantly interested in moving into the program, there needs to be initial *Attraction*; the screen environment should invite the player/participant to reveal the material, this allows for active *Engagement*, and finally there needs to be some feeling of satisfaction, accomplishment in the task/experience of playing, a sense of *Achievement*.

Thus the visual design of the program needs to be a familiar and recognisable screen environment, where one can intuitively engage with and be motivated to navigate successfully through a set of electronic events and tasks that provide the player/participant with a sense of their

⁴ N. Shedroff, "Experience Design", *Experience Design I*, New Rider, 2001 and Jesse James Garrett <http://www.jjg.net> [accessed 10 July 2005]

⁵ Jackie Morgan op cit p25.

expectations either being met or challenged or where there is a sense of accomplishment in the conclusion of the experience.⁶

These ideas influenced the design of the *blackBOX* program: the visual screen design, the interaction design, and the navigational design. The player first needs to be attracted to the surface design and motivated to engage with the program, there has to be a set of tasks engaging the player to motivate movement through a recognisable environment that had a consistent set of visual and sonic cues. The opening up of the narrative was created so that it might be triggered through movement across these electronic screen surfaces.

⁶ Jackie Morgan op cit p25.