Artists Collaborating to Create Digital Stained Glass

Lynne Hall and Delia Whitbread

University of Sunderland
Sunderland, SR6 0DD, UK
lynne.hall@sunderland.ac.uk, delia.whitbread@sunderland.ac.uk

Abstract

In the Womb of the Rose aims to create an online environment that will enable professional artists to participate in the creation of a cohesive collaborative artwork based on a medieval sacred art form - the rose window. Current research is focused on the development of the Wombrose workspace, a virtual workshop to facilitate collaborative design and the creation of an online community. A brief study on the use of the Wombrose workspace is presented. Results highlight the need to meet artists’ needs and expectations through the support of appropriate working practices. Initial findings indicate that a rose window provides a suitable vehicle for on-line collaborative artwork.

1 Introduction

Virtual environments have been used successfully to enable collaborative design (Maher, Simmoff, & Cicognani, 2000; Ragusa & Bochenek, 2001) and performance (Benford, Fraser, Reynard, Koleva, & Drozd, 2002; Meader, Kurt, & O’Neal, 2003). However, there are few virtual collaborative artworks (Lovejoy, 2004) that focus on the creation of a cohesive art work, except at the gallery level or grids making patchwork assemblies.

Stained glass rose windows are collaborative artworks requiring input from many artists to create a cohesive, coherent whole. In mediaeval society, stained glass became the most powerful defining feature of the new Gothic Cathedrals – “carpets of light filled with narrative details and patterned colour” (Kemp, 1997). Rose windows are a form of sacred art, where the geometry controlling the patterned stone tracery makes for a collective whole that is valued more than the individual panels (Cowan, 1979). As such, the rose window template provides a perfect vehicle for cohesive collaborative art.

This paper discusses In the Womb of the Rose, a project that aims to create a digital stained glass rose window collectively. The project uses the traditional craft of stained glass as a framework to develop a rose window design celebrating culturally diverse images of femininities in digital media (Whitbread, 2001). In the Womb of the Rose will result in a collaborative digital artwork in virtual space that can then be viewed in either real space, as a projection or on a digital screen. Through applying principles based on the formation of contemporary on-line communities and allowing opportunity for democratic participation in the editing process (Preece, 2000), a collaborative environment will emerge. This will be achieved through creating a community of artists independent of editorial control.

Section 2 briefly discusses other collaborative internet artworks. Section 3 introduces stained glass and its creation, introducing In the Womb of the Rose and providing a short overview of the rose window design. Section 4 discusses the Wombrose Workspace, where the rose window is being created. Section 5 describes a small study of the use of In the Womb of the Rose. Section 6 presents our response to this study and identifies current activities for In the Womb of the Rose.

2 Collaborative Internet Artworks

Internet Art work projects like have evolved simple systems to make collaborative art works and build on-line communities to communicate via contribution to the image and to later discussion. There are a number of sites where artists contribute sections to the making of a larger work. They primarily use a grid system, creating a patchwork of contributed designs, asking only that the design take account of its neighbours in some way, as in Communimage, in figure 1. In the Fusion Project (Mueller, 2004) “intercontinental collaboration creates works of art involving a single concept/theory, using the application or abandonment of structure, for the goal of establishing group based individual thematic translation.” Programme Director, Lianne Mueller, describes the resulting artefact thus: “...[the] artistic piece in its entirety, is greater and profoundly more interesting than each of its parts. ...
Maybe the very act of collaboration brings about this phenomenon. Soup tastes far better when you add more ingredients, so why shouldn’t art be the same way? Simplicity can be beautiful, and collaboration doesn’t mean using every spice in the proverbial spice rack, but it does mean a couple of cooks (or mad chefs) get to add their own flavor to the pot. No matter what comes out in the end, you can count on it being utterly unique and maybe even amazingly delicious.” This definition of deliciousness is a matter of taste and can be judged by the resulting artwork, figure 2 presents part of a larger image in HypArt-Hybrid (HypArt-Hybrid, 2004).

These collaborative graphic interfaces are popular, for example Gridcosm (2004) has 23140 images with 19266 contributors. Participants regularly send images to the site and exchange views about the results in the site chat rooms. However, the level of discussion is not helpful in understanding any design process as it is confined to reactions and justifications of images, added more in a spirit of anarchy than aestheticism. Conversations do not form part of the creation process. The complete collage can only be seen small-scale on screen with an overall effect of a chaotic map of fields as seen from a satellite - only intelligible when one zooms in to individual elements.

As a work of art this is a limited vehicle but it does show how international communication can be accessed for collaboration over the Internet. The larger step is to make a more complex vehicle for this process that might genuinely produce a work that is both as successful as a collective entity and as distinct individual contributions. Such a thing cannot be made without using more professional means - i.e. the use of a more sophisticated template and the application of proper design principles that might be utilized by artists and interested individuals alike.

3 Stained glass: the transition from real to digital

This craft of stained glass evolved throughout the Middle Ages to produce the most monumental architectural art that Europe had ever seen (Erlande-Brandenburg, 1993). The revival of the craft, through the Arts and Crafts Movement in the Victorian age brought new developments in traditional glass skills up until the 60's with painters such as Piper and Chagall creating glass designs in collaboration with glass makers for new churches like Coventry Cathedral (Lee, Seddon, & Stephens, 1976). Since then other glass techniques have evolved for current architectural work that employs large areas of sheet glass. Traditional stained glass has proven durability and quality but what will be its future in the 21st Century?

Glass making is a collaborative craft requiring the employment of many different craftsmen in the process - from the artist who makes the designs and drawings for the overall window to the labourer who installs the finished pieces in the stone tracery. In the process a studio will employ a variety of skilled craftsmen - glass-cutters, painters, acid-etchers, sandblasters and leaded light makers. This studio system is not a democratically collaborative process as the craftsmen have no autonomy over the designs they make. It takes a particular design skill to create the intricate patterns of coloured cut glass that make up a leaded stained glass design. Unlike a painting, the designer has to create cut-lines that will be leaded into the panel. The lead lines, being bold and black, must support the image and not work against it. Such design work is well suited to digital imagery on a computer screen. Like stained glass, digital computer design works through transmitted light that creates a jewel-like surface in flat colour that on the screen. This makes glass one of the few craft mediums that will
not lose in translation. Further, virtual space offers the potential to create digital stained glass that unlike, the rose window of Chartres, can be projected in many different locations.

### 3.1 Sacred Art as a creative framework

The framework within which *In the Womb of the Rose* is placed is that of Sacred Art. Sacred Art originates in historical and religious traditions where artwork had collective meaning based on a common belief system. When a work is defined in terms its collective meaning rather than the individual efforts of artists involved then it takes on the aspects of sacred art. The goal of sacred art is objective and not to be confused with the personal religiosity of the artist. This is not the art of individual expression – this would be in anathema to many traditions and would have been heresy in the middle ages. If the work's physical form becomes more interesting than its subject matter, or the content has no collective meaning for its intended audience, it will fail in its overall purpose (Couterier, 1990). Universally sacred art in all religious traditions has been supervised by religious institutions based on iconic images handed down through centuries (Burckhardt, 1986). In an age where all the texts were in Latin, the narrative function of stained glass was to give the verbally illiterate medieval congregation a text-book of images to illustrate the Bible's teaching and the liturgy (Favier, 1990).

### 3.2 Rose windows as both sign and symbol

The glass produced for the medieval Cathedrals is still unrivalled in scale and beauty. The most magnificent of these windows were the large scale circular designs that are known as rose windows; both for their flower-like form and their frequent association with Virgin Mary, the flower of perfection for Christian theology at the time (Favier, 1990). Platonic Sacred geometry was particularly interested in the symbol of *squaring the circle* - the square representing the finite world and the circle the infinite. Consequently rose windows combine the finite and infinite both with narrative and geometry. Rose windows were a metaphor of the soul’s search for God at the heart of things as well as a sign showing the prime significance of Christ or the Virgin Mary (Cowan, 1979). Historically rose windows expressed the Christian hierarchical structure as revolving around a central panel depicting a primary deity (Christ or the Virgin Mary) who will be surrounded by circled ranks of Angels, Prophets, Saints and famous biblical figures radiating out in descending realms of importance.

### 3.3 *In the Womb of the Rose* and artist participation

This project was inspired by ‘The Dinner Party’ made collaboratively by Judy Chicago and co-workers - an installation consisting of a triangular table of 39 ceramic plates and runners celebrating female figures from the past and the tiled floor of 999 names of significant women from history (Chicago, 1986). This project demanded considerable commitment from the 'co-workers' who had to be physically present in her studio for months. It was never a truly democratic exercise as all the designs were created by Chicago and executed with her supervision. *In the Womb of the Rose* aims similarly to celebrate culturally diverse images of femininities but it will not represent particular personalities (Whitbread, 2003) Also, artists involved are be credited fully and will have personal control over editing their contributions. Placing *In the Womb of the Rose* in virtual space offers artists a channel for collaboration, providing both synchronous and asynchronous engagement. The Wombrose Project differs from the *Dinner Party* in several areas:

- The use of a framework that would facilitate a consistent stylization and did not need a radical reinvention of figurative imagery.
- The innovative use of an existing traditional form and iconic imagery, with representation of female figures that did not represent particular individuals.
- High levels of democracy and autonomy for the artists with collaboration supporting engagement

### 3.4 Wombrose window design

The rose window is formed of 29 major figurative panels and 198 smaller pattern panels to make up the decorative tracy. The Wombrose window was designed using the same principles of Platonic Geometry that directed medieval design but re-created to support a more contemporary multi-cultural/faith content. The overall pattern is based on the geometry of 7 (sacred to the feminine in many cultures). The design scheme for the content of the panels was based on the same allegoric principles as the Christian medieval model. From the central Cosmic Egg the
subject matter of the 28 major panels moves outward in 3 expanding circles. The two inner circles of 7 are the abstract (first the supra-rational world of archetype/goddesses and second the mythical world of Heroines). The outer 14 circles represent the material finite world with the work of real women. This makes for 3 separate areas for design collaboration - Goddess, Heroine and Women's Work-as seen in figure 3.

Figure 3: Section of the Geometry of the Wombrose window

3.5 Creating digital stained glass

One of the main objectives of the Wombrose project is to give the craft new life and relevance in a digital age dominated by computer technology. The design principles of medieval glass with its bright colour, clarity of image and clear outlines offers an innovative collaborative opportunity in a digital graphic form. The website for the Wombrose project (Whitbread, 2005) contains several pages of historical background information to explain the particular stylistic conventions of medieval glass. It has design specifications for making the images and provides scale templates for each level of panels into which the new designs will be adapted so as to conform to the final rose window structure.

Figure 4 outlines the stages involved in translating a paper design to a digital template. Designs are done on paper - either painted or collage - and then scanned into a graphics programme for the later work and for uploading to the gallery workshops. Clarity is added with colour and white space before the black lead lines. Then the image can be further modified in the downloaded template for inclusion into the design.

![Figure 4: Stages in creation from paper to digital design](image)

These tools can be used by participants without any need for discussion - and they can send designs to the site without any interactive involvement. However the workshops are intended to support the design process by allowing participants to discuss the stages of their design development together in order to co-operate and create an agreed
visual coherence in line with the aims of the overall design. This process facilitates the fostering of online community with shared aims and objectives who can feel they have contributed equally to an artifact with real aesthetic value and meaning in both real and virtual worlds.

4 The Wombrose workspaces

The approach taken to In the Womb of the Rose firmly places the artist at the centre of the design process. Our focus is on supporting the artist in their participation in the creation of a digital rose window seen collectively, rather than in the creation of individual panels. Using (Bullock, 2004)’s classification structure for collaborative virtual environments, Wombrose is classified as needing to support Activity (Virtual, Real). This identifies that the activity, the collaborative composition of a digital stained glass rose window, can only take place in a virtual setting; however, the activity is performed with real artefacts. These artefacts are the stained glass images provided by each of the artists, thus, even though the artefacts are presented in a digital format, they are real in the sense that they have a permanent existence with a real owner.

Using collaborative virtual environments presents users with an explicit obstacle between themselves and their collaborators, as each person must first interact with the artificial shared environment and then interact with the occupants and contents of that environment (Churchill & Snowdon, 1998). Ensuring that the interaction and display is a value-adding bridge and not a frustrating and de-motivating barrier is a key issue for In the Womb of the Rose. This environment will support two main user groups, firstly, the artists and secondly the viewers, with the current focus on the primary user, the stained glass artist. In supporting artists, In the Womb of the Rose aims to

- Reduce costs, anxiety and storage issues for collaborative artwork
- Provide artists with instant access to the Curator/Editor
- Provide artists with an opportunity for dialogue and consensus
- Support artists in viewing each other’s artwork and collaborative design
- Increase profile and exposure of contributing artists

4.1 Supporting the work process

Supporting a stained glass artist in their participation in a digital rose window required considerable consideration of the process involved in rose window creation, resulting in the approach detailed in figure 5.
Figure 5 reveals how the Wombrose Workspace includes the real workspace where the artist uses real artefacts to create a stained glass design, the computer workspace where the artist uses digital tools and facilities to make their work available to the other collaborators and the virtual workspace that provides an area for the artists to work together and collaborate. The Wombrose Workspace enables a collaborative, communicative activity (design discussions related to part or all of the entire window) to occur, rather than the physical creation of the individual panels. The 28 panels are divided into 4 separate workshop spaces that consist of 7 panels in each area so that communication is not too complex at the early stages. Only after the individual groups have completed their designs will all 28 participants meet on-line to discuss the whole window together. The artists are involved in 4 main activities, creation, incorporation, negotiation and inclusion, that occur across the workspaces.

4.1.1 Creation

As can be seen from figure 5, the task of creating the actual stained glass panels is not incorporated within the shared virtual environment. Although each user is aware of the overall theme and representation of the window and the section that they are working within, their own creativity is not restricted beyond the design brief that all of the artists are working towards. During creation, artists will meet collaborators to discuss subject matter. This should prevent the possibility of duplication and allow artists to determine key design implications such as the relative size of figures or the collective border pattern and colour. Artists create their panel individually, as either a digital or real image. This involves the creation of the initial image and the changes and manipulations that emerge due to discussions with other artists and the editor. Creation occurs off-line within the real workshop of the artist, allowing the artist to use their preferred techniques and approaches, rather than enforcing a single solution on a diverse set of users, thus replicating the real world approach to artistic creativity. The creation process is bound through the templates that determine size and shape.

4.1.2 Incorporation

Artists upload their image into the Wombrose Workspace and make it available to other users. In discussions with potential users, there is considerable concern about this activity, with artists frequently having only limited competence and experience. An earlier version of Wombrose was rejected due to usability concerns and has been replaced with a simplified incorporation process supported through extensive help.

4.1.3 Negotiation

Working to a design brief is a common experience for practicing stained glass artists. Designs are subject to rigorous scrutiny at committee stages by the client and often subject to reworking in the process. As in the real production of stained glass, the artists enter the shared workshop ready to modify their designs in relation to the suggestions and decisions of the work group. They come ready to make suggestions, defend their own decisions and ensure that they thoroughly understand any design decisions and the implications these have for their individual panels. Within the shared workspace collaborative activity is achieved through synchronous text-based discussion and relates to ensuring that the stained glass within sections and as the rose appears consistent, cohesive and aesthetic.

4.1.4 Inclusion

Inclusion is a fragmented process, representing both the start and the end of the collaborative artwork. With initial inclusion the artist becomes part of the In the Womb of the Rose collective, having access to the Wombrose Workspace and the potential for collaborative interaction. Currently, inclusion in the workspace lies solely in the hands of the Curator. At the end of the process, inclusion is of the panel. This inclusion is determined by the acceptance of all of the artists within all of the three levels (Archetypes, Heroines, Women’s Work) and involves the Curator who places the panel within the rose. Although the artist’s individual work is completed at this stage, their collaboration is needed until all of the panels have been included.

5 Interacting with the Wombrose Workspace

The Wombrose Workspace is an evolving environment and figure 6 provides an early version of the Wombrose Workspace. The artists meet within this space to discuss design issues, with the aim of collaboratively creating a
level within the rose window. Although artists can upload images within the Wombrose Workspace, they cannot edit these and the function of the workspace is to support discussion. As can be seen from figure 6, the artists can view the various images produced by the other artists for that panel. These images are permanently visible, irrespective of whether their creator is present. They can also view the position of their panel within the rose window. Communication is supported through colour coding the artists, with their text entries and panel having the same colour. The aim of this colour use is to support both recognition of the artist and the ease with which an artists thread within a conversation. If the Curator (referred to as the moderator) is available, M is placed in the centre of the rose.

Figure 6: Early version of rose window workspace for group participation

Currently, we are involved in a pilot project to test the Wombrose Workspace and have tested the In the Womb of the Rose approach taken to collaborative digital stained glass production with 16 art students (undergraduates and MAs) mainly in the 19-25 age group. The participants created their own stained glass, uploaded this, and then discussed the overall design of their section of the rose window with their collaborators within the on-line workshop (at separate geographical locations), as shown in figure 6. The following week participants took part in a face-to-face discussion to consider their experiences with In the Womb of the Rose.

5.1 Results

The main results obtained were:

- Supporting Artists
  - Artists are typically novice users, with limited IT ability and knowledge
  - Few of the artists had attempted to create digital art and there was typically only limited, superficial knowledge of graphical programs.
  - Artists use IT infrequently and this is mainly for recreational browsing or for report creation.
  - Artists need support in converting real images into a digital format. Scanners viewed negatively.
  - Several artists requested (and were given) direct support by the Curator to help scan real images.

- Supporting Interaction
  - Procedural help (provided as “how-tos” in the form of web-pages) was considered to be of high value and all participants identified that they had followed the steps provided.
  - Synchronous on-line communication was very slow, with few of the artists able to enter text quickly. Some users identified that this was frustrating. Artists identified that being able to verbally discuss their activities and issues would be preferable to using text, however, none had ever taken part in audio or web conferencing.
Artists identified that the colour coding of the discussion helped them to follow who was saying what. Several suggested that the Who’s online list should also replicate this colour coding. Although this had been done within the panels of the rose window (with panels either greyed out or in the discussion colour if the artist was on line) no one noticed this.

The artists criticised the lack of consistency between the uploaded images and recommended that identical templates were provided for each image. Several artists found this lack of a standard template highly confusing and were concerned that it would have an impact on the window (e.g. that different sized panels would be used).

- Supporting Collaboration
  - Artists were positive about the use of a stained glass rose window for collaborative artwork, highlighting that it was an appropriate artwork to try to design collaboratively (e.g. that the virtual was replicating the real)
  - Workshop design discussions tended to be brief, highly focused, positive and to result in group design decisions about aspects such as border colours and leading
  - Artists did not ask the Curator for input except for help with the software and equipment
  - The opportunity to view the panels whilst negotiating was seen to be useful, however, artists identified that they would rather see all of the panels distributed on the screen as tiles, rather than have to scroll to view each panel.
  - Artists suggested that the panels should be placed directly within the rose rather than as separate tiles as this would make it easier to gain a holistic view of the window.
  - Artists were generally unaware of the colour coding within the rose window. This colour coding was intended to support them in knowing who else was on line and which panel was their responsibility. However, artists only noticed this when it was pointed out to them.

- Supporting Community
  - Artists suggested that more on-line information was needed about the collective. They suggested that collaborators would want to know what each other looked like, to see examples of each other’s work and to have some background information about what their collaborators at both professional and personal levels. Artists suggested that without such biographical information that it would be difficult to develop a relationship that was anything but fleeting.
  - Artists felt that it would be fun to be part of an international community working towards a common goal, however, they did voice concerns about inappropriate behaviour, such as uploading offensive images and the potential of inappropriate text within the workspace. Artists also highlighted their worries about participants being overly critical of each other’s work.

6 Discussion

The artists involved in our study had been mainly in the 19 - 25 age group. Prior to the study we had assumed that UK art students within this age group would have a high degree of computer familiarity and literacy. This was not found to be the case with limited competence particularly in the use of digital art tools. This had been identified as a potential issue for artists in an earlier study (Whitbread, 2003), thus we had already created extensive help and a tutorial for using graphical software. However, we were surprised at the level of reliance on these pages. The results from this study and from additional discussions with art students, lecturers and practitioners have confirmed our findings that applied artists use IT infrequently. Typical activities include word processing and shopping on the net, rather than artistic endeavours. Of those who had used graphical packages, many felt that these were unintuitive and aimed at users with high technical skills rather than artists themselves.

The artists in our study had considerable problems using technology that they were not familiar with. Of particular note, were the difficulties that artists perceived in using peripheral devices such as scanners. None of the artists had scanners within their personal work spaces and several had never used a scanner and requested assistance from the Curator. This is a disturbing finding as the intention with In the Womb of the Rose is for geographically separate artists to collaborate in the creation of the window. If artists have difficulties either locating or using scanners then there may be significant problems for them in uploading their images into the Wombrose workspace. Our main concern is that artists will exclude themselves from the Wombrose project in the belief that they will be technically unable to participate. We have attempted to alleviate this problem, through including extensive help, supported with photos, examples and comments from artists who have participated in the project. The growing availability and use of digital cameras may also provide a more appropriate mechanism for converting images.
The help that we created for the Wombrose workspace was found to be of considerable use by the artists. They found the procedural nature of the help highly appropriate. Although there is considerable evidence that users do not use help (Grayling, 1998), in the Wombrose workspace this help avoidance was not observed and artists readily accessed and followed the help. The Wombrose help is never referred to directly as help, instead it is provided as “how tos” thus possibly avoiding the negative connotations of help.

Although the artists enjoyed the collaboration they were often frustrated by the speed of their text entry. Their slow speeds of entry resulted in very limited discussions with design decisions involving little argument or disagreement. Whilst there may be the potential to extend the Wombrose workspace to use web conferencing, it could be suggested that this would add a level of perceived technical difficulty and problems with access to peripheral devices. Currently, we are looking at the possibility of providing canned phrases helping to reduce the amount of typing involved. Artists would then select the opening portion of a phrase and add in additional text. However, even though only limited discussions occurred these did enable artists to make collaborative decisions about the overall appearance of the glass. Border colours were decided upon and adhered to as were leading conventions. This indicates that artists can work collaboratively towards a cohesive design within the virtual workspace.

Although strongly focused discussions are typical of stained glass work, these take place within additional narrative often relating to an artist’s previous experience or with reference to the work of others. Such wider discussion is an important aspect in the formation of an artistic community, with awareness of influence and experience enabling artists to gain a deeper perspective of their collaborators. We recognise that this is not possible through synchronous text-based communication and are in the process of extending the Wombrose workspace to include asynchronous discussion areas. Similar to the creation of the stained glass, such activity would take place within the artist’s private workspace and would then be incorporated into the virtual workspace.

The artists were positive about the visual aspect of the Wombrose workspace. They did criticise the non-standardised approach taken to the images and were confused by images of different dimensions within the workspace. This issue has now been addressed and all images are resized into a standard template size.

The Wombrose window has three panes, one with the discussion in it, a second that allows participants to see all of the designs at current stage of development and a third that presents an overall view of the rose and identifies who else is in the collaborative workspace. Our use of colour coding within the rose window (with each panel represented by a different colour, duplicated in the discussion window) had no impact on the artists, who were unaware of this attempt to provide information about who was present within the workspace. The information about who was on-line was duplicated through a list of names below the discussion panel. These results suggest that there is little benefit in the permanent display of the rose window to the artists, if its primary purpose is to identify who is in the collaborative workspace.

However, the permanent display of the rose window is important as it aids artists in focusing on the collective nature of the creation of stained glass. The artists did identify that they would prefer to view all of the panels at once, ideally within the rose window. Currently, we do not support the insertion of the panels directly into the rose window nor its immediate update, however, this is a long term aim of the project.

Artists were positive about the idea of an on-line community for creating collaborative artwork. They felt that a rose window was an appropriate vehicle that made sense within the context. Artists did believe that it would be a positive experience to be part of an international community working towards a common goal. However, they did voice concerns about inappropriate behaviour, such as uploading offensive images and the potential of inappropriate text within the workspace. Whilst some of the inappropriate behaviours identified by artists such as swearing, bullying and dominating the discussion are typical of concerns in many multi-user environments (Hall & George, 1999), artists also raised a number of issues that related specifically to others approach to their creations. The results suggest that the success of an on-line artistic community would also rely on a strong level of respect between artists, with criticism being constructive and positive. Artists did identify that negative and destructive criticism would quickly encourage them to leave the collaborative workspace.

The role of the Curator is to ensure that the artists’ experience is constructive and the guidance provided for the workspace does focus on the need to respect the views, opinions and work of others. However, the artists in the study did not interact with the Curator except to gain technical help, thus suggesting that the role of the Curator is not clear. We are currently investigating the Curator role and attempting to identify ways to ensure that this is more collaborative then simply a source of technical information.

7 Conclusions

This initial experiment with the workshop approach of In the Womb of the Rose has identified that it is possible to engage a community of artists in the production of a collaborative artwork. In general, artists were positive about the
approach and quickly understood how to use the Wombrose workspace. Of key importance has been the need to replicate the real-world approach taken by artists with a separation of the workspace into image creation (allowing the artist freedom in their selection of tools and techniques) and design discussion.

Current work focuses on exploring the longer-term use of *In the Womb of the Rose* with different groups of participants trying out the space for an effective comparison. These will include figurative artists and illustrators with competent computer skills, stained glass artists with some computer skills, and digital artists with good computer skills but no stained glass experience. The workshops will be ongoing and a collaboratively compiled window agreed by all parties will be on-line by December 2005. A projection of the finished window is planned for spring 2006. If this is successful then funding will be sought to make an international design using invited artists worldwide.

**References**


