

# THE ARCHITECTURAL HISTORY WEB-SOURCE: LEARNING THROUGH COMPOSITION AND ROLE-PLAY

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## **Abstract**

*The Beaux-Arts Concours is an interactive self-guided tutorial on architectural composition delivered on the web. The tutorial is based on a nineteenth century French School of Architecture. Students are required to submit an electronic design of a building using the appropriate architectural vocabulary. Upon submitting their work, students must change roles from being a nineteenth century student, to being a member of the jury. They then vote for the best submissions within their group.*

## **Keywords**

*architecture, Ecole des Beaux-Arts, visual design, role-play*

## **Introduction**

The *Beaux-Arts Concours* is an interactive self-guided tutorial on architectural composition in which students are asked to compose a plan and elevation using a visual kit of parts. The tutorial is based on the nineteenth century French School of Architecture, the *Ecole des Beaux-Arts*, which used a rigid compositional method for architectural design. The work, based firmly within the Classical language of architecture, used systems of symmetry, proportion, repetition and hierarchy, as well as strong connection between plan and elevation, to build up compositions. Students of the *Ecole* regularly undertook competitions, in which they had a limited time to prepare plans and elevations. The students' competition entries would then be judged, with prizes awarded as appropriate. The teaching system was highly influential in Europe and America and was the pre-eminent method of architectural design on continental Europe for most of the nineteenth century.

The module draws on many of these principles, including the competition system. Students are required to submit an electronic design of a building (plan and elevation) using the appropriate architectural vocabulary of the *Ecole des Beaux-Arts* (which is provided in a visual kit of parts). Upon submitting their work, students must change roles from being a student of the *Ecole*, to being a member of the jury. They then vote for the most successful submission within the tutorial class (using the assessment criteria of symmetry, proportion, repetition and hierarchy). Winners are awarded *médailles* and *mentions*.

## **Educational Objectives**

The *Beaux-Arts Concours* is one of a number of projected web-based interactive resources that aim to improve students' knowledge, comprehension and analysis of architectural history. The use of an

interactive medium is designed to promote an active involvement in a non-linear approach to history. The educational approach is twofold. Firstly the students are learning the principles of *Beaux-Arts* architecture by designing (Naidu, Anderson & Riddle, 2000). Secondly the students are engaged in role play as both students and jurors from a nineteenth century school. Laurillard (1993, p. 190) points out the value of students acting out other roles in order to discover first principles for themselves. In this case the aim is that the principles of *Beaux-Arts* architecture will be reinforced through judging the work of their peers.

## The Beaux-Arts Process

The *Beaux-Arts* online system is constructed to be delivered as a set of web pages on the Internet. The system includes Shockwave interactives, dynamic HTML and is supported by the Online Courseware Component Architecture (OCCA) database for storage of individual student and tutor input (Fritze, Welch & Ji, 2000). The process for delivery is as follows:

1. The composition creation and voting functions are all initially inactive.
2. On a prescribed date the subject coordinator activates composition mode.
3. Students log in to the system using an individual username and password. They follow a link directly to the *Beaux-Arts* Drawing Board and create their plan and elevation composition. The Drawing Board is a Shockwave movie linked to the OCCA database and it allows the storage of each individual student's work. The students have a period of one week to construct their composition.
4. After a week, the coordinator turns off composition mode and activates voting mode. Students view all compositions within their group and choose three or more to add to their personal shortlist.
5. Students then move on to the voting page in which they study each of the compositions they have short-listed and vote for first, second and third place. Students can add comments against each of their nominations indicating why they feel the composition is a good example.
6. The tutors view the compositions of every member of each group. The tutor disqualifies any composition that breaks the *Beaux-Arts* rules, and types in an explanation for the disqualification into a text field on the same page. The tutor can also view and censor any undesirable student comment.
7. After the voting period has past, the coordinator deactivates voting, and updates the overall vote tally for each group. The system automatically determines which members of each group have been awarded first, second and third prize. The results are then forwarded to the "Prize List" page.
8. The Coordinator then activates the "Prize List" page for all users to view. First, second and third prize-winners of each group are shown. By clicking on the name of a prize-winner, the user can view that composition.
9. Students are also able to view their own composition. They can see comments from other group members, their tutor, or the coordinator. If their composition has been disqualified, the reason for disqualification is also displayed.

## Technical Features

### ***Beaux-Arts Drawing Board***

The *Beaux-Arts* Drawing Board, implemented using an interactive Shockwave program, provides the student with a visual, menu-driven environment in which to create their construction. The interactive module consists of a plan view and an elevation view of the composition, each having its own palette of images (or kit of parts) to use in the construction. The Drawing Board is versatile in that the images can be easily changed to meet other needs.

Users have a number of editing functions that allow them to create complicated compositions easily. These include: images can be dragged from the palette and dropped onto the board; images can be repositioned or removed; images can be rotated; users can flip an image piece horizontally or vertically; images can be resized; the layer position of an image can be changed using "Bring Forward" and "Send Back" commands; images can be cloned with the original properties preserved (size, location and rotation); students can load and save their work to and from the OCCA database, and clear the drawing board.

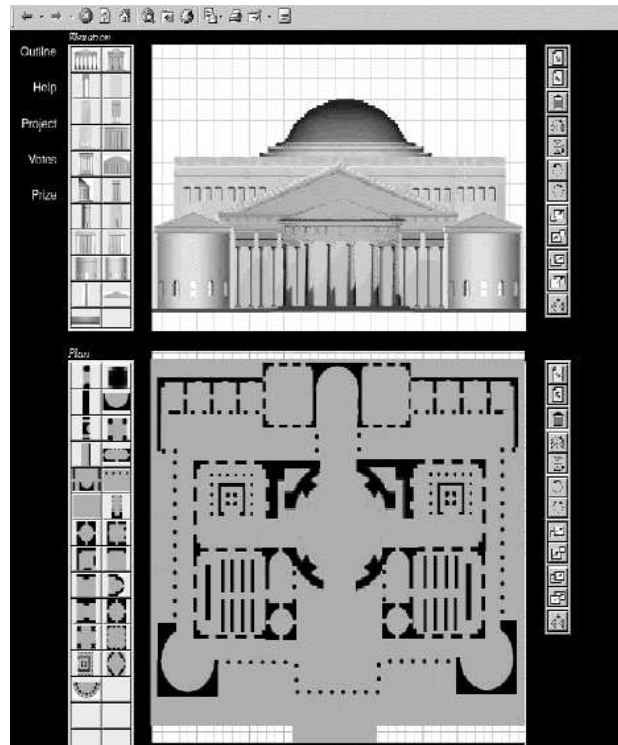


Figure 1: The Beaux-Arts Drawing Board

### **Flexible Delivery**

The *Beaux-Arts* site is a flexible environment in that it allows users to access all its elements on and off campus. Each time the user logs on, the last saved state of the environment is loaded regardless of where the user is accessing the system.

### **Anonymity**

The anonymity of the student creators of each of the compositions is important to prevent any personal bias from affecting the outcome of the voting process. Therefore, each user is automatically assigned an alias by which their construction can be recognised, but which provides no way for another student to determine the identity of the composer.

### **Short-listing and Voting**

The shortlist process is one in which students in a group view their group members work and choose a selection. Because this shortlist has been saved to database, the user can log onto the system anywhere and anytime and the state of this shortlist page will be reloaded. Students then progress to a voting page to register their first, second and third choices.

### **Administration Functions**

Built into the system are a number of administration tools designed to: batch register students from the University's main student web system to OCCA as student users; create an arbitrary number of "student" groups; assign students to groups; create a "coordinator" user, who is able to control the delivery of each component of the system; create a list of tutor users, and assign each tutor as the controller of one or more groups.

### **Automated Functions**

The system will automatically close a user's session after around 30 minutes of network inactivity. The drawing board regularly communicates with the OCCA server in order to keep the connection alive and allow auto-saving. The tallying of votes for individuals in each group is also performed automatically by the system.

## Evaluation

Formative evaluation strategies within the project consisted of : the testing of a prototype drawing board by several postgraduate students and academic staff; a further test of the full composition and voting system with a broader selection of students and academic staff. Both tests were conducted in the Architecture Faculty computer laboratories. Each test provided valuable technical and conceptual feedback to assist in the design of the system. Summative evaluation consisted of monitoring student (and tutor) work both during and after the exercise and administering an online survey at the conclusion. A number of paper surveys, which were different to the online questionnaire, were also handed out to get more detailed feedback. Of the 67 students enrolled in the subject, 43 (or 64%) completed both the composition and voting phases. There were four groups with approximately equal numbers. Here is a selection of the findings:

1. Those students who completed the exercise generally did it very well. The level of complexity of the designs was very good. Students spent around 120 minutes on the composition and 30 minutes on voting. They returned to the exercise from two to five times. The instructions and competition rules were clear.
2. Some students had saving problems – the wording of the onscreen message needs to be clarified. Some students had difficulties in downloading the plug-ins over a modem.
3. Additional tools to assist tutors would be useful, eg. an indication of which students have saved their compositions.
4. The comments field on individual submissions was used, though not extensively.
5. One student was disqualified for not following the design rules – tutor comments were sent to this student.

## Conclusions

After some initial technical problems the program was able to run within its limited window of time with a majority of students completing both phases of the exercise. Any technical difficulties were to do with downloading and installing the Shockwave plug-in from home, or rendering problems in a Netscape browser (overcome by using Internet Explorer). Some improvements to tools for tutors could be made. The educational evaluation of whether students have been able to learn the Beaux-Arts design principles is achieved through tutors visually verifying the compositions and through the responses to the surveys. The paper survey offered much more in terms of understanding of educational objectives. The results reveal that the exercise achieved its goals in terms of helping students to gain a better understanding of architectural history – some of the answers in the surveys demonstrated very good understanding of the principles and insight as a result of the jury process.

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