Alternative CAD User Interface

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The primary goal of the Alternative Cad User Interface project is to provide a traditional draughting environment (i.e. drawing board) that interacts with a CAD application. This will involve combining existing hardware elements with a customised version of a modern CAD application such as AutoCADâ. The customisation is required to remove the command line aspect of the workstation, and simulate the traditional draughting environment.

Since the Egyptian dynasty (3000BC), draughtsmen have been blending form with function using the time-honoured tools of the trade: rulers, set squares, compasses and drawing surfaces. Although these tools have been updated and improved over the last 5000 years, there had been no fundamental change to the way that buildings were conceived and documented until the advent of CAD (Computer Aided Design). This relatively recent approach to draughting (the first commercial CAD system was produced in 1969) has seen sweeping changes to the way that buildings are documented, affecting such aspects as the order of documentation, the ease with which previous drawings can be stored, copied or retrieved, e-mail capability, the speed at which changes can be made to drawings and the overall perceived quality of the output.

Whilst CAD has certainly improved the efficiency of the draughting process, it is a widely held belief that the design process has suffered as a result. Traditional draughting equipment forces the draughtsperson to gain a spatial appreciation of the project at a predefined scale, thus allowing for a more comprehensive understanding of the task at hand and how it fits into the project.

Conversely, CAD allows the user to draw at no particular scale, and 'zoom' in on areas of the drawing at will. Using a mouse, keyboard or digitiser – data is entered in the form of commands. This means that an extra procedure has been added to the documentation process: that of converting analogue
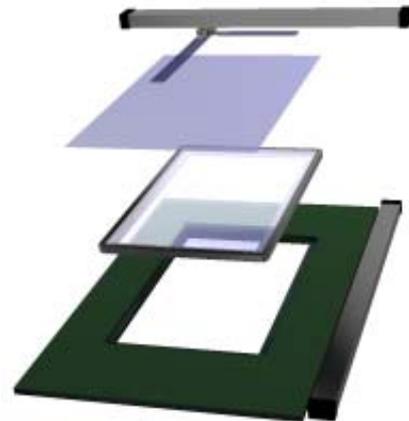
creativity into digital commands. The majority of architects and designers, whilst appreciating the benefits of CAD systems, prefer to use traditional draughting methods for conceptual work before using CAD to document the work. This means that far from being disposed of, drawing boards can be found beside most CAD workstations, along with printed copies of CAD drawings. This duplication is expensive and inefficient.

This will not only result in less equipment on the draughtsperson's desk, but will also allow for users who are not conversant in CAD to use the system with a minimum amount of training in the CAD application. Additionally, designs that are hand drawn on this system will be available as CAD drawings without the need to re-enter the drawing information.