

## Cad in the hands of the designer

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### ABSTRACT

Computer in the hands of a designer can prove to be a tool of unlimited creativity with the system working as simple as an artist's sketch book. Modifying sketches or images of design concept is simplified with changes in silhouette, style line and colour all with the pressing of keynotes or at the click of mouse. In fraction of a minute, more than a million ideas can be visualised on the monitor screen. A CAD system can alter and modify patterns, create fabric type and add embellishments. For a designer, it can juxtapose accessories and embellishment within seconds for a virtual image.

**KEY WORDS :** CAD, Fashion, Virtual image, Silhouette, Innovation, Creativity

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One of the most important thing for which most of the men and women are paranoid about is their dress because clothes are probably the most important part of one's personality and expression of internal persona. Fashion in dress is changing vividly and is closely related to mass hysteria. It connotes change and is well connected with flair, style, originality and a clever blend of colours, lines, shapes, textures and forms etc.

Fashion refers to the kind of clothing that is in a desirable style, popular at a particular time and is enjoyed by the masses. At different time in history, fashionable dress has taken very different forms. Thus, fashion is the prevailing practice in dress, manner and behaviour of that particular period and is enjoyed by masses. In modern times, nearly everyone follows fashion to some or other extent. A young woman would look odd if she wore the clothing that her grandmother had worn when young. However, only few people dress in the clothing that appears in high fashion magazines or on fashion shows runways. Visual impact of fashion magazine and electronic media has changed the fashion scenario of present day.

Designing fashion on the other hand is giving shape not only to the fashion but also to the market. Designers are standing on a threshold to change with every change in this field to satisfy the fashion hungry people. Fashion designers seek to feed the hunger of people seeking change. They need to be keen observers, constantly acquiring knowledge on changes in preferred styles, social norms, prevailing customs and cultural changes to be able to put these to use in new creative ideas.

Designers make use of practical knowledge and creative abilities to develop or modify an abstract idea into formal designs for the product such as garments. In case of readymade garments or fabrics, the designers need to be updated on the latest fashions, colour and print preferences among different demographic groups or at different geographical regions. Thus, designers while visualizing and developing designs have to keep into consideration various social, cultural, economical and environmental factors that could make an ultimate product a huge success or failure.

### Role of computer in designing fashion:

Designer sketches the basic design idea either by hand or with the aid of a computer to illustrate their creation. After making consultation with the client, art director or product development team, designers prepare detailed designs using drawings, structural model, computer simulations or a prototype.

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CAD is computer –aided design where any part of the design process that can utilize the computer as a tool

fits under the CAD umbrella. CAD technology is a mainstream tool and much of this technology lies in realm of patter making and marker making.

Katcharyan (1988) cited that computers have begun to make their mark on the fashion industry. The success of Fashion Company depends on its ability to keep costs down and to public demand in the fastest time possible. The main benefits of computerization to a designer are in terms of speed, flexibility and efficiency. The feeding of design information and style details experimented to produce desired design in no time. The designer can experiment with lot new ideas with little efforts and no cost of sample garment. CAD is recently developed method of fashion design where two dimensional design can easily viewed into 3Dimensional ones. This ability to view from any angle brings a whole new concept to the meaning of fashion design.

Frings and Stephens (1994) quoted that the demonstrated benefits of CAD include increased productivity, reduced product development time, increased creativity to improve conceptual design, high product design capacity, reduced cost of samples and prototypes.

Petrak and Rogale (2006) studied to develop a new method for computer-based 3D construction of garment basic cut on a computer generated body mode and found that it matched with the physical characteristics of the body in question and offers the necessary comfort of the cut. The surface of the 3D cut was divided into individual 3D cutting patterns. Cutting patterns in the following step, this will be matched to the physical characteristics of the model body, in the same way as the initial 3D cut.

Chase (1997) opined that CAD has the potential to create seamless and universally understood communication among all phases of operation a capacity that can save manufacturers a great deal of time and money. Creative possibilities that CAD can offer to a designer or a merchandiser are also one of the great advantage. Many more ideas can be expressing than to accomplish by hand. All this means that design choices and possibilities can be infinite if the designer is giving the time and freedom to be creative and to experiment using the system.

Tait (2001) reported that in terms of CAD software improvements along with developments of new CAM system to further improve upon on unique product line and to take an alternative approach to marketing in contrast to the traditional methods. CAD developments, virtual stitching technology, v-stitcher enables 3D virtual modelling transforming 2D pattern into 3D representation of complete garment with multisize grading over a virtual body. CAD package helps to see an immediate picture

perfect display of the garment in 3D. Texture mapping capabilities enable photo quality representation of fabric, seams prints etc. CAD offers a full suite of technical applications in pattern design, marker making, pattern grading, auto nesting, made to measure pattern, optimization and data interchange. Thus, computer aid design is automated solution for pattern design, grading, marker making and pre cutting operations. CAD helps in saving fabric, simplifying grading and easy pattern designing.

Kathiervelu (2002) conducted a study on the use of CAD systems in the apparel business which traditionally included pattern making, pattern grading, marker making and plotting. A CAD system can be used to create first pattern, production patterns and style revisions and pattern changes. A pattern can be graded into sizes, specified on the cutting orders, variable seam allowances can be added, and a marker can be made in computer. CAD allows manipulating of pattern to determine the most efficient layout considering quantities of garments to be produced, spreading methods, cutting equipment and fabric width. Once markers have been planned and stored, they can be printed or recalled and modified for new cutting orders. While the traditional CAD system operates primarily in the post adoption phase of product development, more developed Apparel Design Systems (ADS) function primarily in the pre-adoption phase. ADS make it possible to create or modify a line or a style quickly.

Many designers now use the computer aided design (CAD) tools to create and visualize the final products. Computer models, allow ease and flexibility while exploring a number of design alternatives. It also helps in reducing design costs as well as the manufacturing time of a product. The importance of CAD in the field of designing as compared to manual designing are:

- Computer aided designing is faster and more accurate.
- CAD is not restricted by the neatness and skill of the hand of the designer. In CAD, the computer programme has most of the skills to draw and plot properly. It has only to be told what should come where.
- Under CAD, it is possible to manipulate various dimensions, attributes and distances of the drawing elements. This quality makes CAD useful for design works. Under CAD, the drawing of any component need no repetition.
- The dimensions of various components could be accurately calculated interactively in CAD.
- Several professional CAD packages provide three dimensional (3D) designs, so that the designers could

see the products being designed from several different angles.

Thus, the demonstrated benefits of CAD include increased productivity, reduced product development time, increased creativity to improve conceptual design, high product design capacity, reduced cost of samples and prototypes.

#### Application of CAD in apparel designing:

Major brands, producers and retailers are evolving in a competitive environment where speed, quality and price are the main criteria. In choosing an industrial partner, in the same way as in building client loyalty, players in the fashion world must be flexible, quick-reacting and productive. Time and distance can no longer be obstacles to collaboration when creating a collection. To concentrate their energy on issues of brand image, renewal and costs optimization, fashion industrialists need to be able to have complete confidence in the solutions they choose.

CAD has been involved with the world of fashion for over years. The expertise gained gives CAD software solutions a unique business dimension. For design, industrialization and cutting and associates its know-how and market knowledge to offer the best technology and service adapted to each of its clients' needs. To maintain complete control of costs and processes, designers need all information in real time in order to decide quickly and act correctly. These software's are dedicated to design, to the cutting room and to product life cycle management guarantees users precise global control over all activities.

Thus, in the world of fashion, it is an effective medium with much faster output with main benefit in terms of speed, economy and efficiency. The virtual image on the screen with a complete perspective helps a designer to experimenting with lot new ideas in little efforts with array of designs. Today fashion is no more confined to a particular class of people or to a specific place. With advances in technology, it is increasingly becoming global. Clothes seem more important with various preferences for the silhouette, long or short hemlines, styles in pockets, flares, baggy or narrow are all matter in this business

In the tough business of fashion where something new and different is always welcome that exerts a great pressure on the designer. Fashion industry presents greater challenges than ever and is an important part of our social environment. For a designer, the tough task is to furnish the change in the ever recurring dilemma *i.e.* how and

what to present to fulfil the desire of the fashion conscious people. Designer's role is primarily innovative to match the current climate. The concept of individualism executes a great pressure to a designer to furnish for many at a given time to satisfy different moods, personality, and occasions. Designers have to dictate a variety of ideas to serve many, from innovation to interpretation that is till creativity to creation.

#### Conclusion:

- The demonstrated benefits of CAD include increased productivity, reduced product development time, increased creativity to improve conceptual design, high product design capacity, reduced cost of sample and prototype.
- A variety of designs can be created using the same paper pattern by varying type of fabric, treatment, decoration in the same design.
- CAD technology facilitate to create pattern in graded sizes (ready to use pattern) for different styles and different garments which can be easily used by home maker, students, designers to produce designs for their own use.
- CAD technology helps to fasten the garment industry by helping designers and manufacturers to use ready patterns produced by interactive garment module of designs for different garments.

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