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Digital embroidery designing: A new opportunity for textile designer

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Abstract

This paper describes the application of embroidery software will promote the textile designer of India in global market. The world of fashion textile, the textile designer faces the most difficulties of problems, the forecasting of new trends, which may in many cases be entirely different from design that fill the previous season portfolio so the commercial designer must developed particular characteristics. He must have some idea of the development and origins of fashion and an understanding of the market of today which he intends to supply. The embroidery software products are positioned at the top of the embroidery design market. Digital Embroidery design contains graphical layouts for textile designer, embroidery software products allows experimentation, innovation and creativity. The main objective of this study is the technology behind embroidery software designing, comparative study with traditional embroidery designing and the beneficial aspects for the textile designer by the new technology.

Keywords: Embroidery software, Deco Studio e3, lettering & monograms, design construction, construction, stitches, process, traditional, digitizing, applique, powerful, easy, colour, design

Introduction

Modern textile trends are concern, more customized, colour ways, and complex designs is driven by importers, brand owners and consumers who are looking for differentiated quality products.

A commercial design need not necessarily be good to sell well-what the public wants is not always what the designer wants to give it. For a design to sell, it must be commercial and therefore, it is up to the designer to produced saleable designs which are new or fresh or innovative, yet acceptable to the customer.

Embroidery designed fabrics are most demanded product in textile and garment industries. Machine embroidery is more durable and cheap then hand embroidery. Machine embroidery designs are made by embroidery software. Embroidery software contains graphical user interface layout. In 1980, wilcom introduced the first computer graphics embroidery design system to run on a minicomputer, Melco, an international distribution network formed by Randal melton and Bill Childs, created the first embroidery sample head for use with large schiffli loom. These looms are used to produced lace patches and large embroidery patterns. Embroidery software contains major improvements in the design and layout of the graphical user interface (GUI) which offer big productivity benefits. This software provides more precise selection of object outlines or fills stitches and much greater control over both shaping and reshaping operations.it has major improvement in colour control with much more accessible tools. Pattern selection of program splits and motifs has been done in object prosperities dialog with the implementation of new fly out pattern libraries. Embroidery clipart module tool makes whole designs and design fragments easily available for re use. The stippling method creates interesting fill of run stitching with a border. The offset object tool quickly creates multiple outlines from selected objects. With the popularity of sequin design increasing, ES designer now provides a dedicated set of sequin tools which allow us to digitize sequin design for compatible machines. Improvements have also been made to the schiffli option to service increased market interest in this area of embroidery.

Embroidery Software

Embroidery software's are available in different product models. They are designed to fulfil the needs of specific embroidery business and to build upon the others to provide for the whole

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gamut of stitching and digitizing requirements of professional digitizers.

i) Deco Studio e3

This is easy embroidery and apparel decoration design software. By this software we able to digitize artwork so quickly. Deco Studio e3 is an all-in-one graphics and embroidery software solution for creating brilliant multi-decoration designs, visualizing them on screen and automating the design digitizing process to effortlessly reproduce our concepts on real-world objects. Stitch density settings automatically applied based on our chosen fabric. Whether we're working with fleece, pique or cotton, the stitching is automatically adjusted to suit. It is perfect for fashion-shirt designers, promotional products, sports and work wear and personalized gifts. We can turn our vector art work into embroidery, applique, screen print or DGT, rhinestones and multi-decoration designs.

ii) Embroidery Lettering & Monograms

Wilcom Company is famous for quality lettering. We can use the 150 pre-digitised fonts for speed, precision and no thread breaks! We can also convert any True Type fonts with ease. We've got a lot of control, including font colour, scaling, font style, straight text or curved, stitch sequence and more. Monograms are easy with Deco Studio. We can choose a style and then add borders and motifs for quick personalized giftware.

iii) Visualize designs on actual garments

In this software we can choose from more than 50 product templates to help preview and share our vision of how designs will appear on different garments. These worksheets are useful for the production team and we can also create an associated Approval sheet, containing a visualization of our design on garment, to better inform our clients and help speed up the approval process.

iv) Auto Appliqué

By this software we can create striking appliqué designs with Deco Studio. We have to simply tag the vector image what we want and the Auto Applique tool automatically builds the tack-down, base and finishing stitches which our machine requires. We can now also visualize the finished effect by previewing the actual fabric we have selected for the appliqué.

v) Powerful digitizing

In this software we have to use powerful digitizing tools plus the flexibility to create reliable, quality embroidery designs. We have to use scanned or artwork, create embroidery shapes with turning or parallel stitching plus advanced stitch types like program split or motif fill. This software is ideal for companies that do corporate, sports and fashion embroidery industry.

vi) Creative digitizing

This software is boosting a blend of powerful digitizing tools and creative stitch effects. We can advance stitching effects such as Florentine effect, 3D warp, trapunto and stipple stitch bring our embroidery to life. It has smart branching sequences our embroidery design, eliminating trims, while offset automatically create borders around lettering and other design objects.

Design construction

These Steps are used for design construction. Select the design, Punch, Reshape (H), Thread filling, Angle, Select the design, Fraction spacing / values Set the space between stitch, Select hole design, Out line, Set jump by, Click on view, Then select view by colour, Then select one colour then ok, Again select the design, Cut and paste the design, Reshape, Set starting and ending point, Use plus and minus for thread fill in design. Then save it.

Embroidery stitches

Embroidery studio includes all of these stitch types as standard. We can change the properties of each one to produced different result. Satin, zigzag, e stitch, tatami fill, program split, jagged edge, run stitch types, standard run, manual run, triple run, manual triple run, stem stitch and back stitch etc. for sequin placement usually sequins are placed using an replacement needle assembly for one of the end needles. A sequin is placed when the command is actuated, which is then sewn into position using the active needle.

Working process

The embroidery design is created on a computer using specialised digitising software. Artwork is interpreted in stitches by plotting a route that the embroidery machine needles will take when stitching the design and applying machine function like colour change. When complete the design, it is transferred to the embroidery machine in a specific stitch format or language. Once the design is in the memory of the embroidery machine. The operator teaches the embroidery machine how to sew the design i.e. which needles to use for which colour and then starts the machine embroidery.

In a production environment, the embroidery threads are loaded onto the machine (6, 9, 11, 15 colour machines are common) with threads per colour. a sample of a fabric is hooped up the machine start position is adjusted. The machine sewing speed is adjusted. A trace function is run to travel a path on the machine to the external frame of the design to confirm no collisions with the hoop are likely. Usually the trace detail level can be adjusted fine to course and the trace speed can be adjusted fast to slow at any point in the trace, the trace may be stopped and the needle dropped into the design to confirm no collisions. Once the trace is completed, the embroidery is commenced. If there a thread break then should a thread break or other sensed error occur, a machine error will be displayed for operator attention. Where a thread break is fixed, the machine will usually need to back up a number of stitches, to the point before the thread break and then sewing recommenced from that point in the design. The design position may be displayed on a monitor, or inferred by watching the pantograph movements of the design as it is rewound. On multi head machines a thread break may occur on a single head or on multiple heads at once. We have to determine which heads are to start sewing from the rewound position and which heads are to resume sewing from the last sewn stitch prior to the thread break. Once the design completes successfully then the machine returns to the start position and the start needle and ceases operation alerting the operator to the end of the cycle. The design is inspected for colour, tension and any other criteria before being signed off and cleared for production.

Once the sample has been signed off and the machine has returned to start position, the next items to be embroidered are loaded up onto the machine and the start button pressed.

Embroidery continues until the cycle completes. Thread breaks are repaired, rewound and restart as per the pre-production description above in the last production cycle, there may not be a complete machine full of embroidery to be run, so some heads will be turned off and should not sew during the final embroidery cycle.

Traditional Embroidery and Machine Embroidery

Embroidery is an art which consists of enriching a flat foundation by working into it with a needle coloured silks, gold, silver thread and other extraneous materials in floral, geometrical, or figure designs. Embroidery is divided into three chief heads—Guimped embroidery, Embroidery on the stamp and Low or Plain embroidery.

Guimped embroidery is consist in cutting out shapes in vellum and laying them upon the surface of the material or raising the groundwork with cords and then covering these parts with gold or silk threads.

Embroidery on the stamp is formed by raising in high relief from the groundwork figure, animals and other objects. it is done by outline the figure upon the ground work, and then padding it up with horsehair and wool to a great height and covering this with thick white or coloured silk and satin.

Low or Plain embroidery includes all the embroidery in satin and other stitches upon a plain foundation whether alike upon both sides or slightly raised whether worked alike upon both sides or slightly raised from the surface by run lines or worked as the usual embroidery with coloured silks upon satin, velvet, cotton or linen foundations.

Traditional embroidery done by hand. The design traces upon a material and then place in a frame. Then bring a needle up upon one side of a trace design then put it down again on the opposite side. Continue this manner of working for the whole design.

By hand traditional embroidery is very time consuming. Getting more time so the cost of the products is also raised but in machine embroidery these work are done by less time so we get cheap materials.

Designing for the traditional embroidery are very time consumable because we have to trace motifs each time when required but in digitalized software there are so many designs are already saved in memory and we can choose them according to our requirement. We can change these designs and save these designs for long time period.

investment.it has helped lay a solid foundation for building textile designers small scale business. The designer less experience was picking it up pretty easy as well. This embroidery designing technology reduced the embroidery cost and time for the customers.so it’s a new opportunity for textile designer and new entrepreneur.

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Digital embroidery	Traditional embroidery
Machine embroideries normally use artificial fibres or artificial silk threads that are much stronger than natural silk threads	Silk threads are very delicate. Silk threads can get broken very easily during embroidering.
Machine embroideries use full threads, all the threads are in the same size, all threads not split.	Traditional embroidery use gold or silk threads.
The machine embroidery looks duller.	The hand embroidery looks more brilliant
It is very easy and fast process	It is very complicated and slow process.

Conclusion

Embroidery software is very user friendly and much easier to use then some of the other program.it is good that there are folk designs that are ready to help whenever designer needs them. Digitizing tool are built for demanding production and flexibility with intelligent workflow to streamline repetitive tasks and built robust design files that stitch flawlessly. Embroidery software is an incredible and well worth the