

EXPLORING NEW JACQUARD

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Abstract: Use of digital jacquard in location of mechanical jacquard for weaving conventional and additionally present day fashionable handloom silk sarees is a revolution seen now-a-days in lots of silk saree weaving clusters of India. This paper objectives to make the budding style designers and textile technologists to recognize the method of jacquards at the back of the fashionable handloom silk saree that is loom made woven garment using electronic jacquard.

This study covers complete stages of modern electronic jacquard which become used with energy loom as well as handloom. Different fashions of digital jacquard are exclusively synthetic for the use of handloom enterprise are recorded. Assembling of lifting modules with electronic additives that's the heart of electronic jacquard system is studied. Use of excessive capability jacquard for weaving sarees of various layouts with border, frame and pallu to make the saree greater fashionable is accumulated. Design building techniques are adopted, losing performed and the designing manner of jacquard designs the use of laptop are recorded.

Simple running strategies furnished with jacquard machines that are easily accompanied through the handloom weaver are cited. Attempts made through the authors to make jacquard as IOT to permit simple operation and monitoring is likewise discussed. The blessings of using digital jacquard in handloom over mechanical jacquard are explored. From the look at it's far determined that the indigenous digital jacquard is going to be the terrific boon for all of the handloom silk saree weaving clusters of India. [8]

This mini mission is to explore more designing thoughts for jacquard designs. And also here actually have mentioned approximately the method of making jacquard designs and the way they have been got applied inside the saree via the method of weaving. On the primary designs have been created inside the software by means of very own, and next these designs have been transferred into playing cards by the process of card punching. The card punching samples are collected and laced together and that they had been put on the looms for weaving the designs at the sarees. The designs created in this tasks were very own designs.

Keywords: Jacquard designing, Card Punching, Jacquard Weaving.

1. INTRODUCTION

The Jacquard craft become invented in 1804 as a mechanical weaving approach used for more complicated styles inclusive of textiles with tricky designs and patterned knitwear. One of the first actual looms with an automatic manufacturing function, the Jacquard loom, named after its writer, Joseph Marie Jacquard, is considered to be one of the maximum vital innovations within the subject of weaving.

Jacquard's most specific feature is the "punch card" manipulate mechanism. This function became ground breaking because for the very first time in history, it made the automated manufacturing of unlimited kinds of weaving patterns are feasible. The power of the Jacquard loom lies in its velocity and potential to create precise duplicates of complex styles.

The revolutionary edition of the Jacquard loom allowed for artisans to weave intricately patterned portions at a cost-effective value without the stress of time, which sooner or later diminished the prices of those textiles. This brought about the popularisation of patterned textiles among the hundreds in nineteenth century Europe.

The Jacquard weaving method begins whilst the designs and patterns of the fabric are sketched and punched into paper playing cards, with one card corresponding to one row of the design. These cards are then shaped to make a continuous chain and "fed" into the loom. As is ordinary of many different looms, the pattern is then weaved in with a shuttle.

Nowadays, maximum places use energy-looms to put in force the jacquard approach, making the method faster than those of ikat weaving and hand-loom. This lets in for artisans to supply material almost ten instances faster than the handloom, however simplest in a constrained type of designs and styles. However, we've got actively chosen to apply

Jacquard handloom method. This is due to the fact the handloom method makes the cloth softer than if it had been to made with the aid of energy loom, and also because the irregularity of textured sample because of the home made system is something we deeply respect. [1]

This mini challenge absolutely covers approximately designing of jacquards and exploring designs the usage of software program like MS paint. And also covers about the following step technique to carry out with punched cards and site of punched cards on handlooms for weaving.

2. METHODS AND MATERIALS

The selected designs are created with the help of MS paint application and the design is transferred to punching machine software called cybeian textile which was connected with the electronic punching machine. The cybeian textile software shows the card representation. The electronic machine starts to punch the cards accordingly when we once click on start. Then the punched cards are then taken and passed on to next step process.

The punched cards are numbered accordingly and laced with strings and threads. The laced cards are set to the loom. For placing the cards, the cards are placed on top middle of the loom facing the dies. These cards face both right and left dies attached to the loom. By the working process of loom the dies attached to the loom works. And the yarns are lifted up and down to weave the design on the border of the sarees.

If once the design created then it is sent to the electronic punching machine software called Cybeian textile software, which was connected with the electronic punching machine. This punching machine software then displays the card representation of the created design, and also the number of cards to be punched, size of cards, total number of cards etc., when once the start button is clicked then the punching machine starts to punch the cards accordingly. These punched cards are taken out and then transferred to next process called design weaving.

The punched cards are taken and they were number accordingly from 1 to last number of card. They were laced with strings and threads accordingly. These laced cards are set on to the loom and placed at the top middle of the loom facing to right and left die attached to the looms. By the working process of the looms, the dies present in the looms come to contact with the cards on the both sides and the strings attached to the looms are moved up and down according to the cards placed on top. The yarns settled in the loom with the strings on it started to lift up and down and by this way the design was created on the sarees.

3. USE OF MS PAINT FOR JACQUARD DESIGNING

The possibility of the use of MS paint, the drawing accessory of MS window, as a easy jacquard graph designing software program to put together graph layout with required weave marks and to take the graph print in required graph matter from the given jacquard design has been explored. The steps worried in getting ready jacquard design, applying weave marks and changing the jacquard layout of raster pixel shape into graph paper shape were developed.

MS paint software program is widely used for painting with primary knowledge. But greater than that we will create, edit and make designs to our imagination. Here even have used MS paint ability in conjunction with understanding of articles examine for developing greater jacquard designs for my mini project.

Usefulness of various menus and tools for making ready the specified weave marks, graph depend, unique marks, blanks, and its overlapping had been studied. It is located that without making any additional programming, the paint device is immediately useful now not best to edit the scanned vector layout in raster pixel form however additionally to use weave marks to prepare weave layout for digital jacquard weaving or digital card punching. The analysis additionally describes the way to convert the weave design into graphical shape and take the graph prints of the design for mechanical card punching gadget. [17]



Fig 1: Design creation in MS paint

4. PROCESS OF CARD PUNCHING

Processing of punched cards changed into treated by an expansion of machines, consisting of:

- Keypunches — machines with a keyboard that punch playing cards from operator entered data.
- Unit file device — machines that system information on punched cards. Employed previous to the tremendous use of virtual computer systems. Includes card sorters, tabulating machines and a selection of other machines
- Computer punched card reader — a laptop enter tool used to examine executable pc packages and facts from punched playing cards underneath computer manage.
- Computer card punch — a computer output device that punches holes in playing cards below laptop manipulate.
- Voting machines — used into the twenty first century.
- Manual punches – one of the oldest technique of card punching.

This mini venture become carried below electronic jacquard card punching device. Designs are created inside the varieties of punched cards with use of electronic punching gadget.

5. PUNCHED CARDS AND MECHANICAL JACQUARD

The automated Jacquard loom simplifies the system of textile manufacturing with complicated weaving patterns which include brocade and damask. Jacquard loom enables mechanical manufacturing of the weaving styles with the design saved in a sequence of punched playing cards. These punched playing cards are joined together to form a sequence of related punched playing cards.

The punched card stores facts the use of pattern holes which are maximum in all likelihood binary system. The presence or absence of pattern holes creates patterns inside the cloth by controlling the manner the yarns have been raised or diminished. The loom can deal with fantastically complicated designs. The loom is programmed by means of a sequence of punched cards. Each card controls single throw of the go back and forth.

To produce a brand new sample, the operator certainly replaces one set of playing cards for every other. The authentic design produced with the aid of Jacquard turned into, in essence, to offer an effective approach of communicating with the loom using the punched card. The communicate language was limited to just words, “hole” or “no hole”. It is maximum probably the identical enormously common binary gadget in latest modern computer. [3]

6. PROCESS

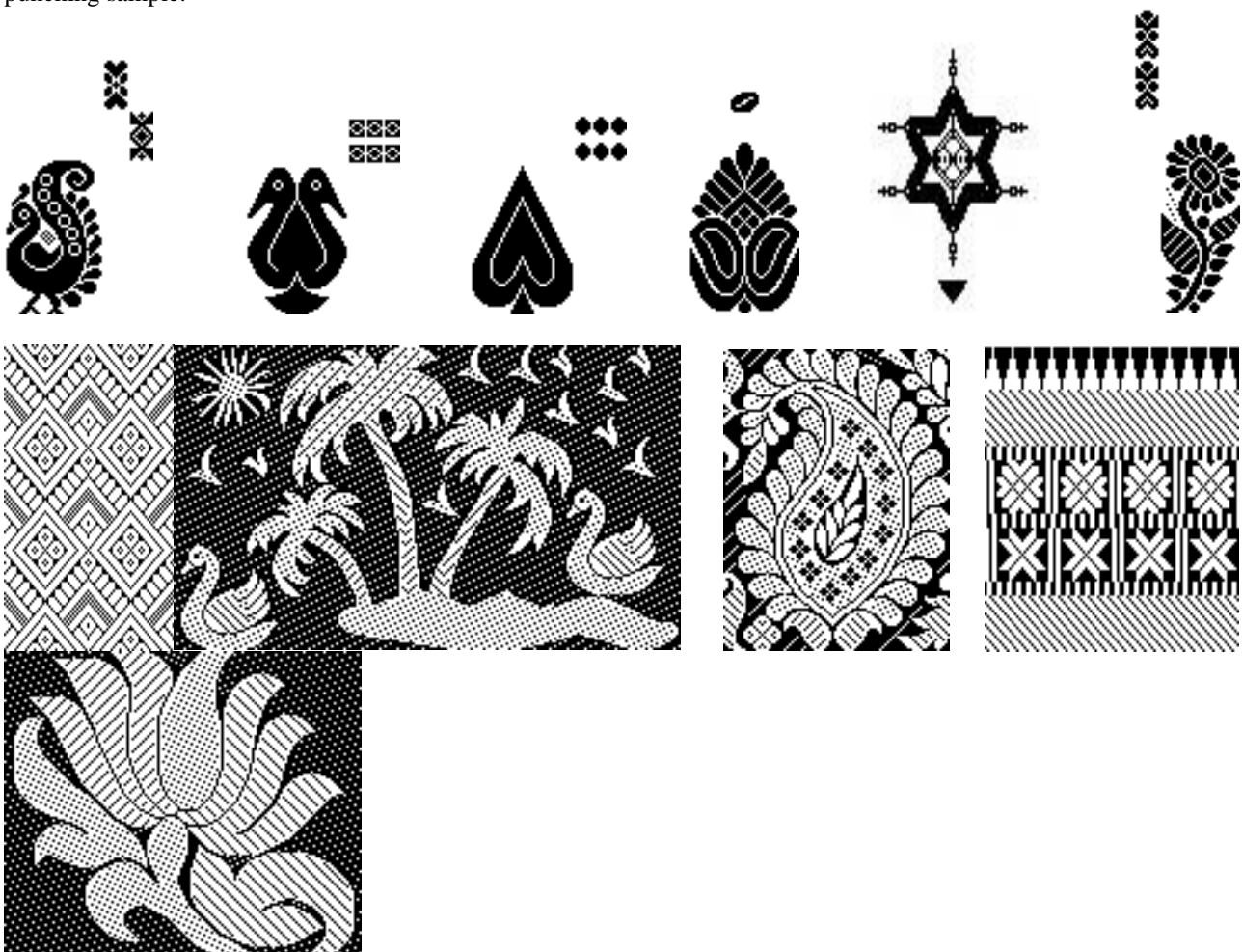
The very first manner is to create layout using software program. Here used 2 software namely MS paint and Jasc paint save seasoned. Jasc paint shop pro become learned from the region visited and MS paint changed into discovered from one of the articles took. If as soon as the layout created then it's miles sent to the electronic punching gadget software called Cybeian textile software program, which become related with the electronic punching device.

This punching device software program then displays the cardboard illustration of the created design, and additionally the number of cards to be punched, size of cards, total range of playing cards and so on., when as soon as the start button is clicked then the punching gadget starts off evolved to punch the playing cards for that reason. These punched cards are taken out after which transferred to subsequent system referred to as layout weaving.

The punched playing cards are taken and they were quantity consequently from 1 to remaining quantity of card. They were laced with strings and threads therefore. These laced playing cards are set on to the loom and positioned at the pinnacle centre of the loom facing to right and left die attached to the looms. By the running process of the looms, the dies present in the looms come to contact with the cards at the each aspects and the strings connected to the looms are moved up and down according to the cards positioned on top. The yarns settled in the loom with the strings on it started out to lift up and down and by using this manner the layout was created at the sarees.

7. RESULT AND DISCUSSION

The designs created and their representations were listed as follows and followed by selected design for card punching sample:





8. CONCLUSION

The foremost content of this mini task is to explore extra designing thoughts for jacquard designs. And also here have mentioned approximately the method of creating jacquard designs and the way they have been got applied within the saree through the technique of weaving. On the first designs have been created within the software program, and next these designs have been transferred into cards through the method of card punching.

The card punching samples are gathered and laced collectively and that they were put on the looms for weaving the designs at the sarees.

Jacquards designing and card punching plays a primary function in weaving sarees by using handloom as nicely in electricity loom. Without those punched cards the designs can't be weaved in a saree. To design a jacquard the man or woman with some expertise in software used for jacquards are needed. Designing a jacquard isn't always as an awful lot less complicated, it requires days to complete an easy design. Card punching system is the main manner and its miles finished by using a digital punching gadget.

The punched card shops facts using sample holes which might be maximum probably binary machine. The presence or absence of sample holes creates patterns in the material by using controlling the manner the yarns were raised or decreased.

The loom can take care of incredibly complex designs. The loom is programmed via a series of punched playing cards. Each card controls single throw of the trip. To produce a new sample, the operator without a doubt replaces one set of cards for any other.

The authentic design produced by way of Jacquard changed into, in essence, to provide a powerful manner of speaking with the loom the usage of the punched card. The communicate language changed into constrained to just two phrases, "hollow" or "no hollow". It is maximum probably the same noticeably not unusual binary device in present day contemporary pc.

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