Developing colourways from Rajasthani miniature paintings using CAD technology

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■**ABSTRACT :** In order to collect most famous miniature paintings of Rajasthan, the researchers personally visited the Rajasthani miniature painting artisans of seven Schools (Mewar, Marwar, Bundi, Kota, Jaipur, Kishangarh and Bikaner, various museums and libraries located at Udaipur and collected various Rajasthani miniature paintings. The researchers identified and collected ten miniature paintings from each of seven schools to simulate two designs from each of the selected miniature painting for developing colourways using Cad technologyfor use on fashion apparels.

■**KEY WORDS:** Miniature, Designs, Simulation, Colourways, CAD

Miniature paintings are one of the many things that make an Indian proud of his country's rich cultural heritage. Miniature paintings originated long back in the history of India. Rajasthan is famous for its paintings, music and folk dances. Its miniature paintings of the many different schools of Rajasthan are now collector's items. The arts and culture have been influenced by the Persian elements during Mughal rule.

Rajasthani miniature, a canvas in inches, is a timeless world where tiny creatures- men, animals, nature, are seen translating into their forms legends of ages, yearning of love, pain and pleasure, sublimation of temporal aspiration and dimensions of man's emotional and spiritual life. Creativity in man first revealed itself in painting. The tradition of miniature paintings was carried forward by the painters of different Rajasthani schools of painting like the Mewar, Marwar, Kota, Bundi, Kishangarh, Jaipur and Bikaner. The traditional Indian arts and craft and digital embroidery play an important role in the present fashion world. The traditional art and crafts of India is gaining popularity and in diverse form is being adapted in the fashion field also.Since the miniature paintings currently do not find much usage on textiles, except as a decorative painted wall panels, greeting cards etc., these arts needs to be popularized in order to preserve its reminiscent beauty by adapting it on textiles. With this fact in mind, present research work on "Simulation of designs from traditional miniature Paintings of Rajasthan for developing colourways using CAD." was conducted with the following objectives:

– To explore and study the traditional designs used in miniature paintings of Rajasthan.
– To simulate textile designs from traditional miniature paintings for fashion apparels in different colourways using textile designs software.

■ RESEARCH METHODS

The present exploratory study was carried out in Rajasthan as it has the origin of miniature paintings rooted in the history of Rajasthan, a land known for its artistry. Miniature paintings have very essence of Rajasthan. Relaying the folklores through its art work, it is instrumental in uploading the Rajasthani culture to the outside world. Miniature paintings, as a result, have been divided into various forms of school *i.e.* Mewar, Marwar, Bundi, Kota, Jaipur, Kishangarh and Bikaner.

Selection of sample:

The information was purposively collected from the miniature artists working as freelance or with the school of miniature paintings of Rajasthan.

Collection of Rajasthani miniature paintings designs:

The survey was conducted by the researchers in different schools of Rajasthani miniature painting through self developed questionnaire. The researchers personally contacted the selected sample subjects to gather the required information about the Rajasthani miniature painting styles prevalent in Rajasthan.

The researchers identified and collected ten miniature paintings from each of the seven school of miniature painting of Rajasthan. These paintings were critically evaluated by panel of judges through a rating proforma from each school, followed by selection of two designs from each of the selected five miniature painting. Thus, in total of seventy designs were identified for further research work. The flow chart is showing selection of designs in Fig. A.
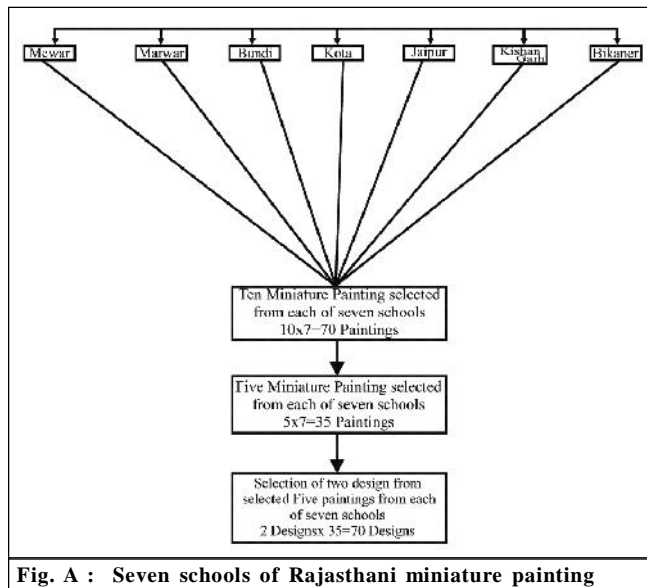
Fig. A : Seven schools of Rajasthani miniature painting

■ **RESEARCH FINDINGS AND DISCUSSION**

As an inspiration from Rajasthani miniature paintings the researchers made an effort to simulate seventy designs identifying from the seven schools (taking 2 motifs from selected five paintings of each of the schools.

These were evaluated by panel of judges to select fifty designs out of above mentioned seventy designs for developing three colourways of the each design. Colourways were developed by the researchers with the help of Photoshop software for developing digital embroidery designs. Following plates1 to 7 shows selected designs in three colourways.

Table 1: Percentage distribution of selected design codes with suitable colourways for digital embroidery by evaluation of judges	
Selected design code with suitable colourways	Percentage
Design 1.C	90
Design 2.A	80
Design 3.C	80
Design 4.C	70
Design 5.B	90
Design 8.C	60
Design 9.A	80
Design 10.C	60
Design 11.A	70
Design 12.A	80
Design 13.A	90
Design 14.B	60
Design 15.B	80
Design 16.A	80
Design 19.C	90
Design 21.C	100
Design23.A	80
Design 24.A	80
Design 25.B	90
Design 27.B	90
Design 28.A	60
Design 29.C	60
Design 31.A	80
Design 32.B	90
Design 35.A	90
Design 36.A	60
Design 37.B	60
Design 39.A	80
Design 40.B	60
Design 41.A	70
Design 42.C	100
Design 43.B	60
Design 45.A	90
Design 47.C	60
Design 48.B	60
Design 50.A	80
Design 51.A	90
Design 52.A	100
Design54.A	80
Design 55.C	90
Design 56.A	100
Design 57.C	80
Design 58.A	80
Design 61.B	90
Design 63.C	90
Design 65.C	80
Design 66.A	90
Design 67.C	100
Design 68.B	80
Design 69.C	80

Sr. No.	Painting	Design	Colorways		
			A	B	C
1.		Design 1			
		Design 2			
2.		Design 3			
		Design 4			
3.		Design 5			
		Design 6			
4.		Design 7			
		Design 8			
5.		Design 9			
		Design 10			

Plate 1: Selected five Mewar painting with selected two designs in different colourways
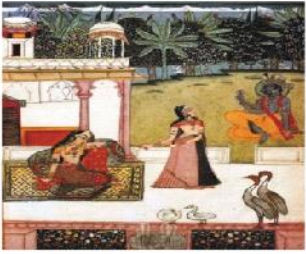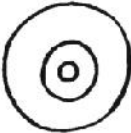
Sr. No.	Painting	Design	Colorways		
			A	B	C
1.		Design 11 Design 12			
2.		Design 13 Design 14			
3.		Design 15 Design 16			
4.		Design 17 Design 18			
5.		Design 19 Design 20			

Plate 2: Selected five Marwar painting with selected two designs in different colourways
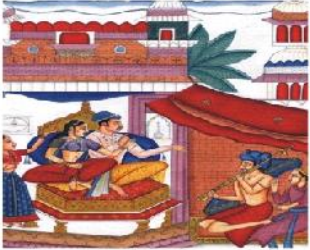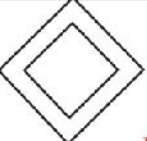
Plate 3: Selected five Bundi painting with selected two designs in different colourways
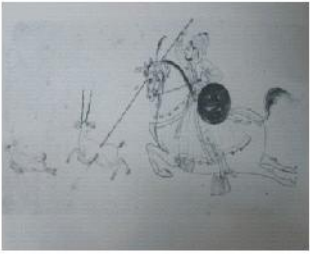
Sr. No.	Painting	Design	Colorways		
			A	B	C
1.		Design 31			
		Design 32			
2.		Design 33			
		Design 34			
3.		Design 35			
		Design 36			
4.		Design 37			
		Design 38			
5.		Design39			
		Design 40			

Plate 4: Selected five Kota painting with selected two designs in different colourways
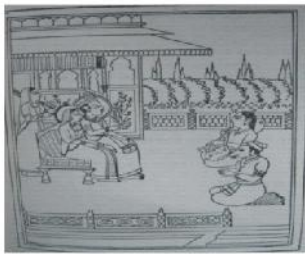
Plate 5: Selected five Jaipur painting with selected two designs in different colourways

Sr. No.	Painting	Design	Colorways		
			A	B	C
1.		Design 51			
		Design 52			
2.		Design 53			
		Design 54			
3.		Design 55			
		Design 56			
4.		Design 57			
		Design 58			
5.		Design 59			
		Design 60			

Plate 6: Selected five Kishan garh painting with selected two designs in different colourways
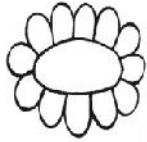
Sr. No.	Painting	Design	Colorways		
			A	B	C
1.		Design 61			
		Design 62			
2.		Design63			
		Design 64			
3.		Design 65			
		Design 66			
4.		Design 67			
		Design 68			
5.		Design 69			
		Design 70			

Plate 7: Selected five Bikaner painting with selected two designs in different colourways

The designs developed with the help of textile designing software were shown to a panel of ten judges to select fifty best designs with suitable colourways for application on fashion apparels.

Evaluation of the simulated designs:

Simulated traditional Rajasthani miniature painting designs were shown to 10 panel of judges to select the best fifty designs for development into digital embroidery using suitable CAD software.

The varied scores obtained for judging their suitability for digital embroidery were finally assessed to select top fifty designs. Table 1 reveals the selected designs code number with suitable colourways and percentage.

Majority of the experts appreciated the efforts made by researchers in collection of traditional miniature painting designs while giving ranks to the designs. Aggarwal (1997), Aggarwal and Gehlot (1999) and Gaba (2005) have also made some observation related to the present investigation.

Conclusion:

Thus, the findings of the present investigation had come out in the form of quick visualization of simulated designs form miniature paintings in different colourways for use in digital embroidery designs on fashion apparels for mass customization. The selected motifs with desired colour scheme can be embroidered on fashion apparels within 5-10 minutes depending on the size of motifs and colour chosen. Thus, the innovative efforts of researcher had given a new path way of success to both fashion makers and fashion lovers.

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