Abstract Template

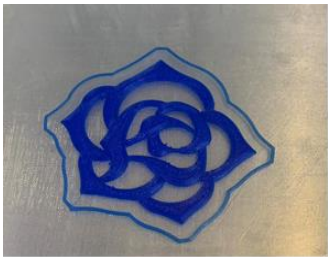
Title: Using Three-dimensional printing technology to revive traditional embroidery clothing

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Abstract Body (up to 250 words)

Three-dimensional printing (3DP) has been used in the global fashion industry since 2010; however, it has never been used to print traditional embroidery clothing. It is important to introduce new technology to revive traditional embroidery industry in Saudi Arabia because traditional methods do not match the need of fast fashion concept, demand for greater customer autonomy and customisation and value for money. This paper aims to test the potential of using 3D printing technology to produce embroidery designs. By using Ultimate 2+ 3D printing, various designs of embroidery clothing samples are prepared. Three types of fabric such as plain cotton, shiny satin and nylon organza have been used to print embroidery designs. Thermoplastic polyurethane (TPU) was used to print embroidery designs. On all the samples similar test parameters such as 0.4m nozzle size, 240C,245C and 250C nozzle temperature, 70C bed temperature, 0.25mm,0.50mm, and 1.00mm layer thickness were set. Results show that 3DP possess a real potential to help traditional embroidery clothing gaining its lost position in the Saudi fashion industry.

Image:



Reference:

1 Pei, E., Shen, J. and Watling, J., 2015. Direct 3D printing of polymers onto textiles: experimental studies and applications. Rapid Prototyping Journal, 21(5), pp.556-571
2. Ejeimi, S., Sparks, D. and Yan, R.N., 2018. Revival of Hejaz embroidery: a collaborative design process engaging Saudi female academics. Research Journal of Textile and Apparel,22(2), pp.138-156.
3. Possible applications of 3D printing technology on textile substrates. InIOP Conference Series: Materials Science and Engineering (Vol. 141, No. 1, p. 012011). IOP Publishing.

I. Biography:

Hind Mosfeer Saeed Al Gamdy is a lecturer at the Taif University in the Kingdom of Saudi Arabia teaching fabric clothing courses in the Home Economics Department. Currently, she is studying PhD at the Cranfield University on the topic of Reviving traditional embroidery clothing in the western region of Saudi Arabia.

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