

## **ABSTRACT**

### ***3D PRINTING TECHNIQUE PROCESSED WITH PLA FILAMENT AS AN EMBELLISHMENT ON TEXTILE MATERIALS***

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*Technology has developed rapidly in the modern era in various aspects which one of that in this printing field is 3D Printing. Not only for the manufacture of vehicle spare parts or medical equipment, 3D Printing for fashion products has also begun to be used. However, the use is still purely 3D Printing which is made into complete sheets with modular repetitions to form an unbroken pattern. Meanwhile, the use of 3D Printing applied to fabrics is still minimal in research. There's a lot of potentials that can be developed, especially the development of 3D printing on textile materials. Several previous studies have tried this application with various filaments. One of them is PLA or polylactic acid filament which is quite easy to find in Indonesia. With this, it can be seen that there are wide opportunities for the use of 3D printing techniques using PLA filaments to be used as embellishments on textile materials to be used as innovations in fashion products so that the embellishment application techniques become more diverse. The purpose of this research is to expand the use of 3D Printing techniques, especially using PLA filament as the main filament and use it as an embellishment on textile materials. In this research, has been succeed using the PLA filament with the best printing result in the big socket fabric, which is net and strimin nylon fabric. The 3D Printing result can stick well in the fabric although it has passed several steps of endurance testing. However, in the evidence product, there are some evaluation because of the printing position is less precies so the 3D Printing moduls are broken and loose. Then the product that uses 3D Printing technique as embellishment with textile materials have to reconsider the placement of the 3D Printing. This research uses qualitative research methods with data collection methods consisting of literature studies from several books and journals, observation, and exploration through several stages ranging from initial exploration, further exploration, to selected exploration. The output of this research is in the form of exploration and evidence product.*

*Keywords: 3D Printing, PLA Filament, Embellishment, Textile*