ABSTRACT

Plastic waste is a global-scale problem whose optimal solution has not yet been found. With a population of 7 billion people in the world, humans have produced 8.3 billion tons of plastic. From that number of amount, 6.3 billion tons of plastic end up as waste and only 9% can be recycled. The rest of the waste that is not recycled causes environmental pollution such as water, air, and soil pollution. The results of recycling plastic waste produce products whose value is lower than before being recycled.

To help reduce the recycling of plastic waste, the idea came up to create a Massive 3D Printer Design, whose material comes from plastic waste with Polypropylene (PP) and Polyethylene Terephthalate (PET) types of plastic waste. By designing a 3D printer that uses this plastic waste material, recycling plastic waste will become a product that has value and has a higher selling price, and the product can later become home decor.

In the preparation of this final project "Rancang Bangun Massive 3D Printer", the author focuses on special applications on Android. This application will be connected to the 3D printer machine via the IoT platform. This application is intended as monitoring the 3D printer machine to prevent malfunctions and unwanted events on the 3D printer machine, especially overheating occurrences. This design is expected to meet the needs of a 3D printer machine with plastic waste material to be developed so that it will help reduce less than optimal recycling of plastic waste.

Keywords: Plastic Waste, 3D Printer, Android App, Monitoring, IoT.