Abstract

3D printer technology employs the Additive Manufacturing (AM) process which is very popular method of layered manufacturing. 3D printer has huge application to manufacture small amount
of fresh, customized & durable prototypes in a short time thus the concept of 3D printing technique is also referred to as rapid prototyping (RP) technique. 3D printer is one of the most promising fabrication tools to meet the criteria of increased flexibility and empower low cost small scale production. 3D printing supports solid freeform fabrication (SFF) process as it has also the ability to create parts with locally controlled composition. In this paper we discuss the in-depth study of implementation issues of 3D printer, cost benefit of low to medium production (additive manufacturing) with mass production. We also provides the required mathematical theorem and statements which supports the fact that 3D printer can replicate any physical object. Finally, we analyze the root cause implementation factors & the possible modified way to produce the next generation 3D printer.

References

- Bak, D.  2003. &quot;Rapid prototyping or rapid production? 3D printing processes move industry towards the latter&quot;; Assembly Automation, Vol. 23 No. 4, pp. 340-5.
Analysis of Implementation Factors of 3D Printer: The Key Enabling Technology for making Prototypes of the Engineering Design and Manufacturing


Index Terms

Computer Science
Circuits And Systems
Keywords
3d Printing  Slicing Software  Cad Image  Filament  Extruder Assembly  Print Bed