

Design On Demand (DoD): Spiral Model of The Lifecycle of Products in The Personal 3D-Printed Products' Market

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Abstract : This paper introduces DoD, a contextual spiral model that describes the lifecycle of products intended for manufacturing using Personal 3D Printers (P3DP). The study is based on a review of the desktop P3DPs market that shows that the combination of digital connectivity, coupled with the potential ownership of P3DP by home users, is radically changing the form of the product lifecycle, comparatively to familiar lifecycle paradigms. The paper presents the change in the design process, considering the characterization of product types in the P3DP market and the possibility of having a direct dialogue between end-user and product designers. The model, as an updated paradigm, provides a strategic perspective on product design and tools for success, understanding that design is subject to rapid and continuous improvement and that products are subject to repair, update, and customization. The paper will include a review of real cases.

Keywords : lifecycle, mass-customization, personal 3d-printing, user involvement

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