

Improving hardware design processes with inspiration from software development teams

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ABSTRACT

Computer-aided design (CAD) is used to conceptualize every manufactured object in our lives, from medical devices to cars to toys to furniture, and promises faster and higher-quality design. As CAD platforms align with software development tools that foster collaboration, a pivotal question emerges:

Can the highly collaborative design processes of software development be applied to hardware product design?

This keynote will review current research which applies software development principles, like pair programming and version control, to hardware design using CAD. Through laboratory experiments and analysis of innovation competition data, we can reveal important implications for how collaborative tools can positively impact design, management, and innovation in mechanical engineering product design.