

Exploring Tacit and Tangible Interaction Design: Towards an Intuitive Product Design Tool

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*This is only an abstract – Sense of touch – The hands are underrated –
How we always seek validation – We love virtual artefacts, I have so
much evidence.*

Abstract

This paper explores gaps in design, design tools and identifies some remarkable findings and results measured during design sessions with novice and expert designers engaging them in tangible experiments to stimulate enhance and trigger their skills, creativity and represent their ideas and concepts. We explore the distinctions between the analogue and digital representation tools, explaining our laboratory experiments, testing results, educational embedding and creative opportunities that emerge from hybrid design tools. Furthermore we propose an exciting hybrid design tool to bring the tacit and tangible back into CAD.

We follow two paths in our attempt to bridge these gaps. The first is an array in experimentations aiming to measure the effectiveness and other qualities of various shaping and representation techniques. Knowledge about learning curves, time constraints, quality of design results and focus of particular design methods enables decisions about ‘the right’ curriculum for industrial design engineering students. The second path is the creation of a hybrid design tool where designers are immersed and in which the intuitive and imaginative skills are stimulated, explored and triggered. For our testing experiments, we used nine (9) haptic representational configurations and set-ups, and involved over 95 test subjects per

experiment to map results. In these configurations we measure the performance of form giving and shaping techniques.

Keywords: intuitive product design, design work bench, hybrid design tools, virtual design assistant