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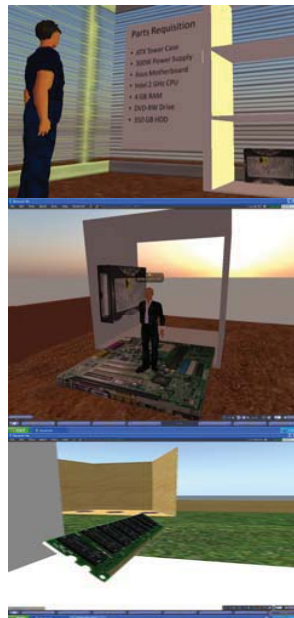
# Using design research in the development of a final year HCI class project.

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**Abstract**

The design of an interactive 3D PC learning environment by senior interaction design students for students on a first year Computer Servicing course is the focus of project based learning undertaken by the senior students.

Using a research by design approach (Plomp 2007) the HCI course project - with its series of deliverables - provides an intervention that can be examined through educational theories, for example Legitimate Peripheral Participation (LPP) as described by Lave and Wenger (1991) and Technological Pedagogical Content Knowledge (TPCK) as described by Mishra and Koehler (2006). This poster depicts a first iteration, where senior students develop the 3D PC in a group, and undertake preliminary testing with the help of first year students. A second phase will refine the course project and after evaluation and review a refinement of the intervention is to be produced and used in the next run of the HCI class

**Keywords**

Research by Design, 3D learning, HCI. Legitimate Peripheral Participation, Technological Pedagogical Content Knowledge

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## References

Lave , J. , Wenger , E. 1991. "Situating Learning Legitimate peripheral participation", Cambridge University Press, Cambridge UK.

Plomp T. (2007). 'Educational Design Research :An introduction' in *An Introduction to Educational Design Research , Proceedings of the Seminar at the East China Normal University, Shanghai (PR China), November 23-26, 2007*. Second print July 2009 Published by SLO – Netherlands insititute for curriculum development, pp 9-35.

Mishra, P., & Koehler, M. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *Teachers College Record, 108*(6), 1017-1054. Retrieved from ERIC database.