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## ThanCad: 2dimensional cad for engineers

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ThanCad is 2dimensional CAD aimed to meet the, ever growing, specific needs of civil and surveying engineers. It is largely command compatible with the leading commercial CAD, but it differentiates to a few concepts such as hierarchical layers, and lack of elements attributes, which is the CAD equivalent to structured programming. ThanCad adds some productivity tools such as line continuation, layer selection and cross-save/read undo mechanism. ThanCad harnesses the power of Python to shrink the development time and the volume of code; to implement and test new ideas in virtually no time; to make ThanCad programmable without the need of separate libraries, plug-ins, special languages, or special OSes; to make 32bit/64bit processor, OS and OS version irrelevant. ThanCad uses Tkinter, the defacto GUI/drawing standard for python, in order not to reinvent the wheel and to achieve platform independence. Several concepts were addressed such as compound elements, text in arbitrary directions, cursor/crosshair, zoom, image zoom, coordinate systems tracking, image resolution, draworder, object snap, different element intersection, mouse wheel windows/linux differences, input from command window and/or GUI, hierarchical modal windows. Finally, ThanCad uses Python's object oriented programming, but sometimes it follows the Zen of Python and the Linux kernel's philosophy, practicality beats purity.

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