

<b>Thesis Title</b>	CAD Software Prototype on Microcomputer : SSI Design
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## **ABSTRACT**

In the present, electronic evolution takes forward quickly because of new found technology innovations in electronic field and semiconductor device including integrated circuit inventions. In general semiconductor device implementation can be divided into two step such as semiconductor device design and fabrication. The layout design is the most significant, which is the designation of not only circuit configuration but also the photolithographic mask layout for fabrication process. Consequently, computer software is brought to enhance the performance of the design step.

This thesis presents CAD software development prototype for small scale integrated circuits design on microcomputer. The software can allow users to design integrated circuits by layout level, examine cross-section image from layout, check layout design rule, simulate electric characteristics, translate layout to CIF (Caltech Intermediate Form) language sources and transfer layout through the Internet. In the software design phase, Object-oriented programming is applied to gain the benefit of the convenient software modification and improvement. For example, a design rule adding, a new implementing class can inherited properties from designed classes and is put into the software source without any effect to the software original functions. Apparently, the design and development of the software are enhanced.