# University of Baghdad

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| Thesis  Title | Design Representations for Object-Oriented Systems |
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| Abstract | Software is a complex artifact in which many aspects are integrated, or tangled. In this thesis we think of the software domain as the domain that is not understood and therefore we build models of it to represent the domain and to express our understanding of the software domain.

In a software development process, we identify and model four different but closely related domains: the problem domain, the usage domain, the development domain, and the system domain.

The result of thesis work was the general model of software modelling. The general model comprises three worlds: problem, conceptual, and representational worlds. We have used the general model to characterise object-oriented modelling with particular emphasis on the relationship between the objects in the representational model and the elements in the considered system.

In practical work, a general component filter is constructed |

to achieve search operation into the existing data in the environment. The application systems: library, employee, and seminar are constructed. The component filter was applied to a library, employee, and seminar application systems without any modifications. The reuse of pre-existing component makes building systems rapid and efficient since these components were tested before.