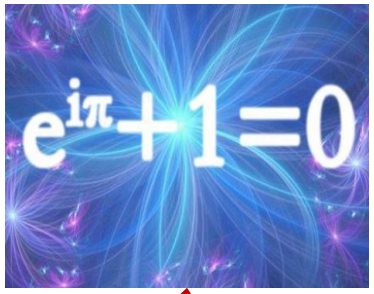
数据库设计方法学

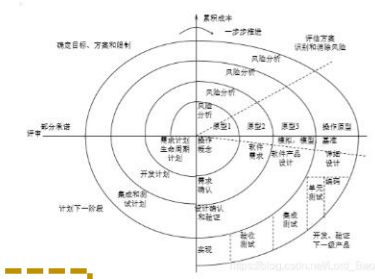
讲解人：陆伟 教授

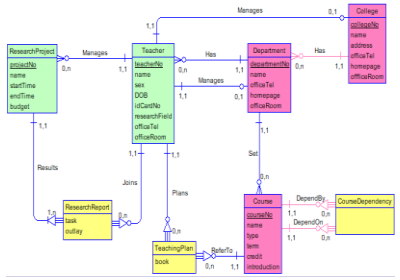
关于方法学

道 法 术 器

思想 ⇨ 理论 ⇨ 方法 ⇨ 技术 ⇨ 工具







虚实结合

科学

工程

哲学 体系 道法自然

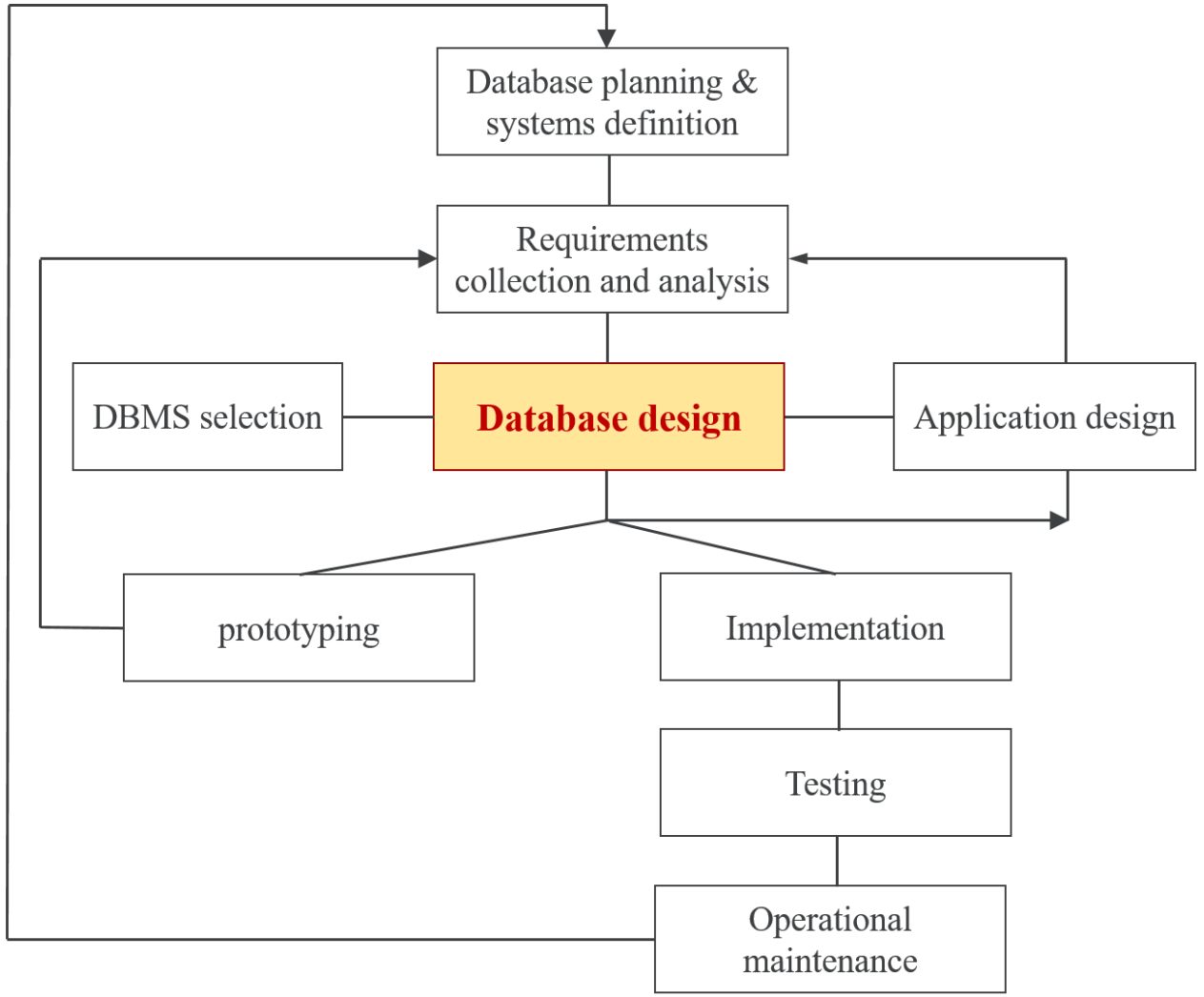
缘起性空

玄之又玄，众妙之门

神学 玄学 派系

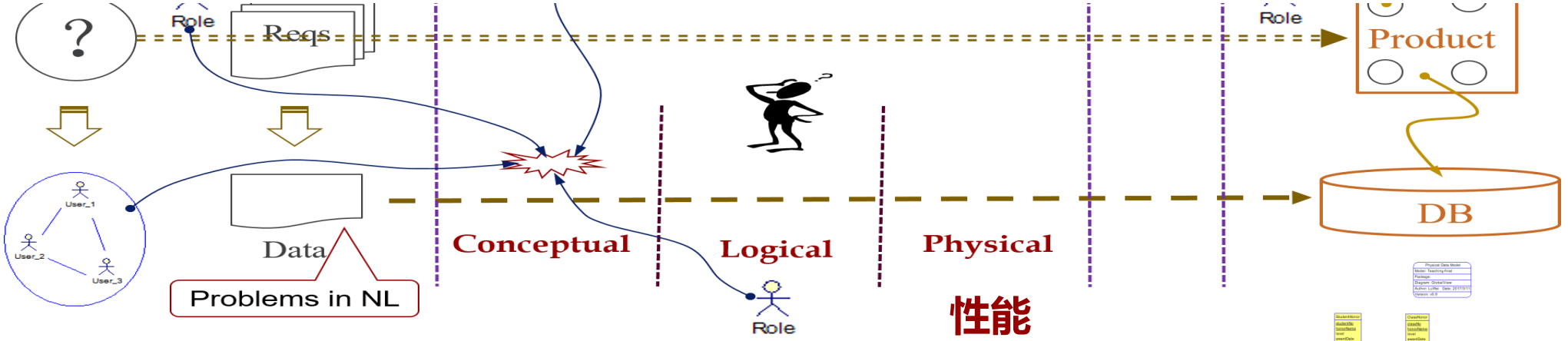
关于方法学

方法学：支撑达到目标的要素，包括过程、技术、工具以及文档，有时也涵盖理论指导。



数据库设计方法学

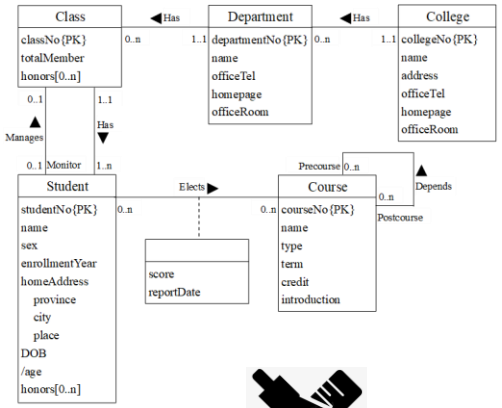
道 法 术 器

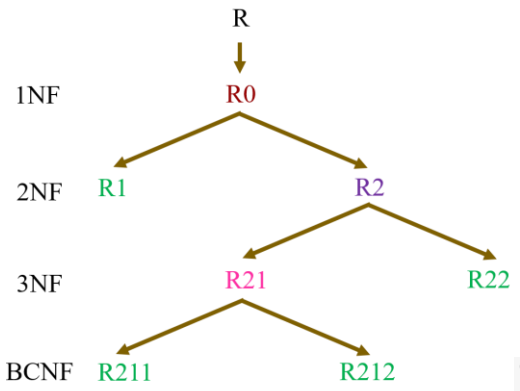


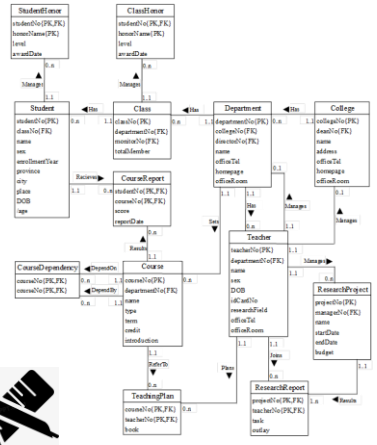
ER 建模技术

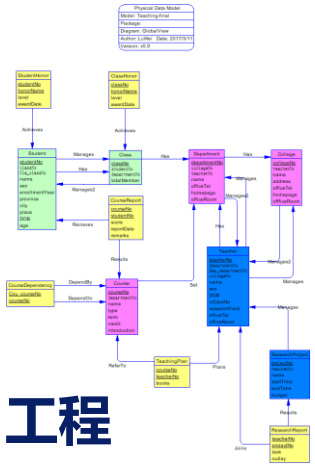
性能
完整性约束
安全

规范化理论
ER模型向关系模型映射

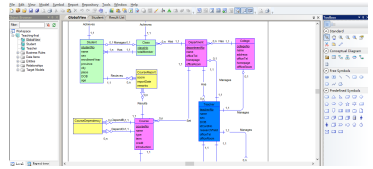








工程

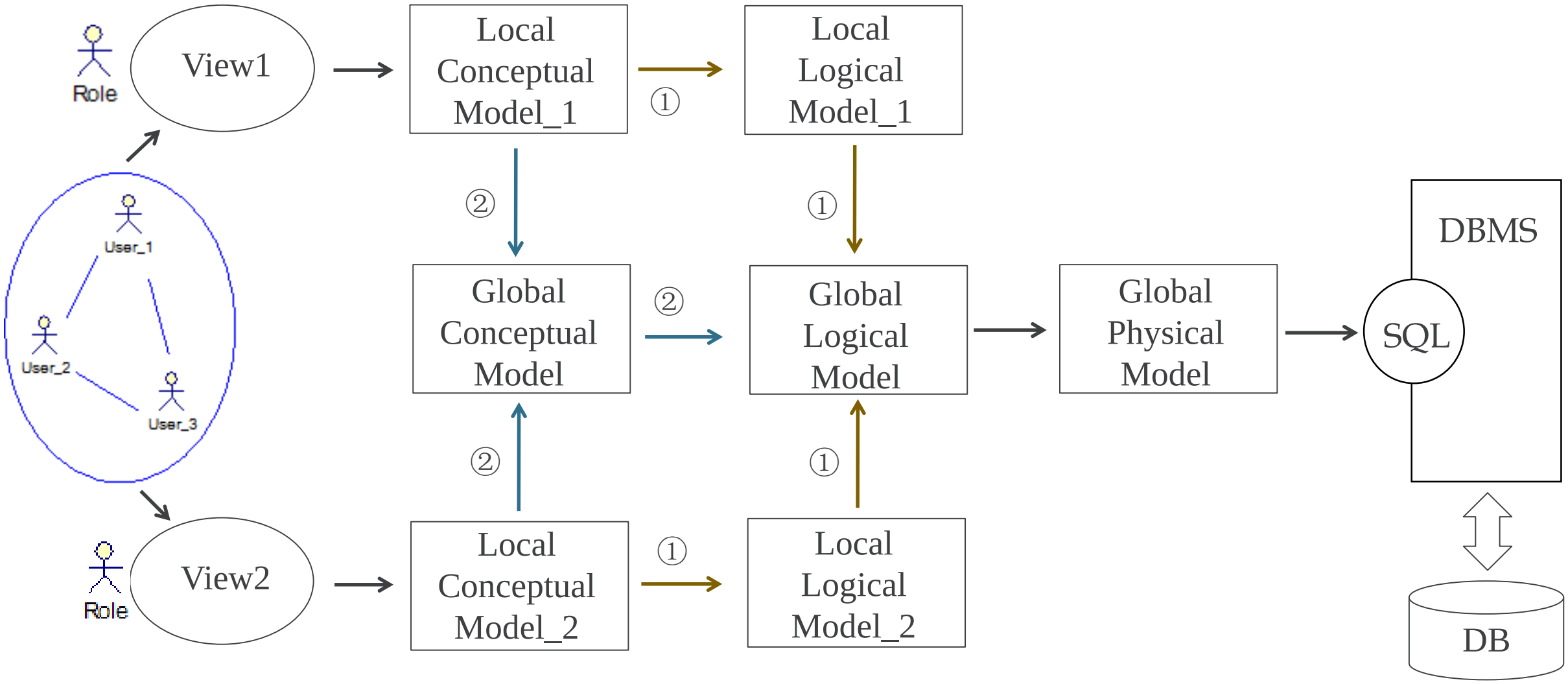


实践

数据库设计各阶段目标

- Conceptual database design
  - The process of constructing a model of the information used in an enterprise, independent of all physical considerations. 对需求负责
- Logical database design
  - The process of constructing a model of the information used in an enterprise based on a specific data model, but independent of a particular DBMS and other physical considerations. 对目标模型负责
- Physical database design
  - The process of producing a description of the implementation of the database on secondary storage; it describes the base relations, file organizations, and indexes used to achieve efficient access to the data, and any associated integrity constraints and security measures. 对具体DBMS负责

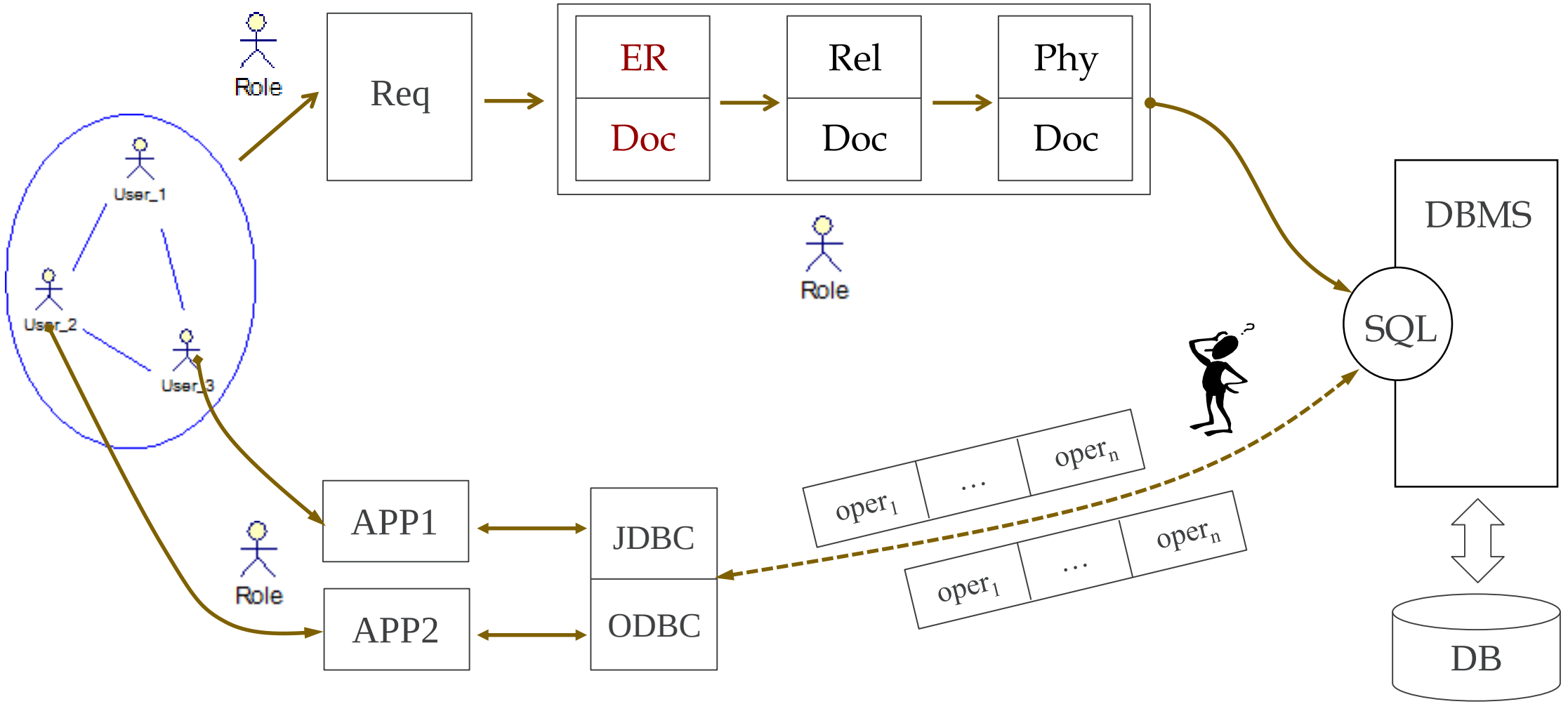
工程中复杂系统设计分解



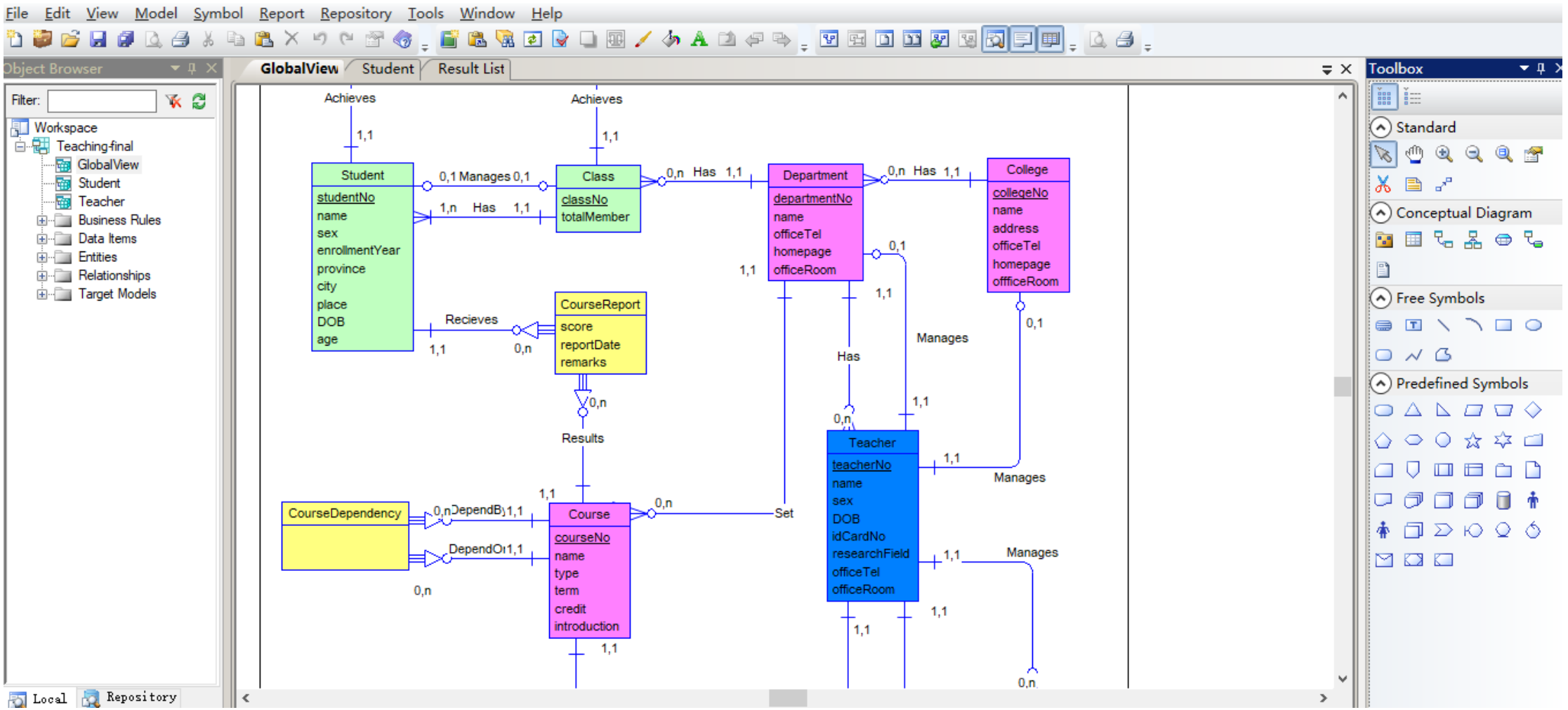
数据库设计各阶段步骤

- Conceptual database design
  - Step 1
    - Step 1.1
    - …
- Logical database design
  - Step 2
    - Step 2.1
    - …
- Physical database design
  - Step 3
    - Step 3.1
    - …

数据库设计与应用的闭环



数据库设计CASE工具



关于本讲内容

祝各位学习愉快！

感谢观看！

讲解人：陆伟 教授