

Software Reuse and Component-Based Software Engineering

CIS 376

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Software Reuse

- In most engineering disciplines, systems are designed by composition (building system out of components that have been used in other systems)
- Software engineering has focused on custom development of components
- To achieve better software quality, more quickly, at lower costs, software engineers are beginning to adopt *systematic reuse* as a design process

Types of Software Reuse

- **Application System Reuse**
 - reusing an entire application by incorporation of one application inside another (COTS reuse)
 - development of application families (e.g. MS Office)
- **Component Reuse**
 - components (e.g. subsystems or single objects) of one application reused in another application
- **Function Reuse**
 - reusing software components that implement a single well-defined function