

Introduction of Software Engineering

Chapter 10:

Software Maintenance & Reengineering

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CONTENTS

- **Software Maintainance**
- **Business Process & a BPR Model**
- **A Software Reengineeing Model**
- **Reverse Engineering: Process & Role**

Software Maintenance

- It begins almost immediately after software is released to end users, and
 - within days, bug reports filter back to the software engineering organization.
 - within weeks, one class of users indicates that the software must be changed so that it can accommodate the special needs of their environment.
 - within months, another corporate group that wanted nothing to do with the software when it was released now recognizes that it may provide unexpected benefit. They'll need a few enhancements to make it work in their world.
- The challenge of software maintenance has begun...
 - Why is so much maintenance required?
 - Why is so much effort expended?

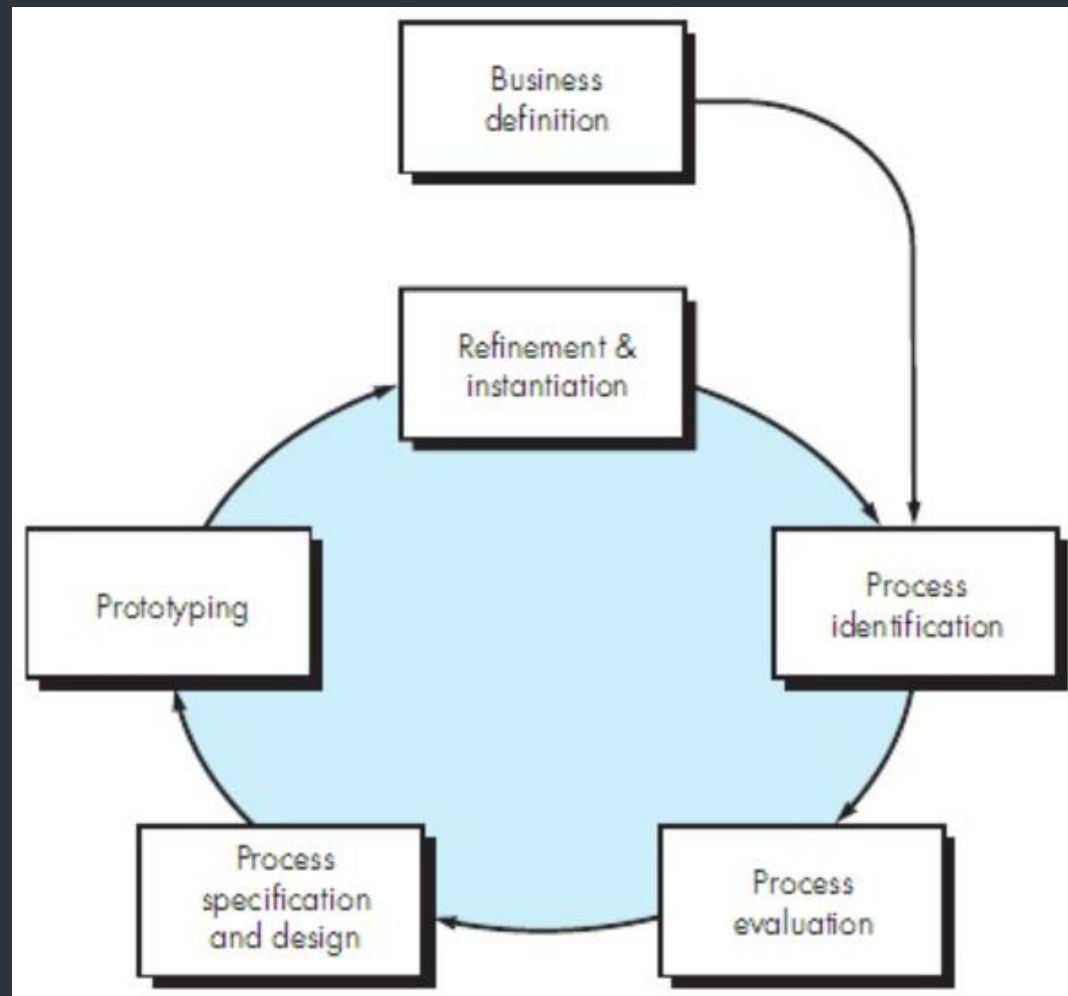
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Business Process

***The business → Business systems → Business processes →
Business subprocesses***

A Business Process Reengineering (BPR) Model



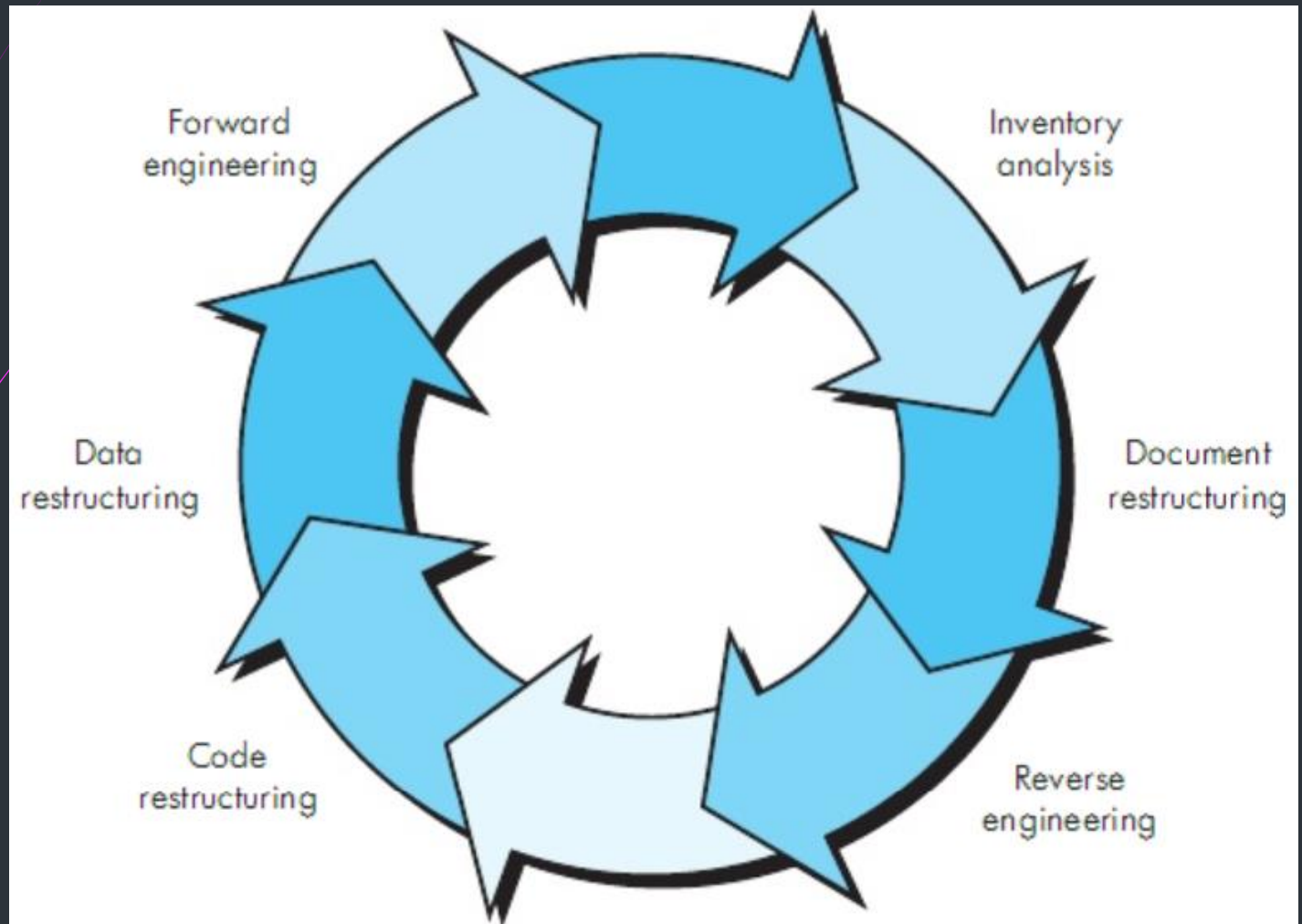
A BPR Model

1. Business identification
2. Process identification
3. Process evaluation
4. Process specification and design
5. Prototyping
6. Refinement and instantiation

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A Software Reengineering Model



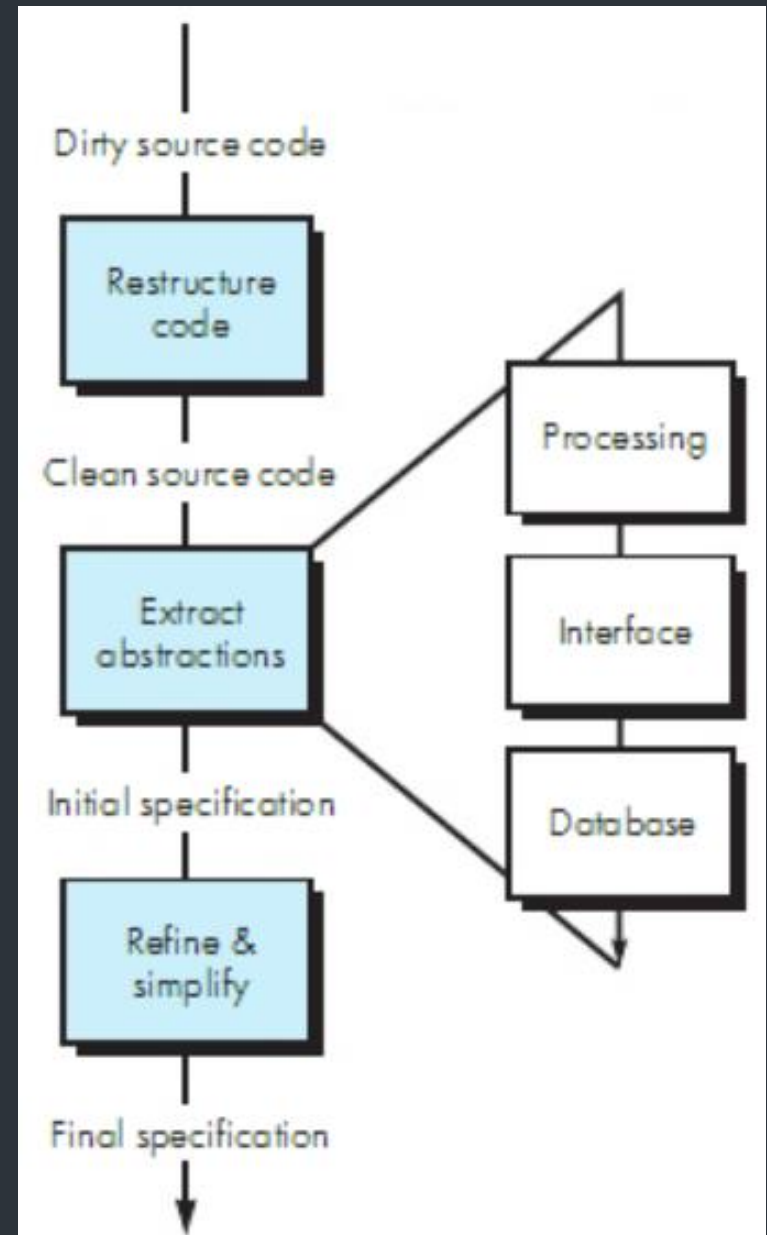
A Software Reengineering Activities

1. Inventory analysis
2. Document restructuring
3. Reverse engineering
4. Code restructuring
5. Data restructuring
6. Forward engineering

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The Reverse Engineering Process



The Role of Reverse Engineering

1. RE to understanding data
2. RE to understanding processing
3. RE user interfaces