Systems Development Methods – CIS 211 – Duke Hutchings

How do information systems get created?

Office: 314 Duke Bldg

Office Hours

3:30 – 5:00 Mondays and Wednesdays
8:00 – 9:30 Tuesdays
1:30 – 3:00 Thursdays
appointments always welcome

Acknowledgement

The content of the following slides is based on Chapter 17 of

Business Driven Technology (3rd edition)
by P. Baltzan, A. Phillips, & S. Haag
ISBN: 9780073376745
Web site: http://www.mhhe.com/bdt3e/

SDLC – Software Development Life Cycle

General phases in most software development methods

Analysis	determine system needs
Design	describe solution properties
Development	create actual solution (write code)
Testing	needs verification & error-correction
Implementation	switch from old system to new system
Maintenance	additions, deletions, upgrades, corrections, etc.

Chief difference among methods is ordering and iteration of phases

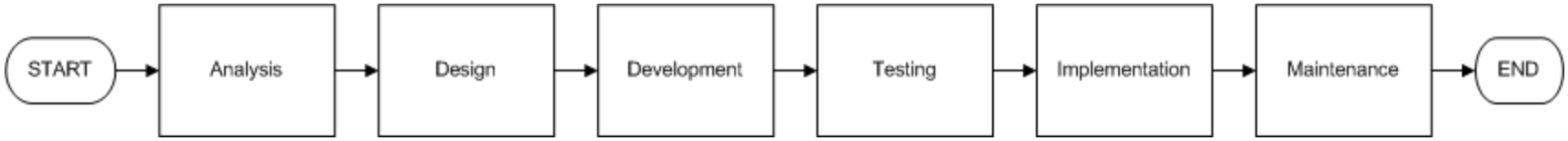
Discussion

Planning	identify strategic need or opportunity
Analysis	determine actual system needs
Design	describe solution properties
Development	create actual solution (write code)
Testing	needs verification & error-correction
Implementation	switch from old system to new system
Maintenance	additions, deletions, upgrades, corrections, etc.

(G3) Where is a "cross-functional team" most likely to be involved?

Waterfall Model (A "predictive" model)

Flow from one stage to next without iteration or reversion

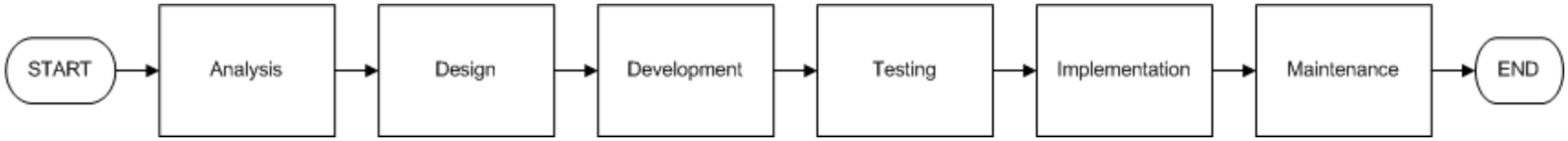


"Traditional" method with many known problems:

- problems flow forward
- brittle planning
- assumption of known needs

Waterfall Model (A "predictive" model)

Flow from one stage to next without iteration or reversion

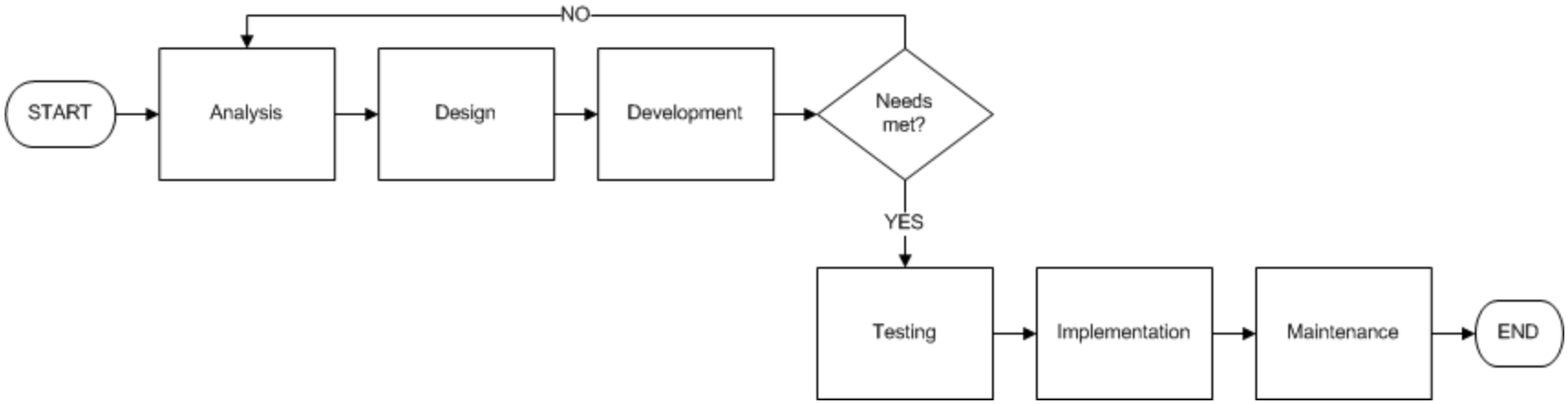


Claim: only 10% of such projects are successful

(G4) What is the definition of *success* and *failure* of s/w projects?

Iterative Model

RAD, XP, and Agile are all iterative ("adaptive") models



In practice, software development that follows the waterfall model is almost always iterative in nature

Iterative Models of Note

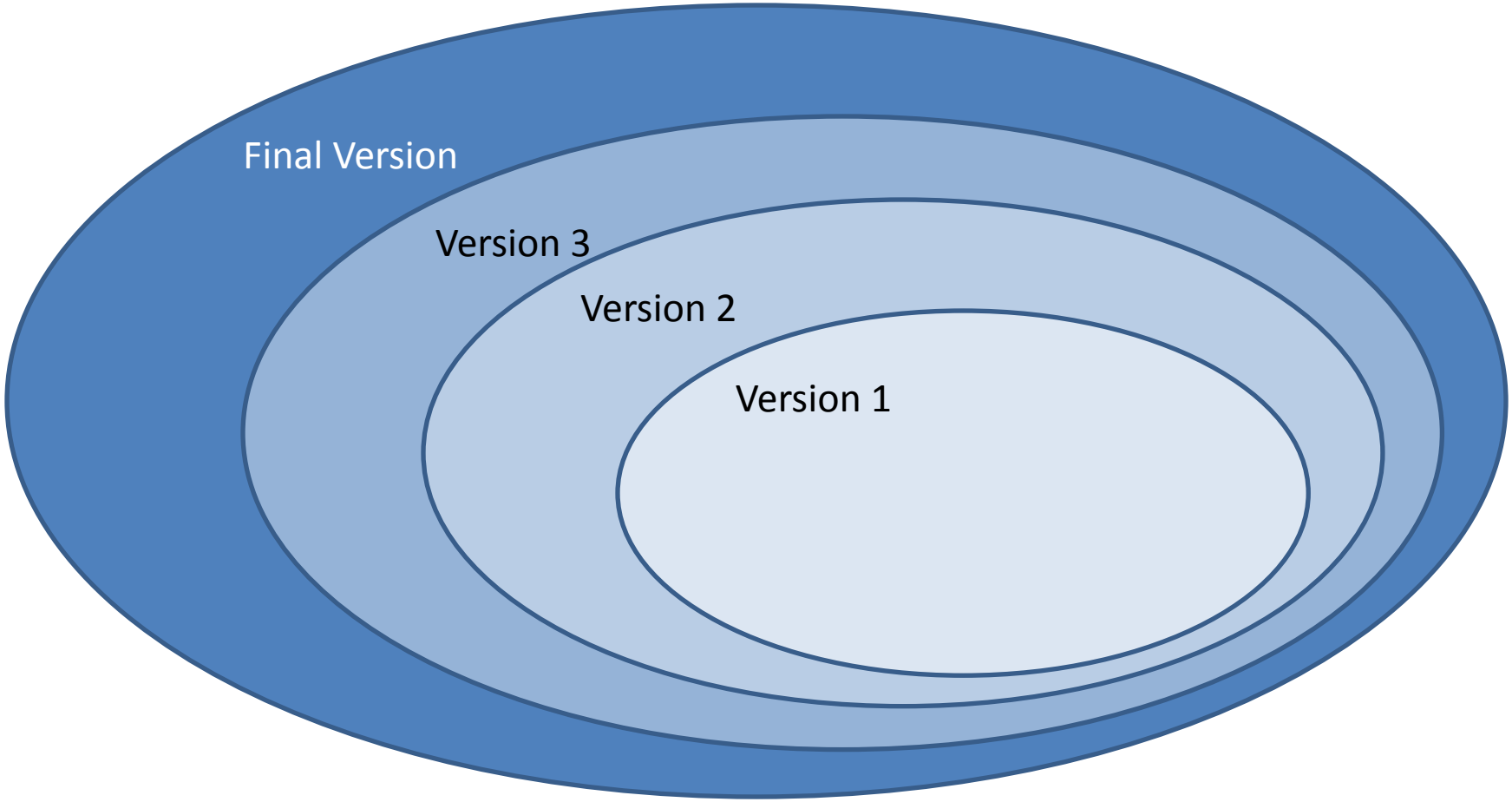
RAD — Prototype-driven approach

XP — Component-driven approach (lots of "small RAD" cycles)
Focus on user requirements and "welcomes" changes
Focus on team-based code writing approach (dev/test blend)

Agile — Style of XP with different emphases
Focus on project rather than system (min. req., short timeline)

Iterative Models of Note

RAD Prototype-driven approach



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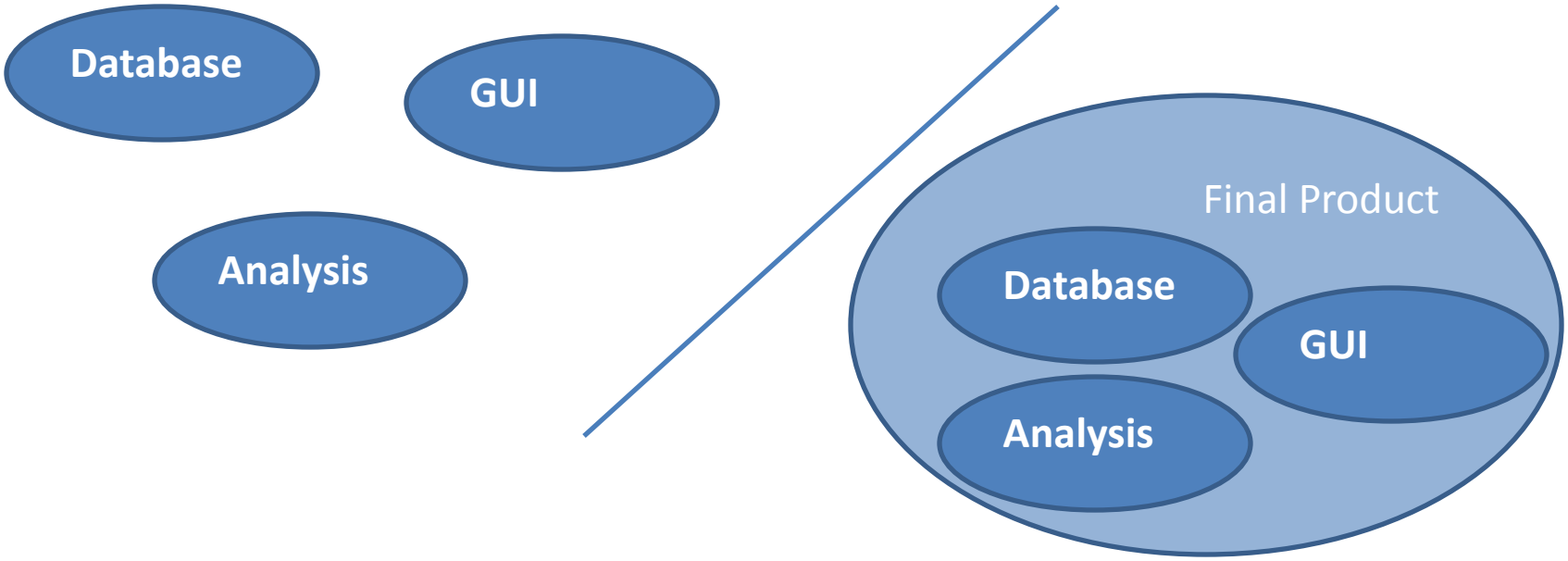

Other Terms of Note

Project Management & Portfolio Management

- Scope, Time, Cost, Quality

Creep

- Scope creep – users demand more functionality
- Feature creep – developers build "cool" features

Learn More

B-14 Systems Development in more detail
B-15 Project Management in more detail

CIS 216 Programming in a Visual Environment
CIS 330 Systems Analysis and Design
CIS 430 Project Management

(G2) Why is it beneficial for you to learn about s/w dev issues?

Discussion

(G5) What is the relationship between process modeling and s/w dev?

(G1) What did you find out about the Standish Group?

Assignments – CIS 211 – Duke Hutchings

Homework Exercise #6/#7

Guided Reading Exercise #10

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