Rekayasa Perangkat Lunak
Proses Pembangunan Perangkat Lunak

Teknik Informatika
UNIKOM

Proses Pembangunan P/L

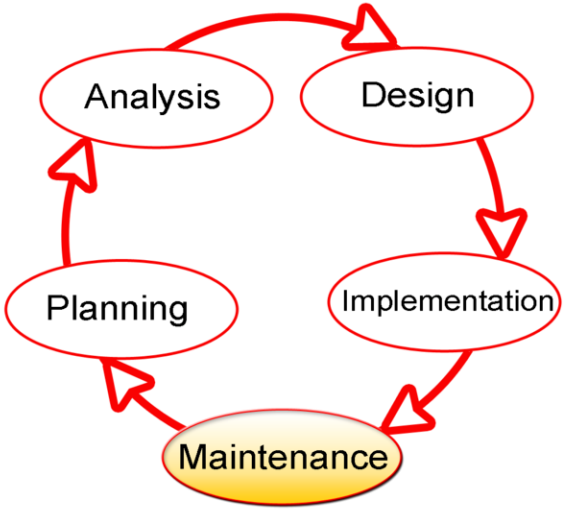
1. SDLC
2. Generic Process Model
3. Prescriptive Process Model.

SDLC

1. Pengertian SDLC
2. Software Development Activities
3. Pertanyaan Seputar SDLC

Pengertian SDLC

SDLC (software Development Life Cycle) adalah sekumpulan kegiatan dan keterhubungannya satu sama lain untuk mendukung pembangunan dari sebuah perangkat lunak.



Software Development Activities

1. Gathering Requirements
2. Team Management
3. Software Design
4. Coding
5. Testing
6. Documentation
7. Software Maintenance

Pertanyaan Seputar SDLC

Pertanyaan yang sering muncul di dalam SDLC:

1. Aktifitas mana yang harus dipilih untuk proyek perangkat lunak ini?
2. Hubungan apa yang dimiliki antar aktifitas-aktifitas di dalam SDLC?
3. Bagaimana menjadwalkan aktifitas-aktifitas SDLC ini?

Generic Process Model

1. Definisi Generic Process Model
2. Process Flow
3. Linear Process Flow
4. Iterative Process Flow
5. Evolutionary Process Flow

Definisi Generic Process Model

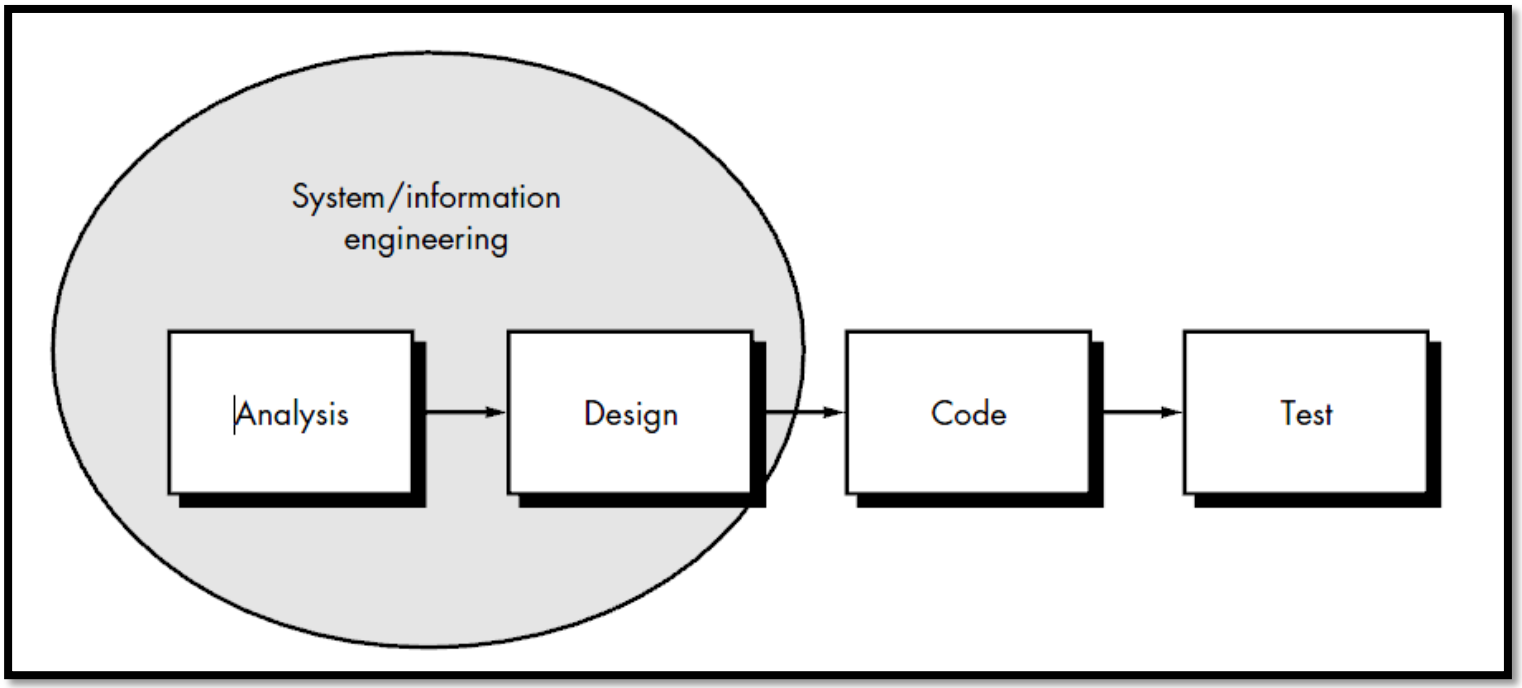
Terdiri dari 5 aktifitas umum dalam pembangunan perangkat lunak yaitu:

1. Communication
2. Planning
3. Modeling
4. Construction
5. Deployment.

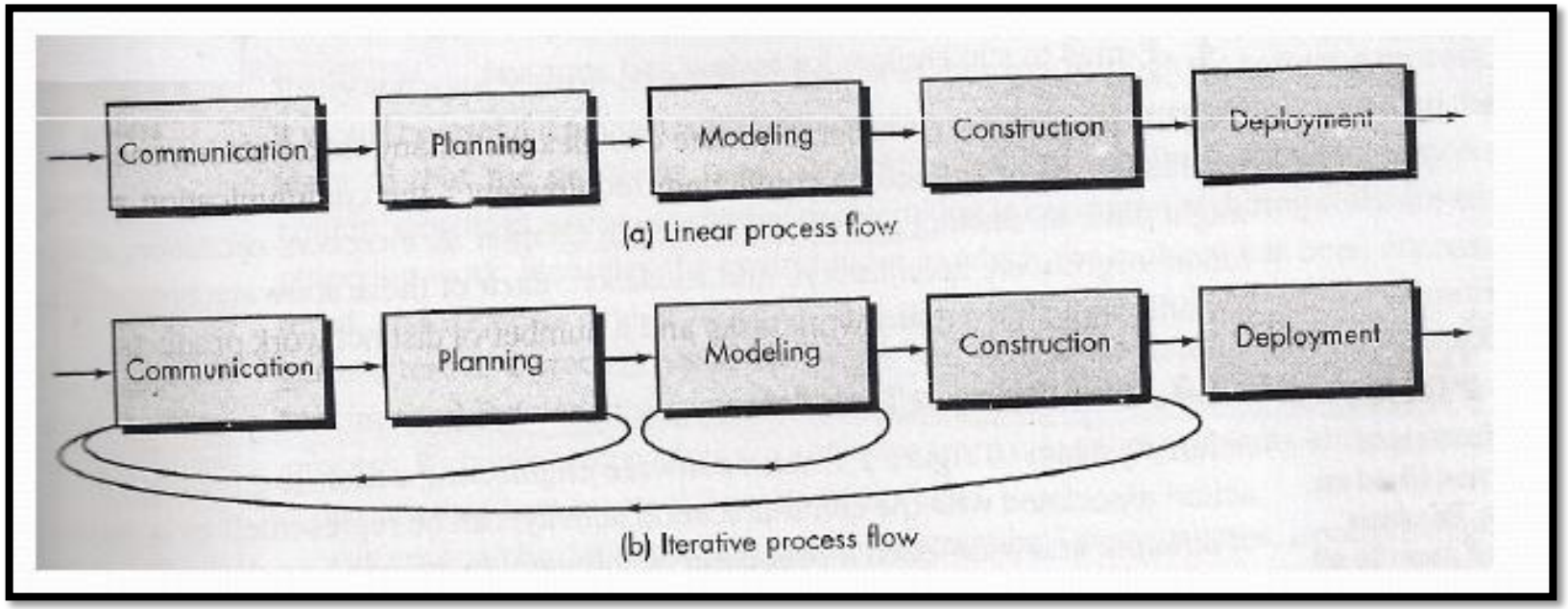
Process Flow

1. Linear
2. Iterative
3. Evolutionary

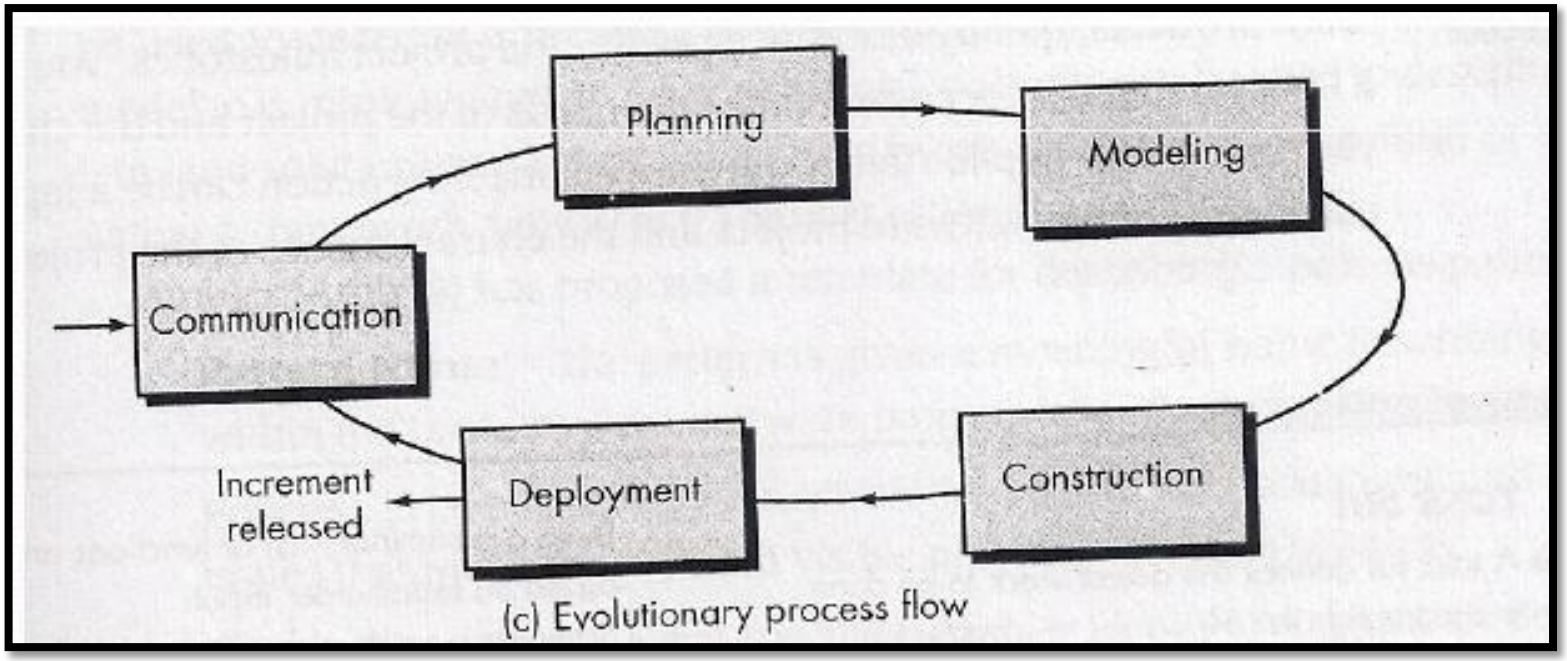
Linear Process Flow



Iterative Process Flow



Evolutionary Process Flow



(c) Evolutionary process flow

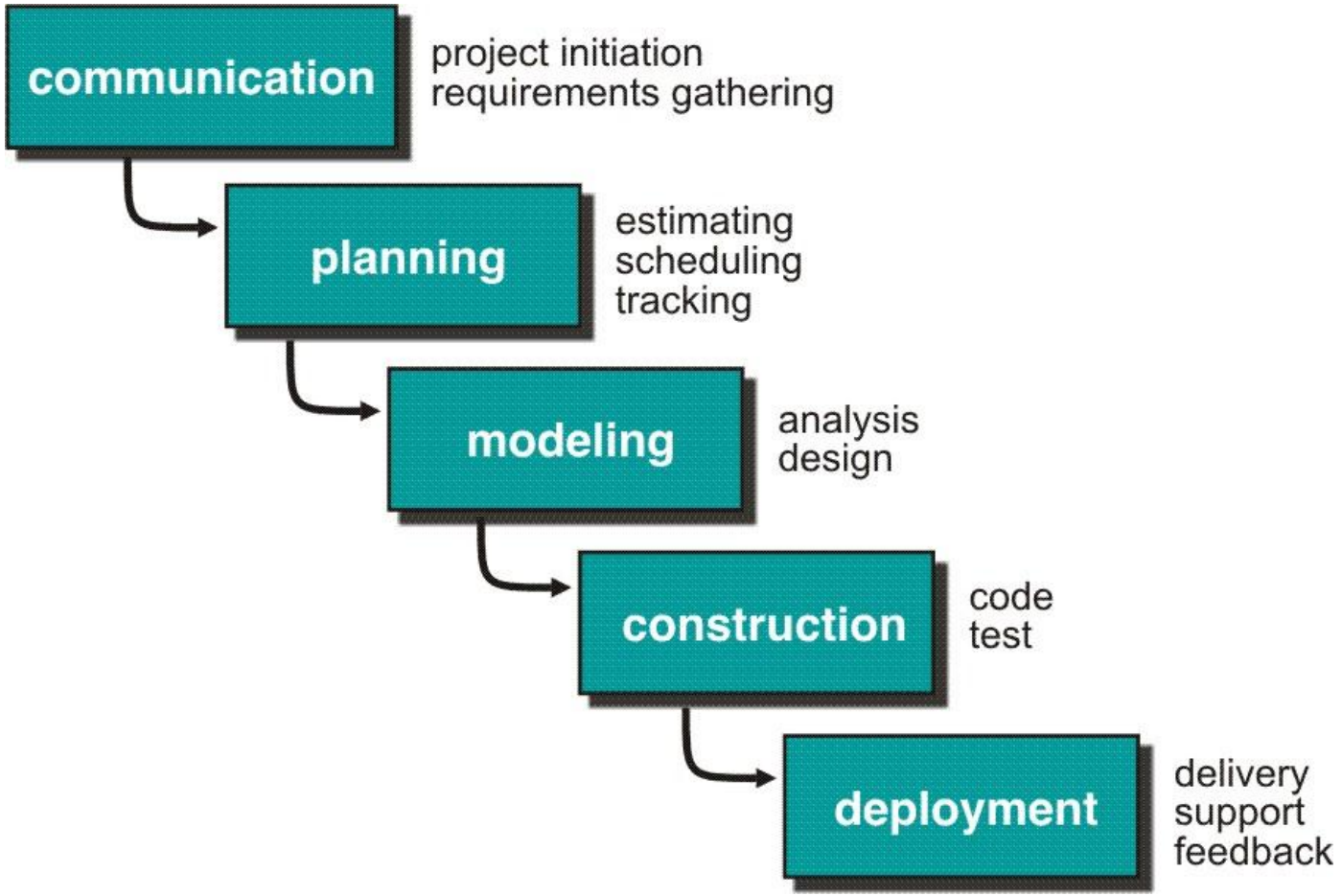
Prescriptive Model

1. Waterfall Model
2. V Model
3. Incremental Process Model
4. Evolutionary Process Model
5. Specialized Process Model
6. Unified Process
7. Agile Methods (example: XP)

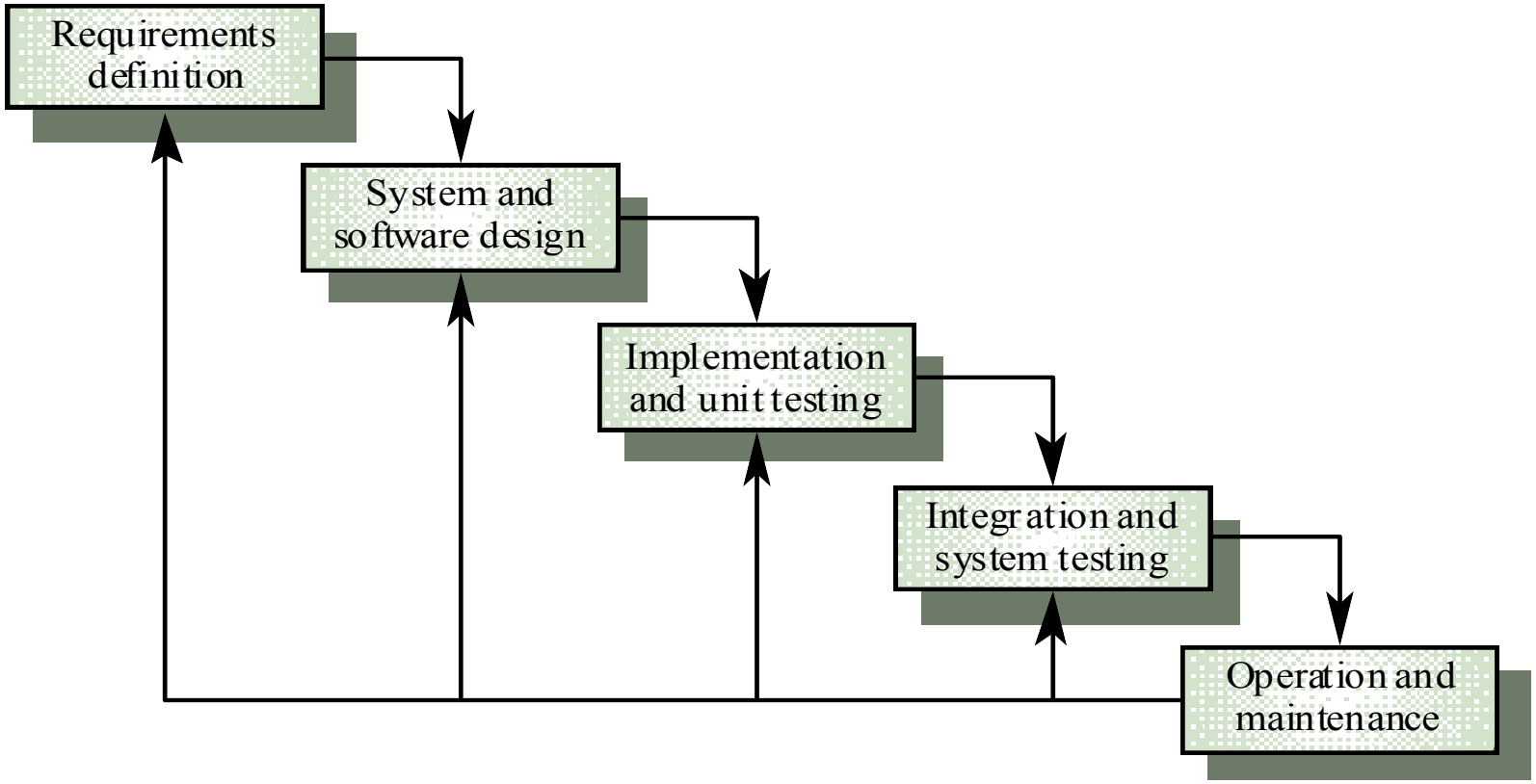
Waterfall Model

1. Setiap tahap menghasilkan dokumen di akhir tahapnya.
2. Tidak ada overlapping pada setiap tahapnya.
3. Setiap tahapan akan punya pengaruh besar pada hasil di tahap berikutnya.
4. Memerlukan biaya besar jika melakukan rework.

Waterfall Model



Waterfall Model



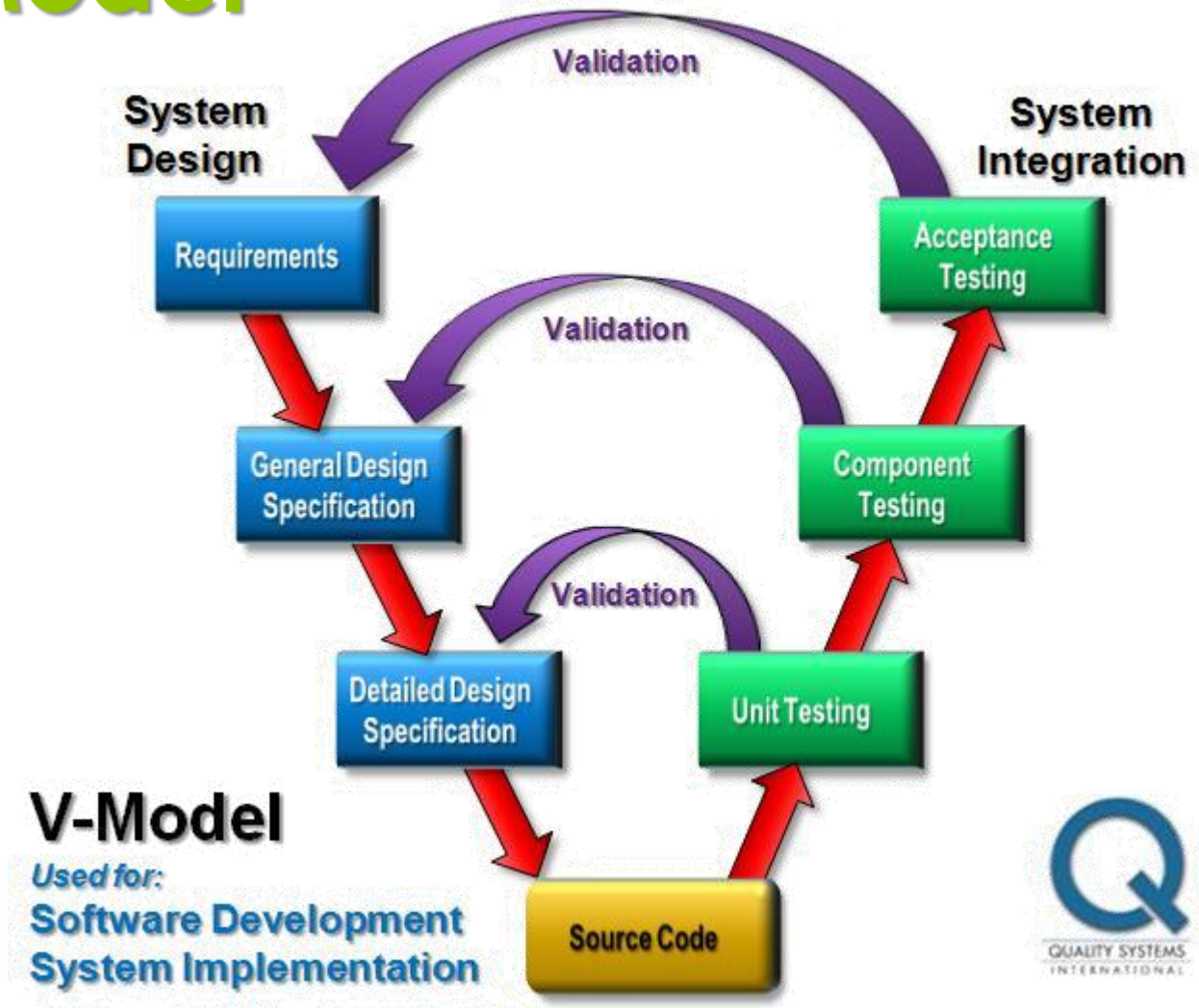
Kelebihan Waterfall Model

1. Menghasilkan mature process pada setiap tahapnya.
2. Mudah untuk diaplikasikan pada sebuah proyek.
3. Menghasilkan sistem yang terstruktur dengan baik.
4. Memiliki tingkat visibiltas yang tinggi (setiap tahap mempunyai dokumen yang jelas).

Kelemahan Waterfall Model

1. Ketidak fleksibelan antar tahapan.
2. Susah dalam merespon perubahan kebutuhan customer.
3. Model ini hanya cocok jika:
    a. Kebutuhan customer sudah sangat jelas
    b. Perubahan kebutuhan dibatasi.

V Model

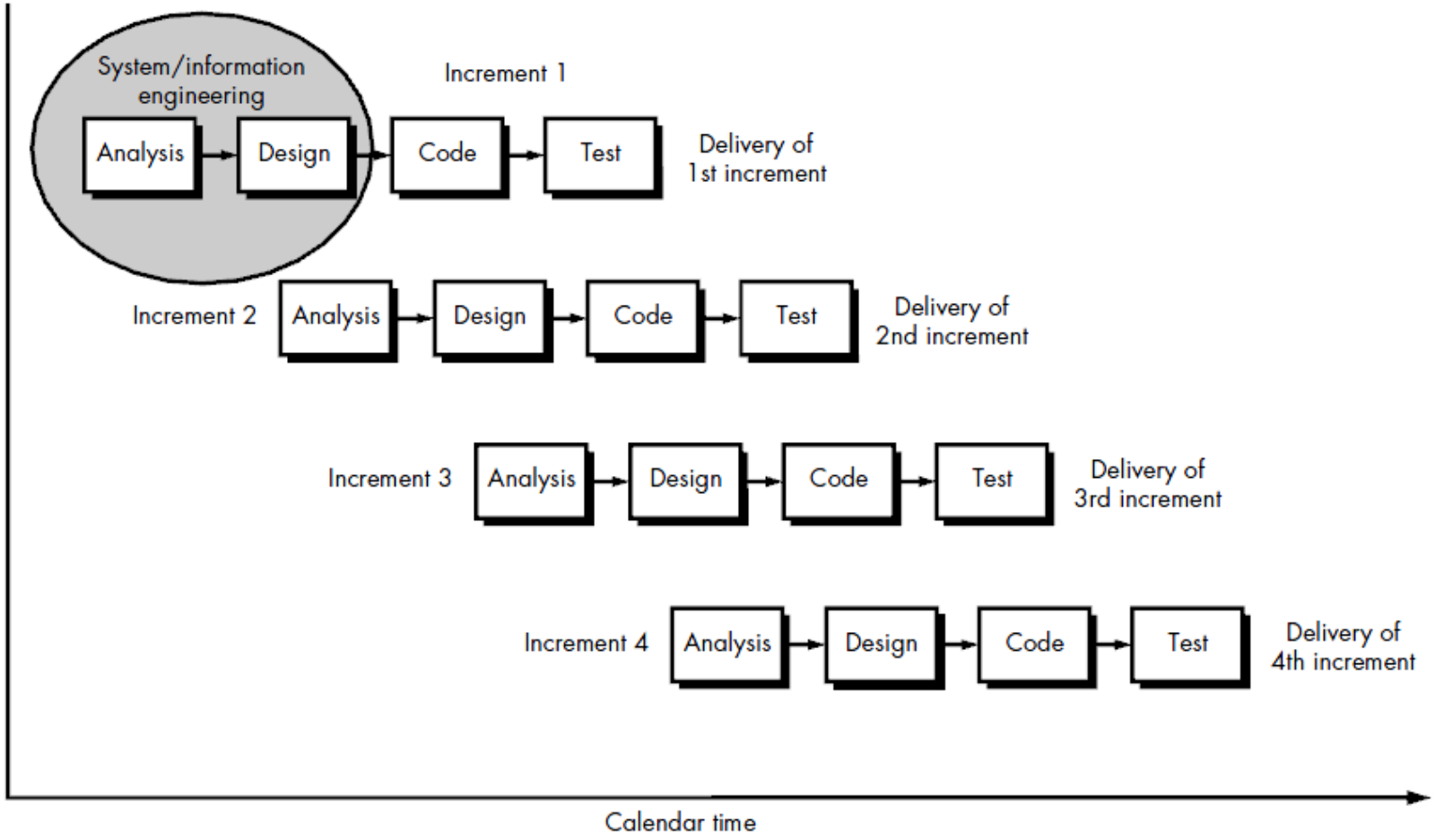

Validation
System Design
System Integration
Requirements
Acceptance Testing
Validation
General Design Specification
Component Testing
Validation
Detailed Design Specification
Unit Testing
Source Code
V-Model
Used for:
Software Development
System Implementation
QUALITY SYSTEMS INTERNATIONAL

Incremental Process Model

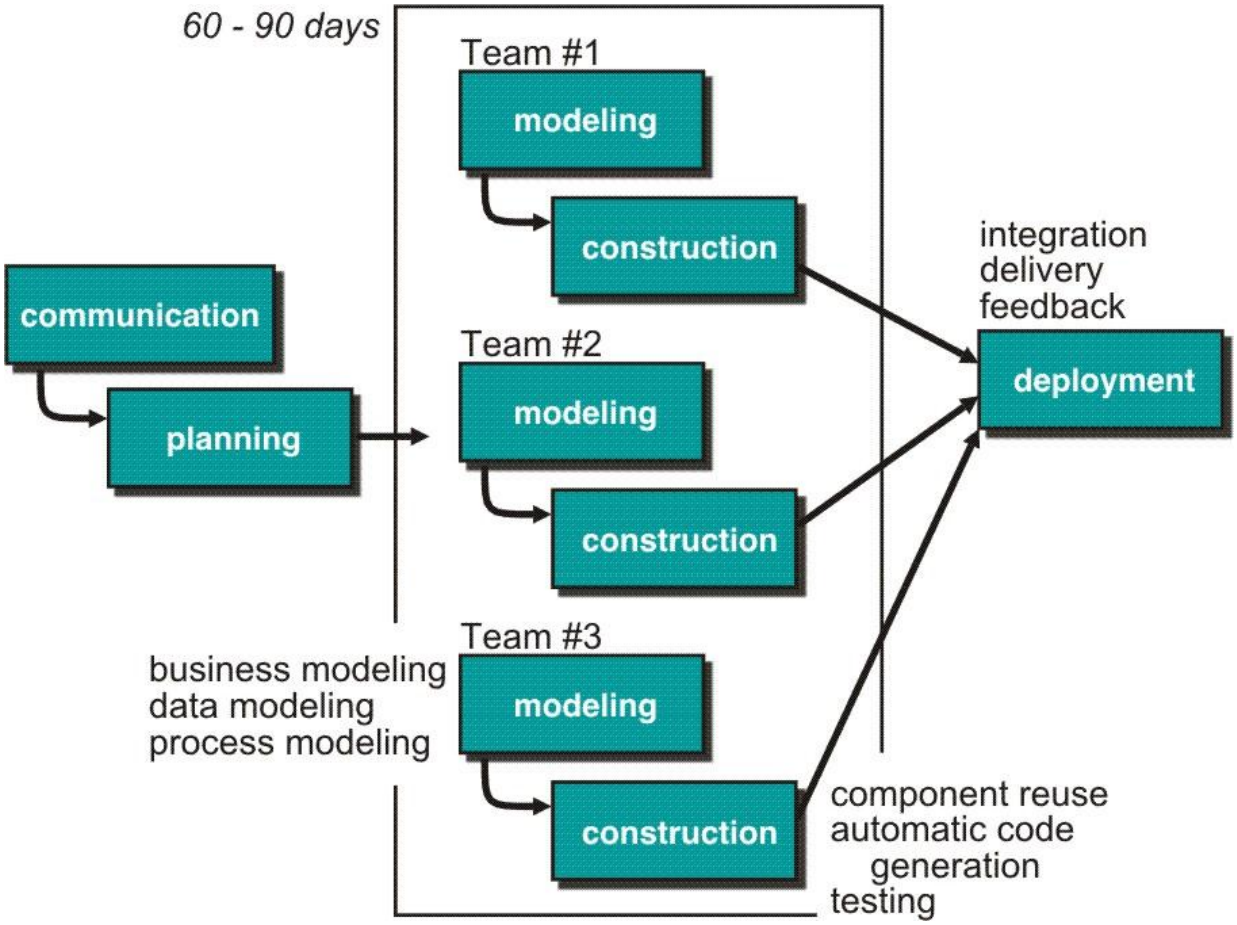
1. Incremental model

2. RAD model (Rapid Application Development)

Incremental Model



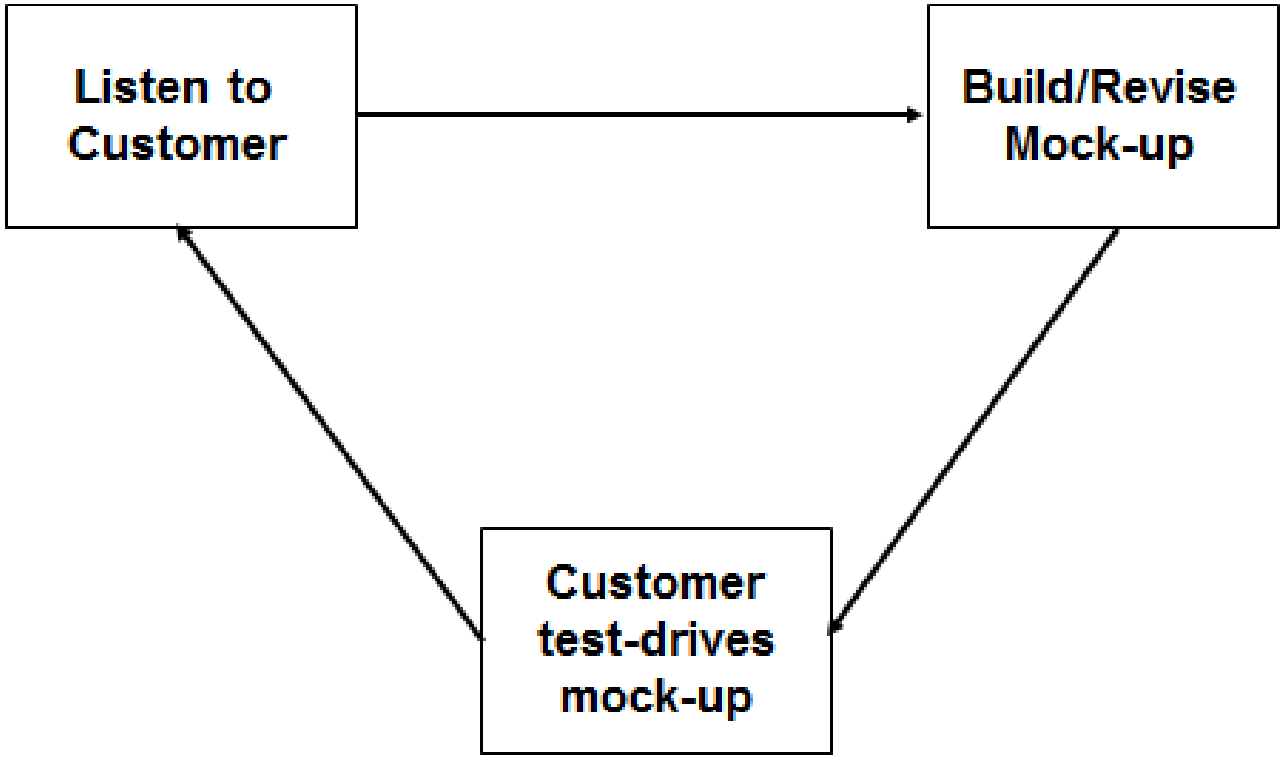
Rapid Application Development



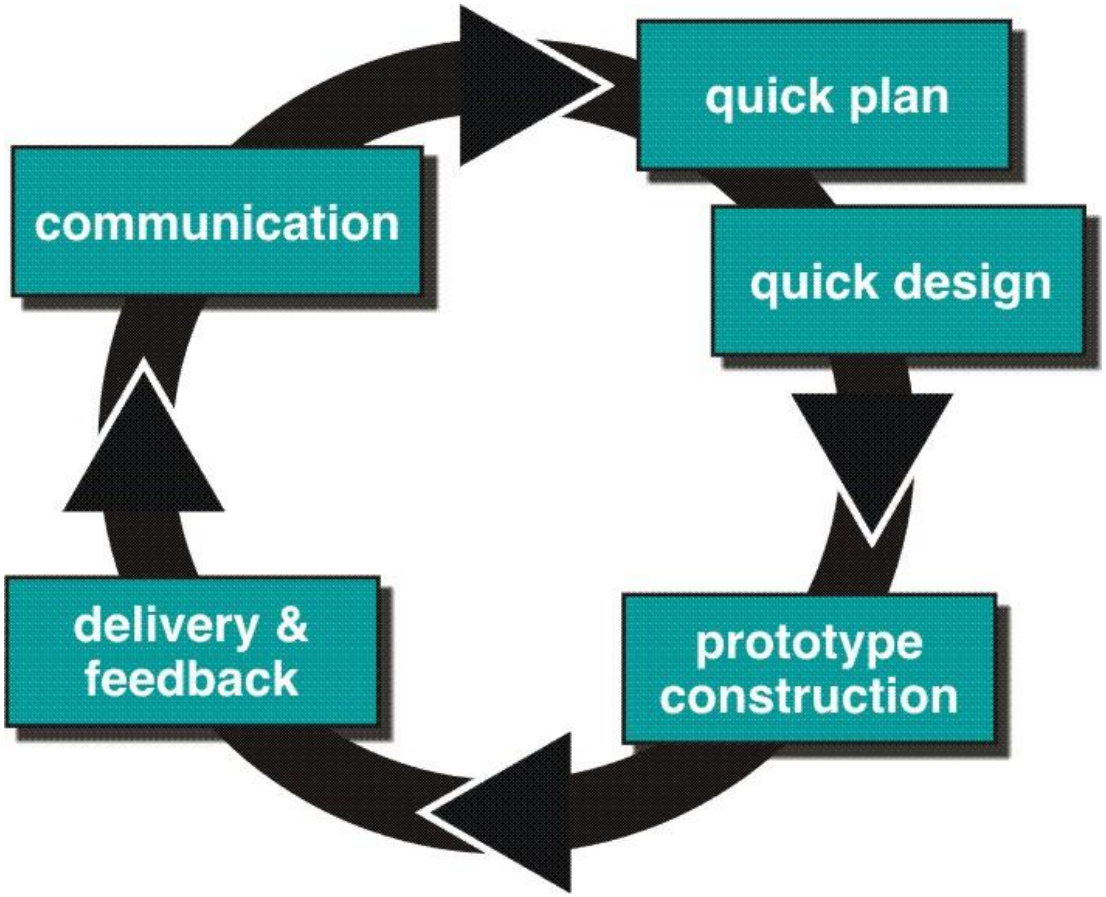
Evolutionary Process Model

1. Prototyping
2. Spiral Model
3. Concurent Process Model

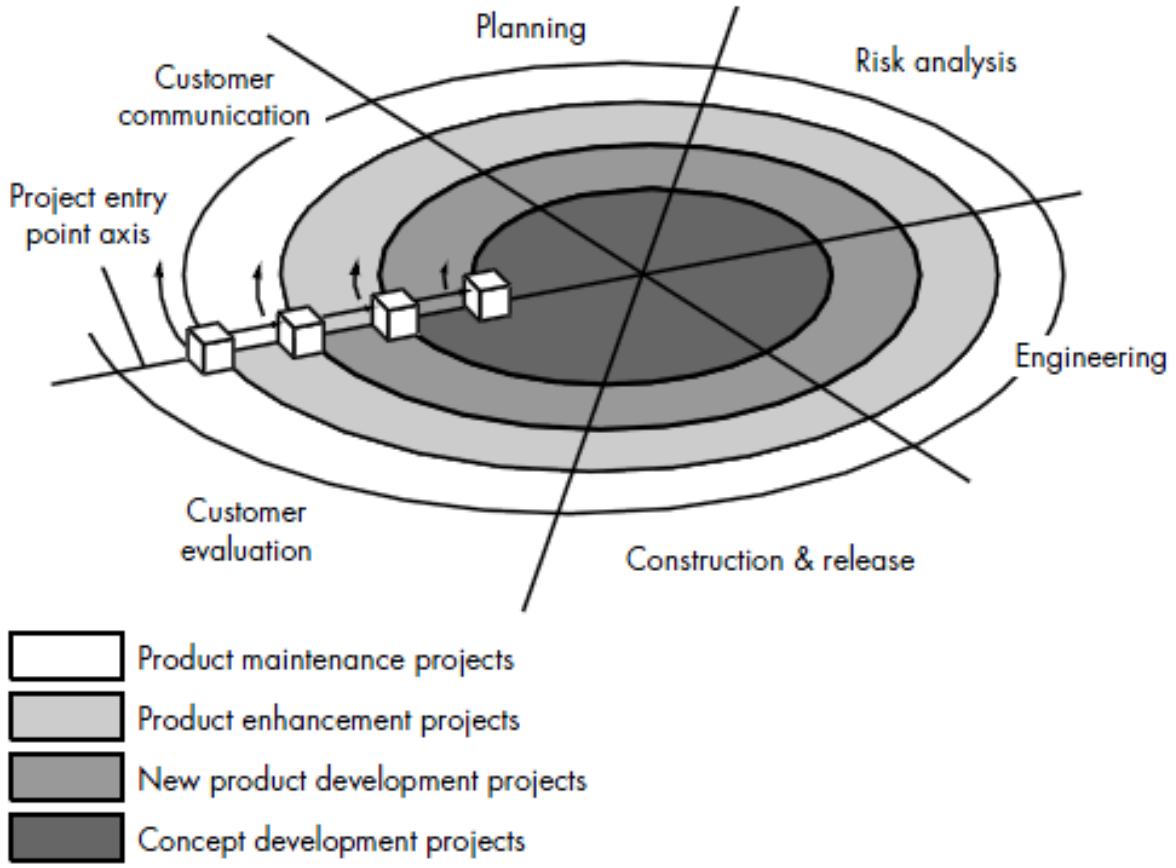
Prototyping



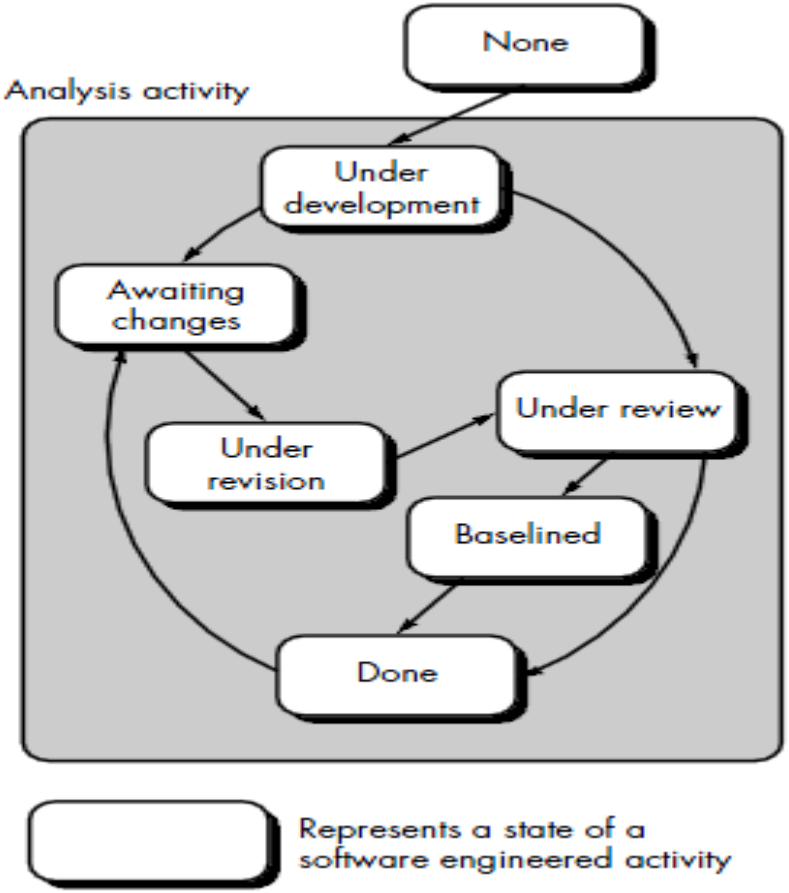
Prototyping



Spiral Model



Concurent Process Model

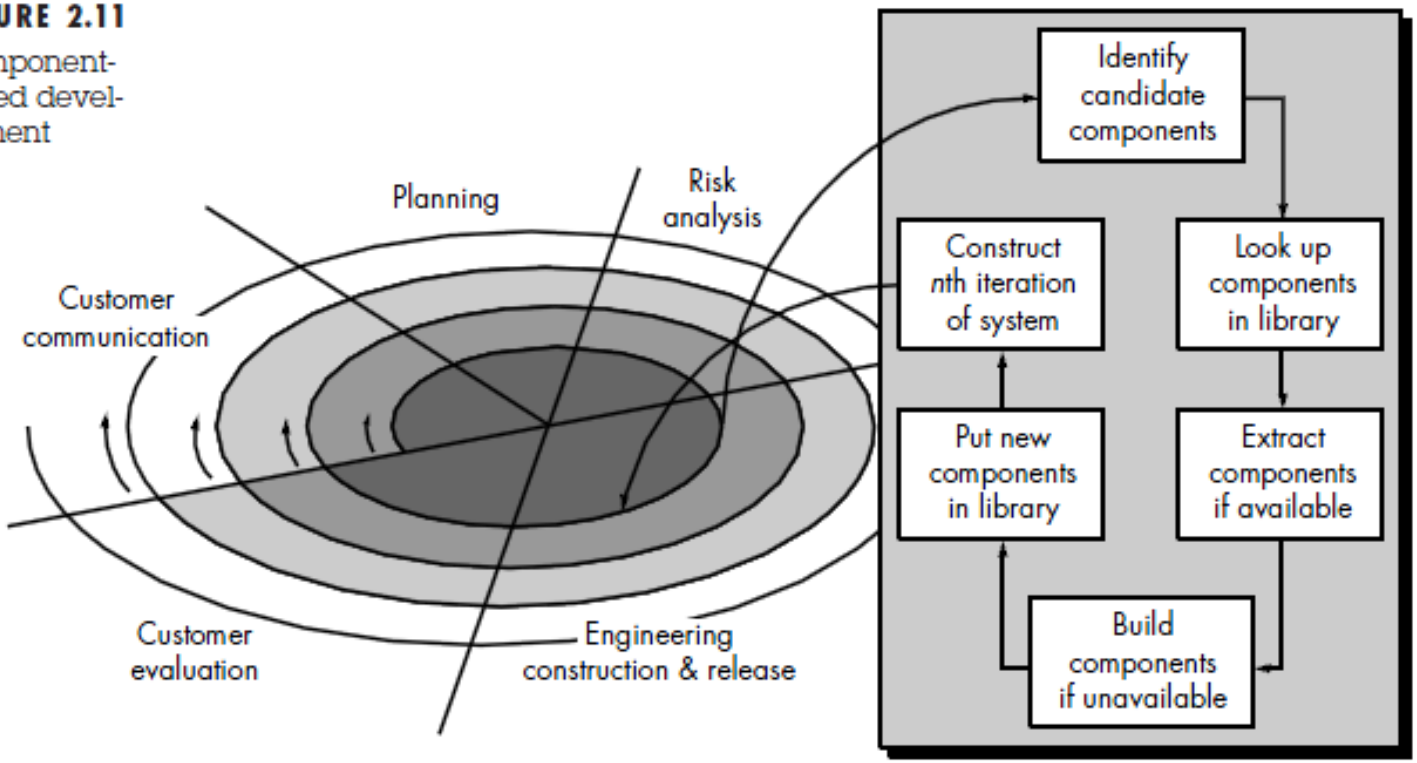


Specialized Process Model

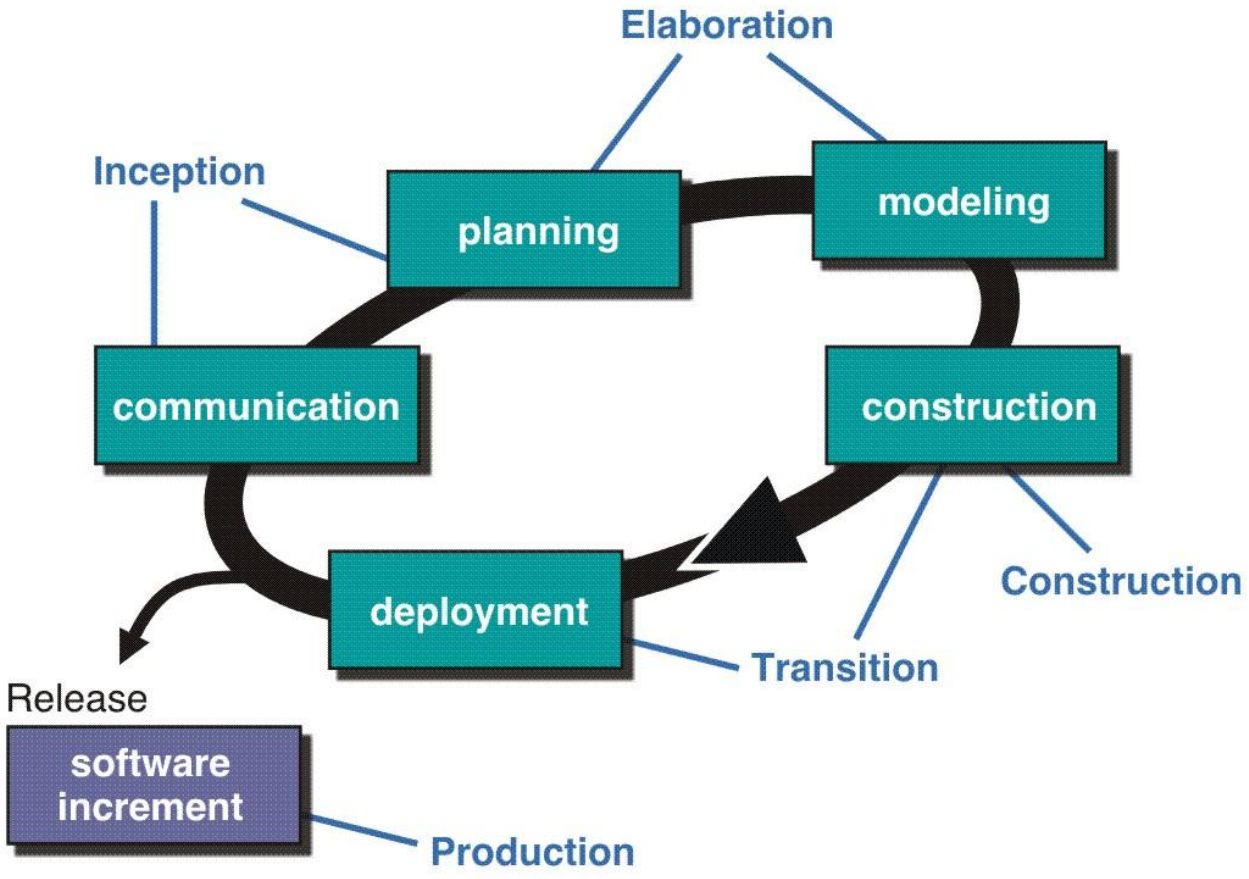
1. Component Based Development
2. Formal Method Model
3. Aspect-oriented Software Development

Component Based Development

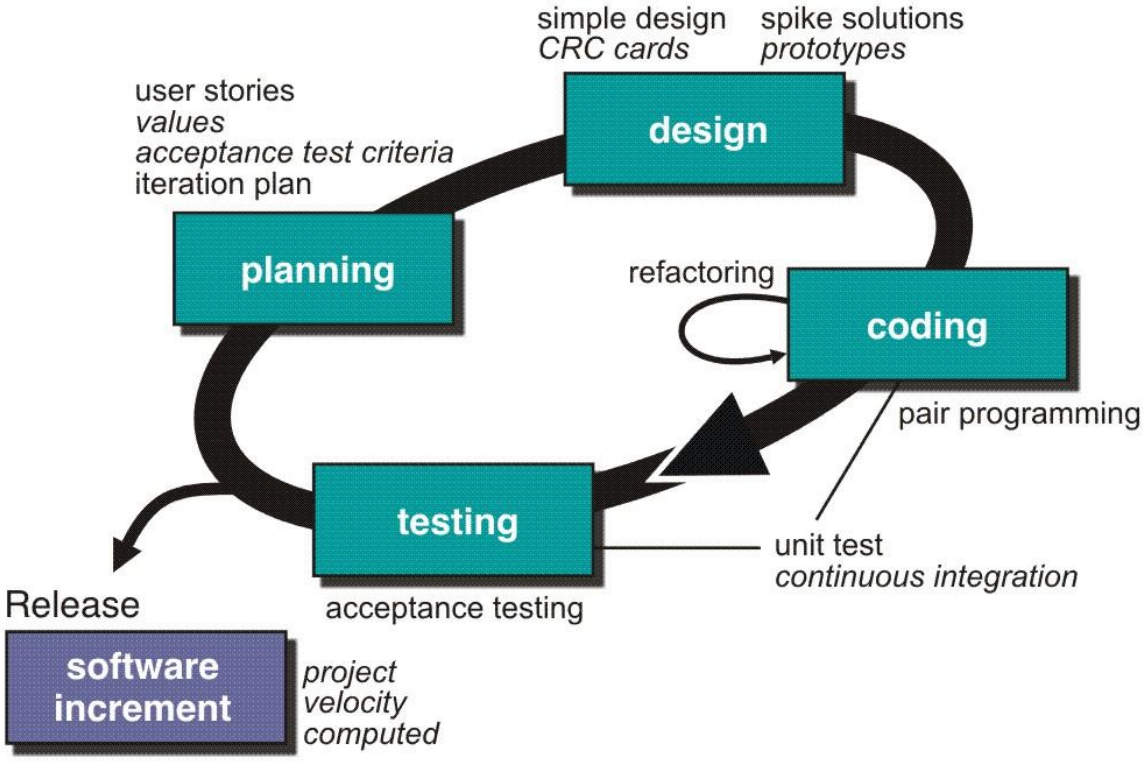
FIGURE 2.11
Component-based development



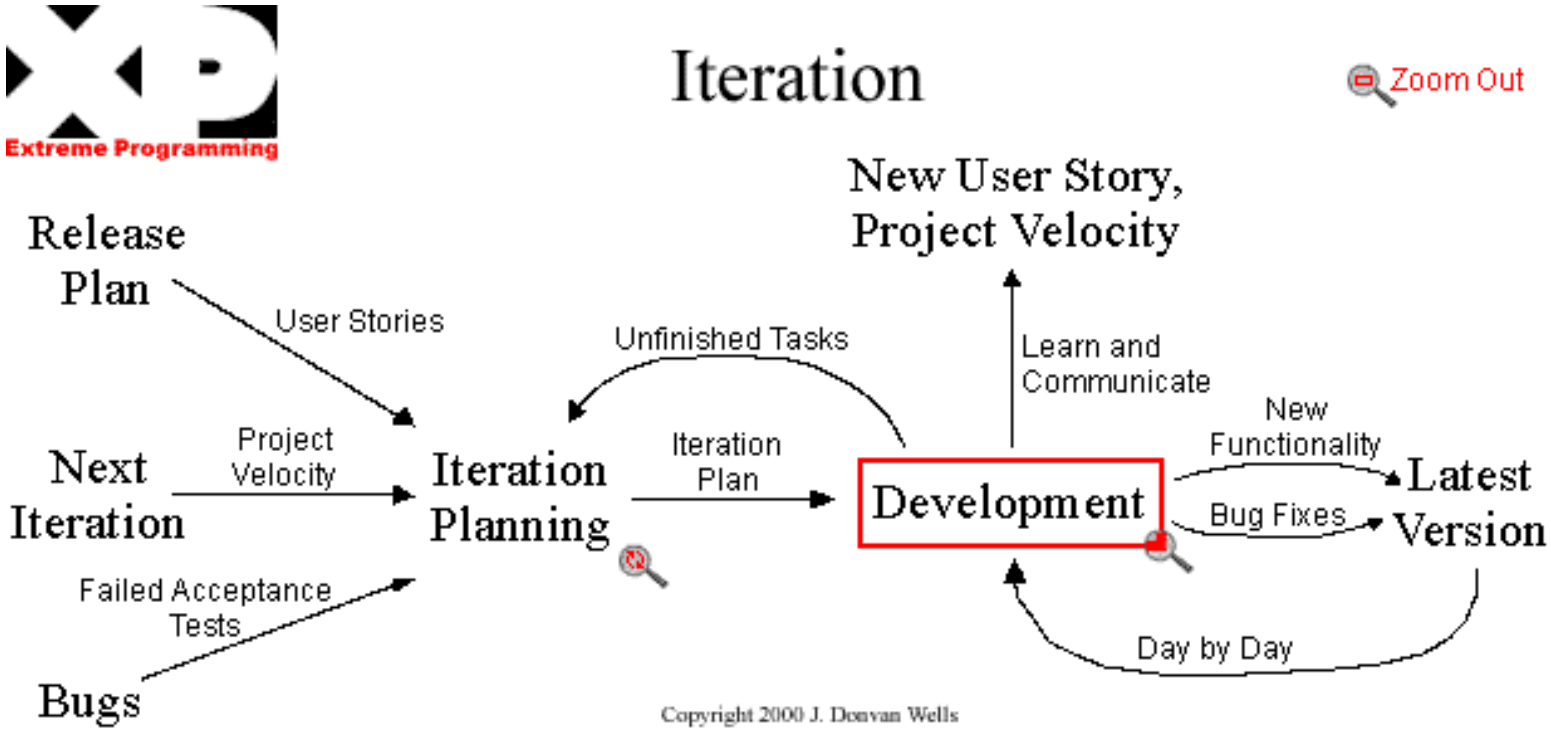
Unified Process



Agile Method (example: XP)



Agile Method (example: XP)



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