SIA202
SDLC

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1. Development Cycle

- Software Development Life Cycle, SDLC for short, is a well-defined, structured sequence of stages in software engineering to develop the intended software product.
- Like anything that is manufactured on an assembly line, an SDLC aims to produce high quality systems that meet or exceed customer expectations, based on customer requirements, by delivering systems which move through each clearly defined phase, within scheduled time-frames and cost estimates.

1.1 Four Fundamental Steps

- A systemic strategy for large-scale development projects.
- A systemic process in four phases to develop an information system.

1.1.a Planning

- Do a feasibility study and look at options.
  - Economical (Can we afford to do this? Will it benefit our organization?)
  - Organizational and Operational (Will they use it? Do they need it?)
  - Technical (Can we build it? Do we have the technology to support it?)
- Create a project plan.
  - A plan will keep the project on track
  - A plan can be used for evaluation.

1.1.b Analysis

- Analyze by breaking down into parts (draw a diagram).
- Gather requirements by talking to all stakeholders and technical providers.
- Create a proposal to present to stakeholders.

1.1.c Design

- Decide if the system will be created in house or out sourced.
- Identify how it will operate and how it will be used by the end users.
- Reexamine the feasibility study done in the Analysis Phase

1.1.d Implementation

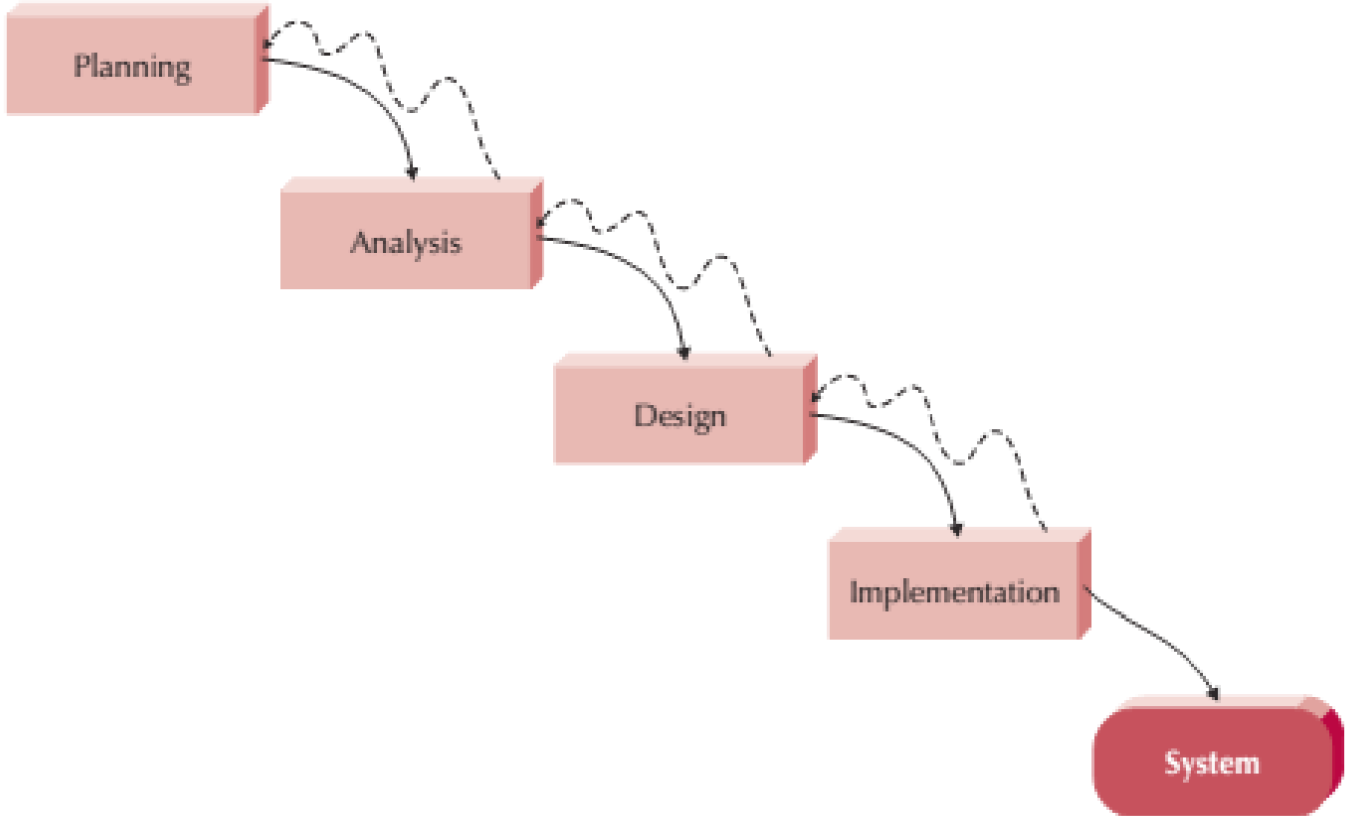
- The system is built or purchased and tested.
- Training is implemented for end users.
- A technical support plan is put into place.
- Use by end users is evaluated.

2. SDLC Methods

- Much has been written about software development, and you are most likely familiar with development models like the waterfall model, the spiral model, and others.
- The idea behind such models is to make clear and structure the development process, and they should help to improve the quality of the product and to reduce both *cost* and *time-to-market*.

2.1 Structured Design

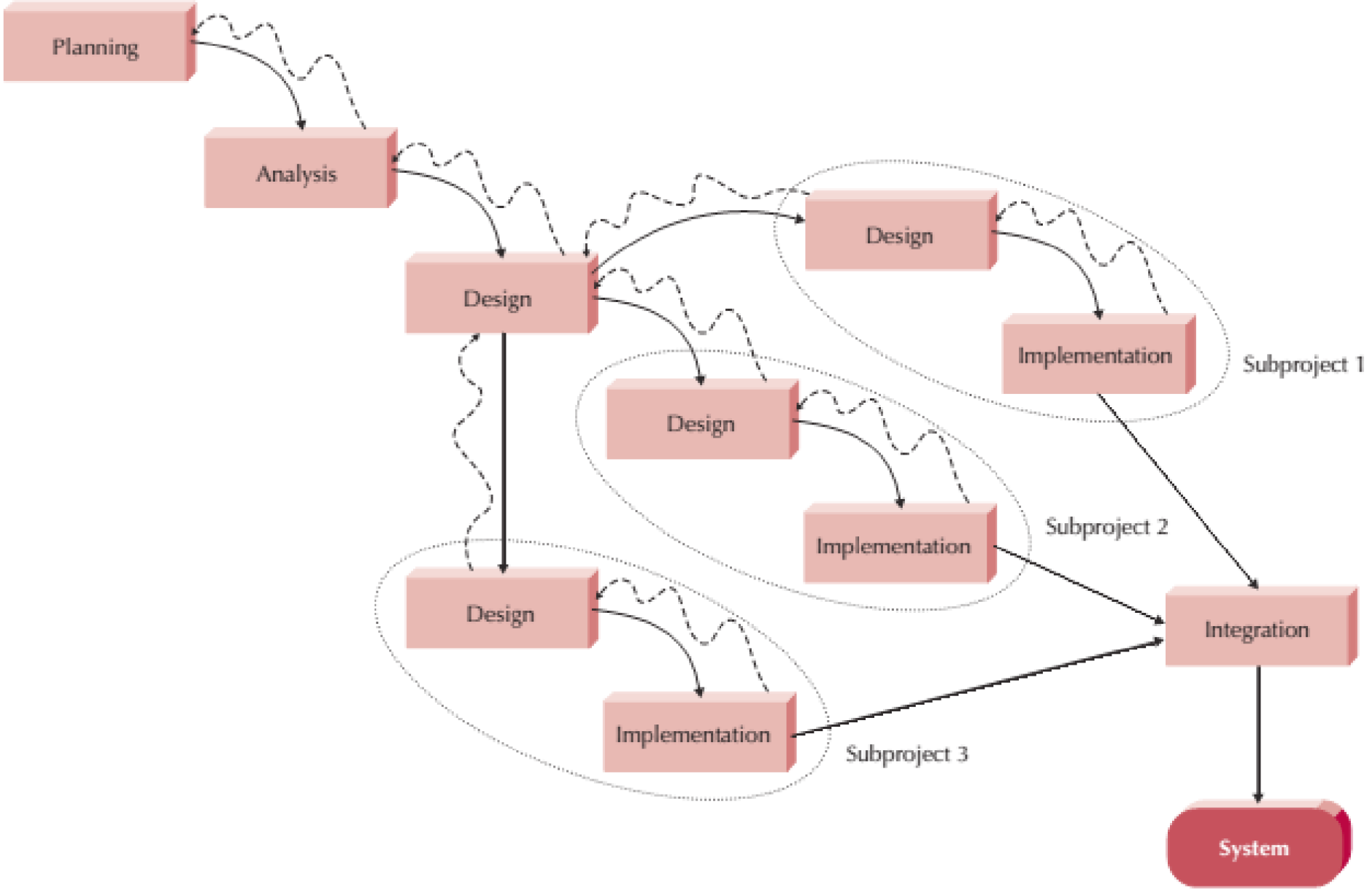
- Waterfall Development



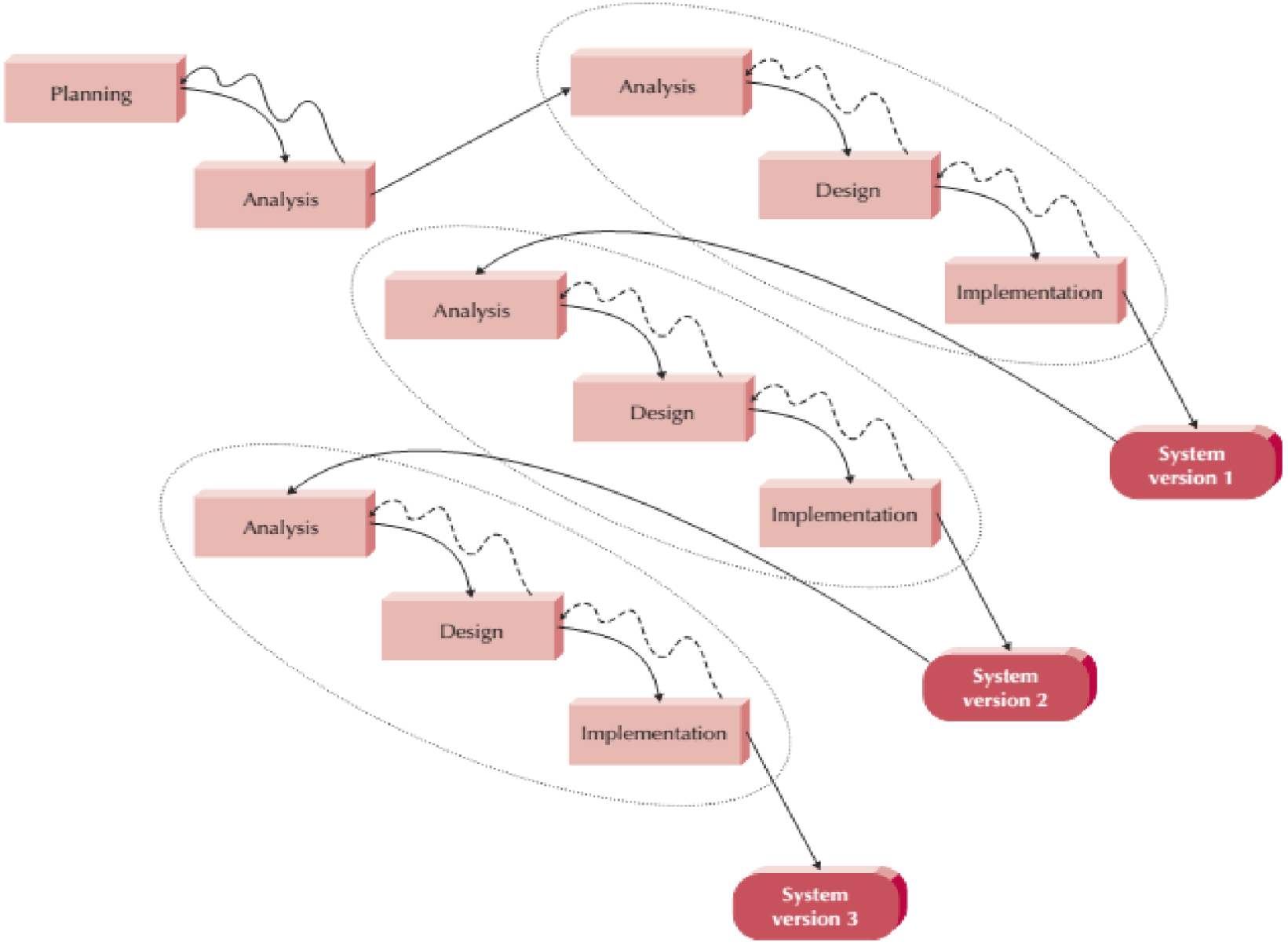
2.2 Rapid Application Development

a. Parallel Development
b. Phased Development
c. Prototyping Development
d. Throwaway Prototyping Development

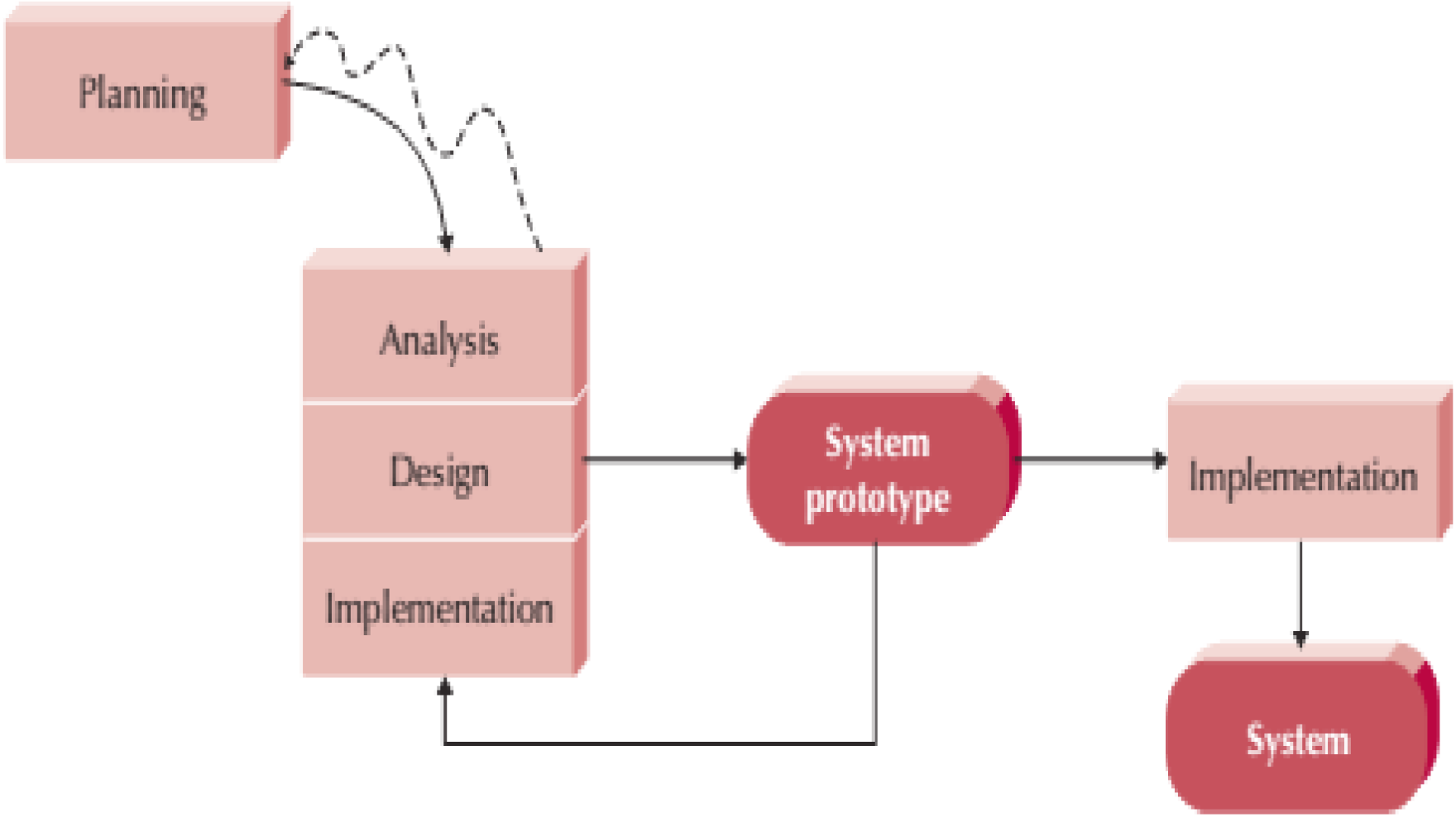
2.2.a Parallel Development



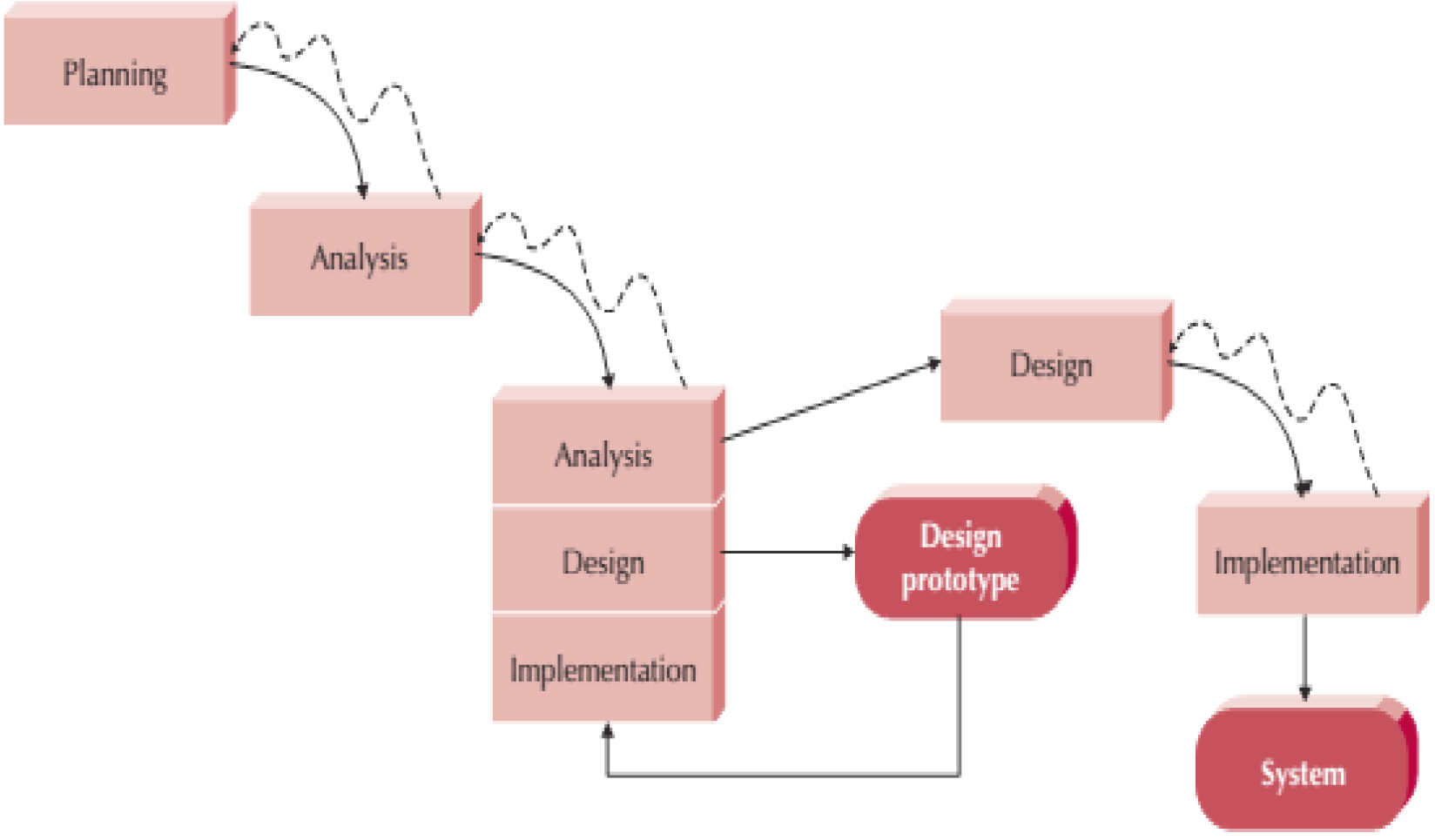
2.2.b Phased Development



2.2.c Prototyping Development

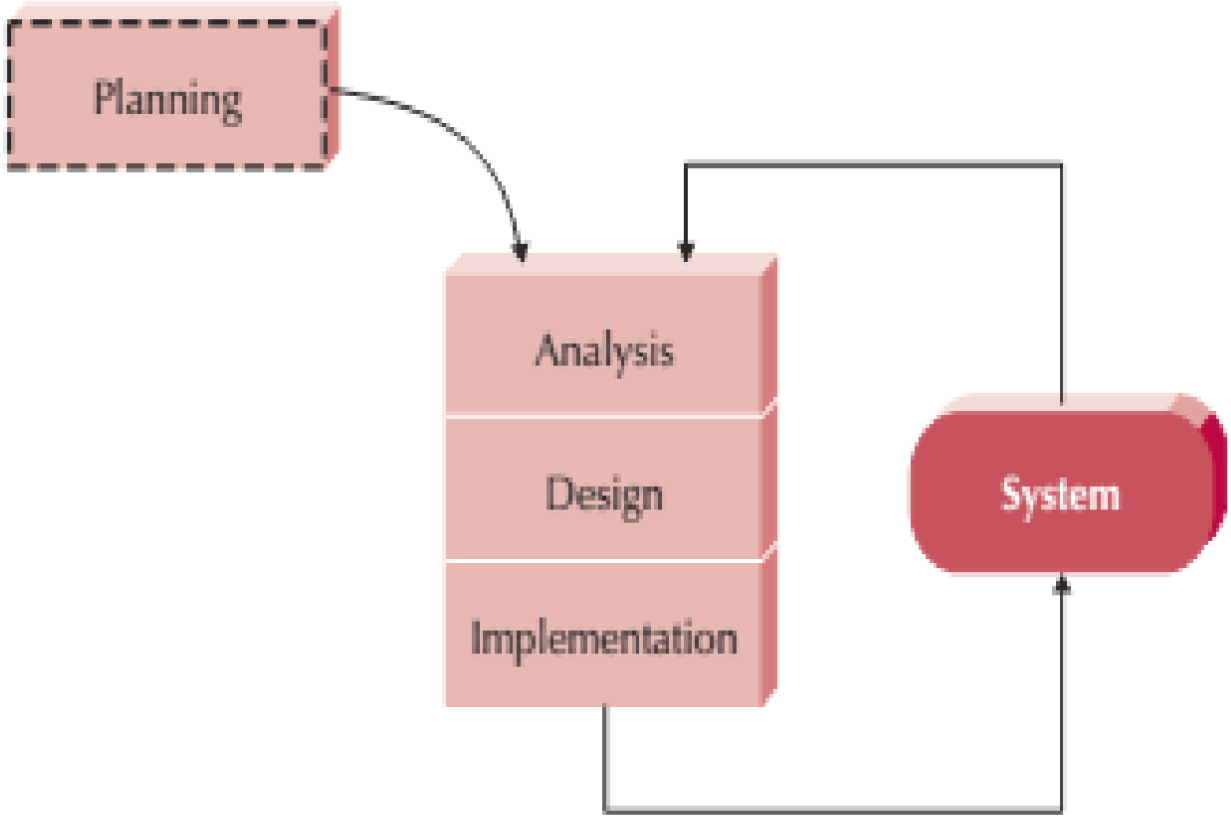


2.2.d Throwaway Prototyping Development



2.3. Agile Development

- Extreme Programming (XP) Development



2.4. Selecting Best Method

Ability to Develop Systems	Structured Methodologies			RAD Methodologies		Agile Methodologies
	Waterfall	Parallel	Phased	Prototyping	Throwaway Prototyping	XP
with Unclear User Requirements	Poor	Poor	Good	Excellent	Excellent	Excellent
with Unfamiliar Technology	Poor	Poor	Good	Poor	Excellent	Poor
that are Complex	Good	Good	Good	Poor	Excellent	Poor
that are Reliable	Good	Good	Good	Poor	Excellent	Good
with a Short Time Schedule	Poor	Good	Excellent	Excellent	Good	Excellent
with Schedule Visibility	Poor	Poor	Excellent	Excellent	Good	Good

Summary

- Sebuah Desain adalah hasil dari satu tahapan dari konsep SDLC.
- Pemilihan Metode SDLC dapat disesuaikan dengan kondisi proyek.

Referensi

- Denis,A., Barbara, H.W., David, T., 2009, Systems Analysis and Design with UML Version 2.0, 3rd Edition, John Wiley & Sons, Inc. – Chapter 1

Tugas

- Buatlah Kelompok Dengan Jumlah Anggota 2-3 orang!
- Dalam kelompok anda buatlah sebuah proposal (proyek pembuatan) aplikasi Android, berisikan:
  - Latar Belakang (Masalah)
  - Tujuan (Solusi)
  - Ruang Lingkup (Batasan)
- Deadline : 2-Mei-2019
- http://aula.unair.ac.id