Systems Development

CMP-4013A

Lecture 2 Generic Development Activities.

Overview

- Lab round up from last Monday

- Project lifecycle – simple and complex projects

- CBS development activities and team members

- CBS development approaches

Week 2 Lab round up.

- Creative group names

- Team roles questionnaire well done

- IoT – interesting and informative mini-presentations

- TAs comments - enthusiastic and talkative?

A selection of group names.

Systems Development

- Carried out as a project

A planned undertaking that has a beginning and an end, and that produces some definite results.
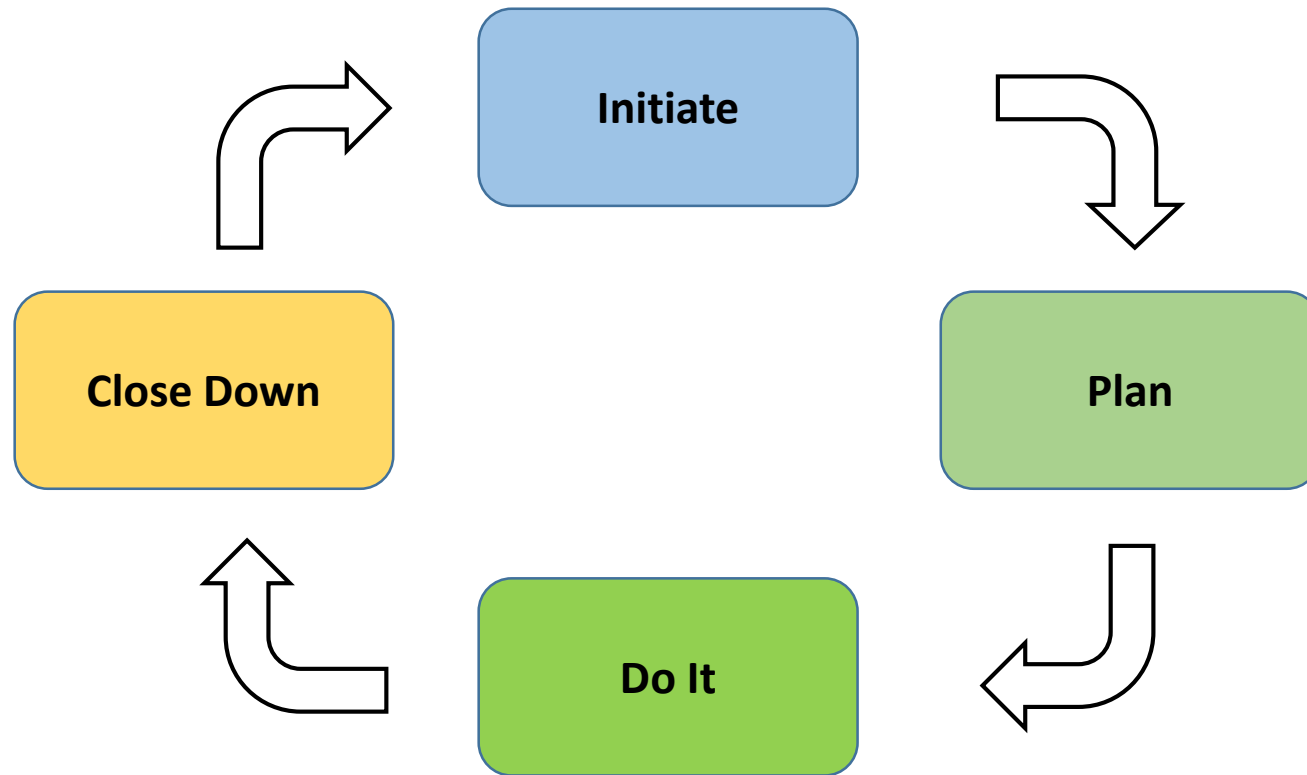
A unique transient endeavour undertaken to achieve planned objectives.

A temporary organisation that is created for the purpose of delivering one or more business products according to an agreed case.
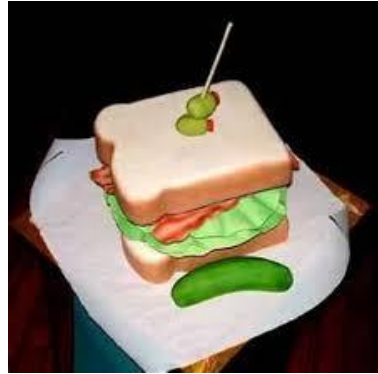
PRINCE2

Project lifecycle

Simple project

More complicated – Ace of Cakes

Ace of Cakes activities

What's wanted? Is it possible?

Costing? Deposit? Billing?

Planning

Prototyping

Baking and building

Delivery

Photography, publicity

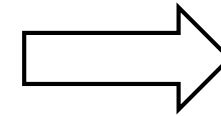Learning…

Ace of Cakes people

- Customer and reception staff
- Project manager
- Creator and Analyst
- Designer and Baker
- Engineer
- Artists
- Delivery team
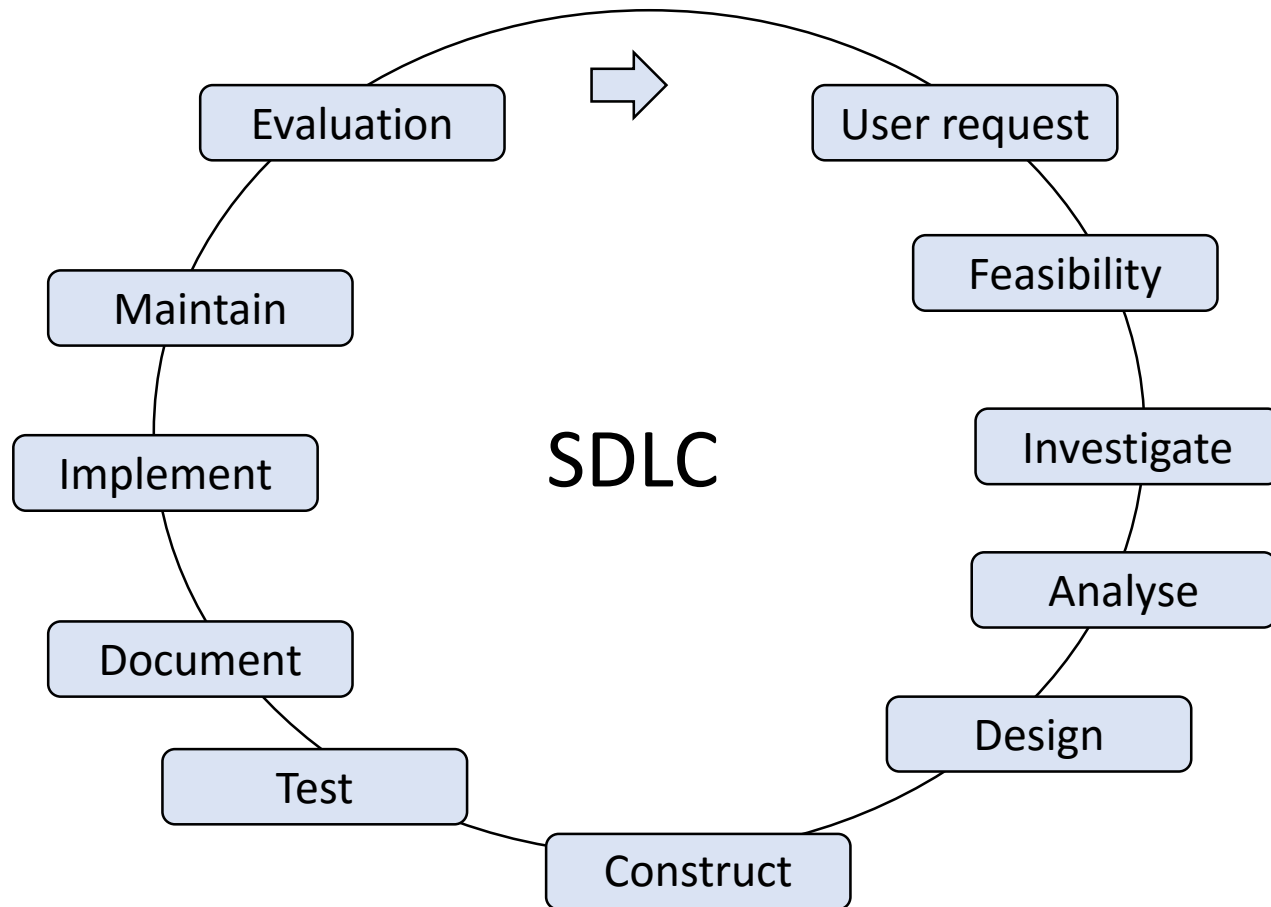- Accountants

Building a house?

Future occupants
Mortgage companies
Planners
Architects
Construction managers
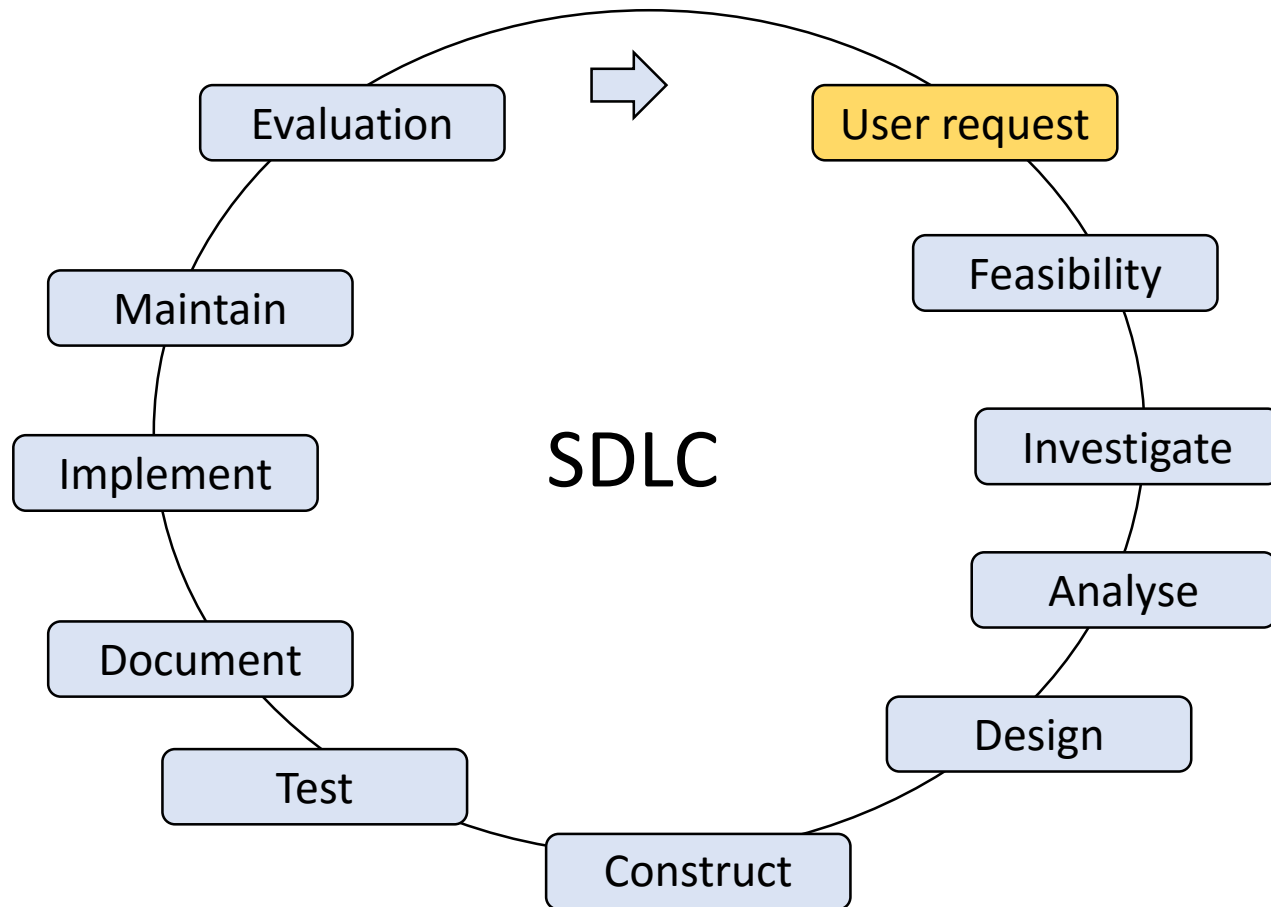Construction workers
Buildings inspectors
Etc.

→

Brick layers
Carpenters
Plumbers
Electricians
Gas fitters
Roofers
Etc.

Development of Computer Based Systems (CBS)

Evaluation

User request

Maintain

Feasibility

Implement

Investigate

SDLC

Analyse

Document

Design

Test

Construct

SDLC - the entire process consisting of all the activities required to build, launch and maintain a CBS.

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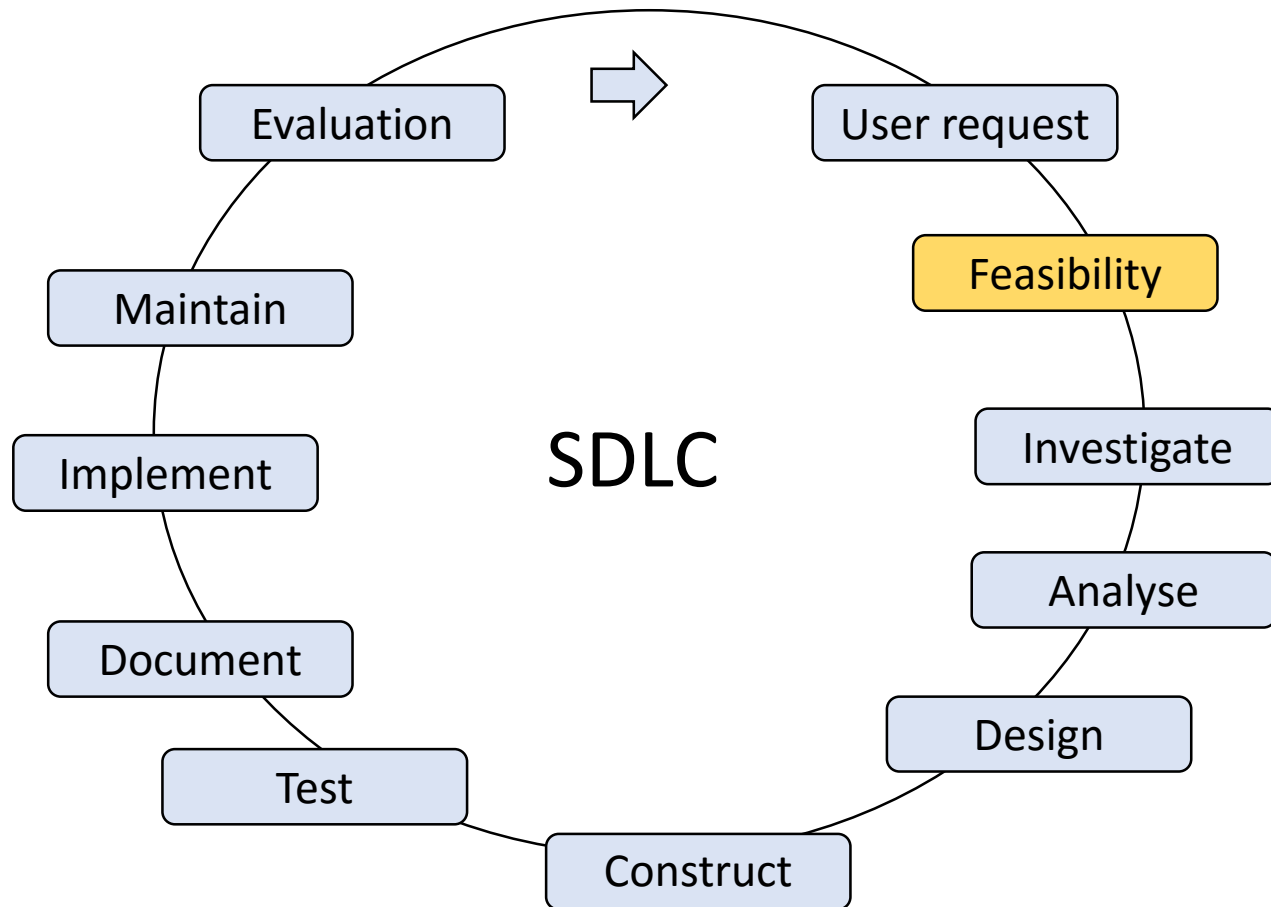
Document

Design

Test

Construct

User request.

- Opportunities?
- Problems?
- Directives?

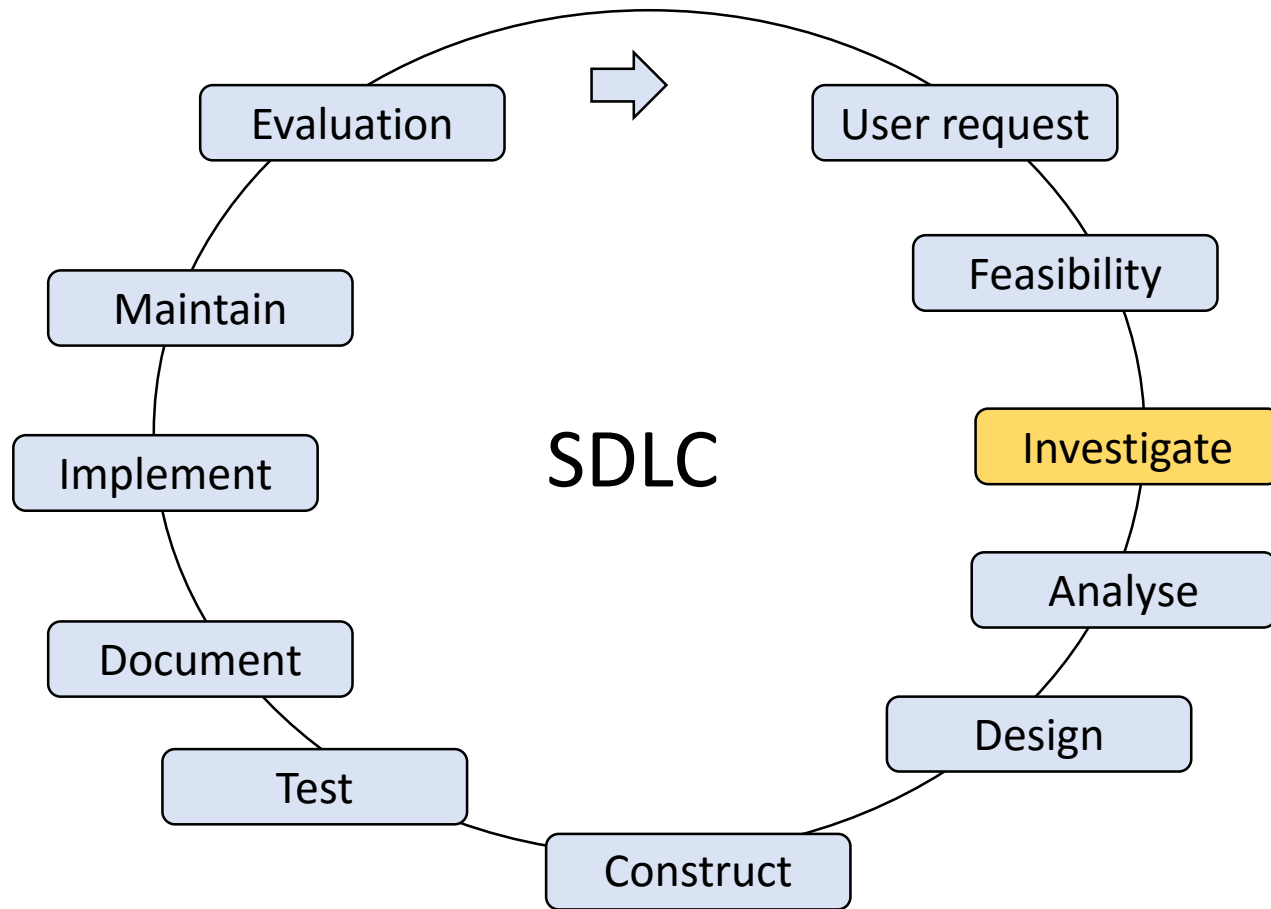- Request for assistance

Development of Computer Based Systems (CBS)

SDLC

Evaluation
User request
Maintain
Feasibility
Implement
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Document
Analyse
Test
Design
Construct

Feasibility.

- Validate request?
- Alternatives?
- Decision?

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Investigate.

- Data gathering?
- Fact finding?
- Lots of methods?

SD

Development of Computer Based Systems (CBS)

SDLC

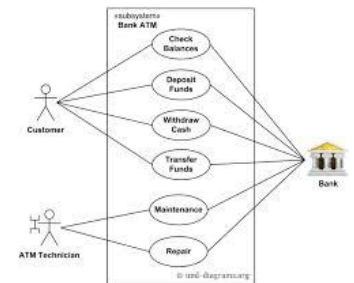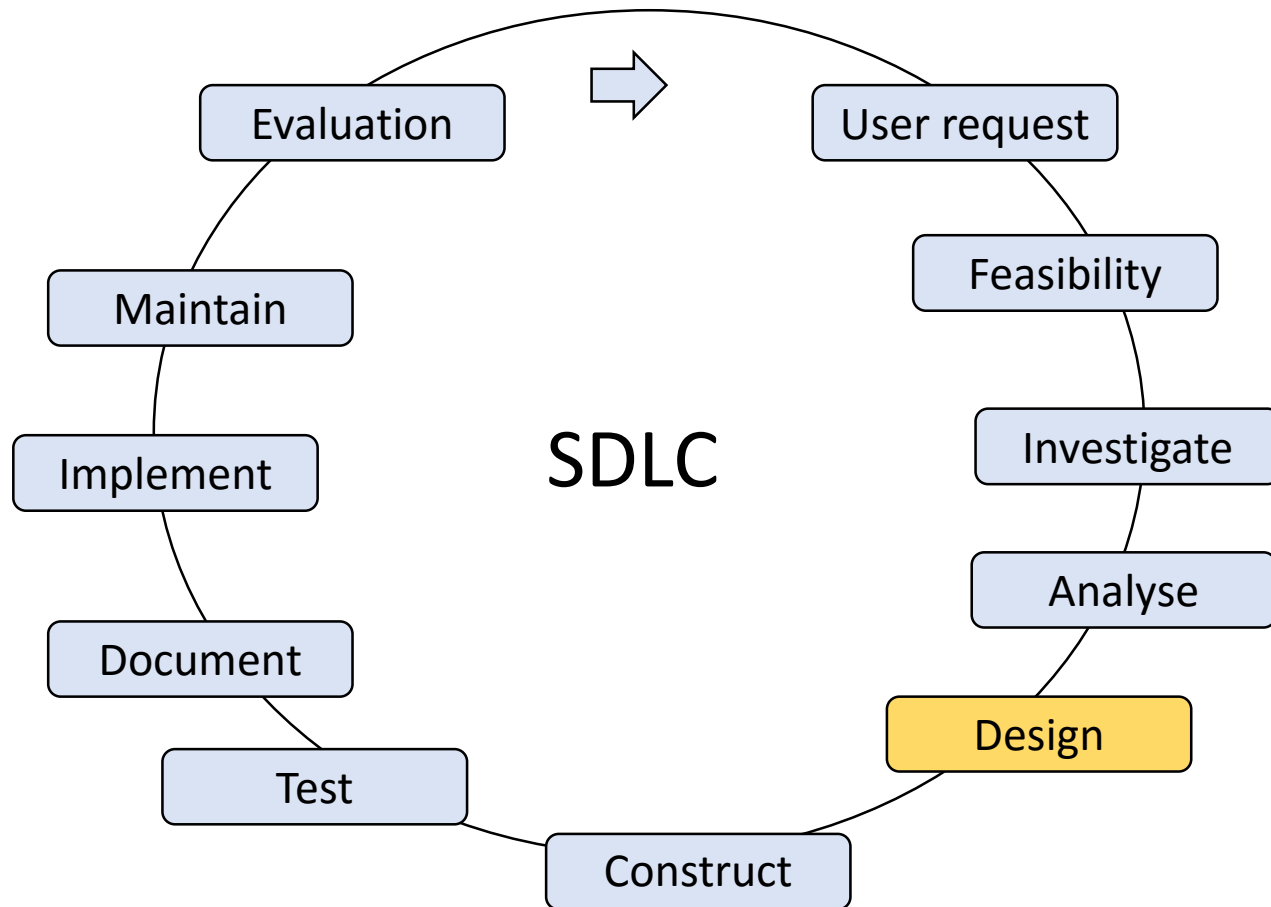Evaluation → User request → Feasibility → Investigate → Analyse → Design → Construct → Test → Document → Implement → Maintain
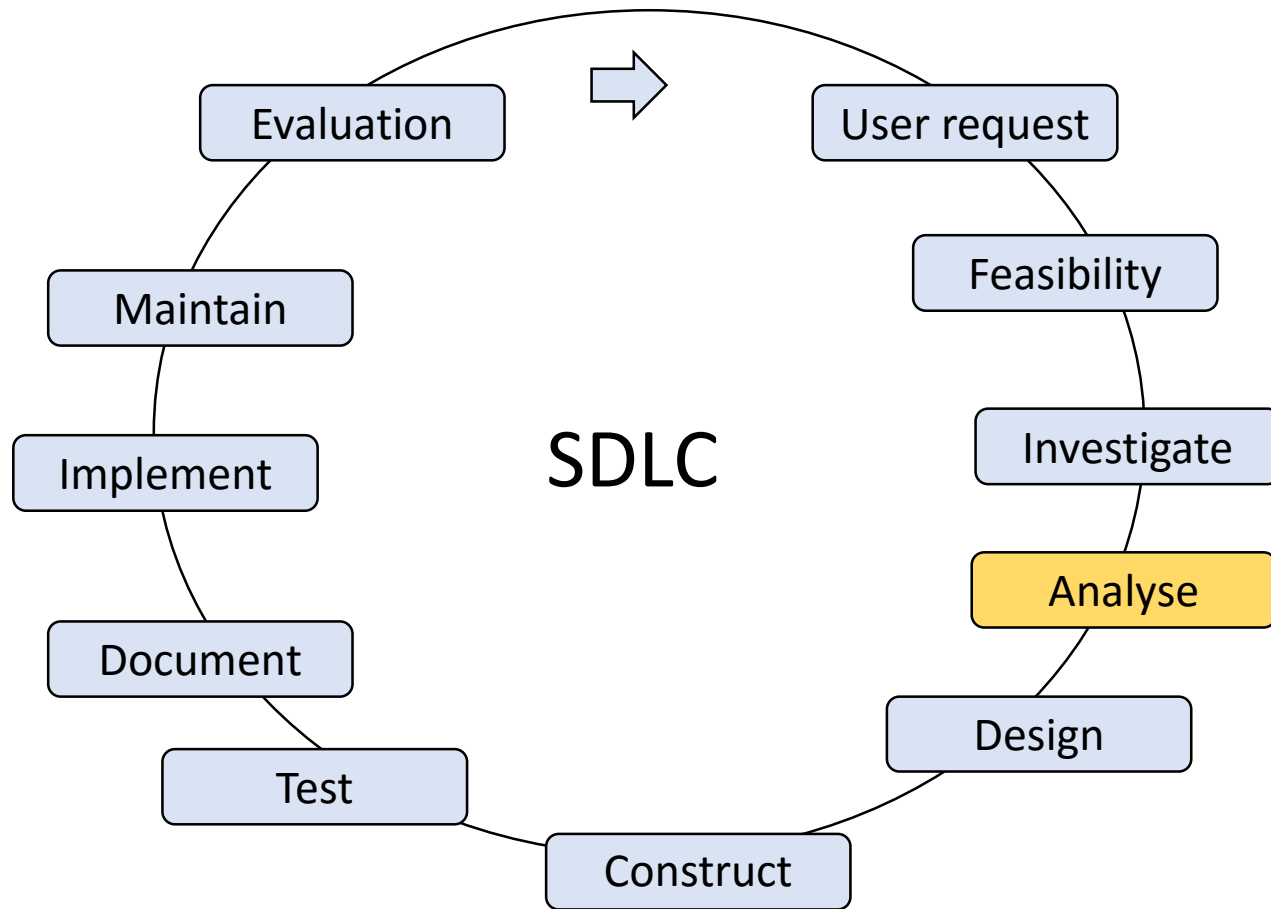
Analysis.

- Determines WHAT the system should do?

- Prioritise
- Model

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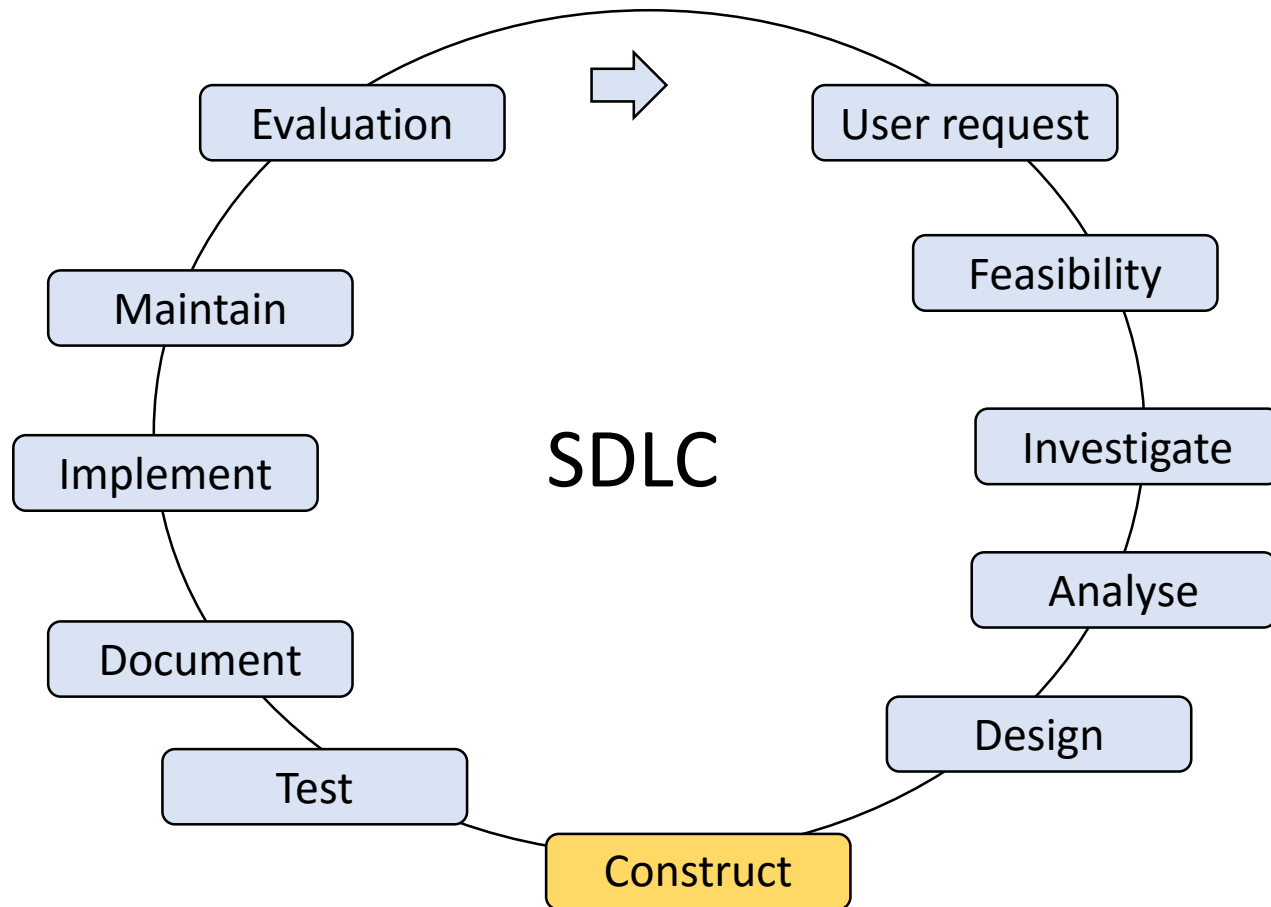Design.

- Determines HOW the system will do it?

- Alternatives?
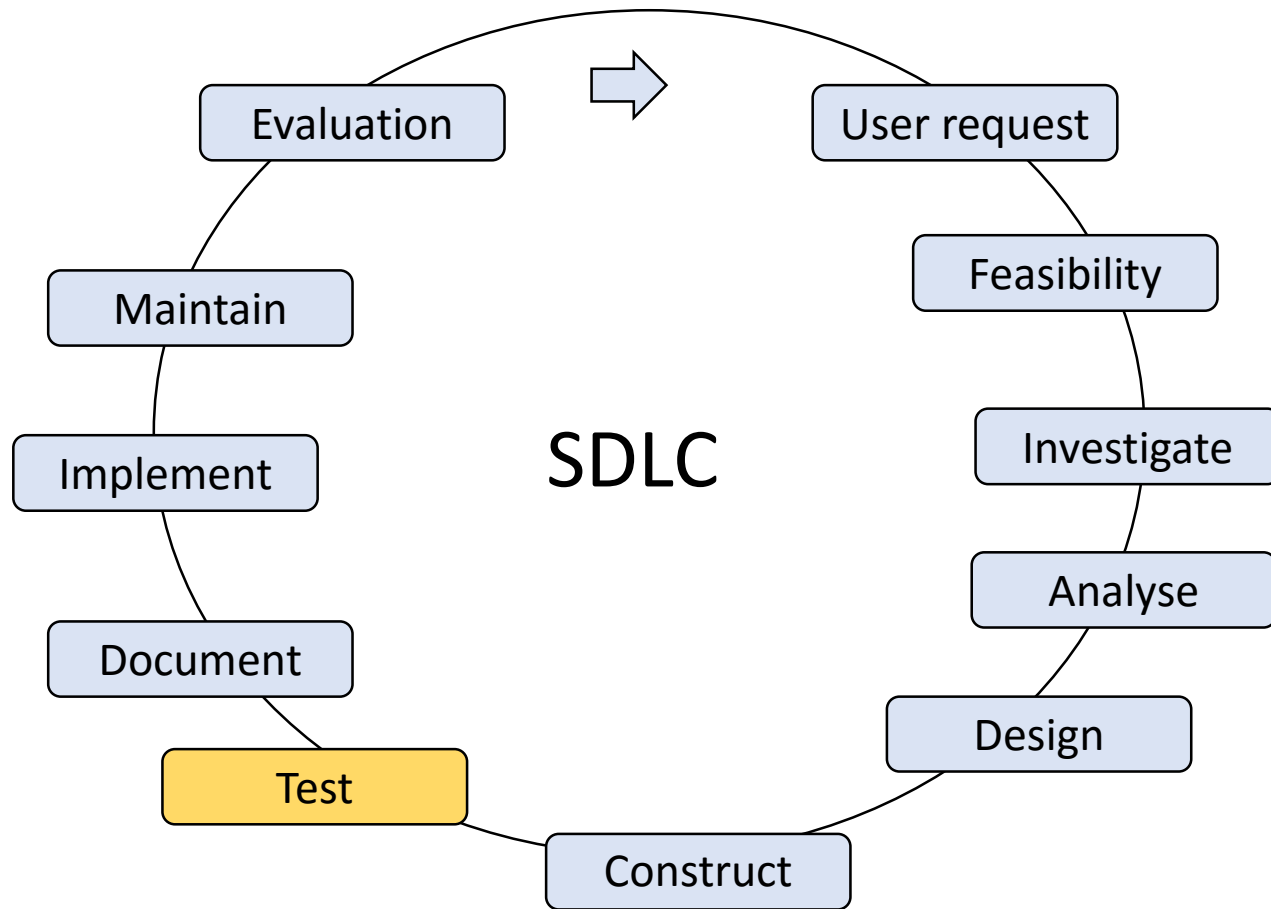- Prototypes?

Development of Computer Based Systems (CBS)

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Constructing.

- Coding?
- Customising?
- Outsourcing?
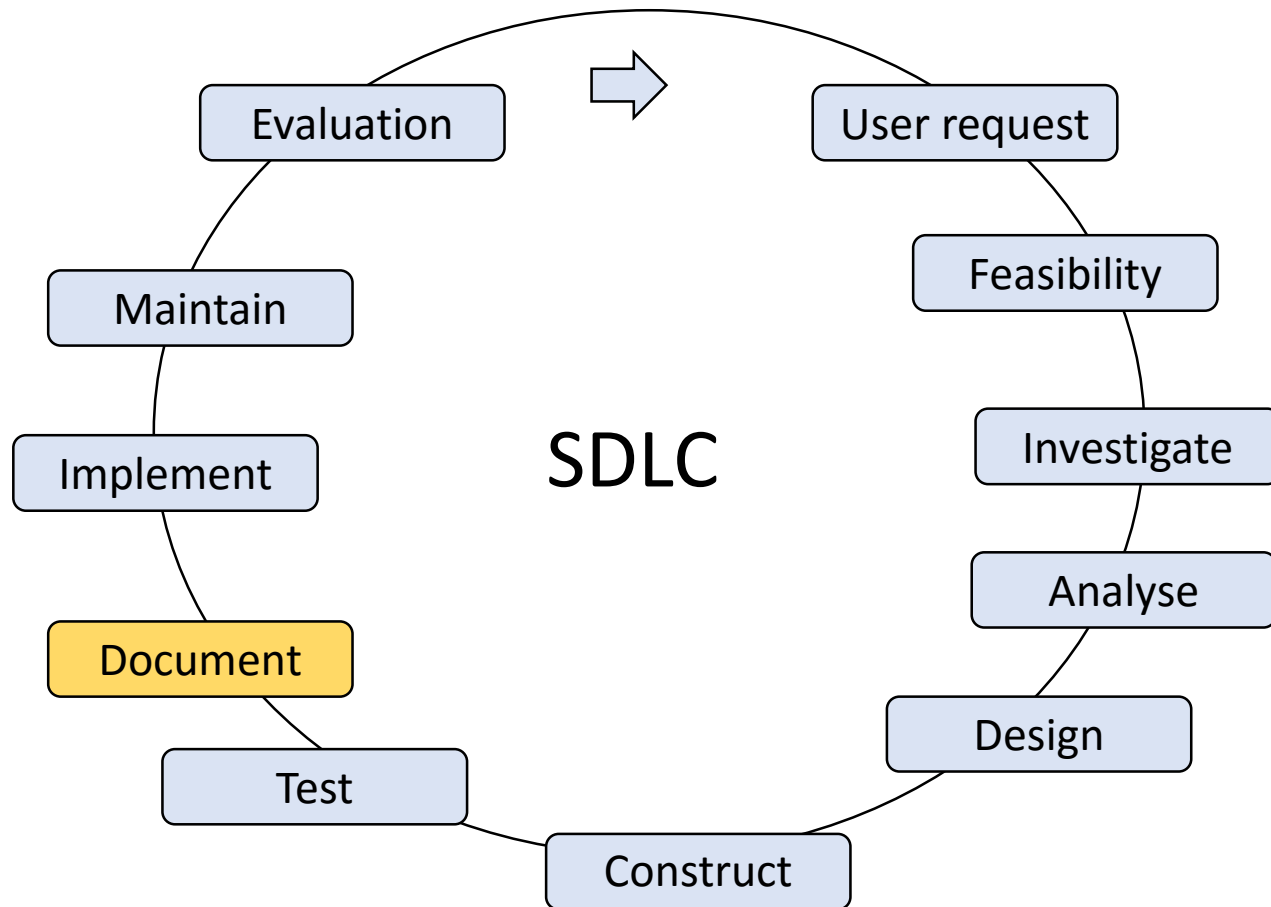- Evolving

Development of Computer Based Systems (CBS)

Evaluation

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Feasibility

Implement

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Investigate

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Analyse

Test

Design

Construct

Testing.

- Quality?
- Components
- System
- Usability

QUALITY

Development of Computer Based Systems (CBS)

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Feasibility

Implement

Investigate

Document

Analyse

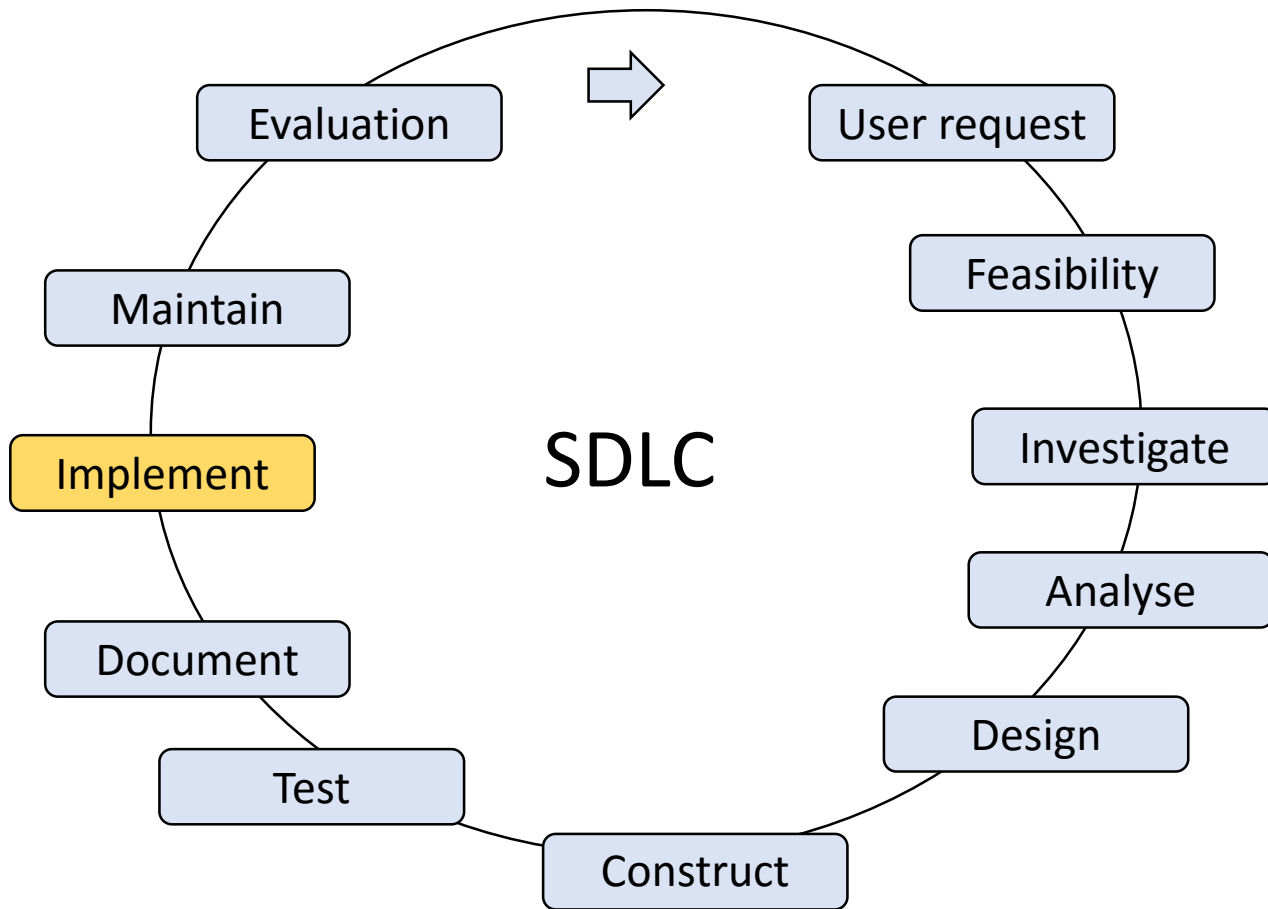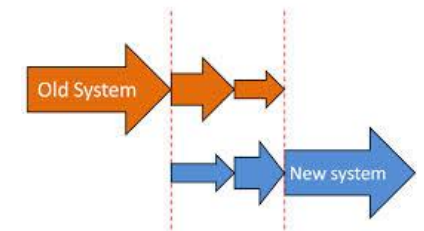Test

Design

Construct

SDLC

Documentation.

- User help
- Systems documentation
- Done throughout
- Complete?
- Needed for evolution
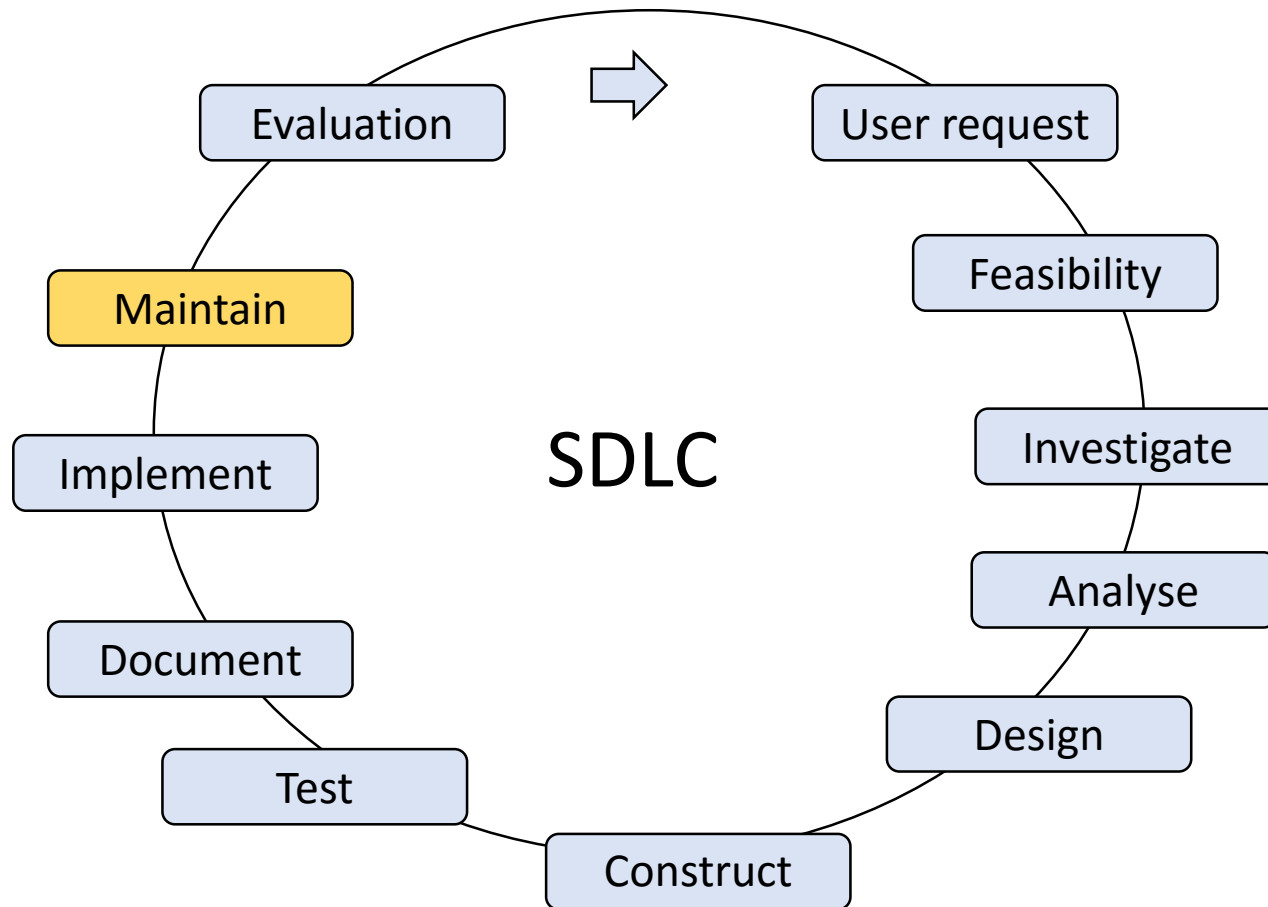
Development of Computer Based Systems (CBS)

SDLC

- Evaluation
- User request
- Maintain
- Feasibility
- Implement
- Investigate
- Document
- Analyse
- Test
- Design
- Construct

Implementation.

- •Conversion

- •Deploy the system

Development of Computer Based Systems (CBS)

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Maintenance.

- Corrections
- Enhancements
- Adaptions

Development of Computer Based Systems (CBS)

SDLC

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- Investigate
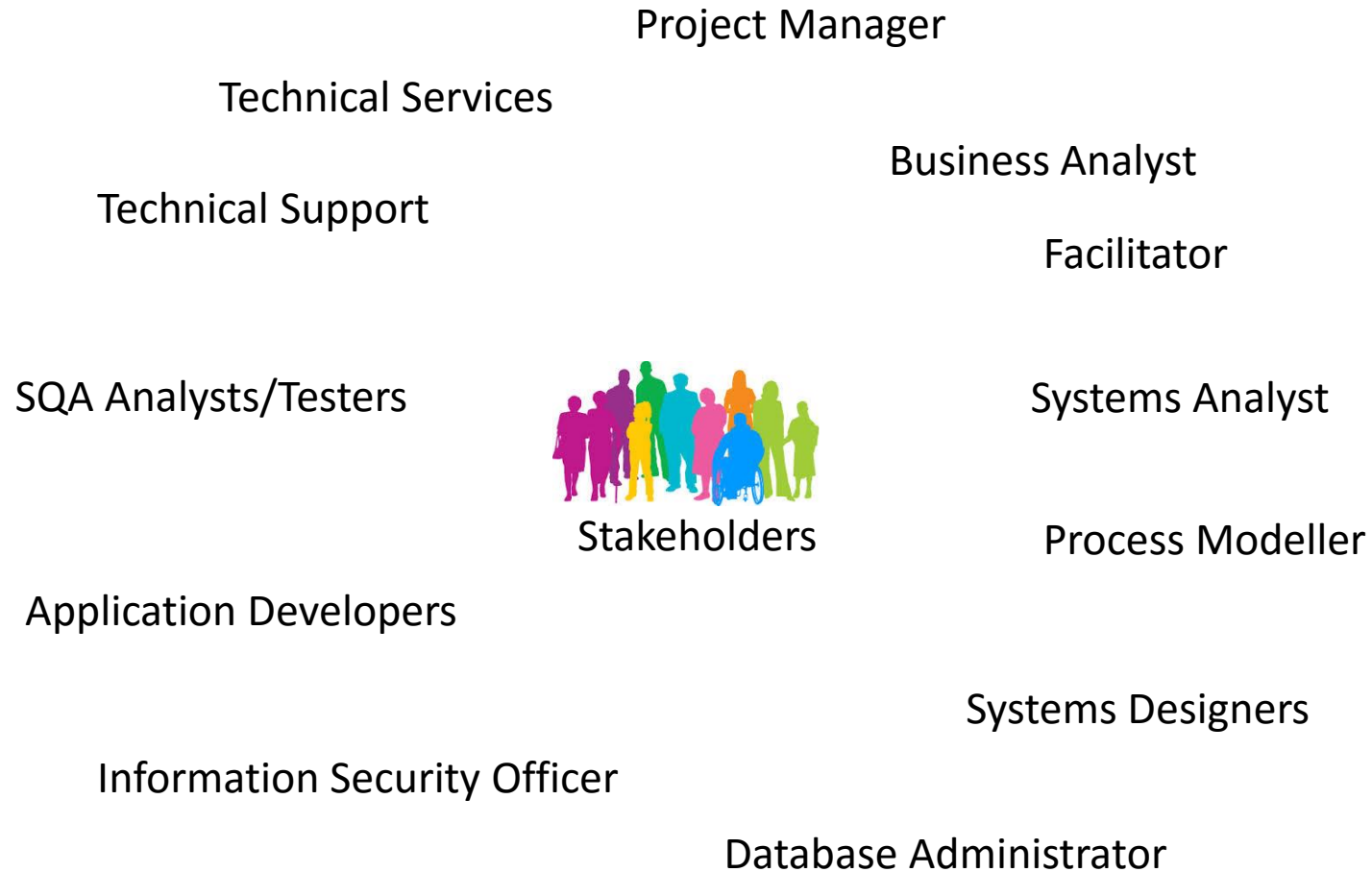- Analyse
- Design
- Construct
- Test
- Document
- Implement
- Maintain
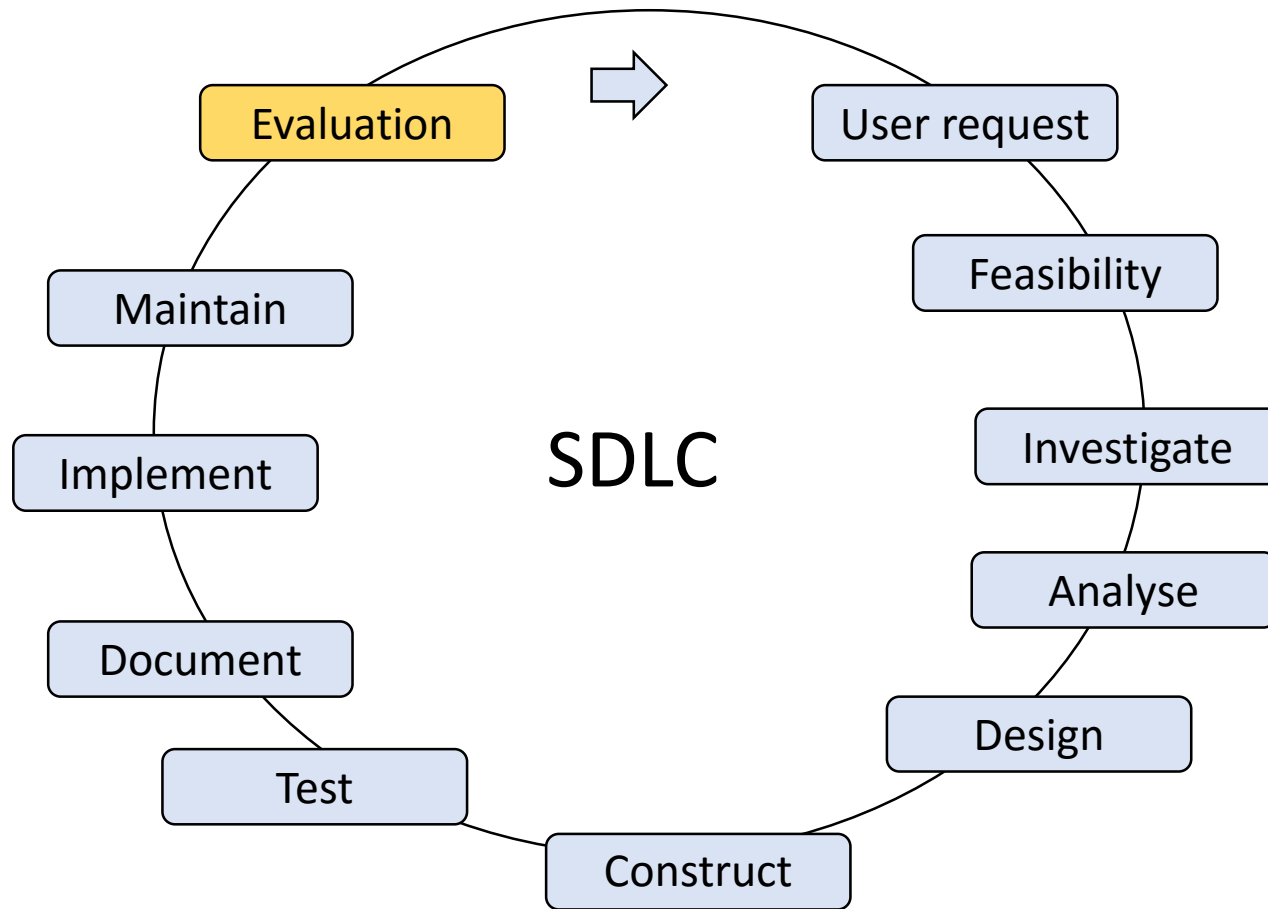
Evaluation.

- Post implementation audit
- Learning?
- Process improvement
- Too rarely done?

People needed throughout SDLC

Project Manager

Technical Services

Business Analyst

Technical Support

Facilitator

SQA Analysts/Testers

Systems Analyst

Stakeholders

Process Modeller

Application Developers

Systems Designers

Information Security Officer

Database Administrator

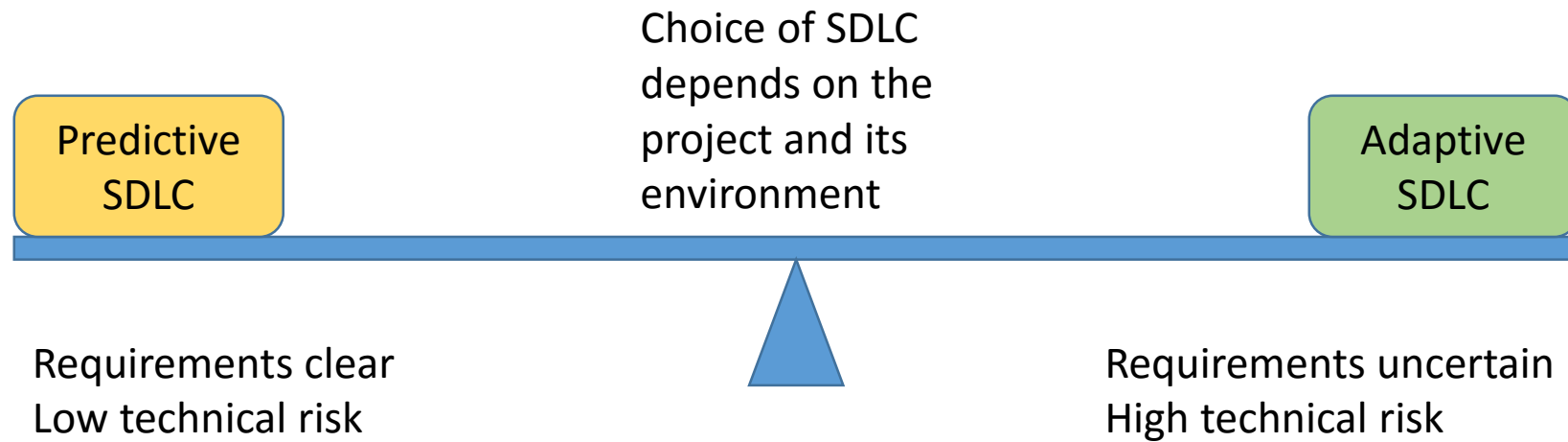# Two main approaches to SD

Two main approaches to SDLC:

- predictive approach (planned in advance)
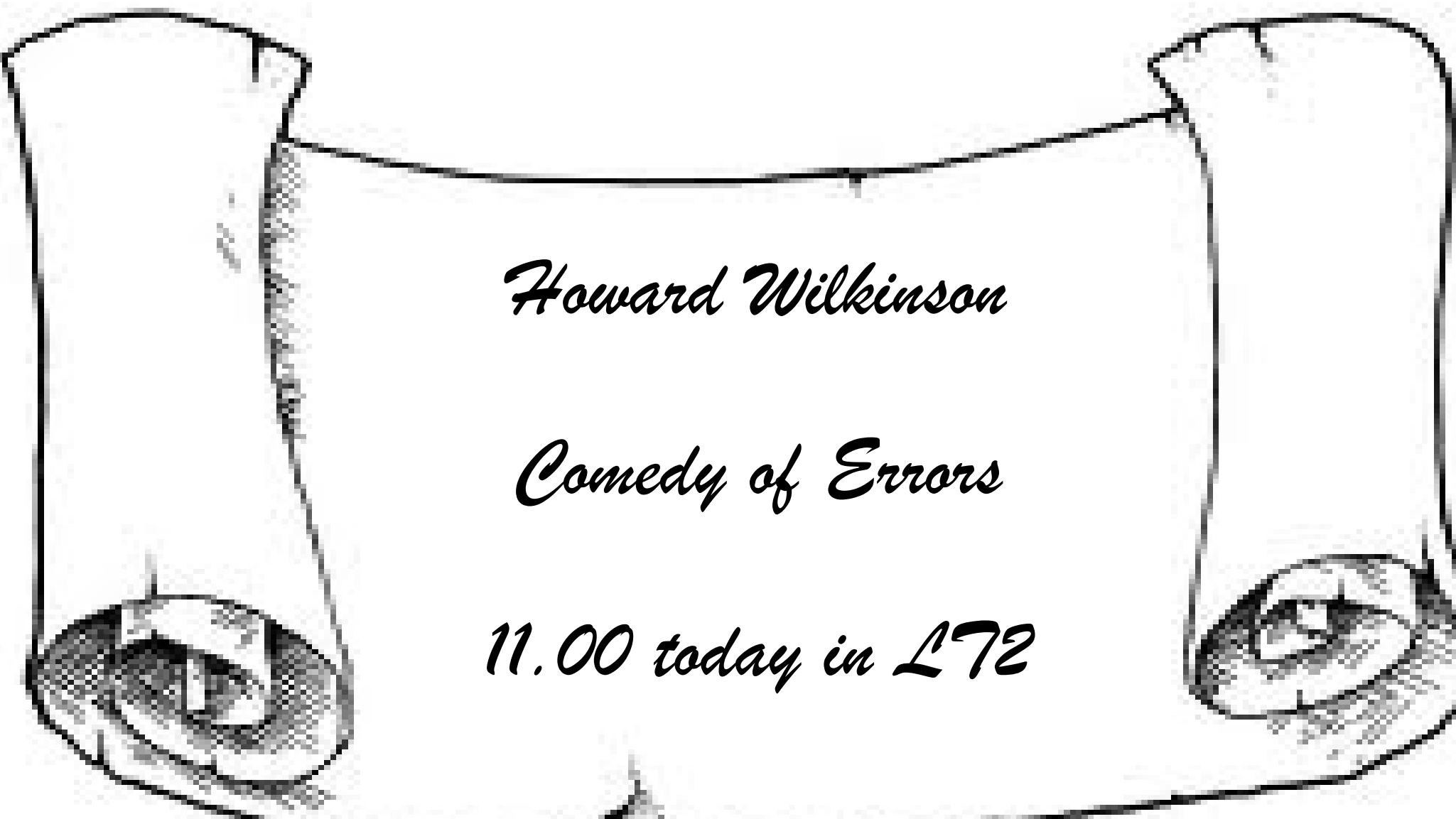
- adaptive approach (cannot be planned in advance)

Choosing an approach

Choice of SDLC depends on the project and its environment

Predictive SDLC

Adaptive SDLC

Requirements clear
Low technical risk

Requirements uncertain
High technical risk

Summary

- Systems development carried out as a project

- Using a SDLC and a project team

- Two main approaches to SDLC (predictive and adaptive)

Howard Wilkinson

Comedy of Errors

11.00 today in LT2