SWEN90016

Software Processes & Project Management

SDLC Process
Language Research Case Study
Groups- Assignment 2

2021– Semester 1

Tutorial 3

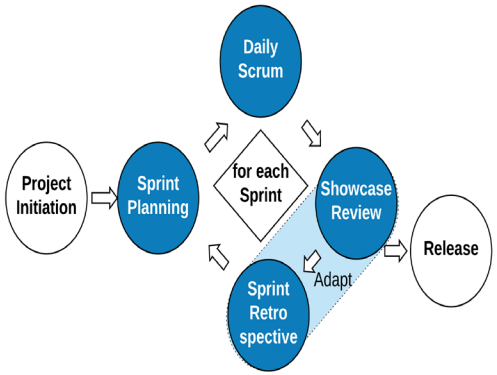
Case Study Analysis

Case Study 2 –Language Research Tool Project

In groups of 4- Determine the goals & key characteristics

Goal

- Efficient, open & published language learning
- Cultural preservation



Key Characteristics

- Data centric, data integrity, data sharing
- Complex privileges & roles
- Global, distributed, interoperable

Today's aim

Understand the differences between the SDLC and when to use which one

Waterfall

V-model

Incremental

Agile

Project Analysis

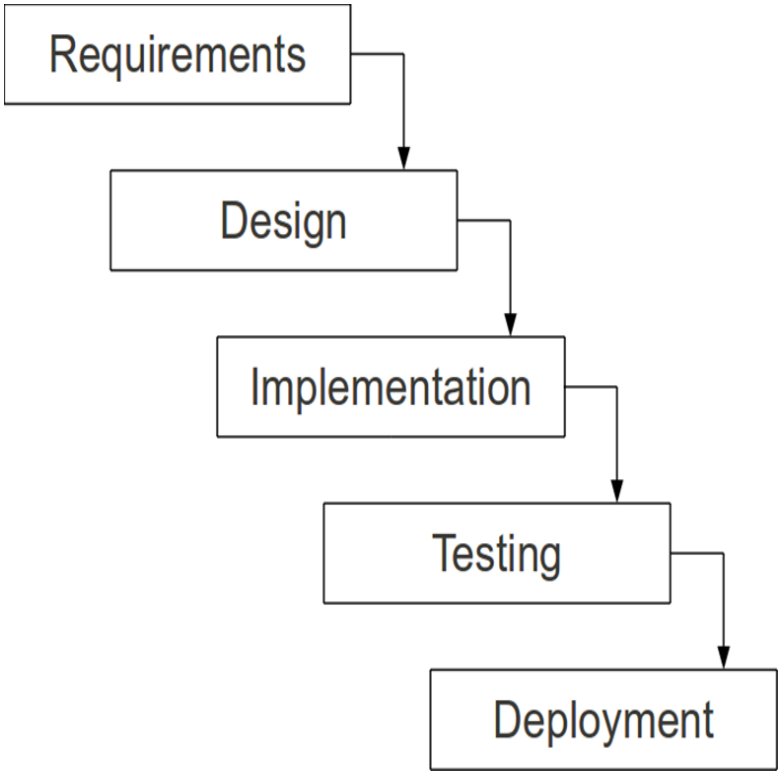
Get into 2 groups, **discuss** SDLC processes & activities

1) Consider the project, people & technology
   1) Evaluate the team and project constraints.

2) Evaluate multiple SDLC models
   1) Identify the advantages and disadvantages
   2) Consider the outcomes and risks

3) Justify an effective SDLC process
   1) Defend your choice of SDLC
   2) List the activities done
      - Formal: Requirements Specification
      - Agile: Product Backlog

Waterfall



What are the Advantages?

- Simple and easy management
- Rigid and sequential
- Documentation produced
- Requirements stable and precise

What are the Disadvantages?

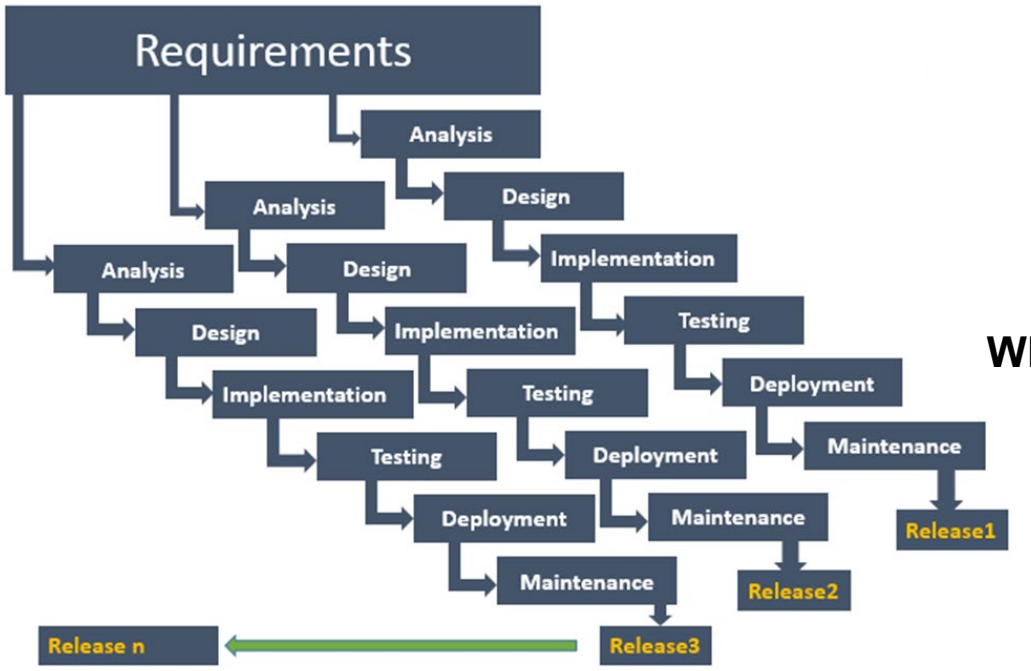
- Bad news known late in process
- Client feedback known late in process
- Discourages change
- Documentation not valued
- Risks and changes have big impact

Incremental

Requirement - partition into segments

Releases - mini waterfall process

Integrate modules



What are the Advantages?

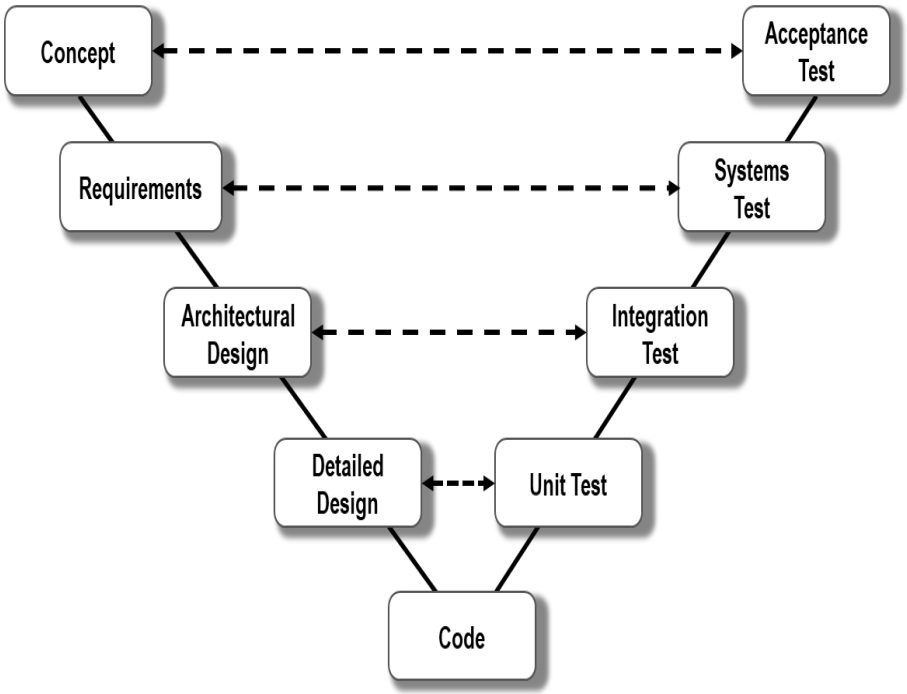
- Smaller, easier modules
- Initial modules released earlier
- Client feedback known earlier
- Change has less impact
- Requirements stable and precise

What are the Disadvantages?

- Management complexity
- Increased cost
- Partition skill
- Integration risk
- Rigid within each partition

V-Model

waterfall model plus defined artifact deliverable
development stage ← → testing phase



What are the Advantages?

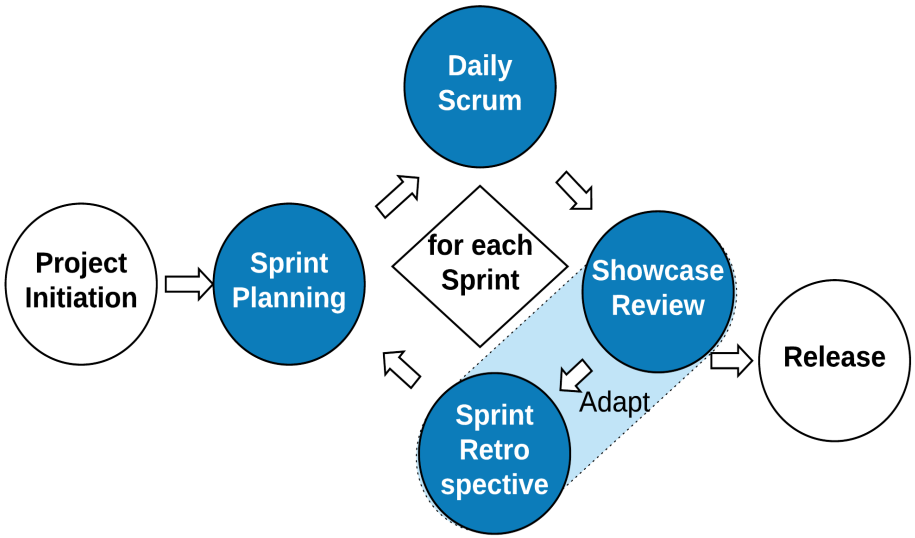
- Simple and easy management
- Rigid and sequential deliverable
- Documentation produced
- Requirements stable and precise

What are the Disadvantages?

- Requires discipline
- Bad news known late in process
- Client feedback known late in process
- Discourages change
- Test artifacts are expensive
- Risks and changes have big impact

Agile

Scrum: method to organize working teams
XP: method to improve code quality



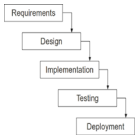
What are the Advantages?

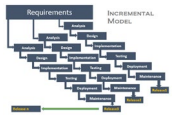
- Transparent productivity due to fast releases
- Focus on client satisfaction
  - Embraces change
  - Requirements emerge
- Efficient and simple code

What are the Disadvantages?

- Requires experience of ceremonies
- Requires teamwork skills
- Giant “TODO” list lacks design overview

Compare SDLCs

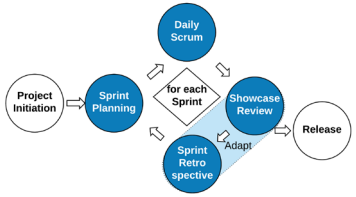





When to choose Formal Models?

- Customer knows what they want at the start
- Stable, precise and known requirements
- Change is not expected
- Mature technologies and tools

When to choose Agile Models?



- Customer gives time to project
- Requirements continue to emerge
- Change is welcome

When to choose a hybrid model?

- Client has a prescriptive model established

Case Study Analysis

Case Study 2 –Language Research Tool Project

What are the challenges and risks?

Challenges: what would make this project difficult?

- integrated, trust-worthy, searchable data

Risks: what could make this project fail?

- poor quality data and duplicate data silos

Thank You!