



THE UNIVERSITY OF
MELBOURNE

SWEN90016

Software Processes & Project Management

SDLC Process
Medic Case Study

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

Waterfall

V-model

Incremental

Agile

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

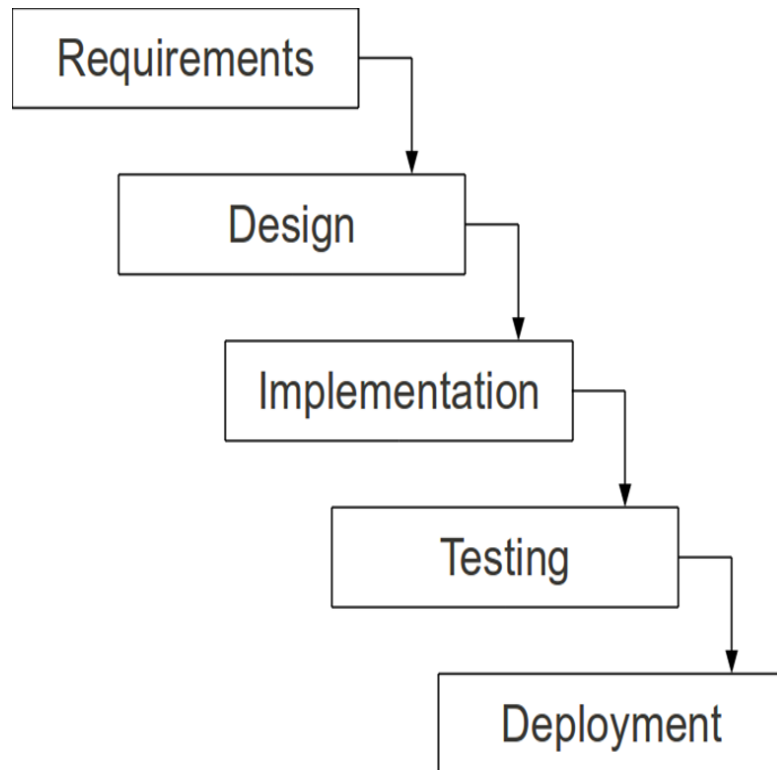
- **Formal:** Requirements Specification
- **Agile:** Product Backlog

What are the Advantages?

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

What are the Disadvantages?

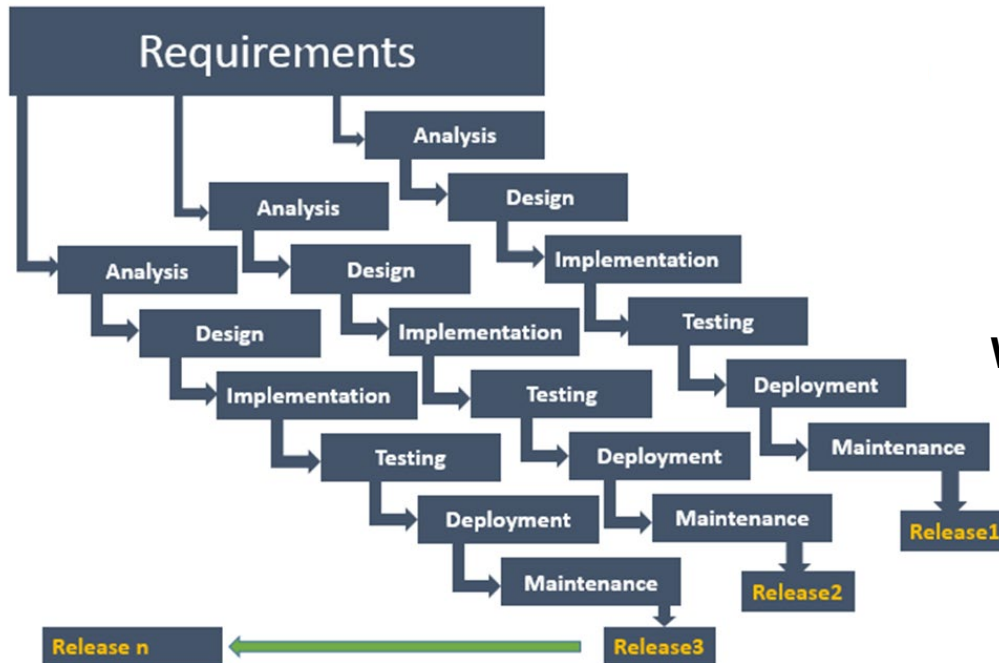
- Bad news known late in process
- Client feedback known late in process
- Discourages change
- Documentation not valued
- Risks and changes have big impact



Requirement - partition into segments

Releases - mini waterfall process

Integrate modules



What are the Advantages?

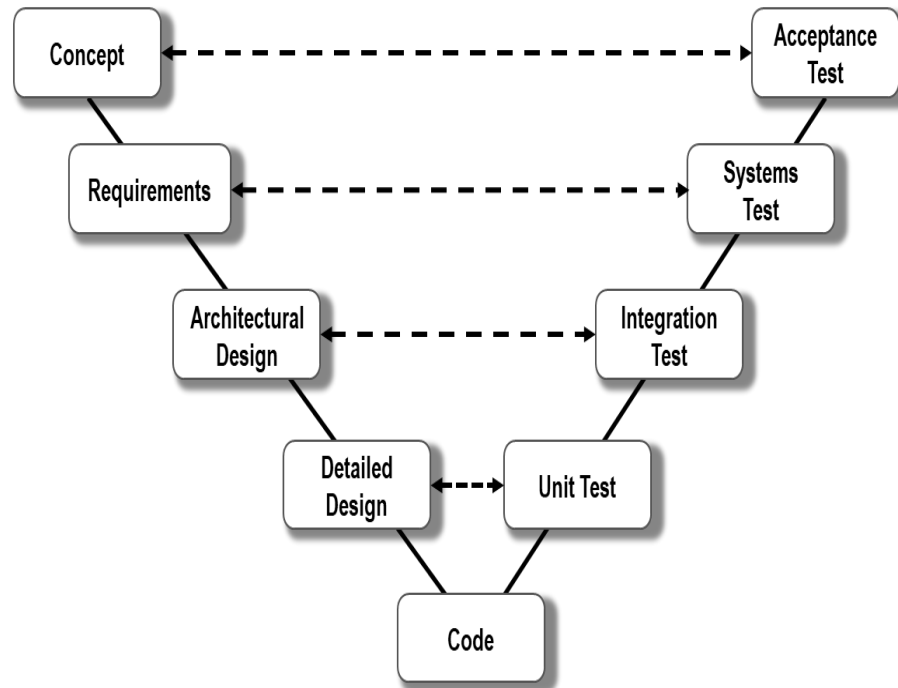
- Smaller, easier modules
- Initial modules released earlier
- Client feedback known earlier
- Change has less impact
- Requirements stable and precise

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?

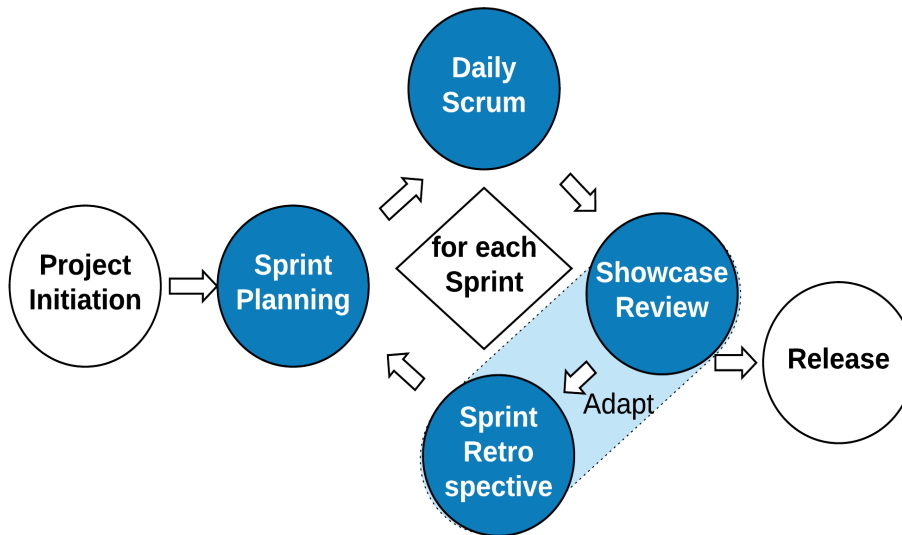
- Simple and easy management
- Rigid and sequential deliverable
- Documentation produced
- Requirements stable and precise

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

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

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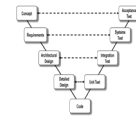
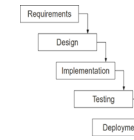
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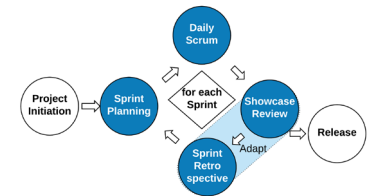
When to choose Formal Models?

- 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

Thank You!