Software Process Model

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3.1 V Model & Prototyping Model

3.2 Operational Specification Model ,Transformational Model & Phased Development

3.3 Spiral Model

Learning Objectives

Lesson Objectives

- To understand V Model & Prototyping Model
- To understand Operational Specification Model, Transformational Model & Phased Development
- To understand Spiral Model and it's advantages and disadvantages

Software Process Model

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3.1 V Model & Prototyping Model

V Model

- Model is a Software Development Life Cycle (SDLC) that emphasizes the concept of " Verification and Validation".
- V Model is a variation of the waterfall model that demonstrates how the testing activities are related to analysis and design.
- In each step of development in V Model, there will be a corresponding testing phase that will be validating such a process.

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V Model

- Testing Phases will be planned in parallel with the development of the stage.
- Which they are supposed to be tested against and will be joined at the bottom by the actual coding process, hence the name V-Model.

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V Model

- It is also considered to be an extended form of Waterfall Model since one step cannot be done without the completion of a previous process first.

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V Model

- Uses unit testing to verify procedural design
- Uses integration testing to verify architectural (system) design
- Uses acceptance testing to validate the requirements

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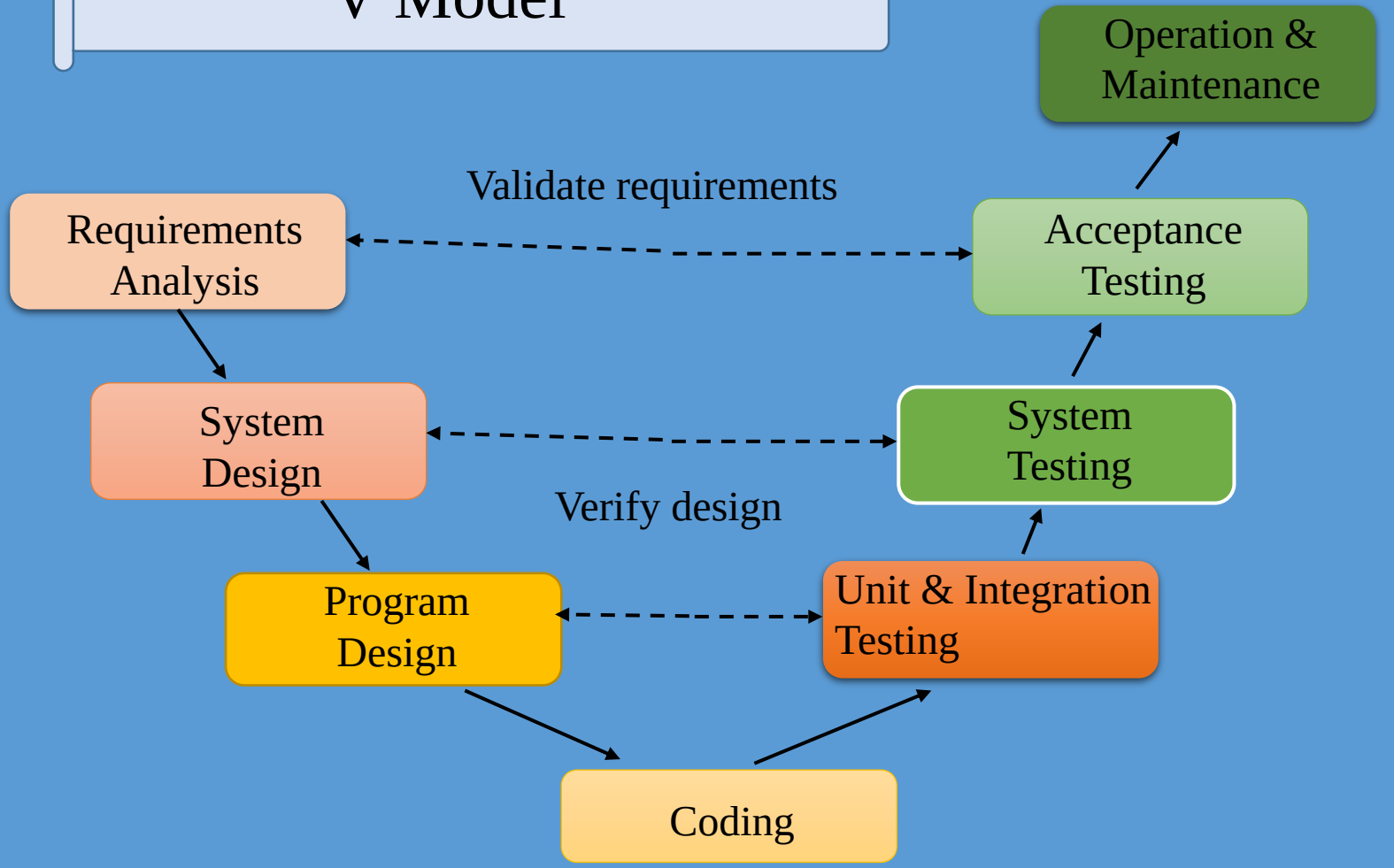
V Model

- If problems are found during verification and validation, the left side of the V can be re-executed before testing on the right side is re-enacted

3.1 V Model & Prototyping Model

V Model



3.1 V Model & Prototyping Model

Prototyping Model

- ✓ **What is Prototyping Model**?
- ❖ **Prototyping model** is a software development model in which prototype is build, tested and reworked until an acceptable prototype is achieved.
- ❖ It also creates base to produce the final system or software.
- ❖ It works best in scenarios where the project's requirements are not known in detail.

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Prototyping Model

- By using this prototype, the client can get an “actual feel“ of the system, since the interactions with prototype can enable the client to better understand the requirements of the desired system.

3.1 V Model & Prototyping Model

Prototyping Model

- Prototyping is an attractive idea for complicated and large systems for which there is no manual process for existing system to help determining the requirements.

3.1 V Model & Prototyping Model

Prototyping Model

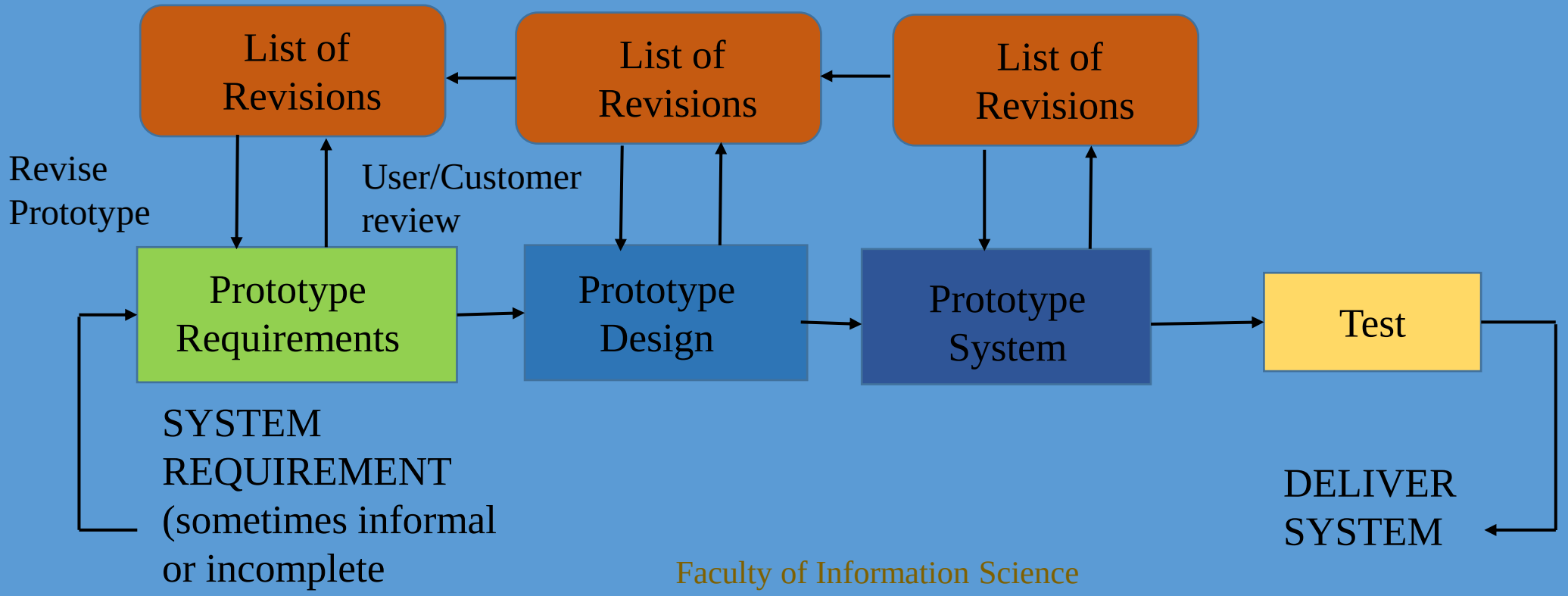
- The prototype are usually not complete systems and many of the details are not built in the prototype.
- The goal is to provide a system with overall functionality.

3.1

V Model & Prototyping Model

Prototyping Model

- Allows repeated investigation of the requirements or design
- Reduces risk and uncertainty in the development



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Prototyping Model

- The prototype may be a usable program but is not suitable as the final software product.
- The code for the prototype is thrown away.
- However experience gathered helps in developing the actual system.
- The development of a prototype might involve extra cost, but overall cost might turnout to be lower than that of an equivalent system developed using the waterfall model.

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Thank You