



Software Engineering

هندسة البرمجيات

جامعة بغداد

كلية التربية للعلوم الصرفة/ابن

الهيثم

قسم علوم الحاسبات

المرحلة الثالثة

أ.م.د. علي يحيى غني



نظري محاضرة الاسبوع الرابع

Waterfall Model +V Model

Topics covered



- ✧ What is V Model Model?
- ✧ Verification and Validation.
- ✧ Phases of V Model Model

V Model



- ✧ The V-model, also known as the Verification and Validation model, is a software development process that emphasizes a structured approach to testing, where each development phase has a corresponding testing phase. It's an extension of the waterfall model, visualized as a "V" shape, with development on the left and testing on the right.

V Model



- ✧ Each phase stands for **Verification** and **Validation**.
- ✧ **Verification** asks if the system meets its requirements (are we building the system right) and thus tries to assess the correctness of the transition to the next phase.
- ✧ **Validation** asks if the system meets the users' requirements (are we building the right system).

Phases of V Model Model



1. **Requirements Analysis:** Gathering and documenting system requirements.
2. **System Design:** Creating high-level design specifications.
3. **Component Design:** Developing detailed specifications for individual components.
4. **Coding:** Writing the actual code for the software.
5. **Unit Testing:** Testing individual components or modules.
6. **Integration Testing:** Testing the interaction between different components.
7. **System Testing:** Testing the entire system against requirements.
8. **Acceptance Testing:** Validating the system with the end-user.

V Model

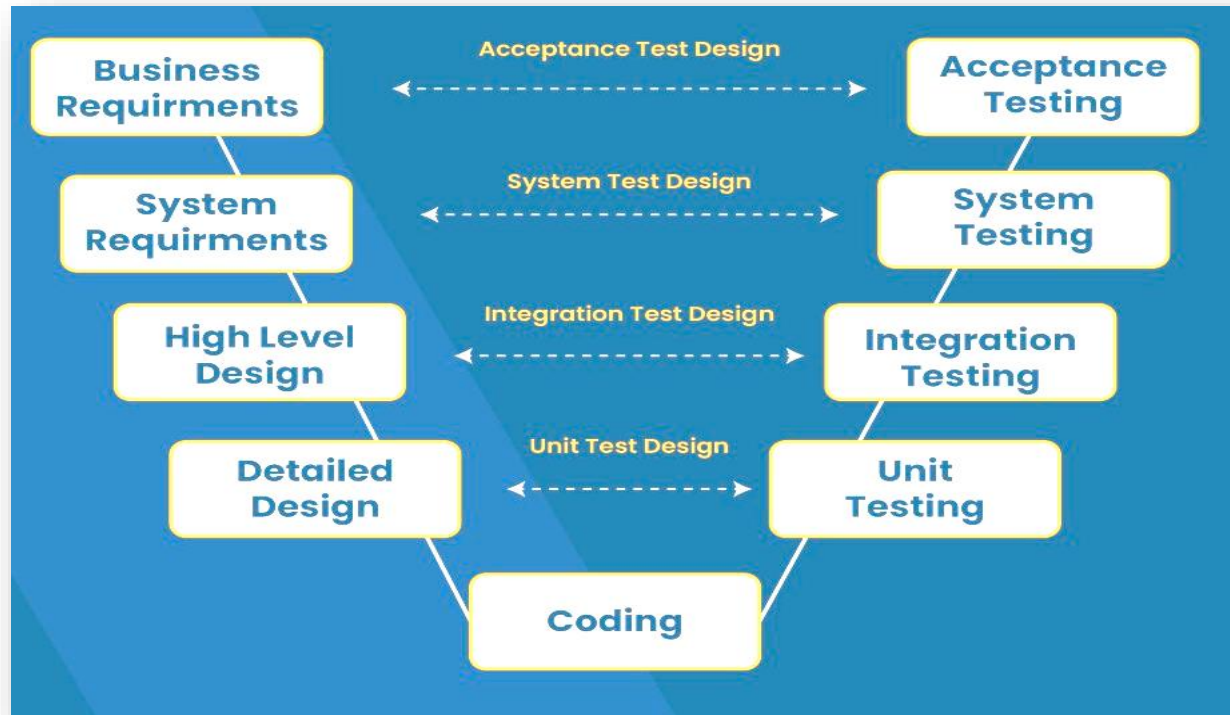


Figure 4: V Model

V Model



- ✧ After its shape, it is known as the V Model. The V Model shows how different types of testing are related to the various development phases.
- ✧ For example, during acceptance testing, the complete system is tested against the requirements, under supervision of user organization.



Thanks