



SOFTWARE ENGINEERING: TEST REVIEW

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Questions

Describe the double data maintenance problem

Solutions

Occurs when there are multiple copies of the same file and a change must be applied to these multiple copies. Eventually, these copies cease to be identical



Questions

Describe two roles related to CM

Solutions

- Describe two roles related to CM
 - Developer
 - Creates promotions triggered by change requests or the normal activities of development. The developer checks in changes and resolves conflicts
 - Auditor
 - Responsible for the selection and evaluation of promotions for release and for ensuring the consistency and completeness of this release

Questions

- _____ management is the creation of versions for the clients and users.
- _____ management is the management of concurrent development.

Solutions

- Release management is the creation of versions for the clients and users.
- Branch management is the management of concurrent development.

Questions

A _____ is an example of a CI.

Solutions

A manual/code file is an example of a CI.

Questions

- What's the difference between Greenfield Engineering and Interface Engineering?

Solutions

- **Greenfield Engineering**

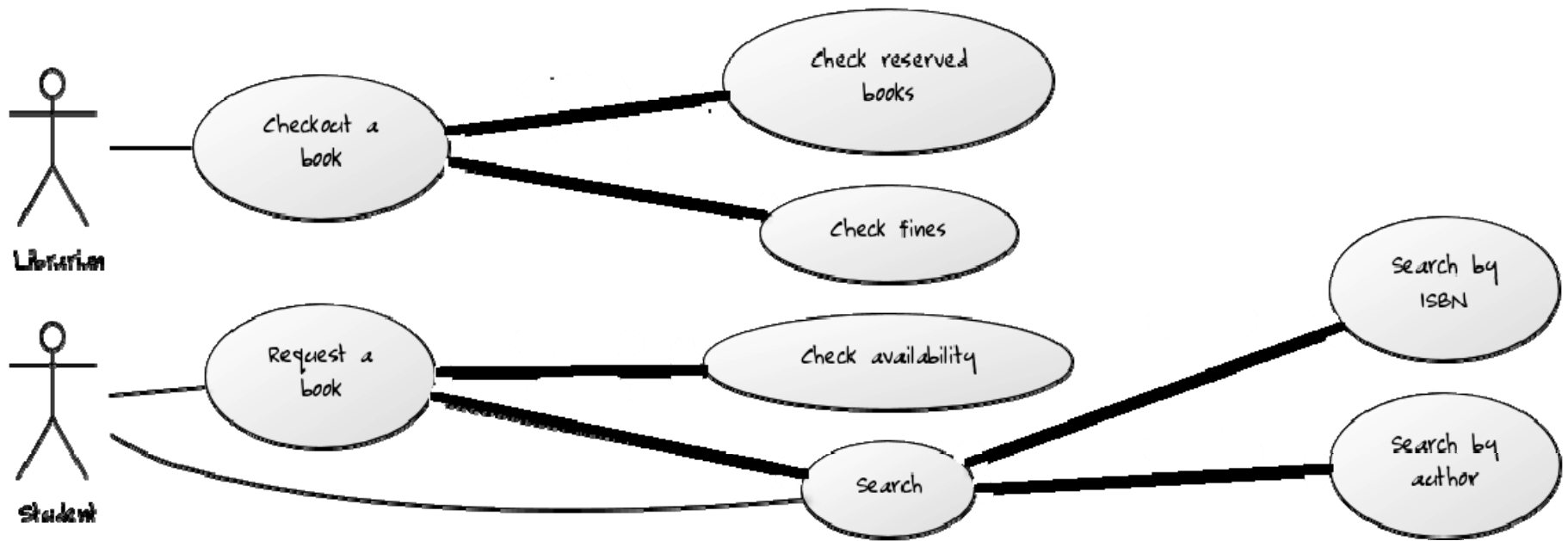
- Development starts from scratch, no prior system exists, the requirements are extracted from the end users and the client
- Triggered by user needs
- **Example:** Develop a game from scratch: Asteroids

- **Interface Engineering**

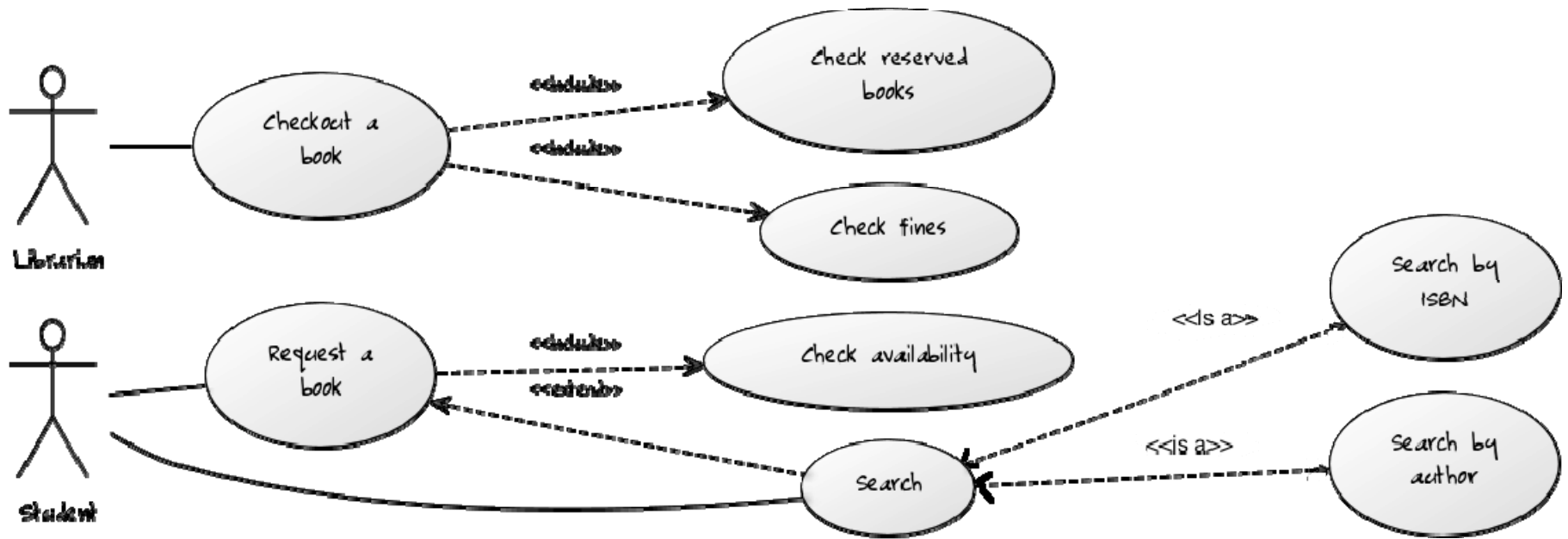
- Provide the services of an existing system in a new environment
- Triggered by technology enabler or new market needs
- **Example:** Develop a Web-based interface for an existing desktop utility tool

Questions

Label the relationships between use cases in the following diagram



Solutions



Questions

What are the 3 things that an object must *have* ?

Solutions

- An object has structure
- An object has behavior
- An object has unique identity

Questions

Which does not belong reusability,
inheritance, debugging,
generalization?

Questions

- What's the difference between each of the following, give examples
 - Functional and Non-Functional Requirements

Solutions

- **Functional requirements**
 - Describe the interactions between the system and its environment independent from implementation
 - Example: *A Facebook user should be able to add photos*
- **Non-Functional requirements**
 - User visible aspects of the system not directly related to functional behavior
 - Example: *Facebook's main page should completely load in less than 15 seconds.*

Questions

Which does not belong reusability,
inheritance, debugging,
generalization?

Questions

What group can list the longest list of actors for YouTube?

Questions

Which is a software error? Which is a software failure? Which is a software fault?

A static defect in the software (i.e., defect, bug)

An incorrect internal state that is the manifestation of some fault

External, incorrect behavior with respect to the requirements or other description of the expected behavior

Solutions

- **Software Fault** : A static defect in the software (i.e., defect, bug)
- **Software Error** : An incorrect internal state that is the manifestation of some fault
- **Software Failure** : External, incorrect behavior with respect to the requirements or other description of the expected behavior

Questions

What are five components of a Problem Statement?

Solutions

- Current situation: The Problem to be solved
- Description of one or more scenarios
- Requirements
 - Functional and Nonfunctional requirements
 - Constraints (“pseudo requirements”)
- Project Schedule
 - Major milestones that involve interaction with the client including deadline for delivery of the system
- Target environment
 - The environment in which the delivered system has to perform a specified set of system tests
- Client Acceptance Criteria
 - Criteria for the system tests

Questions

What are 3 of the components of a Use Case Template?

Solutions

- **Name of Use Case**
- **Actors**
 - Description of Actors involved in use case
- **Entry condition**
 - “This use case starts when...”
- **Flow of Events**
 - Free form, informal natural language
- **Exit condition**
 - “This use cases terminates when...”
- **Exceptions**
 - Describe what happens if things go wrong
- **Special Requirements**
 - Nonfunctional Requirements, Constraints)

Questions

Create a use case diagram for a microwave (use <<includes>> and <<is a>> relationships)

Questions

Create a use case diagram for a DVR.