CS-780 Midterm Exam

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1) a) Error:-

It refers to discrepancy between a computed, observed, or measured value and the true, specified or theoretically correct value. This error refers to difference between actual output of software and correct output.

b) Usecase:-

Usecase defines the interaction between external actors and the system to attain goals. There are three basic elements that make up a use case -

(i) Actors:- Actors are type of users that interact with system.

(ii) System:- Usecases capture functional requirements that specify the intended behaviour of system.

(iii) Goals:- Usecases are typically initiated by a user to fulfill goals. describing activities and variants involved in attaining the goal.

c) Moving Target Problem:-

It occurs because clients requirements are changing frequently while the software development and so partially developed software needs to be changed again and again

d) Cost Benefit Analysis:

It is a process by which organizations can analyze decisions, systems or projects, or determine a value for intangibles. This model is built by identifying the benefits of an action as well as associated costs, and subtracting cost from benefits.

2)

a) False
b) True
c) True
d) False

3) Five core value of incremental / iteration life cycle model are

(I) Requirement Workflow
(II) Analysis workflow
(III) Design workflow
(IV) Implementation Workflow
(V) Test Workflow

Requirement Workflow:

- The primary activities are aimed at building the use case model which captures the functional requirements of the system being defined.

Analysis Workflow:

The primary activity of analysis workflow are aimed at building the analysis model which helps the developers refine and structure the functional requirements captured within usecase model.

Design:

The primary activities of design workflow are aimed at building the design model, which describes the physical realization of usecase from usecase model., also contents of analysis model. The design model serves as an abstraction of implementation model.

Implementation

It is aimed at building implementation model which describes how elements of design model are packaged into software components such as source code files, DLL's etc.

Test:

It describes how integration and system tests will exercise executable components from implementation model. It also describes how team will perform those tests as well as unit tests.

4) Nine steps of structured system Analysis are

(i) Draw the data flow diagram.
- shows the logical data flow "what happens and not how it happens"

(ii) Decide what parts to Computerize and How
- It depends on how much client is prepared to spend
- Large volume, tight control
- Cost benefit analysis

(iii) Determine details of Data flows
- Determine data item for each data flows
- Refine each flow stepwise
- Need a dictionary for larger products

(iv) Define the logic of process

(v) Define the Data stores
- Specify where intermediate access is required
- Data immediate - access diagram
  Ex - immediate access to package data required by name, function & machine

(vi) Define physical Resources
- filename
- Organization

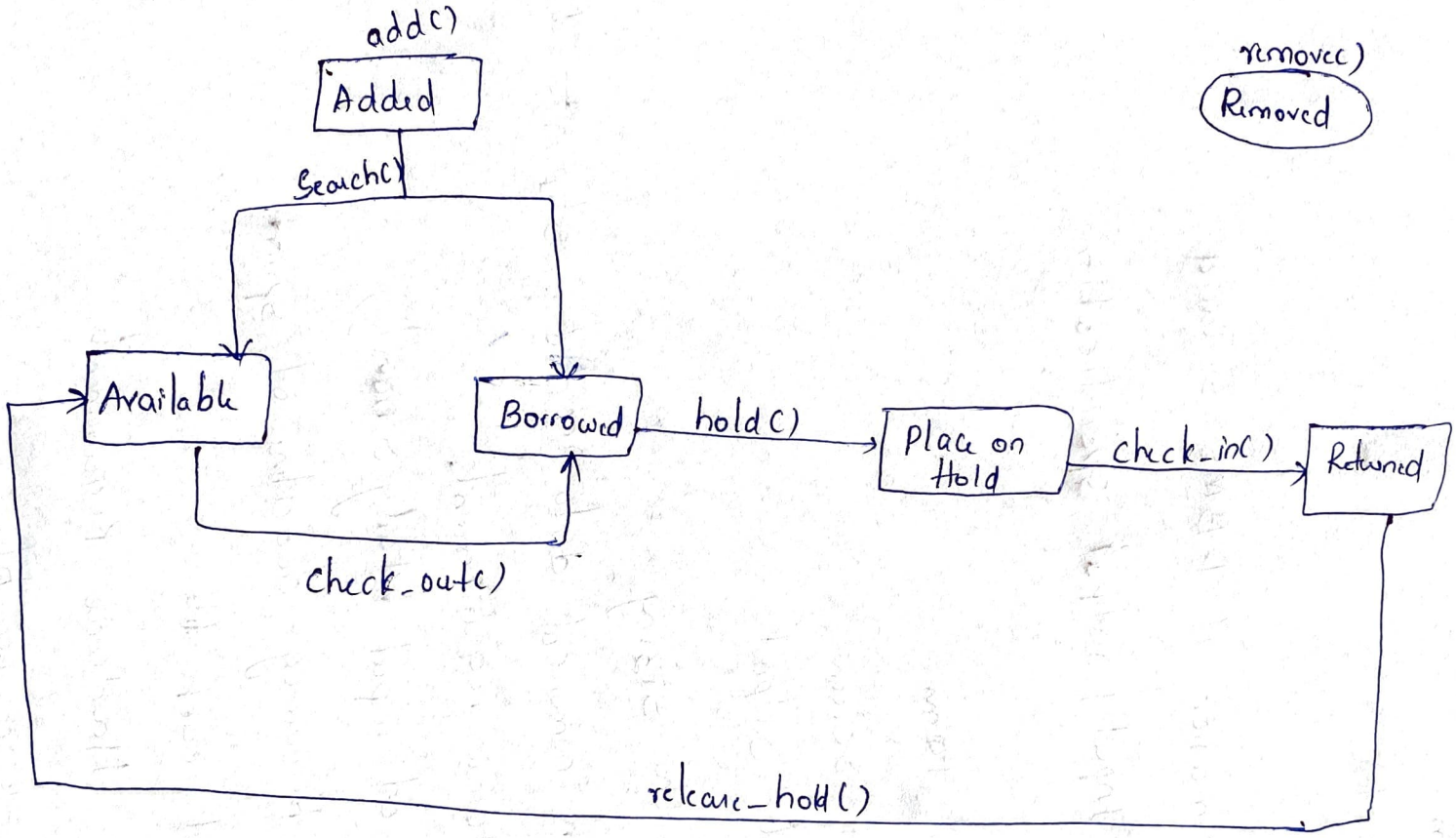
- storage medium
- Blocking factors
  - Records
  - Table information, if DBMS is used

(VII) Determine Input / output Specification

Specify
- Input forms
  - Input Screen
  - Printed output

(VIII) Determine the sizing
- Obtain the numerical data needed in step 9 to determine the hardware requirements
  - Volume of input (daily or hourly)
  - Size, frequency, deadline of sprint
  - Size of each file

(IX) Determine Hardware Requirements
- Main storage requirement
- Main storage back-up
- Input needs
- output devices


add()
Added
remove()
Removed
Search()
Available
Borrowed
hold()
Place on Hold
check_in()
Returned
check_out()
release_hold()

6) Usecase Diagram

7)

Class CardReader	
Responsibilities	Collaborators
Tell ATM, when card is inserted	ATM
Read information from card Eject card Retain card	Card

Class Diagram