Om shree
2006077

SE Assignment 5 & 6

(Ans 2)

(•) Basic issues of software reuse :—

① Component creation : requires the identification of components with potential of reuse.

② Component indexing & storing :— classification & storing of reusable components in an RDBMS for ease of access.

③ Component searching : look up for the correct component in the reusable RDBMS.

④ Component understanding : components must be well documented & should do something simple in code.

⑤ Component adaptation : fault free tinkering of code to suit new needs.

⑥ Repository maintenance : new components have to be entered into the repository upon completion. Faulty components have to be followed.

⑦ Domain analysis : find reusable pieces for a problem domain.

(•) Technical & non-technical issues of software reuse :—

→ Technical issues tend to focus on how reusable a software is i.e. potential for adaptation.

→ Non-technical issues focus on how a project is managed & funded.

→ factors such as increased maintenance costs, finding understanding & adapting reusable components are major issues behind software reuse.

Other factors include motivational & organizational issues. Lack of tool support & excessive requirements.

(•) Software reuse is only suitable in conditions where it reduces development cost & time. But in some scenarios, a significant cost is associated with whether or not a component is suitable for reuse. In these situations software reuse must be avoided.

(Ans4)

(•) Principal activities of a modern quality management system are :-

→ Auditing of projects
→ Review of the quality system
→ Inspection
→ Quality control
→ Quality assurance
→ Total quality management

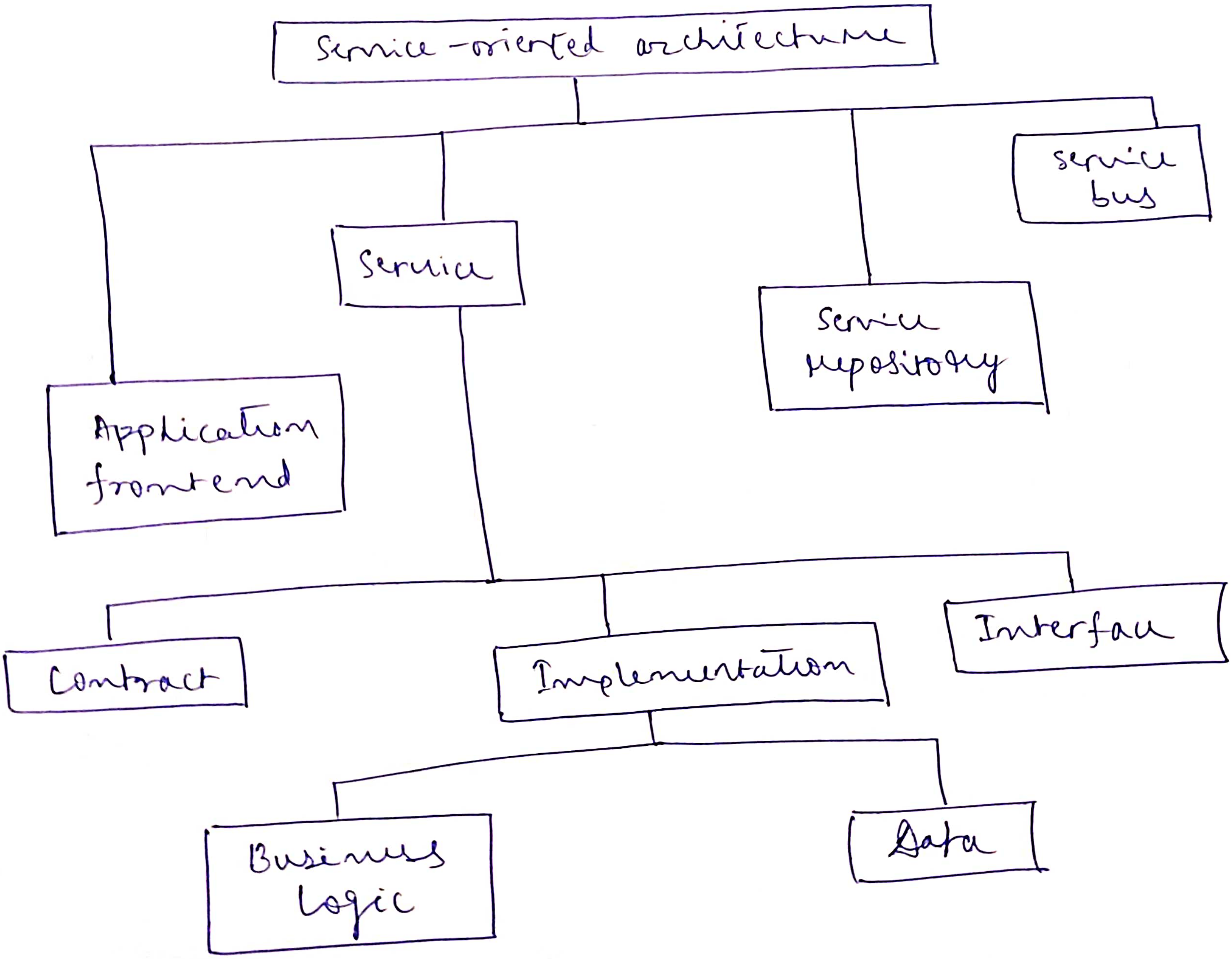
The paradigm has shifted from product assurance to process assurance.

(•) Reliability growth model : model predicts & measures the improvements of reliability programs through the testing process. The growth model represents the reliability or failure rate of a system as a function of time or the no. of test cases.

→ Reliability growth model is useful as it can be used to plan the scope of developmental tasks / tests. Tells you how much testing time should be devoted to provide a reasonable opportunity for the system design to mature sufficiently in developmental testing.

(Ans 6) Short note on SOA

(•) SOA is an architecture which provides service to form applications through a network call over the internet. There are 2 major roles within SOA i.e. service provider & service consumer. Components of SOA are :-



Guiding principles of SOA are

- Standardised service contract
- Loose coupling
- Abstraction
- Reusability
- Autonomy
- Discoverability
- Composability

Advantage of SOA are :—

- Service reusability
- Easy maintenance
- Platform independent
- Availability
- Reliability
- Scalability

Short note on SAAS

SAAS is a way of delivering applications over the internet as a service. Instead of installing & maintaining software, you simply access it via the internet, freeing yourself from complex software & hardware management. Types of SAAS are Iaas, Paas and Xaas. The payment model for these kind of services is a typically per-seat, per-month charge based on usage.

- SAAS is a multitenant architecture, in which all the users share the single, common infrastructure & code base that is centrally maintained.

Ans1) Test cases for Modules :-

① Test cases for module "Payment Details" :-

method followed : boundary value analysis

Case 1
Input : 15, AC, Armada, 1, 94
Expected result : 4650 "Allowed"

Case 2
Input : 3, NAC, swift, 2, 56
Expected result : "Error, <4 hrs

Case 3
Input : 9, AC, Mercedes, 1, 40
Expected result : "Error, car type not present

case 4
Input : 6, AC, Dzire, 2, 50
Expected result : "Error, time mismatch"

② Test case for module "Advance balance" :—

method followed : boundary value analysis

Case 1
Input : 500 , 300
Expected result : 200

Case 2
Input : 300 , 450
Expected result : "Advance not sufficient"

Case 3
Input : 500 , 750
Expected result : -250 "Damage exceeds advance"

Case 4
Input : -100, 700
Expected result : "Negative advance not allowed"