Q1 ) Draw a use case diagram ?



Q2 ) Derive Boundary classes, controller classes , Entity Classes ?

ANS :-

* Boundary Class :- used to handle interactions between the system and external actors

EX : Payment option boundary , card payment boundary .

* Controller class :- act as intermediaries between boundary and entity classes.

Ex :- payment initiated controller , card payment controller .

* Entity class :- represent the core data and business logic of the application

Ex : Customer payment.

Q3 ) place these classes on a three tier architecture ?

ANS :- in the three tier architecture we have three classes which are presentation layer, business logic layer and the last one is the data layer.

* Presentation layer ;- Payment method selection boundary , card payment boundary .
* Business logic layer :- Payment controller , wallet controller
* Data layer :- Customer and Payment which comes under the Entity class.

Q4) Explain Domain model for customer making payment through net Banking ?

ANS :- a domain model is a conceptual representation that defines the structure, relationships and behaviors of entities within a specific problem domain.

|  |  |
| --- | --- |
| PK | Customer ID  |
|  | Customer name, address |
|  | Account details, contact |

|  |
| --- |
| Bank |
|  | Bank name  |
| Location , Branch Code  |

|  |
| --- |
| Payment |
|  | Payment IDAmountPayment DateStatus  |
|  |

|  |
| --- |
| Account |
|  | Account No |
| Account type  |
| Account holder Name |
| Balance  |

|  |
| --- |
| Net banking Service  |
|  | Authentication  |
|  | Fund transfer  |
|  | Transaction history Account management  |

|  |
| --- |
| Authentication  |
|  | Username  |
|  | Password OTP |

|  |
| --- |
| Transaction |
|  | Transaction ID |
|  | Receipt Details  |
|  | AmountTimestamp  |

Q5 ) Draw a sequence diagram for payment done by customer net banking ?

ANS :- A sequence diagram is a type of interaction diagram used I software engineering and system design to illustrate how process and operate with one another and in what order so basically it gives the information about the process that how the process it is happening , also it gives the information about the system which are involved into the product .



Q) Explain the conceptual Model for this case ?

ANS :- A conceptual model is a high level representation of a system that helps in understanding visualizing , and communicating the essential aspects of a specific domain.

* It Provides a clear and simplified view of the domain , making it easier to understand .
* Key element of a conceptual model.
* Entities – Customer, Product , order & payment
* Attributes – Customer ID , name , email , phone number.
* Relationship – For example , a customer places an order.

Q7) What is MVC architecture ? explain MVC rules to derive classes from use case diagram and guidelines to place classes in 3 tier architecture ?

ANS :- MVC is the model view controller is used for developing applications that separate concerns into three interconnected components . it is widely used in web application to improve organization scalability, and maintainability. Basically MVC stand for Model , view , and controller

* Model : represent he data and business of the application , handles databases operations , processing rules and calculations .
* View : represent the UI and displays the data to user , fetches data from the model and presents it in a readable format
* Controller :- act as an intermediary between the model and view , handles user inputs, processes requests, and updates the model or view accordingly .
* Ex; when a user submit a login from, the controller process the request, and validates credentials, and updates the view accordingly.

Rules OF MVC architecture :

* Separation of concerns :- Each component MODEL, VIEW, CONTROLLER should focus on a specific responsibility.
* The model should not contain UI logic and The view should not contain business logic.
* Loose coupling :- the MODEL , VIEW and controller should be independent , making the system flexible and easy to modify.
* Single responsibility principle :- Each component should have clear , singular prupose.
* Minimal direct communication :- the view should not communicate directly with the model.
* Instead it should interact with the controller, which retrieves data from the model.
* Encapsulation of Data :- the model should handle all data related operations, ensuring security and data integrity.

Q8 ) Explain BA contribution in project Waterfall model ?

 ANS :- The BA collaborates with stakeholders to gather, document and analyze requirements. Also the business analyst is responsible for creating the details business requirement document and functional requirement document which are BRD and FRD.

Ensures that requirement are well-defined , complete, and do not change after signoff as waterfall discourages changes later.

Uses techniques like JAD joint application development sessions, interviews, workshops and document analysis.

* Work closely with the development and design teams to ensure that the solution aligns with business needs.
* Provides clarifications on requirement if needed.
* Ensures that the designed system meet the agreed upon functionsla and non-functgional requirement
* Implementation development phase : The ba may support developers by answering queries regarding the requirement . ensures that the development aligns with the documented business needs.

Testing :-

* Assists in preparing test cases, test scripts and test also it validates that the software meets business requirement by participating in UAT.
* Helps identify and resolve defect by coordinating with developers and testes.

Deployment :-

* Support stakeholder during go- live ensuing that the solutions is implemented smoothly.
* Assists in creating user manuals, training document and conducting training sessions.

Maintenance :- addresses post-deployment isses and ensures that the system continues to meet business needs.

Suggest enhancement or fixes based on feedback.

Key BA deliverable in waterfall :-

* Business requirement Document (BRD)
* Functional Requirement Document (FRD)
* Uses cases, process flows, and wireframe
* Requirement traceability matrix
* Test cases for UAT

Q9 ) What is Conflict management technique ? explain using Thomas-killmann technique ?

ANS :- conflict management techniques refer to strategies used to handle disputes and disagreeemtn effectively while minimizing negative outcome one of the most widely recognized models for conflict management is the thomaskilmann conflict mode . it identifies five conflice handling mode based on two dimensinons .

Five conflict management style in the Thomas-kilmann Model

 Competing :- this style is aggressive and focused on wining the conflict at any cost. Best used when quick decisions are needed, such as in emergencies

Example : a manger enforcing a strict deadline despite employee concerns.

* Collaborating :- A win-win approach where both parties work together to find an mutually beneficial to find a mutually beneficial solution.

Best used when relationships are important, and innovative solution are required.

Ex : two department brainstorming to merge their ideas into a new strategy.

Compromising :- both parties give up something to reach a middle ground solution. Best used when time is limited and both sides have equal power.

Example : Two colleagues agreeing to share project responsibilities.

Avoiding : ignoring or withdrawing from the conflict rather than addressing it. Best used when the issue is minor or when emotions need time to cool down.

Example : postponing a discussion about a heated disagreement until a calmer moment.

Accommodating :- one party sacrifices their own needs to satisfy the other. Best used to maintain harmony or when the issues is more important to the other party.

Example : a team member agreeing to change their schedule to help a colleague.

So that how the conflict management technique which is used to resolve the query of the client handle it in the appropriate way.

Q10 ) list down the reasons for project failure ?

ANS : As a business analyst project failure can occur due to specific BA-related issues. Here are some key reasons

* Poor requirement gathering and analysis : if the requirement are unclear, incomplete so that is the major reason of the project failure apart from that lack of stakeholder involvement in requirement discussions.
* Failure to validate requirement with end user.

Scope creep :

* Frequent changes in requirement without proper assessment.
* Addressing new features without evaluating their impact on timelines and cost.

Ineffective stakeholder management :

* Failure to identify key stakeholders
* Poor communication and collaboration with stakeholders
* Misalignment of stakeholder expectation with project goals.

Inadequate communication :

* Misinterpretation of requirement due to poor documentation
* Lack of clear and regular updates to the project team.
* Ineffective communication between business and technical teams .

Lack of business process understanding :

* Insufficient knowledge of existing business process.
* Failing to analyze how new changes impact current workflows.

Lack of user involvement in testing :

* Not conducting user acceptance test properly.
* Ignoring feedback from end users before project implementation.

Q11) list down challenges faced in project for BA?

 ANS : As business analyst faces several challenges in a project including.

* Unclear or changing Requirement : stakeholders may struggle to artucualte their needs or requirement their needs, or requirement may evolve frequently, leading to scope creep.
* Conflicting stakeholders interest : different stakeholders may have opposing priorities making it hard to reach a consensus.
* Communication barrier: misinterpretation of requirement due to lack of clarity or poor documentation can lead to project failures.
* Change in requirement : this is the another level of challenge faced by the business analyst in the project because changing in requirement is also challenge for the business analyst .
* Documentation : poorly documented requirement can create confusion for development and testing teams.
* Improper requirement gathering : so while gathering the requirement there are so many requirement are improper because the client is not able to give the requirement to the business analyst .
* Lack of domain knowledge : if a BA is unfamiliar with the industry or business domain, it can be challenging to understand process and purpose relevant solutions.

SO these are the areas where the business analyst faced challenges while doing work on the project.

Q12) Write about document Naming Standards?

ANS:- A document naming standard is a systematic approach to assigning unique identifiers to various documents created and used throughout the development process.

Ex : suppose we have a project with the ID “PROJ123” and we are working with a requirement specification document.

Project ID : PROJ123

Document Type : REQ

Version :1.0

Date : 25/3/2025

The document identifier could be :PROJ123-REQ-1.0-25/3/2025

Q13 ) What are the Do’s and Don’ts of a business analyst ?

ANS :

|  |  |  |
| --- | --- | --- |
| **SR. NO** | **DO’S** | **DON’TS** |
| 1 | Consult an SME for clarifications in requirements. | Never say no to the client. |
| 2 | Go to the client with a plain mind with no assumption listen carefully and completely until the client is done and then you can ask queries. | There is no word as “Default “ |
| 3 | Try to extract maximum leads to the solutions form the client himself. | Never imagine anything in terms of GUI |
| 4 | Concentrate on the important requirement. | Don’t interrupt the client when he is giving you the problem. |
| 5 | Question the existence of existence of existence /question every thing | Never try o give solutions to the client straight away with your previous experience and assumptions. |

Q14) Write the difference between packages and sub-system?

ANS :- usually packages are the component which are not reusable in nature this is the major difference between the packages where the existed component are not in the reusable nature.

Example : Application development companies work on packages.

Subsystem : Collection of component which are reusable in nature .

Ex : product development companies work on sub syste…

Packages are used for structuring business requirement .

Subsystem are used to define separate business functions within a system.

Purpose : to define independent functional areas within a system that interact with each other.

Q15) what is camel casing and and explain where it will be used ?

 ANS :- Camel casing is a naming convention in programming where multiple words are combined into a single word, and each word start with a capital letter it called camel case because he capital letter .

Lower camel case : the first word start with a lowercase letter, and subsequent words start with uppercase letter.

Upper came case : every word start with an uppercase letter.

* Camel casing is a naming convention used in computer programming.
* It is used for naming variable, functions, and identifies.

In the camel casing first word start with a lowercase letter and each subsequent word beings with and uppercase letter.

Q16 )illustrate development server and what are the accesses does business analyst has?

ANS:- A development server is an environment wher software applications are built , tested, and debugged before being moved to testing or production environments. It is typically used by developers to write and test code.

Business analyst access in development Server:-

* A business analyst usually has limited access to the development server because they are not directly involved in coding. However, depending on the organization policies and the project requirements , a BA may have access to.
* Data query access : to extract data for analysis , validation, or reporting .
* Testing environment : to test features, validate business requirement, and support user acceptance testing UAT.
* Requirement Traceability tools : access to tools like JIRA, confluence, Azure develop to track development progress.
* Log files : to check for defect or issues impacting business functionality .
* A development server refers to a dedicated environment or server that is used during the software development process.
* It provides a platform for developers and tester to builds , test and debug applications before they are deployed to a production environment
* As a BA we have only limited access only.

Q17 ) What is data mapping ?

ANS : Data mapping is theprocess of connecting data from one system or format to another . it helps ensure that data is transferred accurately and correctly between different databases, applications or system.

* It’s commonly used in data migration, integration , and transformation process.
* Data mapping is the process of connecting data fields from one system to another.
* Purpose : ensures accurate data transfer, transformation, and integration between databases or applications
* Use cases : data migration, data integration, and data standardization.
* Mapping Rules : defines how data fields correspond between source and target system.

Methods : manual mapping , semi automated mapping, and fully automated mapping

Tools : Talend , SQL

Benefits : reduces errors, improves data quality and ensures seamless system integration.

Data mapping is the process of connecting data from one source to another , its like creating a guide or map that shows how data in one place corresponds to data in another place.

This is especially important when your moving data between different system or database to ensure that the data stays consistent and accurate.

Q18 ) What is API, explain how you would use API integration in the case of your application Date format is dd-mm-yy and its accepting some data fo other application from us whose date format is mm-dd-yyyy ?

ANS :- Application programming interface is a crucial concept that refers to a set of rule and protocols that allow different software applications to communicate with each other. API enable integration between different systems, making data exchange and automation more efficient.

* System integration : ensuring seamless communication between software application .
* Process automation : reducing manual work by automating data flows between different applications .
* User experience : enabling features like single sign on real time update and third party integrations.
* API integration : API-driven didgital transformation , API Use cased in different industries banking, e-commerce, healthcare.
* API monetization model.

Key Features of an API :

* Interoperability : enables different software system to work together.
* Abstraction – hides compelx internal processes , exposing only necessary functionalities.
* Efficiency : reduces development time by allowing reuse of existing services.