**Capstone Project 3 – Part II**

**Q1: Difference between Brainstorming and JAD Sessions**

**Brainstorming** is a technique where stakeholders and team members generate ideas freely to solve a problem or gather requirements. It is informal and focuses on creativity.

**JAD (Joint Application Development) Sessions** are structured meetings involving key stakeholders, developers, and business analysts to define and refine requirements collaboratively. It is more structured and requires facilitation.

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| Feature | Brainstorming | JAD (Joint Application Development) Session |
| Purpose | To generate creative ideas for problem-solving or requirement gathering. | To collaboratively define and refine system requirements with stakeholders. |
| Participants | Can include anyone with relevant knowledge or creativity (developers, business analysts, business users, etc.). | Includes key stakeholders, business analysts, developers, and sometimes end-users. |
| Structure | Informal, free-flowing discussion. | Highly structured, with a facilitator guiding the session. |
| Focus | Idea generation without evaluation. | Requirement elicitation, system design, or problem-solving. |
| Outcome | A broad list of ideas for further refinement. | Well-documented requirements, models, and design decisions. |

**Q2: Why is Document Analysis a Compulsory Technique in a Project?**

Document Analysis is a key technique used to extract valuable information from existing documents related to a project.

**Justifications:**

1. **Understanding Existing Systems**: Helps analyze business processes, workflows, and technical specifications from available documentation.
2. **Identifying Gaps and Redundancies**: Provides insights into missing requirements, contradictions, and inconsistencies.
3. **Historical Reference**: Helps understand past decisions, lessons learned, and ensures continuity.
4. **Regulatory and Compliance Requirements**: Essential for ensuring that legal and compliance aspects are met.

**Example:**
Analysing a company’s policy document to extract rules for an HR automation project.

**Q3: In Which Context is Reverse Engineering Used?**

Reverse engineering is a process of analyzing an existing system, software, or product to extract knowledge and understand how it works.

**Common Use Cases:**

1. **Legacy System Migration**: When old systems have limited or no documentation, reverse engineering helps extract requirements.
2. **Competitive Analysis**: Companies may analyze competitor products to understand their functionality.
3. **Software Debugging**: Understanding how a malfunctioning system was built to fix issues.
4. **Security Analysis**: Identifying vulnerabilities in a software system.

**Example:**
If a bank wants to upgrade its 20-year-old loan processing system but lacks documentation, reverse engineering can help understand its logic.

**Q4: Difference between Brainstorming and Focus Groups**

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| Feature | Brainstorming | Focus Groups |
| Objective | Generate as many ideas as possible in a short time. | Collect feedback and opinions from a specific group of people. |
| Participants | Can include a wide range of people. | A selected group of people (usually end-users or customers). |
| Structure | Unstructured or semi-structured. | More structured with guided discussions. |
| Moderator Role | Encourages idea generation without judgment. | Facilitates discussions and asks targeted questions. |

**Example:**

* A brainstorming session can be used to generate ideas for a new company logo.
* A focus group can be used to gather user opinions on a beta version of a mobile app

**Q5: Observation Technique – Active and Passive Approaches**

1. **Active Observation:**
	* The analyst interacts with users, asks questions, and may participate in their tasks.
	* Best for understanding challenges users face.
	* **Example**: Observing a cashier at a bank while asking them questions about their workflow.
2. **Passive Observation:**
	* The analyst silently observes users without interaction.
	* Useful for gathering unbiased information.
	* **Example**: Watching how customers interact with a self-service checkout machine in a supermarket.

**Q6: How to Conduct a Requirements Workshop?**

1. **Define Objectives**: Set clear goals for the workshop (e.g., identifying system requirements).
2. **Identify Participants**: Include stakeholders, business analysts, and developers.
3. **Prepare an Agenda**: Structure the session with discussion points.
4. **Facilitate the Workshop**:
	* Use techniques like brainstorming, mind mapping, and role-playing.
	* Encourage participation and document discussions.
5. **Document Findings**: Summarize key decisions and get approval from stakeholders.

**Example:**
A company wants to build an employee portal, so they conduct a workshop with HR, IT, and employees to gather requirements.

**Q7: Interview Technique and Approaches**

**Types of Interviews:**

* **Structured Interview**: Follows a fixed set of questions (useful for quantitative data).
* **Unstructured Interview**: Open-ended discussions with no strict format.

**Difference Between Open-Ended and Closed-Ended Questions:**

* **Open-Ended**: Encourages detailed responses. (e.g., "What challenges do you face in your work?")
* **Closed-Ended**: Provides limited responses (e.g., "Do you use our app daily? Yes/No")

**Q8: Where is the Questionnaire Technique Used?**

* Questionnaires are used when collecting data from a large audience efficiently.

**Definition:**

* A questionnaire is a research tool consisting of a set of structured or unstructured questions designed to collect information from respondents systematically. It is useful for gathering data from a large audience efficiently.

Where we can use Questionaire

* Customer Feedback Survey
* Market Research
* Requirement Gathering
* **Example:**
A company conducts a survey to understand employee satisfaction with remote work.

**Q9: How to Sort Requirements?**

Sorting requirements means organizing them based on priority, type, business value, or implementation feasibility. This helps in structured planning and execution.

* Requirements are sorted based on priority, category, or feasibility.
* **Example:**
Sorting user requirements into Functional and Non-Functional categories before system design.

**Methods to Sort Requirements:**

1. **By Business Value:** Critical features that directly impact revenue are sorted higher.
2. **By Priority:** Features categorized as high, medium, or low priority.
3. **By Implementation Complexity:** Easier tasks are sorted first to achieve quick wins.
4. **By Category:** Sorting into functional (user-driven) and non-functional (performance/security) requirements.
5. **By Dependencies:** Arranging based on what must be completed first (e.g., database setup before UI design).

**Q10: How to Prioritize Requirements?**

Used to determine which requirements should be implemented first.

**Methods to Prioritize Requirements:**

* **MoSCoW Method:**
	+ **Must-Have:** Essential features for product functionality.
	+ **Should-Have:** Important but not mandatory for the first release.
	+ **Could-Have:** Nice-to-have features.
	+ **Won’t-Have:** Features planned for future releases.
* **Kano Model:** Categorizes requirements into:
	+ **Basic Needs:** Features expected by users (e.g., login system).
	+ **Performance Features:** The better they are, the more satisfied users will be (e.g., site speed).
	+ **Delighters:** Unexpected but impressive features (e.g., AI-powered recommendations).
* **Weighted Scoring:** Assigning numerical scores based on factors like business value, effort, and risk.

**Q11: Weekly Status Reporting – How to Drive?**

**A weekly status report provides project stakeholders with updates on progress, risks, and upcoming tasks. It helps in tracking project health and ensures alignment with objectives.**

**Steps to Drive Weekly Status Reporting:**

1. **Collect Project Updates**
	* Gather progress reports from team members on completed, ongoing, and upcoming tasks.
2. **Highlight Key Achievements**
	* Mention completed milestones and deliverables.
3. **Identify Risks & Blockers**
	* Highlight any delays, resource shortages, or technical issues.
4. **Define Next Steps**
	* Outline goals for the next week to maintain momentum.
5. **Report Format:**

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| **Date: [MM/DD/YYYY]** | **Project Name: [Project XYZ]** |
| **Week Summary:** | Development completed for Feature A. Testing in progress. |
| **Completed Tasks:** | User Authentication module, UI Design updated |
| **Ongoing Work:** | Performance testing, Bug fixes |
| **Risks & Issues:** | Server downtime affecting API testing |
| **Next Steps:** | Deployment to staging environment |

**Outcome:** Weekly reporting ensures smooth project execution and quick problem resolu

**Q12: Sample Meeting Minutes Document**

Meeting minutes document key discussion points, decisions made, and action items assigned during a meeting.

**Format:**

**Meeting Minutes Document**

* **Meeting Date:** February 18, 2025
* **Participants:** John Doe (Project Manager), Jane Smith (Business Analyst), Mark Wilson (Developer)
* **Agenda:** Review Project Milestones
* **Discussion Points:**
	+ Feature A development completed.
	+ Bug fixes in progress for Feature B.
* **Decisions Made:**
	+ Deployment postponed by one week.
* **Action Items:**
	+ Mark to test Feature A by February 20.
	+ Jane to update stakeholders on the new timeline.

**Q13 Sample Change Tracker Document**

A Change Tracker is used to track and document changes in project scope, features, or requirements.

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| --- | --- | --- | --- | --- |
| Change ID | Description | Requested By | Status | Impact |
| CH001 | Modify UI Design | Business Team | Approved | Medium |

**Q14: Difference Between Traditional and Agile Development Models**

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| **Feature** | **Traditional (Waterfall) Model** | **Agile Development Model** |
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| Approach | Sequential and linear | Iterative and incremental |
| Requirements | Fixed at the beginning | Can change dynamically |
| Flexibility | Rigid | Highly flexible |
| Testing | Performed at the end | Continuous testing in each sprint |
| Delivery Time | One final product delivery | Multiple releases (sprints) |
| Documentation | Heavy | Lightweight |
| Example | Banking software with strict regulations | Mobile app development with evolving features |

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**Q15: Where is Brainstorming Used?**

Brainstorming is a technique where a group generates ideas and solutions without immediate criticism, encouraging creative thinking.

**Where is it Used?**

1. **Product Development:** Generating new feature ideas.
2. **Problem-Solving:** Identifying solutions for operational issues.
3. **Marketing Strategy:** Creating campaign ideas.

**Example:**

A startup wants to improve its delivery app. They hold a brainstorming session and come up with ideas like **drone delivery**, **one-hour express service**, and **eco-friendly packaging**.

**Q16. What reports Accounts Departments will generate (minimum 5 reports)**

The Accounts Department will generate the following reports:

1. **Loan Application Status Report** – A detailed report on all loan applications, including approved, rejected, and pending requests.
2. **Loan Repayment Schedule Report** – A report displaying the repayment details for all employees with active loans.
3. **Outstanding Loan Balance Report** – A report showing the remaining loan amounts for employees who have taken loans.
4. **Loan Deduction Report** – A report that tracks monthly deductions made from employee salaries for loan repayment.
5. **Loan Approval and Disbursement Report** – A report summarizing loans approved and disbursed over a specific period.

**Q17. Structure of the Loan Rejection Mail from HR to Employee**

**Subject:** Loan Application Status – Rejected

**Dear Manish,**

We regret to inform you that your loan application (Reference No: Loan Application Number (12345)) submitted on 17th feb 25 has been **rejected** due to the following reason(s):

**Mention the reason(s) for rejection, e.g., ineligibility, insufficient salary, pending previous loan, or any valid reason for which loan is rejected. etc**

If you need any clarification or wish to discuss alternative options, please feel free to contact HR at [Manish@coepd.com].

Best Regards,
Coepd Team
HR Department
TTS Company

**Q18. Structure of the Loan Approval Mail from HR to Employee**

**Subject:** Loan Application Status – Approved

**Dear Rahul/Manish,**

We are pleased to inform you that your loan application (Reference No: Loan Application Number(23456)) submitted on 18th Feb 25 has been **approved**. Below are the loan details:

* **Loan Amount Approved:** 100000
* **Interest Rate:** 8.95%
* **Repayment Start Date:** 1st March 25
* **Repayment Tenure:**
* **Monthly Deduction:** [EMI Amount]

Please find attached the **Loan Agreement, Terms & Conditions, and Repayment Schedule** for your review. If you agree to the terms, kindly sign and return the agreement by [Deadline Date].

If you have any queries, feel free to contact HR at [HR Manish Talreja].

Best Regards,
Manish Talreja
HR Department
TTS Company

**Q19. Sample Report on Loan Applications Received by Accounts Department**

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| Loan Application No. | Employee Name | Department | Loan Amount Requested | Loan Status | Approval Date | Rejection Reason (if any) | Monthly Deduction |
| 202401001 | John Doe | IT | $10,000 | Approved | 10-Feb-2024 | N/A | $500 |
| 202401002 | Jane Smith | HR | $5,000 | Rejected | N/A | Low Salary | N/A |
| 202401003 | Mike Brown | Finance | $8,000 | Approved | 12-Feb-2024 | N/A | $400 |
| 202401004 | Emily White | Marketing | $12,000 | Pending | N/A | N/A | N/A |

**Q20. Reporting Tools for Generating Reports**

To efficiently manage employee loan records, track repayment schedules, and generate insights, reporting tools play a crucial role. Below are five powerful reporting tools that can be used for generating loan-related reports in the Employees Loan Management System:

1. **Microsoft Power BI** – For interactive data visualization and dashboard reporting.

Power BI is a **business intelligence (BI) tool** that allows users to **create interactive dashboards and reports**. It is widely used for financial reporting and data visualization.

📋 **Features:**
✅ Connects to multiple data sources (databases, Excel, cloud storage)
✅ Provides dynamic **dashboards and visual analytics**
✅ Enables **automated data updates** for real-time reporting
✅ Supports **drill-down and filtering** for detailed insights

📊 **Usage in Loan Management:**

* **Loan Application Trends Dashboard** (to track number of loans approved/rejected)
* **Loan Repayment Performance Reports**
* **Employee Loan Eligibility and Financial Risk Analysis**
1. **Tableau** – For advanced data analytics and visual reporting.

Tableau is a **data visualization and analytics tool** that helps businesses analyze large volumes of financial data efficiently.

📋 **Features:**
✅ **Drag-and-drop** functionality for report creation
✅ Real-time data updates for **accurate financial tracking**
✅ Strong **data security** features
✅ Allows deep **data exploration and trend analysis**

📊 **Usage in Loan Management:**

* **Outstanding Loan Balance Reports** (visual breakdown of total loan balances)
* **Defaulter Analysis Reports** (identifying employees with overdue payments)
* **Interactive Repayment Schedule Visualizations**
1. **MS Excel** – For basic reporting and analysis with formulas and pivot tables.

Excel is a widely used **spreadsheet-based tool** for financial calculations and basic report generation. It is especially useful for **small-scale reporting** and quick analysis.

📋 **Features:**
✅ **Pivot tables and charts** for data analysis
✅ **Formulas and functions** for automated calculations
✅ **Conditional formatting** to highlight overdue payments or approvals
✅ **Easily shareable and editable reports**

📊 **Usage in Loan Management:**

* **Loan Repayment Schedules in Table Format**
* **Monthly Salary Deduction Statements**
* **Basic Loan Eligibility Calculators**