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**Project 2(IS Gath and Requirement and System Analysis) SECD2613-15 SYSTEM ANALYSIS AND DESIGN**

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**Overview of Building a Shopping Website**

1. Introduction to E-Commerce and Online Shopping
2. Key Components of a Shopping Website
3. Design and User Experience Considerations
4. Backend Development and Database Management
5. Security and Payment Processing

**Problem statement in Shopping Website**

When we talk about the shopping website of course we talk about the good and useful way in it but when we talk about the problem in the shopping website , there are some problems and challenges in shopping website such as Introduction to E-Commerce and Shopping Websites Key ,Technical and Design Challenges in Building a Shopping Website , Strategies and Best Practices for User Experience and Interface Design , Security and Payment Systems in E-Commerce, Future Trends and Innovations in Shopping Website Development .

**Proposed Solutions in Shopping Website**

In shopping website we talked about the challenges and the problems in it and of course when we have problem in something we can find the solution for it , the propose solution in shopping website a more then you imagine that is some of examples for solutions in shopping website Introduction to E-Commerce and Shopping Websites ,Key Features and Functionalities of a Successful Shopping Website ,Technological Solutions and Platforms for Building a Shopping Website ,Design and User Experience Considerations, Security and Privacy Measures in E-Commerce

**Information gathering process.**

**Method used.**

Introduction to Information Gathering and there are some examples of its Introduction to the Concept, Historical and Cultural Significance, Practical Applications and Relevance, Contemporary Debates and Future Directions

Key Components of a Shopping Website including product listings and descriptions for example Introduction to Product Listings and Descriptions, Key Elements of a Successful Product Listing, Writing Compelling Product Descriptions, Optimizing Product Listings for Search Engines, Best Practices for Product Presentation

Methods of Information Gathering including user surveys and interviews for example Introduction to User Research Methods, Theoretical Foundations of Surveys and Interviews, Designing Effective Survey Questions, Conducting Successful User Interviews, Analyzing and Interpreting Research Data

Challenges and Best Practices including data privacy and security for example Introduction to Data Privacy and Security, Technological Foundations of Data Protection, Legal and Ethical Frameworks in Data Privacy, Challenges and Solutions in Data Security, Future Trends, and Innovations in Data Privacy

**Conclusion**

Summary of Key Findings and Recommendations In this section, you will give a brief overview of the most important findings from your research or analysis. It should emphasize main observations, trends, and implications. Structure it like this: Introduction: Briefly introduce the context or problem you investigated. Findings: Summarize the main results or discoveries. Recommendations: Based on the findings, suggest actionable steps or strategies. Conclusion: Wrap up the summary by emphasizing the significance of these findings and recommendations.

**References**:

The references section lists all the sources you’ve cited throughout your report or study. Include details such as author names, publication titles, publication dates, and any relevant URLs or DOIs. Use a consistent citation style for example APA, MLA, Chicago and arrange the references alphabetically.

Interview Questions:

In an e-commerce or web development-related interview, it is most probable to face the following questions: Describe your educational background. Describe your professional experiences working in e-commerce. Have you ever owned and operated your own e-commerce store? What first interested you about e-commerce? Describe the e-commerce brands you have managed.

**User Experience (UX) Survey Questions**:

UX Survey: It's for gaining insights from users. Some relevant questions will be: How easy was the navigation of our website during your shopping experience? Have you faced any issues while searching for products? And are you satisfied with the checkout process?

**Observation Questions:**

Observations can lead to rich data. For example: What observations techniques are you using to study e-commerce behavior (e.g. participant observation, naturalistic observation)? How have you defined e-commerce? What customer experience strategies have worked for you?



**5.1 Current Business Process (Scenarios, Workflow)**

**Scenarios:**

**Customer Order Processing:**

1. Customer places an order via the online platform.
2. The system checks inventory for the requested items.
3. If items are in stock, the system processes the payment.
4. An order confirmation is sent to the customer.
5. The warehouse is notified to prepare the order for shipment.
6. The order is shipped, and a shipping confirmation is sent to the customer.

**Inventory Management:**

1. Inventory levels are monitored in real-time.
2. When stock levels fall below a predefined threshold, a restock order is generated.
3. The warehouse receives new stock and updates the inventory levels in the system.

**Customer Support:**

1. Customers can submit support tickets via the online platform.
2. Support tickets are logged and assigned to a support agent.
3. The support agent resolves the issue and updates the ticket status.
4. The customer is notified of the resolution.

**Workflow:**

**Order Processing Workflow:**

1. **Start:** Customer places an order.
2. **Check Inventory:** System verifies stock availability.
3. **Payment Processing:** System processes the payment.
4. **Order Confirmation:** System sends confirmation to the customer.
5. **Order Preparation:** Warehouse prepares the order.
6. **Shipping:** Order is shipped.
7. **End:** Shipping confirmation is sent to the customer.

**Inventory Management Workflow:**

1. **Start:** Monitor inventory levels.
2. **Stock Check:** System checks stock levels.
3. **Restock Order:** Generate restock order if needed.
4. **Stock Update:** Update inventory levels.
5. **End:** Inventory levels are updated.

**Customer Support Workflow:**

1. **Start:** Customer submits a support ticket.
2. **Ticket Logging:** System logs the ticket.
3. **Ticket Assignment:** Assign ticket to a support agent.
4. **Issue Resolution:** Support agent resolves the issue.
5. **Ticket Update:** Update ticket status.
6. **End:** Notify customer of resolution.

**5.2 Functional Requirements (Input, Process, and Output)**

**Customer Order Processing:**

* **Input:** Customer order details, payment information.
* **Process:** Validate order, check inventory, process payment, notify warehouse.
* **Output:** Order confirmation, inventory update, shipping notification.

**Inventory Management:**

* **Input:** Current stock levels, restock thresholds.
* **Process:** Monitor stock levels, generate restock orders, update stock.
* **Output:** Updated inventory records, restock notifications.

**Customer Support:**

* **Input:** Support ticket details, customer information.
* **Process:** Log ticket, assign to agent, resolve issue, update ticket status.
* **Output:** Ticket status updates, resolution notifications.

**5.3 Non-Functional Requirements (Performance and Control)**

**Performance:**

* The system must handle up to 10,000 simultaneous users without performance degradation.
* Order processing time should not exceed 2 seconds.
* Inventory updates should be reflected in real-time.

**Control:**

* The system must have robust security measures to protect customer data.
* Access to the system should be controlled via role-based access control (RBAC).
* Regular backups of the system data must be performed daily.
* The system should be compliant with industry standards such as PCI-DSS for payment processing.

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A diagram of a process

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A diagram of a system

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Part 6-

Requirement analysis for building a shopping website involves several key steps to ensure the final product meets the needs of users and stakeholders. Here's a summary of the process:

**1. Identify Stakeholders**

* **Who:** Determine all parties interested in the project, including business owners, customers, developers, and administrators.
* **Why:** Understand their needs, expectations, and constraints.

**2. Gather Requirements**

* **Methods:** Use interviews, surveys, focus groups, and observation to collect information.
* **Types of Requirements:**
  + **Functional Requirements:** Features like user registration, product search, shopping cart, payment gateway integration, order tracking, etc.
  + **Non-Functional Requirements:** Performance, scalability, security, usability, and reliability.

**3. Analyze Requirements**

* **Prioritize:** Classify requirements into must-haves, should-haves, could-haves, and won’t-haves (MoSCoW method).
* **Feasibility Study:** Assess the technical, operational, and economic feasibility of the requirements.
* **Risk Analysis:** Identify potential risks and their mitigation strategies.

**4. Document Requirements**

* **Requirement Specification:** Create detailed documents like Software Requirement Specifications (SRS) outlining all functional and non-functional requirements.
* **Use Cases:** Develop use case diagrams and descriptions to illustrate how users will interact with the system.

**5. Validate Requirements**

* **Review Sessions:** Conduct walkthroughs and reviews with stakeholders to ensure accuracy and completeness.
* **Prototyping:** Build prototypes to validate the look and feel, and usability of the system with stakeholders.

**6. Manage Requirements**

* **Traceability:** Maintain a traceability matrix to track the origin and status of each requirement.
* **Change Management:** Establish a process for handling changes to the requirements after the initial analysis.

**Deliverables**

* **SRS Document:** Comprehensive document detailing all requirements.
* **Use Case Diagrams:** Visual representations of user interactions.
* **Feasibility Report:** Analysis of feasibility and risks.
* **Prototype:** Initial mock-up of the website for validation purposes.

**Conclusion**

This systematic approach to requirement analysis ensures that the shopping website is built to meet user needs, adheres to constraints, and is delivered on time and within budget. Effective communication with stakeholders throughout the process is crucial for success