



BAHRIA UNIVERSITY (KARACHI CAMPUS)

Introduction To Software Engineering (SEN- 120)

Assignment 01

Spring 2023

Class: BSE 2B

Course Instructor: Engr. Mobeen Nazar

Assignment Date: 30 Mar 2023

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Shift: Morning

Due Date: 19 Apr 2023

Marks: 05 Points

Enrollment #: 02-131222-099

Question: Describe Transaction Processing System. Take any real-world example and describe the following attributes:

1. Components of each system [1 Mark]
2. Working of each component [2 Marks]

Solution:

Transaction Processing System:

A transaction processing system (TPS) is a software system that performs and tracks business transactions involving the collection, modification, and retrieval of data. A TPS can also support online transactions for e-commerce or other services. A TPS is characterized by performance, reliability, and consistency. A transaction is an indivisible task that is executed as and when it comes.

Let's take the example of a Point of Sale (POS) system:

Point of Sale System (POS)

A point-of-sale System (POS) is the hardware and software that businesses use to make transactions with customers, either in-store or online Point of Sale System (POS) is commonly used in retail businesses to process sales transactions. It can also refer to a retail location where transactions are typically completed A POS system can capture, store, share, and report data (such as sales, payment, or customer information) and provide features that can help business owners improve their operations, such as payment processing, e-commerce integration, inventory management, sales tracking, staff management, and customer contact collection. A POS system works by entering the items to purchase into the system, calculating the prices and taxes, and completing the transaction with the customer's payment method.

1. Components of a Point-of-Sale System (POS):

Point of Sale System have following components:

Hardware: This includes the physical components of the system such as the cash register, barcode scanner, receipt printer, customer display, and other peripherals.

Software: The software component of the POS system includes the point-of-sale software that runs on the hardware, which enables the system to process sales transactions, track inventory, and generate reports.

Database: The system may also have a database component that stores information such as product details, pricing, customer data, and transaction history.

Network: If the POS system is part of a larger network, it may require network components such as routers, switches, and cabling to enable communication between multiple POS terminals, and potentially with other systems such as inventory management or accounting systems.

People: The users of the POS system, such as cashiers, store managers, and system administrators, are an essential component of the system. They input sales transactions, manage inventory, and perform other tasks using the system.

2. Working of each Component:

Hardware: The hardware components of the POS system are used to input sales information (e.g., scanning barcodes, entering product quantities), calculate totals, and print receipts for customers. They are typically connected to the software component of the system and work together to process sales transactions efficiently.

Software: The software component of the POS system manages the sales process, including capturing sales data, calculating totals, applying discounts or promotions, processing payments (e.g., cash, credit card), and generating receipts. It may also integrate with other systems such as inventory management or accounting to update data in real-time.

Database: The database component of the POS system stores important information such as product details, pricing, customer data, and transaction history. It allows the system to quickly retrieve and update data during sales transactions and may also support other functionalities such as reporting and analysis.

Network: If the POS system is part of a larger network, the network components enable communication between multiple POS terminals, and potentially with other systems. This allows for centralized management, monitoring, and reporting of sales data and other related information.

People: The users of the POS system, such as cashiers, store managers, and system administrators, interact with the hardware and software components to input sales transactions, manage inventory, and perform other tasks. They ensure that the system is properly used and maintained, and that sales transactions are processed accurately and efficiently.

Overall, a Point of Sale (POS) system is a Transaction Processing System that combines hardware, software, database, network, and people components to enable the efficient processing of sales transactions in a retail business.