COMPONENT DIAGRAM & DEPLOYMENT DIAGRAM

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Component Diagram

- **Definition:**
  Shows how a system is divided into modular parts (components) and how these parts interact.
- **Notations:**
  - **Components:** Rectangles (often with a «component» icon) that represent modules (e.g., UI, business logic, database).
  - **Interfaces:** Small circles (lollipop notation) that show provided or required services.
  - **Dependencies:** Dashed arrows that indicate how components depend on one another.

ATM Component Diagram:

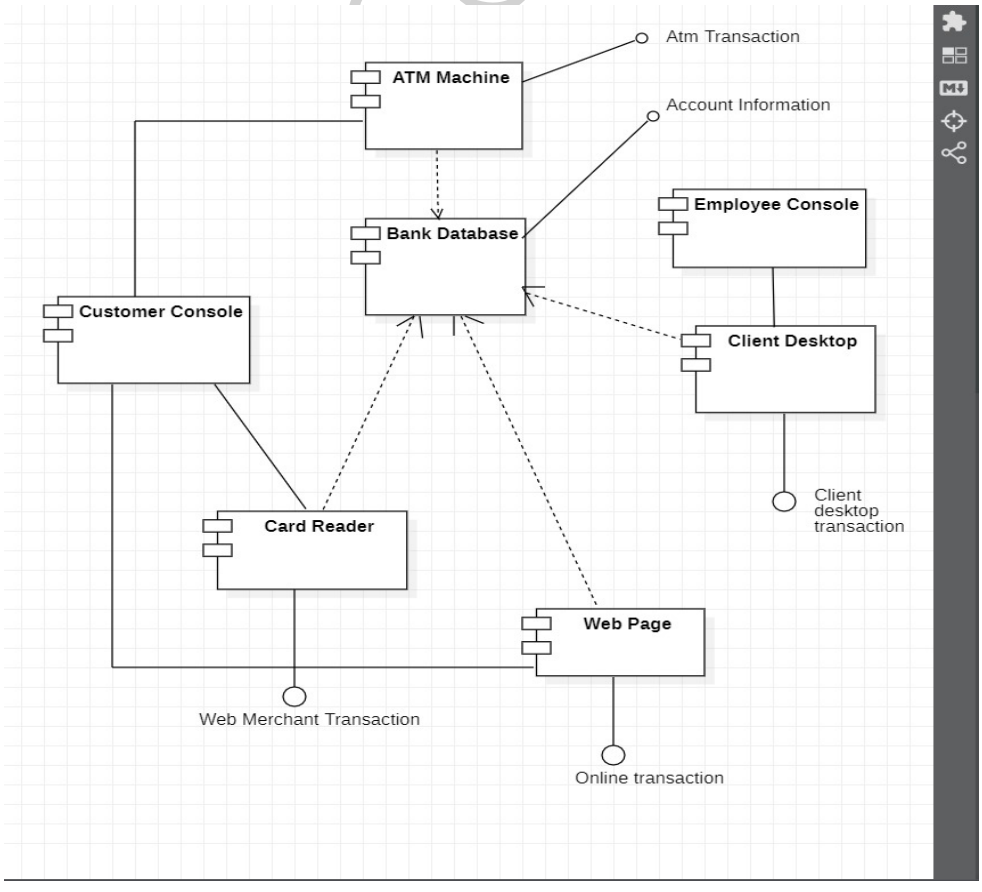

Diagram Overview

- A UML Component Diagram representing a banking/ATM system.
- Boxes with small tabs are components; lines indicate relationships/data flows.

Key Components

- **ATM Machine**: Handles withdrawals, deposits, and balance inquiries.
- **Bank Database**: Central repository for account information and transaction data.
- **Customer Console**: Interface for customers (could be an in-branch kiosk or portal).
- **Card Reader**: Reads card data for ATM or web-based transactions.
- **Web Page**: Supports online banking (transfers, bill payments).
- **Employee Console & Client Desktop**: Used by staff or specialized clients for desktop-based tasks.

Notable Interactions

- **ATM Machine ↔ Bank Database**: Processes ATM transactions, updates accounts.
- **Customer Console & Card Reader**: Authenticates user card details.
- **Web Page ↔ Bank Database**: Manages online transactions and account services.
- **Employee Console & Client Desktop ↔ Bank Database**: Handles administrative or specialized transactions.

Transactions

- **ATM Transaction**: Cash withdrawals, deposits, account checks.
- **Web Merchant Transaction**: Card-based payment processing through web.

- **Online Transaction**: Internet-based operations via the Web Page.
- **Client Desktop Transaction**: Specialized tool for staff/clients connecting to the database.

University Component Diagram:

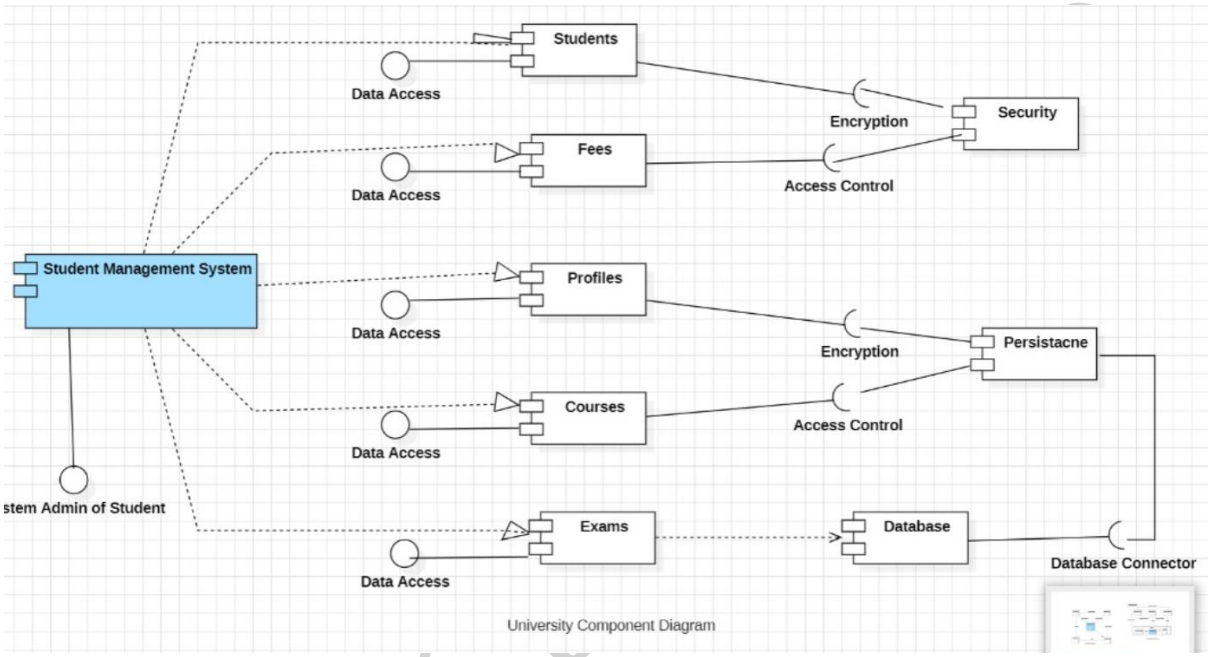

Diagram Overview

- A UML Component Diagram for a university's Student Management System.
- Boxes with small tabs represent modules; lines show data access or interactions.

Key Components

- **Student Management System**: Central module overseeing student-related functions.
- **Students**: Manages student records and personal information.
- **Fees**: Handles financial transactions and billing details.

- **Profiles**: Stores and manages user profiles (e.g., staff, faculty, students).
- **Courses**: Maintains course offerings, schedules, and enrollment data.
- **Exams**: Manages exam scheduling, grading, and results.
- **Database & Database Connector**: Stores and retrieves persistent data; acts as the back-end.

Notable Interactions

- **Data Access**: Each module (Students, Fees, Profiles, Courses, Exams) connects to the main system for reading/writing data.
- **Encryption & Security**: Certain modules (e.g., Courses, Profiles) apply encryption or access control to protect data.
- **Persistence**: The main system or modules communicate with the Database via a connector for storing information.
- **System Admin of Student**: May have direct administrative privileges for managing student data.

Deployment Diagram

- **What It Shows:**
  The image outlines the physical distribution of the university system's components.
- **Key Elements:**
  - **Nodes:** 3D boxes representing physical devices such as Web Servers, Application Servers, and Database Servers.
  - **Artifacts:** The deployed software components (like the student portal or course management application) shown as rectangles on the nodes.

- **Communication Paths:** Lines that indicate how the servers and devices connect and communicate over a network.

ATM Deployment Diagram:

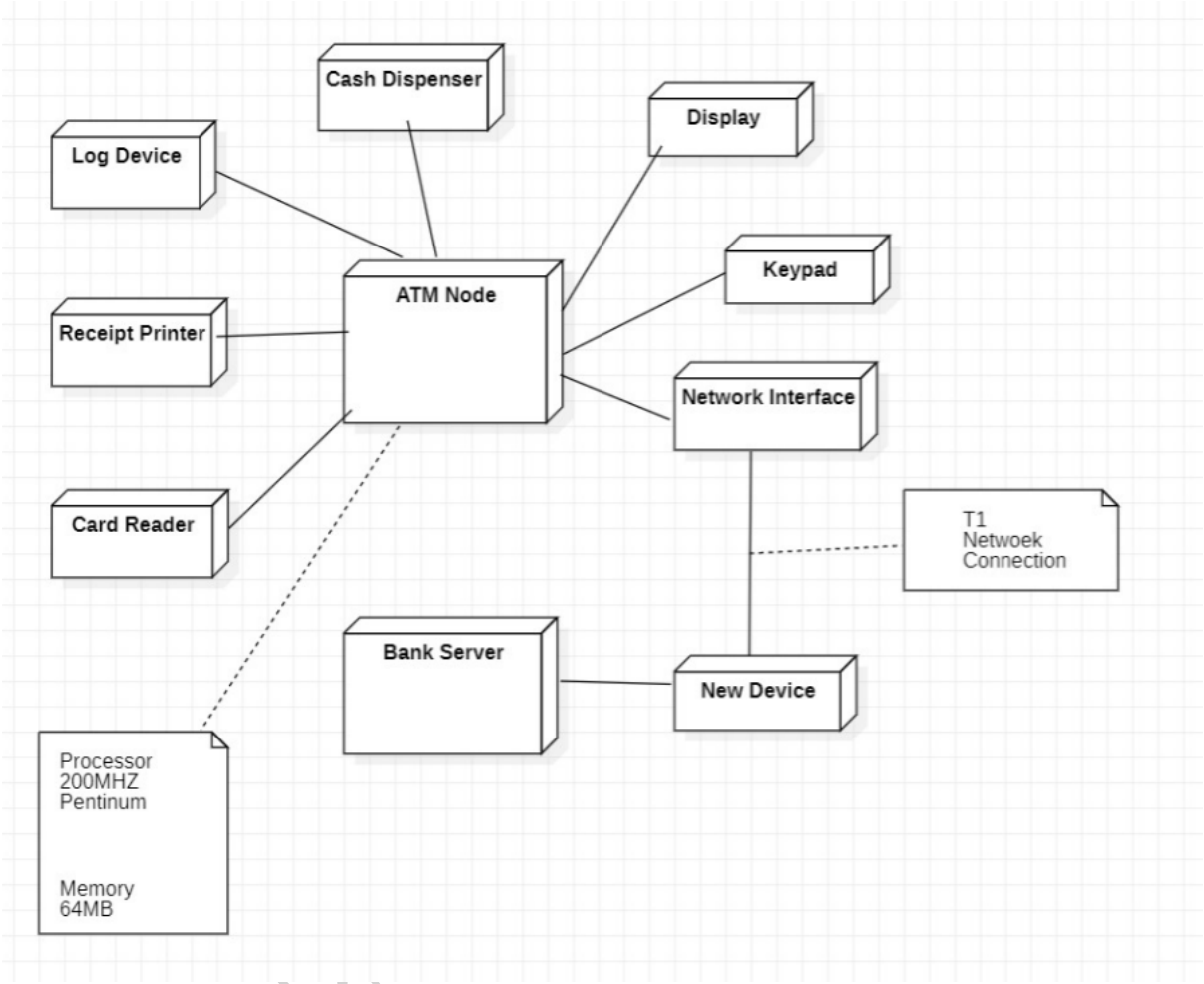

Diagram Overview

- A UML **Deployment Diagram** illustrating the physical setup of an ATM system.
- The central **ATM Node** is shown with various connected hardware components and network connections.

Key Hardware Components

- **ATM Node**: Main computer hardware running the ATM software.
  - Processor: 200 MHz Pentium
  - Memory: 64 MB

- **Cash Dispenser**: Dispenses cash to the user.
- **Display**: Screen showing prompts and transaction details.
- **Keypad**: Allows the user to enter PINs and amounts.
- **Card Reader**: Reads data from the user's ATM card.
- **Receipt Printer**: Prints transaction receipts.
- **Log Device**: Possibly tracks system logs or error events.
- **Network Interface**: Connects the ATM to external networks.
- **T1 Network Connection**: High-speed link to the bank's systems.
- **Bank Server**: Remote server handling transaction processing.
- **New Device**: An additional component (unspecified in detail).

Connections

- Each peripheral (cash dispenser, display, keypad, etc.) is attached to the **ATM Node**.
- The **Network Interface** on the ATM Node links to the **T1 Network Connection**, which connects to the **Bank Server** for transaction validation and account updates.

University Deployment Diagram:

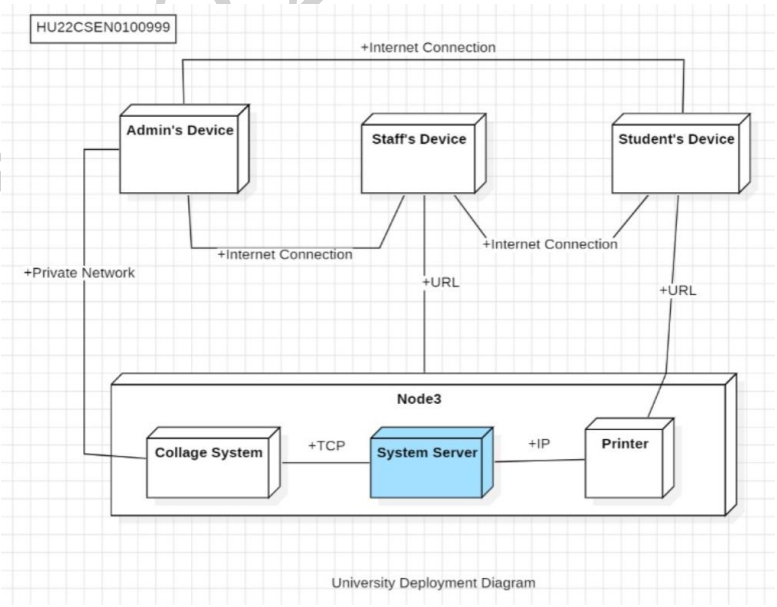

Diagram Overview

- A UML **Deployment Diagram** showing how the university's systems are physically set up.
- **Node3** hosts core applications, while different user devices connect via internet or private networks.

Key Hardware/Software

- **Admin's Device, Staff's Device, Student's Device**: Each user's machine, connected via the internet or a private network.
- **Node3**: A server node hosting:
    - **Collage System**: A university software application (possibly for course management).
    - **System Server**: The main server handling requests and data processing.
    - **Printer**: A network printer accessible to the system.

Connections

- **Internet Connection**: Allows remote access for Admin, Staff, and Students.
- **Private Network**: May be used for internal or more secure communication.
- **URLs, TCP/IP**: Protocols and addresses for data transfer between the server and user devices.