22MCA0139
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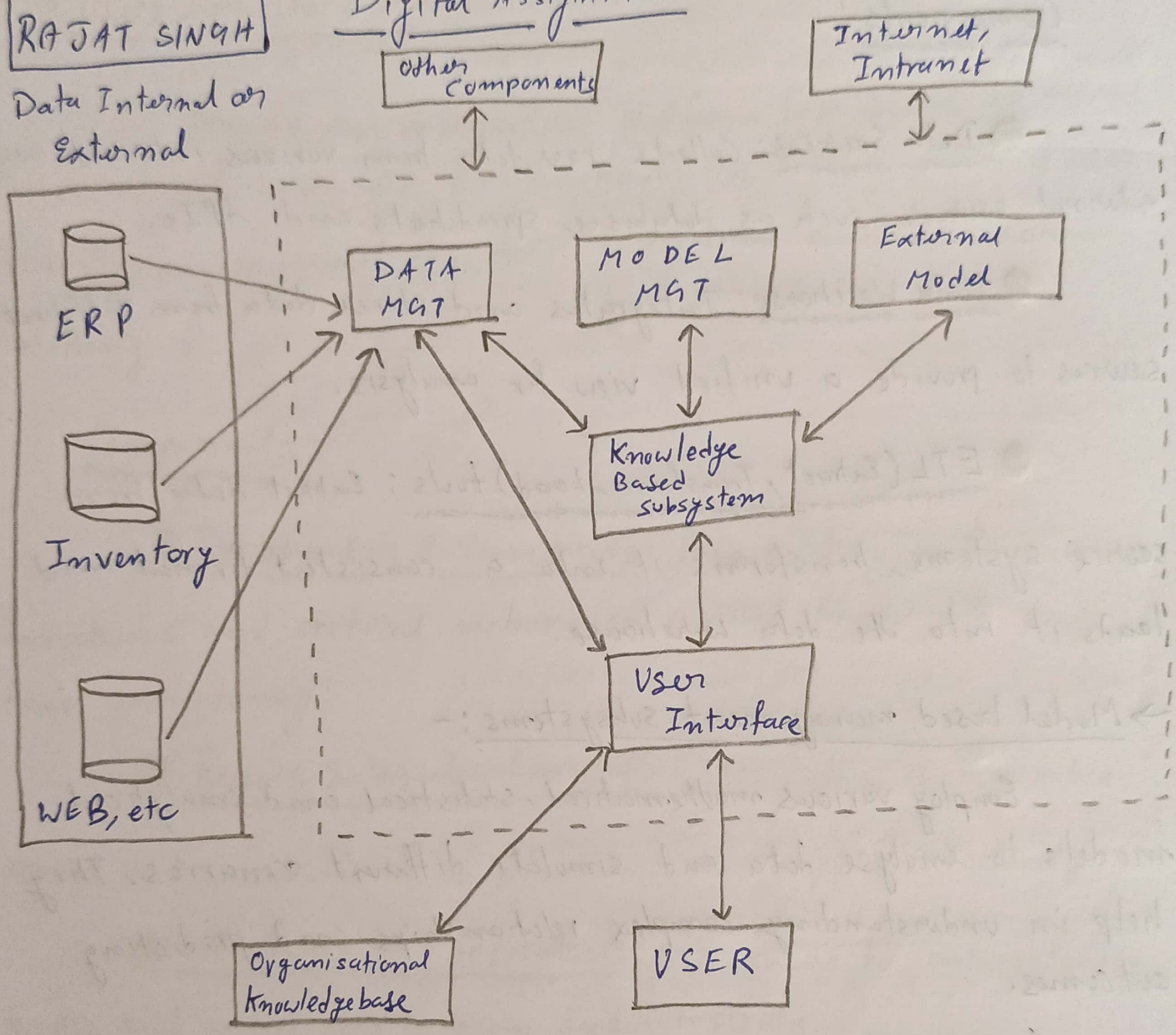
Digital Assignment

Data Internal or External



Highlevel Architecture Of Decision Support System

→ **Data Management Subsystems:-**

Responsible for Collecting, storing and processing data from various sources, including internal databases, external data feeds and data warehouses. They ensure data quality, consistency and accessibility for analysis.

Components:

- Data Sources: Collects raw data from various internal and external sources, such as databases, spreadsheets and APIs.
- Data Warehouse: Integrates and stores data from different sources to provide a unified view for analysis.
- ETL (Extract, Transform, Load) tools: Extract data from source systems, transforms it into a consistent format and loads it into the data warehouse.

→ Model based management subsystems :-

Employ various mathematical, statistical and analytical models to analyse data and simulate different scenarios. They help in understanding complex relationships and predicting outcomes.

Components:

- Decision models and algorithms: Utilises mathematical models, algorithms and simulation techniques to analyse data and make predictions.
- OLAP cubes: Enables multi-dimentional data analysis to quickly explore data from different perspectives.
- Predictive Analytics: Uses statistical and ML models to forecast trends and outcomes.

→ User Interface Subsystems:-

Provide an interactive platform for users to access and interact with the DSS functionalities. They offer a user friendly environment for data exploration and decision making.

Components:

- Dashboards & Scorecards: Presents key performance indications and critical metrics in a visual format for real time monitoring.
- Reports & Visualisation Tools: Generates customisable reports and visualisations to communicate insights effectively.
- Data Query and Exploration: Allows users to interactively query and explore data to gain deeper insights.

→ Knowledge based management subsystems:-

Utilises domain knowledge and expertise to provide context specific recommendations and support intelligent decision making.

Components:

- Expert Systems: Incorporates domain knowledge and rules to provide advice and recommendations based on specific scenarios.
- case based reasoning: Uses historical data and past experiences to suggest solutions for similar problems.

- Knowledge base: stores and manages organisational knowledge, best practices and expert opinions.

→ Organisational Knowledge base:-

A central repository that stores the accumulated knowledge, best practices and lessons learned by the organisation. It serves as a valuable resource for decision makers.

Components

- Best Practices: Documents proven approaches and successful strategies for various business processes.
- Lessons Learnt: Captures insights & experiences from past projects and decisions for future reference.

Organisational policies: Contains guidelines, regulations and policies that guide decision making within the organisation.