Lesson29

Databases. Data models
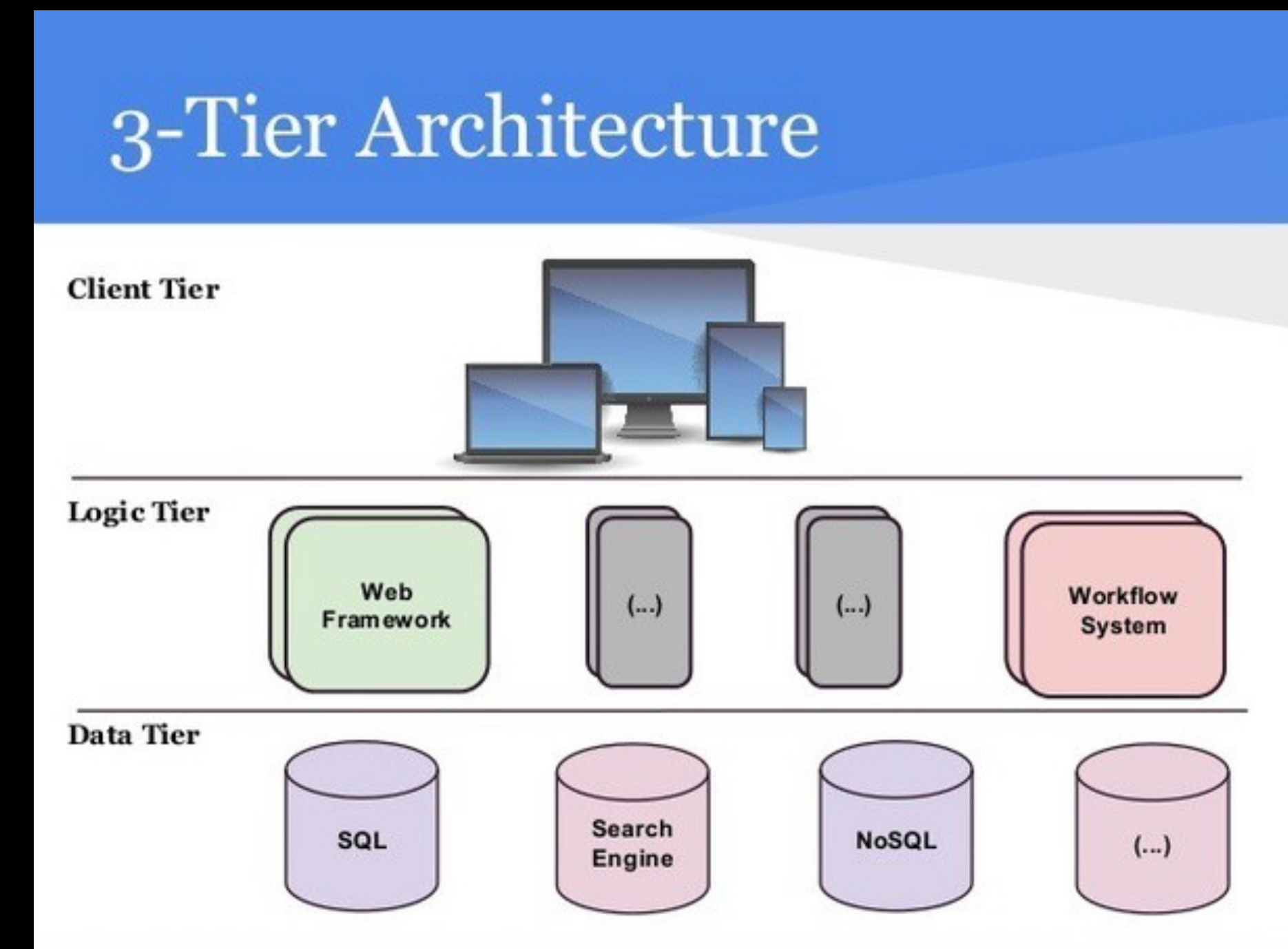
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Web application architecture
Classic 3-Tier Architecture

- Client - Represented by Web browser/mobile phone app - (HTML, CSS, Javascript)

- Logic - Represented by (web)Server with any server language (php, nodejs, python, java, c#)

- Data - Represented by Database itself, Database Engine and Database Managements tool /s (MySQL, (InnoDB,MyISAM), HeidiSQL)
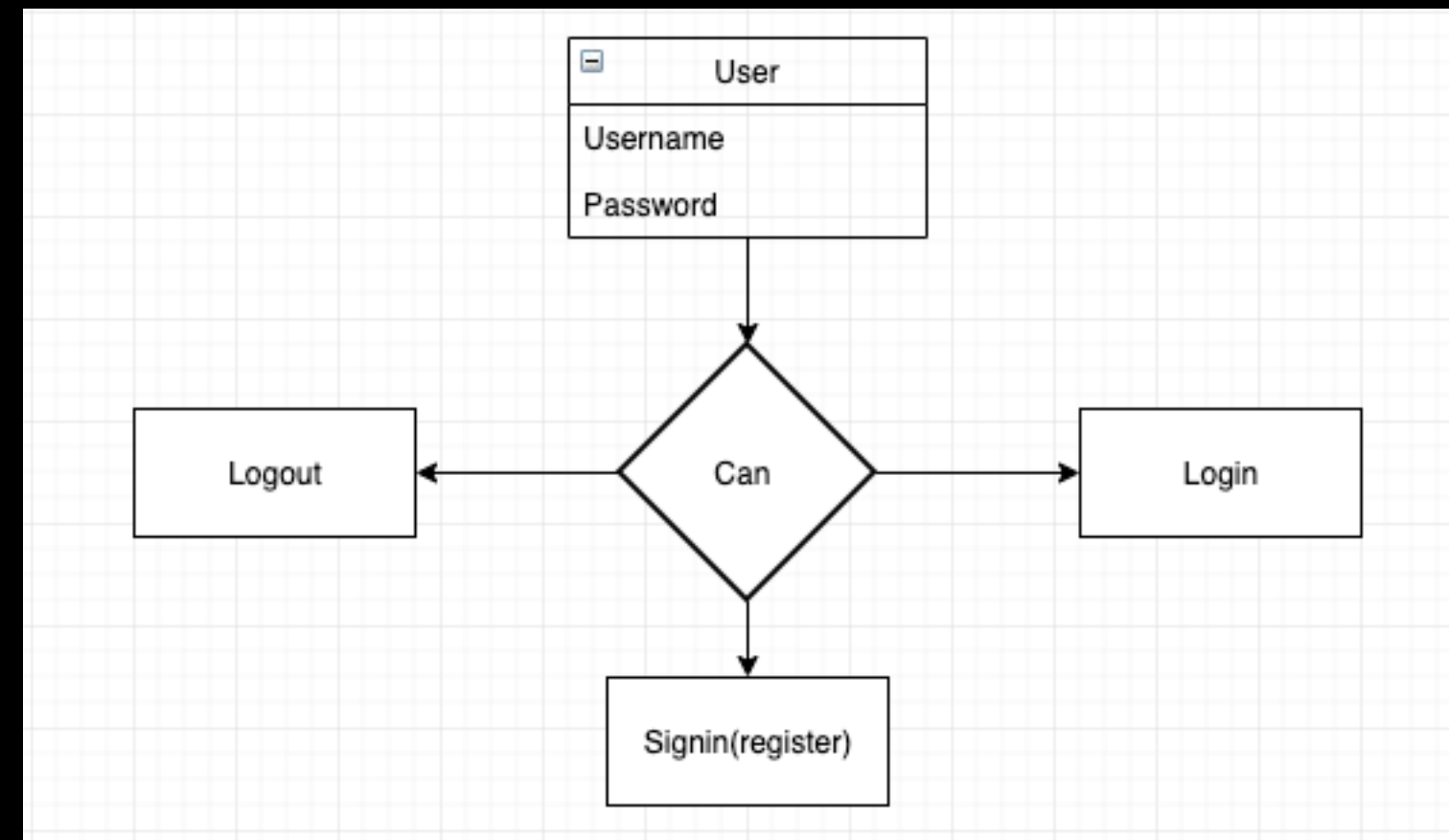
Identifying data for your application
Software Engineering Mindset

- We need to ask yourself - what data we need for this application, module, part of program?

- Different application parts need different data

- Some times data from different application parts is connected

- We need to think how data is connected and related to each other

Authentication
Example

- Sign up

- Login

- Log out

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Movie database modeling example
Modeling data

- Movie name

- Movie details (Country, Language, Release date etc)

- Movie pictures

- Movie scenes (short videos)

- Movie actors

- Movie makers

- Technical Specs

Data models
DM describe business entities and relationships

- Entities - object or concepts we want to track data about - they become the tables in database. For example: Products, Vendors and Customers are all potential entities in a data model

- Attributes - entities have attributes which are details we want to track about entities - you can think of attributes as the columns in the a table

Products	Vendors	Customers
ProductID	VendorID	CustomerID
VendorID	VendorName	FirstName
ProductName		LastName
UPC		PhoneNumber
Size		Email
Color		