



Kirirom Institute of Technology

Lecturer: Vignesh Manoharan

ERD and DFD

Ly Sreypov

Register Number: 1101901091

Batch 8, Section C

Software Engineering

14th March, 2021

1. What is the ER diagram and its purpose?

ER diagram is graphical that represents the designation of the entire database. It is used to design the database and show how each entity related to each other.

2. In which phase it is used in software engineering?

ER diagram is used in a design phase in Software Engineering.

3. Define the different components used in the ER diagram (Entity, Relationship, Cardinality etc).

- Entity : A rectangle which represents a real world object, in a database it could be a person, a place, a thing about the data that can be stored.
 - 1) Strong entity : A simple rectangle which exists on its own and does not depend on another entity.
 - 2) Weak entity : A dash rectangle that depends on another entity.
- Relationship : Shape in diamond that shows the relevance between entities.
- Attribute : Shown in oval, it is the piece of information or properties of the entity.
 - 1) Simple attribute : indicate the attributes which can not further subdivided.
 - 2) Derived attribute : shown in the dash oval which is calculated or derived from another attribute.
 - 3) Multi-valued attribute : is an attribute that can have more than one value associated with the entity.
- Cardinality : cardinality symbols have different forms and styles. The main types are Bachman, Crow's Foot and Barker. It defines the possible number of occurrences in one entity which is associated with the number of occurrences in another.

4. What is the Data Flow diagram and its purpose?

Data Flow diagram is a graphical representation of the flow of data existing in the system. It is used in step by step to show the overview of the process that can be later elaborated.

5. In which phase it is used in software engineering?

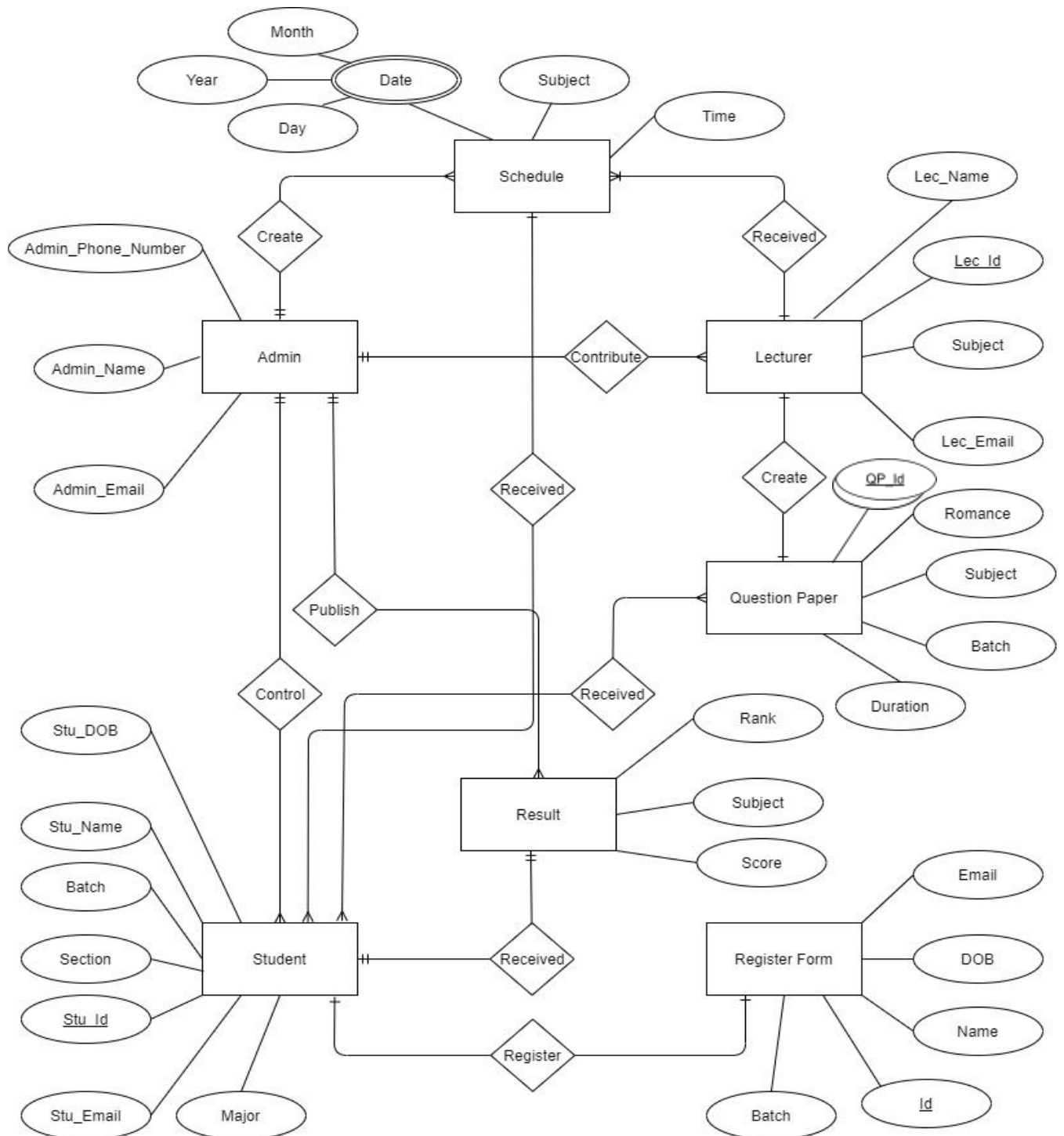
Data Flow is used in a defining requirement phase in Software Engineering.

6. Define the different components used in the DFD (External entities, Process, Data sources, Flow, etc).

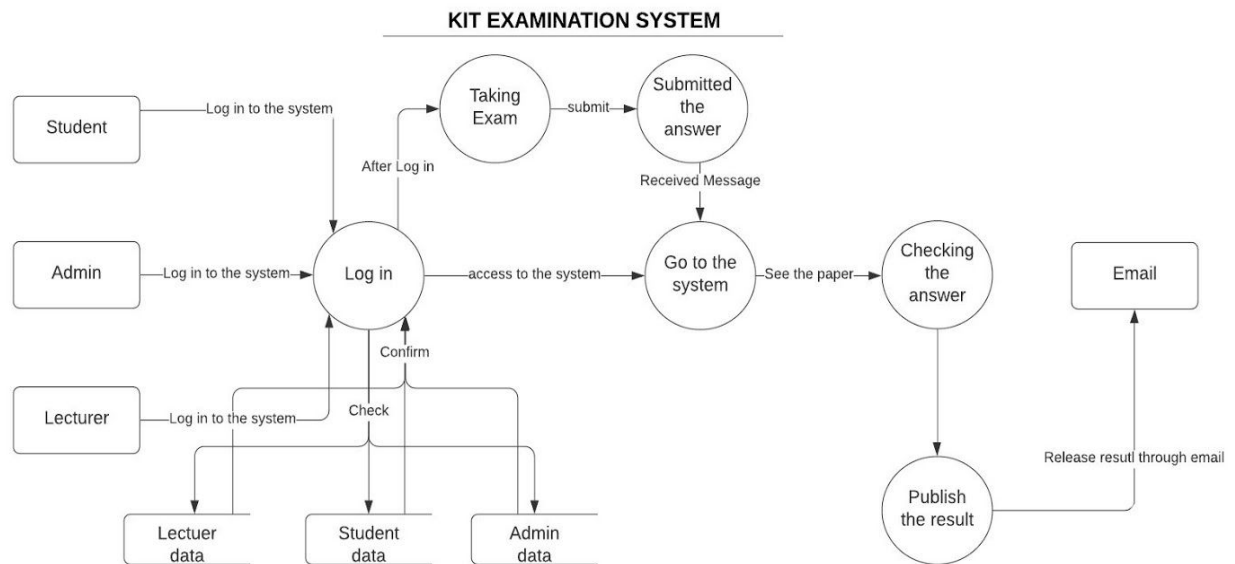
- External entities are represented by rectangles as the source or destination of data.
- Processes are represented by circles which get data as inputs and convert into output.
- Data Flows are referred to by arrows to denote the physical or electronic flow of data.
- Data Stores are physical or electronic-like XML files denoted by open-ended rectangles.

Draw the ER and DFD Diagram for the following cases:

1. KIT examination system (The same we have used for BPMN)
 - ER diagram

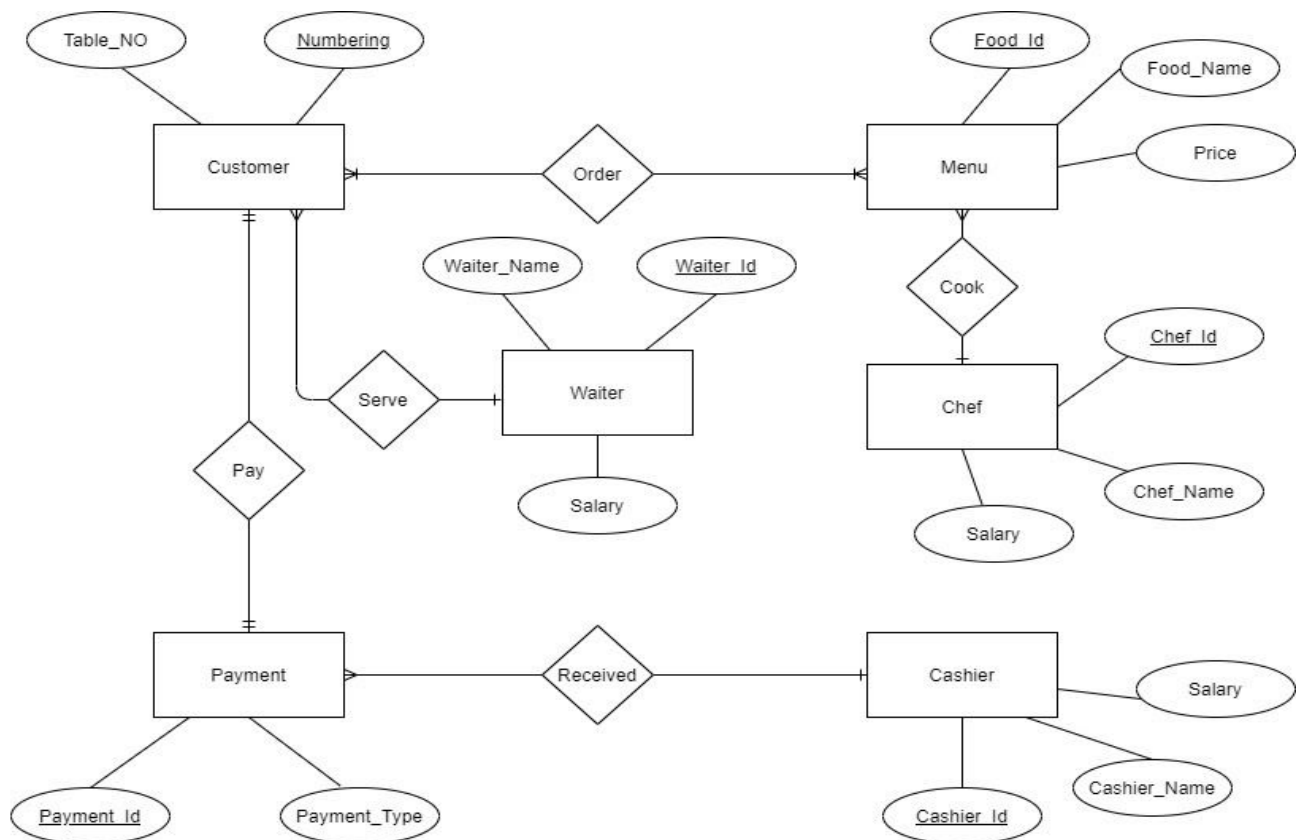


- DF diagram



2. Buying food from container cafe

- ER Diagram



- DF diagram

Buy Food from Container Cafe

