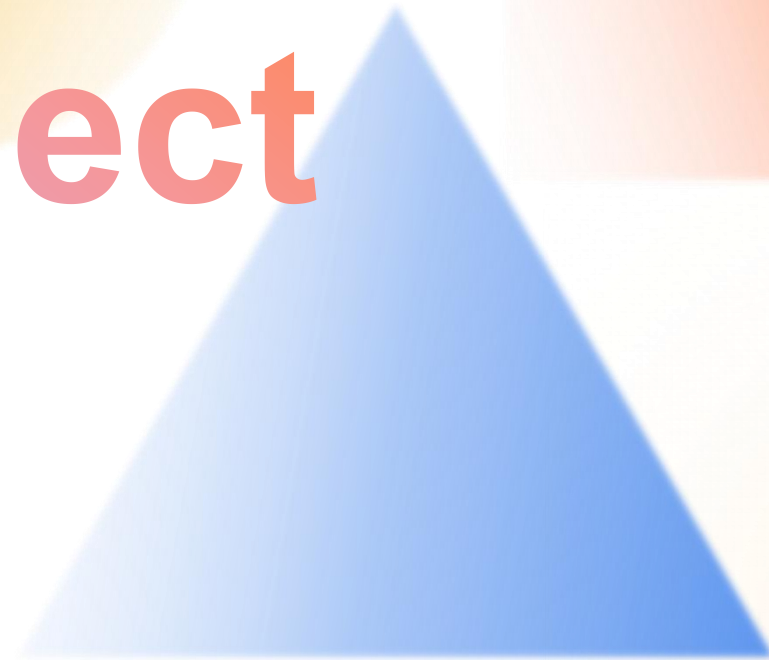


# Group Project



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01

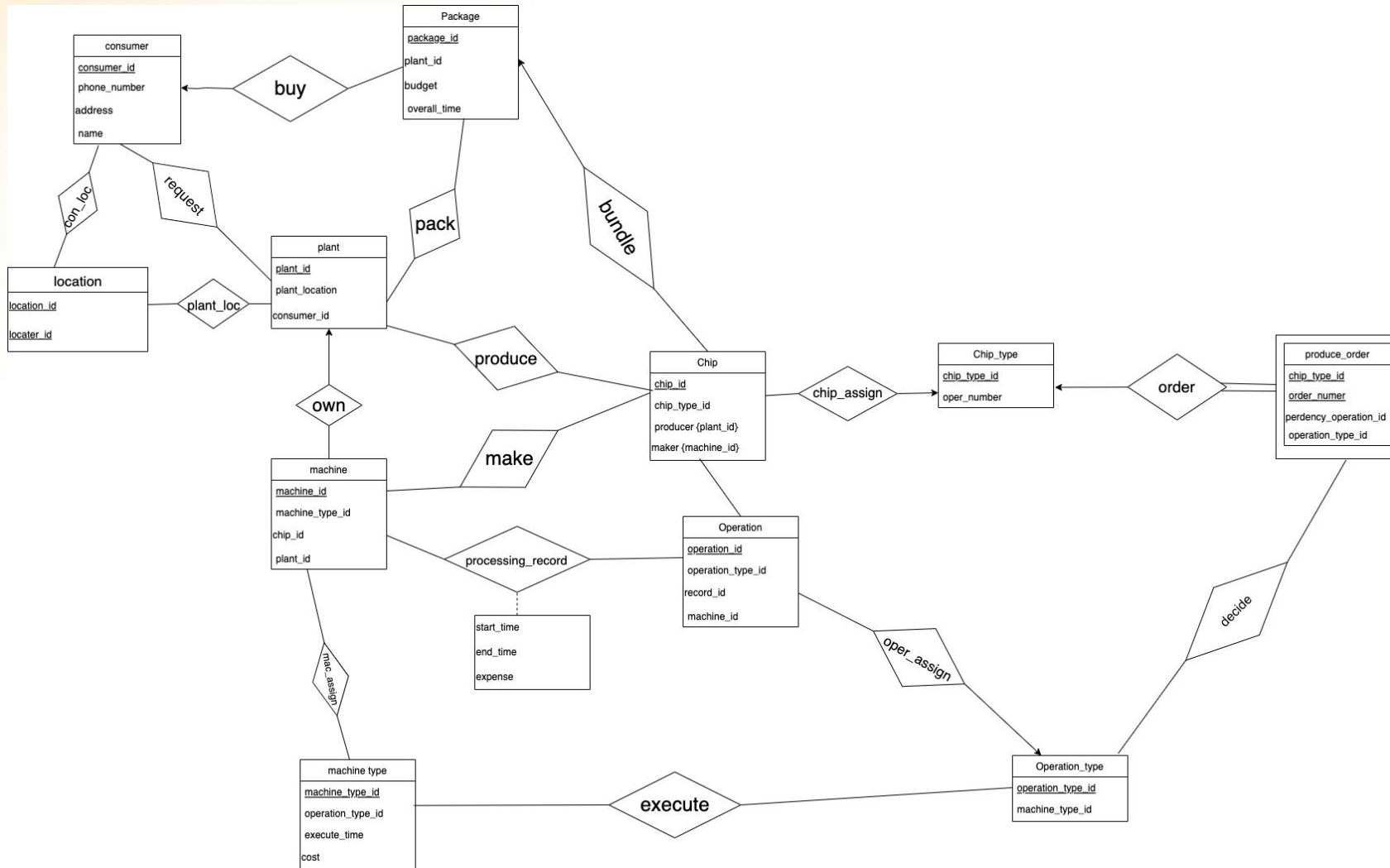
**E-R diagram**



“

”

# E-R diagram



Consumer

Package

Plant

Machine Type

Machine

Chip Type

Chip

Operation Type

Operation

Processing Record

# Relational Schema

Consumer (consumer\_id, supplier{plant\_id}, phone\_number, address, name)

Package (package\_id, consumer\_id, budget, overall\_time)

Plant (plant\_id, location\_id)

Machine (machine\_id, machine\_type\_id, plant\_id)

Machine\_type (machine\_type\_id, operation\_type\_id, execute\_time, cost, feasibility)

Chip (chip\_id, chip\_type\_id, producers{plant\_id}, makers{machine\_id}, package\_id)

Chip\_type (chip\_type\_id, produce\_process{operation\_type\_id},  
precedency{operation\_type\_id}, operation\_num)

Operation (operation\_id, operation\_type\_id)

Processing\_record (machine\_id, operation\_id, start\_time, end\_time, expense)


Operation\_type (operation\_type\_id)

Location (location\_id, .....)

Produce\_order (order\_number, perdency\_operation\_id, operation\_type\_id)



```
-- -----  
-- Create entity `plant` here  
-- -----  
create table plant(  
    PLANT_ID int,  
    LOCATION_ID varchar(30),  
  
    primary key(PLANT_ID),  
    foreign key(LOCATION_ID) references locations(LOCATION_ID)  
);  
  
-- -----  
-- Create entity `consumer` here  
-- -----  
create table consumer(  
    CONSUMER_ID INT NOT NULL AUTO_INCREMENT,  
    PHONENUM varchar(30) not null,  
    USERNAME varchar(30) not null,  
    LOCATION varchar(30),  
    primary key(CONSUMER_ID)  
);
```



02

## Functionalities



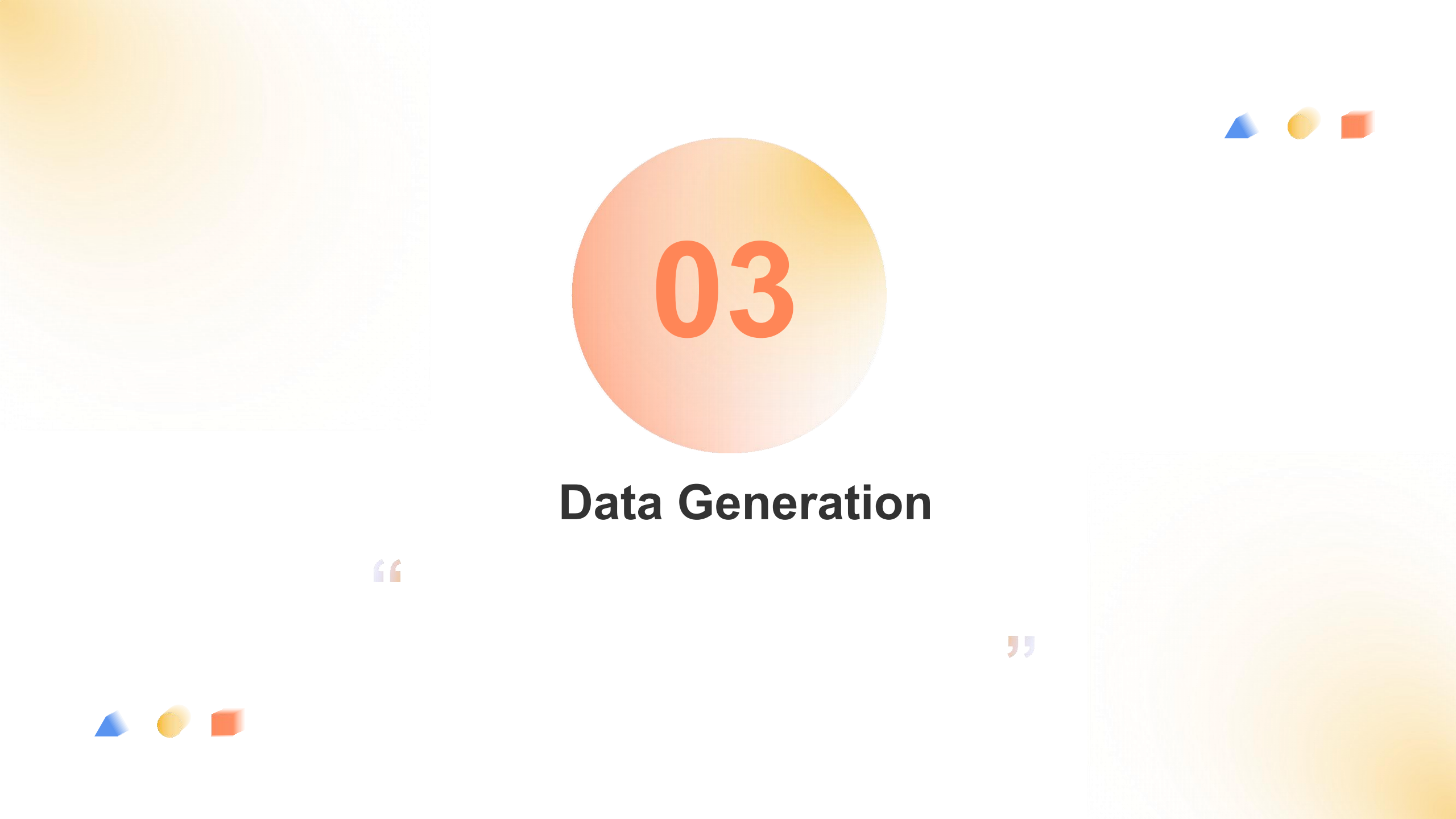


# Functionalities

## Geometrical Constraint

```
create table locations(  
  LOCATION_ID varchar(30),  
  LOCATION_X numeric(7,2),  
  LOCATION_Y numeric(7,2),  
  
  primary key(LOCATION_ID)  
);
```

Here we add the concept of location. The consumer and plants have the info of (one) location, and those deal for a consumer and a plant that are too far away from each other can not be made.



03

## Data Generation



“

”



# Data Generation

Insert random data

```
INSERT INTO locations (LOCATION_ID, LOCATION_X,  
LOCATION_Y) VALUES  
('AAA', 5, 5),  
('BBB', 15, 5),  
('CCC', 5, 15),  
('DDD', 15, 15),  
('EEE', 8, 2),  
('FFF', 12, 2),  
('GGG', 8, 18),  
('HHH', 12, 18),  
('III', 3, 10),  
('JJJ', 17, 10);
```



04

## Web Application

“



”

# Web Application

## Register

Consumer name

Phone number

Address

Chip Type: A1

Company

Number

Chip Type: B2

Company

Number

Chip Type: C3

Company

Number

- Register the package information that is released by some consumer
- Allow the consumer to appoint some plant for some package manually

Thanks