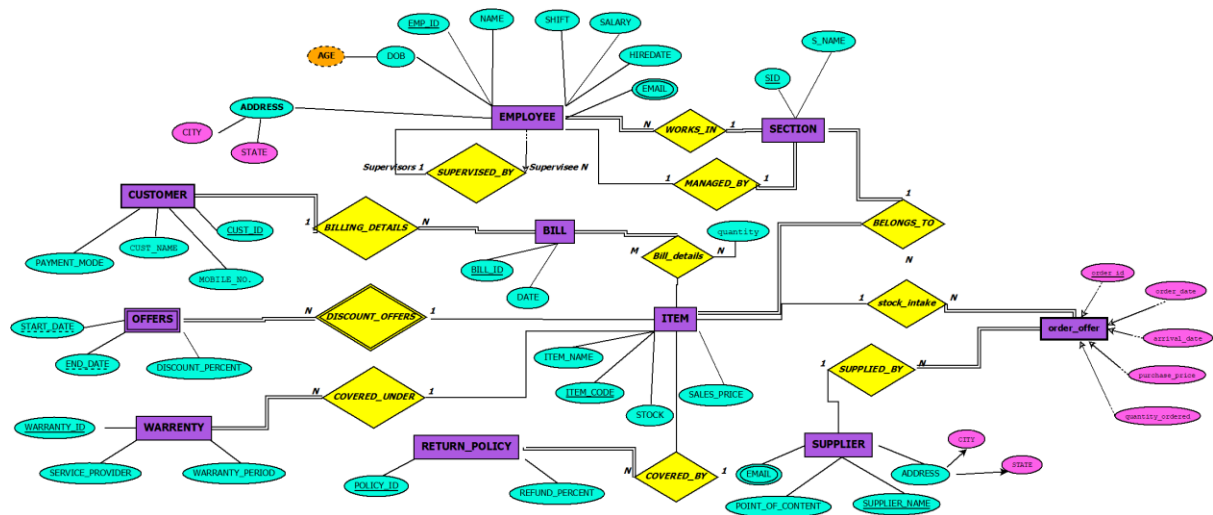


# SHOPPING MANIA DATABASE-T501

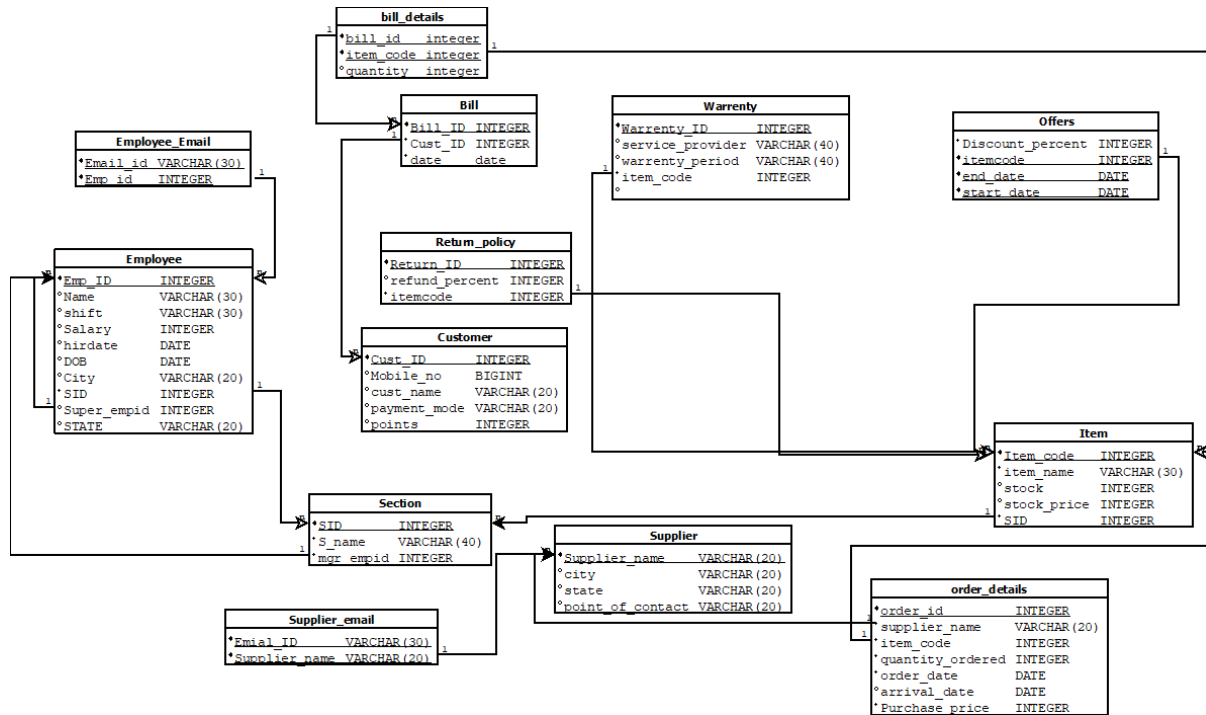
## Members:

- Stuti Pandya – 202201439
- Isha Bhanushali – 202201429
- Archi Jariwala – 202201450
- Jahnvi Patel– 202201408
- Smruti Parmar-202201008

## ER-DIAGRAM



## RELATION-SCHEMA



# NORMALIZATION PROOF

## RELATION:- EMPLOYEE

**KEY:** Emp\_id

**Minimal FD set:**

Emp\_ID  $\rightarrow$  name  
Emp\_ID  $\rightarrow$  shift  
Emp\_ID  $\rightarrow$  salary  
Emp\_ID  $\rightarrow$  hir\_date  
Emp\_ID  $\rightarrow$  DOB  
Emp\_ID  $\rightarrow$  City  
Emp\_ID  $\rightarrow$  State  
Emp\_ID  $\rightarrow$  SID  
Emp\_ID  $\rightarrow$  super\_empid

$\rightarrow$  In every FD set of the relation, {Emp\_ID} is a super key. Therefore, the EMPLOYEE Relation is in BCNF.

## RELATION:- EMP\_EMAIL

**KEY:**{Email\_id,Emp\_id}

$\rightarrow$  There is no FDs. {Emp\_ID,Email\_id} is a key. Therefore, the EMP\_Email Relation is in BCNF.

## RELATION:- SECTION

**KEY:**{SID}

**Minimal FD set:**

SID  $\rightarrow$  sname  
SID  $\rightarrow$  mgr\_empid

$\rightarrow$  In every FD set of the relation, {SID} is a super key. Therefore, the SECTION Relation is in BCNF.

## RELATION:- BILL

**KEY:** Bill\_id

**Minimal FD set:**

Bill\_ID  $\rightarrow$  Date  
Bill\_ID  $\rightarrow$  Cust\_ID

$\rightarrow$  In every FD set of the relation, {Bill\_ID} is a super key. Therefore, the BILL relation is in BCNF.

## RELATION:- CUSTOMER

**KEY:** Cust\_ID

**Minimal FD set:**

Cust\_ID  $\rightarrow$  mobile\_no  
Cust\_ID  $\rightarrow$  Cust\_name  
Cust\_ID  $\rightarrow$  payment\_mode

$\rightarrow$  In every FD set of the relation, {Cust\_ID} is a super key. Therefore, the CUSTOMER Relation is in BCNF.

## RELATION:- WARRANTY

**KEY:** warranty\_ID

**Minimal FD set:**

warranty\_ID  $\rightarrow$  service\_provider  
warranty\_ID  $\rightarrow$  warranty\_period  
warranty\_ID  $\rightarrow$  item\_code

$\rightarrow$  In every FD set of the relation, {Warranty\_ID} is a super key. Therefore, the WARRANTY relation is in BCNF.

## RELATION:- RETURN\_POLICY

**KEY:** Return\_id

**Minimal FD set:**

Return\_ID  $\rightarrow$  refund\_percent  
Return\_ID  $\rightarrow$  item\_code

$\rightarrow$  In every FD set of the relation, {Return\_ID} is a super key. Therefore, the Return\_policy relation is in BCNF.

## RELATION:- OFFERS

**KEY:** {start\_date,end\_date,item\_code}

**Minimal FD set:**

{start\_date,end\_date,item\_code}  $\rightarrow$  Discount\_percent

$\rightarrow$  In every FD set of the relation, {start\_date,end\_date,item\_code} is a super key. Therefore, the OFFERS relation is in BCNF.

## RELATION:- ITEM

**KEY:** Item\_id

**Minimal FD set:**

Item\_code  $\rightarrow$  item\_name  
Item\_code  $\rightarrow$  stock  
Item\_code  $\rightarrow$  selling\_price  
Item\_code  $\rightarrow$  purchase\_price  
Item\_code  $\rightarrow$  SID

$\rightarrow$ In every FD set of the relation, {Item\_code} is a super key. Therefore, the ITEM relation is in BCNF.

## RELATION:- SUPPLIER

**KEY:** supplier\_name

**Minimal FD set:**

supplier\_name  $\rightarrow$  city  
supplier\_name  $\rightarrow$  state  
supplier\_name  $\rightarrow$  point\_of\_contact

$\rightarrow$ In every FD set of the relation, {Supplier\_Name} is a super key. Therefore, the Supplier relation is in BCNF.

## RELATION:- ORDER\_DETAILS

**KEY:** order\_id

**Minimal FD set:**

Order\_id  $\rightarrow$  supplier\_name  
Order\_id  $\rightarrow$  item\_code  
Order\_id  $\rightarrow$  quantity\_ordered  
Order\_id  $\rightarrow$  order\_date  
Order\_id  $\rightarrow$  arrival\_date  
Order\_id  $\rightarrow$  purchase\_price

$\rightarrow$ In every FD set of the relation, {Order\_id} is a super key. Therefore, the ORDRE\_DETAILS relation is in BCNF.

## RELATION:- Bill\_details

**KEY:** {Bill\_id,Item\_code}

**Minimal FD set:**

{Bill\_id,Item\_code}  $\rightarrow$  quantity

$\rightarrow$ In every FD set of the relation,{Bill\_id,Item\_code} is a super key. Therefore, the Bill\_details is in BCNF.

## **RELATION:- SUPPLIER\_EMAIL**

**KEY:**{Email\_id,Supplier\_name}

→ There are no FDs. {Supplier\_name,Email\_id} is a key. Therefore, the SUPPLIER\_EMAIL Relation is in BCNF.