CPE 366
Team: Pinky and the Brain
Andrew Guenther
Halli Meth
Mitchell Rosen
Haikal Saliba

Lab 3

Lab 2 Revision:

Entity Sets _*discriminator*_

1. **Fulfiller**
   - Fulfiller Id
2. **Locations** is weak,owner is Fulfiller
   - _*External Fulfiller Location Id*_
   - Name
   - Type
   - Latitude
   - Longitude
   - Status
   - Default Safety Stock
3. **Bins** is weak, owner is Location
   - _*Name*_
4. **Fulfiller Specific Products** is weak, owner is Fulfiller
   - _*SKU*_
5. **Products**
   - UPC
6. **Manufacturer**
   - Id
7. **Catalog** is weak, owner is Manufacturer
   - _*Id*_

Relationship Sets

1. Fulfillers **own** Locations
2. Fulfillers **sell** Fullfiller-specific Products
3. Locations **hold** Fullfiller-specific Products
   - LTD
   - Safety Stock
   - *quantity available is calculated as an aggregate of all bins*
4. Locations **house** Bins
5. Bins **store** Fullfiller-specific Products
   - onHand
   - numAllocated
   - *available per bin = onHand - numAllocated*
6. Products **are** Fullfiller-specific Products
7. Products **are listed** in Catalogs
8. Manufacturers **have one or more** catalogs
9. Fulfillers **fulfill for** Catalogs

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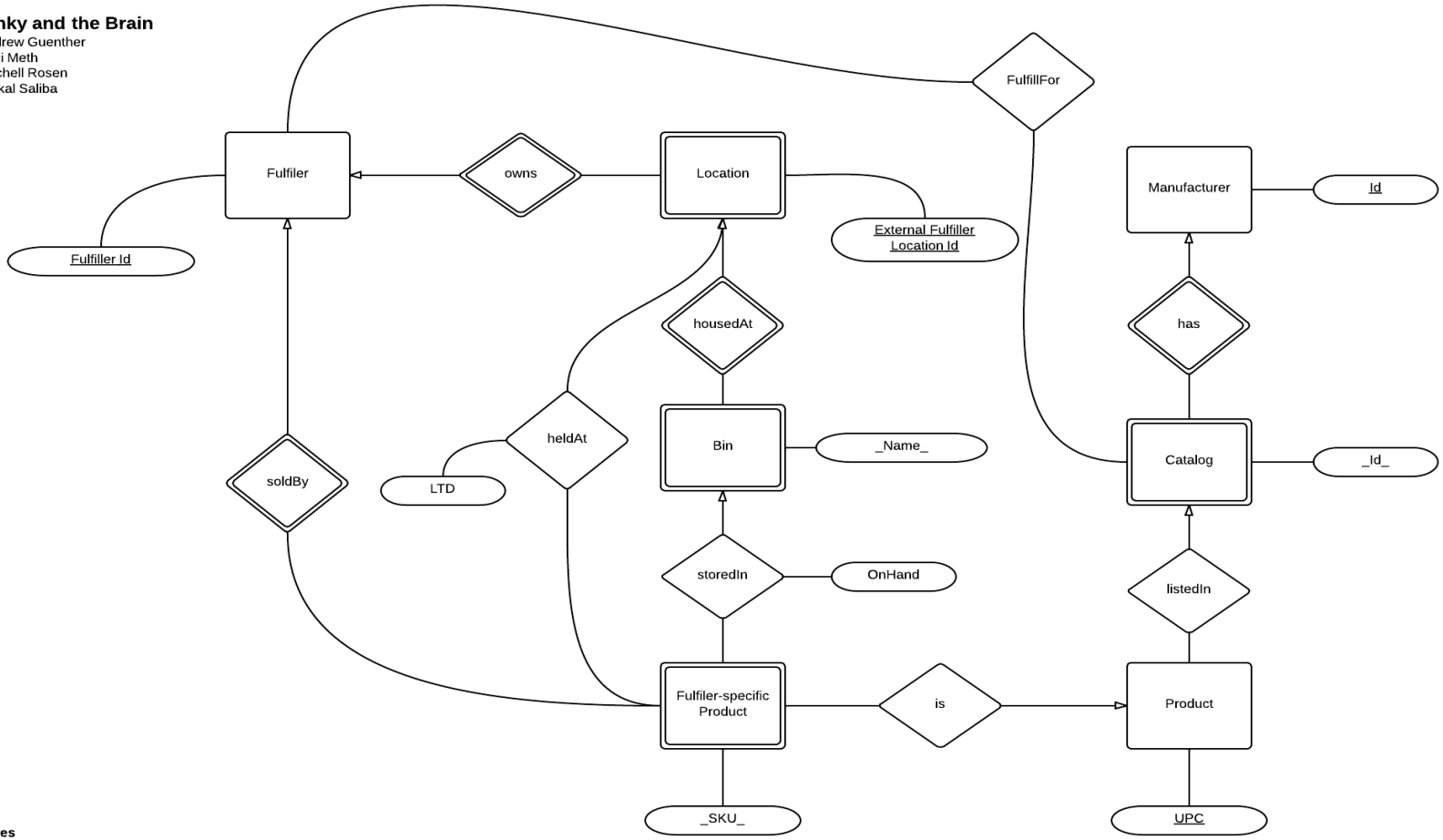

E-R Diagram

Notes

Stock information can be aggregated to achieve inventory totals for each product

<name> is a discriminator

→ referential integrity constraint

Lab 3 Documents

Database Constraints:

- onHand >= numAllocated

Relational Tables:

```
Fulfiller
id STRING PRIMARY KEY

Product
UPC VARCHAR2(12) PRIMARY KEY

Manufacturer
Id STRING PRIMARY KEY

Location
ext_ful_location STRING PRIMARY KEY
fulfiller_id STRING FOREIGN KEY REFERENCES Fulfiller(id)
name STRING
type ENUM("warehouse", "storefront")
latitude DECIMAL
longitude DECIMAL
status ENUM("Active, InActive")
default_safety_stock INT

Bins
name STRING PRIMARY KEY
ext_ful_location STRING FOREIGN KEY REFERENCES Location(ext_ful_location)

Fulfiller Specific Product
SKU STRING PRIMARY KEY
fulfiller_id STRING FOREIGN KEY REFERENCES Fulfiller(id)

Catalog
Id STRING PRIMARY KEY
manufacturer_id STRING FOREIGN KEY REFERENCES Manufacturer(id)
```

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