

Smart Refrigerator Database System

CSI 2132 B

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Step 3

Group 4 – B01

Team members (Name, ID):

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Team member contribution

Member	Tasks
Ife Agiri	<ul style="list-style-type: none">• ER diagram• Relational schema• Bonus: Normalization
Atai Akunov	<ul style="list-style-type: none">• Implementation/description of Triggers/Assertions• UI implementation: Admin
NamChi Nguyen	<ul style="list-style-type: none">• SQL scripts<ul style="list-style-type: none">◦ smart_fridge_system.sql, populate_tables.sql, queries.sql• UI implementation: Login, Chef & User
Lilian Zaky	<ul style="list-style-type: none">• ER diagram• Relational schema• Bonus: Normalization

Changes/updates made since Step 2:

- Changed the PKs of Ingredient, Meals, Orders & Users to an integer (made a sequence to auto-increment)
- Combined the tables Chef, User & Admin into a table called Users
- Included more attributes for Users (eg. username, password) but didn't have time to implement in the UI design.
- Removed the entity Refrigerator and Report

1) ER diagram (see ER-diagram.pdf)

Relational schema (see Relational-schema.pdf)

2) Implementation of UI (see Step3_chef_user, Step3_admin & Screenshots folders)

Source code for Chef/User/Admin (.java files) in Step3_chef_user, Step3_admin
WebContent -> Web pages (.jsp files)
Executable -> smart_fridge_system.WAR file

3) Queries (see queries.sql file)

Includes Postgresql and Eclipse queries

4) Triggers & assertions (see Triggers folder for additional info)

Trigger: Once a food product is expired, the trigger would provide the product's id to an admin.

```
CREATE TRIGGER past_expiration_date
  BEFORE UPDATE ON food
  FOR EACH ROW
  WHEN (NOW()>Ingredient.Threshold)
  INFORM_administrator();
```

Assertion: I want to ensure a chef is not allowed to place orders that would exceed a monthly budget or refrigerator volume constraints (Assumption: monthly_budget and refrigerator_volume_size are defined constants)

```
CREATE ASSERTION Chef_Over_Order
  CHECK(order.price<=monthly_budget OR
  order.space_requirement<=refrigerator_volume_size);
```

ADDITIONAL triggers in Triggers folder to access sql files and description.txt.

5) Bonus: Normalization

See 1NF.pdf & 2NF.pdf