

Ashley Fong Report

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Revised Problem Statement

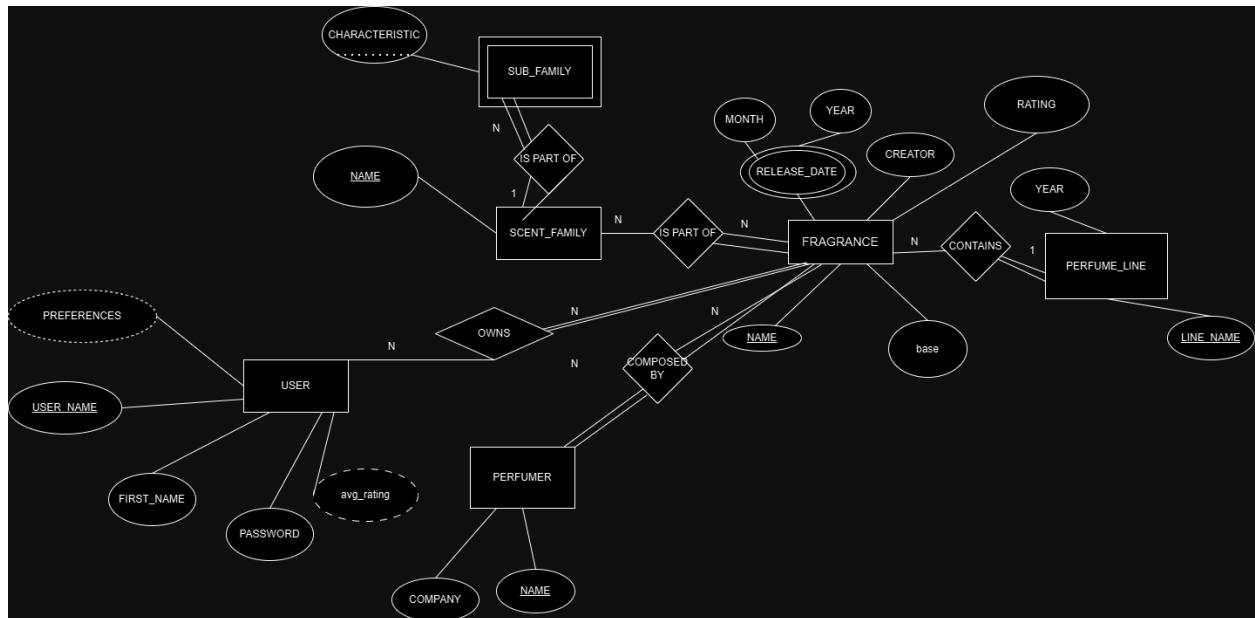
Instructions

User Manual

Revised Problem Statement:

My plan for this project is to make a database for managing and cataloging perfumes. With this project, I intend to accomplish allowing fragrances that an individual owns to be added and modified in a user's library based on the following attributes: type, name, perfumer, notes, family, pyramid, and ingredients. With this information, users will be able to sort, filter, and search for perfumes using the added traits. The perfumer can also be found within this database. Additionally, with a list of perfumes, individuals can add their thoughts on the perfume, including if they enjoyed it or did not enjoy it. Using a database system would be beneficial for this application as it can help users make better informed decisions when purchasing perfumes, especially through the internet, by comparing the details to scents they have enjoyed in the past. A web application would be best suited for this project to allow for users to best manage their libraries. The entities in this database system would include the perfume, which has the aforementioned attributes, scent families, which will include its subfamilies, and notes, which will be attributed with its top notes, base notes, and middle notes. Additionally, the perfumer will also be an entity that contains their name as a key value. The user is another entity that is found using their username.

Revised Conceptual Database Design:



There will be two components in this database. One is data relating to the user, the other being data connected to a fragrance.

The first super class entity is fragrance, which contains attributes such as release date, which is multi-value to account for releases of special editions or remakes and divided further into month and year. Other attributes are creator (the brand), rating, and name, which is the key attribute. This also contains the entity base.

Family is another entity, and contains the key attribute name, which determines the family. The weak entity type for scent family is sub family, which contains the identifying attribute characteristic, as with a scent family, various characteristics are used to identify each sub family.

Another entity is user, which contains the attributes user name (the key attribute), first name, password, and the derived attribute preferences (which will be derived from the ratings of

the perfumes) and total perfumes, which can be found through counting each fragrance in a user's collection.

Perfume line is another entity, which is identified through the key attribute name and also contains the attribute year.

Finally, the last entity is perfumer, which is identified by their name, and also contains the company they are associated with.

Within the ER diagram, every perfume must be part of a scent family, but they can be part of multiple families; a scent family does not require a perfume, but there can be many perfumes in a single scent family.

A scent family must contain subfamilies and can have many subfamilies associated with it. A sub family must be related to only one family and all sub families must be part of a family.

The release date of the perfume is multi-value, as a user can record multiple values for special editions of the perfume, different sizes, or re-releases.

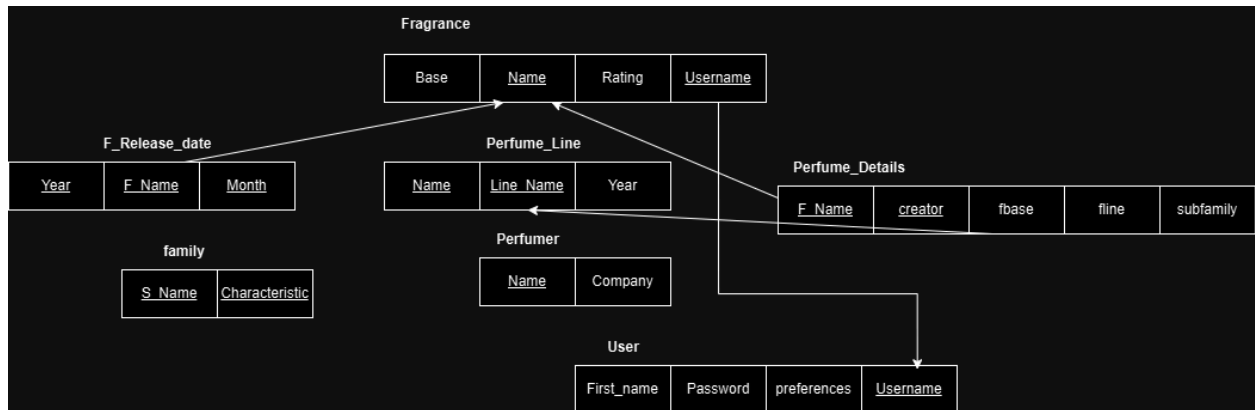
A fragrance can be part of many scent families, and every fragrance must be part of a scent family. A scent family can have many perfumes associated with it, but not all users may have a fragrance in a particular family.

A user can have many fragrances, but they do not need to own one. A fragrance must have an owner, but they can be a part of multiple users' collections.

A fragrance can be composed by many perfumers and must have at least one; a perfumer can compose many fragrances but must have composed at least one.

A perfume line must contain a perfume and can have many perfumes, while a perfume does not need to be a part of a perfume line, but may only be a part of one line.

Logical Database Design:



Fragrance

fname	string	PRIMARY KEY
rating	int	
username	string	PRIMARY KEY

F_release_date

f_name	string	Foreign key
month	string	NOT NULL
year	string	NOT NULL, > 1899

Scent_family

s_name	string	Primary key
--------	--------	-------------

Sub_family

scent_family_name	string	Foreign key
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Perfume_Line

pline	string	Primary key
year	int	

Perfumer

name	string	Primary key
company	string	

Perfume_Details

f_name	string	Foreign key
Creator	string	Foreign key
fbase	string	
fline	string	Foreign key
subfamily	string	Foreign key

User

user	string	Primary key
password	string	Not null, above 10 char
first_name	string	Not null

Application Program Design:

Add_user()

 input desired username

 input first_name

 input password

Add_scent()

 input scent name

Modify_perfume

 input whether to modify notes or rating (name cannot be modified after creating)

user_statistics()

```
print aggregate functions of avg rating, lines user owns parts  
of, common base note, common sub family
```

```
Remove_scent()
```

```
input f_name
```

```
execute deletion in fragrance table and cascade
```

```
Add_perfumer
```

```
input perfumer name
```

```
option to input company of creator
```

```
Login()
```

```
user inputs username,
```

```
if(user = query exists)
```

```
input password
```

```
if (password=query user table)
```

```
    Logged_in = true
```

```
else
```

```
    Incorrect password
```

```
else
```

```
    Print error "user does not exist"
```

Aggregation Functions:

An average rating of a single perfume among all user's rating is found through joining the fragrance name among all users.

A user's average rating can be found by using the average aggregate function on all ratings in the fragrance table.

Functional Requirements:

There are several functional requirements that will be included in this project.

The first is that users should be able to add additional perfumes and scents by the name, creator, notes, family, pyramid, and ingredients to a library.

There should be data on a user's username, password, first name, and all perfumes in their collection.

A user should be able to view all the fields they have applied to including perfumes, families, and notes.

A user can view the data associated with a perfumer and fragrance line associated with fragrances they own.

Also, previously added perfumes should have the capabilities for their fields to be modified at a later time.

Additionally, users will be able to search and filter for a perfume(s), matching their previously inputted criteria and attributes.

There should also be a functionality to allow users to remove perfumes from their library.

A user should also be able to rate perfumes, add scent families, and notes that exist within the database.

Finally, it should also include analysis of common notes and families used often by the user, along with the average rating of all perfumes for individual users, and for a single perfume among all users.

Installation Instructions

Tested in Windows Subsystem for Linux;

Intended operating system: Linux and Windows Subsystem for Linux

Steps:

1. Ensure that the following are downloaded:
mysql-connector-python==8.0.33
2. If not,
 - Install MYSQL for Windows: [MySQL :: Download MySQL Installer](#)
 - Make sure that upon installing, MYSQL server, workbench, and shell are selected.
 - Complete the installation and ensure MySQL is running.
 - On Ubuntu:
 - Update your package list through `sudo apt-get update`
 - Install mysql server through the command: `sudo apt-get install mysql-server`
 - Ensure the MySQL Server is started through `sudo systemctl start mysql` (for Linux)
3. Python Connector
 - a. This can be installed through the command: `pip install mysql-connector-python==8.0.33`
 - b. Test your MySQL connection through `mysql -u root -p`
4. run `install.sh` to install additional dependencies and set up tables and additional data

User Manual

```
user@Ashley:~/newprojdir/proj$ ./run.sh
menu options:
1. login
2. new account
|
```

After ensuring dependencies are installed, run `./run.sh`. This opens a menu for you to login.

A. Sign In

```
user@Ashley:~/newprojdir/proj$ ./run.sh
menu options:
1. login
2. new account
1
username: ashleyfong
password: Password10Characters
```

Selecting 1 opens in the login for existing users. Enter in your username and password.

```
2
Create the following user:

Username: ashleyfong

Password (10 characters or more): Password10Characters|
```

Select 2 to create a new user. First, type a username. Then, enter a password with a length over ten characters.

B. Creating a Perfume

```
Welcome Ashley;
Select an option:
1. View your collection
2. Add/Remove scents
3. Check your statistics
4. Check statistics among users
5. View perfumers
2
Here, you can select to
1. Add a scent
2. Modify an existing scent
3. Remove a scent:
1
You are inserting a perfume:
Enter perfume name: Miss Dior
Fragrance successfully created with name:
Miss Dior
Add additional details using the modify perfume option.

Would you like to continue? a. Press 'x' to quit program, or any other key to continue managing your collection.
```

Option 2 allows you to create a perfume. You will be prompted to enter a perfume name. From there, the perfume will be created and can be later modified.

C. Viewing collection

```
Welcome Ashley;
Select an option:
1. View your collection
2. Add/Remove scents
3. Check your statistics
4. Check statistics among users
5. View perfumers
1
Options:
1. View your entire collection
2. View Search Options
3. View all perfumes in database:
1
Displaying perfumes for ashleyfong

ashleyfong's perfumes:
name      rating
('Miss Dior', 4)
Would you like to continue? a. Press 'x' to quit program, or any other key to continue managing your collection.
```

Selecting option 1 in the menu will allow you to view your collection through three different options: 1. Your individual entire collection, 2. Your collection matching a query, and 3. The entire database of perfumes

```
3. View all perfumes in database:
2
Search a perfume by name:
Over Red
Results:
('Over Red', 10, 'ashley')
Would you like to continue? a. Press 'x' to quit program, or any
```

Select option 2 to check if a specific perfume exists in your collection. This will also allow you to see the rating associated with the perfume.

```
3
Displaying all perfumes in database

All perfumes in database:

('Bombshell',)
('Bombshell Paradise',)
('Miss Dior',)
('Not a perfume',)
('Over Red',)
Would you like to continue? a. Press 'x' to quit program, or any other key
```

Selecting option 3 displays perfumes by all users in the entire database.

D. Modifying a perfume

```
Would you like to continue? a. Press 'x' to quit program, or any other key to continue
a

Welcome Ashley;
  Select an option:
1. View your collection
2. Add/Remove scents
3. Check your statistics
4. Check statistics among users
5. View perfumers
2
Here, you can select to
1. Add a scent
2. Modify an existing scent
3. Remove a scent:
2
Edit Perfume:
Which perfume would you like to edit? Miss Dior
Editing perfume: Miss Dior
Select a detail to edit:
1. Edit Rating
2. Edit Base Note
3. Edit Family
4. Cancel

Enter option number: 1
Enter new rating, max 10:
```

Selecting option 2, then option 2 will allow you to modify a perfume. The perfume must already exist in your collection. From there, four different details of the perfume can be changed.

E. Statistics

```
Welcome Ashley;
  Select an option:
1. View your collection
2. Add/Remove scents
3. Check your statistics
4. Check statistics among users
5. View perfumers
3
Below is a list of possible usage and rating statistics:

Your average rating:
6.67
User owns part of the following lines
Opium
Below is a list of your collection statistics:

Your most commonly used base note was: cherry
Your most commonly used sub family is: None
```

Selecting option 3 allows you to view your average rating, lines you have perfumes in, and commonly used notes and families.

```
Welcome Ashley;  
Select an option:  
1. View your collection  
2. Add/Remove scents  
3. Check your statistics  
4. Check statistics among users  
5. View perfumers  
4  
Enter the name of a perfume to view global usage statistics  
Over Red  
Global average rating for Over Red: 7.00  
  
Mostly positive  
Owned by:  
- ashley  
- herculepoirot  
- tylertoffoli  
Would you like to continue? a. Press 'x' to quit program, or any other key to continue managing your collection.
```

Selecting 4 allows you to view global statistics. Enter a perfume name to view the average rating, positive/negative rating, and owners.

```
You do not have any commonly used families  
Would you like to continue? a. Press 'x' to  
x  
Program exited  
signing user out...
```

Typing x signs the user out of the program.