Project report

Recipes from your fridge

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Problems I have learned

- Making GUI applications using model-view developing pattern
- Cleaning dataset (replace a separator, manually fix unacceptable symbols)
- Working with OOP paradigm
- Working with Qt framework
- Algorithms on sorting (not really)

Implementation details

- Main approach is model-view design pattern
- QStandardItemModel was used to work arrange data
- QTableView was used to represent the data in the user interface
- I used class RecipeData in order to facilitate interaction between QStandardItemModel and the data, where RecipeData has a field std::vector<Recipe> and methods to interact with QStandardItemModel, where Recipe is a structure with fields describing features of a recipe.

- I used class MyProxyModel inherited from QSortFilterProxyModel to filter the table, that is, as I add something to *the fridge* MyProxyModel using inherited function *filterAcceptsRow* ,to check if the row stays in the table, in the following way it takes each item from QList<QString> ingredients, that gets elements from QListWidget ,aka *the fridge*, and foreach string in *ingredients* column and check if each elements of ingredients is a subset of string
- I used QPainter class to draw my logo
- Link to repository: https://github.com/maxslamdunk/dsba-itop2021-hw1

Results and discussion

- I got better understanding of OOP paradigm especially inheritance
- Observed the worst way to draw
- Got a tiny insight into app development process
- Got a little experience of developing GUI applications

Conclusion

- The wasn't really developed in the way it was supposed to by the creator of the specification as some features were overcomplicated and would be possible without advanced techniques correctly (see calories). Also, the main idea of getting a **full** recipe according to what you have in *the fridge* was not really satisfied as it requires a huge dataset that was, actually, provided but where was no way I could do it fast a working app with 2.5 million rows .csv file (2.5gb). I did not even manage to open the .csv file on my laptop, I asked my friend with more powerful computer to trim the .csv file by couple of millions of rows. So, the app can be improved with some advanced stuff so you can work 2.5 million rows fast. All the changes in the specification were initiated by supervisor.
- You can see the specification below.
- By some strange reason the first page of spec. is below while the second on is on the last one. And screenshots between them.

Recipes from your fridge

This program contains data set with food. There are some sets, you can use any for your program or find other.

Data:
https://www.kaggle.com/paultimothymooney/recipenlg
https://www.kaggle.com/pes12017000148/food-ingredients-and-recipe-dataset-with-images
https://www.kaggle.com/irkaal/foodcom-recipes-and-reviews
https://www.kaggle.com/snehallokesh31096/recipe

Data about calories(for additional task):
https://www.kaggle.com/trolukovich/nutritional-values-for-common-foods-and-products
https://www.kaggle.com/vaishnavivenkatesan/food-and-their-calories
https://www.kaggle.com/amanajmera1/national-nutrient-database

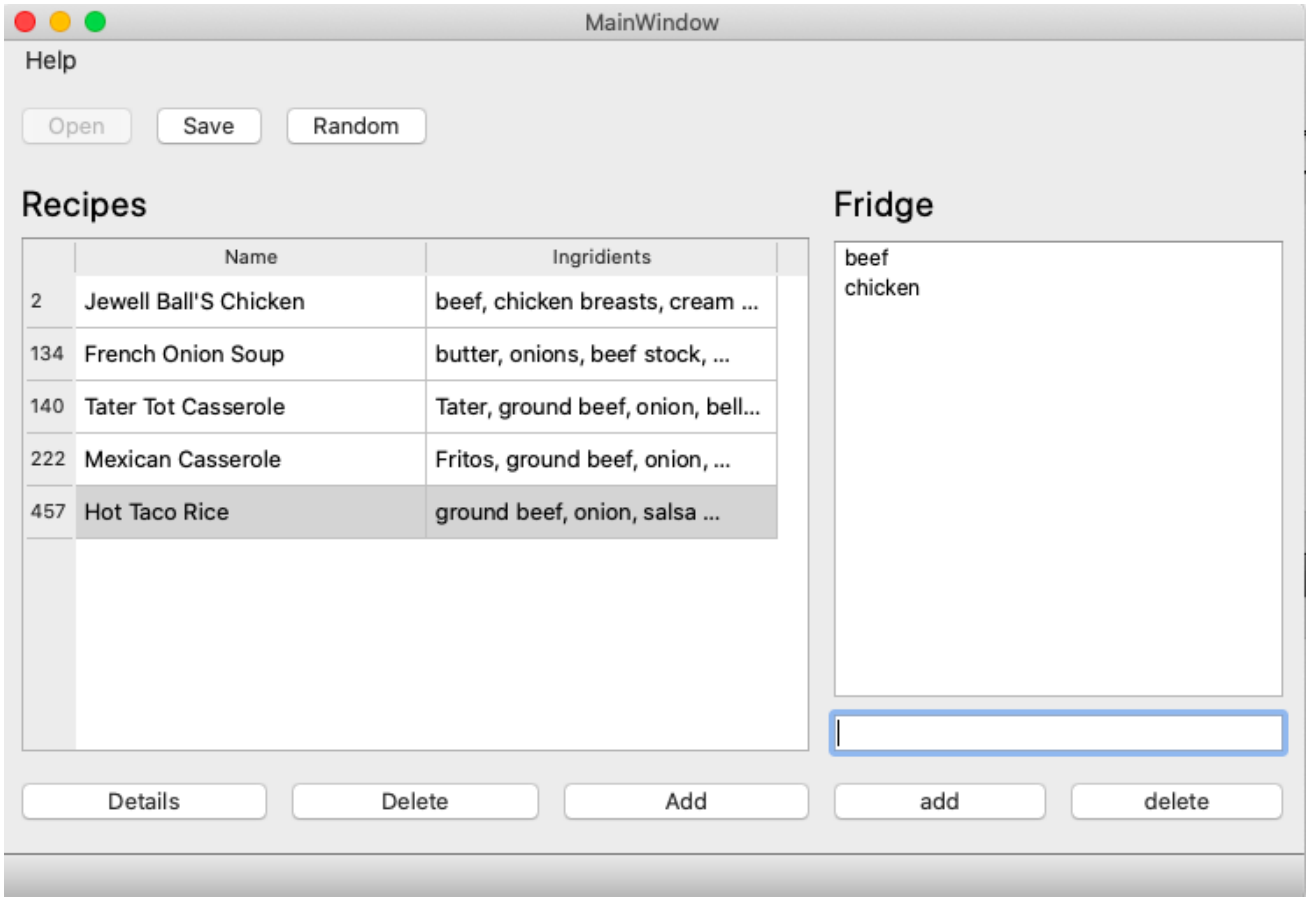
What program should do?

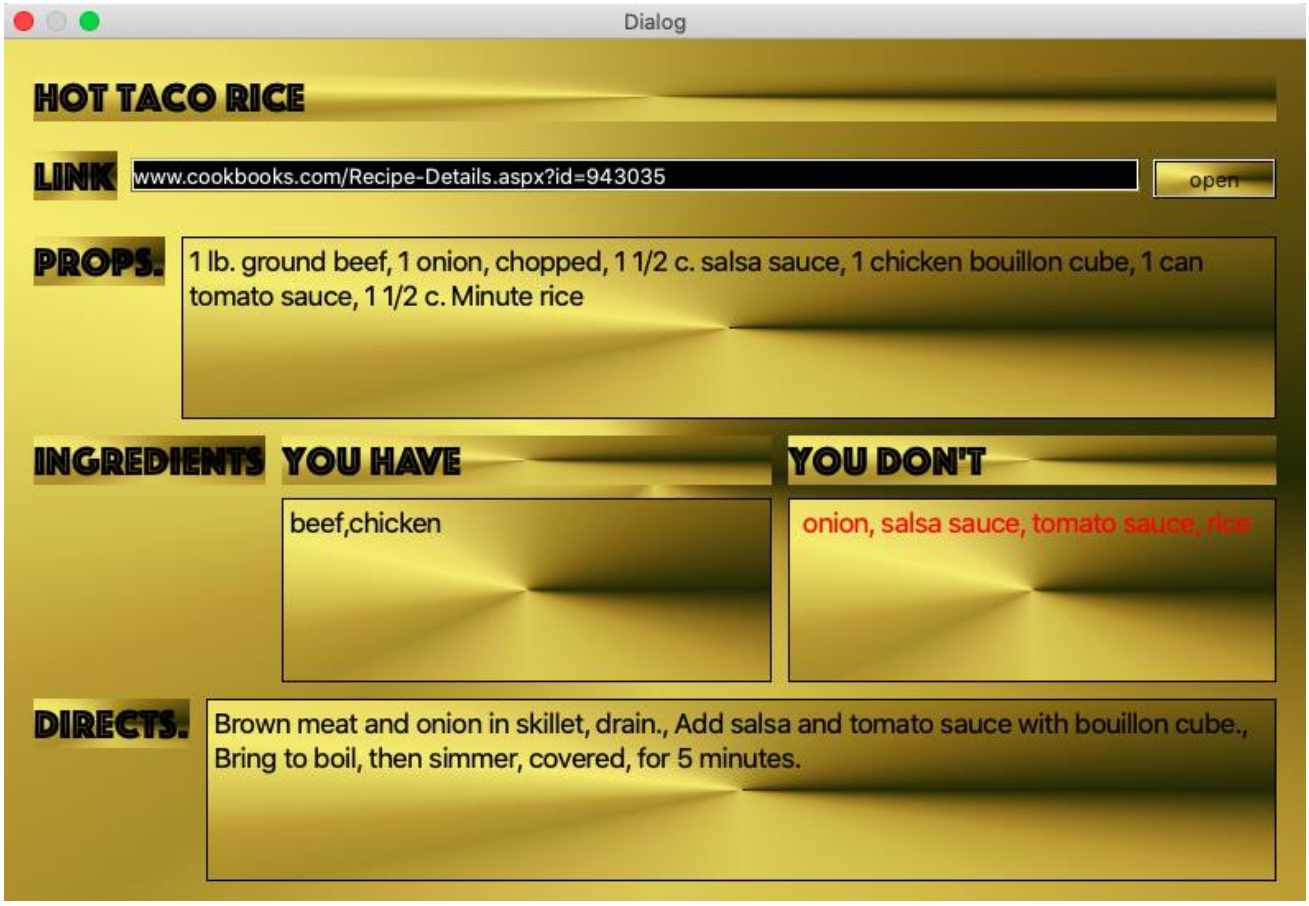
Imagine that you woke up in the morning and you want to eat something, but you do not know what you can cook from products in your fridge. This program must help you with your choise! Just choose some products or try to type all of them from your fridge and get recipes for your breakfast, lunch and dinner.

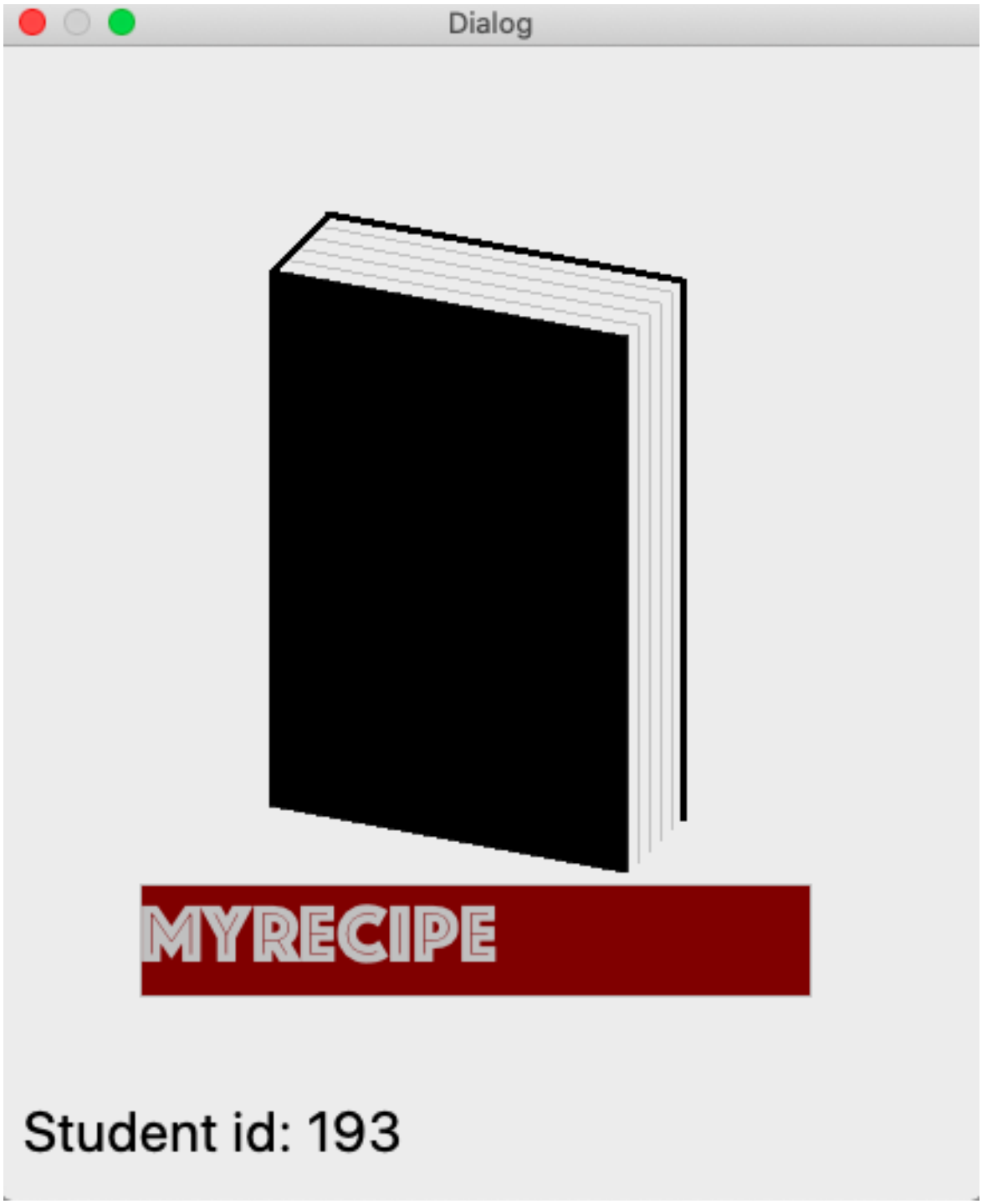
I think you got the idea, so here are basic features of this program:

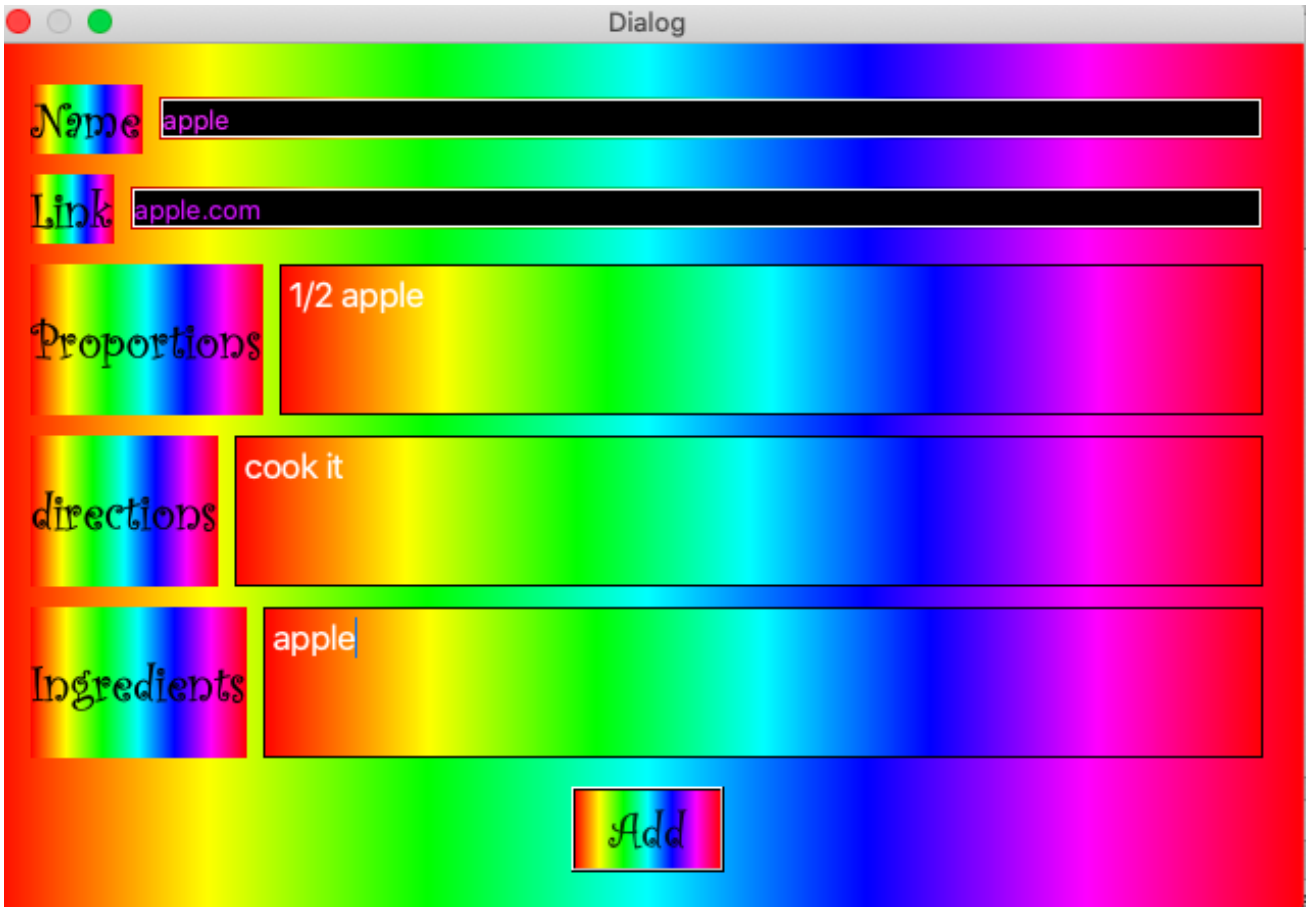
1) Show three recipes for breakfast, lunch and dinner out of products that you have.
2) Each recipe should have a link on fully described way of cooking (if there is one in data set) or show a window with instructions.
3) Show which ingredients are left in your fridge
4) Changing dishes randomly after filling the products.

Additional tasks:
1) Show how many calories in dishes (sum of all ingredients' calories)
2) Instead of showing only three recipes, show the list for each meal.
3) If there is not enough products for lunch or dinner (not more than 2) NOT


MainWindow
Help
Open
Save
Random
Recipes
Fridge
Name
Ingridients
2
Jewell Ball'S Chicken
beef, chicken breasts, cream ...
134
French Onion Soup
butter, onions, beef stock, ...
140
Tater Tot Casserole
Tater, ground beef, onion, bell...
222
Mexican Casserole
Fritos, ground beef, onion, ...
457
Hot Taco Rice
ground beef, onion, salsa ...
beef
chicken
Details
Delete
Add
add
delete

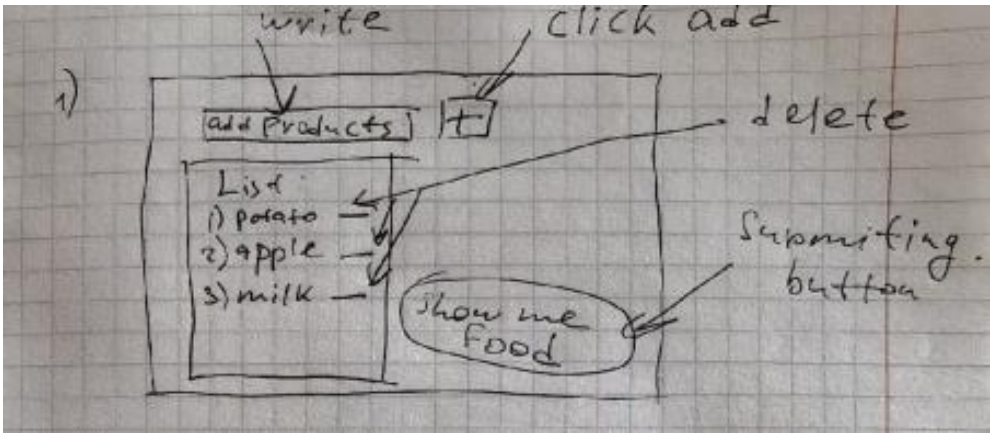

Dialog
HOT TACO RICE
LINK
www.cookbooks.com/Recipe-Details.aspx?id=943035
open
PROPS.
1 lb. ground beef, 1 onion, chopped, 1 1/2 c. salsa sauce, 1 chicken bouillon cube, 1 can tomato sauce, 1 1/2 c. Minute rice
INGREDIENTS
YOU HAVE
YOU DON'T
beef,chicken
onion, salsa sauce, tomato sauce, rice
DIRECTS.
Brown meat and onion in skillet, drain., Add salsa and tomato sauce with bouillon cube., Bring to boil, then simmer, covered, for 5 minutes.

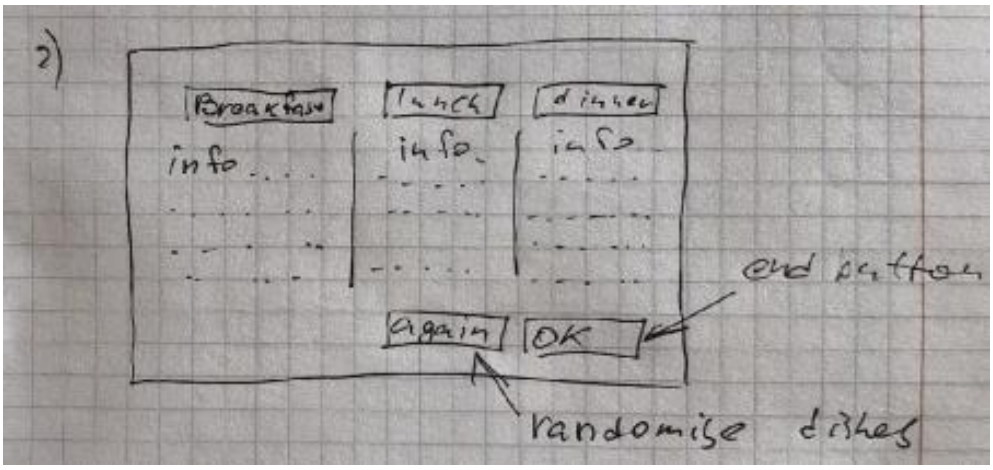

Dialog
MYRECIPE
Student id: 193


Dialog
Name
apple
Link
apple.com
Proportions
1/2 apple
directions
cook it
Ingredients
apple
Add

BREAKFAST show the recipe but mark them and ingredients red (EXAMPLE: Borscht (water potato, cauliflower, meet, beet))
4) Saving “favorite” dishes.

How it should look like?





PS: if you have an idea how to make a better design, do it. The button “Favorite” should be after info under meals and you can choose them after clicking on breakfast, lunch or dinner.
TIP: Use the list of products like a filter.