Functional specification of the «Coffee Machine» program

Overview

You need to create a web application for ordering coffee drinks.
The application must implement the following functions:
- Order one or more beverages,
- Increase credit,
- Show and edit ingredients,
- Show, create, edit, and delete beverages.

1. Client

The user can see and select beverages and additional ingredients, delete them from the list of selected beverages, increase credit.

1.1 Customer's order of one or more beverages

Two columns are displayed on the page:
- the left one contains a table of beverages,
- the right one contains information about the client's credit, a list of selected beverages and the total amount of the order.

The main scenario:

1. On the «Client» page (Picture 1), the user selects a beverage from the left column.
2. After that, the menu of additional ingredients and the «Add beverage» button appear.
3. After clicking the «Add beverage» button, the beverage, along with the selected additional ingredients and the final cost, is displayed in the list of selected beverages under the line «Your beverages». The cost of the beverage is added to the total cost of the order.
4. The user can repeat steps 1-3 several times.
5. To delete one of the selected beverages, the user clicks the «Delete» link next to the beverage in the right column.
6. To complete the order, the user clicks the «Pay for the order» button. The page is overloading.
7. If the order is successfully completed, the inscription «Enjoy your beverage! » appears on the page, updated information in the beverages table, the client's balance is reduced by the order value, the list of selected beverages becomes empty, and the «Pay for the order» button is inactive (Picture 2).
8. If the order is executed unsuccessfully, an inscription about the alleged error appears on the page, information about beverages, the customer's credit remains the same (Picture 3).

Beverage	Weight of portion	Quantity of portions	Price of portion
Espresso	30 g.	92	1,00 $
Double espresso	60 g.	46	1,90 $
Americano	150 g.	46	2,00 $
Cappuccino	80 g.	76	2,00 $
Latte	130 g.	56	2,25 $
Mocachino	90 g.	60	2,40 $

Ingredients: coffee - 30g., hot chocolate - 30g., milk - 30g.
Add ingredients:
☑ **sugar - 0,05 $**
☐ **cinnamon - 0,10 $**
☑ **vanilla syrup - 0,30 $**

Add beverage

Latte macchiato	120 g.	38	2,85 $
Hot chocolate	120 g.	41	2,65 $

Credit: 10,00 $ **+ Add**

Your beverages:

Espresso - 1,00 $ — Delete
Americano with sugar - 2,05 $ — Delete

Total: 3,05 $

Pay for the order

2021

Picture 1

ENJOY YOUR BEVERAGE!

Beverage	Weight of portion	Quantity of portions	Price of portion
Espresso	30 g.	92	1,00 $
Double espresso	60 g.	46	1,90 $
Americano	150 g.	46	2,00 $
Cappuccino	80 g.	76	2,00 $
Latte	130 g.	56	2,25 $
Mocachino	90 g.	60	2,40 $
Latte macchiato	120 g.	38	2,85 $
Hot chocolate	120 g.	41	2,65 $

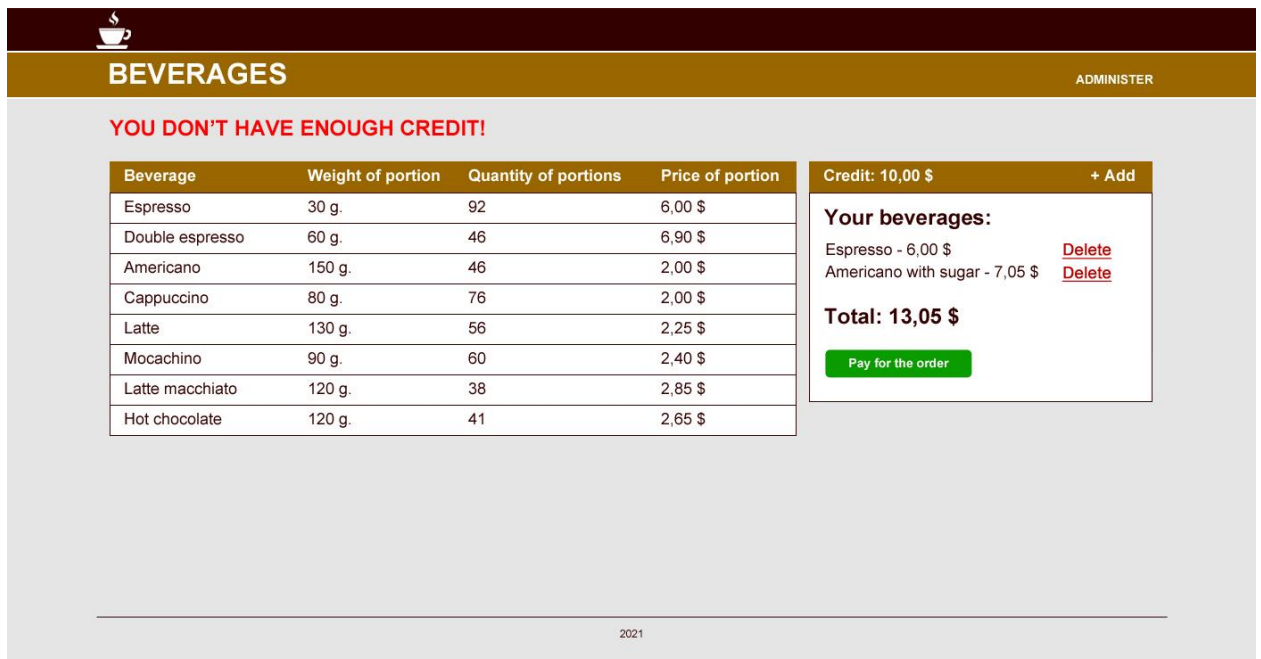**Credit: 6,95 $**   **+ Add**

Your beverages:

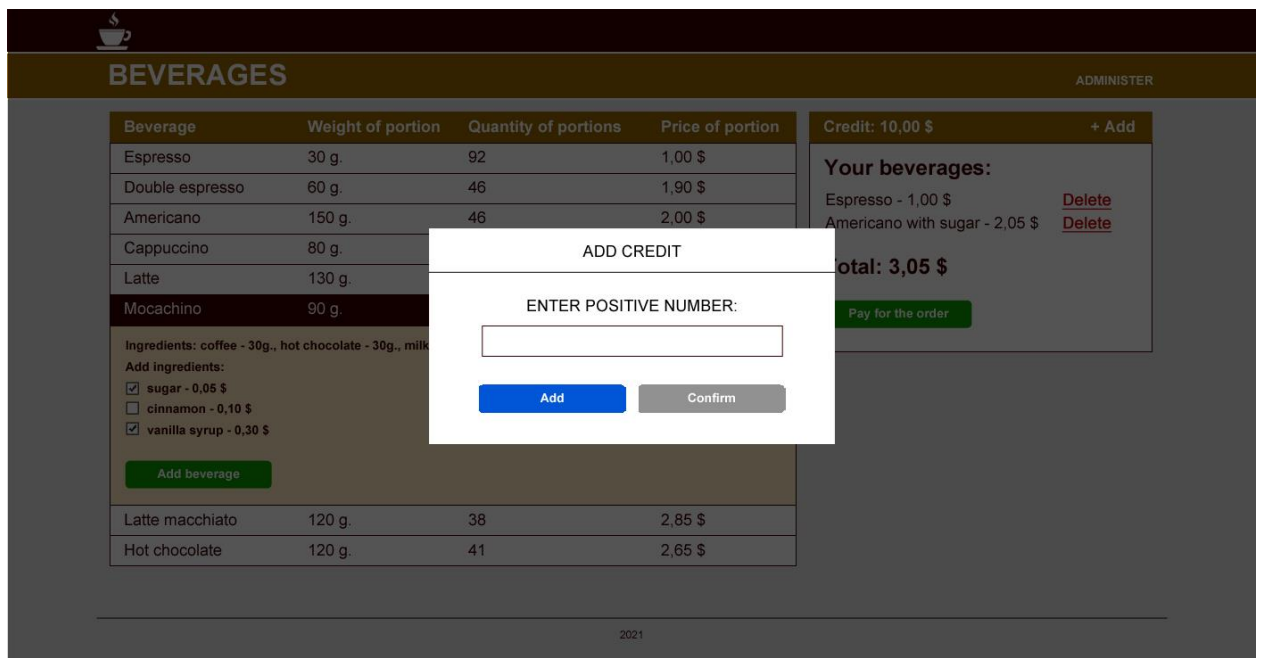**Total: 0,00 $**

Pay for the order

2021

Picture 2

Picture 3

1.2 Increase credit

If the price of all the selected beverages are more than the credit, the user can increase it.

The main scenario:
1. The user clicks on the «+ Add» link in the right column, after which a modal window appears .
2. The user enters a positive number, and presses the «Add» button to confirm, or «Confirm» to cancel the action (Picture 4).

Picture 4

2. Ingredients

The Coffee Machine contains a fixed number of ingredients. The administrator of the Coffee Machine performs its filling.

The Coffee Machine must contain the following ingredients:

- Coffee,
- Cocoa,
- Milk,
- Water,
- Sugar,
- Syrup,
- Cinnamon,
- Cup,
- Spoon.

The ingredients contain the following characteristics:

- **«ID»;**
- **«Title»** – a unique value, a String of 3-100 characters in size;
- **«Quantity»** – a number greater than 0 and less than or equal to the volume set by the parameters of the coffee machine;
- **«Unit of measurement»** – a String of 1-50 characters in size;
- **«Expiration date»** – the expiration date of the expiration date;
- **«Price per 1000»** (grams / milligrams / units, etc.) – a number greater than 0;
- **«Required»** – indicates whether the ingredient is used by the Coffee Machine or can be added by the user at will.

2.1 Show the list of ingredients

The page displays a table of ingredients with basic information

The main scenario:

1. On the Client page, the user clicks the «Administer» link and goes to the beverages viewing page.
2. On the beverages viewing page, the user clicks on the «Ingredients» menu item and goes to the ingredients viewing page (Picture 5).

Picture 5

2.2 Update the ingredient

The page displays a form with information about the ingredient, where the user can change the attributes «Title», «Quantity», «Expiration Date» and «Required».

The main scenario:

1. On the Client page, the user clicks the «Administer» link and goes to the beverages viewing page.
2. On the beverages viewing page, the user clicks on the «Ingredients» menu item and goes to the ingredients viewing page.
3. In the line of the selected ingredient, the user clicks the «Update» link and goes to the updating page (Picture 6).
4. The user changes the contents of one or more fields and clicks the «Update» button.
5. There is a redirect to the ingredients viewing page. If the change was successful, the new information about the ingredient will be displayed in the table. If not, the error information will be displayed.

Picture 6

3. Beverages

The Coffee Machine administrator can create beverages from the ingredients in the machine, edit and delete them. Beverages may or may not be visible to the user.

The ingredients must contain the following characteristics:

- **«ID»**;
- **«Title»** – a unique value, a String of 3-100 characters in size;
- **«Weight»** – a number calculated automatically;
- **«Quantity of portions»** – a number calculated automatically based on the number of ingredients in the Coffee Machin;
- **Ingredients** – a non-negative number that shows how many grams of each ingredient is needed to prepare a drink;
- **«Price»** – a number calculated automatically based on the cost and quantity of ingredients;
- **«Hidden»** – whether the beverage will be visible on the Client page.

3.1 Show the list of beverages

The page displays a table of beverages with basic information

The main scenario:

1. On the Client page, the user clicks the «Administer» link and goes to the beverages viewing page (Picture 7).

Picture 7

3.2 Create a beverage

The page displays a form in which the user enters the attributes of a new beverage.

The main scenario:

1. On the Client page, the user clicks the «Administer» link and goes to the beverages viewing page. The user clicks the link «+ Add beverage» and goes to the page for adding a new beverage (Picture 8).
2. The user fills out the form and clicks the «Create» button.
3. There is a redirect to the beverages viewing page. If the addition was successful, the new beverage will be displayed in the table. If not, the error information will be displayed.

Picture 8

3.3 Update the beverage

The page should display a form with the attributes of the selected beverage.

The main scenario:

1. On the Client page, the user clicks the «Administer» link and goes to the beverages viewing page.
2. In the line of the selected beverage, the user clicks the «Update» link and goes to the updating page (Picture 9).
3. The user changes the contents of one or more fields and clicks the «Update» button.
4. There is a redirect to the beverages viewing page. If the change was successful, the new information about the beverage will be displayed in the table. If not, the error information will be displayed.

Picture 9

3.4 Delete the beverage

The main scenario:

1. On the Client page, the user clicks the «Administer» link and goes to the beverages viewing page.
2. In the line of the selected beverage, the user clicks the «Delete» link, after which a modal window appears (Picture 10).
3. If the user confirms the deletion, the page is overloaded. If the deletion was successful, the deleted drink will be missing from the drinks viewing page. If not, the error information will be displayed.

BEVERAGES

+ ADD BEVERAGE

Beverage	Weight	Quantity of portions	Price of portion	Hidden	
Espresso	30 g.	92	1,00 $	N	Update | Delete
Double espresso	60 g.	46	1,90 $	N	Update | Delete
Americano	150 g.	46	2,00 $	N	Update | Delete
Cappuccino	80 g.			N	Update | Delete
Latte	130 g.			N	Update | Delete
Mocachino	90 g.			N	Update | Delete
Latte macchiato	120 g.			N	Update | Delete
Hot chocolate	120 g.			N	Update | Delete

DELETE BEVERAGE

DO YOU REALLY WANT TO DELETE
BEVERAGE «ESPRESSO»?

Delete   Confirm

Picture 10