Description of Practical Assignment "***Makaroni*** Prime"

Team of Developers

- Ivars Tomass Tiltiņš, it20031 (development lead, programming of models and views)
- Artūrs Burkēvičs, ab20153 (design, programming of controllers)
- Daniels Klāve, dk20077 (user interface, programming of views)

Development Environment

It is planned to develop the system in PHP 7.4 environment using the Laravel 8 library. It is planned to use MySQL database for data storage. The code will be stored in the GitHub system.

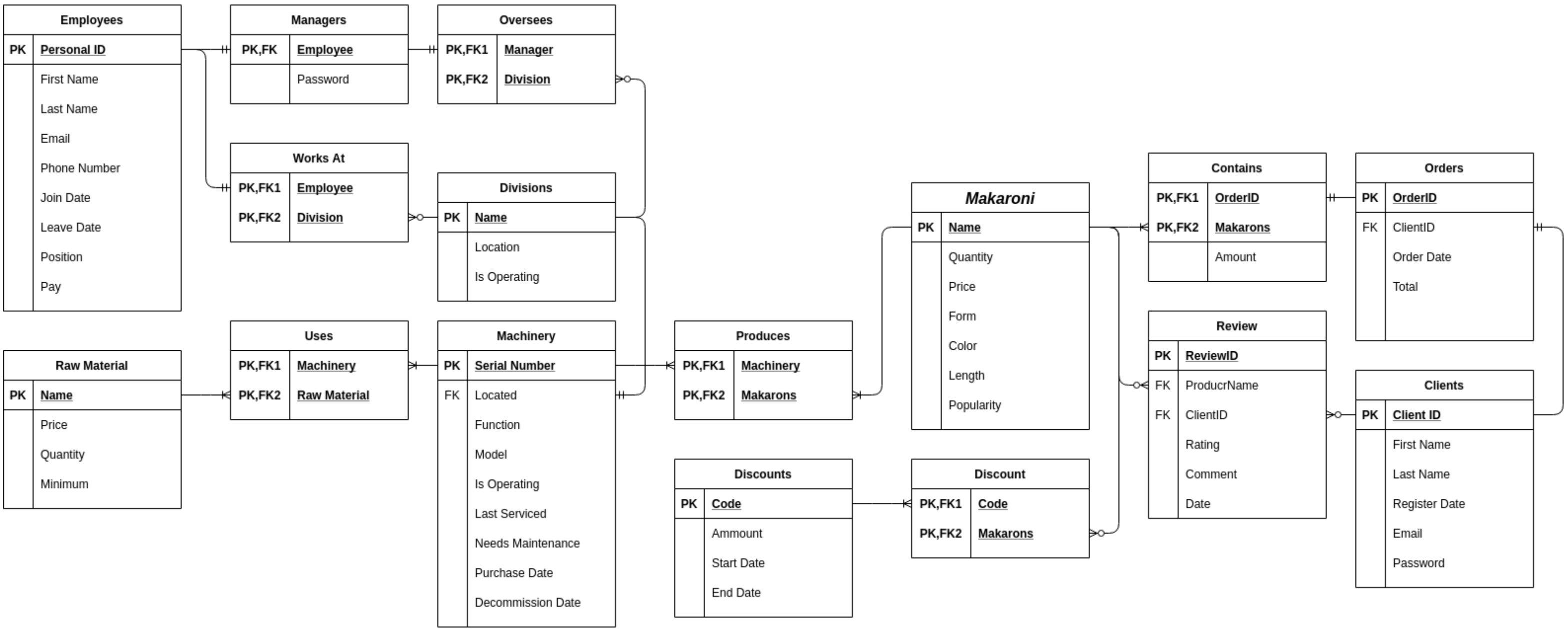
Main Functionality

Within the framework of the practical assignment, it is planned to develop an online shop for ***Makaroni***, and a side system for managers to overlook the manufacturing process & employees.

It will be possible for a customer to place an order of multiple kinds and quantities of macaroni, apply discount codes, leave a review for a certain kind of macaroni and see suggestions based on currently popular kinds of macaroni. The system will also allow managers to view the status of different divisions, machinery, raw materials and employees.

Data Registry

The most significant concepts in the system: Client, ***Makaroni***, Employees, Divisions, Machinery, Raw Materials, Reviews, Discounts



MVC

The system will be implemented following an MVC paradigm. The system will be distributed into the following components:

Models:

- Employee
- Manager
- Division
- Machinery
- Raw Material
- ***Makaroni***
- Order
- Discount
- Review
- Client

Views:

- List/Info/Add/Edit & Delete ***Makaroni*** view
- List/Info/Add/Edit & Delete Employees view
- List/Info/Add/Edit & Delete Machines view
- List/Info/Add/Edit & Delete Ingredients view
- List/Info/Add/Edit & Delete Divisions view
- List/Info/Add/Edit & Delete Clients view
- List/Info/Add/Edit & Delete Discounts view
- Add review view
- Cart view
- Form order view
- User profile view

Controllers:

- MacaroniController with methods for retrieving and showing a list of ***Makaroni*** (index), returning a list of ***Makaroni*** filtered by search string in ***Makaroni*** name (search), creating (create), removing (destroy) and saving (store) a new type of ***Makaroni***

- EmployeeController showing a list of employees (index), adding (create) and saving (store), editing (edit) and saving the changes (update)

- MachineController showing a list of machines (index), adding (create) and saving (store), editing (edit) and saving the changes (update), removing (destroy), returning a list of machines filtered by their name or serial number (search)

- IngredientController showing a list of ingredients (index), filtering it by name or amount (search), adding (create) and saving (store), editing (edit) and saving the changes (update), removing (destroy)

- DivisionController showing a list of divisions (index), filtering it by name (search), adding (create) and saving (store), editing (edit) and saving the changes (update), removing (destroy)

- ReviewController showing a list of reviews (index), filtering it by rating (search), adding (create) and saving (store), removing (destroy)

- CartController which will manage the list of carts, it will allow adding (create) and saving (store), editing (edit) and saving the changes (update), removing (destroy)

- ClientController showing a list of clients (index), filtering by name and surname (search), adding (create) and saving (store), editing (edit) and saving the changes (update), removing (destroy)

- ManagerController showing a list of managers (index), filtering by division or name (search), adding (create) and saving (store), editing (edit) and saving the changes (update), removing (destroy)

- DiscountController showing a list of discounts (index), filtering by code (search), adding (create) and saving (store), editing (edit) and saving the changes (update), removing (destroy)

- AdminController with methods for retrieving and showing a list of users (index);

- Laravel standard RegisterController and LoginController.

User roles

The system supports a number of different user roles - a simple visitor, authenticated client, manager, administrator. Each of these roles have different operations available in the system.

Simple visitor:

- See all available ***Makaroni*** products
- Search for ***Makaroni*** products
- See the most popular ***Makaroni*** products
- Create a client account

Authenticated client:

- Same operations as simple visitor
- Order ***Makaroni*** products
- Leave reviews for ***Makaroni*** products
- Change their password

Manager:

- Add, Edit, Delete ***Makaroni*** products
- Add, Edit employees
- Add, Edit, Delete machinery, raw materials, divisions
- Create, Edit, Delete discount codes
- Remove offensive reviews

Administrator:

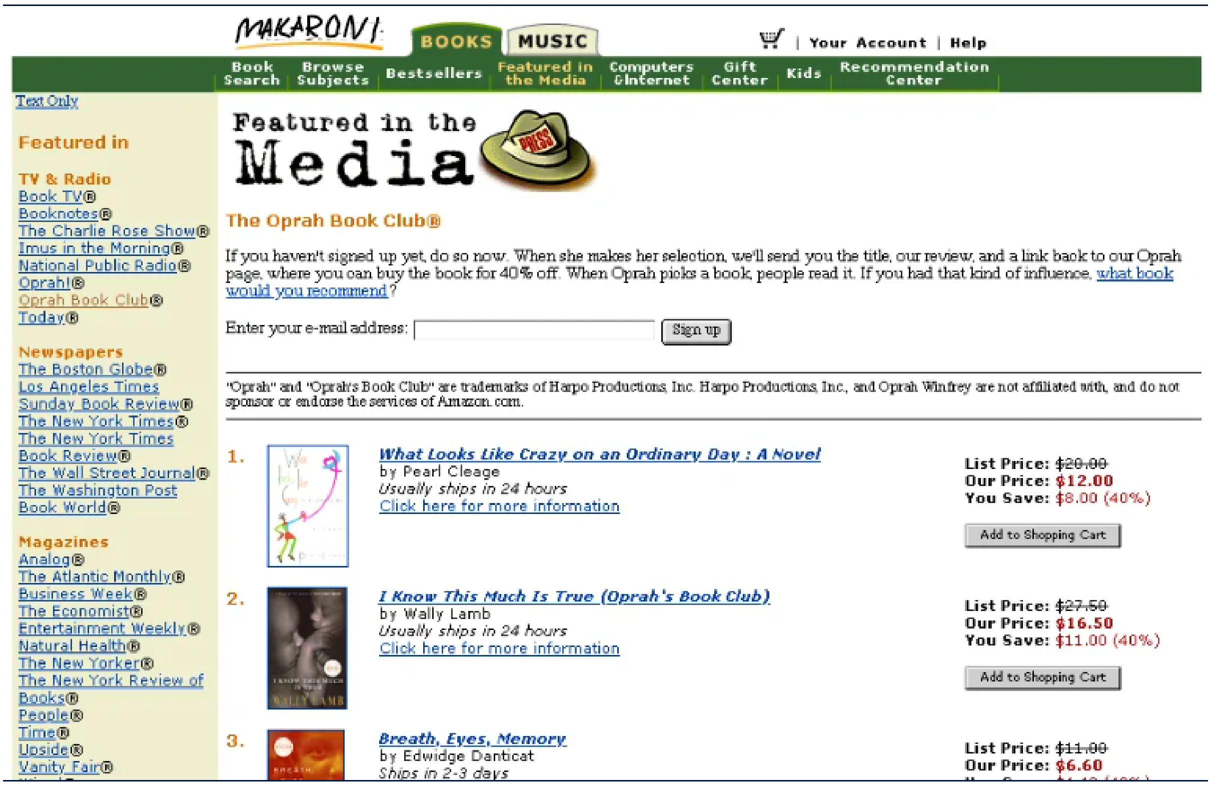
- Same operations as manager
- Add, Edit, Delete managers, clients

User Authentication

For the user authentication, it is possible to use a local registration system, using an e-mail and a password.

System interface

The image shows the logged-in view.



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Extra security:

For protection of cross-site request forgery (CSRF) attacks, we will use Laravel's built-in CSRF attack protection module and add `@csrf` Blade directive to all forms where the user is expected to already be authenticated.

The CSRF protection module works by generating a CSRF token that verifies that a request is actually made by the authenticated person. The token is regenerated along with the session, so a malicious application cannot access it. This token is then used in all post-authentication forms, usually with `<input type="hidden" .../>`.