

# Self-Ordering Concept Food Ordering System in Restaurants

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## Abstract

The self-ordering concept ordering system can assist restaurant operations in accepting orders, making it easier for customers to place orders for food they want to order through their respective tables. If the restaurant is crowded with customers, it is necessary to have a system that can replace the manual ordering position at the restaurant which is still considered less effective and efficient in ordering problems if the restaurant is busy with customers. With the self-ordering system, it can make it easier for restaurants to receive orders from customers who come to the restaurant independently. The self-ordering system that is made will be supported by min-max as a supporting method to find out the available stock of raw materials. This self-ordering system can make it easier for customers to order food, and it will be easier for restaurants to get orders from customers in a system.

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## I. INTRODUCTION

Ordering systems that are carried out by customers or customers themselves are things that can help progress in restaurants, currently there are still many restaurants that still use manual meal ordering techniques such as waiters who approach customers and wait for customers to order food or drinks or give paper to customers. customers to be selected directly by the customer and from the paper provided by the customer it will be given to the waiter, in this process it still takes more time for the waiter to serve the customer. And not only that, in the manual ordering process from customers, it also requires more energy because they have to listen and record what customers say so that if there is a crowd of customers, all customers who come cannot place an order directly. So there needs to be an alternative system that can replace the manual order position in restaurants which so far are still considered less effective and efficient in ordering problems if the restaurant is busy with customers.

This self-ordering system will have several advantages for restaurants. With this system, restaurants do not have to worry about how many customers come to the restaurant because customers can order food or drinks independently from their respective tables and restaurant waiters no longer need to wait and record customer orders manually as before, so that the waiter can do other things that can make the restaurant's operations more effective and efficient.

## II. RELATED WORKS/LITERATURE REVIEW (OPTIONAL)

### Booking

Orders are activities that consumers always do before making the purchase process. So to give satisfaction to consumers, of course the company must have a good ordering system. It's also the ordering process, creation, ordering method for others.

Pemesanan juga dapat berupa memesan, pesanan atau permintaan kepada penjual untuk membeli suatu jasa atau produk. Hal ini biasanya dilakukan ketika membeli atau menjual transaksi. Tahap pemesanan melibatkan kontak directly with the seller, where consumers order the goods they want to buy. Consumers pay after the goods ordered arrive.

Orders placed at this time not only receive goods, but consumers can continue ordering. This command can be executed in various ways, both verbally and in cyberspace.

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### Self Service System

The system itself can be intended as a collection of subsystems, components, or elements with the same purpose working together to produce a predetermined output [1].

Self or independent can be defined as being proactive, able to overcome obstacles, having self-confidence, being able to do things on their own, without the help of others [2].

While service or service provides customer satisfaction with activities or series of activities that occur through direct interaction between one person and another or physical machine [2].

Therefore, self-service can be interpreted as a work system in which customers enjoy products and services without customer service and employees, but provide services to meet their needs [2].

### Restaurant

A restaurant is a business that sells food to the public and provides a place to eat the food at a certain cost [3].

### Min-Max method

The min-max inventory method is a raw material management method with the assumption that the raw material inventory is at two levels, namely the highest level and the lowest level. If the highest and lowest levels are set, then when the inventory reaches the minimum level, the inventory must be maintained at the highest level through ordering raw materials. This is to prevent inventory being too large or too small. The min-max method is applied so that the warehouse captures the minimum inventory, captures the minimum amount of inventory that the warehouse must have to meet the production quantity capacity, and the maximum inventory of warehouse raw materials, and does not waste. Inventory cost [4].

### Min-Max Method Calculation

The calculation used in this Min-Max method is:

1. Minimum Inventory : 1kg sugar
2. Maximum Inventory : 10kg sugar

**Table 1 Min-Max Method**

No.	Enter	Out	Last stock
1.	10 kg		10 kg
2.		4 kg	6 kg
3.		2 kg	4 kg
4.		3 kg	1 kg
5.	9kg		10 kg

## III. METHODS

### MVC Framework Laravel

MVC (*Model-View-Controller*) is a method used in the development of an application that separates the data (model) from the view / frontend (view) and logic from the application itself (*Controller*).

MVC separates application development based on the main components that build an application such as data manipulation, user interface and controls in an application.

The model is used to process queries or manipulate data to/from the database. While this View is closely related to web interfaces / front-end views such as HTML, CSS, and JS, and which is client. Controller is the logic of a web, being the communication bridge between Model and View.

The following is an image of the MVC process simulation on Laravel shown in the image below:

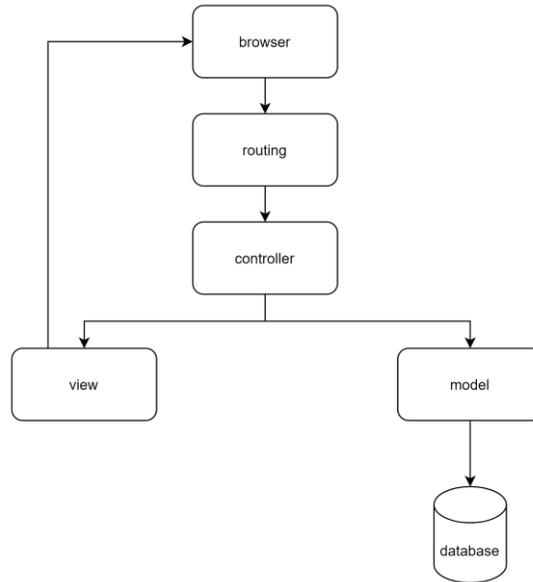


Image 1. Model View Controller Laravel

Create a controller with the name HomeController. You can use composer to create controllers. With the following syntax:

```
php artisan make:controller HomeController
```

```
Microsoft Windows [Version 10.0.18363.900]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\calvin>cd C:\xampp\htdocs\self-ordering-app

C:\xampp\htdocs\self-ordering-app>php artisan make:controller HomeController
Controller created successfully.

C:\xampp\htdocs\self-ordering-app>_
```

Image 2. Create Controller

After that enter the following code into the HomeController:

```
public function index() {
    $data = [
        'menu'=>$this->HomeModel->getDataMenu();
    ]
    return view('home', $data);
}
```

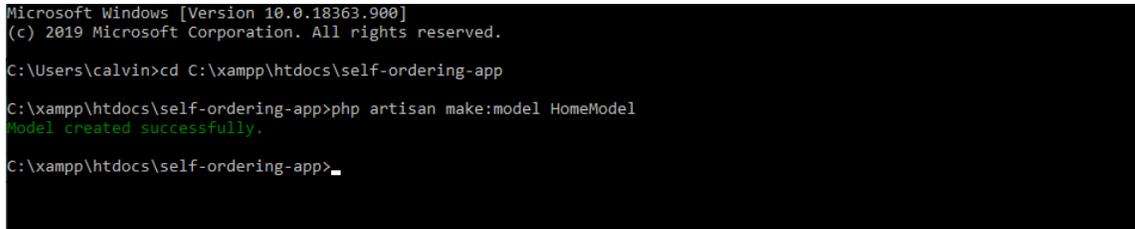
Then create a route that refers to the controller that was created above. Put the following code in web.php in routes folder:

```
Route::get('/home', [HomeController::class, 'index']);
```

The explanation of the route above is that the route uses the get method to display the response from the index method of the controller.

After creating the above route, you must create a model that is called in HomeController. Create a model with the name HomeModel. You can use composer to create model with following syntax:

```
php artisan make:model HomeModel
```



```
Microsoft Windows [Version 10.0.18363.900]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\calvin>cd C:\xampp\htdocs\self-ordering-app

C:\xampp\htdocs\self-ordering-app>php artisan make:model HomeModel
Model created successfully.

C:\xampp\htdocs\self-ordering-app>_
```

Gambar 3. Membuat Model

After that enter the following code into HomeModel:

```
public function getDataMenu () {
    return DB::table('menu')->get();
}
```

The explanation of the function above is a function that returns all data obtained from the menu table in the database. And add the following code above the HomeModel class:

```
use Illuminate\Support\Facades\DB;
```

Then create a view in the resources/view folder by creating a new view with the file name home.blade.php. And add the following code inside home.blade.php:

```
@foreach ($menu as $data)
<h5 class="card-title">{{ $data->name }}</h5>
@endforeach
```

Then all data names will appear in the menu table in the database on the home page. Check the code above by typing the following URL in a web browser

<http://localhost:8000/home>

#### IV. RESULTS

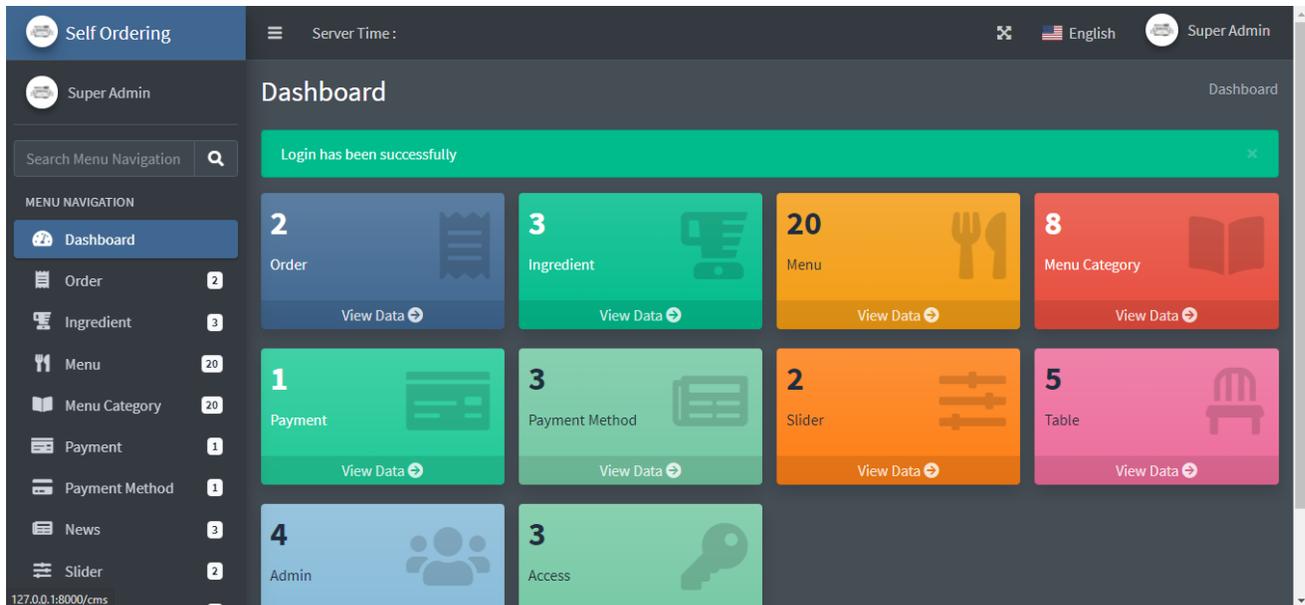


Image 4. Admin Dashboard View

The picture above is an admin dashboard page display that can be seen some of the data in this system, including: : Dashboard, displays overall indicators based on the category of each choice, such as orders, ingredients, menus, and so on

Order, is a list of orders that are being ordered by visitors

Ingredient, materials as inventory of raw material inventory in making food, such as onions, chilies, salt and so on

Menu, choices from a list of dishes to be served

Category menu, based on the type of food and drink available

Payment, is a menu of payments or point of sales

Payment method, the payment method that will be chosen by visitors, can use cash or non-cash

News, is static information listed on the main page.

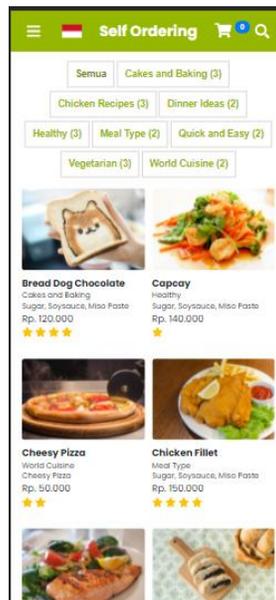


Image 4.39 Picture of Front-End Menu Menu

The picture above is a front-end menu page display that can be seen some of the data in this system, including a menu list and on this page customers can see a menu list based on the categories that can be selected.

## V. CONCLUSIONS

Making a self-ordering concept ordering system aims to improve the quality of work for those who use it. Here are some things that can be concluded: The self-ordering concept ordering system is expected to make it easier for customers to order orders at restaurants through their respective tables. Can help restaurants in managing the inventory of raw materials that are currently available and can make it easier for restaurants to get orders from customers to help manage existing orders.

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