

Design And Implementation Of Fast Food Ordering System Based On Internet

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Abstract

The design discloses an Internet-based fast food ordering system, which is characterized by comprising the following steps: step 1: consumers order food and pay fees by downloading mobile phone software/scanning code by platform-level software, and must confirm compliance with and cooperation with the rules of the dining system before payment; step 2: consumers enter the restaurant by using the verification code generated after payment/by scanning and identifying identity, and distribute reasonable table numbers to consumers according to the number of vacant tables. The consumer's mobile phone displays the table number that the consumer should go to and guides the consumer to eat at the corresponding table. Step 3: After the consumer sits down, click to eat, and the display screen on the table displays the whole cooking process of the dish in the kitchen through the corresponding camera. The design relates to the field of catering equipment, in particular to a fast food ordering system based on the Internet. This design is convenient for consumers to eat without people in the whole process.

Keywords

Internet, fast food, ordering, management system.

1. Preface

In the gradual transformation of modern life, the rhythm of daily life is accelerating. In the daily dining process, driven by time cost and energy cost, more and more residents, students and office workers are more inclined to go out to eat in restaurants. However, due to the problems of time period, traffic and service status of restaurants, more and more time is wasted on queuing to order food and paying for food, which leads to many contradictions in the operation of restaurants and restaurants. Therefore, unmanned restaurants came into being.

Restaurants known as unmanned restaurants have appeared in Britain, Japan, Hong Kong and other places, such as robot restaurants, lifting food delivery restaurants, sliding rail food delivery restaurants, running water restaurants, etc. However, these unmanned restaurants can't complete the whole dining process without people, and can't complete ordering, sitting, dining, recycling plates, cleaning and leaving the dining table, which is the deficiency of the prior art..

2. Design Content

The technical problem to be solved in this design is to provide a fast food ordering system based on the Internet, which is convenient for consumers to eat unmanned in the whole process.

This design adopts the following technical scheme to achieve the design purpose:

The fast food ordering system based on Internet is characterized by comprising the following steps:

Step 1: Consumers order food and pay fees by downloading mobile phone software/scanning code with platform-level software. Before payment, they need to confirm compliance and cooperation with the rules of this dining system;

Step 2: Consumers use the verification code generated after payment/identify their identity through scanning to enter the restaurant. The system assigns reasonable table numbers to consumers according to the number of free tables and the number of people. Consumers' mobile phones display the table numbers that consumers should go to and guide consumers to eat at the corresponding tables;

Step 3: After the consumer sits down, click on the meal, and the display screen on the dining table displays the whole cooking process of the dish in the kitchen through the corresponding camera;

Step 4: sterilized tableware, various dishes, drinks, paper towels, etc. for dining reach the dining table of the consumer through the running water supply system;

Step 5: After pairing, the protective cover is opened, and the consumer takes out tableware, various dishes, drinks, paper towels, etc., presses the switch/mobile phone operation/closes the protective cover, and then the dining boat returns;

Step 6: After the meal is finished, the dining boat will come to the dining table by air, and the desktop screen/mobile phone software will prompt the consumer to put the garbage into the garbage bin nearby, and put all the items such as desktop dishes into the empty dining boat and ship them back;

Step 7: Consumers leave;

Step 8: the table cloth system rotates to disinfect and clean the table cloth;

Step 9: The dining table can be used by consumers at the next table.

The running water supply system includes annular pipes which pass through the kitchen and are fixedly communicated with a group of uniformly distributed food delivery pipes, each of which is respectively matched with a corresponding dining table, each dining table is fixedly connected with a circular baffle, each dining table is fixedly connected with an electric push rod 2, each dining table is fixedly connected with an electric push rod 3, each electric push rod 2 is fixedly connected with one side of the electric push rod 1 and each electric push rod 3 is fixedly connected with the other side of the electric push rod 1.

The electric push rod 1 is fixedly connected with a round rod, the push rod end of the electric push rod 1 is fixedly connected with the L-shaped rod, the round rod passes through the L-shaped rod, the L-shaped rod is fixedly connected with the protective cover, the protective cover matches the meal delivery pipeline, the electric push rod 2 is fixedly connected with a group of evenly distributed L-shaped shift rods 1, and the electric push rod 3 is fixedly connected with a group of evenly distributed L-shaped shift rods 2, and a group of L-shaped shift rods 1 passes through the annular pipeline respectively, A group of L-shaped baffles pass through the annular pipe respectively, and a group of L-shaped baffle bars 1 and a group of L-shaped baffle bars 2 are staggered.

The round baffle plate is fixedly connected with an electromagnet, the electromagnet matches the magnet, the magnet is fixedly connected with the dining boat, the dining boat is matched with the annular pipe, and the dining boat is matched with the meal delivery pipeline.

The dining cloth system includes a motor, the motor is fixedly connected with a symmetrical vertical plate, the symmetrical vertical plate is fixedly connected with the dining table, the output shaft of the motor passes through a vertical plate, the output shaft of the motor is fixedly connected with the runner 1, one end of the belt surrounds the runner 1, the other end of the belt surrounds the runner 2, the runner 2 is fixedly connected with the circular shaft 1, the circular axis 1 is hinged on the dining table, the dining table is hinged on the symmetrical circular axis 2, and the dining table is hinged on the circular axis 3.

One end of the two large table cloths surrounds one end of the circular axis one, the other end of each large table cloth surrounds the circular axis two, one end of the small tablecloth surrounds the middle of the circular axis one, and the other end of the small tablecloth surrounds the circular axis three.

The unmanned system is set in the entrance, delivery and dining area.

3. Implementation Mode

The following is a detailed description of a specific implementation mode of the design in combination with the attached drawings. However, it should be understood that the protection scope of the design is not limited by the specific implementation mode.

As shown in the figure, the design includes the following steps:

Step 1: Consumers order food and pay fees by downloading mobile phone software/scanning code with platform-level software. Before payment, they need to confirm compliance and cooperation with the rules of this dining system;

Step 2: Consumers use the verification code generated after payment/identify their identity through scanning to enter the restaurant. The system assigns reasonable table numbers to consumers according to the number of free tables and the number of people. Consumers' mobile phones display the table numbers that consumers should go to and guide consumers to eat at the corresponding tables;

Step 3: After the consumer sits down, click on the meal, and the display screen on the dining table displays the whole cooking process of the dish in the kitchen through the corresponding camera;

Step 4: sterilized tableware, various dishes, drinks, paper towels, etc. for dining reach the dining table of the consumer through the running water supply system;

Step 5: After pairing, the protective cover is opened, and the consumer takes out tableware, various dishes, drinks, paper towels, etc., presses the switch/mobile phone operation/closes the protective cover, and then the dining boat returns;

Step 6: After the meal is finished, the dining boat will come to the dining table by air, and the desktop screen/mobile phone software will prompt the consumer to put the garbage into the garbage bin nearby, and put all the items such as desktop dishes into the empty dining boat and ship them back;

Step 7: Consumers leave;

Step 8: the table cloth system rotates to disinfect and clean the table cloth;

Step 9: The dining table can be used by consumers at the next table.

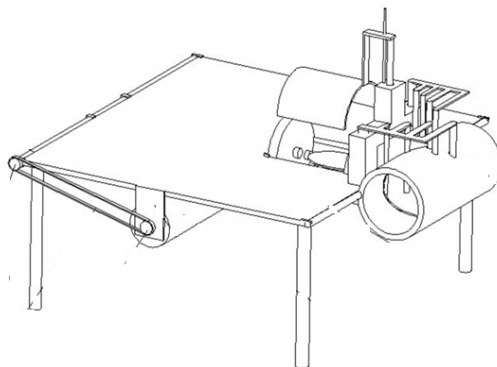


Figure 1 is the local three-dimensional structure of the design

The running water supply system includes annular pipes which pass through the kitchen and are fixedly communicated with a group of uniformly distributed food delivery pipes, each of which is respectively matched with a corresponding dining table, each dining table is fixedly connected with a circular baffle, each dining table is fixedly connected with an electric push rod 2, each dining table is fixedly connected with an electric push rod 3, each electric push rod 2 is fixedly connected with one side of the electric push rod 1 and each electric push rod 3 is fixedly connected with the other side of the electric push rod 1.

The electric push rod 1 is fixedly connected with a round rod, the push rod end of the electric push rod 1 is fixedly connected with the L-shaped rod, the round rod passes through the L-shaped rod, the L-shaped rod is fixedly connected with the protective cover, the protective cover matches the meal delivery pipeline, the electric push rod 2 is fixedly connected with a group of evenly distributed L-shaped shift rods 1, and the electric push rod 3 is fixedly connected with a group of evenly distributed L-shaped shift rods 2, and a group of L-shaped shift rods 1 passes through the annular pipeline respectively, A group of L-shaped baffles pass through the annular pipe respectively, and a group of L-shaped baffle bars 1 and a group of L-shaped baffle bars 2 are staggered.

The round baffle plate is fixedly connected with an electromagnet, the electromagnet matches the magnet, the magnet is fixedly connected with the dining boat, the dining boat is matched with the annular pipe, and the dining boat is matched with the meal delivery pipeline.

The dining cloth system includes a motor, the motor is fixedly connected with a symmetrical vertical plate, the symmetrical vertical plate is fixedly connected with the dining table, the output shaft of the motor passes through a vertical plate, the output shaft of the motor is fixedly connected with the runner 1, one end of the belt surrounds the runner 1, the other end of the belt surrounds the runner 2, the runner 2 is fixedly connected with the circular shaft 1, the circular axis 1 is hinged on the dining table, the dining table is hinged on the symmetrical circular axis 2, and the dining table is hinged on the circular axis 3.

One end of the two large table cloths surrounds one end of the circular axis one, the other end of each large table cloth surrounds the circular axis two, one end of the small tablecloth surrounds the middle of the circular axis one, and the other end of the small tablecloth surrounds the circular axis three.

The unmanned system is set in the entrance, delivery and dining area.

The system includes an electronic integrator and a monitoring system. The electronic integrator includes a processor, a memory, a signal transceiver and a battery. The electronic integrator includes a data receiving module and a data processing module. The data receiving module is connected with the data image processing module, and the data image processing module is connected with the processor, memory and signal transceiver, The battery is electrically connected with the processor, memory and signal transceiver. The monitoring system includes a camera, and the camera is electrically connected with the data image processing module.

The processor is electrically connected with a motor, an electromagnet, a dining boat, an electric push rod 1, an electric push rod 2 and an electric push rod 3.

A quality sensor is fixed on the dining ship, and the data of the quality sensor is connected with the data receiving module.

The data of data receiving module is used to receive information such as ordering, payment and so on.

Round shaft 1, 2 and 3 are attached with a layer of sponge material, which can be disinfected by applying disinfectant such as alcohol

The farther a group of L-shaped baffle rods 1 is from the meal delivery pipeline, the longer the cross bar of a group of L-shaped baffle bars 1 is.

The farther a group of L-shaped baffle bars 2 is from the meal delivery pipeline, the longer the cross bar of a group of L-shaped baffle bars 2.

Relative to the water flow direction, L-shaped baffle 2 is in front and L-shaped baffle 1 is in the rear.

The workflow of this design is as follows: consumers download mobile phone software / scan code to order meals and pay fees by using platform level software. Before payment, they need to confirm that they abide by and cooperate with the rules of the dining system. Consumers enter the restaurant by using the verification code generated after payment / identify by scanning, and allocate reasonable table number to consumers according to the number of free tables, Consumers' mobile phones display the table number that consumers should go to and guide them to eat at the corresponding table. After sitting down, consumers can click to serve. The display screen on the dining table shows the whole process of cooking the dish in the kitchen through the corresponding camera.

There is a uniform flow of water with appropriate height in the delivery pipeline, which can provide power through the water pump in the kitchen to make the dining boat at the appropriate height after being put in.

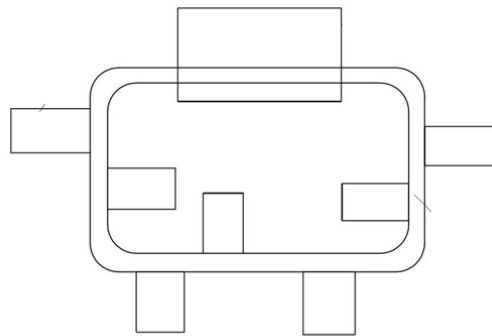


Figure 2 is the structure of the design

As shown in the figure is the structural diagram of this design, the sterilized tableware, dishes, drinks, paper towels, etc. used for dining arrive at the consumer's table through the water supply system. Consumers take out the tableware, dishes, drinks, paper towels, etc., press the switch / mobile phone operation / close the protective cover, and then transport them back to the dining boat. In the initial state, the protective cover matches the meal delivery pipeline, and the L-shaped baffle rod 1 and L-shaped baffle rod 2 are on the upper part of the annular pipe, which does not hinder the movement of the dining boat. The tableware, dishes, drinks and paper napkins required by consumers are put on the dining boat. The dining boat flows in the annular pipe, and the magnet is in the front end of the dining boat. The processor controls the electric push rod two of the corresponding dining table to shrink, and the electric push rod 2 drives the L-shaped lever 1 to move downward until the L-shaped lever 1 can restrict the dining boat from flowing with the water. The angle between the L-shaped lever 1 and the water flow is degrees, and the dining boat contacts the L-shaped lever 1, When the electromagnet absorbs the magnet, the processor controls the electric push rod to extend, and the electric push rod moves upward along the round rod, and the L-shaped rod drives the protective cover away from the delivery pipe, Consumers take out the tableware, dishes, drinks and paper towels from the dining boat. At this time, there is no other object on the dining boat. The quality sensor sends quality data to the data receiving module. The camera captures that the consumer's hand is no longer under the protective cover. The processor controls the electric push rod 1 to shrink, so that the protection cover matches the meal delivery pipeline. The processor controls the electric push rod 2 to extend out, the electric push rod 2 drives the L-shaped lever to move up to the original position, and the processor controls the electric push rod to retract three times, The electric

push rod 3 drives the L-shaped lever 2 to move back downward until the L-shaped lever 2 can limit the flow of the dining boat with water. The processor controls the electromagnet to change the magnetic pole (the exchange of positive and negative direct current can be realized through a simple control circuit, which is not attached to the circuit diagram in the prior art), so that the electromagnet and the magnet repel each other, so that the dining boat contacts the L-shaped baffle 2 and enters the annular pipe along the L-shaped baffle 2, Enter the kitchen along the annular pipe, and the processor controls the electric push rod 3 to extend out, so that the L-shaped lever 2 moves upward and returns to its original position.

After the meal, the empty dining boat comes to the dining table, and the desktop screen / mobile phone software prompts consumers to put the garbage into the garbage bin nearby, and put all the items such as desktop dishes into the empty dining boat and transport them back. After the consumer leaves, the processor controls the motor to rotate, the motor drives the wheel 1 to rotate, the wheel 1 drives the belt to rotate, the belt drives the runner 2 to rotate, the runner 2 drives the round shaft 1 to rotate, the round shaft 1 drives the large table cloth and the small table cloth to rotate, the big meal cloth drives the round shaft 2 to rotate, the small meal cloth drives the round shaft 3 to rotate, and the tablecloth system rotates to disinfect and clean the tabletop tablecloth, The table can be used by the next table of consumers.

4. Conclusion

1. The table top motor drives the wheel 1 and wheel 2 to rotate to realize the table cloth rotation. A layer of sponge material is attached to the round shaft 1, 2 and 3. The disinfectant such as 75 alcohol can be used for disinfection.
2. This design realizes no one to order, sit in, serve, recycle dishes, clean and leave the dining table. It improves the work efficiency and is convenient for users.
3. The L-shaped lever 1 and L-shaped lever 2 of the device realize the directional movement of the dining boat driven by the relevant electric push rod, so as to realize the delivery of meals and the recovery of meal plates.
4. Through very low cost, the device realizes automatic meal delivery, improves work efficiency and reduces the operating cost of the restaurant.

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