Smart Ordering System via Bluetooth

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ABSTRACT
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• Conventional method that usually been used in restaurant is by taking the customer’s orders and write it down on a piece of paper
• Many solution have been proposed for solving this problem.
• This presentation is again one attempt in the same direction.
• The project is proposed with Bluetooth as communication device and PIC as hardware
• LITERATURE REVIEWED
• S. A. Rosle proposed a smart ordering system by using cable and PIC.
• GeneralSoft Ltd, Silwood Business Centre had proposed “The SMART System”.
• Advanced Analytical, Inc created LRS Restaurant Server Pager Starter Kit.
• MGI Multimedia Sdn. Bhd.’s Malaysian Delights: Waiters uses PDA’s to submit order.
Based on all the literature reviewed the project came with one ordering system using keypads, display screens and Bluetooth communication.

Moreover the hardware and the software should be working synchronously. For this we use PIC microcontroller with connection to the both transmitter and receiver.
MATERIALS & METHODS
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- System Design
- System Process Flow
- Circuit Construction Process
- Software Development
  - Development for web applications
  - Development for microcontroller (PIC)
System Design

Keypad on the table

Rx/Tx

Using Bluetooth

PIC

Display on the counter/Kitchen

LCD DISPLAY

General block diagram of system design
System Process Flow

Start
- Customer chooses menu
  - Customer inserts code in the keypad
    - Microcontroller decrypts the code
      - uc transmit data via bluetooth transmitter
        - uc receive data via bluetooth receiver
          - uc process the data
            - The data processed sent to the kitchen
            - The order will be displayed on to the monitor
            - The data processed sent to the counter
            - The order will be displayed on to the monitor

FINISH
Circuit Construction Step 1

- Circuit design using Pronet software
Circuit Construction Step 2

- Ironed circuit in PCB with soldered component
Software Development

• Visual Studio (VB) 6.0 will be used to design the GUI of the project by using Microsoft Visual studio 6.0 developer tool.

• C will be used as the programming language to write the low level code for Microcontroller.
• Components
• **Electronic Order Keypad**
  - The keypad consists of open push button switch.
  - Each push button defines the ID

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>When Button 1-9 are pressed</td>
<td>Quantity of the menu selected</td>
</tr>
<tr>
<td>When Button A is pressed</td>
<td>Change the list of menu</td>
</tr>
<tr>
<td>When Button * is pressed</td>
<td>Send order</td>
</tr>
</tbody>
</table>
Power Supply

Generally a three pin configuration with input, output and ground.
The micro controller used in the project is PIC16F877A.
This controller has 33 inputs and outputs.

<table>
<thead>
<tr>
<th>Pin I/O</th>
<th>Connection</th>
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<tbody>
<tr>
<td>RB3 – RB5</td>
<td>Connection to the LCD display</td>
</tr>
<tr>
<td>RC0 – RC3</td>
<td>Connection to the keypad</td>
</tr>
<tr>
<td>RC6 – RC7</td>
<td>Connection to the Bluetooth device</td>
</tr>
<tr>
<td>RD0 – RD7</td>
<td>Connection to the LCD display</td>
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</tbody>
</table>
• Final Project
Final Project

Final integration with Keypad, micro controller and LCD.

Menu Order available to kitchen and billing counter
Future Enhancement

- Better input device like a smart phone.
- The interface of the keypad can be modifying for a better service to the customers.
- A LCD display can be added to the keypad for the customer as a reference to them during making an order.
• Conclusion
Conclusion

- The hardware and software of project is successfully functioned as the objectives of the project.
- Project solved the problem which is faced by the restaurant’s owner.
- It is also can be used to reduce the lateness and the error on ordering foods.
- By using this system, there are no more complaints about the services.
References

Q&A?

Thank You

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