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| |  |  | | --- | --- | |  | **MINISTRY OF EDUCATION AND TRAINING**  **FPT UNIVERSITY** | |
| Capstone Project Introduction |
| Smart Menu Solution |
| SMS TEAM |
| **Supervisor: Dr. Phan Duy Hung** |
| **Ha Noi, Aug 2012** |

**Record of Changes**

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**Contents**

[1. Introduction 4](#_Toc334713468)

[1.1. Purpose 4](#_Toc334713469)

[1.2. Project Information 4](#_Toc334713470)

[1.3. The people 4](#_Toc334713471)

[1.4. Definitions and Acronyms 4](#_Toc334713472)

[2. Abstract 5](#_Toc334713473)

[3. Literature View of Existing Systems 6](#_Toc334713474)

[3.1. Overview of Smart Menu Software in the world 6](#_Toc334713475)

[3.2. Overview of Smart Menu Software in Viet Nam 7](#_Toc334713476)

[4. Proposal 8](#_Toc334713477)

[4.1. Project Idea 8](#_Toc334713478)

[4.2. Scope 8](#_Toc334713479)

[4.3. Product Overview 8](#_Toc334713480)

[4.4. Global picture of project 9](#_Toc334713481)

[4.5. Principles of operation 9](#_Toc334713482)

[4.6. Advantages and Disadvantages 10](#_Toc334713483)

[5. Risk 11](#_Toc334713484)

[6. Conclusion 11](#_Toc334713485)

# Introduction

## Purpose

This document is the introduction for the **Smart Menu Solution** (**SMS**) Project, in scope of Capstone Project at FPT University.

## Project Information

Project Name: **Smart Menu Solution**Project Code: **SMS**Project Type: **Embebbed and Window Software**Group Name: **SMS Team**  
Timeline: **from Sep 2012 to Nov 2012**

## The people

***Supervisors***:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Full name** | **Phone** | **E-Mail** | **Title** |
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***Team members***:

|  |  |  |  |  |  |
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## Definitions and Acronyms

|  |  |  |
| --- | --- | --- |
| Acronym | Definition | Note |
| SMS | Smart Menu Solution | Name of project |
| SMO | Smart Menu Ordering device | Electric device to send customer request |
| SMR | Smart Menu Receiver device | Electric device to receive all request |
| SMT | Smart Menu Tablet device | Embebbed computer running Android OS |
| SMC | Smart Menu Chef device | Electric device to confirm dishes has done |

Table 1 – Definitions & Acronyms

# Abstract

Now, as everyone knows, in most restaurants, cafes, when customers select dishes on the menu, waiters must be waiting to take notes. Or after selecting, customers must call and wait waiter to record your chosen dishes. Then waiters must bring the orders to kitchen that travel distance is quite far.

In the kitchen, the manager will distribute the food to chef. When the dish is done, waiter will be call to bring dishes for the customers.

The noting orders by paper and ordering dishes in a traditional can have errors and lead to debate later. All this work if not well organized, it will cause congestion, confused, difficult to control and time consuming. Furthermore, with this approach, customers would not know now their dishes have been done anywhere. On the other hand, each time the customer needs waiter sometimes have waiting to be served so long, leading to customer dissatisfaction.

We need new solution to automatic all process in ordering dishes in restaurant. That is the reason why our team came up with this project idea, **Smart Menu Solution**.

# Literature View of Existing Systems

## Overview of Smart Menu Software in the world

* *83% of cafe and restaurant owners are not totally satisfied with their menus.*
* *Many are frustrated with designing and printing their menus themselves.*
* *Cafe owners are incredibly time-poor and spend a great deal of time working within the business, leaving little time for regular price and item updates.*
* *Others commented that their current menu was not representative of their business or its standards.*
* *It can take up to 6-7 weeks for a menu to be completed by a graphic designer and printer.*

*(Three Steps Ahead - Nov 2010)*

Despite the development in restaurant business profession, there are still more room for improvement and increase profit. These processes can be improved by applying new technology. Menu can be create and maintain in a faster, more convenient way, ordering and billing can be done in a faster, more accurately manner. Many attempts in the world have made certain result but still need further development.

Some Smart Menu products in the world such as:

* Plate[[1]](#footnote-1)
* Usablehealth[[2]](#footnote-2)

Plate has offer a smart menu that mainly cover the creating and maintaining menu process. By using tablet and app to replace the tradition menu, this solution could make the process of creating menu, update price more robust and convenient. A few click would instant update their menu instead of go to each table and do this manually on tradition menu. And by using the tablet, it also increase visual of food drink and thus increase the sale about 15%.

Usablehealth’s product provides more with directly order via menu feature, remember customer order. This feature help customer more comfortable when ordering, faster billing without mistake, reduce the cost and improve sale. The feedback from customer and restaurant owner are positive has a lot of potential.

## Overview of Smart Menu Software in Viet Nam

After studying and researching in Viet Nam market, we have found some Smart Menu products such as:

* BicProduction iMenu [[3]](#footnote-3)
* VienPhuc ezMenu[[4]](#footnote-4)

The table below shows available functions of the existing systems:

|  |  |  |
| --- | --- | --- |
|  | iMenu | ezMenu |
| Support Handle Mobile | V | V |
| Support Multi Languages | V | V |
| Call waiters | V | V |
| Custom comment for dishes | V | V |
| Cancel dishes | V | V |
| View dishes status |  | V |
| Print billing | V | V |
| Auto distribute dishes |  | V |
| Chef configuration |  | V |
| Software management in PC | V | V |
| Custom menu | V | V |

Table 2 – Existing System’s Functions

# Proposal

In scope of Capstone Project at FPT University, we aim to develop a new solution for restaurant, acting as a bridge between the customer and the restaurant.

## Project Idea

The project idea came up from the actual need of restaurant, customer, waiter. We found that none of the existing system is widely applied in Viet Nam because of some problems such as price, functionality, usability, etc. It means that the market is still available for our product if our product can satisfy market’s demand. That is the reason why our team decided to develop a new product of **Smart Menu Solution**.

**Smart Menu Solution (SMS)**: Calling dishes system in the restaurant, call SMS, is the innovative solutions and effective in serving customers. The system will meet the immediate needs of customers, helping them happy, satisfied with the way the restaurant serves. All processes from customers to choose the dish, move the menu down the kitchen, the chef made ​​dishes, transferred to waiters to bring, call billing, receipt printer ... the system are carried out automatically by the application of information technology and electronics.

## Scope

Our solution has two products for two type of restaurant:

|  |  |
| --- | --- |
| SMS Basic | SMS Professional (coming soon…) |
| - Small restaurant, cafe shop, diner shop - Cheap price - Provide simple electric device to select dishes called SMO - Have all basic function - Can’t custom comment dishes - Need paper menu | - Large restaurant - Expensive price - Provide software in tablet (Embebbed computer running Android OS) called SMT - Have all basic function - Can custom comment dishes - No need paper menu |

Table 3 – Scope of product

## Product Overview

**Expectation of the product**:

* Provide the basic function of ordering, billing and statistic.
* Provide new electric device to order dishes
* Provide Window management software to manage orders, billing and automatic distribute dishes to chef.
* Stability.
* Acceptable price.

**Available features of the products:**

* Using SMO to select the menu
* Support two language: English or Vietnam
* View the status of dishes: Have not done, is doing or has done
* May cancel dish to put something else, if it has not done
* Call waiters at any time with just one click. Staff received information will be available immediately
* Cash requirements, receipt printer is done right and with just one button, no waiting
* Automatic distribution to chef make food

## Global picture of project

SMR

Sever PC

Printer

1

2

3

4

5

6

7

8

9

OK

Finish

Cancel

**Cashier**

SMO

1

2

3

4

5

6

7

8

9

OK

Finish

Cancel

1

2

3

4

5

6

7

8

9

OK

Finish

Cancel

**…**

**Restaurant space and SMO devices**

**Display**  
Show list dishes have to cook

1

2

3

4

5

6

7

8

9

OK

Finish

Cancel

SMC device: inform dishes has done

**Kitchen**

Figure 1 – Global Picture of Project

## Principles of operation

Client order dishes by using SMO. They enter the dish ID, quantity. Then they confirm their input, SMO will send the ordered data to SMR.

After SMR receive the data from SMO, it transfers that data to the server PC with order information about table ID, dish ID, quantity. An application in computer will use algorithm to sort the order base on priority and transfer that list to the kitchen.

The list includes information about dish name and quantity then will be displayed on a screen at the kitchen. The chiefs will make the dishes base on that list. In case a client cancel some dishes, kitchen will be inform and host need their confirmation to actually cancel a dish.

When a dish is finished, the PC server will be notified via the SMC device in the kitchen. A waiter brings dishes to the client.

After customers finish their meal, the customer can inform the PC server to print the bill. A waiter only needs to bring that bill to the customer and collect the bill.

## Advantages and Disadvantages

**Advantage**:

* The smart menus replace your entire menu with our software.
* Changes can make quick updates to your menus such as adding new items, editing existing ones, and removing them. All changes are instantly published across all your menus.
* This new product was designed to improve the fine dining experience and has delighted the many diners that have tried it. Many consumers today rush through the menu.
* In some cases diners spend more time with the menu, since they are enjoying the experience and exploring the menu. In fine dining establishments where turn times range from 60-120 minutes, a few extra minutes does not result in lost opportunity. Unlike quick service, the focus of fine dining is a great experience not maximum efficiency. Since diners order 10-15% more with smart menus, letting diners linger a bit longer can result in greater customer satisfaction and more sales.
* Customers can choose quantity and take notes easily for their favorite food.
* Work 24/7

**Disadvantage**:

* No include photos of dishes.
* No custom comment of dishes. (In this basic version)
* Need menu paper. (In this basic version)

# Risk

* Half of the project team members do not has experiences working in real project.
* The Team leader lack of project management skill, experiences.
* None of the project team members has been worked as tester position.
* The facilitation for developing the project may be the risk (like: places, equipment, etc.)
* Lack of experiences of estimating time and budget for developing project.

# Conclusion

SMS is not only an awesome application of information technology, but also a criteria for top class expressing, brings absolute satisfaction for customers, and contributes more sales for the restaurants.

1. <http://www.plateinc.com/> [↑](#footnote-ref-1)
2. [http://usablehealth.com/smartmenu](http://usablehealth.com/smartmenu/) [↑](#footnote-ref-2)
3. <http://www.bicweb.vn> [↑](#footnote-ref-3)
4. <http://vienphuc.com/> [↑](#footnote-ref-4)