

Implementation

5.1 Introduction

This will discuss about implantation of the Mobile based restaurant reservation system. Implementation of code module and database are the most critically concerned sections of this chapter.

The process of choosing implementation environment and the resource requirements will also be discussed in this Chapter.

5.2 Implementation environment

This section describes the resources necessary for implementing system in categories of hardware and software utilized during implementation.



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- Microsoft ® Windows XP/Vista/7
- XAMPP 1.73 for Windows
 - Apache 2.2.12 (IPv6 enabled)
 - MySQL 5.1.37
 - PHP 5.3.0
 - phpMyAdmin 3.2.0.1
 - FileZilla FTP Server 0.9.32
- XHTML MP/HTML and CSS used for create to wap/web pages
- WML Script, Java Script used for form validation
- Adobe Dreamweaver 8, Microsoft Visio 2003, Rational Rose 2000 Enterprise edition, Microsoft Paint were also used as other development tools.

- Some of the third party free software have also been used to capture mobile screen
 - i. winwap_spbe-win32 - WinWAP smartphone browser emulator
 - ii. wproof2008pro – Wap Proof 2008 Professional

Hardware used

- Server computer – Web hosting
- GPRS activated and WAP enabled suitable Mobile phone
- PC with at 1 GHz 32-bit or 64-bit processor with internet connection

5.3 Input/ Output design implementation

The screen output design is an important design task in the development of the human computer interfaces. The success or failure of a system development effort rests on this element of the design. Poorly designed HCI lead to user frustration and disinterest in using the system, which leads to the system being abandoned shortly after it is deployed. The output design should be flexible to provide for the adaptation of differing user requirements for display of data.

The following were taken into consideration when designing the screen outputs

- What are the contents of the screen output?
- The navigation of a page
- How to present information

Sample screen shots are provided in appendix- C

5.4 Database implementation

The Entity Relationship Database developed in the structured analysis in chapter 4 is used as a guide in designing the database diagram for the restaurant relational database schema; the primary keys are underlined. Referential integrity constraints displayed on the Restaurant relational database schema. Database implement in mysql 5.1.37.

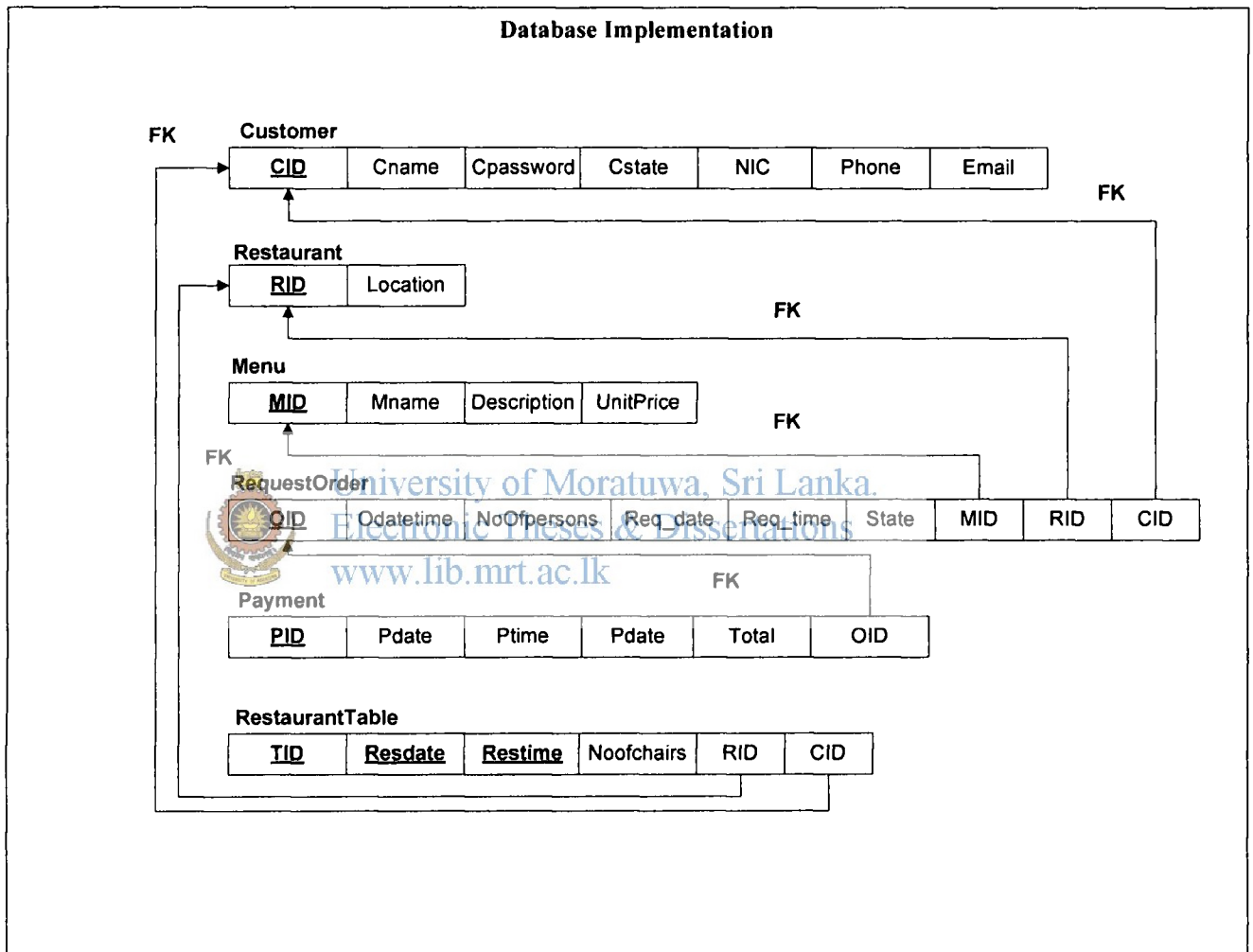


Figure 5.1 Database implementation

Used table structures are given with descriptions.

5.5 Code module

The system design used in the Mobile based restaurant reservation system is a layered model, which is the client server three-tier system architecture of a browser front-end, a web server in the middle tier and a database server at the backend shown in Figure 5.2.

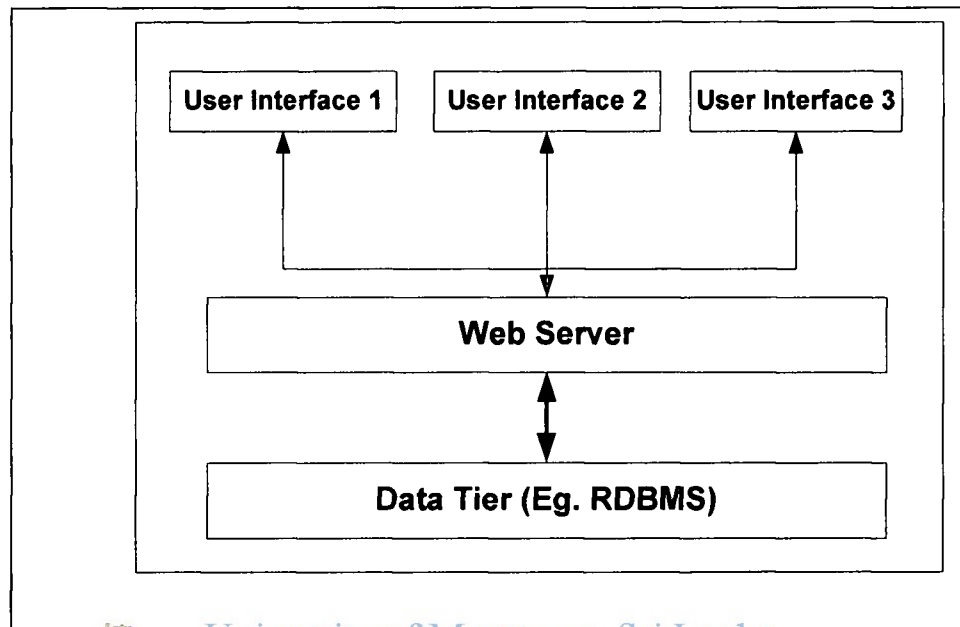


Figure 5.2- Coding structure

In the three-tier client server architecture the user, using a web browser located at the client end requests web pages from device. The web server takes these requests and passes them on to the database as SQL queries. The mysql processes the queries and sends the results set back to the web server. This data is processed as specified in the script and the results served back to the user as WML/HTML pages for display depending on the client's web browser in the device.

The PHP script is executed in the web server is called server side scripting and is not visible to the client. This protects the script from tampering by users and protects the processing functionality of the application. Sometimes it is not advisable to perform all data validations on the server as they ties up the web server system resources leading to a drop in system performance. To overcome this problem there should be a client side script, which is executed by the browser- scripting engine. The application makes use of server side script for its processing functionality.

Adobe Dreamweaver 8 used as Php IDE (editor). Dreamweaver is a powerful web page creation and web site management tool. It offers numerous easy to used user friendly working environment by supporting technology such as CSS, JavaScript, etc that can be used to create professional quality web sites. Coding environment display in Figure 5.3.

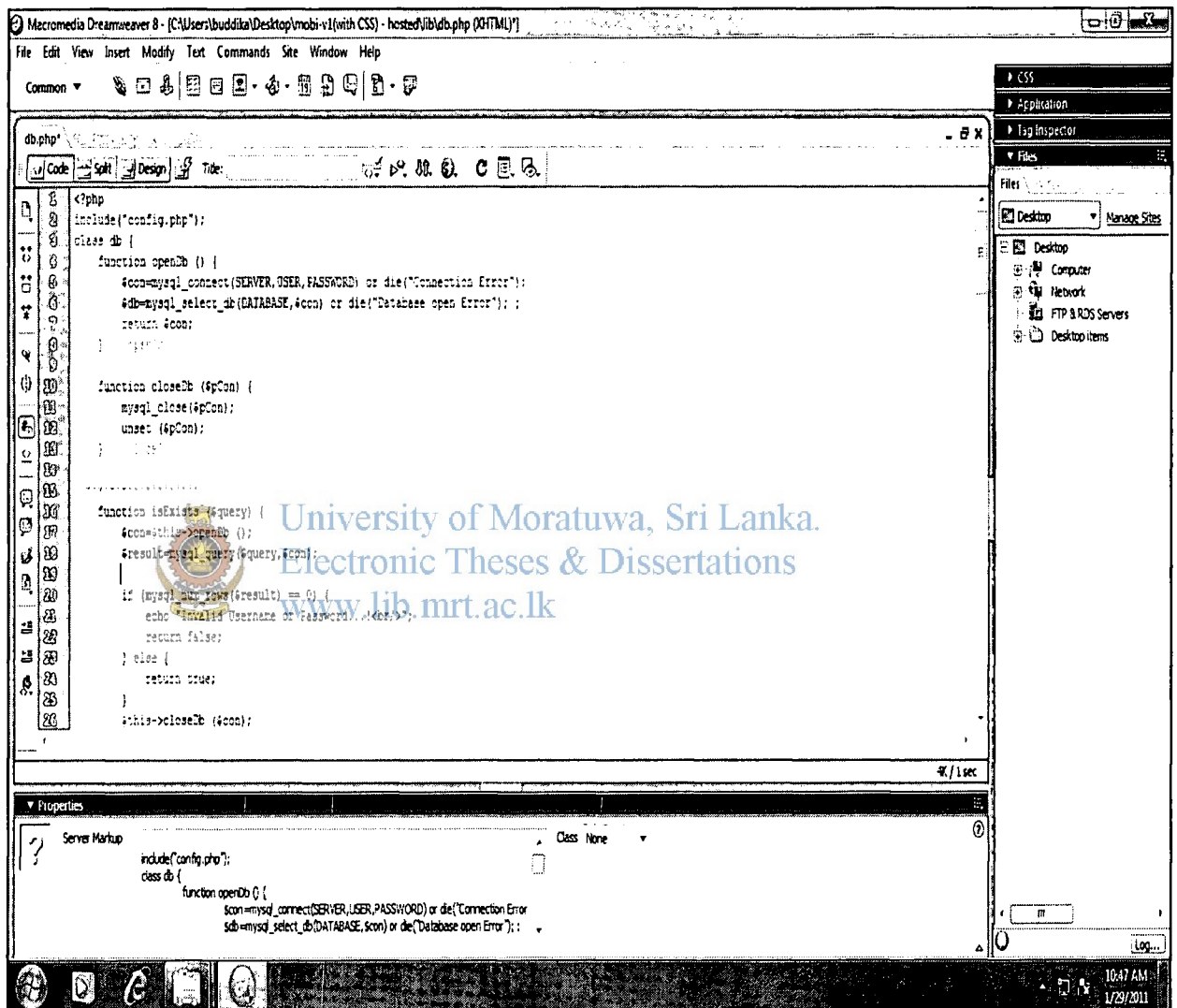


Figure 5.3 - Coding environment

One of the most valuable parts of the coding is application specific global environment data that is put into “Config.php” file. The major advantage of the “Config.php” file is data can be changed without affecting compiled code of the application.

```

<?php
define ("SERVER","sql104.byetcluster.com");
define ("USER","fees0_6871937");
define ("PASSWORD","19760613");
define ("DATABASE","fees0_6871937_Hotel");
?>

```

1. WAP enabled mobile based module

WAP enabled mobile based module is main module that provide it's functionalities to customer. The main function and flow of system operations are display following diagram.

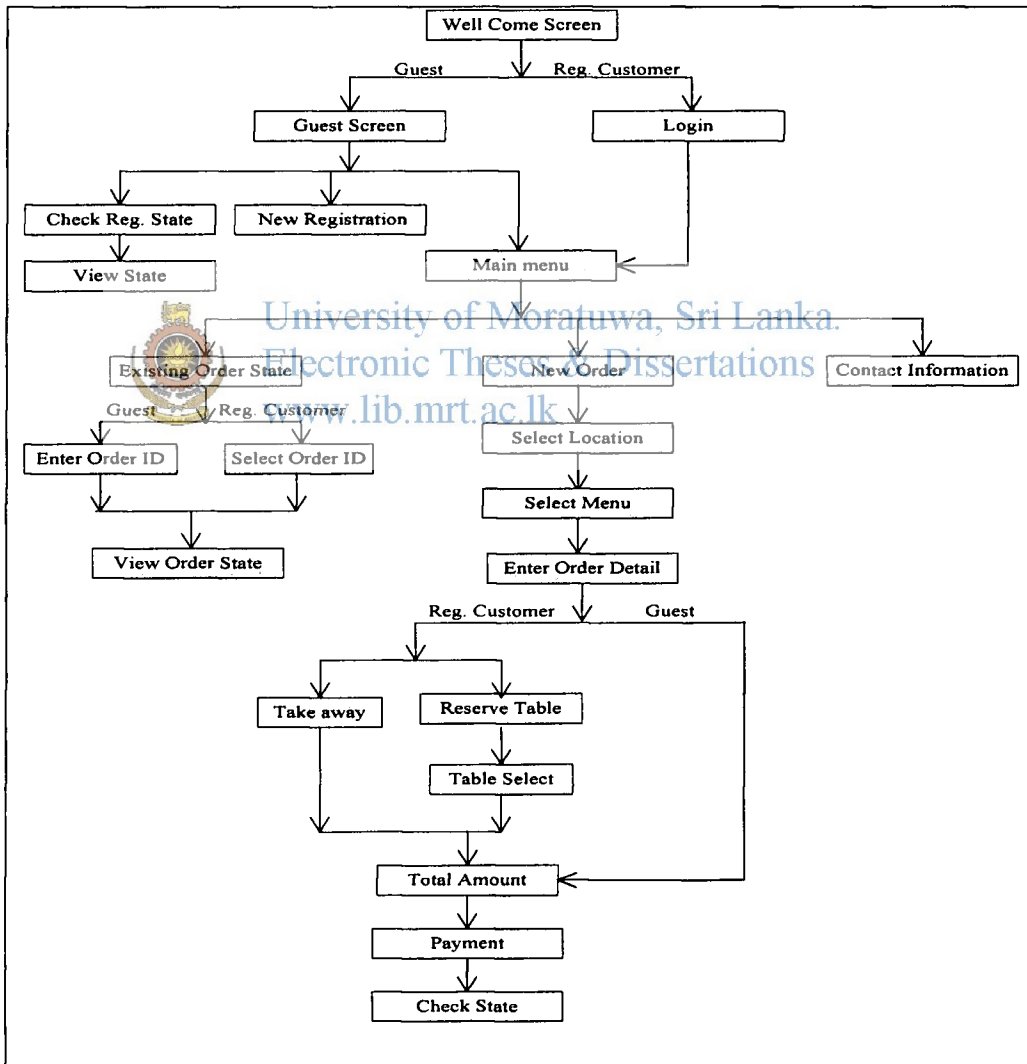


Figure 5.4 – System flow

“functions.php” and “db.php” are very essential php files. All the validations and calculations are included in “functions.php” file.

Total bill calculation is done under the function “calculateTotal” and associated code is shown below. Menuid and ordered quantity values are passed to function and return total amount.

```
Include("db.php");
function CalculateTotal ($MID,$QTY) {
    $db=new db (); // create new object db class
    $query="SELECT UnitPrice FROM Menu WHERE Mid='$MID'";
    // Call unitprice function in “db.php” and assign value in to UPR variable
    $UPR=$db->unitPrice($query);
    $TOTAL=$UPR*$QTY;
    return $TOTAL;
}
```

WAP enabled mobile based module main part of this system. There are two type of customers type in this system registered customer and guest. Implemented main functionality of WAP enabled web application describe below.

➤ Request order

All customers can have request order. Login to system and select new order link can navigate to select location page. Restaurant location and can navigate to Select menu page display all fix menu name, description and unit price. Customer selects one of fix menus customer should be enter

- Quantity
- Required date
- Required time

Above values validate by system. If the Validation is true system will generate unique OID for newly proceeded order.

Ex : required date >= current date - validate by system

```
// The order date validation is done under the following code segment
```

```

if($Year>=$CurYear && $Month>=$CurMonth && $Date>=$CurDate ){
    return true;
}
else {
    return false;
}

```

➤ Table reservation

Successfully order request system by provide table reservation facilitate for registered customers. They can desire take a way or table reservation their preference. If customer select reserve table, system will list all available tables, it's no of chairs, required date and time.

➤ Payment

This function facilitates validation part in my project. Enter following detail and validate by system below

- Select card type
- Enter card number. – validate 16 digits
- Card code – validate 4 digits
- Customer name

Ex- card number validation

```

function IsCARD($CARD){
    // Check value numeric and length equal 16
    if (is_numeric ($CARD) && strlen($CARD)==16)
    {
        return true;
    }
    else {
        return false;
    }
}

```

➤ View order state

All customer can view own order state. Select “order id” facilitate to registered customers and enter existing “order id” facilitate to guest. View order state to customers according to set the order state by chef.

➤ Request new registration

Request new registration facilitate to guest. Guest should correctly enter detail to new registration page. If the validation is true, the system will set default state as pending. The newly inserted record in to database displays view administrator control panel as new request. Enter following detail in to new registration form

- Name
- Password
- Confirmed password
- NIC
- Phone
- Email



2. Web application for restaurant management

Web application provides restaurant management there are main two user's administrator and chef.

Administrator

➤ Set state customer registration request

Set state customer registration request following option

- Accept
- Reject
- Pending (default)

➤ Edit existing menu

Edit existing menus by administrator. Enter available menu id and can modify

- Description
- Unit price

➤ Add new menu

Add new menu in to restaurant enter following detail

- Menu name
- Description
- Unit price

➤ View customers and orders detail

View customers and orders list

Chef

➤ Set order state

Set order state by chef according to request by customer. Chef can update following option

- Pending (default)
- Processing
- Ready
- Closed
- Delay
- Reject

➤ View pending orders

View pending orders by online. Page refresh automatically at given time period.

➤ View all orders

View all orders list

5.6 System implementation

After completed the coding part, system was deployed on a web server. Sample screen shots are shown in figure 5.5



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5.7 Summary

Chapter- five discussed implementation of the system. Coding structure and database implementation were concerned in this chapter. Mobile based restaurant reservation system is a three-tire application and coding complied. Php files will reside in web server and database is implemented on mysql server. Next chapter discusses about evaluation of the system.