Interactive tailor system

by

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Dissertation submitted in partial fulfilment of
the requirements for the
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(Information Communication Technology)

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CERTIFICATION OF APPROVAL

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_____
Ms PENNY GOH

UNIVERSITI TEKNOLOGI PETRONAS
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CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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LOMADJI THIBO SAUVEUR

ABSTRACT

Interactive Tailor System is an online system designed for tailors. A system that enables tailors to keep the data of their customers. A profile of each customer will be created by the tailor. All necessary details of the clients are stored in the system and retrieved. The measurements of customers will be recorded and found easily when needed. The tailors will use a picture see the measurements of the customers. The tailor will need to click the leg in order to see how much it measures. Before using the system users need to register then they must login with their username and password in order to enter the system. The system is constituted of different components such login function, insertion of data in the database, extraction of data from the database, search facility, mail sending. The methodology chosen to develop this system is waterfall model approach. This method is simple to implement, the amount of resources needed are minimal and after each phase the output is obtained, therefore it has clear visibility.

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CHAPTER 1
INTRODUCTION

1.1 BACKGROUND OF STUDY

We are in a world where it is not easy for corporations and small enterprises to survive without using computer. Companies that want to grow have to use computerized systems in order to perform their tasks. Saving time and money is a very crucial matter for enterprises therefore companies will make use of computers and internet in order to speed up their transactions. In the era we are living now, it is very difficult for an enterprise that does not use technology means to compete with other enterprises. Not using computerized system will let you behind others and will slow down your enterprise. Paper-based systems have no place nowadays. Recording data on paper is very obsolete. A very efficient to keep data is to create an online database. Once the data are saved in a database, we can access the data anywhere anytime. The information retrieved from the database with easiness and within seconds. As a company there it is important to have a database in order to keep data regarding your customers. Business depends on customers therefore we need to use technology tools to collect data of the clients.

Enterprises want to complete their work faster, so interactive, responsive and efficient applications are decisive. People love to use systems that are user-friendly with a nice interface.

Looking at the impact of technology on business, it is very important for small and big businesses to use computerized systems.

Like others entrepreneurs, it's efficient and interesting for the tailors to use computerized system to perform their daily tasks. A system that is interactive, fast that allows them to do tasks quickly and with easiness.

1.2 PROBLEM STATEMENT

Until now the tailors use a paper based book to keep the information of their customers. They record the data of their clients manually. This procedure is obsolete and outdated therefore it is not efficient. This manual way will take more time utilization and it is not interactive. The paper based book in which information are recorded will not last for a long time, it might be lost. It is also tiring to move the book from time to time. Looking for customer information in this book is not easy; it is a waste of time as you need to go through some pages before getting the needed details of the customer.

1.3 OBJECTIVES AND SCOPE OF STUDY

The objective of this project is to design an interactive and online application system with a user friendly interface that allows tailors to perform their operations.

Interactive Tailor System is designed for tailors in order to help them recording the information of their customers. The system enables the tailors to keep the measurements of their customers in a database. The tailor creates the profile of each customer. In the profile all the details regarding the customer can be found in an interactive manner. If the tailor wants to see the body measurements of the customer, he just needs to click the picture. For instance to check the measurement of the leg he will click the leg in the picture and the data will be shown. A search feature allows tailors to easily search customers in the database. Email can be sent to customers through the system.

1.4. PROJECT RELEVANCY, FEASIBILITY

1.4.1. Technical Feasibility

Building this system is technically feasible. The hardware and software needed are all available, it not difficult to get them. Brief I can say the necessary resources needed for the development and maintenance of the system are available. I am going to use web programming languages and database.

1.4.2. Operationally Feasibility

The project I am developing is operationally feasible as there is no need for users to have good knowledge in computer before using it. The user can learn and use the system with easiness; he just needs to read the manual or tutorial from the developers.

1.4.3. Economical Feasibility

Besides being technically feasible, developing this system is economically feasible as well. The development of the system does not require the developers to spend a lot of money. The tools I will be using to develop the system are not expensive and the softwares are open source. All I need time. All I need is time. Even the maintenance of the system will not be expensive. The system is indeed economically feasible.

CHAPTER 2:

LITERATURE REVIEW

2.1 INTRODUCTION

Computerized and online systems have been increasing in every aspect of enterprises. Information Technology plays a very important role in the way people run enterprises. Computers and internet have made dramatic changes in the enterprise system. Information technology enables enterprises to save space and time, and allow the delivery of enterprises services with easiness, anywhere, and anytime. For instance shops are equipped with applications that allow them to process transaction quickly and without difficulty. Paper based books are replaced by online and off-line applications. With computer software, we can be able to have access to huge databases of information. This gives fundamental change to the enterprises. Information technology makes the exchanges of information fast and easily.

With the growth of IT a huge quantity of data can be stored in database can retrieved within few second without wasting time. Computers are a powerful tool used in all aspects of enterprises. Information technology provides systems that allow industries to perform many tasks in an automatic way and not manually. Enterprises can keep data using computerized system; they don't need paper-based system. They save time and money when using computer system for their transactions.

With the importance of technology enterprises have come to understand how valuable the time is. The importance of technology has made enterprises understands the value of time. In the past people spend a lot of time to finish a job. But nowadays technology has indeed decreased this huge amount of time spent to something which can be obtained in the minimum time slot.

The growing of technology has helped many people, especially enterprises owners. Nowadays, many enterprises rely on technology to perform their daily transactions and if we take it away vast majority of the enterprises operations would crush.

No matter how large an enterprise is, you would see that they know the importance of technology. Enterprises need technology for the development of the different enterprises tools such as information management system, Point of Sales system, production automation, marketing and communications. A company would need information management system to help them manage employee and clients' profiles, keeping accounting data and tracking the overall performance of the enterprises. Also, these enterprises employ the use of technology in order for them to deliver goods and services in a time-efficient, cost-effective and safe manner.

People want not just a simple system but they enjoy working with applications that are interactive and responsive to users.

2.1. EXAMPLES OF TAILOR SOFTWARES

The following examples are the tailor software developed by companies. All the softwares are offline applications and are not interactive.

2.1.1. Tailor Master 8.0

Tailor Master is off-line desktop software developed for tailoring shops owners that need to efficiently manage their clients and orders. It manages the customer's information, job booking, worker's wages, and give instant status report of jobs in processing.

This program is designed for every type of user and will be easily learned by new users. It is also very efficient in entering measurements and new jobs. You can create new jobs, add new customers and items and keep them in a database that you access anytime.

Here are some key features of Tailor Master 8.0:

- Manage customer's information
- Manage worker's accounts and there process
- Create and Print Job Card
- Add Images of clothes samples to Job Card via web cam
- Send SMS to customer about status of their job

- Predicts estimated delivery date of job.
- Trial Dates management, Trial Date reminders
- Track uncompleted (work-in-progress) jobs, completed jobs and alteration jobs.
- Have more control over production.
- Trial dates management
- Trial day reminders
- Birthday reminders
- SMS birthday wishes to Clients
- Ranking and Feedback for every Jobs
- Worker's Ranking and Scores Reports
- Petty Cash Book
- Day Book
- Sales Register
- Quick Find
- Batter Payroll Management
- Work Overview Reports

2.1.2. Assersoft.com

They have developed this software for catering the needs of ladies and gents tailoring shops. It manages the customers, booking, workers' wages, and suppliers and gives instant status report of jobs in processing.

Key Features:

- Customers: Registration of customers.
- Measurements: Database of customers measurements.
- Booking :While booking the system will show the measurement of the customers and if not recorded earlier, can be added with a few clicks
- Management: Each booked job will be available in a list to send cutter and tailor. The system will record the wages of this job in respective cutter and tailor account automatically. Status of a tailoring job in hand will instantly be available.

- Inventory Control: Complete inventory control for readymade garments and clothes that the tailoring shop may have for sale. Stock, sale and purchase reports will be available.
- Suppliers: System will maintain the suppliers and accounts and payment record.
- Accounts: System will maintain the customer's account and will reflects previous outstanding, if any in new booking receipt.

2.2. COMPUTERIZED SYSTEMS

Technology advances so fast that computers become part of our daily live. People use computers everywhere, at work, at school and at home. The computerized systems are very efficient, process huge amount of data and keep big amount of information.

Malolos et .al (2002) says that the automated systems are important as the time and manual efforts are minimized.

Janes(2001) elaborated that computers are devices that are greatly reliable and very powerful. He said that computers possess three advantages compared to other equipments in the office. The computers have theses three benefits in the sense that they are faster, more accurate and more economical.

Reyes (2005) stated that perform work manually is time consuming. But using computers make our task more practical.

In Flores (2002) point of view, he defined automation as the replacement of machine control of human.

According to Dioso (2001), computer helps in planning, organizing and controlling in an intelligent manner.

In Ralph M. Stair (1999) point of view, the growing of technology helps people to perform a lot of tasks with less effort.

Gurewich (1999) said that in any corporation the work is done faster when using database system. With the use of computerized system everything is done faster compared to tasks that are performed in a manual way.

Mane (2000) said that the invention of the computer made the task easier to perform than by doing it manually. The computer is very necessary for everyone and it is very

god productivity machine. The data are stored in the computer and users can access the information whenever they are in need.

Bryan (2006) defined the information as a set of people, procedures and resources that collects processes and distributes information in an organization. They consist of simple manual information system and as well as computer based information system that uses hardware, software telecommunication and other forms of information technology.

Sender (2002) referred computers as an intelligence amplifier that can free human to use their time effectively. Computers perform tasks with high speed and accuracy.

Thowsand (2005) defined database system as a structured set of data. These data can be about people, products or event.

Adamski (2007) highlighted the benefits of database by saying it is economical, a lot of information can be retrieved from some amount of data, and there is control of redundancy, integrity, security, flexibility, responsiveness, improvement of maintenance and data independence.

2.3.WEB-BASED APPLICATION

Web application is defined as any application that is accessed through web over a network for instance Internet or intranet. Web applications

Nijaz (2000) stated that web applications are famous from the fact that there is ability to update and maintain theses application without disturbing and installing software on millions of clients' computers. In the same way, Bohle (2002) also elaborated the popularity of web applications because of the ubiquity of the client.

Athanassopoulos et al (2001) stated that web has revolutionized the computer and communication in an unprecedented way. According to Nijaz (2000) and Jurca (1999) the web is world- wide and has capacity to broadcast, it s a mechanism to distribute information, a platform that allows users to collaborate, to interact regardless the geographic location.

The principal reason for enhancing the Web services is to build systems that interactive, friendly and flexible to users.

2.4.PROGRAMMING LANGUAGES ON THE WORLD WIDE WEB

Enright (1999) enumerated that the web is the largest information store with around 36,739,000 hosts, 4,270,000 sites, and billions of documents.

The web presents graphical and texture information. With the web programming languages such as HyperText Markup Language (HTML), Practical Extraction and Report Language (PERL), Java, JavaScript, and Virtual Reality Modeling Language (VRML), we can create an interface that is interactive, visually and vocally interesting.

The most famous and used programming language is HyperText Markup Language (HTML). Apart from specifying hyperlinks, it describes the syntax and location of specific directions that indicates how text, images, graphics, and video within a Web page are displayed on a browser. Since its creation HTML has been developed in different versions. The World Wide Web Consortium located at Massachusetts Institute of Technology is the body that is in charge of developing the standards for HTML. The first version of HTML (HTML 1.0) was developed in order to publish scientific articles on the web. The second version which is HTML 2.0 was designed in 1994 and additional features such as text field, pop-menus and buttons. The next year the third edition HTML 3.0 was. Nowadays many people use HTML 4.0 and HTML 5.0 which is the latest version. HTML is created with standard text editors. Many software are used to develop and edit HTML for example: Symantec Visual Page, Macromedia Dreamweaver, and Microsoft Front Page.

Internet has a very useful aspect that is the capability to interact with servers. This is achieved by using the Common Gateway Interface (CGI) scripts. They are scripts that are used to accomplish a predefined task when initiated by the user. The scripts perform task such as searching and executing on the server when a client makes a click on elements on the webpage (Newton, 1998). Practical Extraction and Report Language (PERL) is one of the most common and famous methods that allows to write CGI scripts. PERL was created in 1986. Biedby(1997) stated that PERL is powerful and flexible like high-level programming such as C and it is easy to learn. Element of animated Web pages and user interactivity are supported by the web. There are many programming language that can be used to develop theses web elements for instance Sun Microsystems' Java. Harold (1997) said that Java is an object-oriented language with element from C, C++ and other languages, and with

libraries for the Internet environment. Harold (1997) stated that Java is the first programming language developed with networking in mind. It provides qualities that are important for instance platform-independence and security. It enables to create applications and left on the web and users can download anytime they are in need. Besides Java programming we have also JavaScript that allows developing a system that is interactive, real time responsive. Newton (1998) said that JavaScript is an alternative of Java designed to enhance web pages and servers. With JavaScript Stand alone application are embedded into HTHL or Java applets. Ritchey (1996) stated that JavaScript has the capability that allows developing systems that are responsive to user with no need of server-side program. JavaScript is interpreted by the browser when it is executed. The Web is also used for 3-D graphics presentation. This feature is accomplished with the use of modeling language called Virtual Reality Modeling Language (VRML). This language was created in 1995 and allows creating dynamic worlds and sensory-rich virtual environments on the Internet. Using VRML, we can create buildings, vehicles in a 3-D dimensional virtual world can be seen on the web. Ames (1997) elaborated that VRML enables object animation, audio, video and user interaction to be incorporated through the use of script.

CHAPTER 3
METHODOLOGY

This chapter describes the methodology that is used in the project. The methodology chosen is the most common used approach for software engineering projects: Waterfall Model. This model is chosen as it is flexible and suitable for the project. The process steps are discussed in this section.
The research methods are the techniques used during the research, for instance data collection technique, data processing technique.

3.1 RESEARCH METHODOLOGY

The methodology tools used for system requirements are: acquiring information and knowledge about interactive systems and tailoring systems through reading books, and researches that were previously done in related area.
Reading, comprehending and analyzing literature review and matching information obtained to existing systems to defining weaknesses and overcome with improvements.

3.2 SOFTWARE DEVELOPMENT PROCESS

In order to give solution to problems in an industry, software developer or a team of developers must incorporate a development strategy that encompasses the process, methods and tools layers and generic phases. This strategy is often referred to as process model or a software developing paradigm. A process model for software developing is chosen based on the nature of project and application, the methods and tools to be used, and the controls and deliverables that are required. All software development can be characterized as a problem solving loop in which distinct stages are encountered. Regardless of the process model that is chosen for a software project, all of the stages coexist simultaneously at some level of detail.

The methodology chosen to develop this system is waterfall model approach. I opted for this method because I found that it is the best for my project where the stages

involved can assist my level of progress. Many developers prefer waterfall model and widely use it as a development strategy.

Waterfall model approach is chosen because the approach allows the development of the system to be revised after the stages is finished. Once the stages are not satisfied, then going back to the previous stages can be considered necessary to add or modify any features. The different stages for this model:

- Project Planning
- Requirements Design
- Design
- Development
- Integration and Testing
- Installation and Acceptance

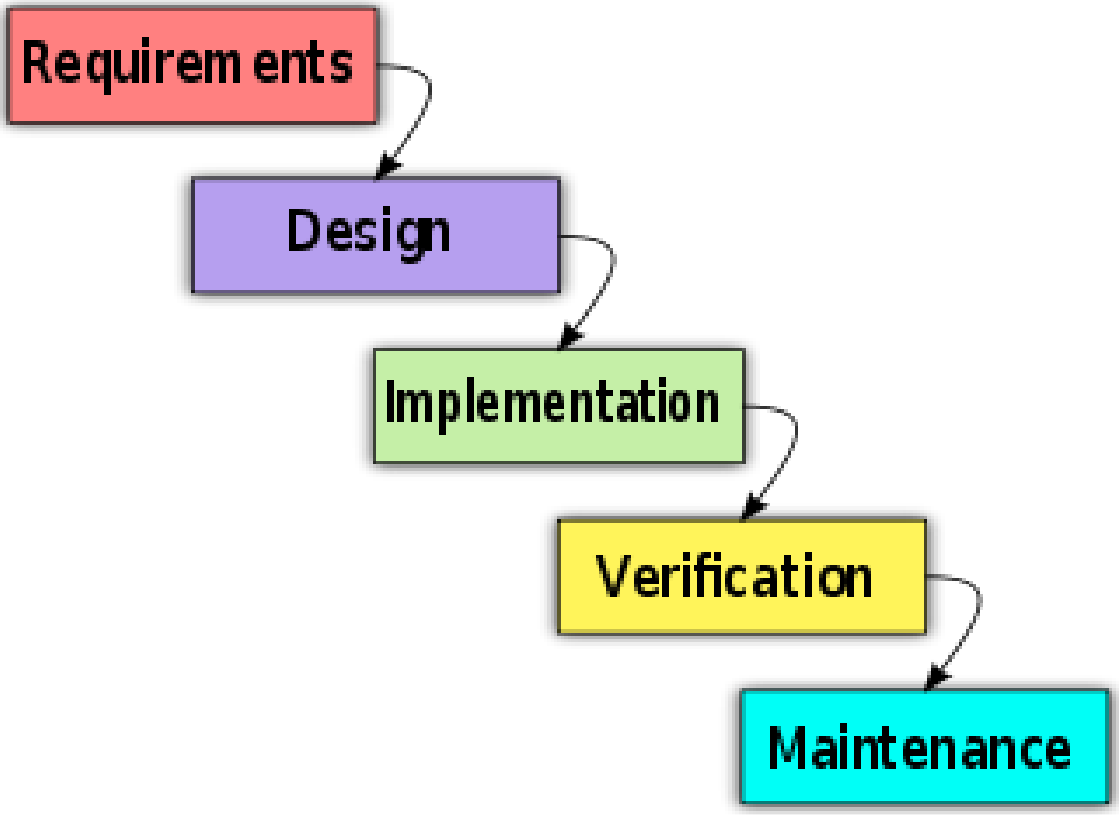


Figure 1: Waterfall Model

3.2. 1. Planning

The purpose of this phase is to determine the best solution and steps taken to develop the system. Planning involves the details planning for the timing of the working progress and types of technique will be taken next. Planning also involves that the methodology that will going to use for this project. In the planning phase we should take feasibility study into consideration.

This is the phase where I plan my project. I define the different techniques that I will be using for the project and also check if the project is feasible.

3.2.2. Requirement Analysis

The purpose of this phase is to build logical model of this system. In addition, this phase also needed to understand the applications, fact finding technique like document reviews, surveys, observations, and sampling must be made to identify application requirement, software requirement and hardware requirement. In this phase, what kind of data requirement and the functional requirement will been decide.

In this stage I need to know users requirements, what are the tailors' needs for the system.

3.2.3. Design

This phase will produce draft of the system architecture and the prototype of the application that will satisfy all requirement analysis. At this phase the user interface and all necessary input and process will be identify. This phase also determine the application architecture, which is going to shows how to transform the logical design into basic system coding to generate the first prototype of the system. The result for this phase application interface and system design specification.

The tailor system is designed in this stage of waterfall model. The prototype of my system is created. I will design also the database of the system.

3.2.4. Implementation

During this implementation phase, the system will be constructed. All codes are generated inside this phase. At the end of this phase, system should running and most of the function for the system should be able to use. Based from the previous phase, from the prototype, the system will become the first version inside this phase.
After finishing the design of the system, this stage allows to develop the tailor system by performing coding using programming languages.

3.2.5. Testing

This phase will evaluate or verify the system that was developed. This phase will have a simulation data which will simulate the true database for the system. This is to test the functionality of the system in comparing a capture data with a database. Beside, all the functionality that may cause errors or problems to the system must be specified inside this phase because, the final result of the system is a very high priority and important. However, the testing phase will only cover to overcome the problem statement and the system objectives.
In this stage I test the tailor's system to verify if it functions as expected. The output should be correct when we input data.

3.2.6. Operations and Maintenance

This phase of waterfall model is a continuous phase. Problems that developers did not discover during the development and testing phase might be experienced by the users of the system. The issues related to the application are solved once the system is deployment and being used by the users. We cannot detect problems directly after installing the system but they appear from time to time and therefore they need to be solved. This process is called maintenance.
The tailor's system should be maintained if the users encounter issues while using the system.

3.3 KEY MILESTONE

Table 1. Key milestones for Semester 1

Timelines for FYP1															
No	Details	Weeks													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Title selection proposal															
2	Submit proposal															
3	Extended Proposal															
4	Proposal defense															
5	Project works continue															
6	Interim Report															

Table 2. Key milestones for Semester 2

Timelines for FYP2															
No	Details	Weeks													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Project works continue															
2	Progress report															
3	Pre_EDX															
4	Dissertation Submission															
5	Oral Presentation															
6	Technical Report															
7	Final Dissertation															

	Key milestone

3.4 TOOLS

The tools required for this project are: Notepad++, Adobe Dreamweaver, MySQL in XAMPP, Microsoft Words 2007, Gantt chart software, Window 7 Operating System, Personal computer.

3.4.1. Microsoft Project

It is a project management software build by Microsoft. It is developed to enable project managers to make a plan, assign resources to tasks, managing the budget and many other things.

It is highly valued for managing large projects, to make the Gantt chart or PERT project, and to predict or resources to devote to the project. Microsoft Project allows you to schedule tasks, maximize resource utilization, and monitor projects during their implementation and cost control.

I use it to plan and manage the time more efficiently.

3.4.2. MySQL

MySQL is an open source Management System Relational Database the most popular and most used because of its performance, reliability and ease of use and flexibility. Many platforms support MySQL such as: Linux, Windows, Mac OS, Solaris, HP-UX, IBM AIX, giving you great flexibility. MySQL can be used alone, but is most often combined with another programming language: PHP example for many websites, but also Java, Python, C + + and many others.

Many of the largest companies and high growth such as Google, Lafarge, EADS, Alcatel-Lucent, Nokia and YouTube cut costs significantly by using MySQL for their Web sites, their business-critical applications, or by embedding MySQL in their solutions.

MySQL uses SQL for processing the data in the database. MySQL is designed, supported and marketed by MySQL AB. The database is available for free under the terms of the GNU General Public License (GPL) or for a fee to those who do not wish to be bound by the terms of the GPL.

3.4.3. Microsoft word Office

Microsoft Words is Microsoft's word processing software that I chose to document all the documentation part. With Microsoft Word 2007, I found out that there are many benefit of using it e.g. Live Preview which enables us to view the document without making any permanent changes, Mini Toolbar, Super-tooltips, Quick Access toolbar, SmartArt, and many more.

3.4.4. Microsoft PowerPoint

This application is used for the documentation and presentation of the project. Microsoft PowerPoint, usually just called PowerPoint, is a commercial presentation program developed by Microsoft. It is part of the Microsoft Office suite, and runs on Microsoft Windows and Apple's Mac OS X operating system.

3.4.5. Adobe Dreamweaver

Adobe Dreamweaver is software enables designers and developers to develop websites. With this software you can design visually or directly in code, develop pages with content management systems with accurate browser-compatibility testing.

Dreamweaver can use third-party "Extensions" to extend core functionality of the application, which any web developer can write in HTML and JavaScript. Dreamweaver is supported by a large community of extension developers who make extensions available for most web development tasks from simple rollover effects to full-featured shopping carts.

It can edit files and upload them to the remote web server using FTP, SFTP or WebDav.

3.4.6. Notepad++

Notepad++ is a free source code editor developed in replacement of Notepad and supports several languages. It can be run in the Microsoft Windows environment; Notepad++ governed by GPL License.

Notepad++ is developed in C++ and makes use of Win32 API and STL in order to have higher speed and smaller size. It is based on the efficient component Scintilla. It supports the following: C, C++, Java, C#, XML, HTML, PHP, JavaScript, RC file,

makefile, NFO, doxygen, INI file, batch file, ASP, VB/VBS, SQL, Objective-C, CSS, Pascal, Perl, Python, Lua, Unix Shell Script, Fortran, NSIS and Flash action script.

3.4.7. Operating System

For the project I use Windows 7 64-bits which the operating system build by Microsoft .It is one of the series of operating systems manufactured by Microsoft for use on personal computers, including home and business desktops, laptops; notebooks, tablet PCs, and media center PCs.

3.4.8. Hardware

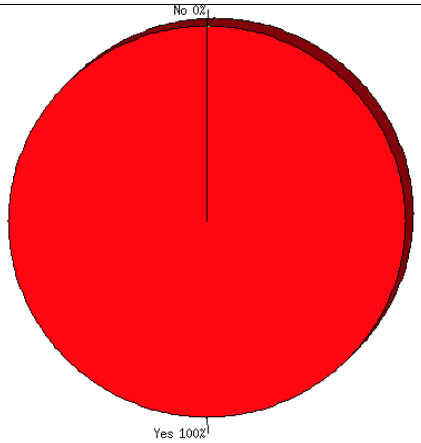
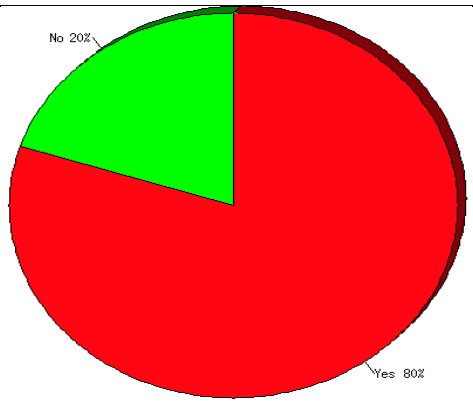
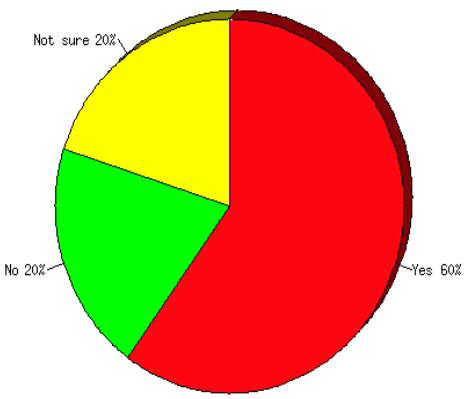
The hardware that I have used to develop the system is a laptop Compaq Presario v300 with Intel Pentium dual-core processor. The RAM is 2GB.

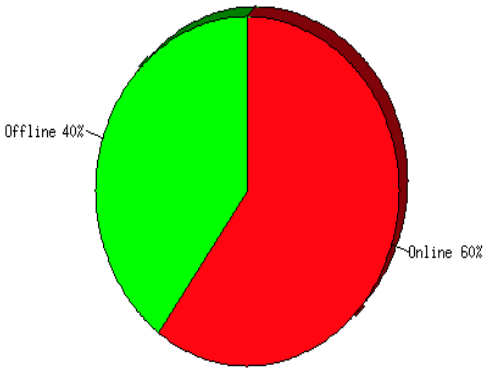
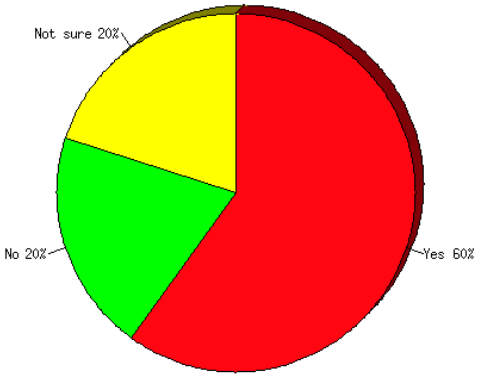
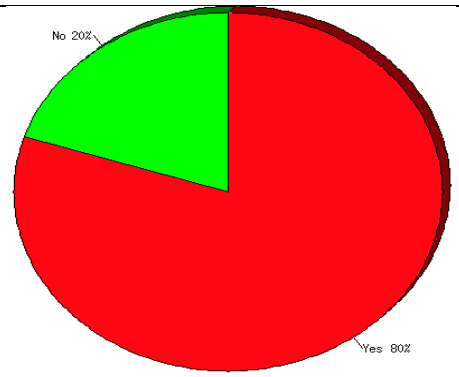
3.5. QUESTIONNAIRE SURVEY ANALYSIS

The major instrument used for the study was a structured questionnaire. Pre-designed questionnaire was used in data collection. Copies of the questionnaire were given to tailors. The study involved a total of five (5) tailors. The questionnaire is in the following table.

Questionnaire form (Refer to Appendix 2)

Table 3. Survey

Question	Pie Chart	Analysis
1. Do you use computer to perform your tasks? For Example taking measurements of the customers.		100% of the tailors do not use computers for their tasks.
2. Do you want to use computer application to perform your daily operations?		80% of the respondents are willing to use computer system to perform their tasks while 20% don't want use computer
3. Will you use if we design for you a tailor system?		60% are ready to use the tailor system if we developed it. 20% are not sure to use 20% will not.

4. Do you prefer online or offline application?		60% prefer online system and 40% for offline system
5. Do you think the tailor system will help you to do your job faster?		60% say yes. 20% are not sure and 20% say no
6. Will you accept if the tailor system is converted to mobile application in the future?		80% are for it and the other 20% don't

CHAPTER 4
RESULT AND DISCUSSION

4.1 USE CASE DIAGRAM

It illustrates the functionalities of the system and its actors. The actors will involve with cases such as login, register, register customer, edit customer, view profile, and add measurement and others. The use case diagram of the system is as follow.

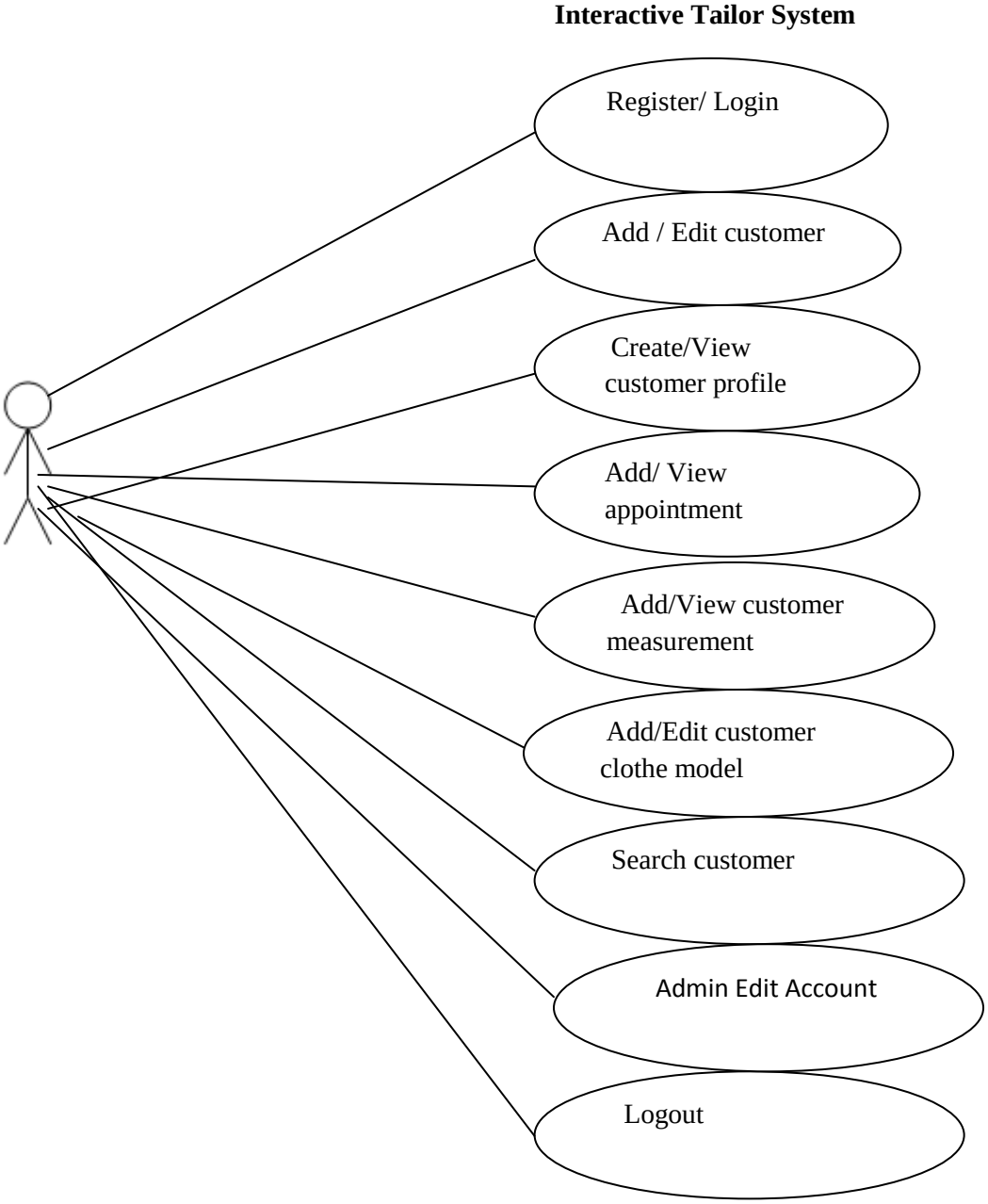


Figure 2 Use case Diagram

4.2. FLOW CHART

The following diagram is the flow of the system.

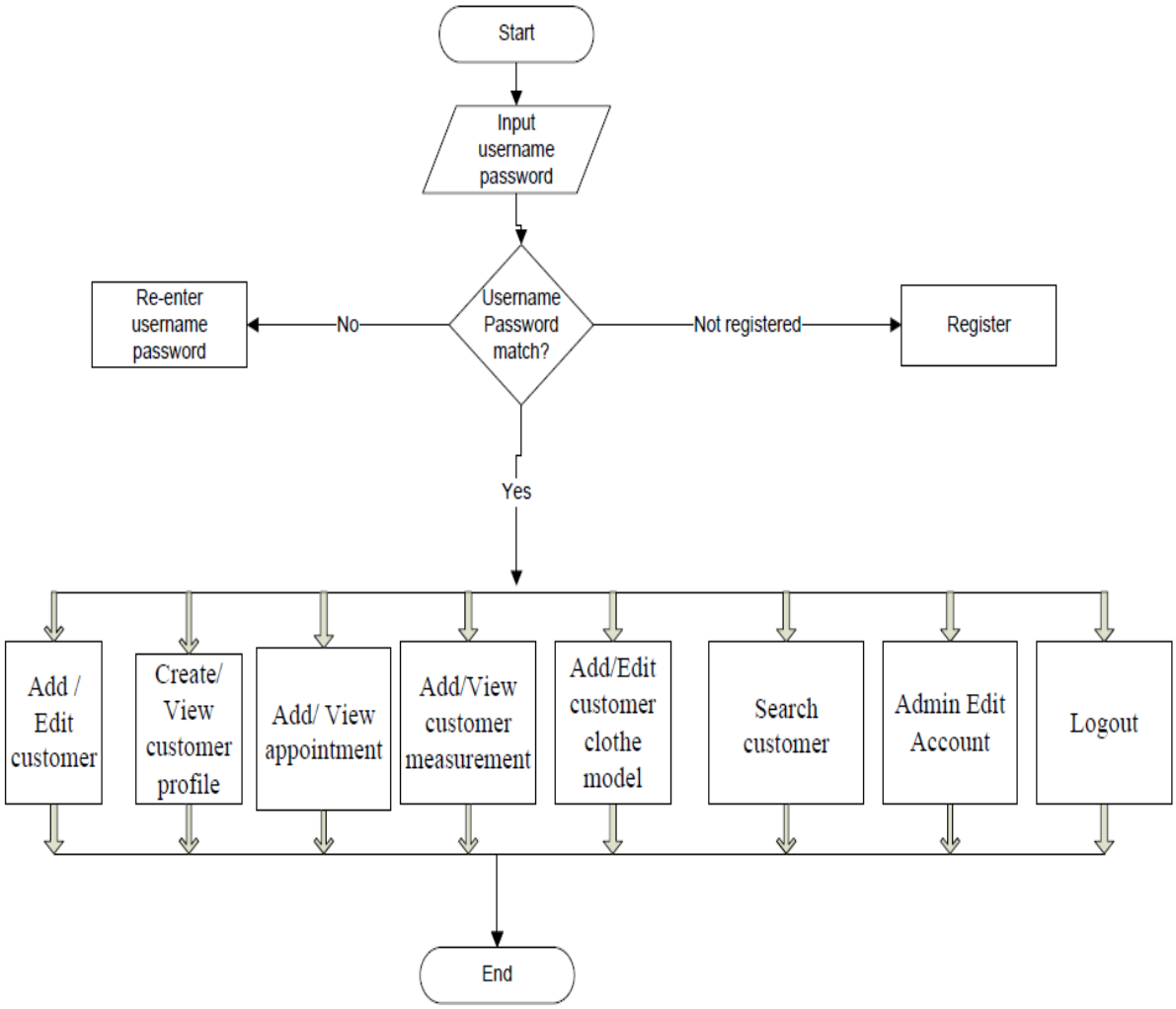


Figure 3: Flow Chart diagram

4.3. DATABASE DESIGN

The general purpose of a database is to handle information as an integrated whole. A database is defined as a collection of interrelated data stored with minimum redundancy to serve many users quickly and effectively. After designing input and output, the analyst must concentrate on database design or how data should be organized around user requirements. The general objective is to make information access, easy quick, inexpensive and flexible for other users. During database design the following objectives are concerned:

- Controlled Redundancy
- Data independence
- Accurate and integrating
- More information at low cost
- Recovery from failure
- Privacy and security
- Performance
- Ease of learning and use

This section describes the data structures to be used in support of the implementation. Below are the essential table structures including field descriptions which are contained in the system.

Tables used

Table 4 Users

FieldName	**DataType**	**Key**
Username	Text	Primary Key
Password	Text	-
email	Text	-

Table 5 Customers

FieldName	**DataType**	**Key**
ID	Text	Primary key
Name	Varchar	-
Email	Varchar	-
Phone	Varchar	
Address	Varchar	
Gender	Varchar	
Image	blob	

Table 6 Measurement

FieldName	**DataType**	**Key**
measurement_id	int	
ID	Varchar	-
chest	Decimal	-
neck	Decimal	-
leg	Decimal	
sleeves	Decimal	
waist	Decimal	
hips	Decimal	
forearm	Decimal	
upperarm	Decimal	
thigh	Decimal	

Table 7 Appointment

FieldName	**DataType**	**Key**
Appointment_id	int	PRIMARY KEY
id	Varchar	-
name	Decimal	-
appmt_time	Decimal	-
Appmt_date	Decimal	

Table 8 Model

FieldName	**DataType**	**Key**
model_id	int	PRIMARY KEY
id	Varchar	-
name	Varchar	-
model_type	Varchar	-

4.3 INTERFACE REQUIREMENTS

The user interface should be designed to make the user's work easier and more effective and the principles for good interface design include concern for content and context for navigation through activities, aesthetic consideration, assistance for novices and experts, consistency, and minimizing user effort.

4.3.1 Principles for User Interface Design

The graphical user interface (GUI) is the most common type of interfaces most students are likely to use personally and for developing systems. The principles of interface are shown as follow:

Layout – The interface should be a series of areas on the screen that are used consistently for different purposes

Content awareness – Users should always aware where they are in the system and what information is being displayed

Aesthetics – make interface look pleasing

User experience – Ease of use and ease of learning based on users' level of experiences

Consistency – enables users to predict what will happen before they perform the function.

Minimal user effort:

- The interface should be simple to use.
- The screen: Information can be presented in multiple areas
- Like areas should be grouped together.
- Areas and information should minimize user movement from one to another.
- Ideally, areas will remain consistent in Size, Shape, Placement for entering data, and Reports presenting retrieved data.

Content Awareness

- All interfaces should have titles.
- Menus should show: where you are and where you came from to get there.
- It should be clear what information is within each area.
- Fields and field labels should be selected carefully.
- Use dates and version numbers to aid system users.

Aesthetics

- Interfaces need to be functional and inviting to use.
- Avoid squeezing in too much, particularly for novice users.
- Design text carefully.
- Be aware of font and size.
- Avoid using all capital letters.
- Colors and patterns should be used carefully
- Test quality of colors by trying the interface on a black/white monitor.
- Use colors to separate or categorize items e.g. showing difference between headings and regular text.
- The goal is pleasant readability, not art; color and patterns should be used to strengthen the message.
- Colors with high contrast should be used (e.g. Black & white).

Consistency

- Most important factor - enables users to predict what will happen.
- When interfaces are consistent, users can interact with one part of the system, and then know how to interact with the rest.
- Reduces learning curve.
- Considers items within an application and across applications.
- Pertains to many different levels

Navigation controls: Conveys how actions in the system should be performed – e.g. using same icon or command.

Form design: Make it similar but give them some distinctive elements which enable users to detect differences.

Interface Standards Design

- The basic elements that is common across individual screens, forms within the application
- The standard serves as the touchstone that ensures the interfaces are consistent across the system
- Interface Standard Elements
- Defines how the interface will work. It is a concept from the real world that is used to model the computer system.
- Helps user to understand and predict what features the interface might provide

Interface templates:

- Define general appearance of all screens in the system and the paper- based forms and reports.
- Specify the basic layout of the screen, status area, and form/report area(s) will be placed and the color scheme that will be applied.

Interface objects

- Specify the names that the interface will use for the major interface object.
- A more understandable name rather a more precise or more accurate one
- Interface actions: Specifies the navigation and command language style

4.4. APPLICATION INTERFACES

The system has been developed for the tailors and the interfaces of the application are as follow.

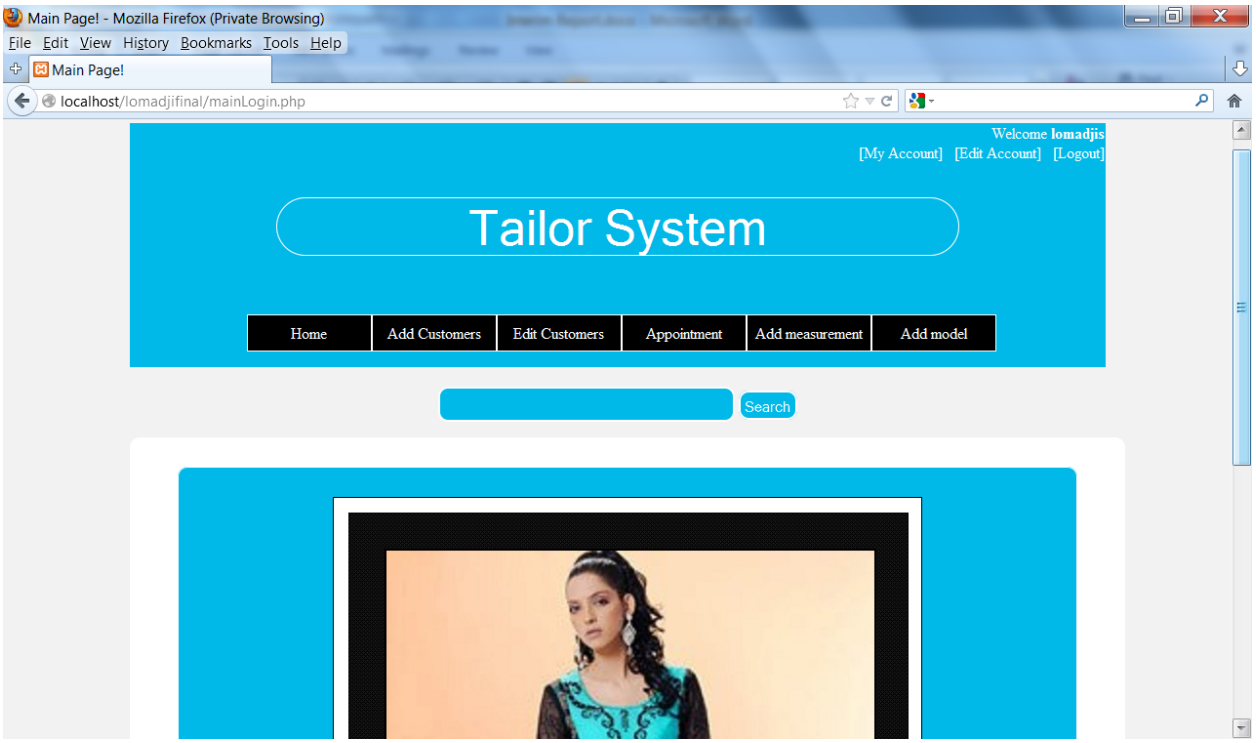


Figure 4: Main page

The user is oriented to this main page (Figure 4) after he logged in successfully.

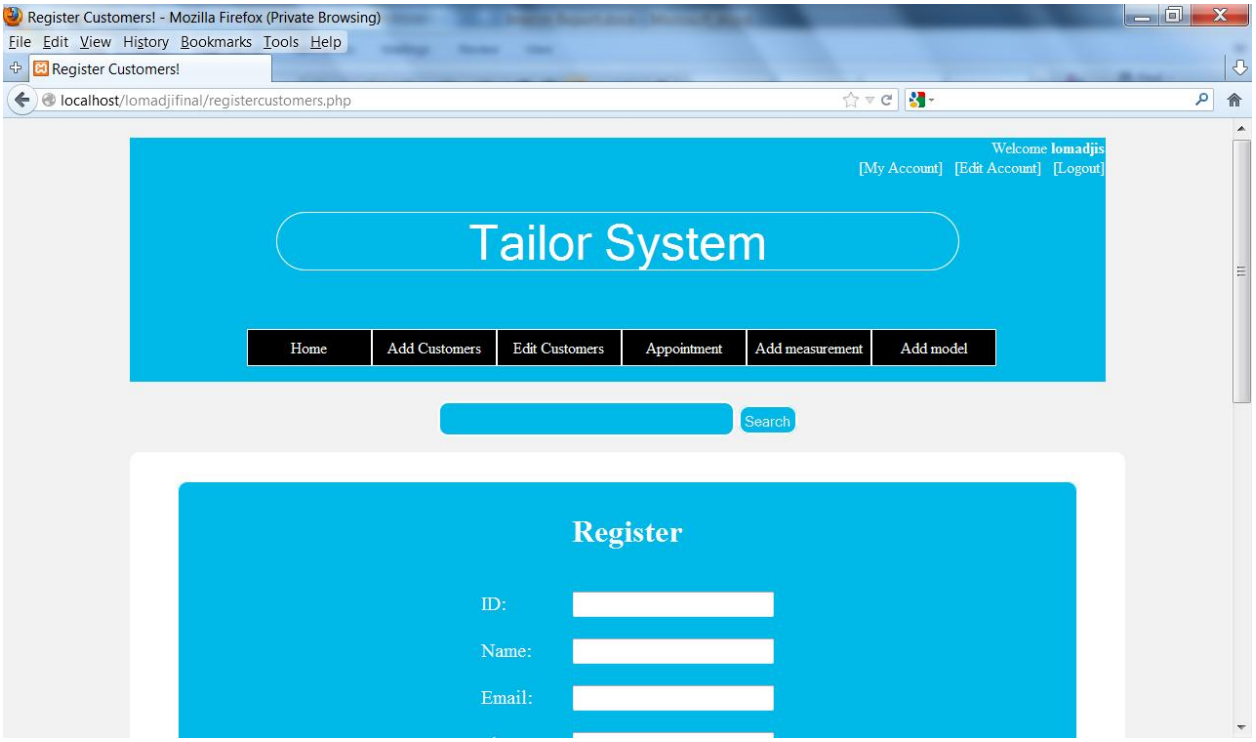


Figure 5: Register customer

This page (Figure 5) allows the tailor to register customer information. All the data are saved in a database.

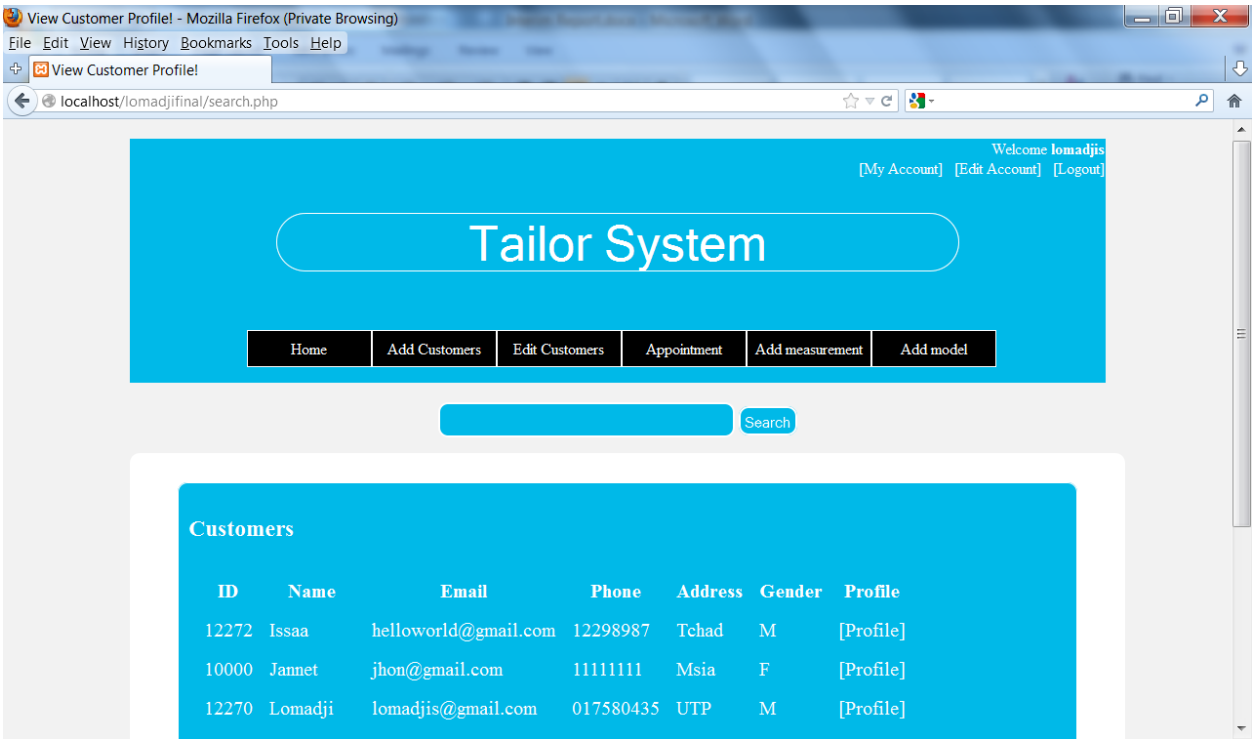


Figure 6: View Profile

In this page (Figure 6) the user can view the profiles of the customers

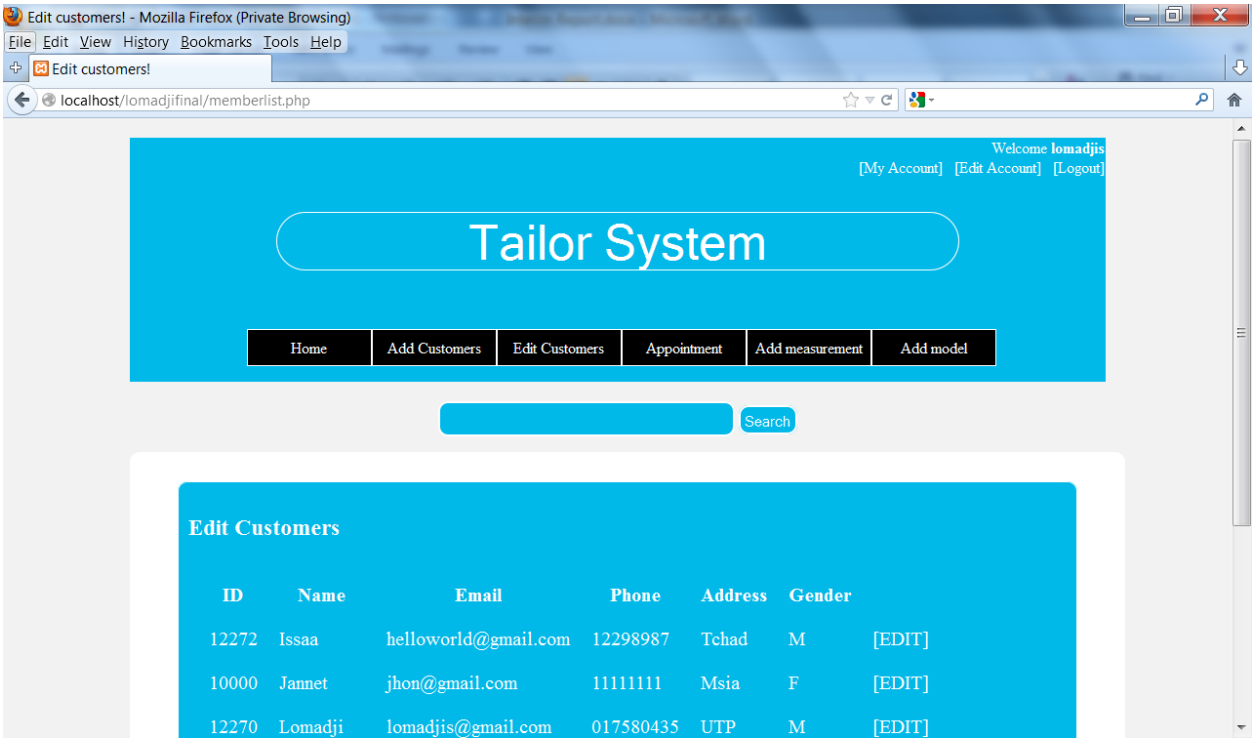


Figure 7: Edit customers

This is the page (figure7) where customer information is edited.

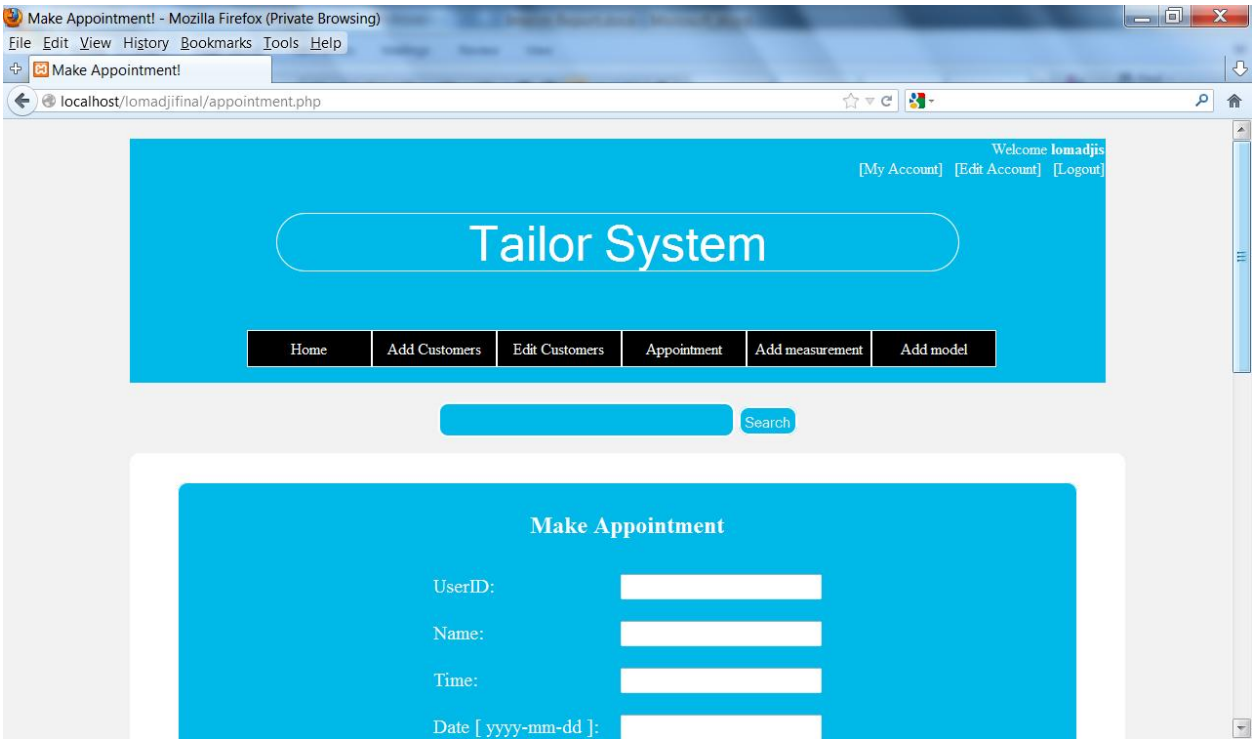


Figure 8: Appointment

This page (figure 8) enables the user to make an appointment with the customer.

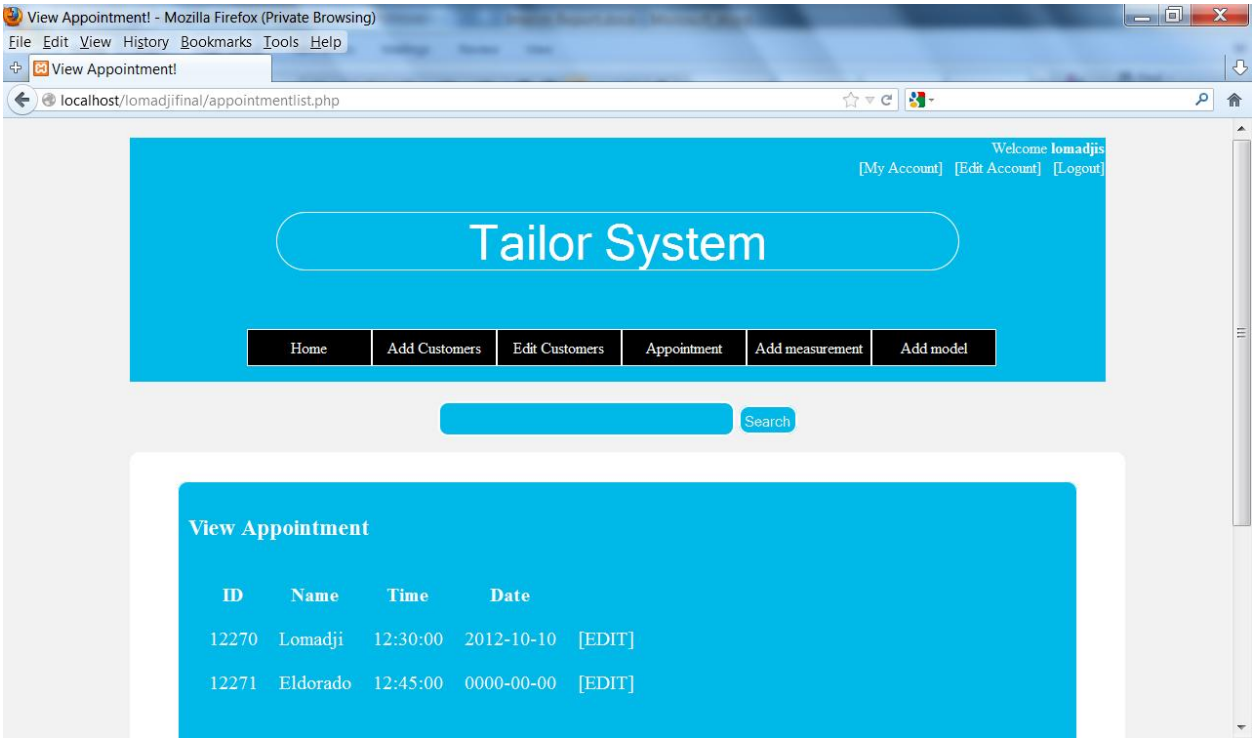


Figure 9: Edit appointment

The appointment is edited in this page (figure 9).

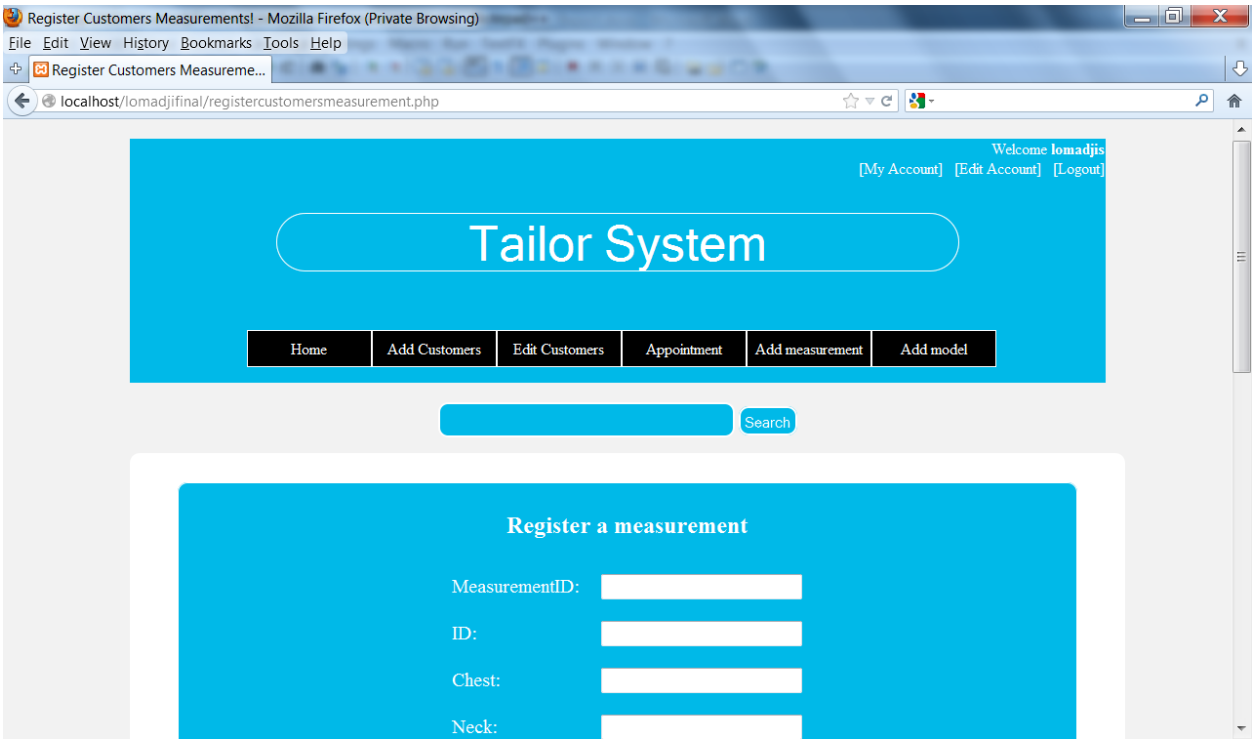


Figure 10: Measurement

This page (figure 10) allows the user to register the measurements of the customers. Theses measurements are kept in the database and retrieved whenever the tailor is in need.

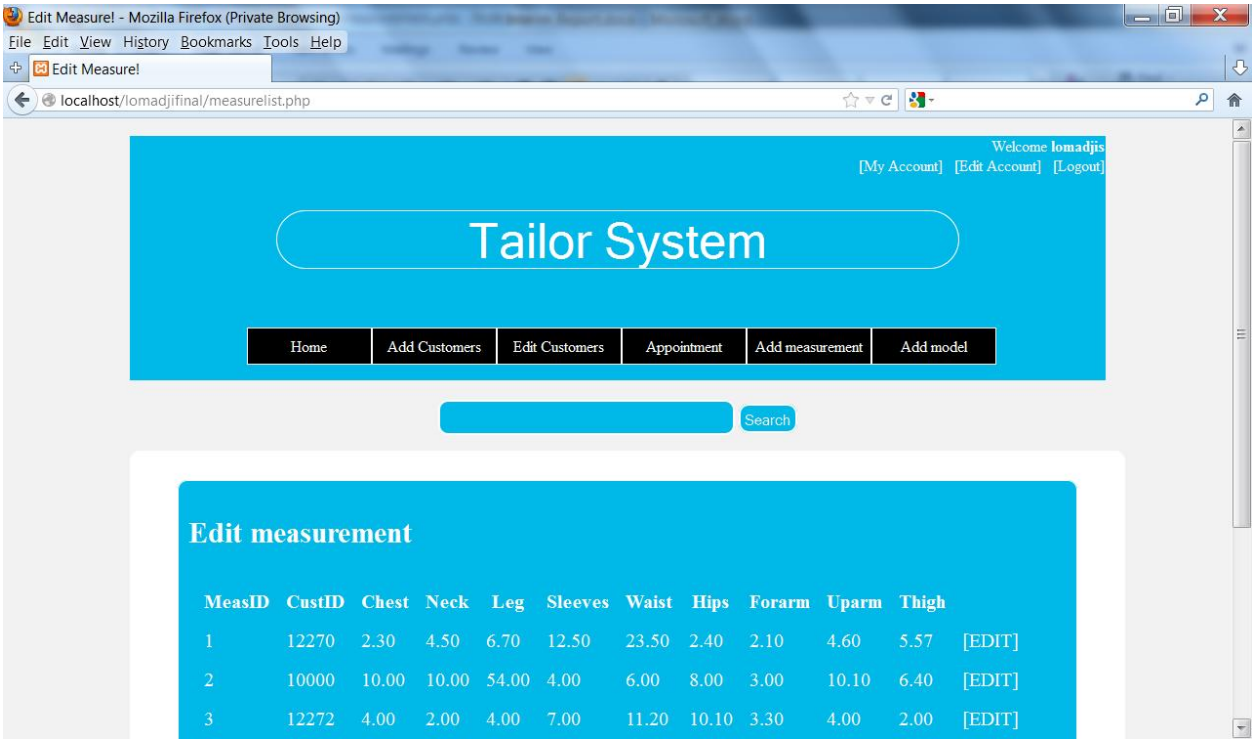


Figure 11: Edit measurement

The user edits the measurements of the customers in this page (figure 11).

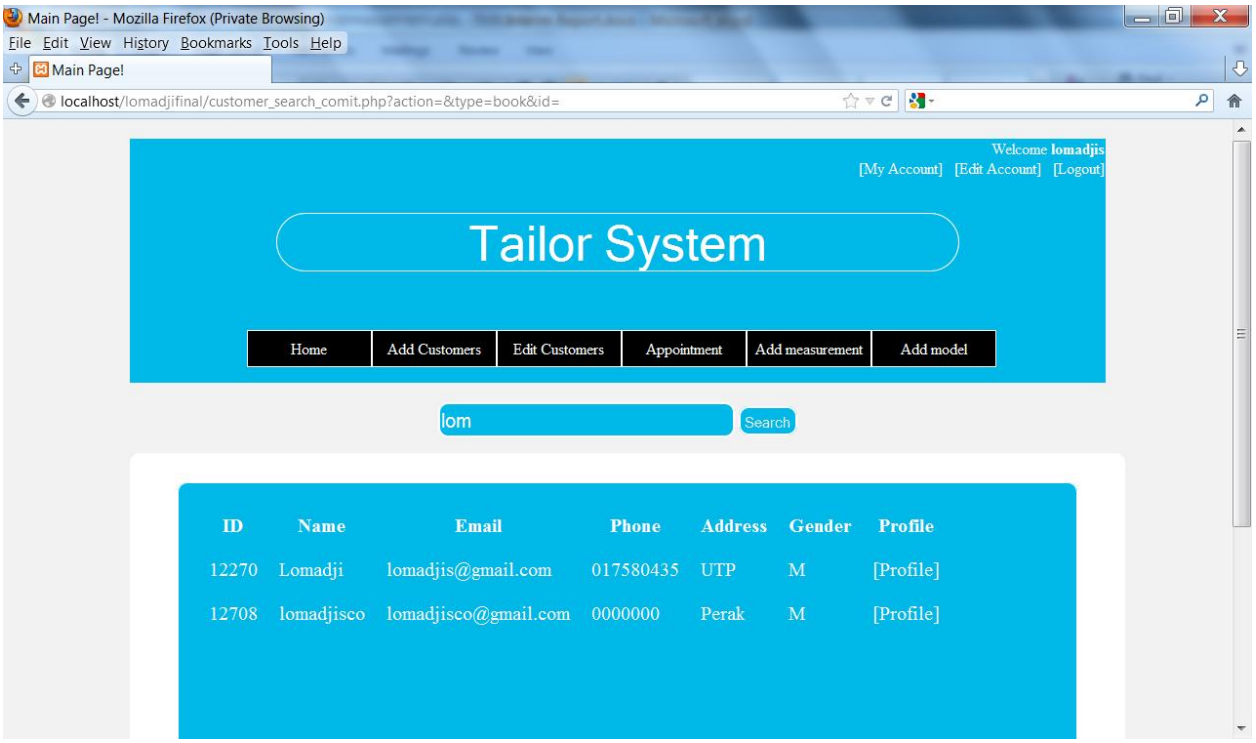


Figure 12: Search

This page (figure 12) shows the result of a search from the database

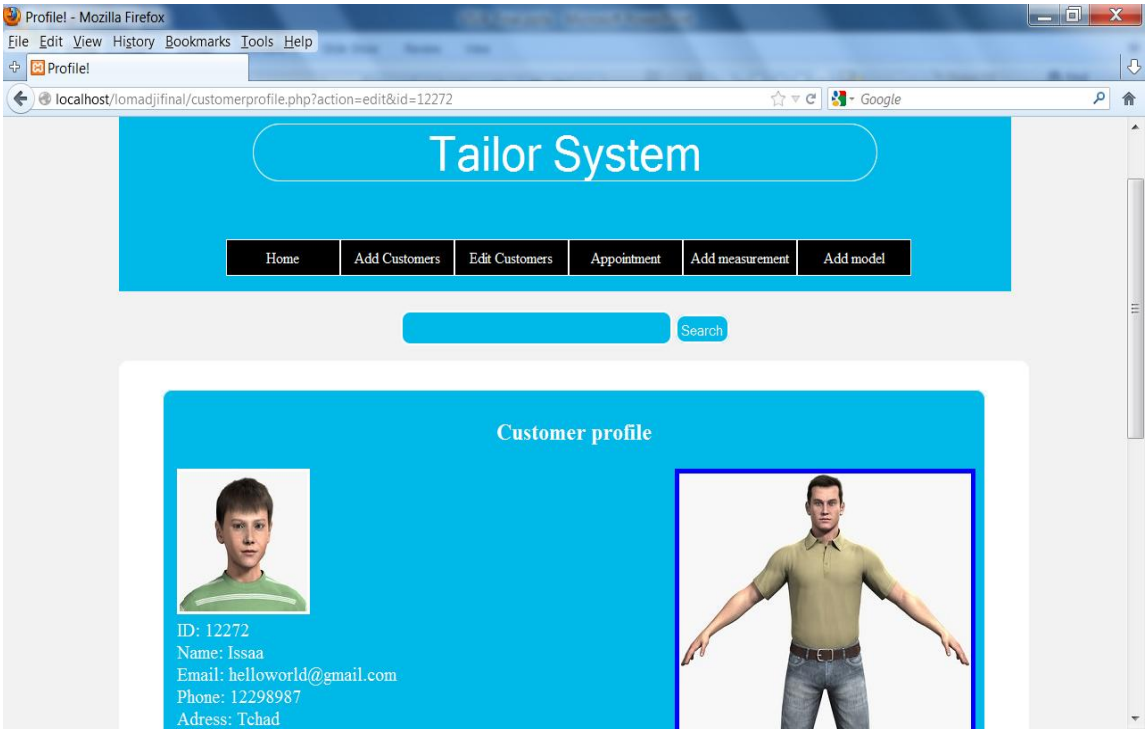


Figure 13: Profile

This page (figure 13) shows the profile of the customer.

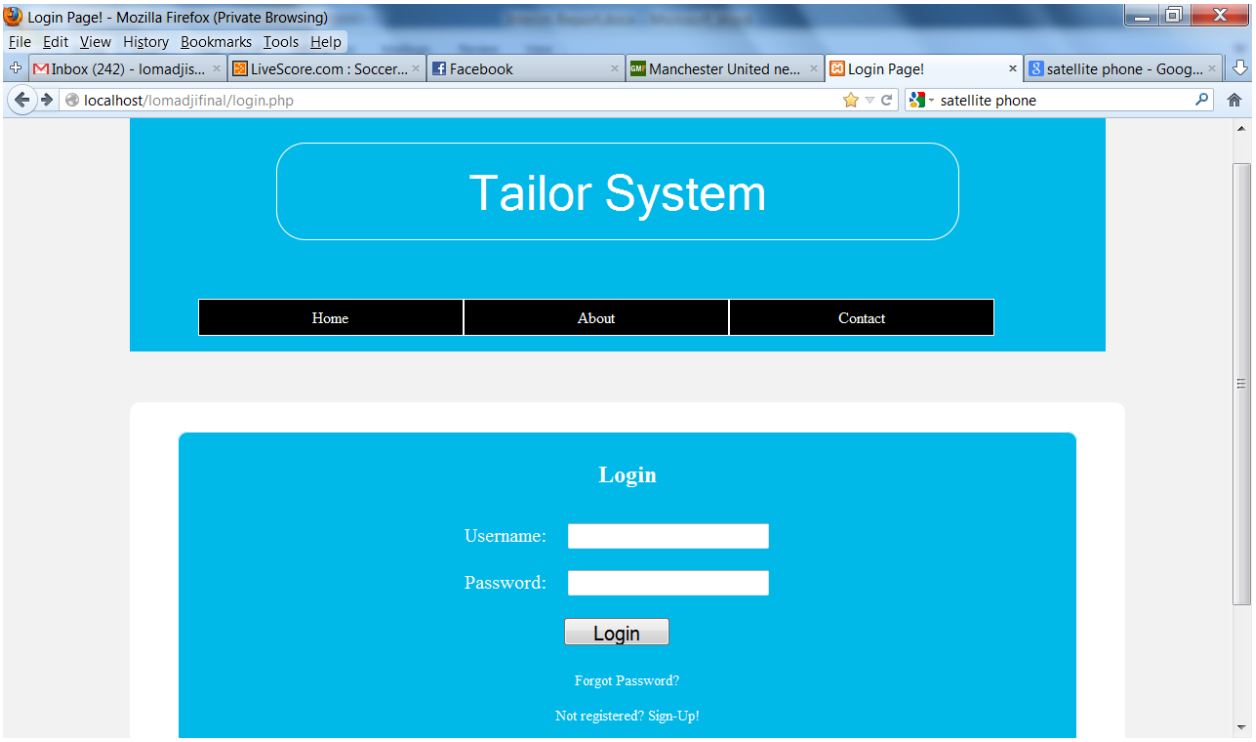


Figure 14: Login page

The user login the system from this page (figure 14).

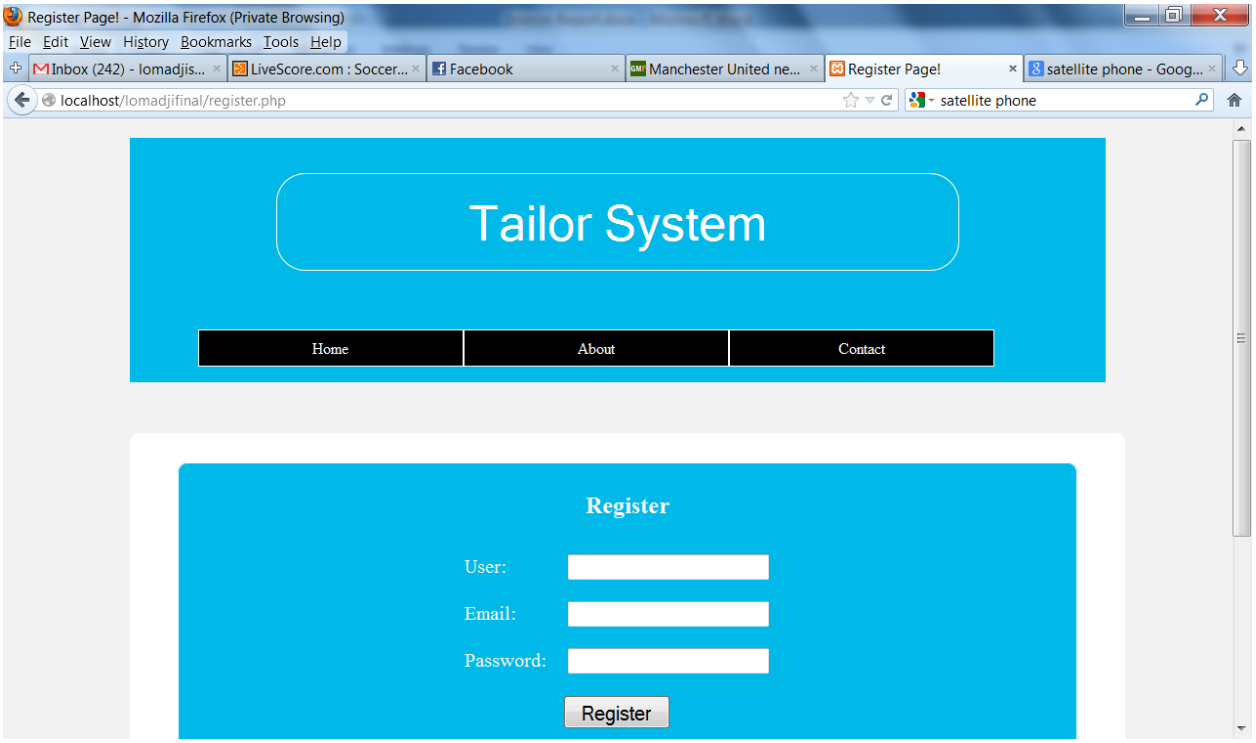


Figure 15 Register

Before login, the user needs to be registered in the system. This is the page (figure 15) that allows the tailor to register.

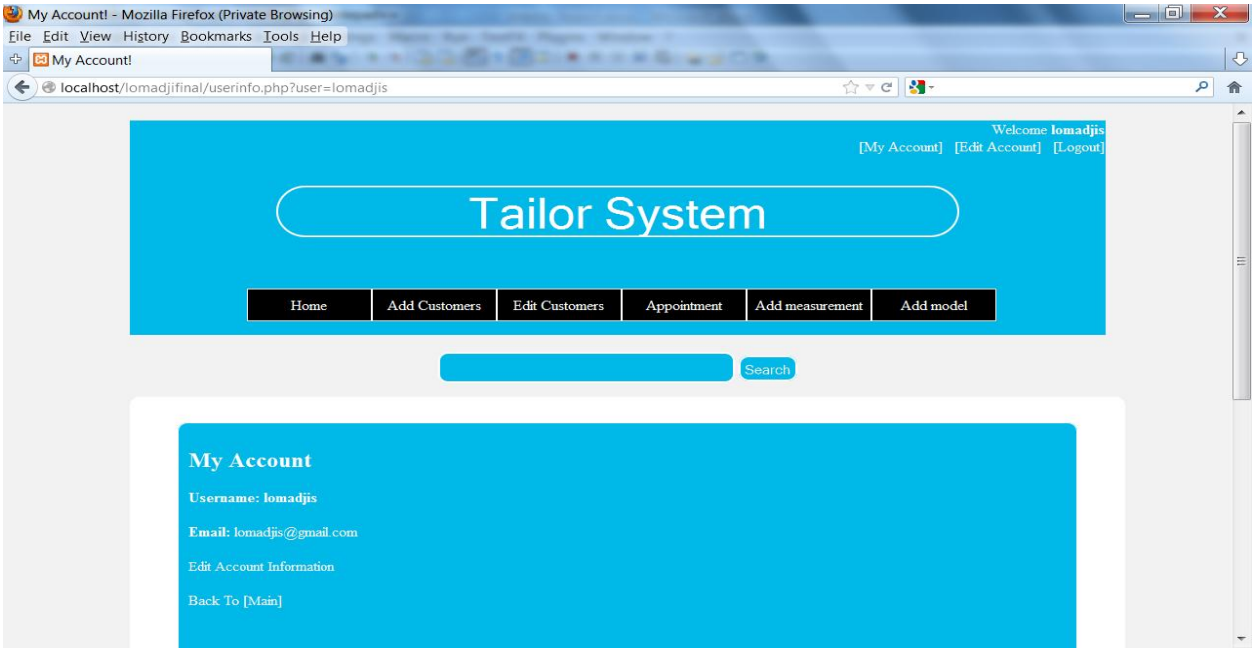


Figure 16: Account

The tailor can view his account in this page (figure 16). They are links that allow user to modify his information.

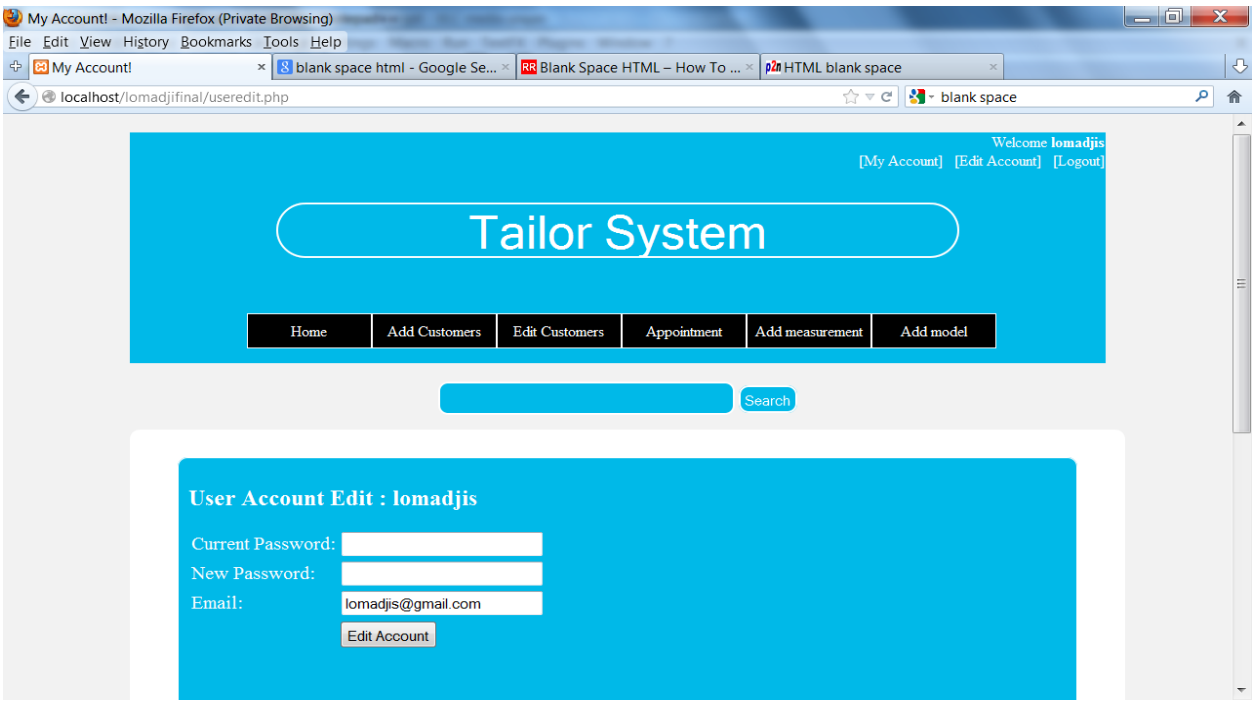


Figure 17: Edit Account

The user can edit his account in this page in figure 17.

CHAPTER 5
CONCLUSION AND RECOMMENDATION

The general objective of this project is to develop an interactive and online tailor system that helps tailors to carry out their daily tasks. It is a better system compared to paper-based system. Tailors will create profiles for each customer and record all useful information regarding the clients. All the details are saved in a database and are retrieved whenever and wherever needed.

In the future the system may be designed as a mobile application. The system will be more interactive and allows customers of the tailors to create their account themselves. The customers can also design their own clothes models in the web system.

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INTERACTIVE TAILOR SYSTEM

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Abstract – Interactive Tailor System is an online system designed for tailors. A system that enables tailors to keep the data of their customers. A profile of each customer will be created by the tailor. All necessary details of the clients are stored in the system and retrieved. The measurements of customers will be recorded and found easily when needed. The tailors will use a picture see the measurements of the customers. The tailor will need to click the leg in order to see how much it measures. Before using the system users need to register then they must login with their username and password in order to enter the system. The system is constituted of different components such login function, insertion of data in the database, extraction of data from the database, search facility, mail sending. The methodology chosen to develop this system is waterfall model approach. This method is simple to implement, the amount of resources needed are minimal and after each phase the output is obtained, therefore it has clear visibility.

I. INTRODUCTION

A. Background

We are in a world where it is not easy for corporations and small enterprises to survive without using computer. Companies that want to grow have to use computerized systems in order to perform their tasks. Saving time and money is a very crucial matter for enterprises therefore companies will make use of computers and internet in order to speed up their transactions. In the era we are living now, it is very difficult for an enterprise that does not use technology means to compete with other enterprises. Not using computerized system will let you behind others and will slow down your enterprise. Paper-based systems have no place nowadays. Recording data on paper is very obsolete. A very efficient to keep data is to create an online database. Once the data are saved in a database, we can access the data anywhere anytime. The information retrieved from the database with easiness and within seconds. As a company there it is important to have a database in order to keep data regarding your customers. Business depends on customers therefore we need to use technology tools to collect data of the clients.

Enterprises want to complete their work faster, so interactive, responsive and efficient applications are decisive. People love to use systems that are user-friendly with a nice interface. Looking at the impact of technology on business, it is very important for small and big businesses to use computerized systems.

B. Problem Statement

Until now the tailors use a paper based book to keep the information of their customers. They record the data of their clients manually. This procedure is obsolete and outdated therefore it is not efficient. This manual way will take more time utilization and it is not interactive. The paper based book in which information are recorded will not last for a long time, it might be lost. It is also tiring to move the book from time to time. Looking for customer information in this book is not easy; it is a waste of time as you need to go through some pages before getting the needed details of the customer.

C. Objective

The objective of this project is to design an interactive and online application system with a user friendly interface that allows tailors to perform their operations.

Interactive Tailor System is designed for tailors in order to help them recording the information of their customers. The system enables the tailors to keep the measurements of their customers in a database. The tailor creates the profile of each customer. In the profile all the details regarding the customer can be found in an interactive manner. If the tailor wants to see the body measurements of the customer, he just needs to click the picture. For instance to check the measurement of the leg he will click the leg in the picture and the data will be shown. A search feature allows tailors to easily search customers in the database. Email can be sent to customers through the system.

II. LITERATURE REVIEW

A. Introduction

Computerized and online systems have been increasing in every aspect of enterprises. Information Technology plays a very important role in the way people run enterprises. Computers and internet have made dramatic changes in the enterprise system. Information technology enables enterprises to save space and time, and allow the delivery of enterprises services with easiness, anywhere, and anytime. For instance shops are equipped with applications that allow them to process transaction quickly and without difficulty. Paper based books are replaced by online and off-line applications. With computer software, we can be able to have access to huge databases of information. This gives fundamental change to the enterprises. Information technology makes the exchanges of information fast and easily.

With the growth of IT a huge quantity of data can be stored in database can retrieved within few second without wasting time. Computers are a powerful tool used in all aspects of enterprises. Information technology provides systems that allow industries to perform many tasks in an automatic way and not manually. Enterprises can keep data using computerized system; they don't need paper-based system. They save time and money when using computer system for their transactions.

With the importance of technology enterprises have come to understand how valuable the time is. The importance of technology has made enterprises understands the value of time. In the past people spend a lot of time to finish a job. But nowadays technology has indeed decreased this huge amount of time spent to something which can be obtained in the minimum time slot.

The growing of technology has helped many people, especially enterprises owners. Nowadays, many enterprises rely on technology to perform their daily transactions and if we take it away vast majority of the enterprises operations would crush.

No matter how large an enterprise is, you would see that they know the importance of technology. Enterprises need technology for the development of the different enterprises tools such as information management system, Point of Sales system, production automation, marketing and communications. A company would need information management system to help them manage employee and clients' profiles, keeping accounting data and tracking the overall performance of the enterprises. Also, these enterprises employ the use of technology in order for them to deliver goods and services in a time-efficient, cost-effective and safe manner.

People want not just a simple system but they enjoy working with applications that are interactive and responsive to users.

B. Examples of tailor softwares

The following examples are the tailor software developed by companies. All the softwares are offline applications and are not interactive.

Tailor Master 8.0

Tailor Master is off-line desktop software developed for tailoring shops owners that need to efficiently manage their clients and orders. It manages the customer's information, job booking, worker's wages, and give instant status report of jobs in processing.

This program is designed for every type of user and will be easily learned by new users. It is also very efficient in entering measurements and new jobs. You can create new jobs, add new customers and items and keep them in a database that you access anytime.

Here are some key features of Tailor Master 8.0:

- Manage customer's information
- Manage worker's accounts and there process
- Create and Print Job Card
- Add Images of clothes samples to Job Card via web cam
- Send SMS to customer about status of their job
- Predicts estimated delivery date of job.
- Trial Dates management, Trial Date reminders
- Track uncompleted (work-in-progress) jobs, completed jobs and alteration jobs.
- Have more control over production.
- Trial dates management
- Trial day reminders
- Birthday reminders
- SMS birthday wishes to Clients
- Ranking and Feedback for every Jobs
- Worker's Ranking and Scores Reports
- Petty Cash Book
- Day Book
- Sales Register
- Quick Find
- Batter Payroll Management
- Work Overview Reports

Assersoft.com

They have developed this software for catering the needs of ladies and gents tailoring shops. It manages the customers, booking, workers' wages, and suppliers and gives instant status report of jobs in processing.

Key Features:

- Customers:Registration of customers.
- Booking :While booking the system will show the measurement of the customers and if not recorded earlier, can be added with a few clicks
- Management: Each booked job will be available in a list to send cutter and tailor. The system will record the wages of this job in respective cutter and tailor account automatically. Status of a tailoring job in hand will instantly be available.
- Suppliers: System will maintain the suppliers and accounts and payment record.
- Accounts: System will maintain the customer's account and will reflects previous outstanding, if any in new booking receipt.

C. Computerized Systems

Technology advances so fast that computers become part of our daily live. People use computers everywhere, at work, at school and at home. The computerized systems are very efficient, process huge amount of data and keep big amount of information.

Malolos et .al (2002) says that the automated systems are important as the time and manual efforts are minimized.

Janes(2001) elaborated that computers are devices that are greatly reliable and very powerful. He said that computers possess three advantages compared to other equipments in the office. The computers have theses three benefits in the sense that they are faster, more accurate and more economical.

Reyes (2005) stated that perform work manually is time consuming. But using computers make our task more practical.

In Flores (2002) point of view, he defined automation as the replacement of machine control of human.

According to Dioso (2001), computer helps in planning, organizing and controlling in an intelligent manner.

In Ralph M. Stair (1999) point of view, the growing of technology helps people to perform a lot of tasks with less effort.

Gurewich (1999) said that in any corporation the work is done faster when using database system. With the use of computerized system everything is done faster compared to tasks that are performed in a manual way.

Mane (2000) said that the invention of the computer made the task easier to perform than by doing it manually. The computer is very necessary for everyone and it is very god productivity machine. The data are stored in the computer and users can access the information whenever they are in need.

Bryan (2006) defined the information as a set of people, procedures and resources that collects processes and distributes information in an organization. They consist of simple manual information system and as well as computer based information system that uses hardware, software telecommunication and other forms of information technology.

Sender (2002) referred computers as an intelligence amplifier that can free human to use their time effectively. Computers perform tasks with high speed and accuracy.

Thowsand (2005) defined database system as a structured set of data. These data can be about people, products or event.

Adamski (2007) highlighted the benefits of database by saying it is economical, a lot of information can be retrieved from some amount of data, and there is control of redundancy, integrity, security, flexibility, responsiveness, improvement of maintenance and data independence.

D. Web-based application

Web application is defined as any application that is accessed through web over a network for instance Internet or intranet. Web applications

Nijaz (2000) stated that web applications are famous from the fact that there is ability to update and maintain theses application without disturbing and installing software on millions of clients' computers. In the same way, Bohle (2002) also elaborated the popularity of web applications because of the ubiquity of the client.

Athanassopoulos et al (2001) stated that web has revolutionized the computer and communication in an unprecedented way. According to Nijaz (2000) and Jurca (1999) the web is world- wide and has capacity to broadcast, it s a mechanism to distribute information, a platform that allows users to collaborate, to interact regardless the geographic location.

The principal reason for enhancing the Web services is to build systems that interactive, friendly and flexible to users.

E. PROGRAMMING LANGUAGES ON THE WORLD WIDE WEB

Enright (1999) enumerated that the web is the largest information store with around 36,739,000 hosts, 4,270,000 sites, and billions of documents.

The web presents graphical and texture information. With the web programming languages such as HyperText Markup Language (HTML), Practical Extraction and Report Language (PERL), Java, JavaScript, and Virtual Reality Modeling Language (VRML), we can create an interface that is interactive, visually and vocally interesting.

The most famous and used programming language is HyperText Markup Language (HTML). Apart from specifying hyperlinks, it describes the syntax and location of specific directions that indicates how text, images, graphics, and video within a Web page are displayed on a browser. Since its creation HTML has been developed in different versions. The World Wide Web Consortium located at Massachusetts Institute of Technology is the body that is in charge of developing the standards for HTML. The first version of HTML (HTML 1.0) was developed

in order to publish scientific articles on the web. The second version which is HTML 2.0 was designed in 1994 and additional features such as text field, pop-menus and buttons. The next year the third edition HTML 3.0 was. Nowadays many people use HTML 4.0 and HTML 5.0 which is the latest version. HTML is created with standard text editors. Many software are used to develop and edit HTML for example: Symantec Visual Page, Macromedia Dreamweaver, and Microsoft Front Page.

Internet has a very useful aspect that is the capability to interact with servers. This is achieved by using the Common Gateway Interface (CGI) scripts. They are scripts that are used to accomplish a predefined task when initiated by the user. The scripts perform task such as searching and executing on the server when a client makes a click on elements on the webpage (Newton, 1998). Practical Extraction and Report Language (PERL) is one of the most common and famous methods that allows to write CGI scripts. PERL was created in 1986. Biedby(1997) stated that PERL is powerful and flexible like high-level programming such as C and it is easy to learn. Element of animated Web pages and user interactivity are supported by the web. There are many programming language that can be used to develop theses web elements for instance Sun Microsystems' Java. Harold (1997) said that Java is an object-oriented language with element from C, C++ and other languages, and with libraries for the Internet environment. Harold (1997) stated that Java is the first programming language developed with networking in mind. It provides qualities that are important for instance platform-independence and security. It enables to create applications and left on the web and users can download anytime they are in need. Besides Java programming we have also JavaScript that allows developing a system that is interactive, real time responsive. Newton (1998) said that JavaScript is an alternative of Java designed to enhance web pages and servers. With JavaScript Stand alone application are embedded into HTHL or Java applets. Ritchey (1996) stated that JavaScript has the capability that allows developing systems that are responsive to user with no need of server-side program. JavaScript is interpreted by the browser when it is executed. The Web is also used for 3-D graphics presentation. This feature is accomplished with the use of modeling language called Virtual Reality Modeling Language (VRML). This language was created in 1995 and allows creating dynamic worlds and sensory-rich virtual environments on the Internet. Using VRML, we can create buildings, vehicles in a 3-D dimensional virtual world can be seen on the web. Ames (1997) elaborated that VRML enables object animation, audio, video and user interaction to be incorporated through the use of script.

III. METHODOLOGY

A. Research Methodology

The methodology tools used for system requirements are: acquiring information and knowledge about interactive systems and tailoring systems through reading books, and researches that were previously done in related area.

Reading, comprehending and analyzing literature review and matching information obtained to existing systems to defining weaknesses and overcome with improvements.

B. Software development process

In order to give solution to problems in an industry, software developer or a team of developers must incorporate a development strategy that encompasses the process, methods and tools layers and generic phases. This strategy is often referred to as process model or a software developing paradigm. A process model for software developing is chosen based on the nature of project and application, the methods and tools to be used, and the controls and deliverables that are required. All software development can be characterized as a problem solving loop in which distinct stages are encountered. Regardless of the process model that is chosen for a software project, all of the stages coexist simultaneously at some level of detail.

The methodology chosen to develop this system is waterfall model approach. I opted for this method because I found that it is the best for my project where the stages involved can assist my level of progress. Many developers prefer waterfall model and widely use it as a development strategy.

Waterfall model approach is chosen because the approach allows the development of the system to be revised after the stages is finished. Once the stages are not satisfied, then going back to the previous stages can be considered necessary to add or modify any features. The different stages for this model:

- Project Planning
- Requirements Design
- Design
- Development
- Integration and Testing
- Installation and Acceptance

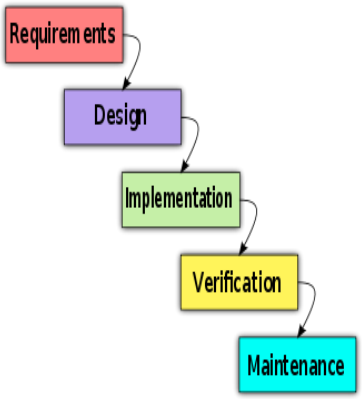

Figure1: Waterfall model

C. *Tools*

This system has been developed by utilizing the using following tools:

- XAMPP
- MySQL
- Adobe Dreamweaver
- Notepad++
- Windows 7
- Microsoft Project

IV. Results and Discussion

A. Use case diagram

It illustrates the functionalities of the system and its actors. The actors will involve with cases such as login, register, register customer, edit customer, view profile, and add measurement and others. The use case diagram of the system is as follow.

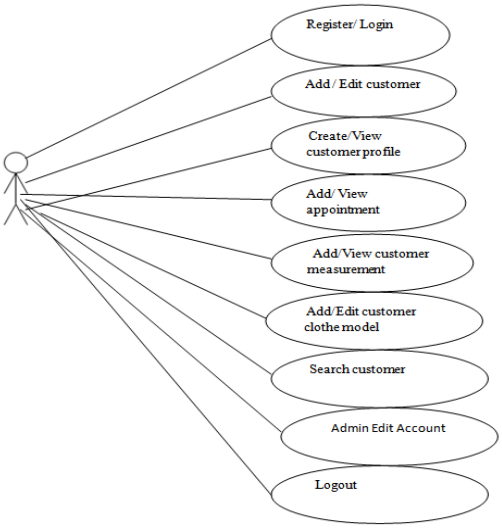

Figure 2: Use case diagram

B. *Flow chart*

The following diagram is the flow of the system

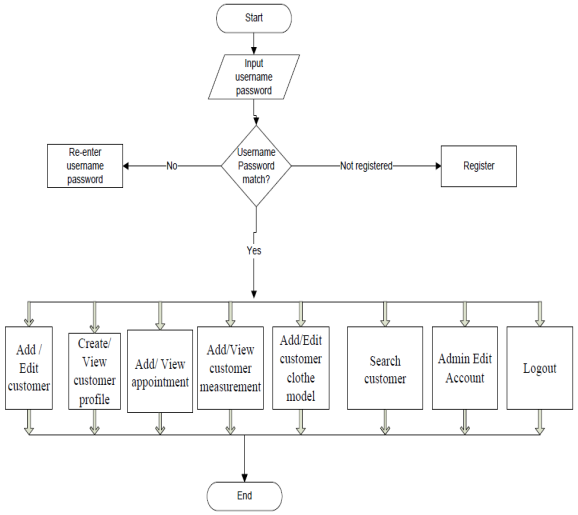

Figure 3: flow chart

C. APPLICATION INTERFACES

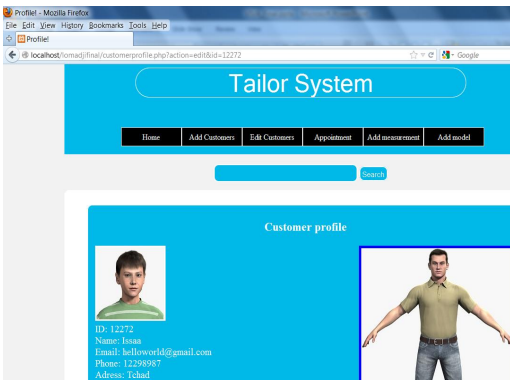

Figure 4: Profile page

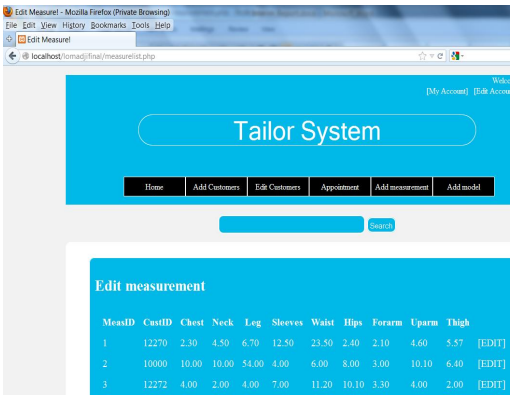

Figure 5: Edit measurement

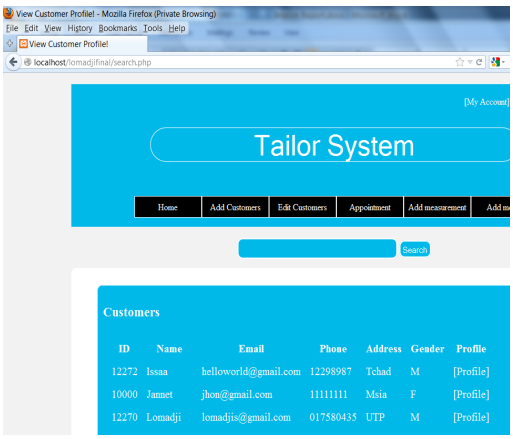

Figure: Customers

V. CONCLUSION AND RECOMMENDATION

The general objective of this project is to develop an interactive and online tailor system that helps tailors to carry out their daily tasks. It is a better system compared to paper-based system. Tailors will create profiles for each customer and record all useful information regarding the clients. All the details are saved in a database and are retrieved whenever and wherever needed.

In the future the system may be designed as a mobile application. The system will be more interactive and allows customers of the tailors to create their account themselves. The customers can also design their own clothes models in the web system.

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QUESTIONNAIRE FORM

1. Do you use computer to perform your tasks? For Example taking measurements of the customers.

   ○ Yes

   ○ No

2. Do you want to use computer application to perform your daily operations?

   ○ Yes

   ○ No

3. Will you use if we design for you a tailor system?

   ○ Yes

   ○ No

   ○ Not sure

4. Do you prefer online or offline application?

   ○ Online

   ○ Offline

5. Do you think the tailor system will help you to do your job faster?

   ○ Yes

   ○ No

   ○ Not sure

6. Will you accept if the tailor system is converted to mobile application in the future?

   ○ Yes

   ○ No