



## Design and Implementation of a Tailoring Management System (Virlor)

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### *Abstract*

The tailoring method has a popular view of being a Manuel method, in which clients must attain out to the tailor physically, select the materials for their clothing, provide their measurements, and, in most circumstances, return to the tailor shop to pick it up, consuming more time and more resources. as time progresses the provision of services has modernized, and even preference of service provision of customers has also modernized as well, customers of recent would prefer to employ mobile services that can easily reach them rather than Manuel conventional service deliveries. in this recent society, the majority would prefer a service that is automated to the point they put little or no effort into acquiring these serviced thus the goal of this project, the project is aims to automate the tailoring management services which is manually maintained. After the automation this will mean better services, data security, quick search, and also paperless environment. The project's major goal is to automate these services in such a way that tailors will have more work opportunities. Every user of the system will have to log into the system using username and password so that security and authentication will be ensured. After logging in, a consumer can place an order, monitor the status of their outfit, and even provide feedback. This system would aid both tailors and customers as it improves effectiveness and efficiency, this system also help in realizing the vision 2030 where the Nigerian government wants its people to be digitally informed and automate all government bodies and ministries, thereby embracing Electronic Governing.

**Keywords:** tailoring management system, design, implementation.

### 1. Introduction

The Virlor tailoring service application is a system which automates the tailoring process, creating job opportunities for tailors, and improve tailoring service delivery. it provides services to tailors such as measurement submission to tailor, check whether their garments are completed, as well as an assessment bar provided to clothiers to reflect the number of successfully completed jobs/tasks. The goal of the research is to create and build a virtual tailoring management system that is more effective and efficient than the current manual technique.

### 1.1 *Background of study*

Tailoring is the art of designing, cutting, fitting, and finishing clothes. The word tailor comes from the French “*tailer*”, to cut, and appears in the English language during the fourteenth century. In Latin, the word for tailor was *sartor*, meaning patcher or mender, hence the English “sartorial,” or relating to the tailor, tailoring, or tailored clothing. The term bespoke, or custom, tailoring describes garments made to measure for a specific client. Bespoke tailoring signals that these items are already “spoken for” rather than made on speculation.

As a craft, tailoring dates back to the early Middle Ages, when tailors’ guilds were established in major European towns. Tailoring had its beginnings in the trade of linen armorers, who skillfully fitted men with padded linen undergarments to protect their bodies against the chafing of chain mail and later plate armor. Men’s clothing at the time consisted of a loosely fitted tunic and hose. In 1100 Henry I confirmed the royal rights and privileges to the Tailors of Oxford. In London, the Guild of Tailors and Linen Armorers were granted arms in 1299. They became a company in 1466 and were incorporated into the company of Merchant Tailors in 1503. In France, the tailors of Paris (*Tailleurs de Robes*) received a charter in 1293, but there were separate guilds for Linen Armorers and Hose-Makers. In 1588, various guilds for French tailors were united as the powerful *Maitres Tailleurs d’Habits*. Tailoring has traditionally been and remains a hierarchical and male-dominated trade, though some women tailoresses have learned the trade. (Mathew, 2022).

In recent times, tailoring has been viewed as a profession for the unlearned, especially in the Nigeria society, it is seen as a profession for school dropouts and those who aren’t privileged to complete their schooling. This is simply an effect of how conventional the means of carrying out tailoring services have been. Clients must travel considerable distances to obtain their measurements, and afterwards, measurement is then recorded on a sheet of paper which can easily be misplaced or damaged. These methods pose threat to the security of customers and even the information recorded. On the tailor’s end, most new tailors open stores and barely get customers due to the fact that most customers are not aware of their business. The virtual tailoring system would solve all this problem and provide an environment where these activities are carried out more efficiently and effectively.

### 1.2 *Problem statement*

A common problem experienced by customer’s is measurements, customers have to walk to the tailor shop just to get their measurements recorded, not only that being a case, the measurements are recorded on a sheet of paper, customers also need to constantly go to the tailor’s shop to find out if their attires done. Tailors also find it difficult to acquire shops that would be used for their business. The manual system in use has too many setbacks that make the tailoring service difficult.

### 1.3 *Proposed solution*

The Virilor tailoring service system would eliminate each of the problems listed above, the system would allow customers submit their measurement online, the system would also keep measurements recorded, this record would be edited by the tailor consecutively due to the fact that the human body changes. The system would also display the garment status indicating when its suitable to be picked up. The system would also display the cost of the garments so customers can have prior knowledge about it.

#### 1.4 *Project aims and objectives*

This project aims to automate the manual tailoring system service that has been seen to be tedious, discomforting and tiring. It has the following objectives:

- This system also would enable the sending of measurements online.
- This system also aims to compute the price of a garment prior to the making phase, including price of fabric and price of style preparation.
- This system possesses an ordered organization format which makes tasks easier to pick by tailors in an orderly manner.

This system aims to modernize the entire tailoring process.

#### 1.5 *Scope of system*

The Virlor system will provide an interface for users to register and share their measurements and other processes are as follows:

- The system stores and maintains clients/customers recorded measurements which can be edited from time to time.
- The Virlor system also provides prior price statements totaling the amount spent on fabric, sewing and delivery.
- The choice is done by the client, choosing to either transfer payment or pay on delivery.

For the purpose of this system, we will have only two of users to make it effective and secures. The users will be the clients and the admin.

administrator (user/tailor)

- have access to register to the Virlor application.
- have access to checking cloth status.
- have access to tailor navigation interface.
- can login to change application interface.
- can magnate the information on the site.
- can remove tailor based on feedback gotten from clients.

#### 1.6 *Scope of the study*

The scope of this research, design and development dwells on Abuja, Nigeria and a few prominent locations surrounding it. This is because the Manuel system is practicalized worldwide, in every country the Manuel tailoring system is adopted, and due to the lack of research time restriction, lack of needed research materials and resources, the scope of the study is limited.

#### 1.7 *Research question*

The purpose of my project topic was inspired by the following research question: *Can design and implementation of a tailoring management application improve the tailoring process?* This question would be answered in our Chapter 3.

### 1.8 *Significance to the study*

This study has its relevance in solving real life problems affecting tailors/clients today ranging from measurements, fabric selection, and general organization for the tailoring process. The application would also be flexible to provide different tailoring options where users can have specific choices to select from. Lastly the application would be focused on one state i.e., federal Capital Territory rather than addressing a greater audience. It is important to put focus interest into the development and usage of the modernized tailoring management system in solving tailoring issues.

The major limitation of this study is inadequate time due other rigorous academic work that have to embark on as a final year student at the course of study.

### 1.9 *Operational definition of terms*

(1) Tailoring: Tailoring is the art of designing, cutting, fitting, and finishing clothes.

(2) Tailor: A patcher, designer, or mender.

(3) System: A set of things working together as a whole to achieve the same sole objective.

## 2. Literature review

### 2.1 *Introduction*

Literature review is a text written by someone to consider the critical points of current substantive results as well as theoretical and methodological contributions to a particular issue are all examples of knowledge. The main goals are to place the current study in the context of the entire literature and to provide context for the reader (Cooper, 2020).

A literature review is a piece of academic writing that demonstrates knowledge and comprehension of academic literature on a given topic in context (Rudestam et al., 2019).

#### 2.1.1 *Who is a Tailor?*

A tailor is a person who makes, repairs, or alters clothes professionally, especially suits (Yourdictionary, 2019). A tailor creates bespoke clothing, such as jackets, in a variety of styles. Skirt or trousers that go with them, for men or women. An alteration specialist which adjusts the fit of garments (Lancaster, 2019).

#### 2.2 *Origins of the term “bespoke tailoring”*

According to Poole (1846), the term bespoke originated in the days when a customer would select a chunk of cloth in a tailor’s store and have it marked as “bespoken for” by the tailor. It has come to represent a classic kind of tailoring in which each client’s pattern is created individually and the best traditional tailoring skill is employed to get the final garment’s shape. The following are the two main reasons for bespoke designed clothing:

1. Difficulty attaining a good fit from ready-to-wear garments.
2. Access to a wider range of styles and cloth designs.

According to Hardy (2020), a skilled tailor should be able to overcome all potential flaws and steer his customer toward a style that is more suited to his or her physique, as well as create a masterpiece that fits. A good tailor, he claims, can construct simple clothing from plain material, but with time and effort, they may learn to create garments of amazing beauty that provide considerable protection to their wearer (Hardy, 2019).

### *2.3 Developments in tailoring industry*

Nigeria's fashion sector has increased in size and complexity over the last decade, gaining international notice. The “textile, garment, and footwear” sector has grown at an annual rate of 17 percent since 2010, according to GDP data from the national bureau of statistics (NBS). The rise has been spurred in part by increased demand, but it has also been fueled in part by unprecedented initiatives that have pushed Nigeria into the global fashion awareness (Ogunfuyi, 2019).

He brought a rebellious streak to the history of suit creation, according to Richard (2019), and he has become a pillar of the modern menswear establishment. The rock n' roll elite have found his bright color and inventive twists alluring.

Within Savile Row in London, modernization of the style and attitude of traditional tailors to new designs has resulted in greater profitability, time wastage, and a reduction in the number of tailors that rely on traditional technology (Ozward et al., 2019).

According to Shaw (2001), the only man who behaves reasonably in his tailor shop is the one who takes fresh measurements every time he sees me, while the rest keep their old measurements and expect me to suit them (Shaw et al., 2020).

#### *2.3.1 Existing tailoring systems*

David Mutembei a graduate of the MT Kenya University built a tailoring management system in 2013, these systems consist of three major actors in the system which were: the users, the tailors, and the system admin.

But this differ from my system because my system has one major actor which is the tailor, he is the admin of the system, and manages the general process of the system.

The system will allow customers to register online and successfully submit their measurements.

The system has inbuilt validation system to validate the entered data. The customer can login to the system to check on the status of the clothes for collection. The system will show the already completed garments for clients to collect. The system also provides information about the cost of each garment the customer intends to get knit. This data will be stored in the database for further reference or audit.

Cletus (2020) developed a three-actor tailoring system which automates the tailoring process, but significant to his work, his system didn't request customer feedback after a successful tailoring process, his project focused on an Online tailoring management system aimed to assist in management of tailoring activities within the industry. It will provide online services to customers such as: measurement submission to their tailors, check whether their garments are finished and also help in proper keeping of records. This will ensure availability of right information, information safety, easy storage, access and retrieval. The study aims at building a computerized tailoring management system that would be more effective and efficient than the existing manual system.

This proposed online tailoring management system aimed to eliminate all these manual interventions and increase the speed of the whole process. His system also allows customers to register online and successfully submit their measurements.

His system contained an inbuilt validation system to validate the entered data. The customer can login to the system to check on the status of the clothes for collection. His system will also show the already completed garments for clients to collect. The system also provides information about the cost of each garment the customer intends to get knit. This data will be stored in the database for further reference or audit.

Igbes Online Tailoring management system also broke the geographical barriers and bring the whole process into a quick and easy way to access tailors. His system also automates the traditional tailoring system into a modern computerized system. This will enhance data retrieval, storage, and security. His system is also cost effective since it will cut down on travelling cost to get your measurements taken and also going to check if you clothe has been made and is ready for collection.

Another existing system was found to be completely manual, i.e., customers' information is captured in books, there also required to walk to the tailor shop to get their measurements taken.

Customers also go to the tailor shops to check on the progress of their garments.

### *2.3.2 Becoming a twenty-first century tailor shop*

Smaller bespoke producers have been able to re-envision profitable business processes to reach global audiences because to the growth of online retail and advances in web technologies. With the development of collaborative digital market places like StanfordRow.com, bespoke industries are seeing a strong return. Despite the fact that a bespoke suit was “fully handmade and the pattern cut from scratch, with an intermediary baste stage which involved a first fitting so that adjustments could be made to a half-made suit, both fully bespoke and made-to-measure suits were “made to order” in that they were made to the customer’s precise measurements and specifications, unlike off-the peg suits” (Michael et al., 2019).

### *2.3.3 Moving online*

While many older businesses are hesitant to adopt technology-driven business strategies, younger entrepreneurs are gaining market share by utilizing technology on numerous fronts.

Startups can use distance tailoring to expand their reach beyond the geographic boundaries of their local market. Customers measure themselves (with assistance) and submit orders online. Although many tailors utilize this method to take advantage of cheap labor overseas, a remote tailoring framework can also be used (gaebler.com, 2019).

*Distance tailoring.* Distance tailoring allows startups to expand their reach beyond the geographic limitations of the local marketplace. Customers perform their own measurements (with guidance) and place orders online. Although many tailors use this approach to take advantage of cheap labor overseas, it's possible to leverage a distance tailoring framework. (gaebler.com, 2020)

*Integrated backend solutions.* Tailor shops are like any other SMB (small and medium business) in the sense that there are multiple behind-the-scenes business tasks that must be routinely performed. With today’s technology, accounting, billing, inventory, shipping, and other

software solutions can be integrated to create a highly functional and seamless backend system. (gaebler.com, 2022)

*Social media marketing.* Social media resources like Facebook and Twitter allow tailor shop startups to convert satisfied customers to brand advocates. By actively engaging your customers on these and other sites, you can encourage positive conversations around your products and your brand (gaebler.com, 2022).

#### 2.3.4 Web 2.0 technology in tailor systems

Web 2.0 is a participatory platform, through which consumers can download content, as well as contribute and produce new content by uploading. There are more ideas linked with this technology such as tagging, blogs, wikis, and mashups which link both retailers and consumers. Web 2.0 fashion product viewing and service technologies have advanced significantly and have been in use since the fashion industry joined e-commerce platforms (Idrees, 2020).

##### *Web 2.0 Fashion Product Viewing Technology*

Web 2.0 fashion product viewing technology is acknowledged and available online. It is described as a method of visual merchandising in online atmosphere. Viewing products online offers consumers basic knowledge related to the product and facilitates the decision to make a purchase.

(a) 2D Image Viewing To views a product and its features in online fashion retailing, 2D images are commonly seen on a model view or as an outfit view. The 2D product images provided by retailers increase the consumer's intention to purchase a product. The 2D images are not lively and are less engaging than the extensive viewing technology of zoom and product video display. Moreover, styling inspiration is also provided by the model wearing an outfit allowing consumers to imagine themselves wearing the product. Product video is a more charismatic tool for gilded sensory visualization of the product's characteristics than 2D images. Consumer's intention to purchase is empowered by presenting more sensory features in online platforms. Thus, utilizing charismatic media tools can boost consumers' engagement and probability of purchasing product (Idrees, 2020).

(b) Front, Side and Back Viewing There is an increased opportunity to sell a product by displaying images taken from various angles, which provide more information for consumers to evaluate before buying a product. The consumer is aided with multiple images of a product which enhance the sensory empowering experiences, thus making up for the absence of palpability in fashion ecommerce. The mental perceptibility increases proportionally to the increase in number of images displayed. Consequently, purchase intention is enhanced (Idrees, 2020).

(c) Angled Viewing There is an option of angled viewing in web 2.0, which allows consumers to view the product from various perspectives and with in-depth detail and information. The interactivity and engagement of the consumer increase by viewing the product at different angles. Mental tangibility increases by imagining how the product might look once purchased. With the angled viewing tool, consumers can operate the image they are viewing online. Decision making attribute is enhanced by the provision of a higher level of product involvement (Idrees, 2020).

(d) Zoom (Close-UP View) Zoom provides an option for involvement within the online retail setting, facilitating online consumers with enhanced product presentation and task-related knowledge to purchase a product. Conversely, there are so many online product viewing tools that, determining which is the most (Idrees, 2020).

The augmented product on their body on a digital screen. The augmented technologies included two basic categories:

*Augmented 3D Product View and Virtual Mirror*

(1) Augmented 3D Product View: Augmented reality delivers a higher level of experiential value during online shopping. AR is a new interactive technology through which consumers can interact with an augmented product over the real image of a person. This technology creates a seamless interactive environment between a person and the viewed product. This field is still under research (Vignali, 2020).

(2) Virtual Mirror: Virtual mirrors deliver a greater level of manifestation than 360-degree spin and motionless images. It is suggested to incorporate virtual mirrors in online retailing, which will act as a medium to minimize gap between the online and offline environments (Vignali, 2020).

Virtual Technologies Virtual reality (VR) is associated with cyber technology. VR is a virtual manifestation experience, although not the experience of direct occurrence, but rather the feeling of being engrossed in the virtual atmosphere. Virtual reality is the human perceptibility and the conversation of manifestation. VR technology can incorporate virtual avatars in the virtual fitting rooms of e-commerce platforms. The virtual technologies included four main types in e-commerce platforms such as (Vignali, 2020): (1) Avatars to mix and match for dynamic product view; (2) Virtual fitting rooms; (3) Virtual catwalk; and (4) Virtual Body scan.

(1) Avatars: 3D avatars enhance entertainment qualities for users and encourage consumers to revisit a website. Consumers can mix and match products on avatar for dynamic product view. Formerly, information was limited to product-related features. The consumer's decision-making is highly dependent upon information provided by consumers at this search stage. This technology is a consumer-oriented technology. Shim and Lee in 2011 determined that, avatars permit a greater level of telepresence. Telepresence provides a feeling of physical atmosphere and is described properly and efficiently as a place where users take part with interactive experience. Research suggests that telepresence is enhanced by 3D models. Virtual models can also enhance perceived enjoyment and hedonic value as well as perceived ease of use and usefulness (Gill, 2020).

(2) Virtual Fitting Rooms (virtual try-on): In contrast with traditional retailing setups, virtual fitting rooms improve the experience of consumers with innovation and curiosity. Curiosity is encouraged with virtual fitting rooms which also enhances the probability of both online and offline store benefaction. During customers' transactions, engaging with virtual fitting rooms can also enhance and refine the retailer's targeting strategy of collecting users' data for providing a personalized service. Moreover, virtual fitting rooms can improve consumers' empirical attitude. Purchase intention and functional value improves with personalized virtual try-on (Gill, 2020).

(3) Virtual Catwalk: During the launch of new seasonal products virtual catwalks are frequently used by technology-oriented fashion brands. The virtual reality headsets are used to present a virtual catwalk. Oculus Rift, Samsung Gear and more recently Google Cardboard are big brands names included in the list. Moreover, virtual catwalk is presented by Topshop during fashion week, as well as Burberry and Rebecca Minkoff (Gill, 2020).

(4) Virtual Body Scan: Professional body scanning equipment is used for 3D body scanning. Positive responses have been concluded by consumers when using 3D body scanning technology. Latest mobile applications have been launched by various companies. Size stream at home is the latest mobile application for body scanning. This technology provides measurements of the human body by taking images of a person wearing a specific suit on its application. This scanning technology was introduced due to inaccuracy in manual measurement methods used by



consumers for customization (Gill, 2020). There is also the Intelligent Web 3.0 Fashion Technology.

### 3. Methodology

The term methodology means the techniques and procedures adopted by conducting a research study. It outlines how the data will be collected, and the tools for collecting data, system methodology, the proposed system input and output, users and system development tools.

#### 3.1 *Fact finding techniques*

This shows how data will be collected from the users of the Virlor system. The techniques used for data collection are as follows.

##### 3.1.1 *Observation*

This technique would be used to collect data from users by carefully examining the processes carried as users interact with the Virlor system, and interacting with users who use the Manuel tailoring method. This involves systematically watching and recording the behaviors and characteristics of operations and processes. It gives more detailed and context related information and can adapt to events as they occur, however, the method may be time consuming.

##### 3.1.2 *Secondary data collection*

This method of data collection involves data being collected from already existing works such as books, websites, magazines, newspapers, works gathered and analyzed by other fellow researchers, the research would then be compared with primary data collected and final decisions and conclusion would be made.

#### 3.2 *System development methodology (SDLC)*

System development methodology is a technique that is used to show how the proposed system will be developed. In this case, the methodology used will be a waterfall model.

##### 3.3 *Waterfall model*

It is made up of the stages that the programmer will go through when creating the system. The name waterfall comes from the fact that it is a sequential model. Before moving on to the next level, the developer must complete the previous one. The feasibility study, analytical phase, design phase, coding phase, testing phase, implementation phase, and maintenance phase are all included. It's a straightforward model that's simple to use and comprehend. With waterfall development approaches, analysts and users move from one phase to the next in a logical order. As the project progresses from phase to phase, the deliverables from each phase become increasingly large and are delivered to the project sponsor for approval. The phase concludes when the sponsor approves it, and the following phase begins.

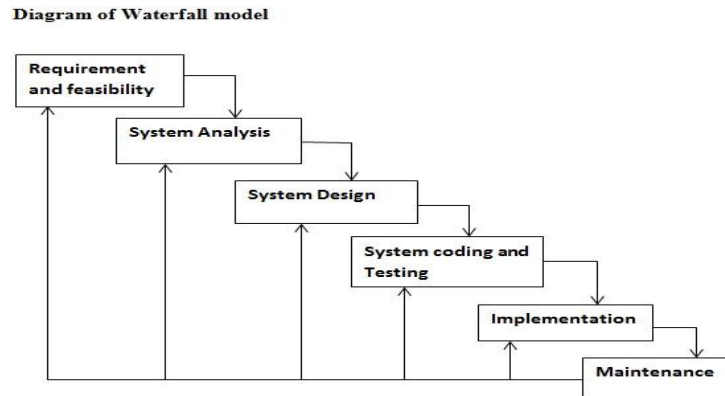


Figure 1.

### 3.4 Feasibility study

Through interviews, observations, and obtaining secondary information, we will conduct a study to gain a better knowledge of the customers' present system and the challenges they are experiencing with it. We'll utilize the information we've gathered to assess the technical, economic, and social feasibility of the system under consideration.

### 3.5 Requirements analysis

At this point, we'll gather information about the customer's requirements and outline the challenges that the system will be expected to solve. we'll also provide information on the customers' businesses, product features, and compatibility. we'll gather information about software, such as the programming language to be used, the database model to be used, and the gear required, such as laptops and printers.

### 3.6 Design

An overall design of the system architecture and physical design, which includes the user interface and database design, is completed at this stage. Before moving on to the next stage, we will identify any flaws at this point. The design specification is the stage's result, and it's used in the next step of implementation.

### 3.7 Coding/Implementation

At this point, we'll start coding according to the design specifications. This process produces one or more product components that have been debugged, tested, and integrated to meet the system architecture requirements using a pre-defined coding standard.

### 3.8 Testing

At this step, we'll make sure that both the individual parts and the entire system are thoroughly tested to guarantee that they're free of errors and meet client expectations. We'll include unit testing of individual code modules, system testing of the entire solution, and customer acceptance testing. Before moving on to the next stage, we'll make sure all bugs are fixed. At this time, we'll also be preparing, reviewing, and publishing Product documentation.

### 3.9 Maintenance

Once the product has been evaluated and verified as safe to use, it is then packaged. The system is ready to be installed at the customer's location. Depending on the demands of the consumer, we will distribute via the internet or by mail.

This stage takes place once the installation has been completed. It entails making changes to the system in order to increase performance. These updates are either user-initiated or as a result of previously unknown problems being uncovered. These changes are documented and the system is updated as a result of them.

Using the requirements definitions as a foundation, the system design is now constructed. Software design is the process of representing the functions of each software system in a manner which may readily be transformed to one or more computer programs. Use case diagrams, sequence diagrams, entity relationships frustrate (ERD), data dictionary and so on are used to this level to represent the system design.

#### 3.9.1 Use case diagram

The use case diagram of the actor and different cases. A depiction of a systems behavior or functionality under various conditions as the system responds to requests from users. In the general use case, the summary of the fictional requirement is given. This shows the relationship of all users and the various cases involved.

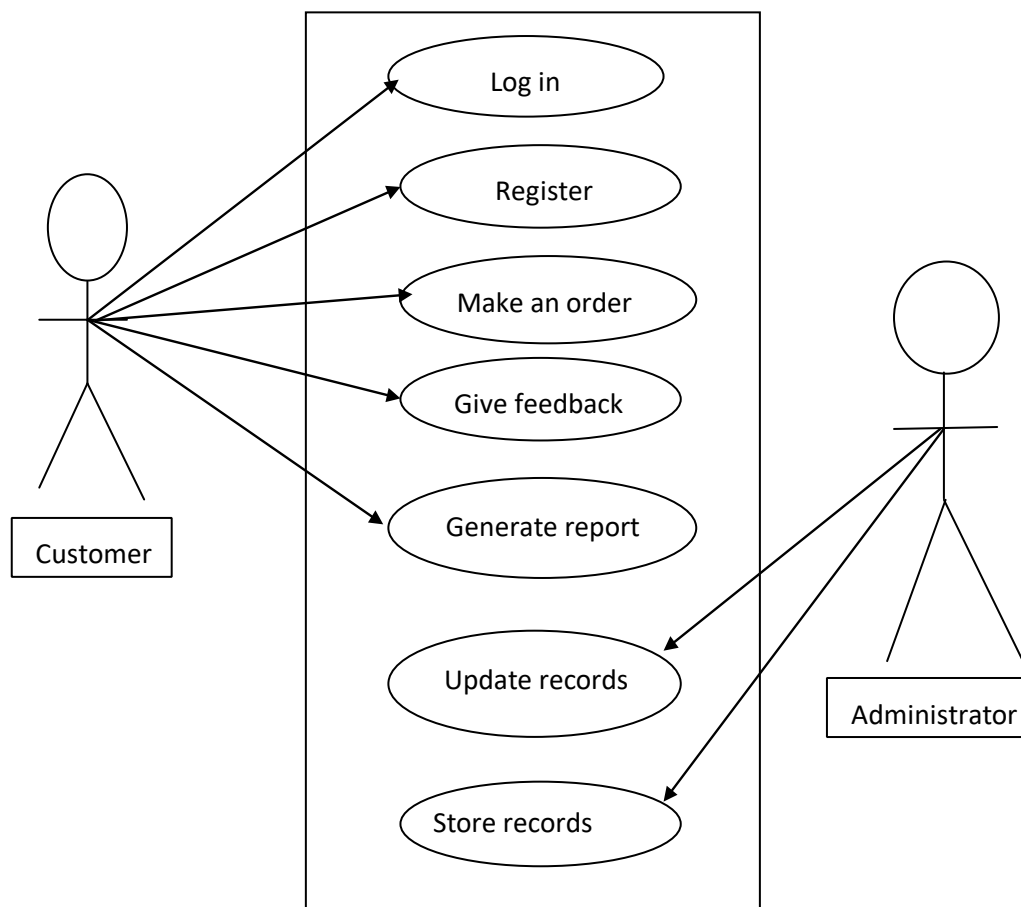


Figure 2. The use case diagram of the proposed system

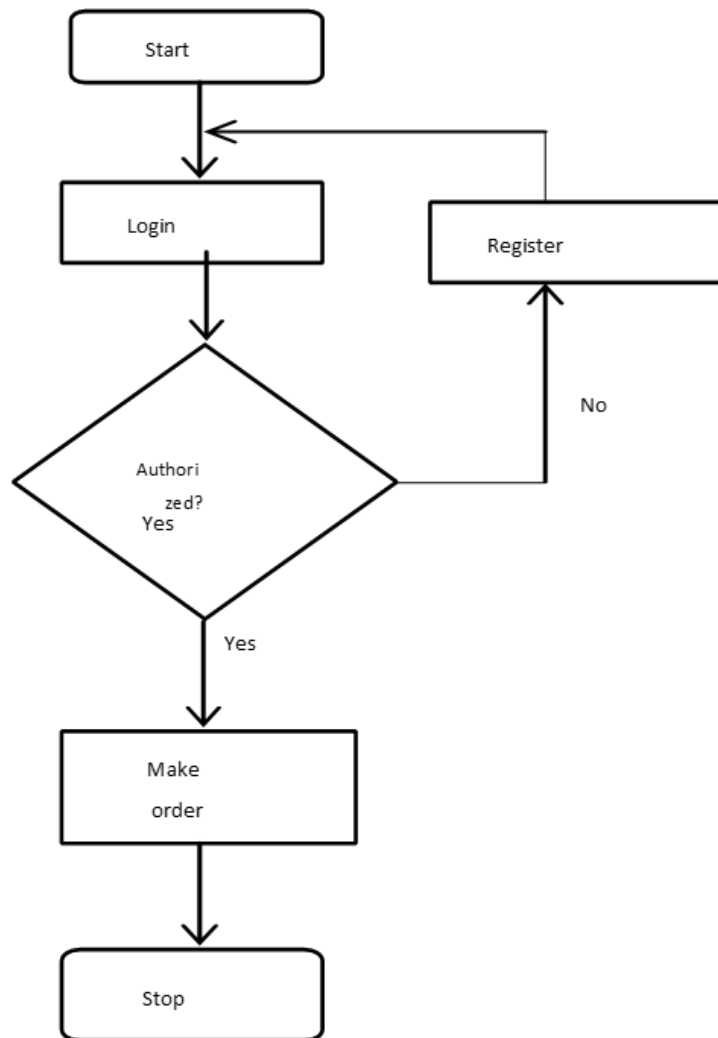
### 3.9.2 Input design

The input part of the system depicts just one section, which is the admin of the system, the admin of the system are the users of the website. These pages would be created and implemented by encoding them with PHP. the user is able to interact with the system by clicking the different functions of the site from placing delivery, to receiving delivery pickup information.

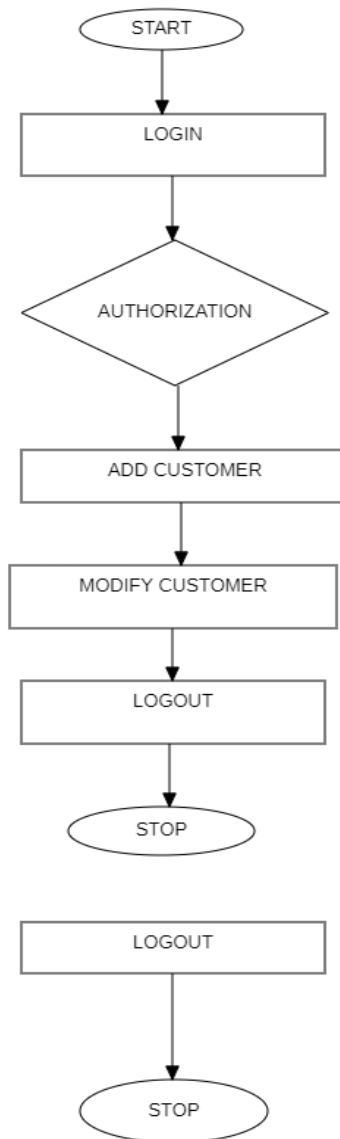
### 3.9.3 Proposed system

The proposed system is mainly classified into one important part, the administrative sector interface. The administrative sector is the back end of the system which tidies the functionality of the system. This part been handled by the system administrator. Its sole objective is to feed the system with up-to date information about the tourism centers in the state and every other important information. When the administrator logs in with his identification password, he is able to carry out his duties which ranges from the addition of newly discovered tailors, uploads new feedback scales, every other necessary information user’s may need. It is the backbone of the system.

Login operation



## Flowchart



## 4. System implementation, testing and integration

### 4.1 Introduction

It is the processes of putting the proposed system in operation. Some of the activities undertaken by the analyst are training personnel who will use the system. There is also provision of user manual and help page for efficient use of the system.

Next is to install computer equipment and internet to help them connect with their clients in the globe. This will facilitate the full functionality of this proposed system. Equipment should be acquired from recognized vendor. These include central processing unit (CPU), Ethernet cables, routers, output, and input devices, e.g., keyboard, mouse, monitor and all secondary storage devices. The hardware and software vendors have major responsibility for installing this

equipment. The analyst then determines the functional changes. E.g., may analyze the job function changes caused by the computerized system.

The software development life cycle (SDLC) ensures that before a product is deployed, it is tested and integrated to ensure proper functionality. System testing, integration and implementation are phases in the SDLC, which ensures that the aim of the system development life cycle is achieved before the release of any product.

Ogwuleka (2012) defined system implementation as the construction of a new system and the delivery of the system into

#### *4.2 The choice of programming language*

The project which is a based system, requires the use of a couple of selected programming languages which include PHP and Perl programming languages to aid the implementation of the Virlor system. These languages fall under the programming paradigm called scripting languages.

PHP is a general-purpose scripting language geared toward web development. It was originally created by Danish-Canadian programmer Rasmus Lerdorf in 1994. The PHP reference implementation is now produced by the PHP group. PHP originally stood for personal home page, but it now stands for recursive initialism PHP: hypertext preprocessor.

In accordance with Kalode (2021), PHP is an open-source server-side scripting language that many developers use for web development. It is also a general-purpose language that you can use to make lots of projects, including Graphical User Interfaces (GUIs).

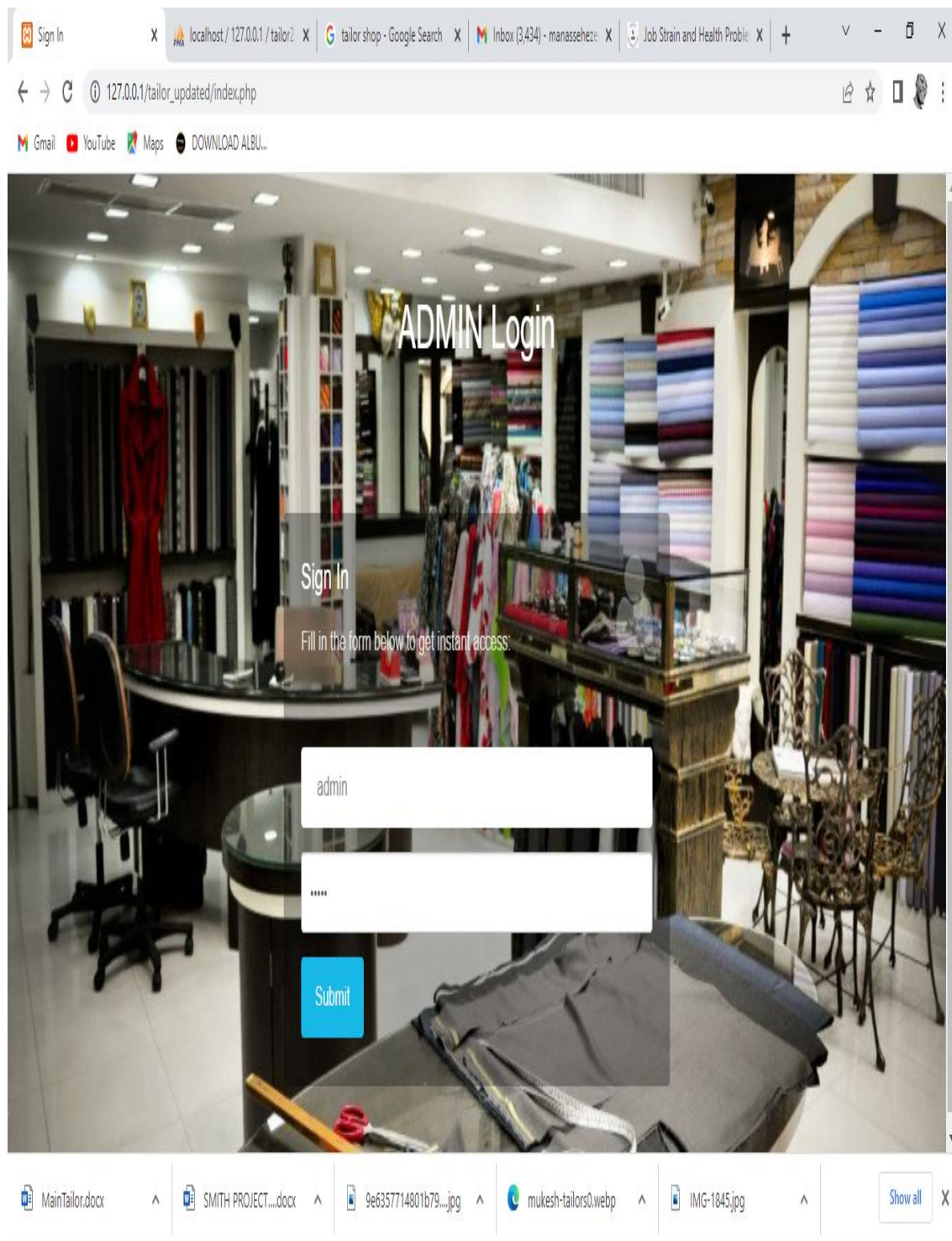
The abbreviation PHP initially stood for Personal Homepage. But now it is a recursive acronym for Hypertext Preprocessor. (It's recursive in the sense that the first word itself is an abbreviation, so the full meaning doesn't follow the abbreviation.)

The first version of PHP was launched 26 years ago. Now it's on version 8, released in November 2020, but version 7 remains the most widely used.

PHP runs on the Zend engine, which is the most popular implementation. There are some other implementations as well, like parrot, HPVM (Hip Hop Virtual Machine), and Hip Hop, created by Facebook.

PHP is mostly used for making web servers. It runs on the browser and is also capable of running in the command line. So, if you don't feel like showing your code output in the browser, you can show it in the terminal.

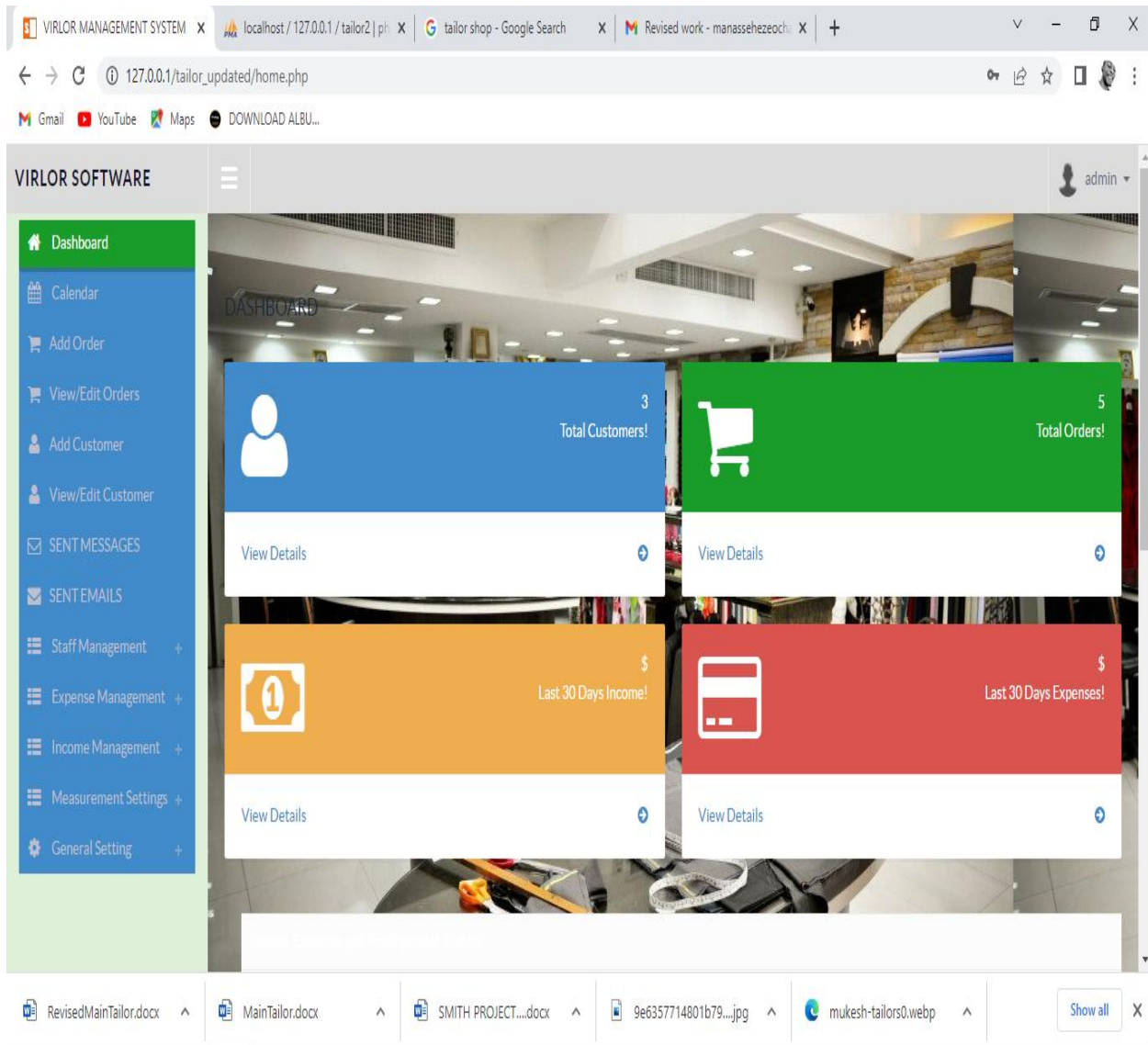
### 4.3 System main menu implementation



The figure above shows a screenshot of the systems homepage, it is a system non-CLUSTERED page which comprises of a SIGN IN/LOG IN button which makes it easier for users to operate, after user details imputation, the system verifies login details and grants access or denies.

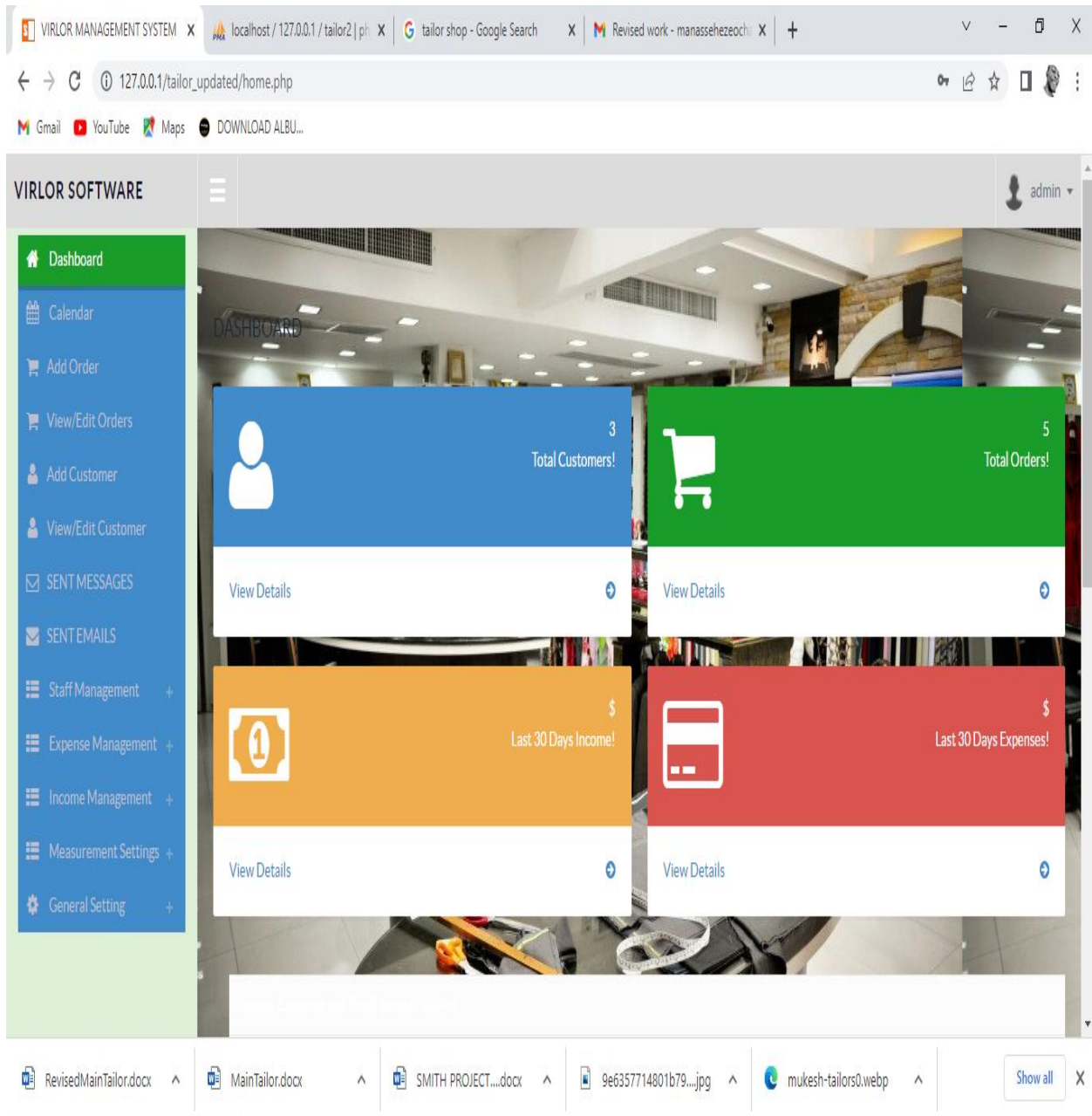
#### 4.4 Implementation of the subsystem

This shows all the activities performed by the admin during the log in process.



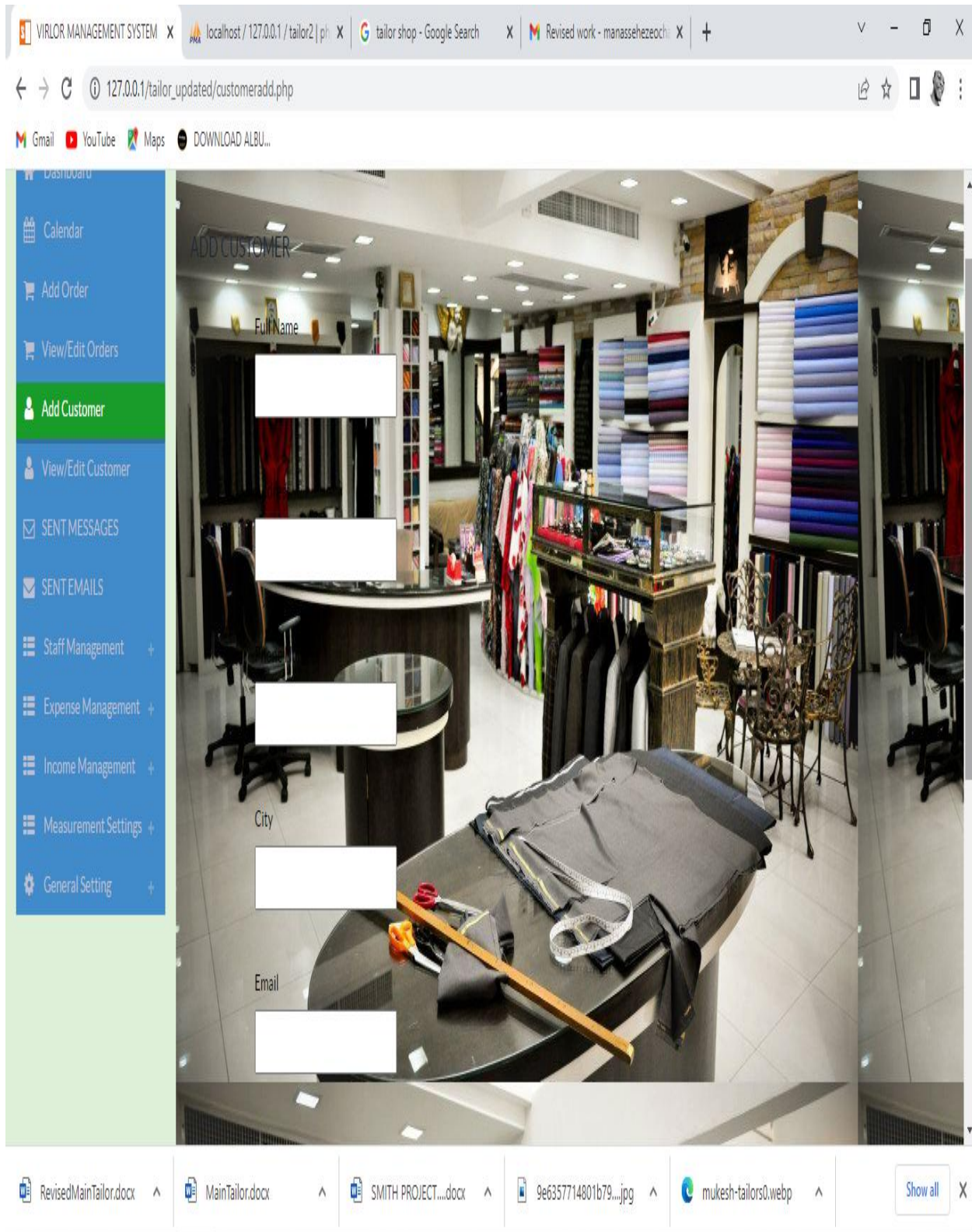
In the figure above, the admin logs in to provide the system with up-to-date information and to view the operations as the back end of the system (i.e., check in and check out user operation). The admin has the sole objective of feeding the system with up-to-date information and upgrading it time to time. The admin cannot create users but only put up more information for the users.



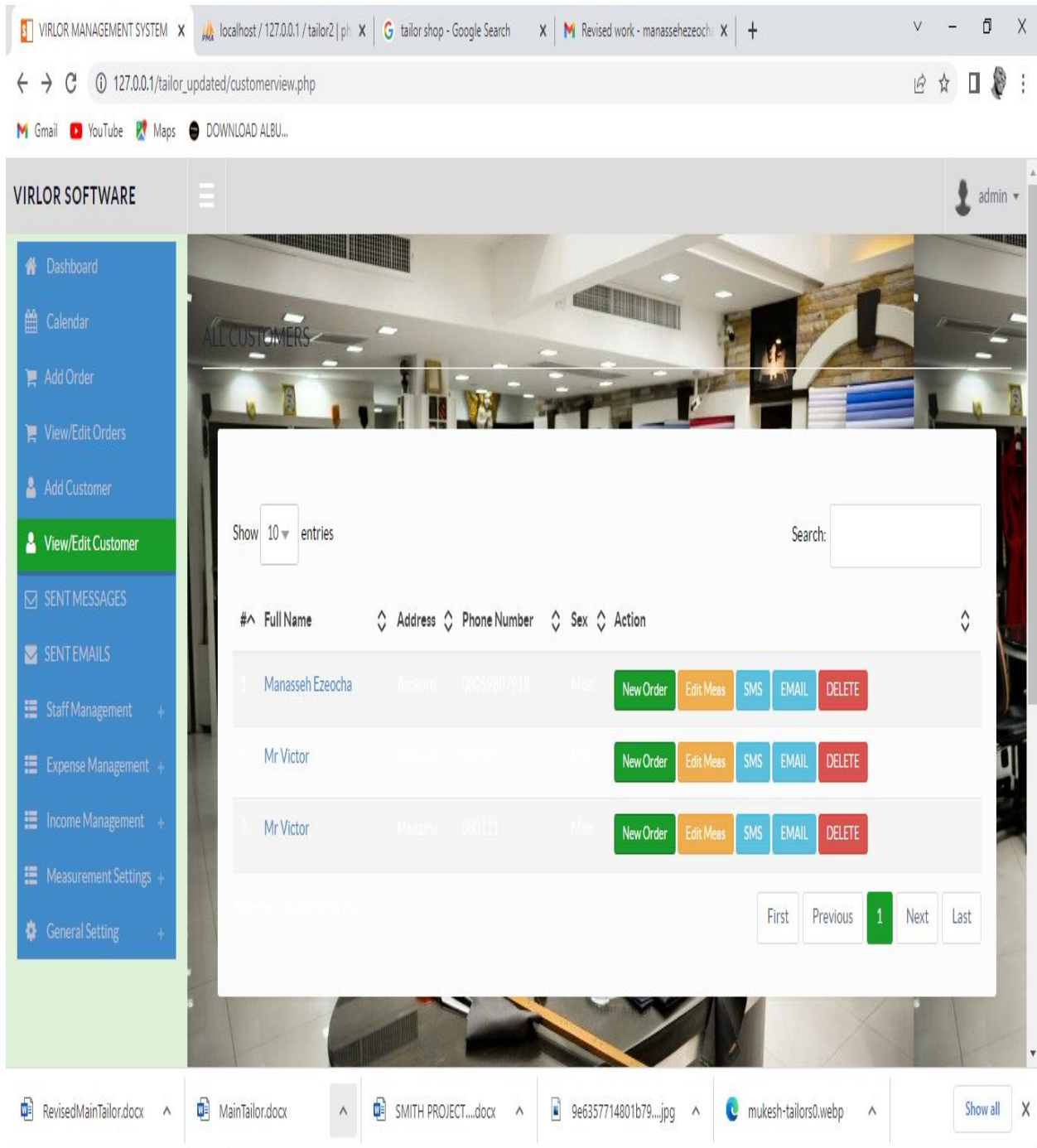


#### 4.5 Query subsystem implementation

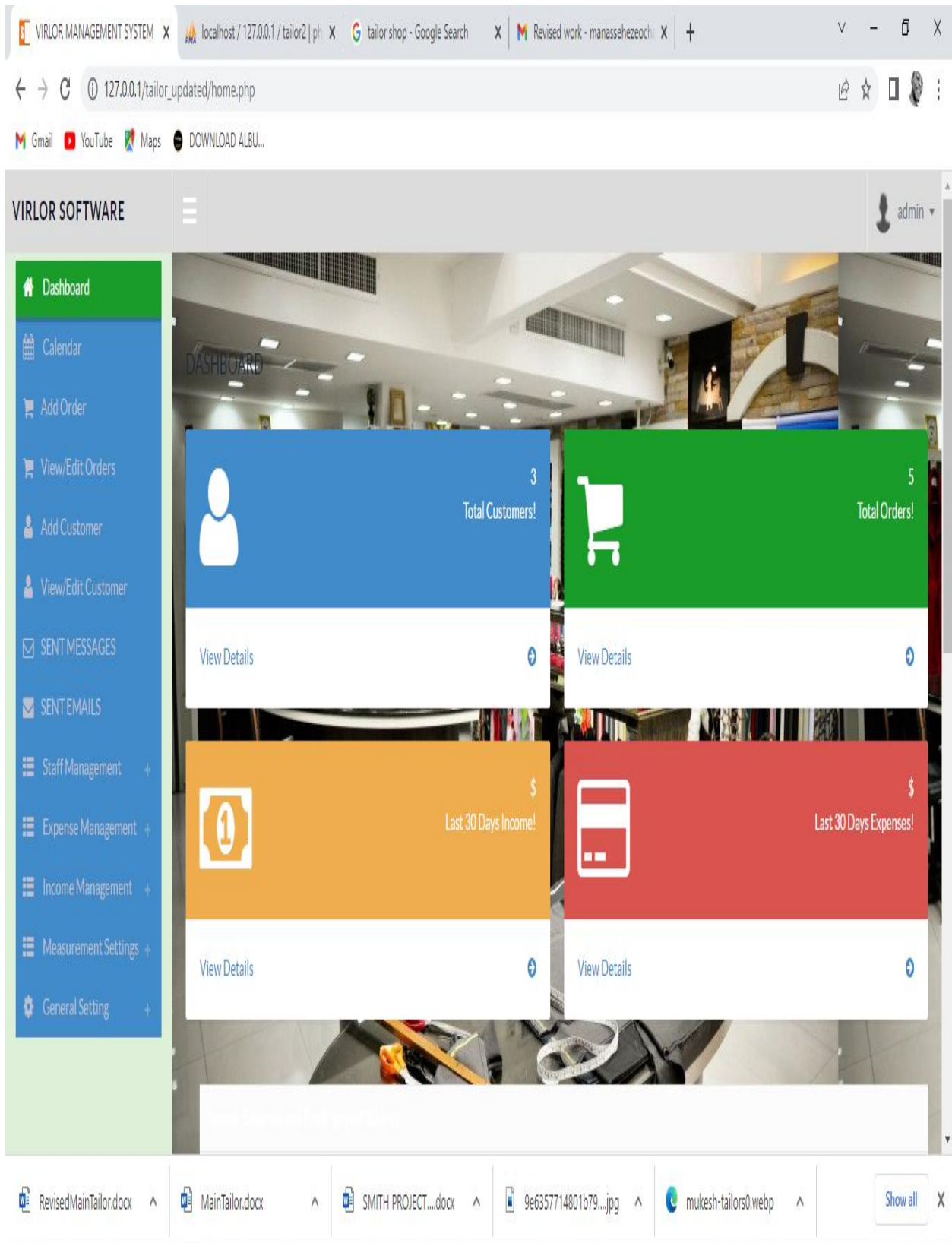
The figures above show the subsystems. The query subsystem explains how the users interact with the system and how the system responds to users. In other words, it shows the communication process between a system and its user. It shows the responses users get when they go through the different sections of the system.



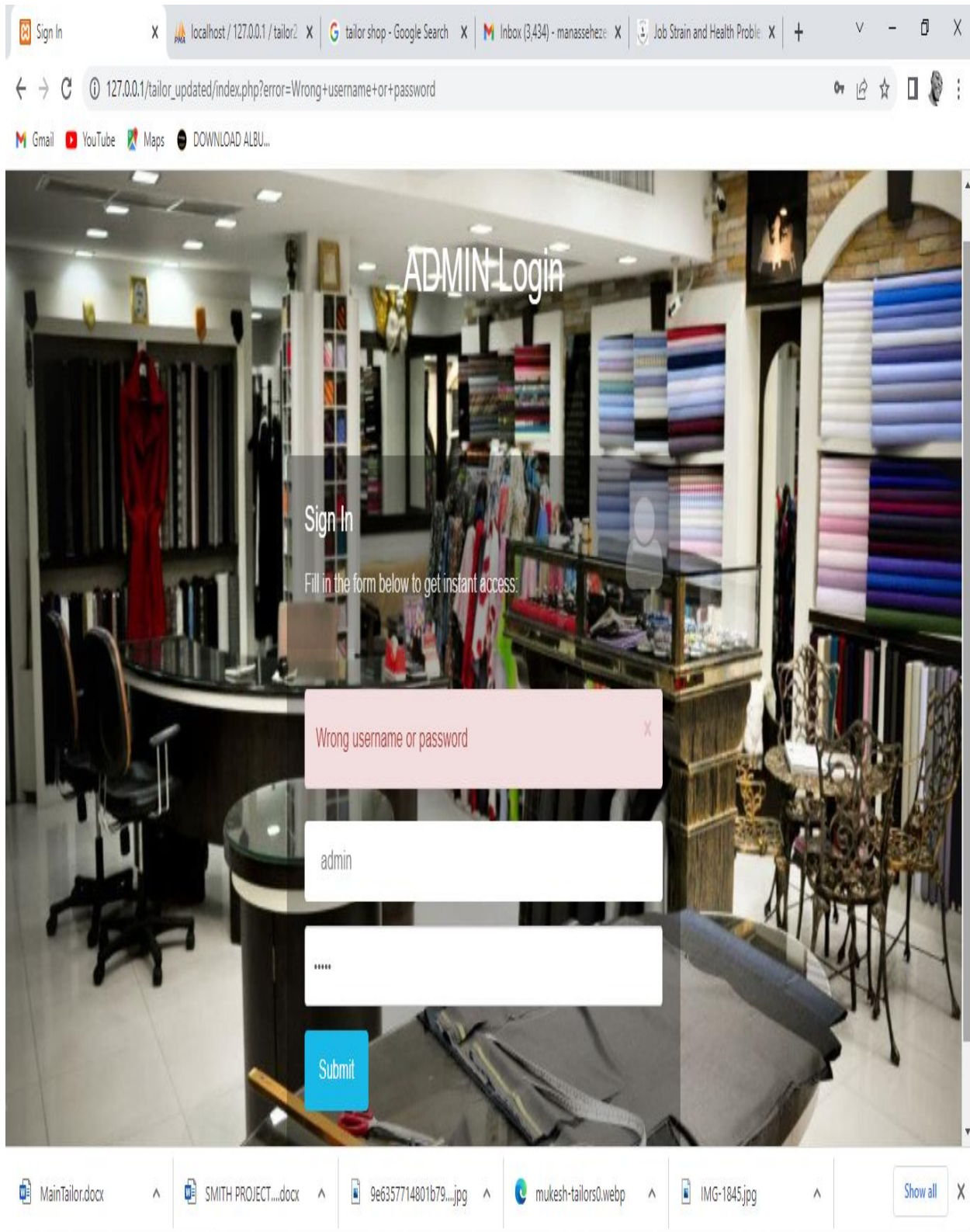
This section displays the add in form presented to new and existing users of the system; it is a non-CLUSTARD page which enables tailors carry out this function without further navigation.



The figure above shows the form for users wish to edit details earlier inputted into the system. This form allows users to create their account so they can have access to the system and every information they need.

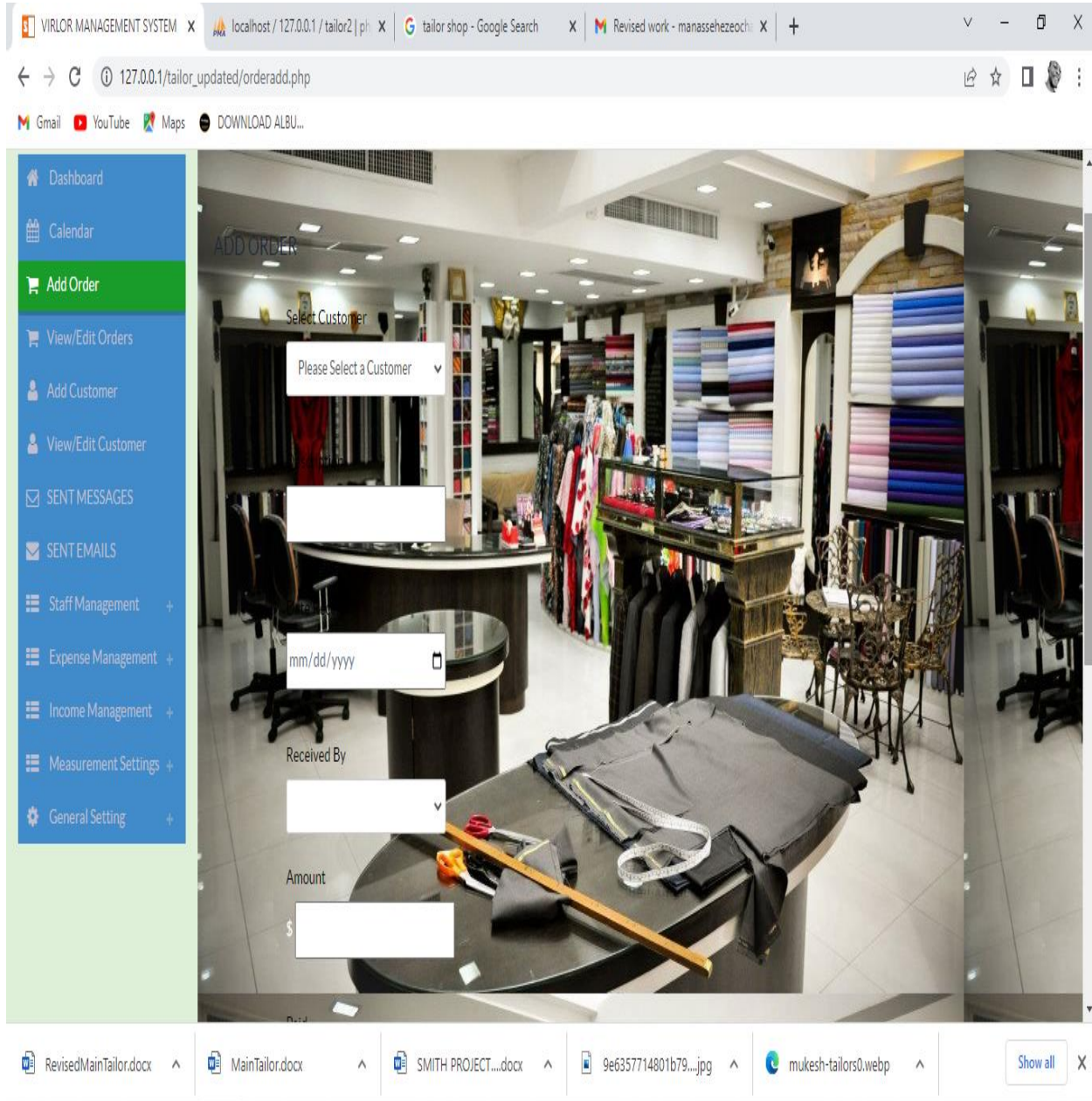


The page above shows the display users first see upon log in. it consists of different buttons such as user profile.



The figure above represents an Error. This is as a result of wrong login details, if a user inputs wrong username or password, the system would give an alert that an error has occurred. This can also happen when a user does not exist on the system and he goes straight to login in

instead of signing up first. The system doesn't recognize such details in the database hence it denies the user any access.



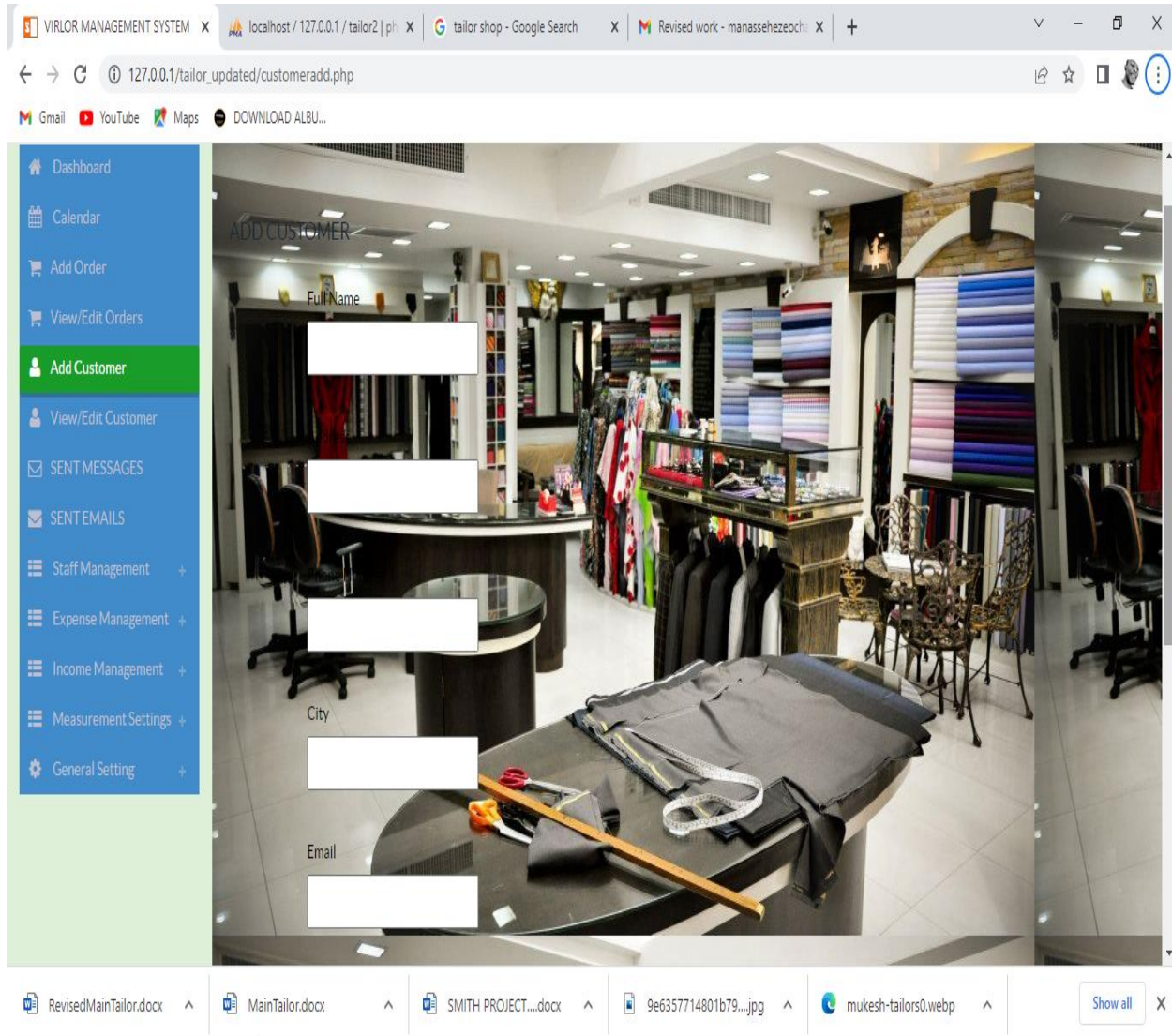
The figure above represents the booking form with which users are able to make their reservation for a particular tailor, and every detail asked of the user is necessary to make a reservation. If any field of this booking form is left blank, user would be unable to make a tailor reservation until fields are completely filled.

#### 4.5.1 System functionality process

Virilor system works in a systematic order, meaning you cannot skip step 1 and head into step 2, i.e., a particular order. The system functions are as follows:

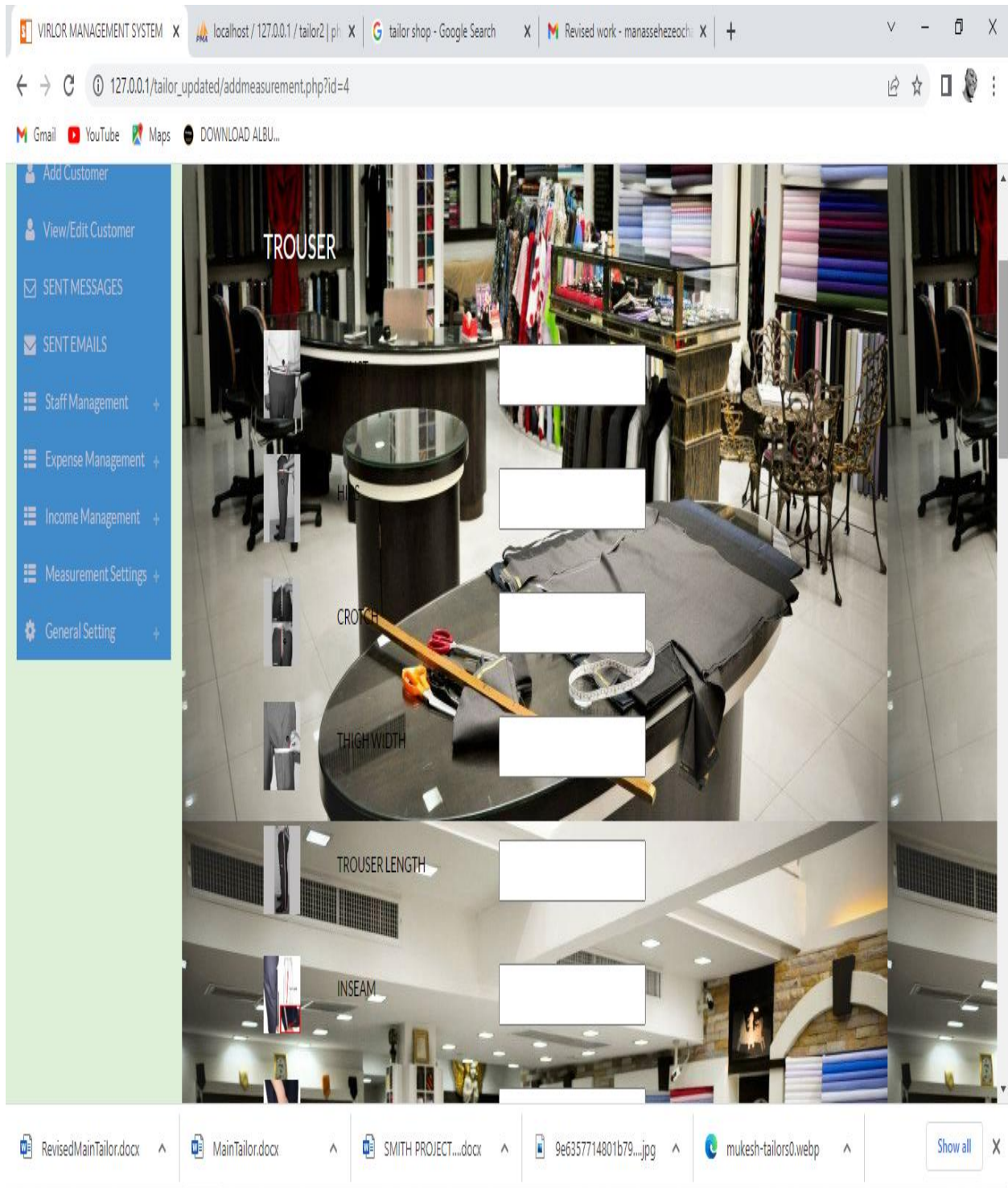
- i. Adding of customers;

This is the first step in the tailoring process, a customer must be added into the system first. After which a form is displayed which request customer information such as, email address, house address, city, phone number and full name.



Once this form is filled, the system directs tailor to the next field, which is  
i. Measurement submission

Here the measurement needed to sew the customers attire is requested.

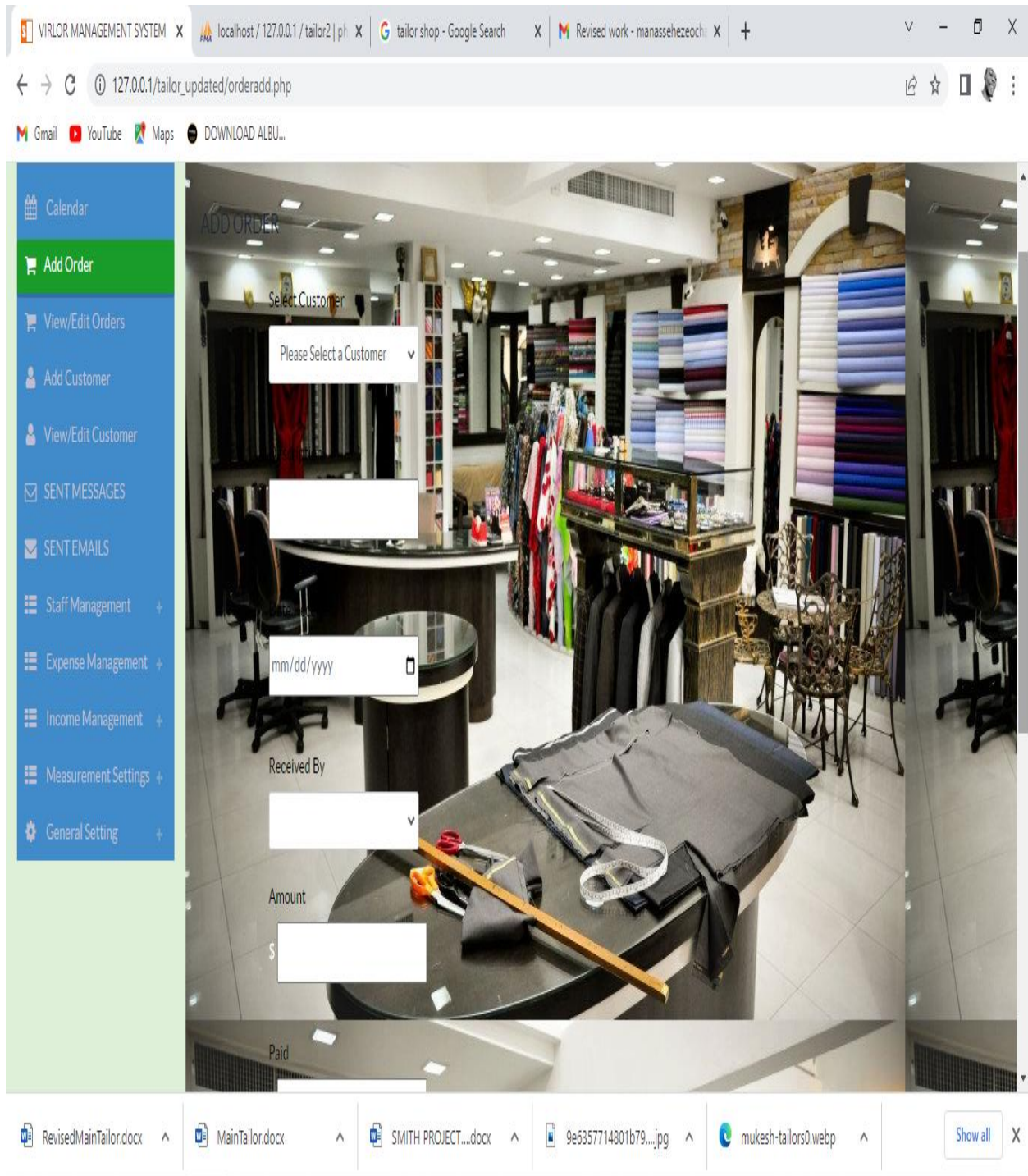


Once the measurement form is filled, the system directs the tailor to the next form, which is

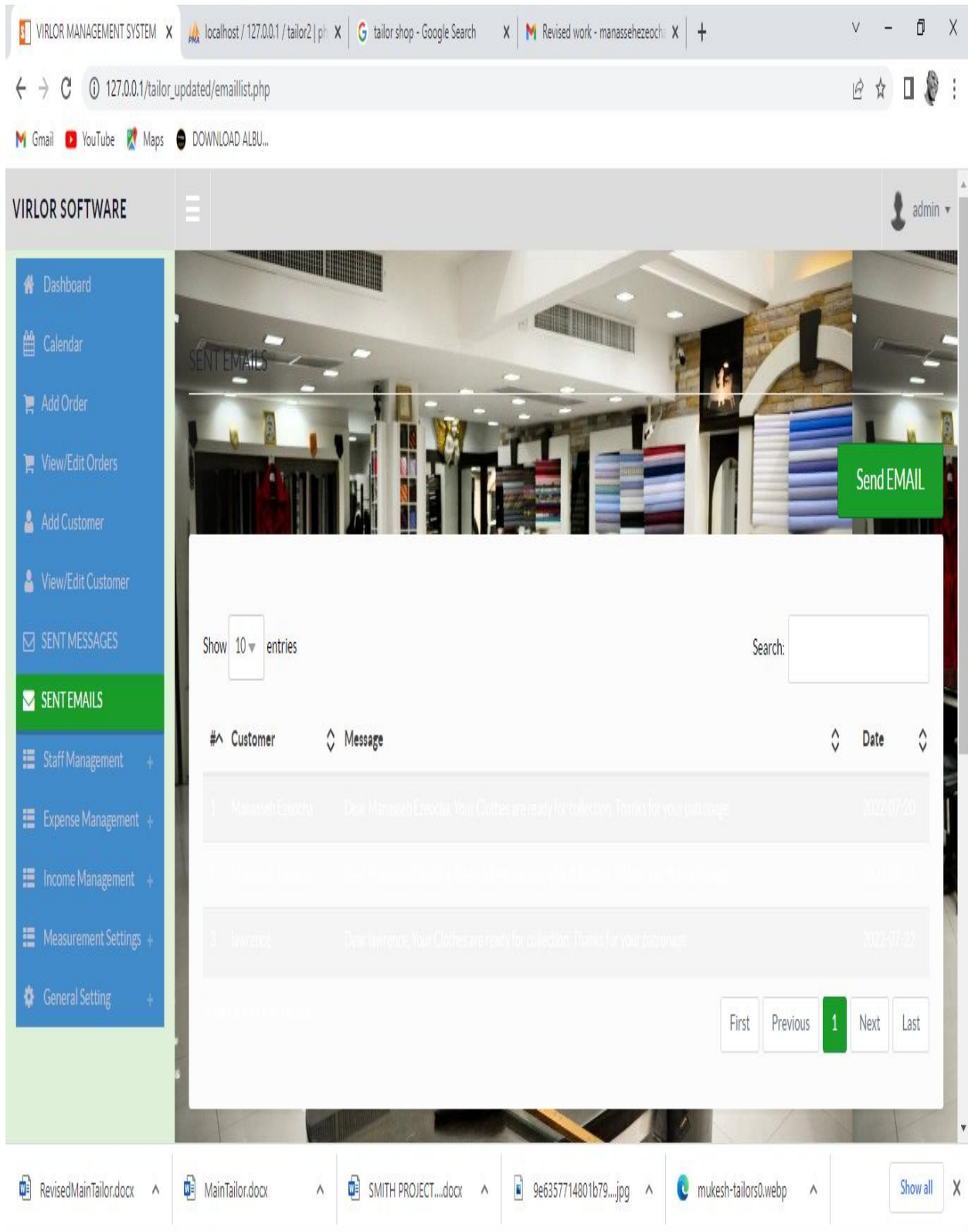
**i. Add Order**

Here the customer order is recorded and once complete, Virilor system sends a message to the customer, informing them that their attire is ready.





Once order is completed a message is sent to customer email indicating that their clot is ready.



#### *4.5.2 System testing and integration*

Although this system can serve as a stand-alone system, it can also be used to complement the existing Manuel system. This kind of implementation used in this project can be best be described as Parallel implementation, because it can be used alongside the already existing Manuel system.

This system was tested by 5 customers who registered on the system, with a particular tailor, made bookings and got evidence of service via receipt. This system would ease the stress of the Manuel tailoring system already in existence. It would provide accurate, and efficient output.

The system will save people who are in further geographical locations the stress of coming to pass through the Manuel system of making enquiries, going to the tailor store, registering measurement on a sheet of paper, and expending excessively on transportation.

### *5. Summary and conclusion*

This chapter describes and summarizes the objective of the system stimulated above, the limitation of my study, conclusion and recommendation.

#### *5.1 Introduction*

This project work ‘design and implementation of a virtual tailoring management system’ is a revolutionary approach to improve the management of the tailoring service it conventional and Manuel practices. it designed a path however in which the existing Manuel system of handling records and books can be deployed through a dynamic system and would enable client choose the particular one (tailor service) they desire to visit.

#### *5.2 Summary*

This research work gave a break down on the concepts of tailoring, what tailoring is really about, and the real essence of a virtual management system. It has in every way achieved the objectives which led to the genesis of this project. In this study, the aforementioned objectives which are: to identify and explore the challenges experienced in the management of existing Manuel system, and accurate, design a system that will make delivery of services more effective and efficient.

The chapter two of this work clearly showed the review of other people’s works, the design and implementation of this proposed project. Hence chapter three gave a breakdown analysis of the existing Manuel system, its problems.

four on the other hand talked about the complete implementation of the designed system, the tools used to implement this system and their functions.

#### *5.3 Findings of discussion*

In the course of achieving the aim and objectives of this project, the existing Manuel system was studied in detail and all its problems or hindrances were noted, and a room for improvement was generated.

I figured that with the world digitally globalizing, developing a tailoring service management system would be key. It also gives the tailoring profession a chance to show the world the true beauty of its practices and methodology.

#### 5.4 Suggestion for future

This project is limited due to time restrictions and lack of resources. the scope of this study could therefore be broadened with enough time and good allocation of resources. it is here recommended that this research project be thought through, and improved upon. It will take the tailoring workers association to a greater step ahead in technology instead of the archaic method of management.

It would be very useful not just for Abuja but also for many other states and country at large.

#### 5.5 Limitation of study

The Virlor system modernizes most aspect of the tailoring service except taking of measurements, clients who can't take measurements themselves may be encountered along the line, clients who don't have measurement materials can be encountered as well, this is a major issue that is faced and a limitation to my system.

#### 5.6 Conclusion

In this project, we have been able to understand and explore the problems faced by existing Manuel system, design a tailoring services management system to tackle these problems, and implement an application that will help people understand the tailoring process properly, appreciate it and promote it. The success of any organization depends on effective and efficient management. Hence the success of the tailoring service management system.

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#### References

- Cletus, I. (2020). *Online Tailoring Management System*.  
<https://www.graciousnaija.com/2021/11/online-tailoring-management-system.html>.
- Cooper, H. (1998). *Synthesizing Research: A Guide for literature Reviews*.  
[https://books.google.com/books/about/Synthesizing\\_Research.html?id=gAxHAAAAMAAJ&source=kp\\_book\\_description](https://books.google.com/books/about/Synthesizing_Research.html?id=gAxHAAAAMAAJ&source=kp_book_description).
- Custom tailors and designers' association (2019). *Opening a Tailor Shop*.  
<http://www.gaebler.com/Opening-a-TailorShop.htm>.
- Hardy, V., & Hauge, J. (2019). Labour challenges in Ethiopia's textile and leather industries: No voice, no loyalty, no exit? *African Affairs*, 118(473), 712-736, <https://doi.org/10.1093/afraf/adz001>
- Mathew, A. (January 2022). *Alison Mathew's "Tailoring"*. <https://fashion-history.lovetoknow.com/fashion-clothing-industry/tailoring>.

- Mutembei, D. (October 13, 2021). *Online Tailoring Management System*.  
[https://www.academia.edu/12426471/ONLINE\\_TAILORING\\_MANAGEMENT\\_SYSTEM](https://www.academia.edu/12426471/ONLINE_TAILORING_MANAGEMENT_SYSTEM).
- Gieves & Hawkes (n.d.). *No. 1 Savile Row*. <http://en.wikipedia.org/wiki/Bespoke>  
<http://www.bbc.co.uk/britishstylegenius/content/21811.shtml>.
- Idrees, S., Vignali, G., & Gill, S. (2020). Technological advancement in fashion online retailing: a comparative study of Pakistan and UK fashion e-commerce. *International Journal of Economics and Management Engineering*, 14(4), 313-328.
- Kolade, C. (August 30, 2021). "What is PHP? The PHP Programming Language Meaning Explained".  
<https://www.freecodecamp.org/news/what-is-php-the-php-programming-language-meaning-explained/#:~:text=What%20Does%20PHP%20Mean%3F,recursive%20acronym%20for%20Hypertext%20Preprocessor>.
- Lancaster (2013). *Tailors in the UK*. <https://www.stears.co/article/the-state-of-nigerias-fashion-industry>.
- Lerdorf, R. (June 8, 1995). *Announce: Personal Home Page Tools (PHP tools)*.  
<https://groups.google.com/g/comp.infosystems.www.authoring.cgi/c/PyJ25gZ6z7A/m/M9FkTUVDfcwJ?pli=1>.
- Ogunfuyi, K (2019). The state of Nigeria's fashion industry. Retrieved from Lancaster (2013) Tailors in the UK. <https://www.stears.co/article/the-state-of-nigerias-fashion-industry>.
- Ominijei, E. (2019). The role of institutions in promoting entrepreneurship in the Nigerian fashion industry (dissertation). Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:sh:diva-39330>.
- Oswald Spring, Ú. (2019). *Development of underdevelopment*. Úrsula Oswald Spring: Pioneer on Gender, Peace, Development, Environment, Food and Water: With a Foreword by Birgit Dechmann, 268-284.
- Priya Dwivedi, & Kiran, U. V. (2020). *Job Strain and Health Problems among Tailors*.  
<https://www.ijsr.net/archive/v4i8/SUB157254.pdf>.
- Resources For Entrepreneurs (Start Your Own Business) (July, 2022).  
<https://www.gaebler.com/Starting-Your-Own-Business.htm>.
- Rudestam, K. E., & Newton, R. R. (2020). *Comprehensive guide to content surviving your dissertation process*. Newbury Park, CA: SAGE.
- Sandell, L. (2017). Henry Poole & Co.: How a 200-year-old bespoke tailor have managed to stay modern. (Dissertation). Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:hb:diva-12839>.
- Shaw, G. (2019). *Tailored clothes*. <http://www.askmen.com/fashion/keywords/tailored-clothes.html>.
- Sitlong, N. I., Nonyelum, F., & Ogwuleka (2020). Harmonization of tools and techniques for system development. *World Journal of Innovative Research (WJIR)*, ISSN: 2454-8236, 9(1), 106-114.
- Stegmaier, M. (2019). "If you're not already writing, stop!": An Interview with Michael Tolkin. *Zeitschrift für Anglistik und Amerikanistik*, 67(4), 429-441.
- Waugh, J. (2001). "Give This Man Work!": Josephine Shaw Lowell, the Charity Organization Society of the City of New York, and the Depression of 1893. *Social Science History*, 25(2), 217-246.
- Yourdictionary (2019). *What is a tailor and what do they do*. <https://www.yourdictionary.com/tailor>.

