IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 2, July 2022
Impact Factor: 6.252

# Modern Dress Designing Website using PHP via on Cloud-Based System

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**Abstract:** *The modern Out-fitting & accessories designing website is controlled with php via on cloud-based communication presented here with an effective cost value add of high-end superstore especially for modern design & shop services. Now, the customer's life styles have been change caused by COVID-19 situations which they must be kept the social distancing all time. The both of RFID and QR code technique are used for creating a unique code of any dress products in the databased server of a system and also the way to access to use the Dress-fitting with an efficiency time management scheme. The user's body size information's such as the shoulder, neck, chest or waistline are need as necessary data to operate the robot system. The room experimental results are shown that the overall system can work well as design concept, but in the real on-site shop it must be improved for more accuracy and practical to use. As a result, the customers and service persons can change their new normal behaviors for improving their online shopping with social distancing scheme with more efficiency, comfortable, up-to-date and safety life. This proposed system provides a designing platform for designing cloths with our own design and taste. It's a virtual platform for cloth designing. This study discusses Virtual Reality (VR) as a digital marketing tool in online retail, with a special focus on the perceptions and attitudes which consumers hold towards the tool. The project, aims to give insights on how to study VR in online retail settings and also touches upon how different characteristics of Virtual reality can impact the consumers attitudes towards products displayed or demonstrated with VR tools. The conceptual framework is based on literature and case studies in the fields of Virtual reality, consumer experience and, customer value creation. Moreover, depending on certain factors, the tool could potentially have a positive effect on the purchasing decision. On the negative side, the participants consider the technology is not there yet and needs to be improved to deliver meaningful value for them. Other valuable pin dings of the project are related to the customer journeys and the value the tool provides to the users.*

**Keywords:** Virtual Reality, Text Classification, Radio-Frequency Identification, Quick Response code, 2D Design view

## I. INTRODUCTION

Online shopping has found speedy growth for the fast-paced world in the present framework. Instead of people walking in and out of the several shops to find their clothes, they only buy them at home using a single click. Still there has been a disappointment of not being able to buy any fashion product that ignited the attention of the customer. Online shopping or e-shopping is a form of e-commerce which allows consumers to directly buy things or services from a vendor over the Internet using a web browser. The internal process of the online shopping is a complex task. The problem with the online shopping is that the users must search the products manually by scrutinizing the options. The user cannot search for the same product that his/her friends have bought or purchased. Therefore, to make the internal process simple, a new approach has been introduced where the searching of dresses could be made in an easier way.

The online searching is a very promising direction in e commerce. Online shopping is used in e-commerce for buying and selling products, as well as it uses searching in order to purchase products. Here the power of searching is utilized and extended it by using auto tagging instead of using image processing algorithm and

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techniques as it is a complex process. The auto tagging is generally used for tags in BlogSpot. The existing scenario for online shopping includes different approaches. There are many algorithms available which can be used for searching. Therefore, a new way of streamlining the backend products is tagging. This is efficient for easy retrieval of images. The combined act of tagging, feature extraction, crawling together gives a proficient way that address a new method for online shopping.

The introduction of new technologies has increased the speed in which every stage of the value chain is performed, from manufacturing to product search and from purchase to delivery. According to a forecast from Statista, by the end of 2020, global e-commerce sales will increase to about $4.2 billion to represent 16% of total retail sales, and these numbers will just continue to grow as internet usage keeps increasing. 1 However, the competition online is tough, and creating value is becoming an even more difficult task for business and marketers that are looking for new ways to stand out from the competition. One way to succeed is to improve the overall customer experience introducing the latest digital tools to facilitate different processes. Virtual reality is one of the digital trends that is shaping the future and that could deliver a lot of value for marketing, the retail industry, and more importantly for the consumers. According to Retail Dive, the Integration of virtual reality in marketing for its aims to build consumer relationships, boost sales, and add value to the shopper experience. Given to the adoption of the ubiquitous smartphone retailers and consumers interest in VR has grown, and many retailers are now implementing AR features in their mobile applications. In the context of retail, VR involves any approach that combines computer generated and real-world image and/or location information for a richer, more immersive retail experience. VR gives retailers another opportunity to attract and interact with their target audience, giving them the illusion that the Company's virtual objects and the real word coincide in the same environment, this provides a frame for non-traditional interactions with the customers, delivering an entire personalized experience to the potential user.

Now a day, the coronavirus diseases 2019 (COVID-19) is an emerging and rapidly spreading with global crisis over 114 countries in our world and WHO declared this crisis as a pandemic. The overall global communities are looking for alternating ways to stop the spread of this infectious virus such as locked-down or state local quarantine policies in many countries. The best way to stop the new spread of this virus is the social distancing scheme in the present scenario, and all affected countries are applied to implement this method in their suitable ways especially in the modern convenient store and high-end shopping mall that must be a new normal of shopping behaviors. Some social distancing expert for the campaign promoting of the hygiene measures standard of the top modern convenient store such as online booking, screening points, face shields, window or table shields, self-assessment, self-quarantine before work, deep cleaning both for facilities and products, area distancing, touchless or customers limit. The online men’s shirt-designing robot is one of the alternate ways to choose in crowd places superstore or alternative quarantine. For more effective use of the present system, the cloud communication technology has acted as a major role for a long-distance communicating control especially in the internet of things (IoTs), QR code or RFID technologies.

## II. LITERATURE SURVEY

To address the above problem literature review has been carried out. The following are the few works which are listed,

**A design of 3d modeling virtual designing project for online shopping [1]**

In the modern society, it is no doubt that shopping online is much more efficient compared with shopping in a particular mall. Customers are offered wider choice and save time, absolute advantages compared with traditional method, by shopping online. However, like advantages, weaknesses of online shopping do exist. For instance, customers cannot view products from different angles, or try on clothes virtually; they may worry about the fitness of the clothes. To reduce uncertainty, we design an engineering project, 3d modeling virtual designing. Customers only need to upload their three-dimensional figure model and choose the clothes they like; they will see the model wearing the clothes they choose for the systems will synthesis the figure model with cloth models automatically. Taking this project can attract potential customers and reduce the logistics costs for return the unfit clothes. However, the technique of three-dimensional reconstruction is still in the test phase.

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**3d clothing designing based on the geometric feature matching [2]**

The 3D clothing fit ting on a body model is an important research topic in the garment computer aided design (GCAD). During the designing process, the match between the clothing and body models is still a problem for researchers. In this paper, we provide a 3d clothing designing method based on the feature point match. We firstly use a new cubic-order weighted designing patch to estimate the geometric properties of each vertex on two mesh models. Feature points are then extracted from two models and a new matching function is constructed to match them according to curvature and torsion. We interactively select several key feature points from two limited feature point sets to compute the transformation matrix of the clothing model. Finally, the second match is performed to achieve the precise match between the clothing and body models. The experimental results show that our 3D clothing designing method is simple and effective.

**A modular approach for cloth modelling in virtual designing room [3]**

The application is an augmented virtual reality application where the user is recognized at close range and can virtually try clothes. The unique point about this application is the fact that there'll be image processing and computer vision used to determine size of shirt and waist and so on of a person using the Kinect v2 perceptual computing kit rather than just allowing the user to try on virtual clothes. The results are tested on latest Kinect V2 sensor which provides user a compelling experience to opt for. The paper initially overviews the major technical components for complete virtual try-on system, followed by elucidating several key challenges such as calibration of Kinect and estimation of measurements for individual subjects like outfits, etc. Eventually we discuss key details of the implementation using Kinect v2. Quality of these steps is the key to achieve seamless try-on experience for users.

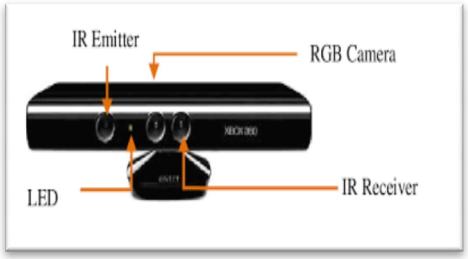


Fig1. Kinect V2

**An augmented reality based virtual dressing room using haar cascades classifier [4]**

Virtual dressing rooms are modern way of shopping where customers experience realistic dress designing and order online. As trying different dresses at shopping centers is very time consuming and customers are not sure how the dress looks on them. Therefore, there is a need to identify efficient methods to improve virtual dressing rooms and increase ecommerce businesses. All the existing virtual dressing room methods required Kinect sensors for virtual dress designing and Kinect sensors are expensive. Our motivation is to create such virtual dressing room that overcome the constraint of Kinect sensor input. We present a dynamic virtual dressing room based on web cam to acquire input video and allow user to experience virtual dress designing. Our proposed model comprised of following steps including face, skin, lower body detection and dynamic distance estimation for precise virtual reality. We have evaluated our algorithm on 50 subjects using 10 dresses.

The purpose of this study is to examine the apparel design process by asking how a designer applies perceived information from visual sources and develops concepts through the exploration of design elements and principles. A stimuli-based design experiment was conducted with a professional designer as a pilot study. It was observed that preliminary visual units, termed small concepts, gradually evolve during the early design stage. Since this process is critical to continue the entire idea development, this paper focuses primarily on the detailed observation of the early design process, in which the designer perceives visual elements from a source-of-inspiration image, immediately transfers them to clothing design-related elements, explores variations in shape and placement by applying design principles, and finally develops small concepts. These small concepts become the basis for the later development of more complex design ideas. Understanding this design knowledge and relevant strategies will trigger creative idea generation and shed light on teaching the design process to apparel design students.

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## III. METHODOLOGY

### 3.1 Requirement Analysis

In order to investigate the major psychological factors which may affects Customer's buying behavior, primary research has been implemented through a questionnaire survey. 100 samples have been chosen for this research. According to our survey, approximate 80% respondents tend to be suspicious of the online clothes and shoes whose prices are higher than 1000 RMB. They have the sense of uncertainty about the quality and the fitness of the products, and they would not feel secure until they designing before purchases. Based on the analysis of customers' misgiving, an idea comes with us that if we provide a platform to let customers see what they look like when they dressing the new cloth online, they may buy it within a more confident mood. Combining with the advantages of online shopping faster and more convenient, online shopping will surely dominate the shopping ways as the pace of live.

### 3.2 Data base Software Design

The Microsoft SQL data base Server version Apache 2.4 and visual basic version 2010 are used to create the robot data based which the work flow diagram design is shown in figure. The cloud communicating method of this system is based on cloud platform, which allow many devices try to connect along with it for communicating with each other's by using micro gear library. The protocol stack procedure and time interval of cloud-based network.

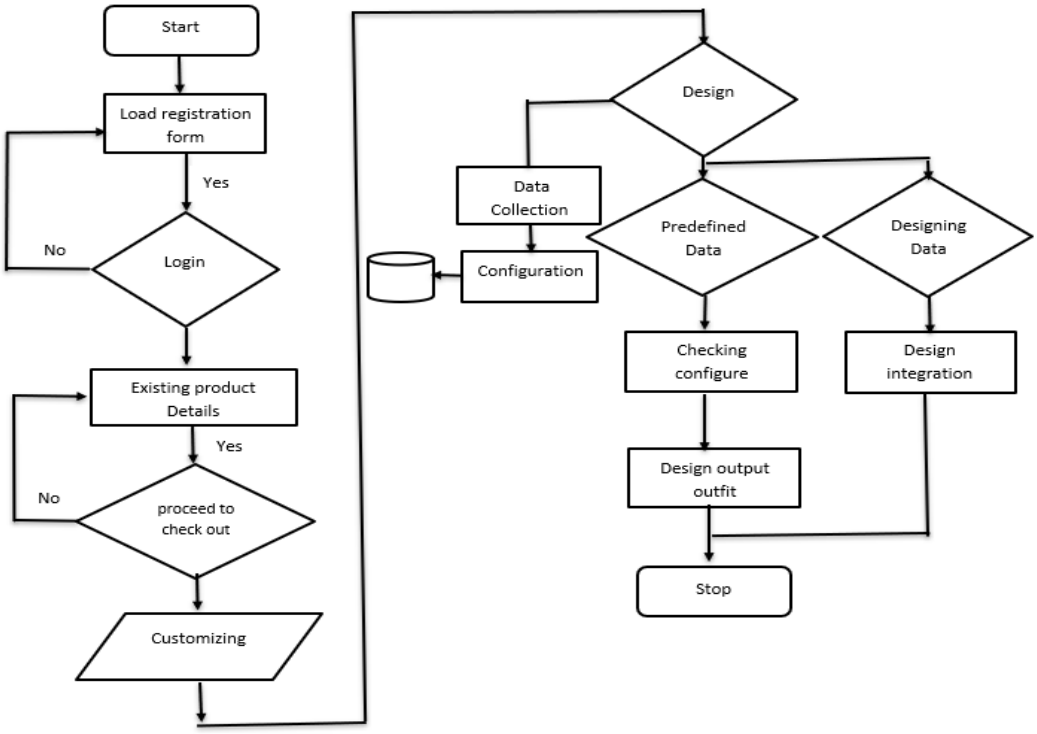


Fig 2. Data Base Design

### 3.3 Membership and Non-Membership Database Design

The customer who would like to apply for membership status that can use the real adaptive fitting model they must be full filled their necessary personal data and body size's data into the system and after that they will receive the QR code to use to login the program. While the other customer who would like only online shopping or non-membership status, they can use only the virtual fitting model that show the standard body size not for an actual size each of users as shown in figure.

## IV. DESIGN

To solve the fitness problem of online shopping, we design an engineering project called 2D modeling virtual Designing. By using this online shopping platform, customers only need to login their account, such as eBay account,

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and select the virtual designing service, then they can achieve their three-dimensional figure model by upload the information. Once they finished customers' information, they are able to begin their virtual designing by choosing clothes. The wearing-cloth-model will display on the screen. To fulfill this project, we need two systems: the front-end is Virtual Designing System and the back end is 2D Modeling Synthesis System. The front end is an interface for users to get and upload their data of figure size. Arrows indicate the direction of data flow, so the input data will be transmitted to the back end for modeling at the first step.

Online shopping system is the process whereby customers directly buy goods eservices from a seller in real time, without an intermediary service over the internet. It is also seen as a form of electronic commerce which allows customers to directly buy goods or services from the seller through internet using a web browser. The notion that internet use has grown exponentially in just a couple of years lead us to believe that internet commerce is expected to boom as well in the near future. In order to justify internet commerce and internet shopping, an online hopping system permits a customer to submit online or order for items or services from a store that serve both walk-in customers and online customers. The online shopping system present an online display of an order cut-off time and an associated delivery window for items selected by the customer. The online shopping is a web-based application intended for online retailers. The main objective of this application is to make searching, viewing and selected of a product easier. It contains a sophisticated search engine for uses to search for products specific to their needs. The search engine provides an easy and convenient way to search for products where users can search for products where users can search for a product interactively and the searching engine would refine the products available based on the users' inputs, the user scan then view the complete specification of each product. In online shopping system if an intermediary service is present the process is called electronic commerce (e-commerce).

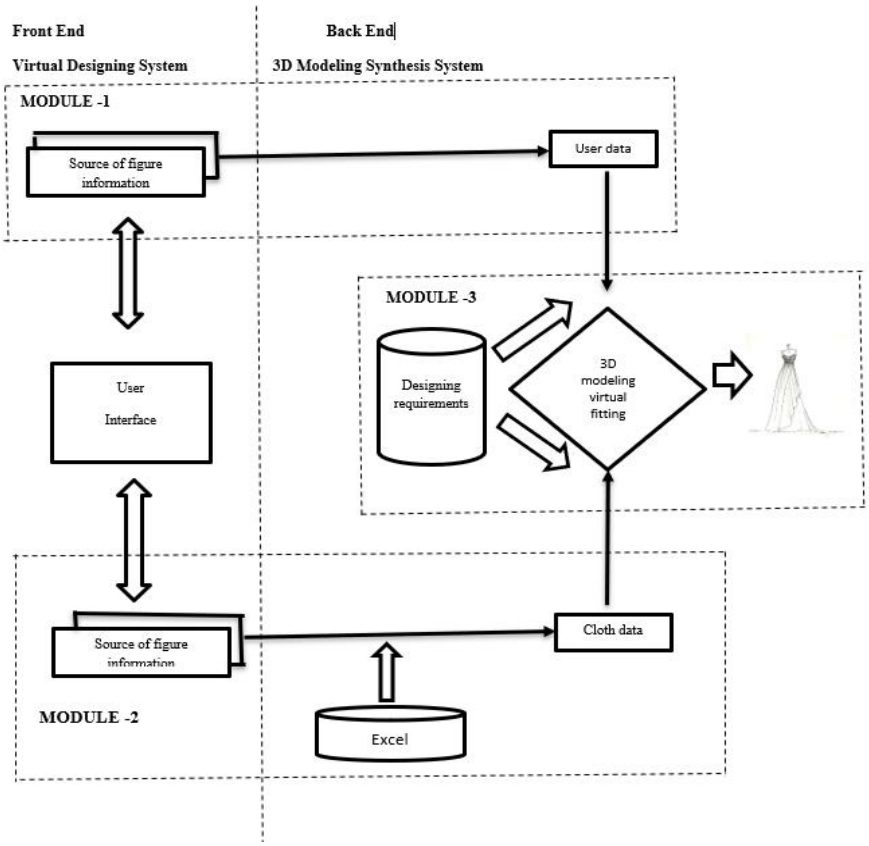


Fig 3: Module design of 3D virtual designing project

## V. PROPOSED SYSTEM

The modern dress-designing website via on cloud-based communication presented here with an effective cost value add of high-end superstore especially for modern shop-dressing room services. Now, the customer's life styles have been

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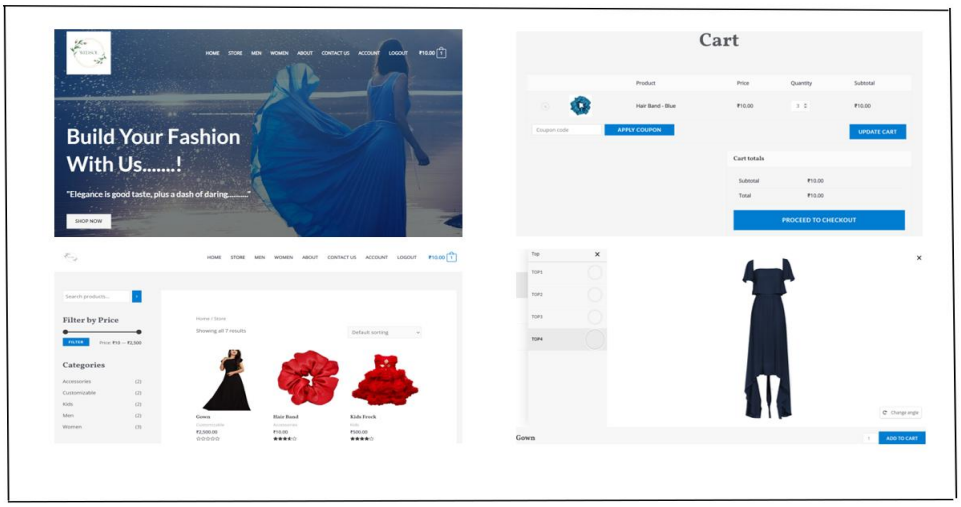


Fig 4. Main Pages of website for the proposal implementation.

With the rapid development and popularity of the online garment shopping, the 2D clothing fitting has become a hot topic in the garment CAD. During the online garment shopping, customers not only hope to see the 2D effect of the apparel, but also want to know whether the apparel fits them or not. An effective method is to provide the customer with a specific 2D graphical body model (called an avatar) and display the selected clothing on this avatar. Recently, the virtual garment fitting has gotten broad attention for researchers. The early method is to paste the 2D clothing pictures onto the 2D body model. This method is simple, but it fails to the interactive display. For the 2D clothing fitting, they usually build up a body model using the geometric method, and then map the texture of clothing to the corresponding part of the body model.

The problem is that it lacks of the realistic fitting effect. Some improved methods create more realistic clothing models based on the physical modeling, and perform the garment fitting according to the seaming forces attracting to pieces of cloth. Because the physical garment modeling is some complicated and takes too much implementation time, this process sometimes influences the real-time effect of the virtual clothing fitting. Currently, another popular clothing fitting method is based on the interactive operation for the mesh models. They interactively choose feature points from the given garment and body models, then match them and save the positions of two models for the further display. This approach enhances the realistic display of the garment. The problem is that too many interactive selections from the point cloud data influence the efficiency of the clothing fitting while too fewer selections bring us the difficulty for the accurate match. For the match of the garment and body models, reducing the interaction operation and obtaining the precise matching algorithm are still the challenges for researchers. In this paper, we present a new 2D garment fitting method. We firstly search feature points on the clothing and body models and match them by constructing the matching function, and then several key feature points are interactively selected from the limited feature point sets to compute the rigid transformation matrix for the clothing model. Finally, we perform the second match to adjust the garment fitting on the body model.

### 5.1 Advantages

- It is very helpful to the customer's life styles have been change caused by covid-19 situations which they must be kept the social distancing all time.

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- Easy to convey our own design based on our new life style changes.
- Low-cost designing.
- All event design in a single platform.

### 5.2 Disadvantages

- Find there are some quality problems, they still want returns or replacement.
- This problem cannot be solved by virtual designing system till now.
- It does not give precise results as there is no detection of the body.
- Size of the body was not measured and costumes did not map precisely on the body.

## VI. IMPLEMENTATION & RESULT

Popular method displays the clothing on the body model by the complicated interaction in advance while our algorithm uses fewer interactions from the limited feature point sets which is convenient and is suitable for different clothing and human models. Compared with the virtual clothing showing based on the physical clothing modeling and the seamed cloth fitting process, our feature matching method is faster and can be used in the real-time online clothing display. Compared to the traditional clothing display by pasting 2D pictures on the avatar, our garment fitting system permits the interactive and dynamic clothing display, which is suitable for the customers.

The reason behind the proposed system is we can create our own design in the online platform by giving information's about the neck, sleeves, top, bottom etc. the different models are checking using trial and error method. The only thing is that it is very useful to the customer and the stitching shops also. The layers of configuration of each figure in a Sigle design for creating a standard cloth design. The designers can check the suitableness and their own ideas of creativity in the design building module. Currently, we still need a couple of interactive operations to select key feature points. How to achieve a completely automatic 2D clothing fitting will be our future work. Our current clothing fitting cannot deal with the deformable model and the animation state. How to combine our feature analysis with other modeling methods such as the physics-based method or the skeleton-based method to create a more realistic fitting performance is also the subject of our future work. After acquiring the feature points from the clothing and body models, we need to obtain the match relation of them between two models.

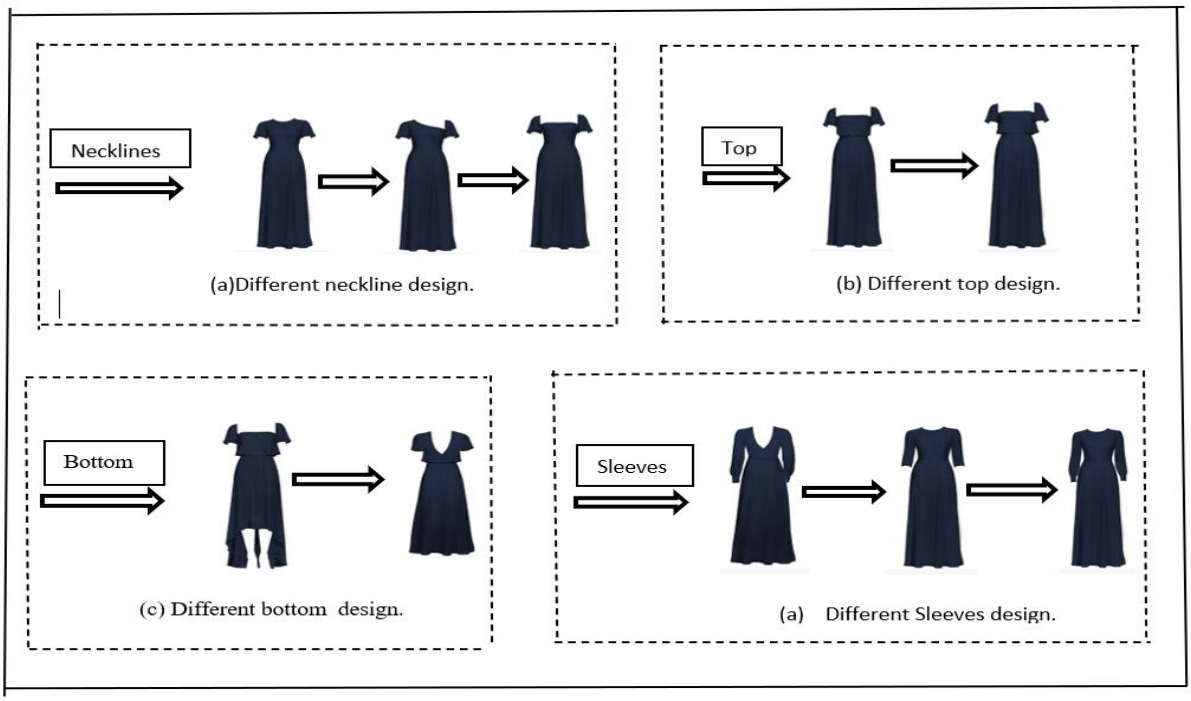


Fig 5. Different kind of design outfit output.

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We use 2D virtual clothing fitting implementation. Different body and clothing models are used to test the efficiency and robustness of our method. Fig5 (a) is the initial positions of a woman model and Different kind of neckline designed gown model respectively. For two models which are in different coordinate systems and have no prescient relations, we use our algorithm to achieve the fitting effect of the clothing on the body model. Fig5 (b) is the initial positions of a woman model and Different kind of top designed gown model respectively. Fig5 (c) is the initial positions of a woman model and Different kind of bottom designed gown model respectively. Fig5 (d) is the initial positions of a woman model and Different kind of sleeves designed gown model respectively. These clothing fitting results are realized by our feature matching method.

## VII. CONCLUSION

The online shopping is a prominent e-commerce business that ensures online purchase of various products. In order to upgrade the online shopping system, we have proposed an idea for a new system based our survey. Our fashion tagging system is implemented based on online shopping in which search of products is done by either capturing any image and uploading it or uploading any existing image.

The modern dress-designing website via on cloud-based communication presented here with an effective cost value add of high-end superstore especially for modern shop-dressing room services. Now, the customer's life styles have been change caused by COVID-19 situations which they must be kept the social distancing all time. The both of RFID and QR code technique are used for creating a unique code of any dress products in the databased server of a system and also the way to access to use the Dress-designing virtual robot with an efficiency time management scheme. The user's body size information's such as the shoulder, neck, chest or waistline are need as necessary data to operate the robot system. The room experimental results are shown that the overall system can work well as design concept, but in the real on-site shop it must be improved for more accuracy and practical to use. As a result, the customers and service persons can change their new normal behaviors for improving their online shopping with social distancing scheme with more efficiency, comfortable, up-to-date and safety life. This proposed system provides a designing platform for designing cloths with our own design and taste. It's a virtual platform for cloth designing.

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