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An Approach for Creating Virtual Wardrobe for User by Using Web-Based Model Simulation System

Ashish Akhare[1], Nitish Suryawanshi[2], Shrutika Mankar[3], Dr. Nilesh Shelke[4]

[1,2,3]Student, Computer Science & Engineering, Priyadarshini College of Engineering, Nagpur, India

[4]Guided, Professor, CSE, Priyadarshini College of Engineering, Nagpur, India

Abstract: Rendering clothing objects in such a way that user can customize them as per there need. Rendering 3D objects is even more challenging on 2G/3G network bandwidth as the size of objects is quite large. So, to achieve the objective for same, implementation of 2D images rendering in 3D canvas of ThreeJs. With the event of science and technology, within the method of drawing sketch has been regenerate from hand-painted to camera work, the speed of constructing sketches and 3D model has been greatly improved. However, it's still the thanks to image sketch of digital graphic presentation, though the assembly method has been greatly reduced, however in between the homeowners and styler's within the design method of communication and mutual agreement stage continues to be a haul, therefore the homeowners and styler's within the design of the communication method, a way to use WebGL sharing and agreement once the method of however the WebGL will effectively shorten the planning process, can become a crucial analysis topic. This study can use WebGL based mostly 3.js because the core technology of the system construction, interior style is straightforward and straightforward interactive surroundings, through an online based mostly virtual house simulation system, the designers and owners' exploitation an equivalent WebGL with an equivalent interface then looking for the appliance of this method in cooperation with one another designers and owners of feedback. The benefits and drawbacks of the system and therefore the existing modelling software system are mentioned.

Keywords: WebGL, 3D/2D Rendering Objects, ThreeJs, Blender

INTRODUCTION:

In the past decade a lot of analysis has been centered on E-commerce platform sweetening by understanding would like and importance of it. The zoom in video game and increased reality is evolving, as a end in group action with E-commerce platform. The objectives of increased reality aren't solely to supply sweetening with reference to user friendliness however additionally permits user to own prime quality of immersion and improve expertise with a lot of accuracy. In leisure pursuit, analysis and application of general "type 3D digital model within the special effects technology, is incredibly a lot of connected analysis on digital modelling and 3D visual presentation, and 3D model has multiple sources of data, additionally to the standard human modelling, will use an outsized range of pic transfer sites for the windows of the back-end server for info, compared with the operator will get the correct 3D model (Maarten Vergauwen, 2006), launched by Aurodesk company's Recap service is that this style of business service system.

PROPOSED WEB-BASED MODEL SIMULATION USING THREEJS:

In this paper, we have a tendency to introduce the ThreeJs framework, that uses the OBJLoader and MTLLoader categories to 3D portrayal service for server and to indicate an equivalent on world browsers. For this visual image, associate image-based approach is employed. totally different views of cloths is rendered, cached within the server, and transfer to the shopper within the style of rendered object of fabric. ThreeJs supports totally different zoom levels and look at orientation of the wear objects. The ensuing product follow the principle of G-buffers.

WebGL (Web Graphics Library) is Associate in Nursing API. It allows to access an area machine's specialized graphics hardware victimization JavaScript, and render the output to webpage in a very regular recent part. Before this, access to specialized graphics wasn't doable and solely be accessible to desktop package. The browser was stuck in 2nd graphics.

- **Creating new scenes:**

The ThreeJs framework consist of several other JavaScript classes to create scene in 3D/2D manner. Visual Studio Code is many used amongst the development platform for creating 2D/3D rendering of Models in ThreeJs. ThreeJs library consist of light effect, texturing, flow, gravity of object on canvas which will help in texturing the Object model.

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Use Cases:

Currently there is a trend toward publishing textured 3D models for Humans to perform trial in Augmented Reality. These models can be used for many purposes. This promotes the development of new algorithms and visualizations with real user data. Today, the number of e commerce platform available for apparels can be upgraded for this feature, so user can give trial on virtual changing room and get accuracy on whether user can surely buy from shop.

Below Image depicts that the user can customize with respect to fabric of their choice:

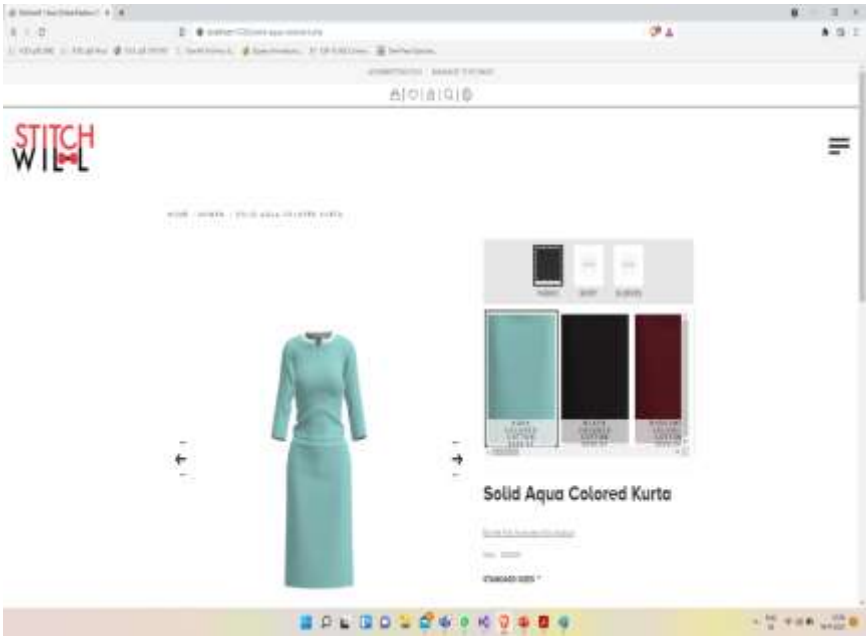

Fig1: Customization of Fabric

Below Image depicts that the user can customize with respect to Body type of their choice:

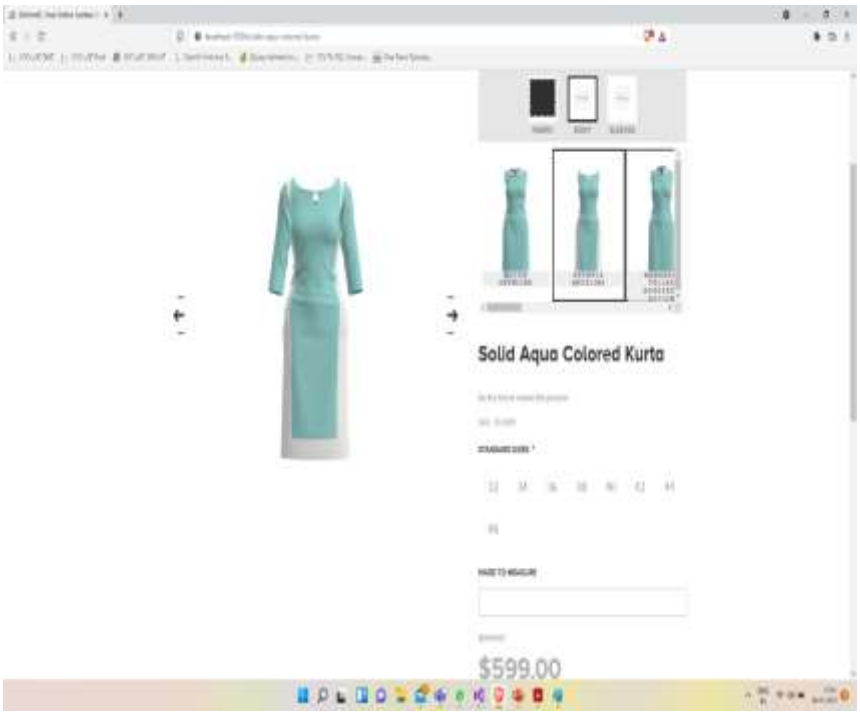

Fig2: Customization of Fabric Pattern

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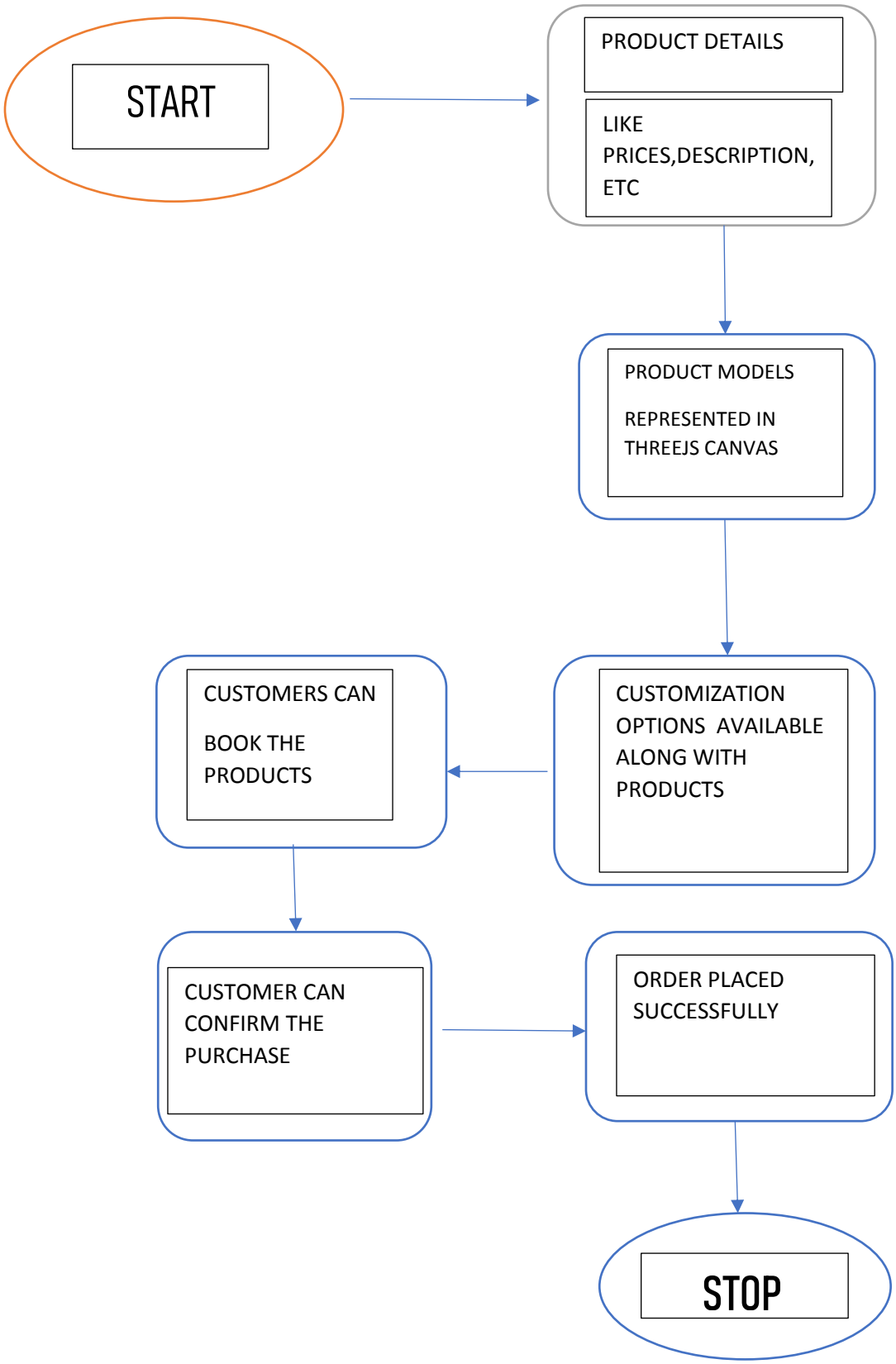
Flowchart: Illustrating the flow of an application



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FIRST RESULT OF THREEJS FRAMEWORK:

➢ The idea of virtual wardrobe came from the current ecommerce sites which provides each and every daily items, however we have to rely on images, photos, descriptions of the product and uses feedbacks. however sometimes, the actual product turns out to be not of good quality, and not worthy for the amount charged. this happens mostly in the category of clothing's, apparels. customers today want an reliable, trustworthy approach specially in clothing category.

➢ Presented an idea of virtual wardrobe, which provides good accessibility, freedom to users, where he can access to numerous designs and customization along with the fabric of product.

➢ For implementation, we have used

- ASP.NET in presentation layer
- C#.NET in Business Logic Layer
- ADO.NET in Data layer
- MS SQL Server as Database.

➢ User can choose from all available customization parameters like sleeves, collars, front pocket, etc. in men categories. For Women also we have lot of customization on kurti, casual wear, office wear, etc. with parameters like neck, front and back pattern, etc.

➢ we are mainly using ASP.NET MVC is a web application framework with ADO.NET to interact with database. SQL was used as back-end database. Before implementing the project and extensive research was done in Business-to-Customer (B2C), where we act as intermediary component between business and customers, providing customers as interactive platform to buy goods of their choice.

➢ ThreeJS is a cross-browser JavaScript library/API which is used to create and animate 3D computer graphics to display in a web browser.

➢ WebGL: is the Javascript API that allows you to create 3D graphics in the browser. Three. js: A framework build on top of WebGL which makes it easier to create 3D graphics in the browser,

➢ We have used both to achieve the realtime graphics for all items, product we sale from our application. This helps us to earn customer trust by showing them the product like real time images.

OBSERVATION AND CONCLUSION:

➢ We have divided our web application into multiple layers which are implemented using all above layers (I.e., Business logic layer, presentation layer etc.)

The main components are

- Manage product
- Manage customers
- View order
- Make order
- Manage payments
- Login /Logout functionality.
- Checkout
- Account
- Shopping cart
- Payment page
- Dashboard
- User registration.

➢ Divided the users into two main categories i.e., Admin, User and Visitor. This type of users has different flow internally to manage the application functionality.

➢ If user (registered user) uses the application, then he can manage/ view below items

- View item
- Purchase item
- Instant pay
- Manage shopping cart
- Wishlist

➢ If application is visited as visitor, then he can manage/view below items

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- View items
- Register (user profile creation of user)

➢ Admin is the sole owner of application, he can access. Manage all item of the application.

➢ For payment handling, integration with Paypal and other payment gateway.

➢ Cart functionality: - When the registered user logins to application. we have shopping cart functionality, user can add item to shopping cart, can modify cart, view cart, view purchase history, history report etc.

➢ For user registration, The User will insert his personal information including an image into the registration form. After submitting the form, a connection is established with the database which saves the data.

➢ Implemented the authentication mechanism to authenticate the verified user, only this user will gain access to application and can use the cart functionality of application.

➢ .Net version for building application and used data base for maintaining customer data with an eye to keep security in place. Using the latest technology, this has achieved building an application for the customer which will help them, gain trust and guide them to choose the apparel of their choice and variety. At the same time, our application ensures the customer data security and we are following all secure measures for payment related things.

➢ We will keep upgrading our application when and where required and as per market demands to give benefits to customers

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