

Software Requirement Specification Document for "Stars Accessorises" E-Commerce Web-Application

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Table 1: Document version history

Version	Date	Reason for Change
1.0	28-April-2021	SRS First version's specifications are defined.
1.1	7-May-2021	Contexts, Figures & Documents, user-interface, and time plan updated.

GitHub: [Stars Accessories Web-Application](#)

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Abstract

In today's fast-paced market world, it's critical to react to client demands in the most efficient and timely way possible, while still maintaining a well-organized structure. Dealing with customers through social media is a true hustle. With no database management, a straightforward way to communicate with customers, and a navigated system that helps them reach their objective, customers don't feel comfortable nor satisfied. We aim to assist "Stars accessories" customers through their shopping journey by having an easy-to-use and practical web application. Furthermore, the simplicity of accessing the inventory to Administrators and Managers and assist them in tracking placed orders and following the process. We aim to follow the Agile methodology of development as planning is incremental. It is easier to adapt the strategy to represent changing consumer needs. The proposed solution is a web application that will ease both customers and administrators buying/selling processes.

1 Introduction

1.1 Document Purpose

This document is intended to outline the functionality of the SA E-commerce system, both as a reference for developers and as a quality assurance document for potential clients. The anticipated web application is designed to provide effective assistance for SA and other consumers in a single web-application. It will allow SA to open their own online store, and customers to go through it and buy their needs online without doing any human interaction. The administration module will assist the system administrators in tracking placed orders and following the process.

1.2 Document Scope

This document targets the owners, managers, and employees of SA company. they are going to use our website to monitor and update their inventory with full CRUD functionalities with regards to products in the system, so that it enhances the selling process, eases the customers' journey, and boosts the client's satisfaction.

1.3 Business Context

Our business only needs an online portal to reach a big amount of audience to attract customers. We're planning on implementing an accessible, convenient means of communication represented in the web application's features that can efficiently fulfill the services of the client and the customers' requests.

2 Similar System

2.1 Academic

Structuring e-commerce inventory, Karin Mauge, Khash Rohanimanesh, and Jean-David Ruvini. 2012: Structuring an inventory/database for e-commerce websites where the description

and organization of products allow efficient item management and provide the best user experience possible. The researchers aimed to solve the problem by structuring items into descriptive properties and ensuring that similar items are under the same unique property name and values. Results presented in the paper were yielded by a dataset of over a billion descriptions corresponding to a year worth of eBay items. This technique proved to be quite efficient when applied on a real sizable e-commerce dataset, however, their algorithm faced a problem in cleaning properties (Such as clearing bullet points from the beginning of names, punctuation and etc) [1].

2.2 Business Applications

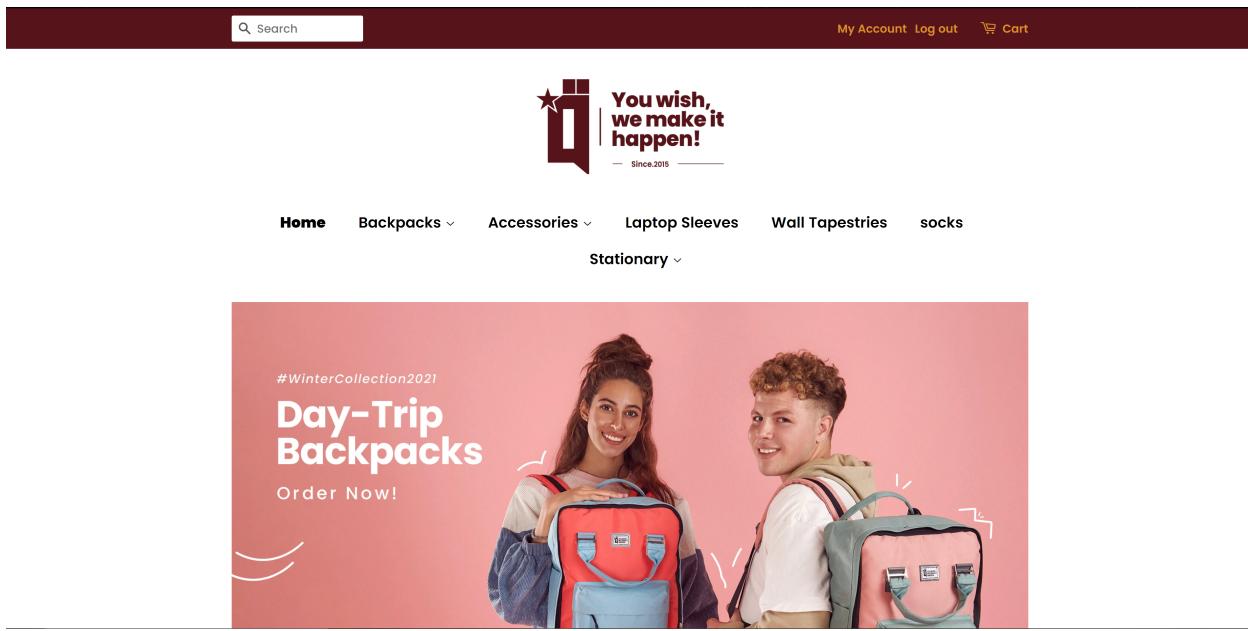


Figure 1: Qaf Gallery E-commerce web-application

Qaaf gallery : Started off as merely an Instagram page, turning into a website which soon led to opening 3 stores, it's safe to say Qaaf gallery benefited massively from implementing a website. Now one of the biggest independent online clothing stores in Egypt, as per Figure 1, their website provides sorted categories and account-specific features including order history and saved addresses for delivery.

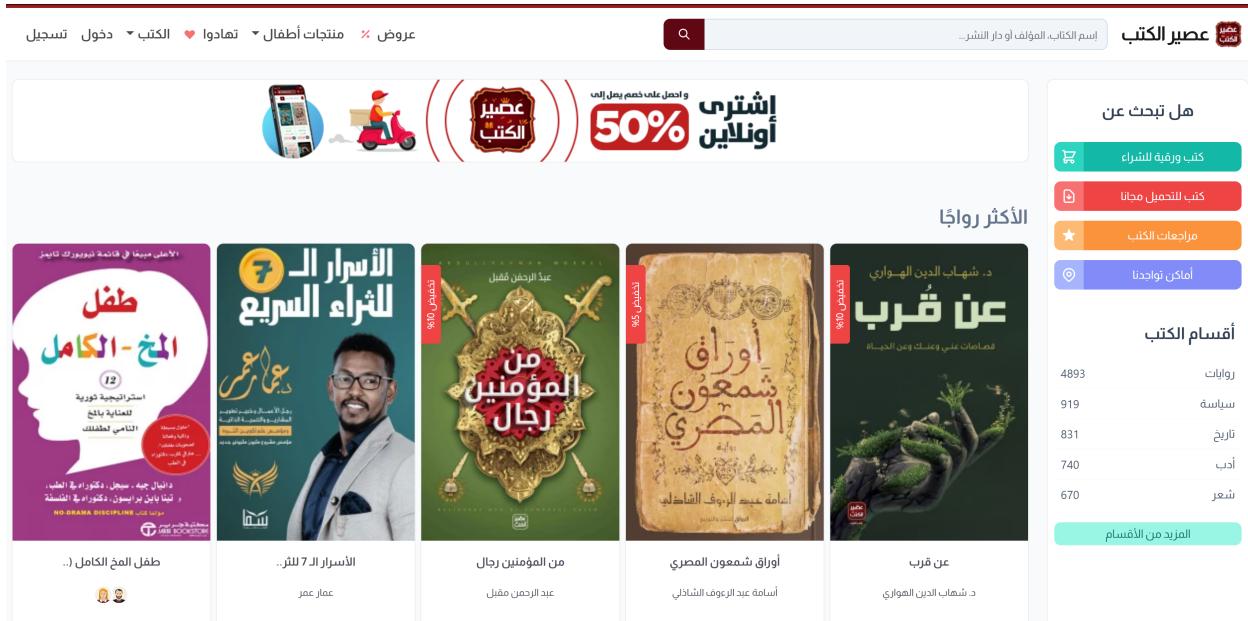


Figure 2: Aseer AlKotb E-commerce web-application

AseerAlKotb : Started off as just a Facebook group for book discussions, Aseer Al Kotb is now one of the biggest book stores/publishing houses with just shy of a million followers and worldwide shipping to America and Europe. Their business undoubtedly got a massive boost from launching a website, which includes over twenty thousand books, book reviews, and online free books.

3 System Description

3.1 Problem Statement

A startup company that sells its goods on social media marketplaces suffers from chaotic selling experiences. It deals with consumers with unorganized approaches using social media messaging systems and without having database management. E-commerce makes it simple to deliver goods to a broad number of customers. There is, however, a lot of rivalry among various E-commerce sites. People expect to find what they are searching for efficiently and conveniently as they visit an e-commerce platform. Furthermore, the E-commerce website aims to assist consumers in narrowing down their broad ideas and enabling them to reach a final decision regarding their thoughts. Our objective is to build, develop, and execute a well-built web application and a well-structured database that assets our client's needs and satisfies consumers.

3.2 System Overview

A web-based application that aims to facilitate the sales and purchases of our independent growing business “Stars Accessories” that is in the market of Women’s wearings. We aim to a system that encompasses and applies the vision that the “Stars Accessories” brand hold for the future which is to expand, promote and provide a next-level user experience.

3.3 System Scope

The intended software system to be produced is an online E-commerce web application. The availability of the system is intended to cover all the interested online shoppers in Egypt, as the system is a cross-platform. The system shall be fully-controlled by the Admins, allowing them to add, delete, and edit products according to their current inventory. The customers shall browse the web-application, add their desired products in the shopping cart, check out and start checking the order status up till the delivery time. The overall scope is implementing an accessible, convenient means of communication that will be able to fulfill Stars Accessories growing reach, as Instagram is the main selling platform for the brand, the communication between the client and the customers occur solely through direct messages, our goal is to elevate that level of service that requests and purchases would be stored in the store's own database.

3.4 System Context

SA System shall evolve around 3 parties: Customers, Admins, Shipping company, and a database interacting with the system to connect those 3 parties together, as per Figure 3.

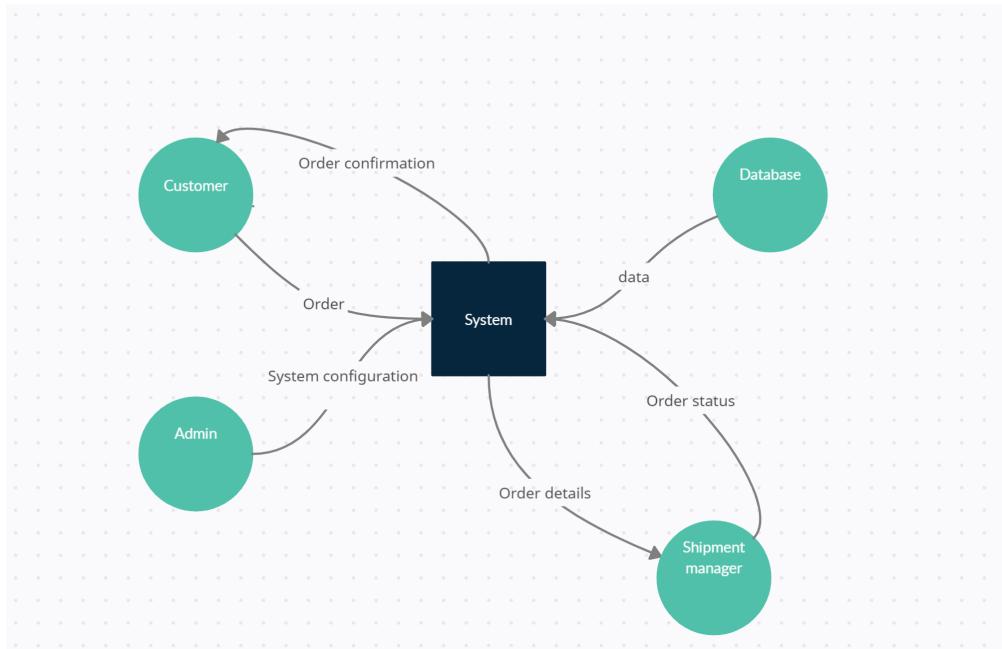


Figure 3: SA System Context

3.5 Objectives

- Implementing an accessible, convenient means of communication that will be able to fulfill Stars Accessories growing reach, as Instagram being the main selling platform for the brand, the communication between the client and the customers occurs solely through direct messages, our goal is to elevate that level of service that requests and purchases would be stored in the store's own database.
- Achieving a manageable database will consequently lead us to be able to create a more convenient user experience represented in creating user profiles where the user can have more access and ability to browse the products and add it to his cart.
- Achieving a manageable database will consequently lead us to be able to create a more convenient user experience represented in creating user profiles where the user can have more access and the ability to browse the products and add them to his cart.
- As for now, Stars accessories brand has roughly a total of 28 thousand followers, our goal is to expand this number by 20%.
- Reducing administrative costs by 50%.
- Increasing the number of loyal customers.
- Improving customer service.
- Increasing clients' satisfaction.

3.6 User Characteristics

- Any user with a device connected with the internet, and having the basics of dealing with a computer, mouse, and a keyboard is capable of browsing through the system and completing purchases.
- User should know the basic knowledge of online shopping, as in registering for an account, adding items to cart, checking out, and reviewing products.

3.7 User Stories

- As a Customer signing up for an account, I need to be alerted if I'm making any errors, so I can correct them.
- As a Customer, I need to be able to view my account, so that I can view its details and edit them.
- As a Customer, I want to browse through products, so I can choose which one I'm buying.
- As a Customer hunting for a certain product, I need to be approached with the best options so that I can find what I'm looking for easily.

- As a Customer, I want to be able to review my cart prior to checkout, so I can make sure of what I'm buying.
- As a Customer, I need to be able to check my shopping cart out, so that the shipping process take it's place.
- As a Customer, I want to be able to view my past orders, so I can see what I can re-order items easily.
- As a Customer who already checked out, I want my order to be delivered withing the mentioned timing, so that i can avoid contacting the customer service for issuing a complaint.
- As a Customer, I need to be able to track my order, so I can know its current status.
- As an Admin, I need to be able to view user logs, so I can acquire their contact info.
- As an Admin, I need to have full access to my inventory, so I can create, retrieve, update and delete products within it.
- As an Admin, I need to be able to view any past orders, so I can determine which products are having a good selling-peak.
- As an Admin, I need to be able to view the current status of my clients' order, so I can communicate with the shipping company to avoid any late-delivery complaints.
- As an Admin, I need to be able to contact my clients on whats-app, so I can follow up on any complaints [2].

4 Functional Requirements

4.1 System Functions

- The user shall be able to register for an account.
- The user shall be able to view any errors in the registration form to re-submit it.
- The user shall be able to view all the products on the website.
- The user shall be able to view products by category.
- The user shall be able to search for certain products and receive the most convenient results.
- The user shall be able to review his shopping cart and make any adjustments before checking out.
- The user shall be able to checkout and view a receipt for his purchase.
- The user shall be able to track his order's shipping status.
- The user shall be able to file a complaint on any past order.

- The admin shall be able to view all the user logs and acquire any contact info.
- The admin shall be able to create, retrieve, update, and delete products within the inventory.
- The admin shall be able to view all the clients' past orders.
- The admin shall be able to view each and every order's status.
- The admin shall be able to have contact with every single client.

4.2 Detailed Functional Specification

Table 2: User - Register

Name	register
Code	FR01
Priority	high
Critical	important to be validated correctly for the system to run
Description	Takes the user's info. and stores it into the database
Input	name,email,address,phone,password
Output	Boolean (true for success, false otherwise)
Pre-condition	Must be signed out or no sessions running
Post-condition	redirect to home page
Dependency	none
Risk	If the user enters non-valid strings in the wrong input the registration process wont be completed

Table 3: User - Search

Name	Search
Code	FR02
Priority	high
Critical	non-critical
Description	Takes input string from user and searches products in database by name
Input	string containing name
Output	products from database
Pre-condition	search bar must not be empty
Post-condition	redirect to the searched product page
Dependency	none
Risk	If the user enters non-valid strings in the wrong input the registration process wont be completed

Table 4: User - Add review on product

Name	Review
Code	FR03
Priority	low
Critical	non-critical
Description	Takes input string from user and adds it to the review table in the database
Input	string containing review
Output	no output
Pre-condition	user must be logged in
Post-condition	refreshes the product page
Dependency	User must have ordered the product
Risk	If the user enters non-valid strings in the wrong input the registration process wont be completed

Table 5: User - Add product to cart

Name	Add to cart
Code	FR04
Priority	extreme
Critical	essential for completing purchases
Description	Takes selected product from user and adds it to the cart
Input	user selection
Output	updated cart
Pre-condition	user must be logged in
Post-condition	refreshes the products page
Dependency	none
Risk	If the user enters non-valid strings in the wrong input the add product process wont be completed

Table 6: User/Admin - Check order status

Name	Order Status
Code	FR05
Priority	high
Critical	critical for a good user experience
Description	Tells the users the order shipping status
Input	no input
Output	string containing status
Pre-condition	user must be logged in
Post-condition	none
Dependency	User must have ordered the product none
Risk	if the user hasn't ordered the product there wont be a status

Table 7: Admin - Change order status

Name	Change Order Status
Code	FR06
Priority	high
Critical	critical for a good user experience
Description	Allows Admin to change order's current status
Input	no input
Output	string containing status
Pre-condition	Admin must be logged in
Post-condition	none
Dependency	User must have ordered the product none
Risk	if the user hasn't ordered the product there wont be a status

Table 8: Admin - Add to inventory

Name	Add to inventory
Code	FR07
Priority	extreme
Critical	core function for adding the products
Description	allows the admin user to add products to the inventory
Input	Strings of variables to add in database
Output	new product added to inventory
Pre-condition	admin user must be logged in
Post-condition	none
Dependency	none
Risk	none

Table 9: Admin - Edit inventory

Name	Edit inventory
Code	FR08
Priority	high
Critical	critical for admin to change price and description and quantity
Description	allows the admin user to edit products in the inventory
Input	Strings of variables to change in database
Output	Boolean
Pre-condition	product must exist
Post-condition	none
Dependency	Products table must have at least 1 element
Risk	none

Table 10: Admin - Delete from inventory

Name	Delete from inventory
Code	FR09
Priority	high
Critical	critical for admin to delete run-out products
Description	allows the admin user to delete products from the inventory
Input	Strings of variables to delete from database
Output	Boolean
Pre-condition	product must exist
Post-condition	none
Dependency	Products table must have at least 1 element
Risk	none

Table 11: Admin - Show Logs

Name	Show Logs
Code	FR10
Priority	high
Critical	critical for admin control of site
Description	Tells the Admin all user orders on site and info
Input	no input
Output	string containing all the user info
Pre-condition	user must exist
Post-condition	none
Dependency	User must have had previous interactions on the site
Risk	none

Table 12: User - Contact Admin

Name	Contact Us
Code	FR11
Priority	high
Critical	critical for admins and users to communicate
Description	function for users to send their complaints to the admin
Input	String to send the message
Output	refreshes the page of chat
Pre-condition	user must be signed in
Post-condition	none
Dependency	User has to be signed in
Risk	none

5 Interface Requirements

5.1 User Interfaces

5.1.1 GUI

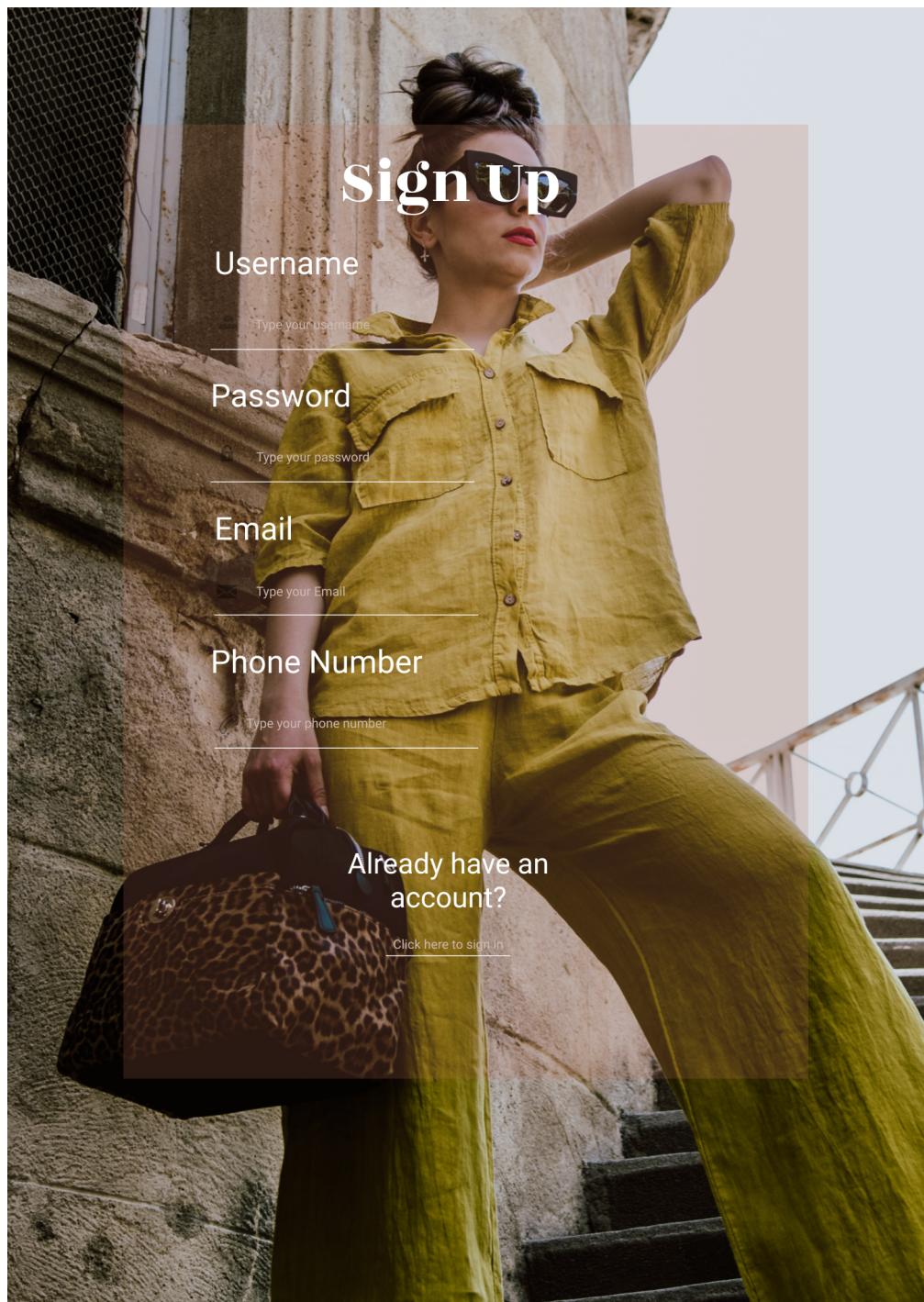


Figure 4: Sign Up Page

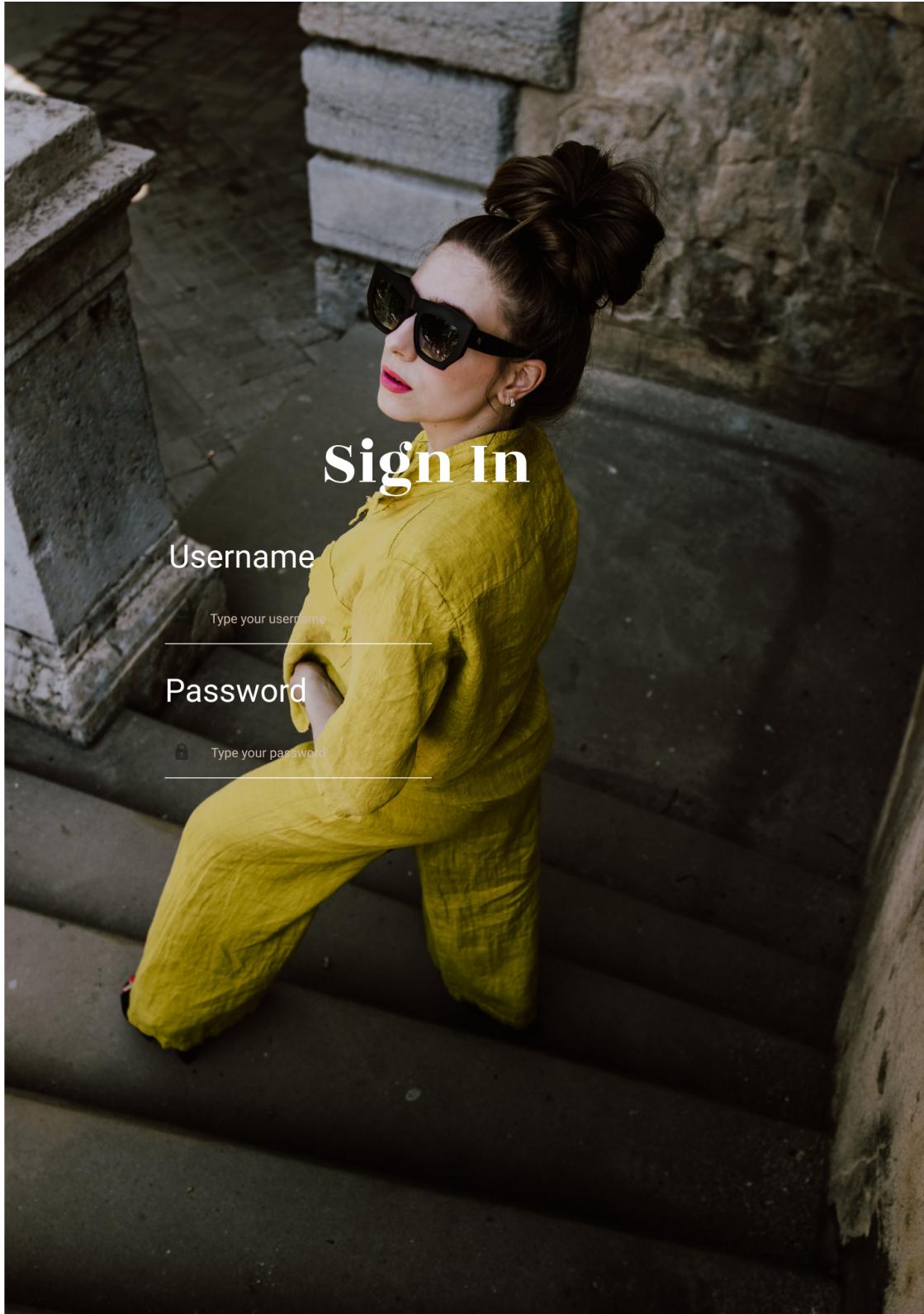
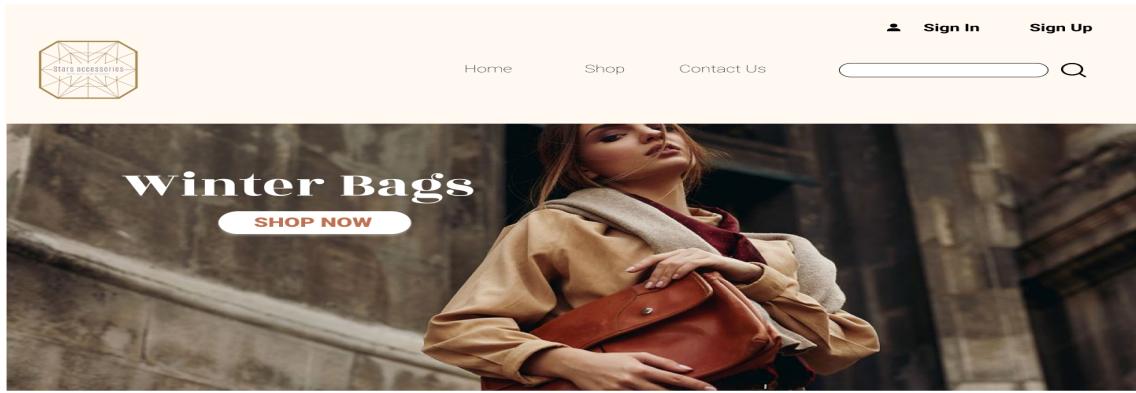


Figure 5: Sign In Page



Our latest Products



Gucci chouette
800 EGP



Valentino DCA
1200 EGP



Prada elore
450 EGP

Browse



Bags



Sun Glasses



Wallets

Stars Accessories Online Shop

We connect people and products opening up a world of possibility. From bracelets to backpacks to tshirts and shorts – we give you access to everything you need and want. Our range is unparalleled, and our prices unbeatable.

Our products

- >Sun Glasses
- >Women Bags
- >Wallets
- >Accessoires

Useful links

- >Sign up
- >Login

Contact Us



Figure 6: Homepage



All Products

SALE UP TO
20%

Product Categories

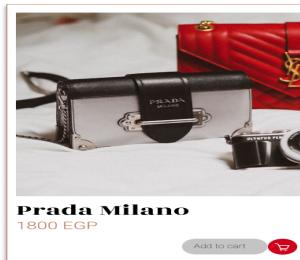
- Sun Glasses
- Women Bags
- Wallets
- Accessoires

SPECIAL EASTER COLLECTION



valentino DCA
1200 EGP

Add to cart



Prada Milano
1800 EGP

Add to cart



Carmen Karine
400 EGP

Add to cart



Ray-ban clubmaster
350 EGP

Add to cart



Gucci Guilty
800 EGP

Add to cart



Calvin Klein one
500 EGP

Add to cart

Stars Accessories Online Shop

We connect people and products opening up a world of possibility. From bracelets to backpacks to tshirts and shorts – we give you access to everything you need and want. Our range is unparalleled, and our prices unbeatable.

Our products

- >Sun Glasses
- >Women Bags
- >Wallets
- >Accessoires

Useful links

- >Sign up
- >Log in

Contact Us



Figure 7: Products Page

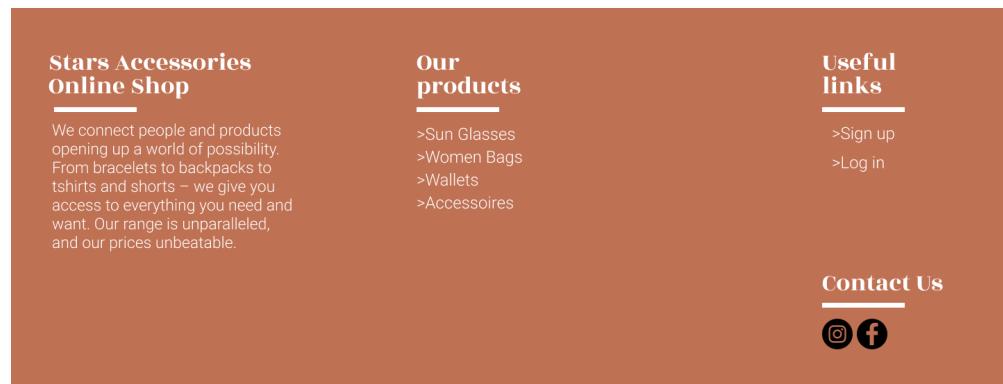
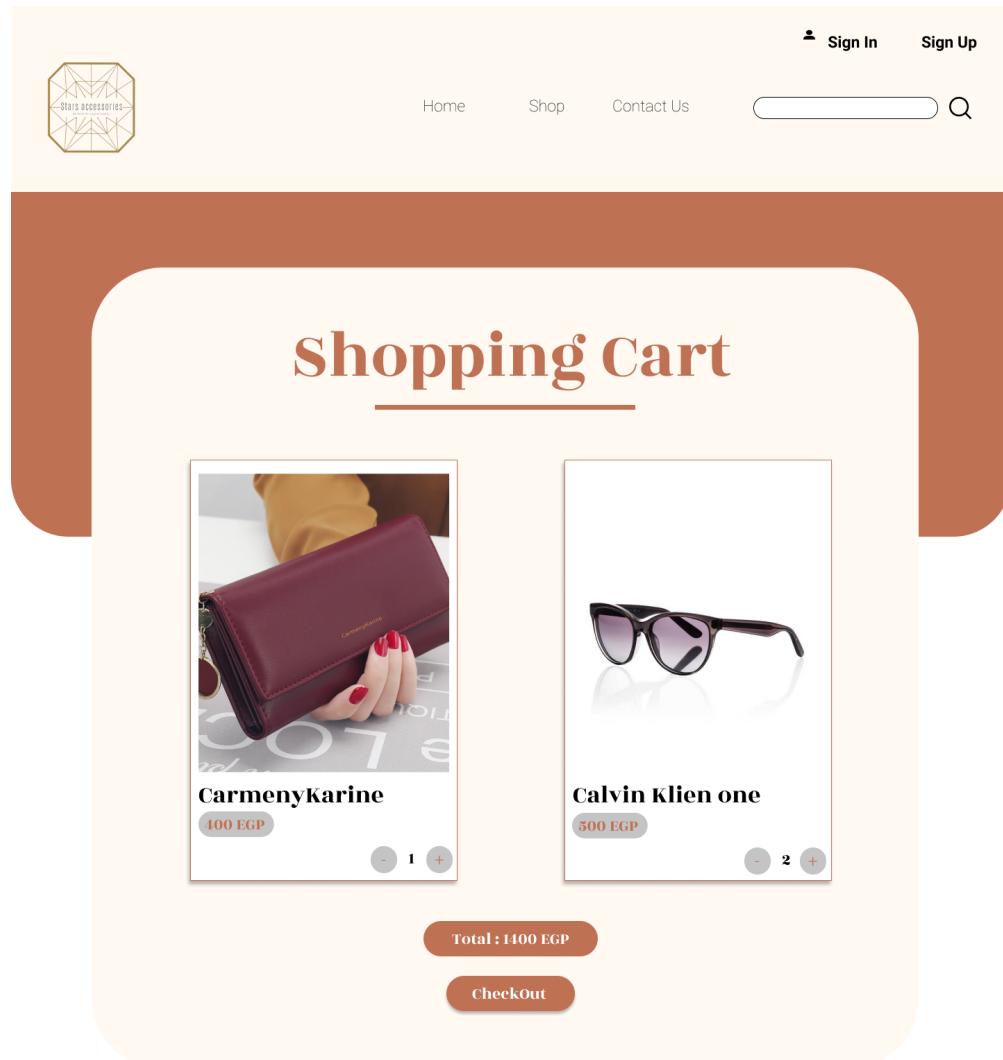


Figure 8: Cart Page

The screenshot shows the 'Contact Us' page of the Stars Accessories Online Shop. At the top right are 'Sign In' and 'Sign Up' buttons. Below them is a navigation bar with 'Home', 'Shop', and 'Contact Us' links, along with a search bar. The main content area has a brown header with the title 'Contact Us'. It contains two input fields: 'Name' and 'Message', each with a light gray placeholder rectangle. A large brown button labeled 'Submit' is centered below the message field. At the bottom of the page is a brown footer section containing three columns: 'Stars Accessories Online Shop' (with a brief description), 'Our products' (listing Sun Glasses, Women Bags, Wallets, and Accessoires), and 'Useful links' (listing Sign up and Log in). There are also social media icons for Instagram and Facebook.

Sign In **Sign Up**

Home Shop Contact Us

Stars accessories

Contact Us

Name

Message

Submit

**Stars Accessories
Online Shop**

We connect people and products opening up a world of possibility. From bracelets to backpacks to tshirts and shorts – we give you access to everything you need and want. Our range is unparalleled, and our prices unbeatable.

Our products

- >Sun Glasses
- >Women Bags
- >Wallets
- >Accessoires

Useful links

- >Sign up
- >Log in

Contact Us

Instagram **Facebook**

Figure 9: Contact Us Page

5.2 Communications Interfaces

Internet Connections will be needed, as it is obligatory to have a connection to explore the application.

5.3 API

- Login API: Would help in the faster login process through an already-existing account.

5.3.1 External Libraries

- PHP Image Upload Class: to ease the process of uploading images to forms.

6 Design Constraints

6.1 Standards Compliance

For better user-experience, It's advisable for users to have a minimal specifications for their devices as follows:

- 64 operating system.
- PC with 1.00 GB of RAM (Minimum).
- GPU with 2.00 GB of RAM (Minimum).
- 14" LCD monitor, resolution of 1600 x 900 or better.

7 Non-functional Requirements

7.1 Security

- The Database must be immutable by the client and should only be accessed by the admins.
- The clients' private information cannot be leaked or be visible to other clients.
- The server must not return a restricted web page to a user who is not authorized to access it.
- The software must not accept overlong input data.
- System will have different types of users each with different access constraints.

7.2 Accessibility

- Products will have a filter so you can reach your target faster.
- The UI will be easy to understand and go through.
- All items will be clearly displayed with a picture and an informative description.
- Forms shall be designed carefully so that each field is clearly labeled and clear validation messages are provided.
- All entries are validated so as to make sure the correct information is being delivered.

7.3 Availability

- The System has to be up for all users all the time.
- Users should be able to access the website 95% of the time.
- System Maintenance should not interfere with the website's functionality.

7.4 Performance

- The home page's load time should not be more than one second for end users.
- All web pages should load in 3 seconds or less.
- It's a must to achieve a performance score over 80 on Google's Page Speed Insights tests.

7.5 Usability

- Customers should be able to figure out the checkout process in less than 2 minutes.
- The registration experience is effortless and easy to understand.
- 90% of customers having tried the web application at least once must find the system pleasant and helpful.
- The system shall follow the Web Content Accessibility Guidelines (WCAG) [3].

8 Data Design

8.1 Data Description

- Data is originally stored as files.
- The admin uses web page forms to capture the data into the website.

- Database should be large enough to accommodate all products with their description, price, and images.
- Star Accessories has an established following of 28 thousand people, we're expecting at least 80% of that number to access the website.
- Each product has a unique ID number that's auto-incremented, Users also have an ID number that is randomly generated and stored.
- All data will be stored in SQL database.
- The user will be asked to fill in his information including delivery address, and personal information. The admin upon adding a product will be asked to provide all information about the product such as name, description, price, and available quantities. The user upon checking out will be asked to provide his product's preference. That includes color, size, and the quantity of the product he's ordering.

8.2 Database design description

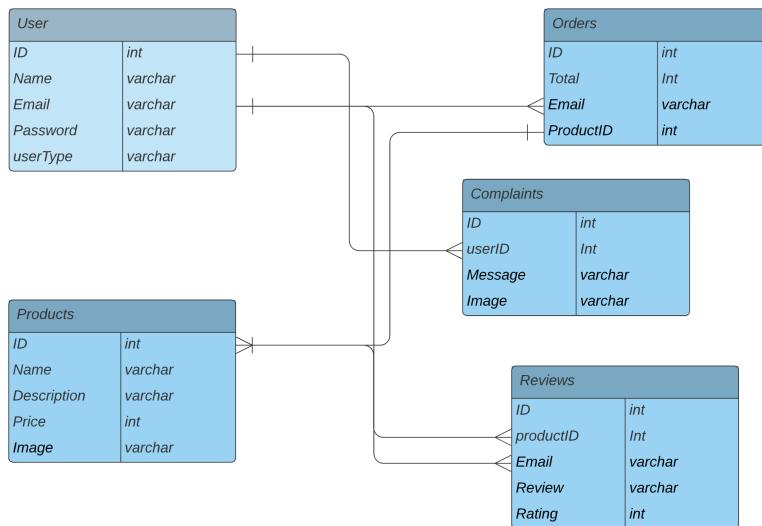


Figure 10: Database schema

9 Preliminary Object-Oriented Domain Analysis

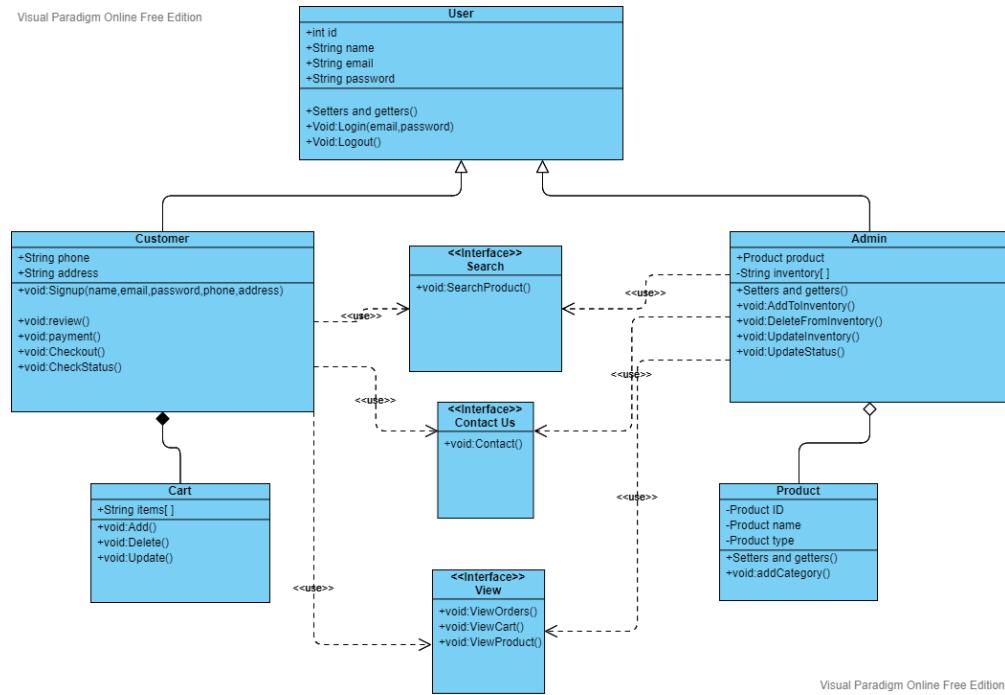


Figure 11: Class Diagram

9.1 Inheritance Relationships

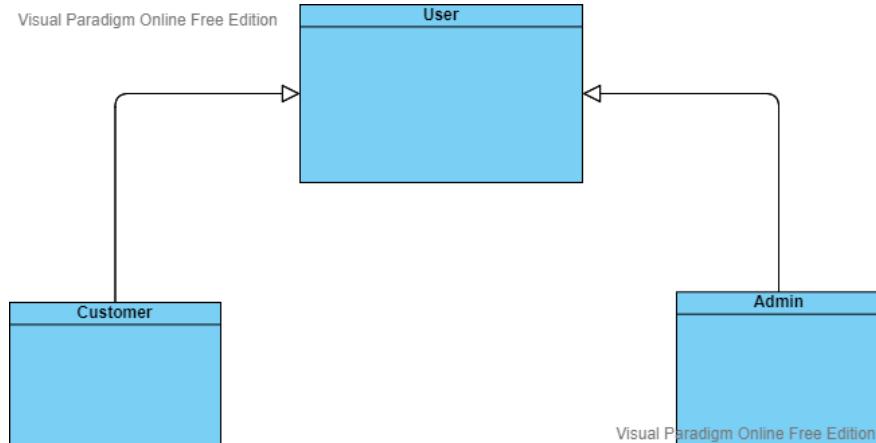


Figure 12: Inheritance Relations

9.2 Class descriptions

Table 13: Class Name - User

Abstract or Concrete:	Concrete.
List of Superclasses	None.
List of Subclasses	Customer,Admin
Purpose	Represent the account
Collaborations	User class is parent class to both Customer and admin classes, in which both of these classes inherit the attributes and functions of it.
Attributes	id:int, name:string , phone number:string, email:string, password:string
Operations	Login>Email,Password):Void, Logout:Void
Constraints	must be logged in

Table 14: Class Name -Admin

Abstract or Concrete:	Concrete.
List of Superclasses	User.
List of Subclasses	None
Purpose	Supervise the inventory, communicate with the customer and handle complaints.
Collaborations	Admin class is a subclass from User class in which it has an aggregation relation between Product class. The aim of the class is to represent and achieve the administrator's functionality such as adding, deleting , updating products in the inventory and replying to customer's complaints.
Attributes	product:product , inventory:string[]
Operations	AddToInventory:void(), DeleteFromInventory:void() ,UpdateInventory:void(), UpdateStatus:Void() SearchProdut():void, ContactUs():void, ViewOrder():void, ViewCart():void, ViewProduct():void.
Constraints	must be logged in

Table 15: Class Name - Customer

Abstract or Concrete:	Concrete.
List of Superclasses	User.
List of Subclasses	None
Purpose	Make purchases and browse products.
Collaborations	Customer class is a subclass from User class in which it has a composition relation between Cart class. The aim of the class is to represent and achieve the customer's functionality such as sign up, login, search product and add product to cart, review and give ratings to products and check status of the product shipment.
Attributes	phone:string , address:string
Operations	Sign up(Name,Email,Password,Phone,Address):Void review():void, payment():void, Checkout():void, CheckStatus():void , SearchProduct():void, ContactUs():void, ViewOrder():void, ViewCart():void, ViewProduct():void.
Constraints	must be logged in

Table 16: Class Name - Cart

Abstract or Concrete:	Concrete.
List of Superclasses	None.
List of Sublasses	None.
Purpose	Store Customer's purchases.
Collaborations	Cart class acts as a composition class in customer's class, where each customer must have a cart where he can add,delete,update products from it.
Attributes	items:string[]
Operations	add:void(),delete:void(),update:void()
Constraints	must be logged in

Table 17: Class Name - Product

Abstract or Concrete:	Concrete.
List of Superclasses	None.
List of Subclasses	None
Purpose	Fulfils the product's details such as it's ID, name, type.
Collaborations	Product class is an aggregation class from admin, where admin fulfills the product's details and labels each product under it's appropriate category.
Attributes	ProductId:String,ProductName:string , ProductType:string,
Operations	addCategory():string
Constraints	must be logged in

10 Project Plan

Tasks will be assigned to team members by their initials.

Table 18: SA E-commerce web-application time plan

Id	Task	Start Date	Number of Days	Team Member
1	Requirements Gathering	1/4/2021	3	Everyone
2	Client Interview	4/4/2021	1	AH
3	Proposal Document	5/4/2021	5	Everyone
4	Requirement analysis	14/4/2021	2	Everyone
5	Initial SRS	16/4/2021	10	Everyone
6	Proposal feedback and review	28/4/2021	2	AS,AH
7	Web Application Wireframes	30/4/2021	10	AH
8	Front-End Implementation	4/5/2021	4	Everyone
9	Updating SRS	6/5/2021	2	Everyone
10	Front-End Validation and CRUD operations	7/5/2021	2	Everyone
11	Phase 1 Discussion	10/5/2021	1	Everyone
12	Simple Implementation	12/5/2021	10	N/A
13	Scenario Analysis	22/5/2021	4	N/A
14	SDD and Testing Documents	26/5/2021	10	N/A
15	Full Implementation	6/6/2021	15	N/A
16	Final SRS and SDD	19/6/2021	2	N/A
17	Final Discussion	21/6/2021	1	Everyone



Figure 13: SA GANTT Chart

11 Appendices

11.1 Definitions, Acronyms, Abbreviations

- **SA:** Stars Accessories
- **E-commerce:** Electronic Commerce

11.2 Supportive Documents



Figure 14: SA current Instagram Reach Statistics [4] .

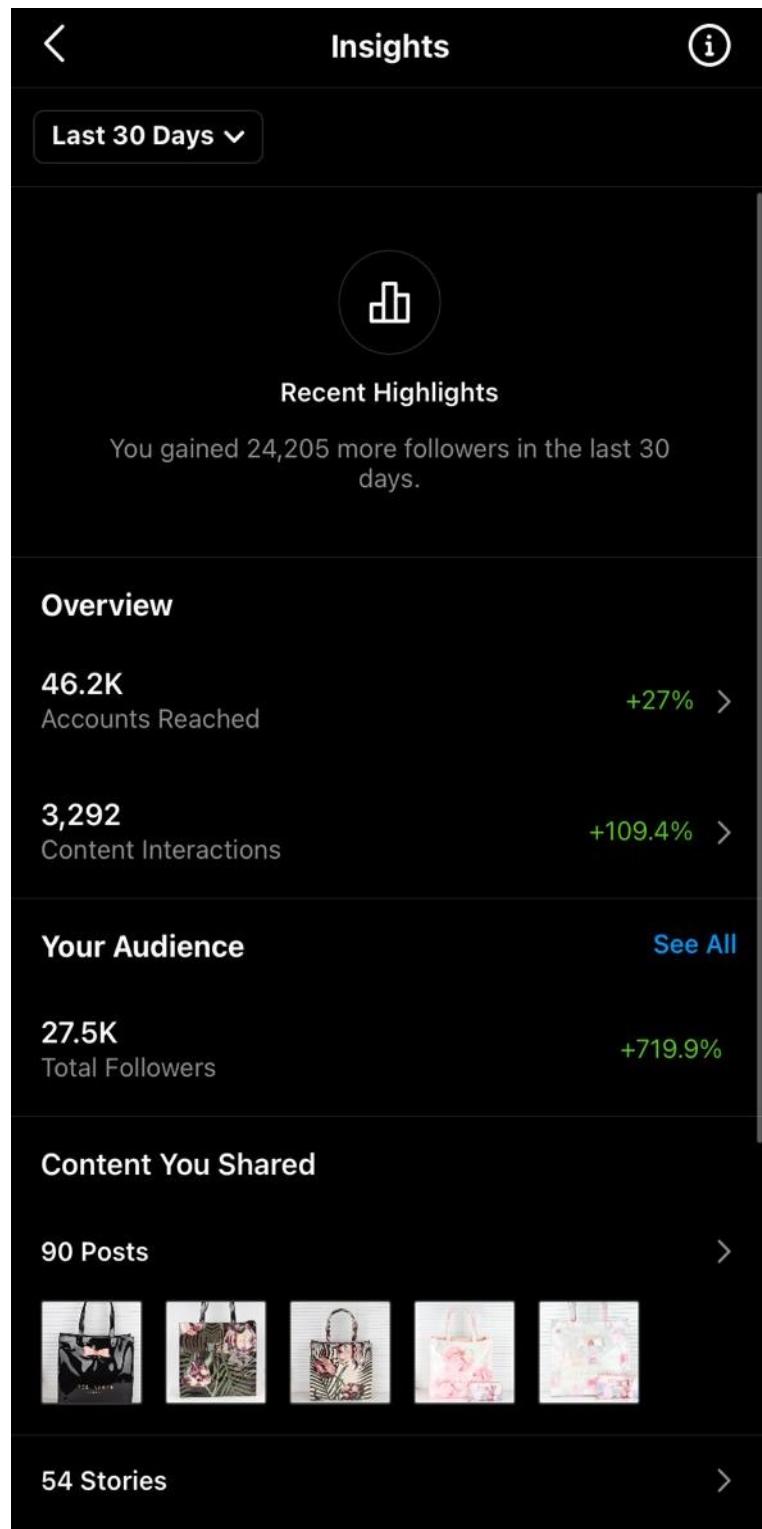


Figure 15: SA current Instagram Interaction Statistics.

References

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