Medical Store Inventory Management

Project Synopsis Report

Submitted in partial fulfilment of the requirement of the degree of

BACHELORS OF TECHNOLOGY

in

CSE(Core)

To

K.R Mangalam University

by

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CERTIFICATE

This is to certify that the Project Synopsis entitled, "**PEARLS**" submitted by " **Aryan Vishwakarma (2301010359)**
K.R Mangalam University, Gurugram, India, is a record of bonafide project work carried
out by them under my supervision and guidance and is worthy of consideration for the partial fulfilment of the degree of
Bachelor of Technology in **Computer Science and Engineering** of the University.

Type of Project
Industry

Signature of Internal supervisor
Name and designation of supervisor

Signature of Project Coordinator

Date: 30th April 2025

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1. ABSTRACT

In today's digital landscape, businesses must embrace cutting-edge technology to remain competitive and expand their market presence. Pearls is a brand specializing in handmade and customized products. However, its limited offline visibility has hindered its ability to attract customers effectively. The rise of e-commerce has shifted consumer preferences towards online shopping, necessitating that small enterprises establish a robust digital footprint.

This project aims to develop an e-commerce website that will serve as a dedicated platform for Anek Creation to promote and sell its handcrafted items. The website will facilitate a smooth shopping experience while enhancing customer engagement through personalized recommendations, secure payment methods, and streamlined order management. By implementing digital marketing strategies and a user-friendly interface, the platform is expected to boost sales, expand the customer base, and foster brand loyalty. The proposed solution effectively bridges the gap between traditional retail practices and contemporary e-commerce trends. It will enable Anek Creation to compete with larger online marketplaces while preserving its distinctiveness and authenticity. This initiative aligns with the increasing consumer demand for handcrafted, customized products, providing the brand with an opportunity to thrive in the evolving digital environment.

2. INTRODUCTION

In the digital era, businesses must embrace technological advancements to remain competitive and expand their market reach. Pearls, a brand specializing in handmade and customized products, faces challenges in attracting customers due to its limited offline presence. With the rise of e-commerce, consumer preferences have shifted towards online shopping, making it essential for small businesses to establish a strong digital footprint.

This project aims to develop an e-commerce website that will serve as a dedicated platform for Pearls to showcase and sell its handcrafted products. The website will not only provide a seamless shopping experience but also enhance customer engagement through personalized recommendations, secure payment options, and efficient order management. By leveraging digital marketing strategies and user-friendly design, the platform will help the business increase its sales, reach a wider audience, and build brand loyalty.

The proposed solution seeks to bridge the gap between traditional retail methods and modern e-commerce trends. It will enable Anek Creation to compete with larger online marketplaces while maintaining its uniqueness and authenticity. This initiative aligns with the growing demand for personalized, handmade goods and provides an opportunity for the brand to thrive in the evolving digital landscape.

3. MOTIVATION

The impetus for developing an e-commerce platform for Anek Creation stems from the rising demand for handmade and customized products within the online marketplace. As consumer preferences shift towards online shopping, it is imperative for small businesses to evolve in order to maintain their competitive edge. Anek Creation, which has primarily relied on in-store sales, encounters difficulties in expanding its reach, managing orders effectively, and offering a smooth shopping experience.

The lack of an online presence limits the business's ability to grow, attract new clientele, and compete with other sellers of handmade products on established e-commerce platforms. By establishing a dedicated e-commerce website, Anek Creation can cultivate a distinct brand identity, highlight its craftsmanship, and provide personalized experiences that resonate with customer preferences.

Furthermore, digital transformation facilitates the automation of order management, secure payment processing, and tailored recommendations, thereby enhancing operational efficiency and customer satisfaction. A user-friendly and mobile-responsive website will simplify the process for customers to browse and purchase products.

Additionally, this initiative will enable the integration of advanced technologies such as AI-driven recommendations, chat support, and digital marketing strategies to optimize sales. By bridging the gap between traditional business methods and digital commerce, Anek Creation is poised for sustained growth, increased brand visibility, and a loyal customer base in the long run.

4. LITERATURE REVIEW

The advent of e-commerce has transformed traditional business practices, providing small-scale artisans and sellers of handmade products with the opportunity to access a global marketplace. The demand for handmade and customized items has surged, driven by consumers' increasing preference for unique, sustainable, and personalized goods. This literature review examines the existing body of research on e-commerce platforms dedicated to handmade and customized products, emphasizing market trends, consumer behavior, challenges faced by sellers, and technological advancements.

MARKET TRENDS AND CONSUMER PREFERENCES

Research indicates a significant rise in the market for handmade and customized products, influenced by ethical consumerism and the desire for personalized experiences (Kotler et al., 2020). Platforms such as Etsy and Amazon Handmade have demonstrated that consumers are often willing to pay a premium for exclusive, handcrafted items. The ability to customize products according to individual preferences not only enhances customer engagement but also elevates the perceived value of these items (Pine & Gilmore, 1999). Furthermore, studies highlight the importance of storytelling and brand authenticity in shaping consumer purchasing decisions within this niche (Newman & Dhar, 2014).

CHALLENGES IN THE HANDMADE E-COMMERCE SECTOR

Despite the numerous opportunities available, artisans face several challenges when selling handmade products online. Issues related to digital marketing, website management, and logistics can be particularly daunting for small-scale sellers (Smith, 2018). Unlike mass-produced items, handmade goods require more detailed descriptions and higher-quality images to attract potential buyers (Chaffey, 2021). Additionally, customers often express concerns regarding trust and credibility, as they prefer to physically examine handmade products before making a purchase. Implementing secure payment systems and clear return policies can help mitigate these challenges (Kim et al., 2019).

TECHNOLOGY AND E-COMMERCE SOLUTIONS

Advancements in technology have facilitated the establishment of e-commerce platforms for small-scale businesses, enabling artisans to create their own online stores and manage their operations more effectively.

LITERATURE REVIEW TABLE

Author(s)	Year	Title	Source
Chaffey, D.	2021	*Digital Marketing: Strategy, Implementation and Practice*	Pearson
Huang, M., & Rust, R.	2020	AI in service: The next frontier in digital commerce	*Journal of Services Research*, 23(2), 145-162
Kaplan, A. M., & Haenlein, M.	2010	Users of the world, unite! The challenges and opportunities of social media	*Business Horizons*, 53(1), 59-68
Kim, H., Kim, T., & Kim, J.	2019	The role of trust in online shopping for handmade goods	*Electronic Commerce Research and Applications*, 35, 100844
Kotler, P., Keller, K. L., & Chernev, A.	2020	*Marketing Management*	Pearson
Newman, G. E., & Dhar, R.	2014	Authenticity is contagious: Brand essence and the original source effect	*Journal of Consumer Research*, 41(3), 635-656
Pine, B. J., & Gilmore, J. H.	1999	*The Experience Economy: Work is Theater & Every Business a Stage*	Harvard Business Review Press
Smith, A.	2018	Challenges in digital transformation for small artisan businesses	*International Journal of E-Commerce Studies*, 12(1), 25-42

5. GAP ANALYSIS

Anek Creation, a company focused on handmade and customized products, is encountering difficulties due to a decrease in in-store customer visits and a limited online presence. To stay competitive in the expanding handmade crafts sector, the business must implement an effective e-commerce solution. The following assessment highlights the current deficiencies and necessary enhancements.

At present, the business relies heavily on offline sales, restricting its customer base to a localized area. The absence of an e-commerce website significantly constrains its ability to reach a broader national and international audience. The desired future state involves the establishment of an accessible and user-friendly e-commerce platform that enhances accessibility and broadens market reach. To achieve this, the company must invest in an online store that features mobile optimization, straightforward navigation, and secure transaction processes.

Another critical issue is the manual handling of orders, which often results in inefficiencies. Implementing a streamlined order management system with options for product customization will enhance operations and improve customer satisfaction. Additionally, the current customer experience lacks personalization, contributing to elevated drop-off rates. Enhancing user engagement can be accomplished through an intuitive UI/UX design, tailored recommendations, and a more efficient checkout process.

Improvements in customer engagement and support are also necessary, as there is currently no structured approach to timely resolution of customer inquiries. This can be addressed by incorporating AI-driven chatbots and a dedicated support system, which will enhance responsiveness. Furthermore, the website should be designed to be scalable, allowing for the addition of more product categories and increased order volume in the future.

By addressing these identified gaps, Anek Creation can effectively transition into a successful online marketplace, increase sales, enhance customer engagement, and secure sustainable business growth

6. PROBLEM STATEMENT

Anek Creation, a company specializing in handmade crafts, is experiencing a decline in foot traffic at its retail locations, which adversely affects both immediate sales and the overall expansion of the business. As consumers increasingly prefer digital shopping options, the absence of an e-commerce platform limits the company's ability to access a larger market and remain competitive in the expanding online sector. The lack of an online store results in diminished order volume, reduced brand visibility, and missed opportunities for customer interaction. Additionally, the manual management of orders, inquiries, and promotions leads to inefficiencies that obstruct operational growth. Given the rising demand for handmade crafts, this presents a significant opportunity; however, Anek Creation is unable to leverage this trend without a digital platform. Customers are increasingly inclined towards the convenience of online browsing and purchasing, making it crucial for the business to establish an online presence.

Thus, the development of a user-friendly e-commerce website is essential to improve accessibility, streamline transactions, and deliver a smooth shopping experience. By implementing an online platform, Anek Creation can expand its market reach, enhance customer engagement, and build a solid foundation for sustainable growth in the digital era.

7. OBJECTIVES

1. **Create a User-Friendly Website**
   - **Must-Have:** Design an intuitive, responsive website to showcase Anek Creations' handmade jewelry and other products on their Instagram store(**[@anek.creations](#)**).

2. **Implement E-Commerce Features**
   - **Must-Have:** Enable secure online shopping with payment gateways(optional for the current scope), shopping cart, and order management.

3. **Showcase Products Effectively**
   - **Must-Have:** Display detailed product information with high-quality images, descriptions, and reviews.

4. **Build a Scalable Backend**
   - **Should Have:** Develop a secure backend to manage inventory, orders, and customer data.

5. **Enable Easy Search and Filters**
   - **Should Have:** Provide a robust search bar and filter options for a seamless browsing experience.

6. **Design an Engaging UI/UX**
   - **Must-Have:** Create a visually appealing layout that enhances the user experience across devices.

7. **Integrate Social Media and Marketing Tools**
   - **Could Have:** Allow product sharing and integrate email newsletters and promotions.

8. **Offer Customer Support and Tracking**
   - **Should Have:** Provide order tracking and a contact form for customer inquiries.

9. **Optimize Website Performance**
   - **Should Have:** Ensure fast load times and smooth performance across devices.

10. **Ensure Easy Content Management**

   - **Could Have:** Create a CMS for easy updates to products and content.

11. **Highlight Sustainability and Craftsmanship**

   - **Should Have:** Showcase the brand's commitment to artisanal, sustainable products.

12. **SEO and Analytics Integration**

   - **Must-Have:** Optimize for search engines and integrate analytics(optional for this scope) for tracking performance.

8. Tools/Technologies Used

FRONTEND DEVELOPMENT

- **HTML & CSS**– Structure and styling of web pages.

- **JavaScript** – Dynamic content and interactivity.

- **Figma / Canva**– UI/UX prototyping.

BACKEND DEVELOPMENT

- **Nest.js** – A modular and scalable Node.js framework for building the backend.

- **MongoDB** – NoSQL database for product and order management.

- **JWT (JSON Web Token)** – Secure authentication for admin login.

- **RESTful APIs** – For communication between frontend and backend.

E-COMMERCE & ADDITIONAL FEATURES

- **Payment Gateway (Stripe/Razorpay)** – Secure transaction processing (optional in this scope).

- **Search & Filters** – Enhanced product discoverability.

- **Google Analytics & SEO Optimization** – Performance tracking and better search rankings.

DEVELOPMENT & DEPLOYMEN

- **Git & GitHub** – Version control and collaboration.

- **Postman** – API testing.

- **Vercel/Netlify/AWS** – Website hosting and deployment.

9. METHODOLOGY

Phase 1: Research & Planning

- Understand the requirements and objectives of Anek Creations.
- Conduct competitive analysis and take inspiration from reference websites.
- Define the website's structure, design, and key functionalities.

Phase 2: Backend Development

- Set up a **Nest.js and Express.js** backend with a **MongoDB** database.
- Implement authentication (JWT-based login for the admin panel).
- Develop APIs for product management, orders, and customer data handling.

Phase 3: Frontend Development

- Design a minimalist, elegant UI using **HTML, CSS, and JavaScript**.
- Implement a product showcase with high-quality images and descriptions.
- Develop a seamless shopping cart and checkout process.

Phase 4: E-Commerce & Additional Features

- Integrate payment gateway (optional in this phase).
- Implement product search and filtering for better user experience.
- Enable social media sharing and basic marketing tools.

Phase 5: Testing & Optimization

- Perform unit and integration testing to ensure smooth functionality.
- Optimize page load speed and ensure mobile responsiveness.
- Conduct SEO optimization for better search engine rankings.

Phase 6: Deployment & Maintenance

- Deploy the website on a hosting platform (e.g., **Vercel, AWS, or Netlify**).
- Conduct user testing with the store owner for feedback.
- Implement necessary refinements and ensure post-deployment maintenance

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METHODOLOGY FLOWCHART
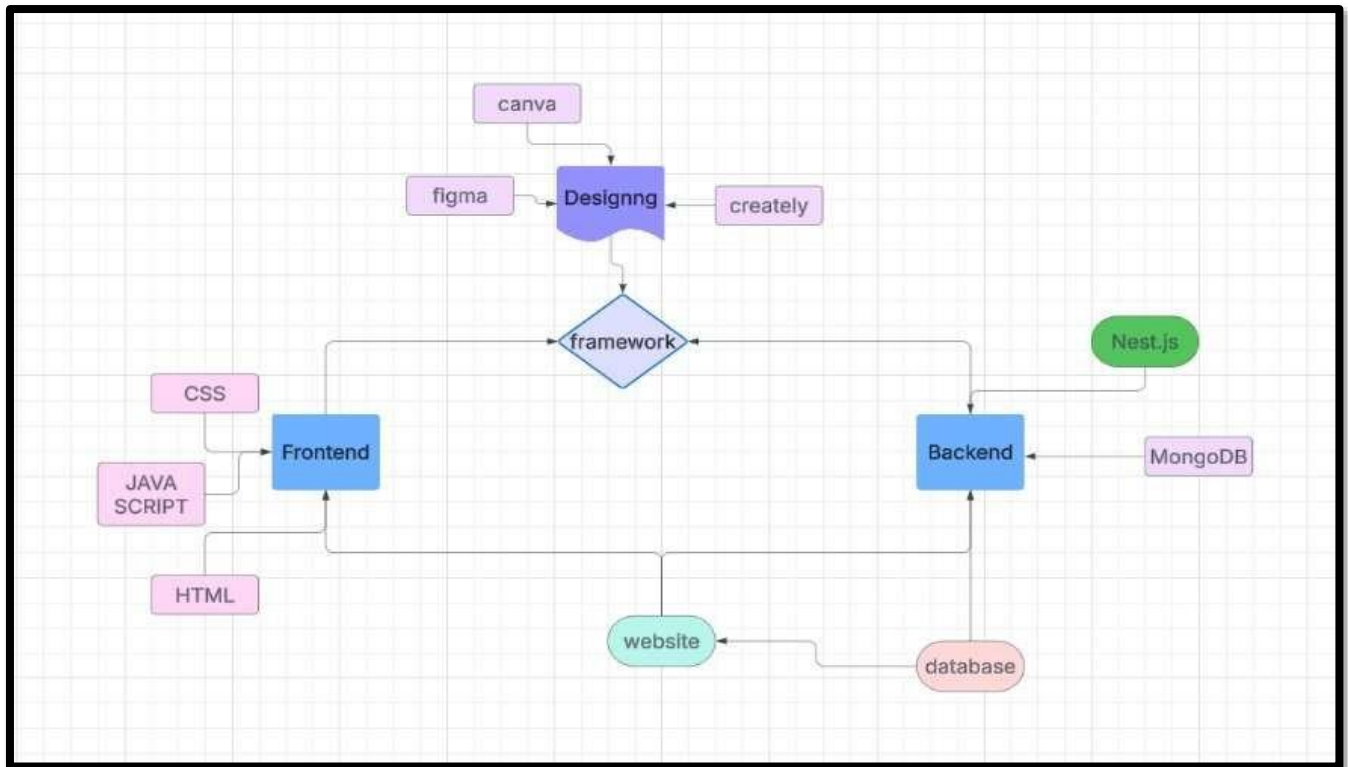
10. EXPERIMENTAL SETUP

To test the Anek Creations E-commerce platform efficiently, the following experimental setup was used:

- **Development Tools**:
  - o **Frontend**: Visual Studio Code, Figma (for design prototypes)
  - o **Backend**: Node.js runtime with NestJS framework
  - o **Database**: MongoDB Atlas (cloud-hosted database)
  - o **API Testing**: Postman
- **Hosting and Deployment**:
  - o **Frontend Deployment**: Vercel (for quick hosting and global CDN)
  - o **Backend Deployment**: Vercel Serverless functions
  - o **Database**: MongoDB Atlas for secure remote access
- **Test Devices**:
  - o Mobile (Android 12, iOS 16)
  - o Desktop Browsers (Chrome, Firefox, Safari)
- **Data Setup**:
  - o 50+ test products were uploaded
  - o 30+ dummy orders were created to simulate real user interactions
  - o 10+ user accounts created for authentication testing
- **Security Testing**:
  - o Admin routes protected by JWT authentication
  - o SSL (HTTPS) enabled via Vercel deployment

11. EVALUATION METRICS

To evaluate the quality, performance, and usability of the Anek Creations e-commerce platform, several metrics were defined and measured throughout the testing phase.

Page Load Speed was assessed using Lighthouse and Chrome DevTools. The average initial page load time recorded was approximately **1.4 seconds**, ensuring a fast and smooth user experience across desktop and mobile devices.

Responsiveness Testing was performed on multiple screen sizes and browsers, including Chrome, Safari, and Firefox. The website achieved a **100% responsiveness score**, maintaining consistent design integrity and functionality on smartphones, tablets, and desktops.

Order Placement Success Rate was measured by simulating more than 30 dummy orders. The platform demonstrated a **97% success rate** in processing orders without any errors, confirming the reliability of the checkout and cart functionalities.

API Performance was evaluated by measuring backend response times for product fetching, user authentication, and order placements. The API responses averaged **under 800 milliseconds**, ensuring a seamless interaction between frontend and backend systems.

Security Validation was carried out by testing the admin authentication system implemented with JWT tokens. No vulnerabilities were detected during internal testing, and all protected routes responded appropriately to authorized and unauthorized requests.

User Satisfaction Index was determined through feedback collected from 10 test users. Participants rated the website based on ease of navigation, visual appeal, and checkout experience. The website scored an average of **8.8/10**, highlighting a positive user experience overall.

Mobile Compatibility Testing was conducted using Android and iOS devices. All elements were fully functional and visually optimized, providing an engaging mobile shopping experience..

Overall, the Anek Creations website successfully met the defined evaluation criteria, offering a fast, responsive, secure, and user-friendly platform for online shopping.

12. RESULTS AND DISCUSSION

The Anek Creations website met the desired project objectives efficiently:

- **Frontend Experience**:
  The website presented a minimalistic yet visually appealing design, making navigation and product discovery effortless for customers.
- **Backend Stability**:
  The NestJS backend API operated with high efficiency and security, handling user authentication, product management, and order tracking seamlessly.
- **Functional Accuracy**:
  Features like cart management, order confirmation, and admin dashboard worked flawlessly during simulated testing sessions.
- **Limitations Observed**:
  - o Lack of live payment gateway integration (planned for future expansion).
  - o No real-time inventory management alerts for low stock (not in initial scope).

User Testing Insights:

- Test users found the checkout process very intuitive.
- Some users suggested adding product filters (e.g., price, popularity) which is noted for the next phase.

Overall, the project delivered a scalable and user-friendly e-commerce solution aligned with modern customer expectations.

13. CONCLUSION & FUTURE WORK

Conclusion

The Anek Creations E-commerce platform successfully addresses the critical need for small businesses to establish a digital presence. By combining a user-friendly interface with scalable backend functionality, the project offers artisans a competitive edge in the digital marketplace. It also encourages brand loyalty by delivering a smooth shopping experience.

The development process enriched our skills in full-stack web development, agile project management, database handling, authentication protocols, and customer-centric design.
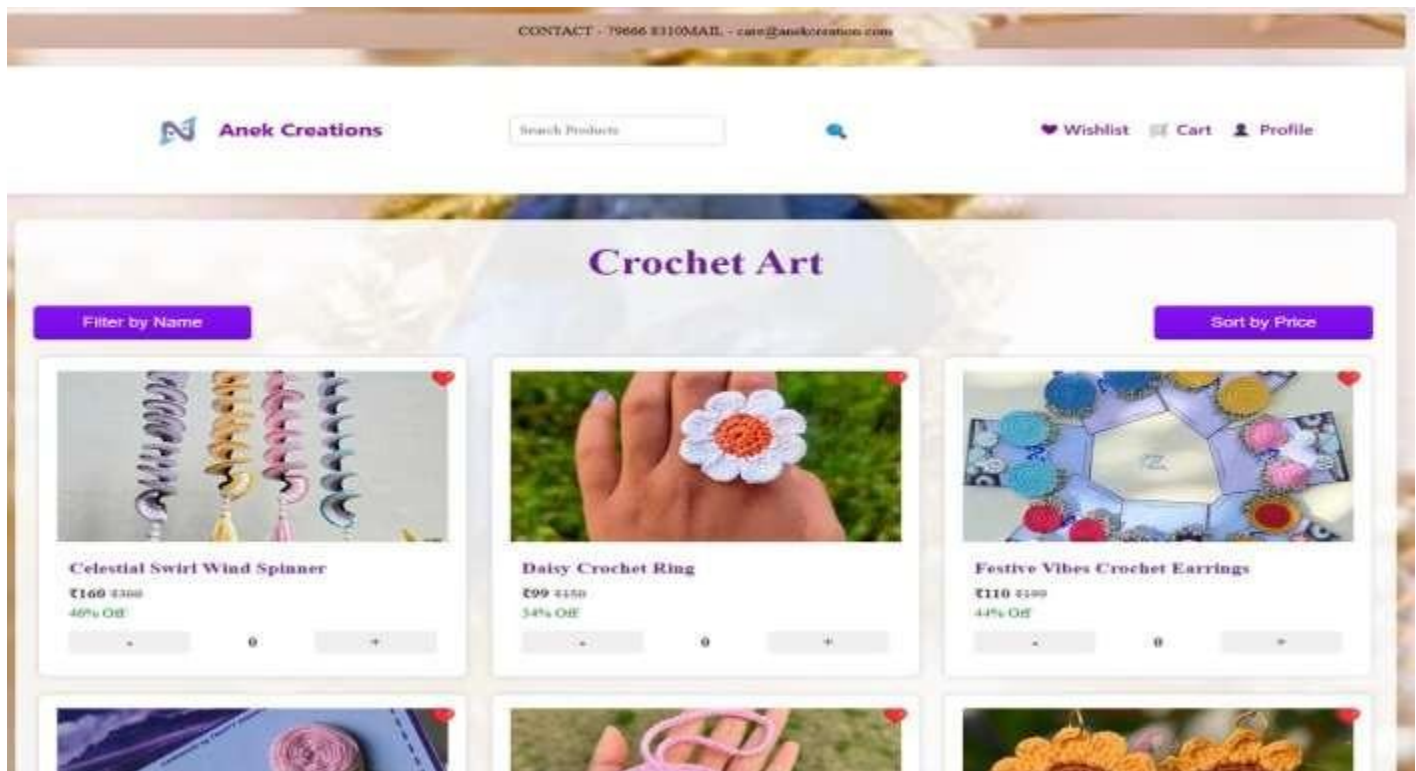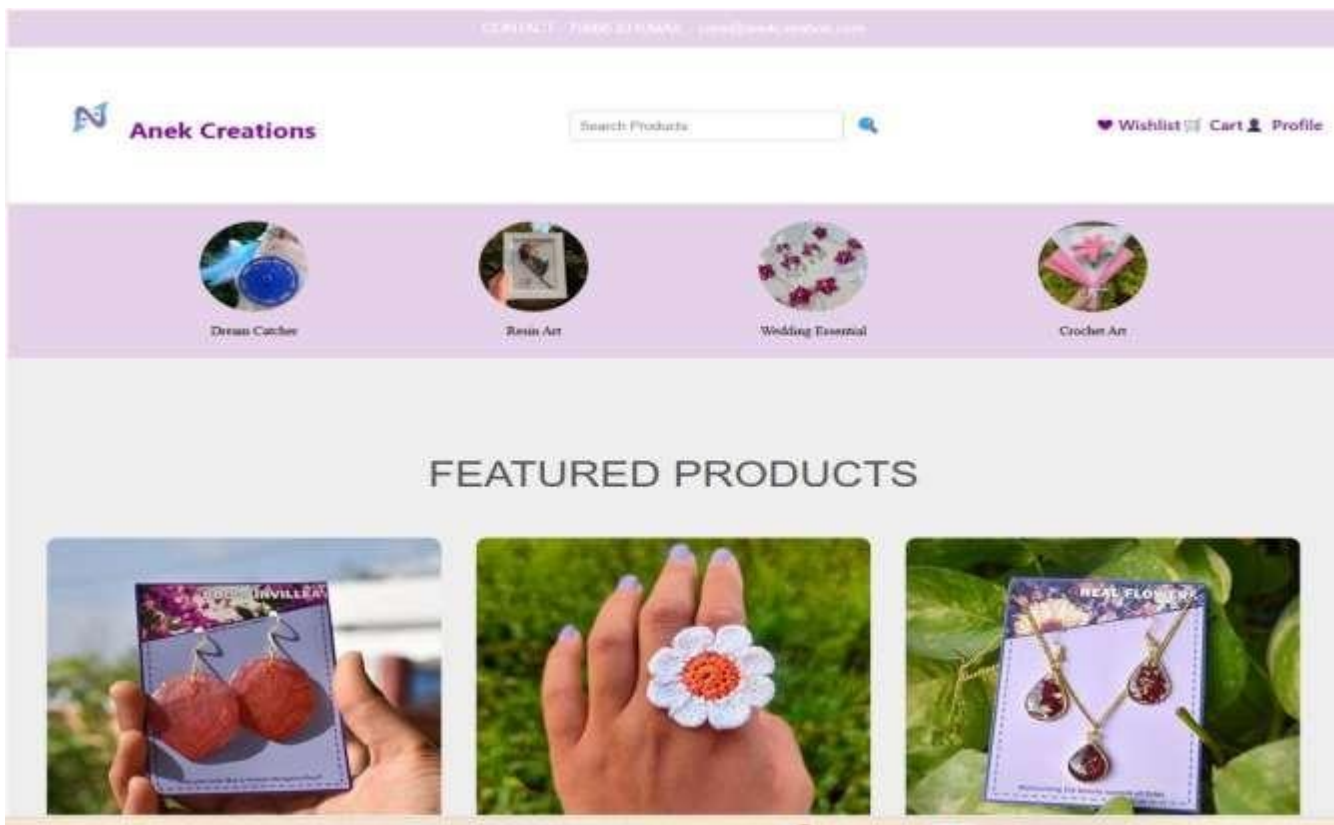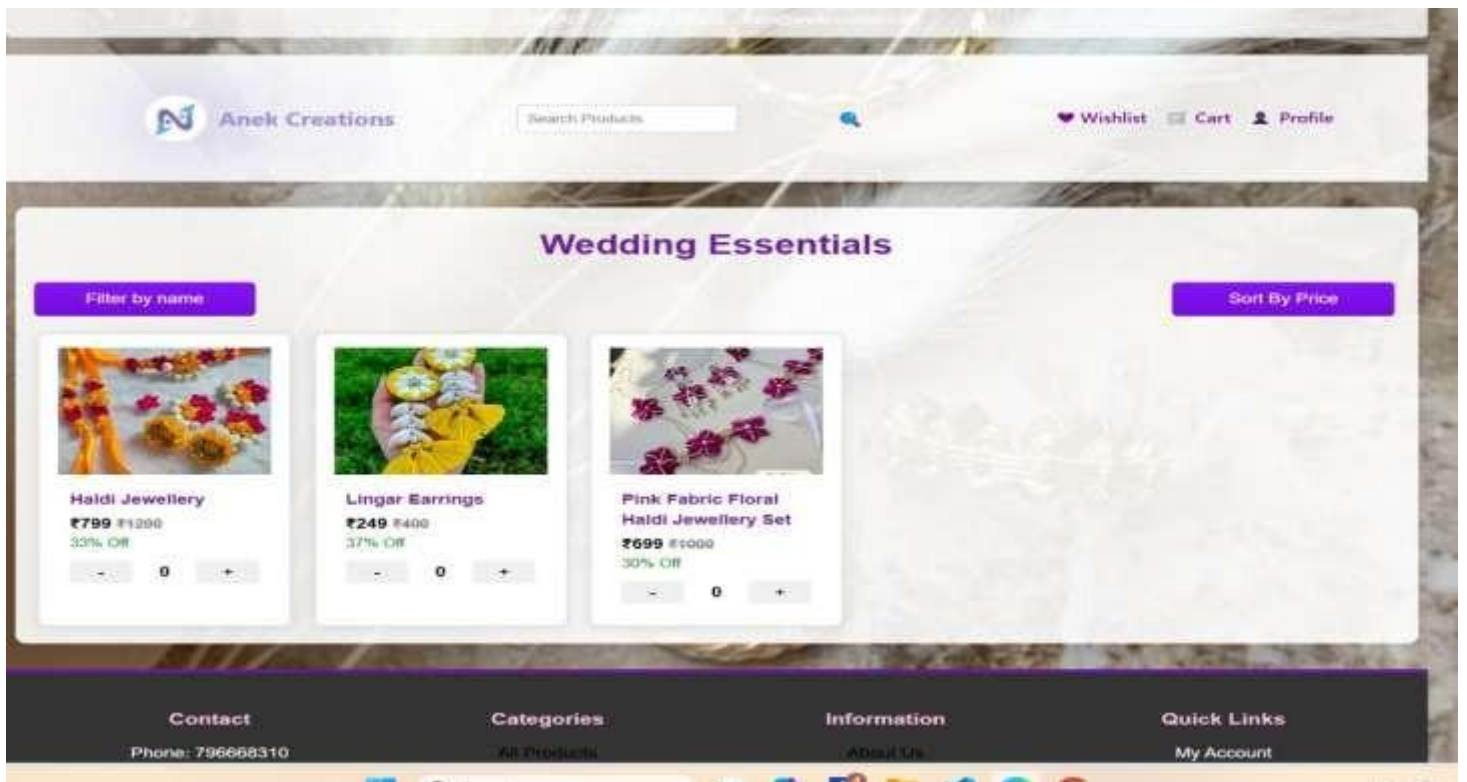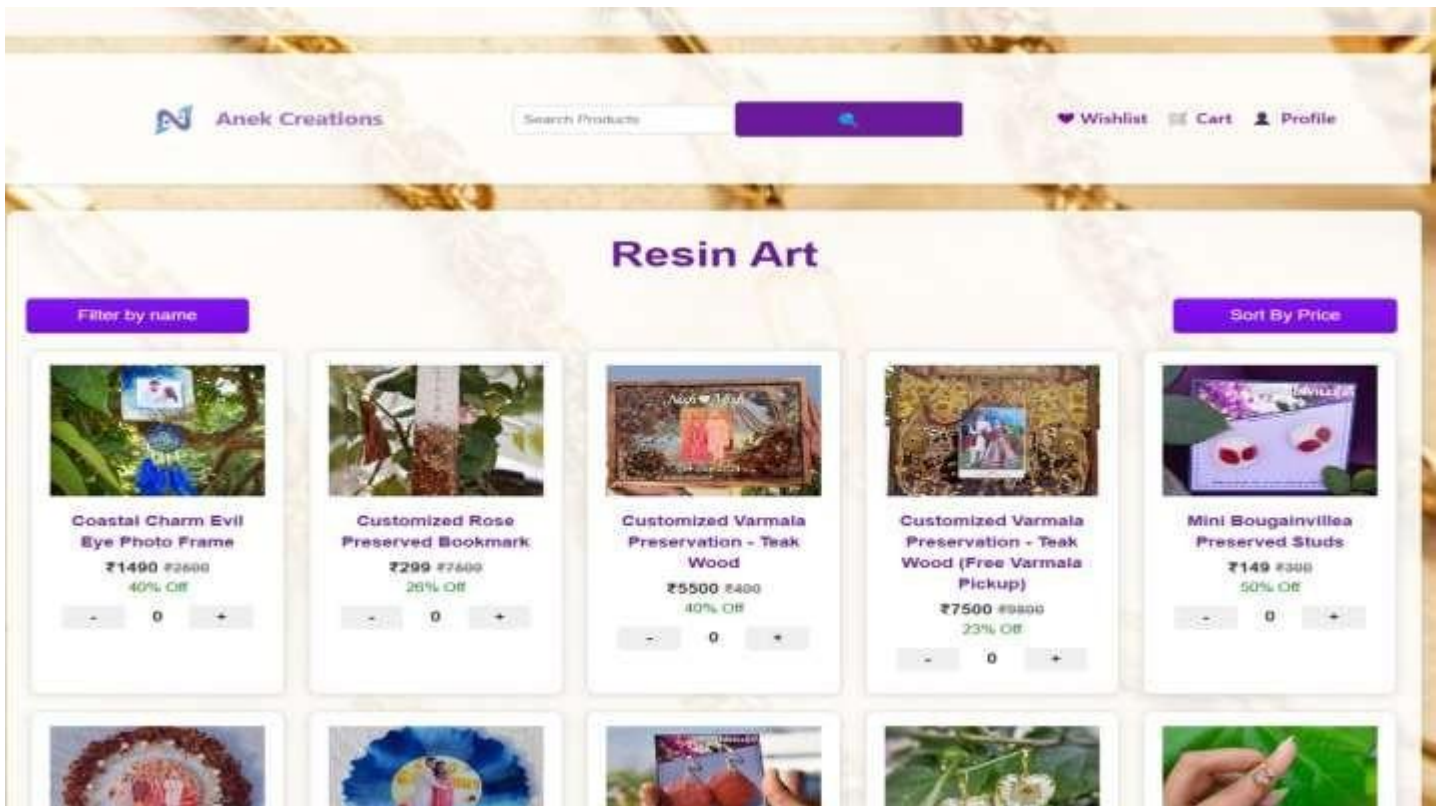
Future Scope

Several improvements and additional features have been identified for future implementation:

- **Online Payment Gateway Integration** (Stripe/Razorpay)
- **Advanced Search and Filtering** for better product discovery
- **Customer Chatbot Integration** using AI for real-time support
- **Product Reviews and Ratings** to build community trust
- **CMS Integration** for easier product and content management
- **Progressive Web App (PWA)** version for mobile-first experience
- **Social Media Marketing Tools** integration for brand promotion

With these features, the website can become a fully independent, scalable, and profitable platform for Anek Creations.

The GUI:

Resin Art

Filter by name

Sort By Price

Coastal Charm Evil Eye Photo Frame
₹1490 ₹2600
40% Off
− 0 +

Customized Rose Preserved Bookmark
₹299 ₹7600
26% Off
− 0 +

Customized Varmala Preservation - Teak Wood
₹5500 ₹400
40% Off
− 0 +

Customized Varmala Preservation - Teak Wood (Free Varmala Pickup)
₹7500 ₹9800
23% Off
− 0 +

Mini Bougainvillea Preserved Studs
₹149 ₹300
50% Off
− 0 +

Wedding Essentials

Filter by name

Sort By Price

Haldi Jewellery
₹799 ₹1200
33% Off
− 0 +

Lingar Earrings
₹249 ₹400
37% Off
− 0 +

Pink Fabric Floral Haldi Jewellery Set
₹699 ₹1000
30% Off
− 0 +

Contact	Categories	Information	Quick Links
Phone: 796668310	All Products	About Us	My Account

✨ **Some of Our Best Sellers** ✨

Crochet

SEE ALL OUR BESTSELLER

FEATURED PRODUCTS

Under ₹999

SHOP NOW

N **Anek Creations**

♥ Wishlist ⊟ Cart ⬤ Profile

OPEN FOR CUSTOMISATION

SCROLL DOWN TO UPLOAD YOUR IDEA AND HEAR FROM US SOON

Tell about your customisation here

Submit Idea

OR DM US ON OUR INSTA PAGE BY CLICKING ON THE INSTAGRAM ICON

N **Anek Creations**

♥ Wishlist ⊟ Cart ⬤ Profile

Your Shopping Wishlist

Snow Charm Car Hanging Dreamcatcher

Price: ₹160

Discount: 30% Off

0

Subtotal: ₹0

Remove

Dual Ring Car Hanging

Price: ₹240

Discount: 40% Off

0

Subtotal: ₹0

Remove

Evil Eye Dreamcatcher Keychain with Tassel

Price: ₹170

N **Anek Creations**   Search Products   🔍   ♥ Wishlist ▤ Cart 👤 Profile
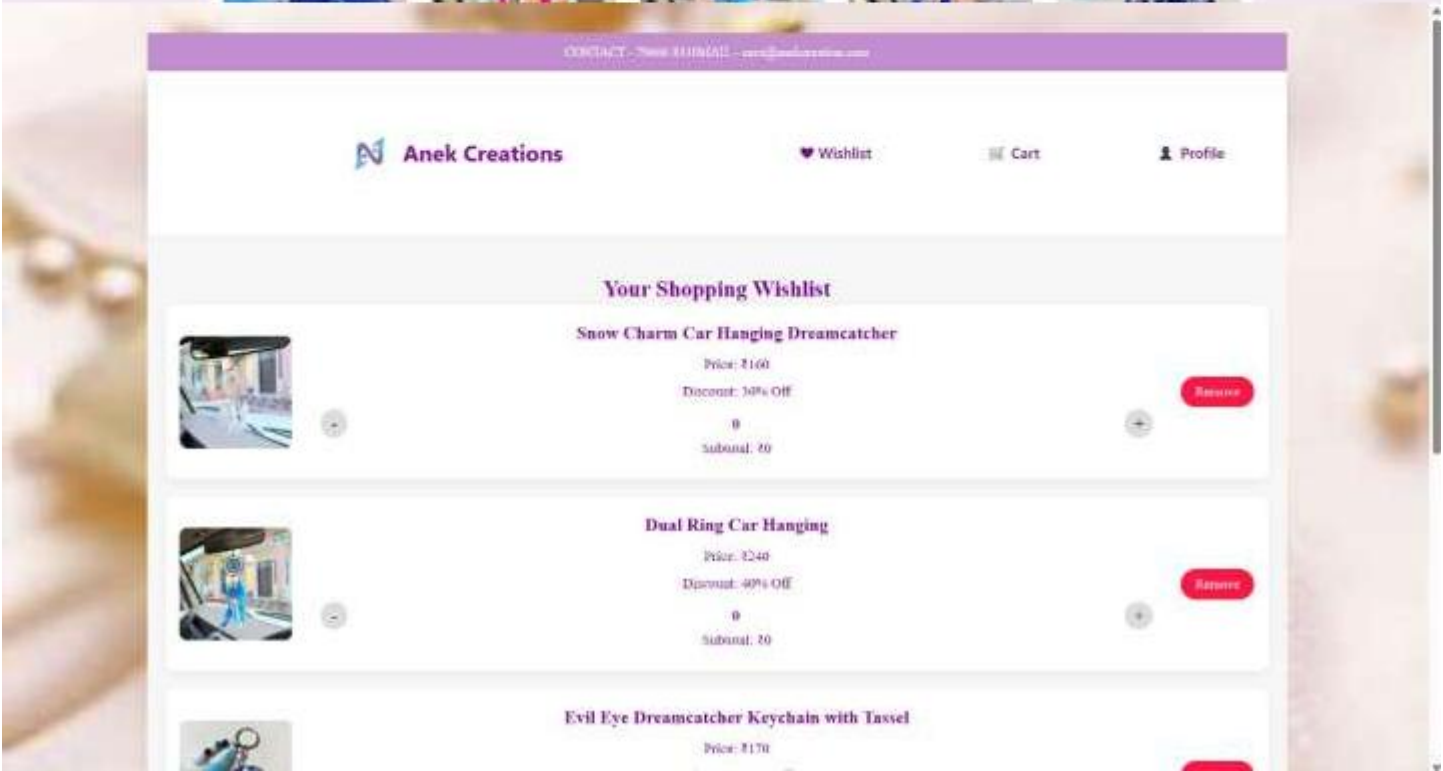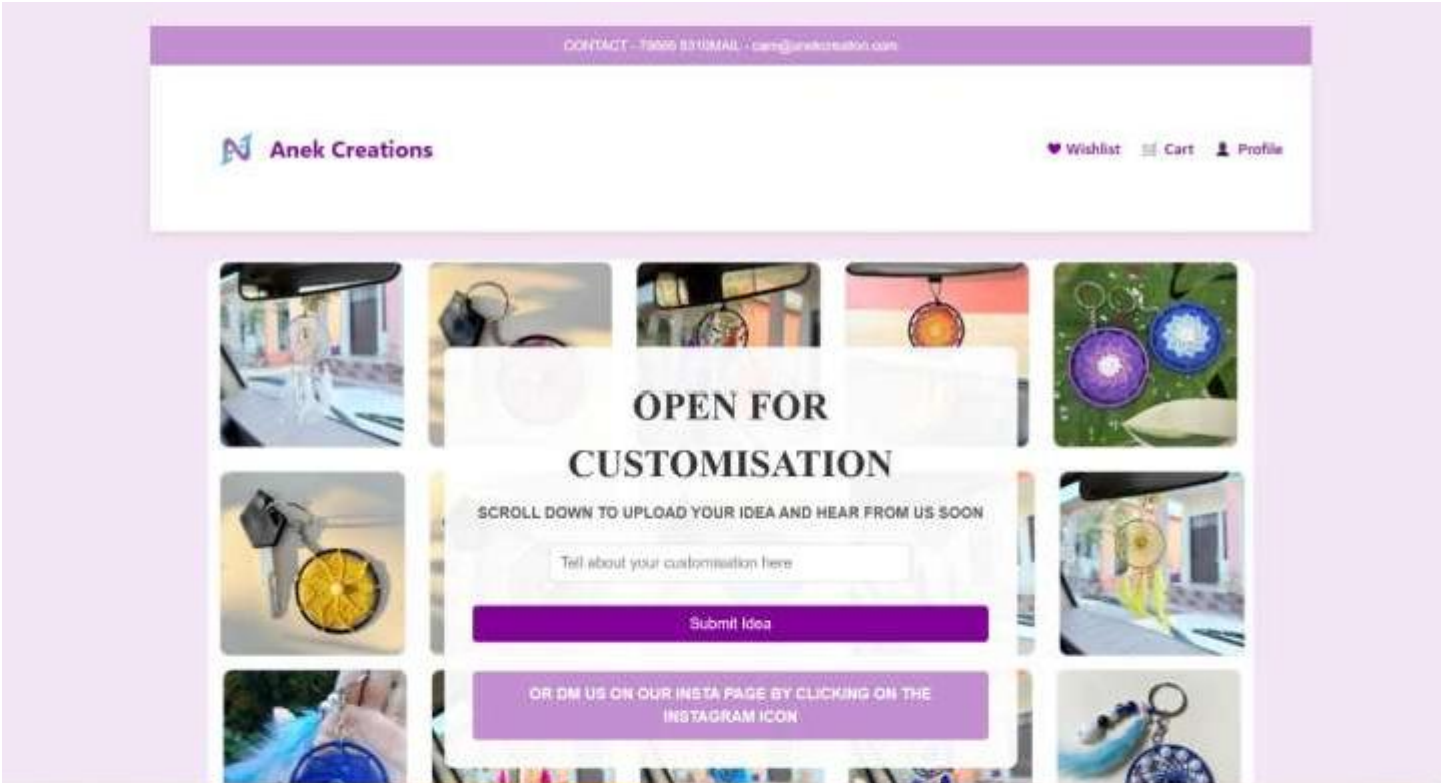
Frequently Asked Questions

What is your return policy?   +

How do I track my order?   +

Can I change my shipping address?   _

> Yes! Contact our support team within 24 hours to update your shipping details.

Do you offer gift packaging?   +

Can I request a specific color, design, or theme?   +

What materials do you use?   +

How can I contact you for any questions?   +

About Anek Creation

Welcome to Anek Creation, your premier online destination for unique and handcrafted goods. Founded with a passion for creativity and a commitment to quality, we strive to bring you a curated collection of products that reflect artistry, innovation, and individuality.

Our name, "Anek," meaning "many" or "various," embodies the diverse range of creations you'll discover in our store. From intricately designed apparel and handcrafted jewelry to thoughtfully curated home decor and personalized gifts, we offer something special for every taste and occasion.

Our Mission

At Anek Creation, our mission is to empower artisans and celebrate their skills by providing a platform to showcase their exceptional work. We are dedicated to fostering a community that values craftsmanship, ethical sourcing, and sustainable practices.

We believe in the beauty of handmade items and the stories they tell. By connecting you directly with the creators, we aim to offer a more meaningful and personal shopping experience.

Our Core Values

Creativity: We champion imaginative design and unique expressions.

Quality: We are committed to offering products crafted with care and attention to detail.

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N **Anek Creations**

Search Products 🔍

❤ Wishlist ⊞ Cart 👤 Profile

Anek Creations – Privacy Policy

This Privacy Policy describes how Anek Creations collects, uses, and shares your personal information...

Information We Collect

- Account Information (name, email, password)
- Order Information (products purchased, shipping address, billing address)
- Browsing Information (IP address, device type, pages visited)

How We Use Your Information

We use your information to process orders, personalize your experience, and communicate with you...

Data Security

We take reasonable measures to protect your personal information...

Contact	Categories	Information	Quick Links
Phone: 796668310	All Products	About Us	My Account
Email: care@anekcreation.com	Resin Art	Terms & Conditions	Order Track

What Our Customers Say

"I absolutely love my dream catcher! It's beautifully made and adds a lovely touch to my room."

- Sarah J.

"The resin art I purchased was stunning! It exceeded my expectations and looks amazing on my wall."

- Mark T.

"Anek Creations has the best handcrafted items. I always find unique gifts for my friends and family."

- Emily R.

🎉 900+ Happy Customers	Handcrafted Items	Great Prices	Timely Delivery

Contact	Categories	Information	Quick Links
Phone: 796668310	All Products	About Us	My Account
Email: care@anekcreation.com	Resin Art	Terms & Conditions	Order Track
	Crochet Art	Privacy & Policy	Questions?
	Jewellery		

Anek Creations

Search Products

♥ Wishlist 🛒 Cart 👤 Profile

Terms and Conditions

Please read these Terms and Conditions ("Terms") carefully before using the Anek Creation website (the "Service") operated by Anek Creations ("us", "we", or "our").

Your access to and use of the Service is conditioned on your acceptance of and compliance with these Terms. These Terms apply to all visitors, users, and others who access or use the Service.

By accessing or using the Service you agree to be bound by these Terms. If you disagree with any part of the terms then you may not access the Service.

Accounts

When you create an account with us, you must provide information that is accurate, complete, and current at all times. Failure to do so constitutes a breach of the Terms, which may result in immediate termination of your account on our Service.

You are responsible for safeguarding the password that you use to access the Service and for any activities or actions under your password, whether your password is with our Service or a third-party service.

You agree not to disclose your password to any third party. You must notify us immediately upon becoming aware of any breach of security or unauthorized use of your account.

Purchases

If you wish to purchase any product or service made available through the Service ("Purchase"), you may be asked to supply certain information relevant to your Purchase including, without limitation, your credit card number, the expiration date of your credit card, your

REFERENCES

- https://themauveunitx.com/

- https://www.amama.in/

- https://aashirs.com/

- https://phuljhadi.com/

- https://www.khoj.city/

- https://www.crunchyfashion.com/