

MINI PROJECT REPORT

APNA RATION

A PROJECT REPORT

Submitted by

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In partial fulfilment for the award of the degree of

MASTER OF COMPUTER APPLICATION (M.C.A)

**UNIVERSITY INSTITUTE OF COMPUTING DEPARTMENT
OF COMPUTER SCIENCE**



Chandigarh University

Academic Session: 2023-2025



BONAFIDE CERTIFICATE

Certificate that this mini project report “**Apna Ration**” is the Bonafide work of “**Anuj Kumar Singh (23MCA20631)**” who carried out the project work under my supervision.

SIGNATURE

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ABSTRACT

APNA RATION is a new born online portal to switch in the purchase of ration essential commodities supported by the government. The website actualizes the Digitizing of the public Distribution System where the Qualified consumers can easily buy essential food items including wheat, rice and sugar, cooking oil etc. This platform enables customers to access ration services from the comfort of their homes and hence reduce visits to FPS's, time spent in queues, time to fairs, and costs involved. This is one other advantage going to the low income earners and the countryside dwellers.

Besides, it will enable [the] government monitor the rationing supplies sector and decrease the general racket in all rackets and black markets by submitting all useful facts involved and avoiding fake records and dishonesty.

APNA RATION is completely secured which has the easiest method of registration procedure, eligibility verification by Aadhaar number, real site facility for tracking of order and Multiple online payment gateways available for security. With this, transparency is made more enhanced, accountability is accorded while and at the same time, the channel through which corruption and inefficiencies thrive is somewhat significantly blocked because rations can directly be distributed to confirmed beneficiaries. Further elements of the system including stock alert, distribution time- gives or help-desk would benefit the replenishment beneficiary. Technology has been associated with food security, therefore APNA RATION has set out to try and bring order into the act of distributing welfare so that leakage is loan, and the rightful recipients receive their products without undue delay or favouritism. This step marks a positive direction towards the broader government agenda of developing public welfare service to be more integrated, open and easily accessible in order to address food security issue.

INTRODUCTION

PDS individually is a significant part of Indian government's approach to attain food security for a large population of the households living below the poverty line. It functions to give out basic foods and utilities like wheat, rice and sugar, and kerosene at below market cost price. However, the conventional supply system has been characterized by a lot of drawbacks like corruption, leakage of supplies, inefficiency in the level of transparency, and a major drawback of stock-out in less equipped rural regions. To overcome the above challenges, the newly developed project known as APNA RATION aims to avail a portal, through which the beneficiaries can buy the ration online. The purpose of this paper is to discuss the concept of client, need and issue identification related to the APNA RATION project.

Importance and Relevance

This research-driven project focuses on the development of a web analytics dashboard named Apna Ration , designed to track and visualize key user interaction metrics for websites. The objective is to provide an insightful, beginner-friendly platform for understanding visitor behavior through modern data collection and analysis techniques. The project encompasses the creation of a responsive dashboard interface, integration with backend APIs, and incorporation of metrics such as page views, click events, and user engagement. It also explores the significance of real-time data monitoring in enhancing digital strategies, optimizing user experience, and enabling data driven decision-making for businesses and developers alike.

Introduction and Background of The Project

In today's digitally driven world, data is at the core of every successful online presence. Businesses, developers, and marketers rely heavily on understanding user behavior to refine their digital strategies and improve online performance. This project, titled Apna Ration – *Har Ghar Ration* was conceived to explore the impact of web analytics in optimizing user engagement and enhancing digital experiences.

Apna Ration is a custom-built web analytics dashboard designed to monitor and visualize real-time traffic and user events from a website. Unlike third-party platforms, this tool focuses on simplicity, customization, and direct integration with the web application, giving developers full control over their data. By tracking metrics like page visits, click-through patterns, and session durations, the project provides actionable insights to support digital growth and strategic refinement.

The key objectives of the project include:

- Building a responsive and interactive admin dashboard to display analytics
- Capturing frontend events using custom scripts

- Fetching and visualizing event data from the backend in real time
 - Simplifying analytics to make it accessible for small businesses or developers
 - Using data insights to improve user experience and content strategy
- Ultimately, represents a step toward more transparent, efficient, and insightful use of web analytics to fuel growth in the digital landscape.

Importance and Relevance

In an age where user attention is short and competition is high, understanding user behavior is crucial. This project is relevant as it highlights how:

- Web analytics drive data-informed decisions.
- Event tracking reveals which content or areas of a site engage users the most.
- Real-time dashboards help monitor trends and changes immediately.
- Custom analytics platforms offer control beyond traditional tools like Google Analytics.
- Data visualization improves the clarity of user interaction trends for stakeholders.

The project was executed with the following scope:

- Designing and developing an interactive, responsive analytics dashboard
- Capturing user events (clicks, page views) via frontend scripts
- Fetching, storing, and visualizing analytics data using backend APIs
- Presenting metrics in a clean UI for easy understanding and decision-making
- Ensuring responsiveness and usability across devices
- Exploring potential scalability and enhancements for broader use

Identification of Need

The problems with the Traditional PDS

The Public Distribution System which exists since long requires a new direction and despite its significant role, there is a variety of problems that does not lets it work efficiently. The key issues that demonstrate the need for an alternative solution such as APNA RATION include:

- **Lack of Accessibility:** Unfortunately, people in the remote areas are challenged in terms of mobility to access the Fair Price Shops (FPSs). This ultimately imply that many travel long distances in order to access specialized services, get time off work to source for the basic necessities of life.
- **Long Queues and Waiting Times:** In such cases and at those specific periods when FPS distribution is on high gear, long ques are evident despite availability of FPSs. This is a big issue particularly for the elderly, disabled or daily wage earners we lose a lot of time waiting to get our entitlements.

2.2 Requirements of Digitisation and Efficiency

In the light of the above mentioned challenges, it becomes easier to understand why a digital solution such as APNA RATION is necessary. The platform aims to bridge these gaps by leveraging technology to:

- **Improve Accessibility:** The APNA RATION enables the beneficiaries order their rations online hence no need to visit FPS physically. It is particularly helpful for regions where medium access to FPS is available as shown in the following equation 2.
- **Enable Portability:** Foreign employees find it hard to access rations in other states than the ones they come from. APNA RATION intends to overcome this lapse by ensuring that the ration being provided to the beneficiaries are portable in nature, meaning that the aforesaid can avail the rations coming under him/ her anywhere.

Relevant Contemporary Issues

The increased use of technology in delivery of public services is one of the most conspicuous trends of today's world; especially in developing nations. The aim of exercising the push towards e-governance is to minimize operational hitches, increase openness, and increase delivery standards. APNA RATION also follows this trend by going paperless in the PDS so that the beneficiaries can receive important services through what is now a norm, Digital interfaces.

3.2 Food Security Social Equity

This problem is especially relevant for India as a vast number of people there get foods at a thinly subsidized price. Despite the government investment, many people lack food and nutrients on their tables because the distribution of government food is often faulty. The APNA RATION project we

can open a new page in relation to food security as it can facilitate distribution and make sure the right commodities are reaching the right people at the right time.

Conclusion

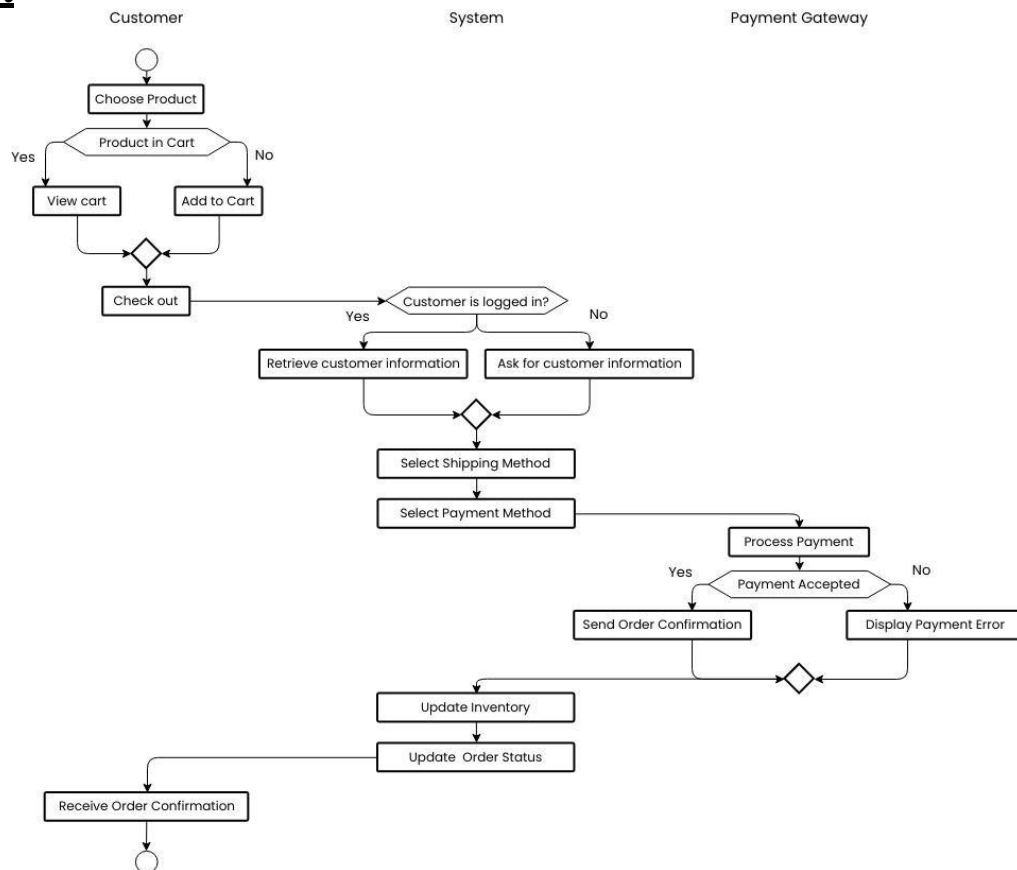
The APNA RATION project is worthy and pertinent intervention that responds to several existing challenges that are in the light of current phenomena of food insecurity, social injustice, and digital governance of public services delivery. In understanding the needs of its main target beneficiaries who include economically weak section, rural population, migrated workers and such similar group, the project turns out to be an effective model of addressing issues with the conventional Public Distribution System. By going digital, APNA RATION seeks to enhance accessibility, ease and transparency so that subsidies go directly to the targeted citizens. Long term, it provided a good example of the modernization of other programs of public welfare, as part of the development of the right and meaningful system of social protection in India.

Technologies Used:

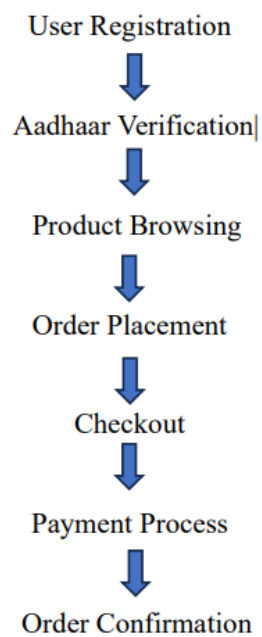
Basic technologies that are being specified for the establishment of the APNA RATION project include; Here are some of the key technologies used in the project:

1. Web Development
2. Aadhaar-Based Authentication
3. Digital Payment Gateways
4. Real-time Order Tracking
5. Database Management Systems

Flow chart



Design Flow Diagram



Description of Each Phase User Registration

Action: Users visit the APNA RATION website or mobile application and initiate the registration process by providing basic information (name, contact details, address).

\Aadhaar Verification

Action: Users enter their Aadhaar number for identity verification, which is cross-checked against government databases to confirm eligibility for ration services.

Product Browsing

Action: Users browse through the available ration items (e.g., wheat, rice, sugar, cooking oil) and can use search filters to find specific products.

Order Placement

Action: Users select the desired ration items, specify quantities, and add them to the shopping cart.

Checkout

Action: Users review their selected items in the cart and proceed to checkout, where they can make changes if necessary.

Payment Process

Action: Users select a preferred payment method (UPI, credit/debit card, net banking) and complete the transaction.

Goal: Ensure secure and smooth processing of payments.

Order Confirmation

Action: After successful payment, users receive an order confirmation via SMS/email, including details of their purchase and expected delivery time.

Goal: Provide users with assurance that their order has been successfully placed.

Delivery Process

Goal: Ensure timely delivery of rations and keep users informed about the status of their orders.

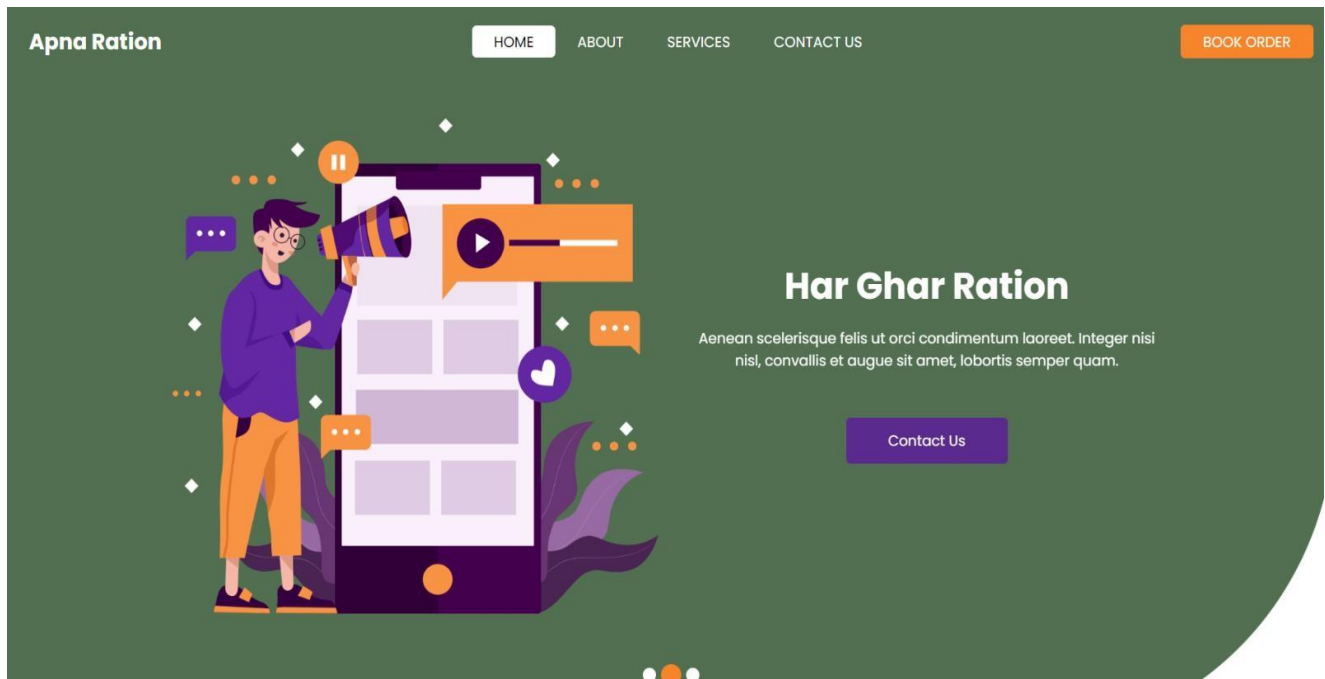
Customer Support

Action: Users can access customer support for any inquiries, complaints, or assistance regarding their orders. This can include live chat, email, or helpline options.

Conclusion

The flow of design of APNA RATION is primarily focused on developing a convenient and easy to use portal for food rations subsidized by the government. In this way, as each phase of the process has been described, the platform can meet the needs of the user while providing a secure method of registration and delivery. This design flow is thus important in improving the accessibility, disclosure and accountability of the public distribution system.

Design Selection:



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Online Payment

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3.6 Implementation plan/methodology:

On-Page SEO Techniques

On-Page SEO was implemented during the development phase to ensure each page is search engine friendly. Techniques applied include:

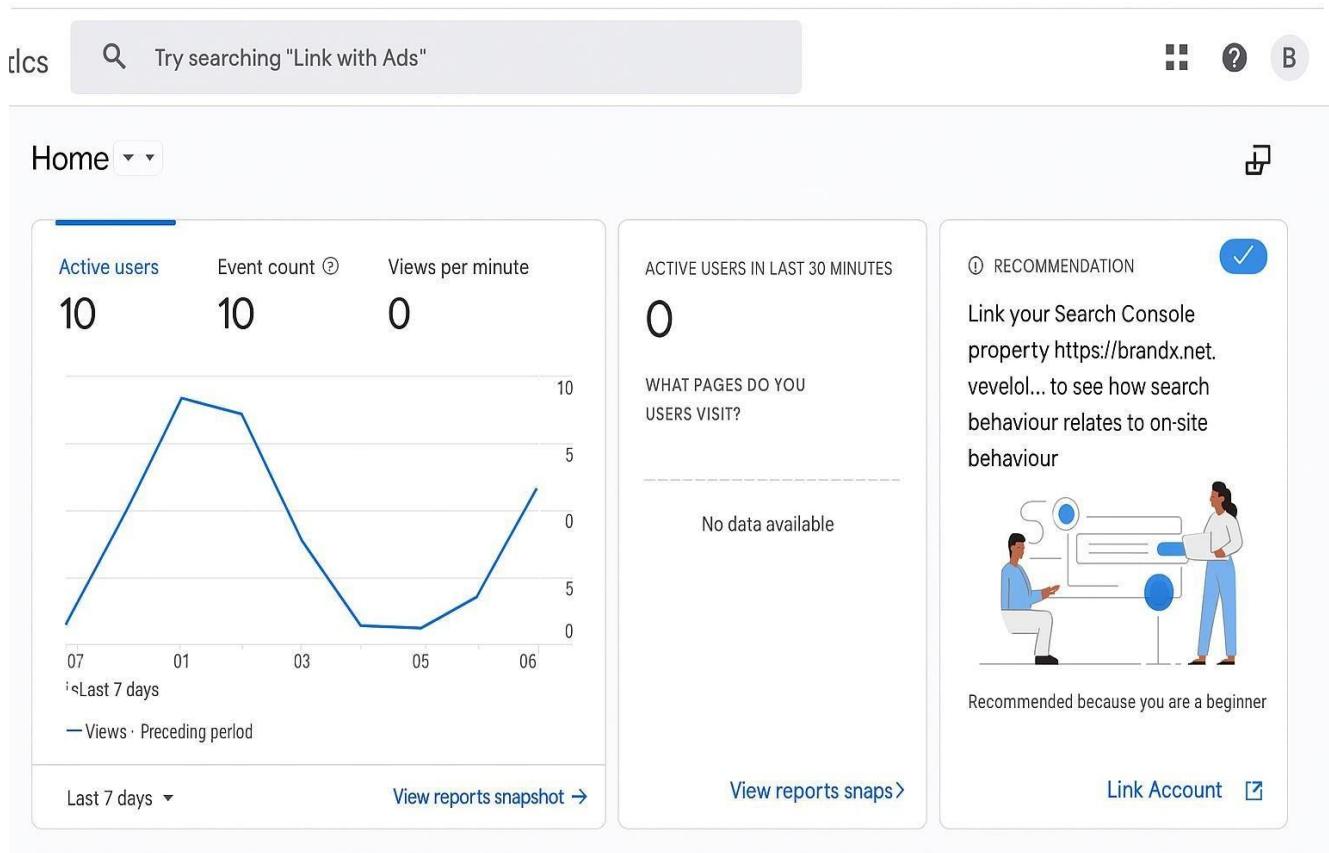
- Proper use of <title>, <meta> tags, and structured headings (<h1> to <h3>)
- SEO-friendly URLs
- Image optimization using alt attributes
- Internal linking between sections of the page
- Schema markup for better SERP (Search Engine Results Page) presence
- meta tags:
- Internal and external linking

Off-Page SEO Activities

Off-Page SEO focuses on increasing the website's authority and relevance through external efforts:

- Created a **Facebook Page** for Footcap and regularly posted promotions
- Shared the landing page link across personal and community social platforms
- Built backlinks from blog sites and free directories
- Submitted website to Google for indexing

Google Analytics dashboard:



Google Search Console Configuration

Google Search Console was used to:

- Submit sitemaps
 - Monitor keyword rankings
 - Detect indexing issues
 - Track performance metrics like impressions, CTR, and page positions
- Steps Taken:
1. Verified domain using HTML meta tag in the site <head>.
 2. Submitted the sitemap.
 3. Monitored the "Performance" and "Coverage" tabs regularly.
- Google Search Console (verify ownership of our website with Google)

Social Media Marketing

As part of the Off-Page SEO, we implemented a **social media marketing strategy**:

- Created content with visuals, product descriptions, and CTAs
 - Shared blogs and product posts on Facebook
 - Scheduled consistent posts to increase page reach and engagement
- Tools Used:
- Canva for creatives
 - Facebook Insights to monitor post performance

Blog Content Strategy

We created a blog as a supporting content platform to:

- Drive traffic through long-tail keywords
 - Establish topical authority
 - Link back to the main landing page (backlinking)
- Our blog content focused on:
- Product care tips
 - Shoe trends and styling advice
 - Behind-the-brand stories
- Blogging Platform: **Blogger**

Final Evaluation and Continuous Improvement

After analyzing the results and validating the platform, it's crucial to evaluate the overall success of the project based on the key metrics and user feedback. If any gaps or issues are identified during this process, corrective actions should be taken immediately. This may include:

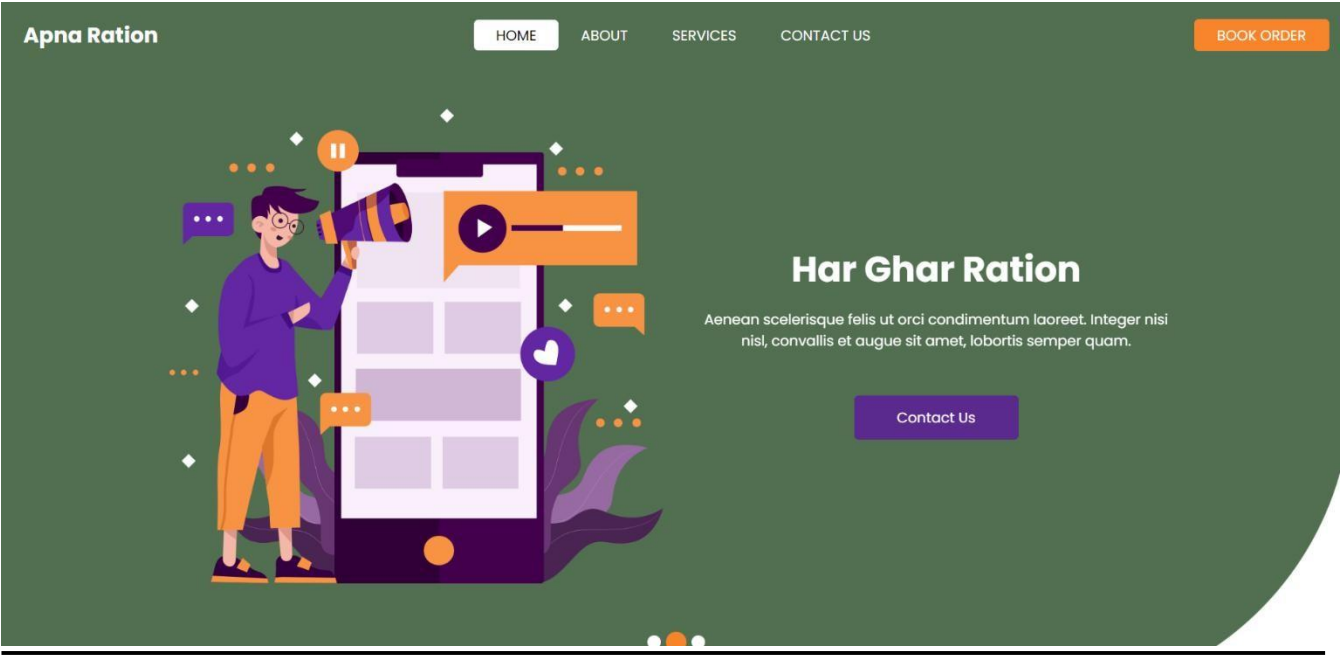
- Refining features based on user feedback.
- Optimizing performance for better speed and reliability.
- Enhancing security measures based on the results of the security audit.

Additionally, a mechanism for ongoing monitoring and continuous improvement should be established to ensure that APNA RATION continues to evolve and meet the needs of its users.

Conclusion


The Results Analysis and Validation phase ensures that the APNA RATION platform functions as intended, providing an effective and secure service for government-subsidized ration distribution. Through performance analysis, functional validation, and user feedback, the platform can be continuously improved to better serve its users, ensuring long-term success and sustainability in meeting its food security objectives.

HOME PAGE




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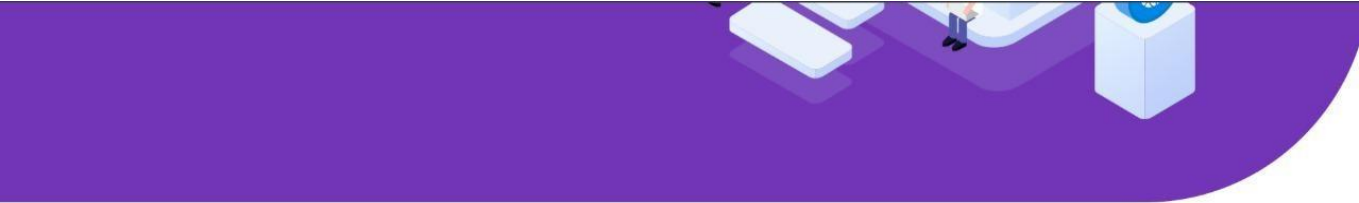
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About Us



Apna Ration

Necessary, making this the first true generator on the Internet. It uses a dictionary of over 200 Latin words, combined with a handful

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Outcomes:

The Web Analytics Minor Project delivered a range of successful outcomes, both technical and strategic. Throughout the development and optimization of the landing page for BrandX, we effectively applied classroom concepts in a real-world e-commerce scenario and tracked measurable results through analytics and engagement tools. Key Outcomes:

- **Responsive Landing Page Live on Netlify**

The BrandX landing page was successfully deployed on <https://volute-apna-db4e88.netlify.app/>, accessible to the public and optimized for mobile and desktop users.²⁶

- **Basic SEO Best Practices Implemented**

On-page SEO techniques like meta tags, keyword placement, heading structures, and image alt tags were applied, improving crawlability and content relevance.

- **Google Analytics Operational**

Google Analytics helped us track and understand traffic trends, user engagement, bounce rates, and session durations. This enabled data-driven decisions for content and layout improvements.

- **Search Console Insights**

The landing page was submitted to Google Search Console, where we analyzed impressions, clicks, and keyword rankings. Any coverage errors were identified and resolved.

- **Social Media Engagement**

We created a Facebook page for BrandX and gained organic reach by sharing regular content such as offers, product showcases, and blog updates. Engagement metrics helped us understand audience preferences.

- **Content-Driven Blog Strategy**

Our blog supported Off-Page SEO and established niche authority by targeting relevant, long-tail keywords related to Summer Cloth and styling. Blog articles also generated backlinks to the main site.

Conclusion:

This project was a significant milestone in translating our theoretical knowledge of web development, SEO, and digital marketing into practical application. By working on *Apna Ration*, an ecommerce platform for summer clothing, we realized the importance of not just creating an aesthetically pleasing website, but also building a data-driven and strategically optimized platform for user engagement and brand growth.

We successfully:

- Built and deployed a fully responsive, SEO-friendly landing page using modern front-end technologies.
- Integrated real-time web analytics tools like Google Analytics to track visitor behavior, session duration, bounce rates, and interaction flow.²⁷

- Developed a connected admin dashboard to monitor user activity and gain insights into customer preferences and website usage patterns.
- Created a consistent content strategy through blog posts and social media updates, aimed at increasing user interaction and brand relevance.
- Applied both on-page and off-page SEO techniques to improve organic search rankings, increase discoverability, and drive meaningful traffic to the site.
- Gained hands-on experience with industry-standard tools used for keyword tracking, backlink monitoring, and site performance analysis.

This project also marks the beginning of our journey into data-driven decision-making, where each design and content decision was backed by analytics and user feedback. We learned how digital branding is not a one-time task but a continuous process of monitoring, refining, and optimizing.

Moving forward, has the potential to grow as a sustainable and scalable digital brand.

With regular updates, targeted marketing campaigns, and performance reviews, the platform can serve as both a learning model and a foundation for future e-commerce ventures

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