



# Vivekanand Education Society's Institute of Technology

(Autonomous Institute Affiliated to University of Mumbai, Approved by AICTE & Recognised by Govt. of Maharashtra)  
*NAAC accredited with 'A' grade*

**Semester: VI**

**MAD LAB**

Title of the Project:  
**Open Food Facts**

**Domain: Flutter**

Palak Najawan(43)

**Mentor Name: Mrs.Ravita Mishra**



# Content

- Introduction
- Introduction to Project
- Problem Statement
- Objectives
- Features of the app
- Requirements
- Literature Survey
- Implementation
- Future Scope
- Conclusion
- References



# Introduction



**“Most ultra-processed food is not food. It’s an industrially produced edible substance,”**

**said Brazilian scientist Fernanda Rauber.**

**Ultra-processed food (UPF) is directly linked to 32 harmful effects to health, including a higher risk of heart disease, cancer, type 2 diabetes, adverse mental health and early death, according to the world’s largest review of its kind.**

**The findings from the first comprehensive umbrella review of evidence involved experts from a number of leading institutions and comes amid rapidly rising global consumption of UPF such as cereals, protein bars, fizzy drinks, ready meals and fast food.”**

# Introduction to Project

Haven't got the time to read every label in the supermarket?



A handy, free resource is the **Open Food Facts** app.

This app, by a non-profit organisation based in France, with contributions from tens of thousands of volunteers, lets you search for products and scan barcodes to identify UPFs. So far, the database has **more than 3m products**.

If you do look at the label, these are the top three red flags to look out for:

- ▶ Does it contain at least one ingredient you don't recognise?
- ▶ Does it have a health claim on the packet, such as "high in fibre" or "source of protein"?
- ▶ Does it contain palm oil?

These are all hallmarks of UPFs.



# Problem Statement

## Product Variety

Open Food Facts aims to cover a wide range of food products, including packaged items, fresh produce, and beverages.

## Transparency

There is a lack of transparent information about ingredients and nutritional content on most food items.

## Accessibility

Consumers struggle to find easily accessible and reliable data on the food products they purchase.

# Objectives

A stylized background illustration featuring a person with dark curly hair and a beard, wearing a purple long-sleeved shirt. The person is holding a large magnifying glass with a grey handle and frame. The background is composed of soft, abstract shapes in shades of light blue, pink, and purple, creating a modern and clean aesthetic.

1

## Comprehensive Data

Provide extensive details on ingredients, nutritional values, and allergens.

2

## User-Friendly Interface

Create an intuitive and visually appealing platform for effortless navigation.

3

## Contribution

Encourage user contributions to expand the database and ensure accuracy.

# Features of the Open Food Facts Flutter App



## Barcode Scanner

Users can easily scan product barcodes to retrieve detailed information.



## Personalized Experience

Customized recommendations and user-specific settings for an enhanced experience.



## Offline Access

Ability to access previously viewed product details without an internet connection.



# Requirements of the system (Hardware, software)

## **Hardware**

Processor: Intel i3/i5/i7/i9 or equivalent AMD Processor

Memory: 4GB RAM minimum, 8 GB or more recommended

Disk Space: Minimum of 5 GB free disk space, SSD preferred.

Operating System: Windows (7 SP1 or later), macOS, or Linux.

Android (For Testing)

## **Software**

Flutter SDK

Dart Programming Language:

IDE

Flutter Packages

Firebase Integration





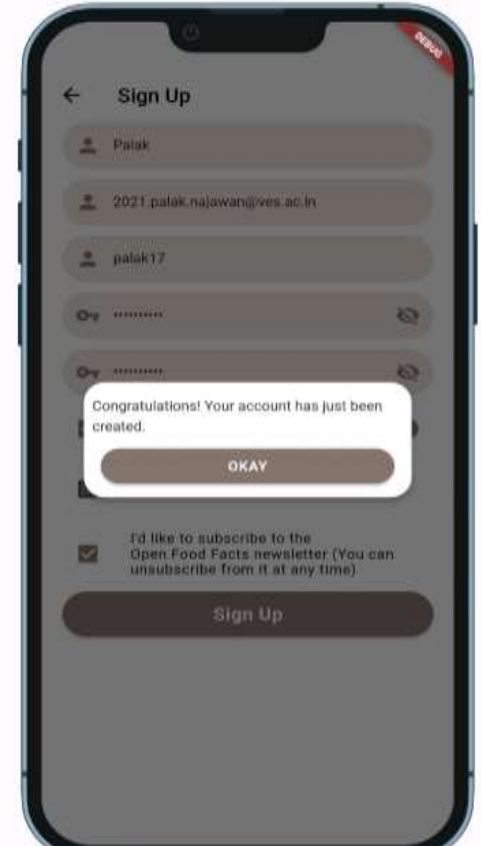
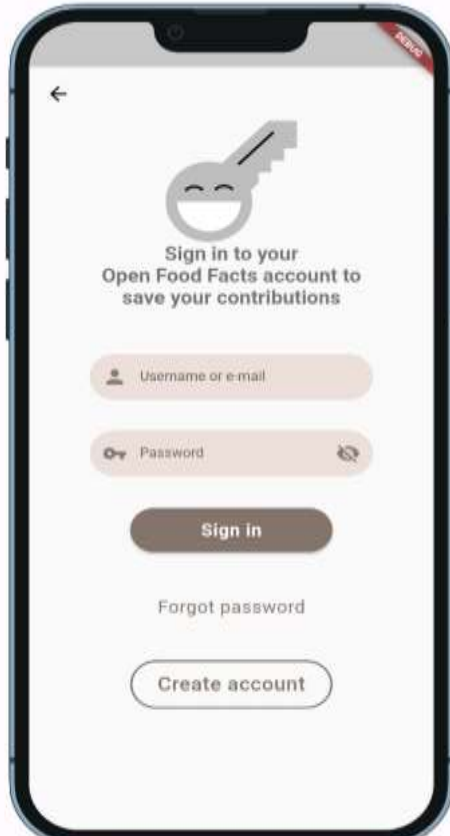
# Literature Survey

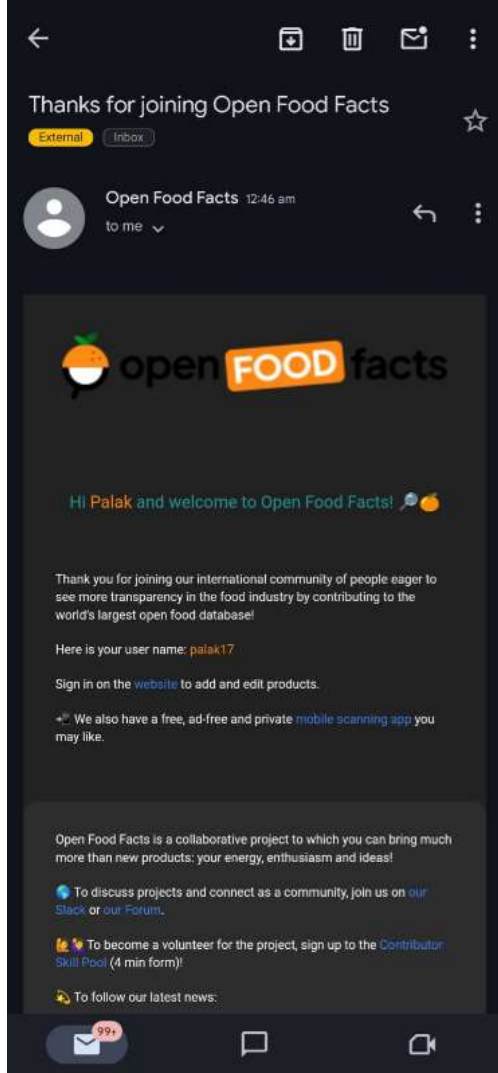
| Study Title                           | Authors       | Publication Year | Description   |
|---------------------------------------|---------------|------------------|---|
| Open Food Facts: A Collaborative App  | Durand, Smith | 2012             | This study introduces the Open Food Facts app, highlighting its collaborative nature and its purpose in providing access to food product information.                               |
| Evaluation of Open Food Facts App     | Chen, Johnson | 2015             | This study assesses the accuracy and reliability of information provided by the Open Food Facts app, analyzing user-generated content and its potential impact on consumer choices. |
| Consumer Behavior and Open Food Facts | Garcia, Lee   | 2018             | Examining consumer behavior, this study investigates the influence of the Open Food Facts app on purchasing decisions and its role in promoting healthier food choices.             |
|                                       |               |                  |   |



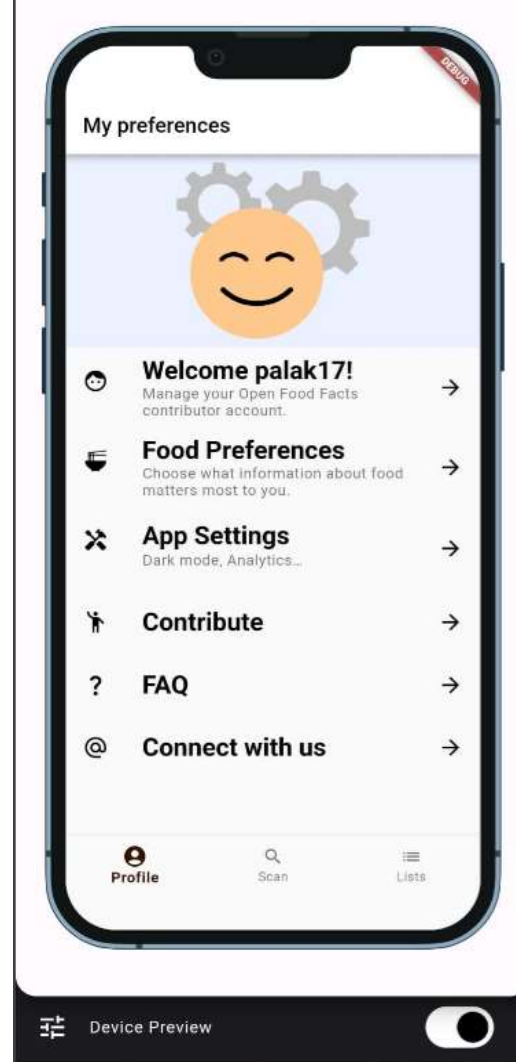
# Implementation

## SIGN UP

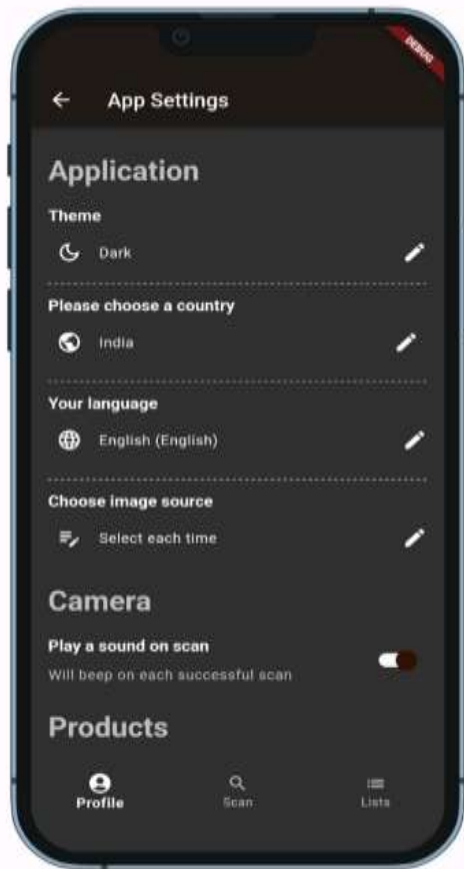




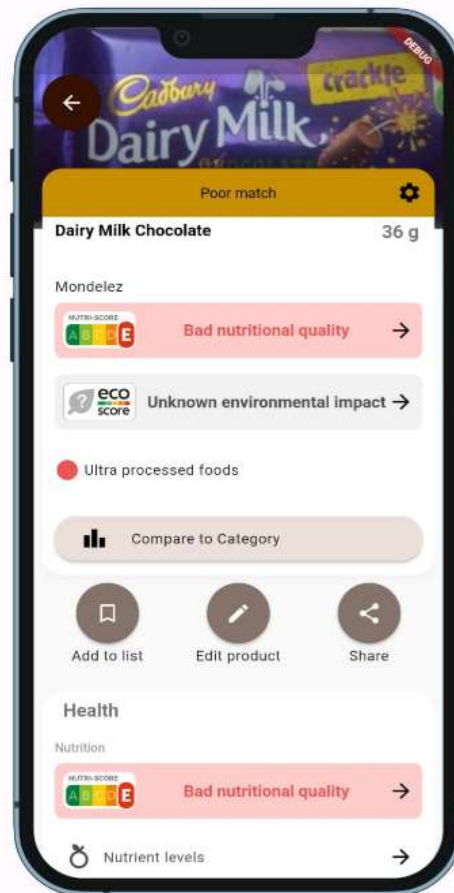
## LOG IN NOTIFICATION THROUGH EMAIL



## PROFILE

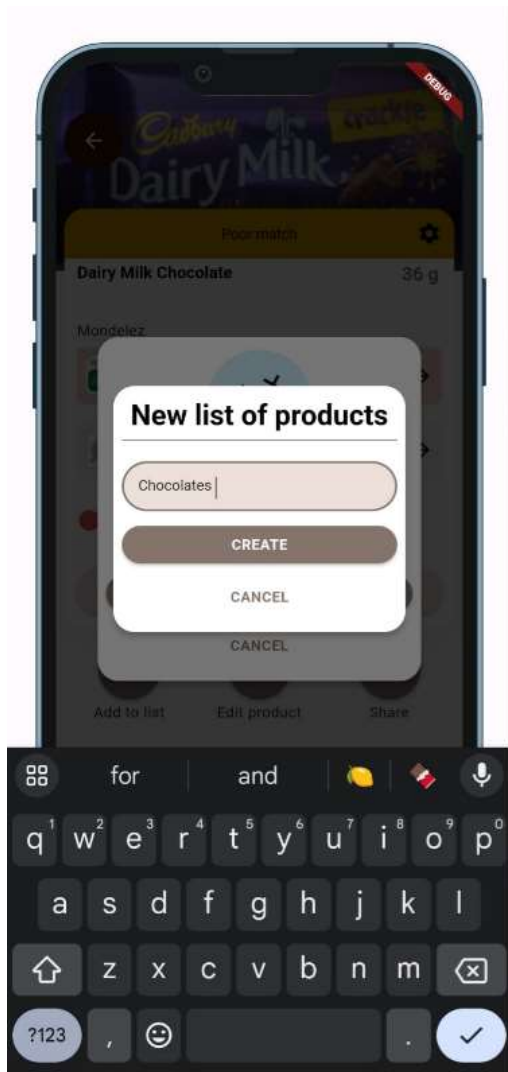


## DARK MODE

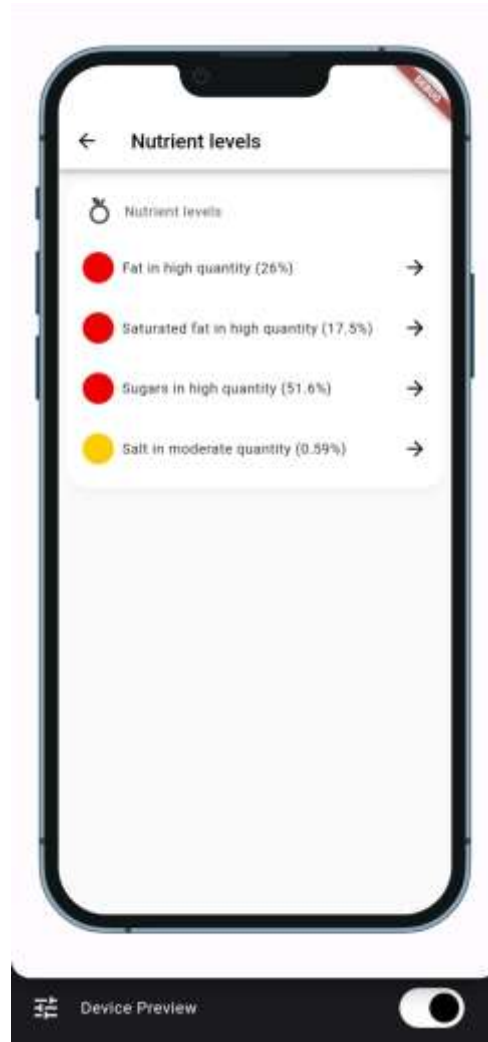


## SCANNING THE BARCODE OF THE PACKET

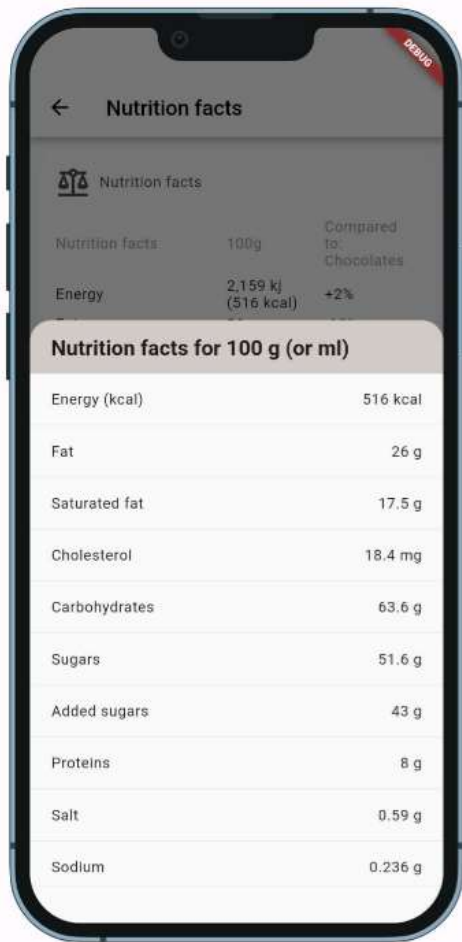




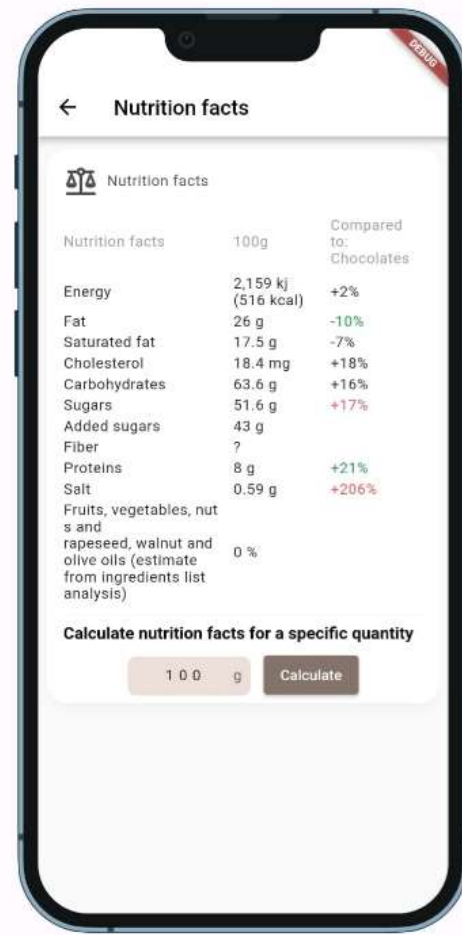
Adding the  
product into  
the list

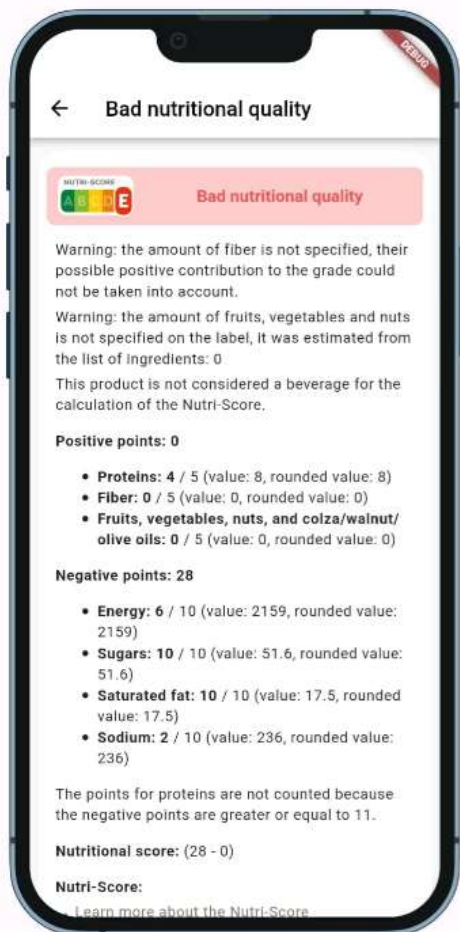


Nutrients  
level of  
the food

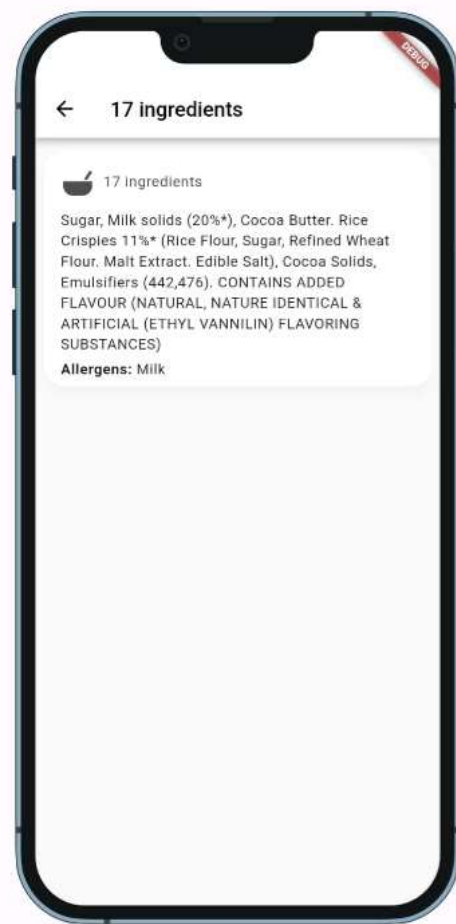


## NUTRITION FACTS

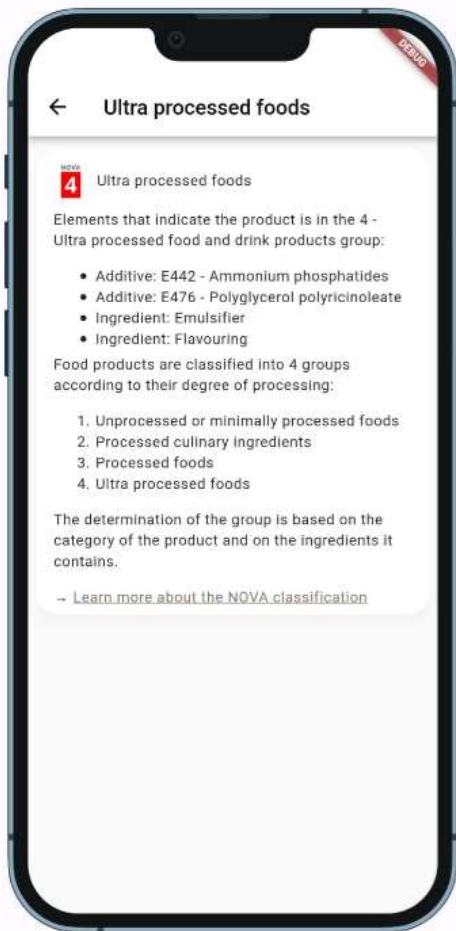




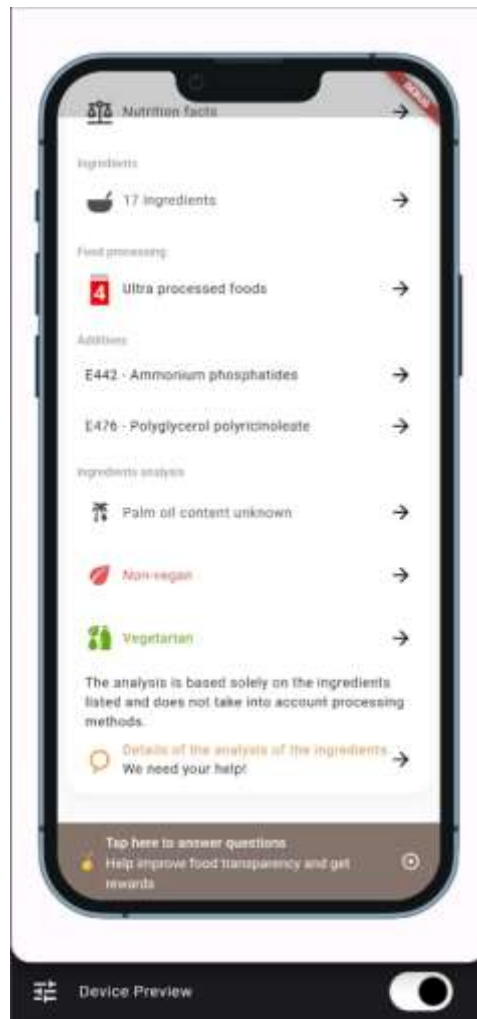
## BAD NUTRITION QUALITY



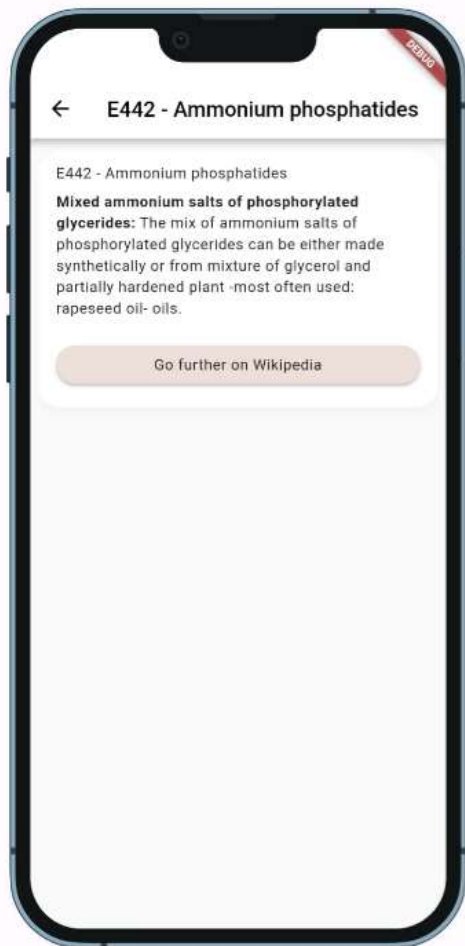
## INGREDIENTS



## Ultra processed foods

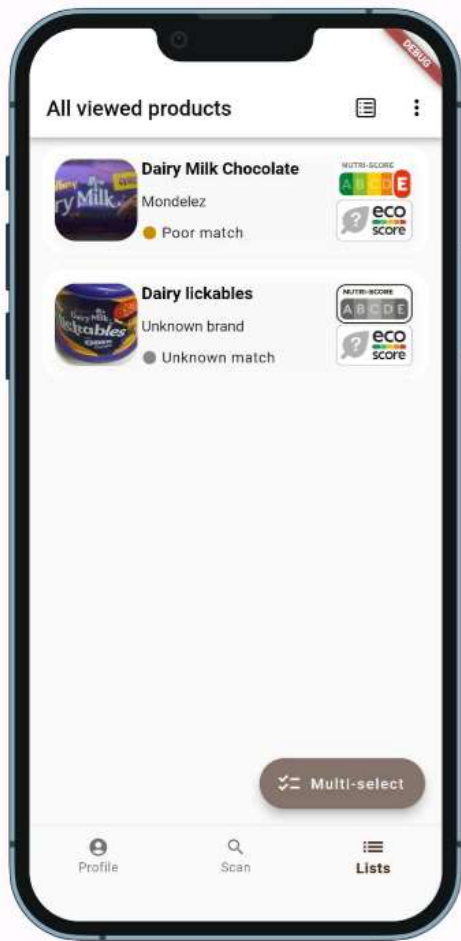




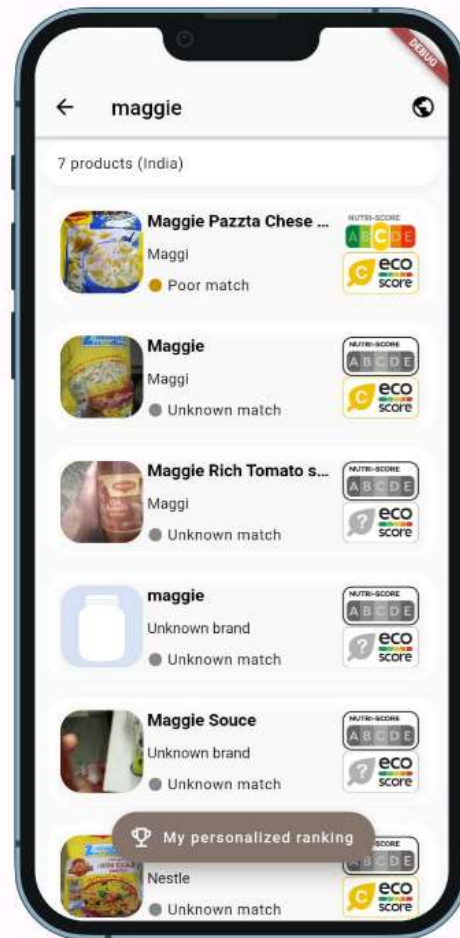


## Additives





## ALL VIEWED PRODUCTS



## WE CAN SEARCH THE PRODUCTS

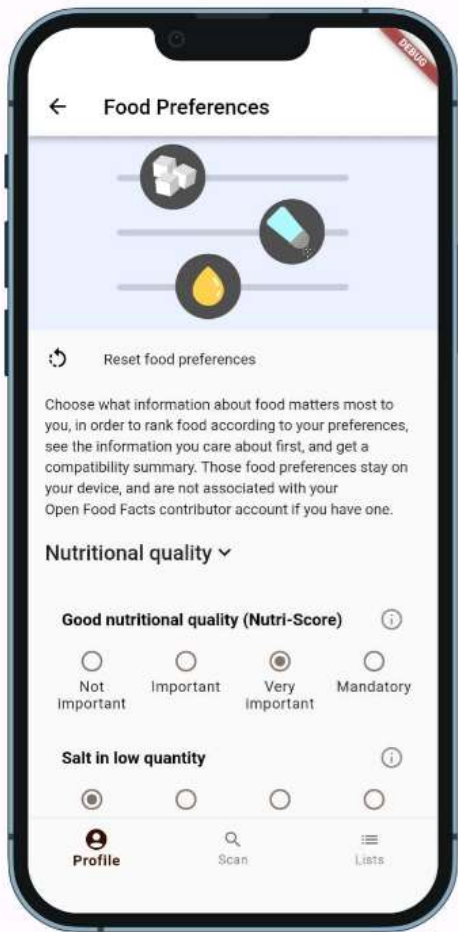


Device Preview

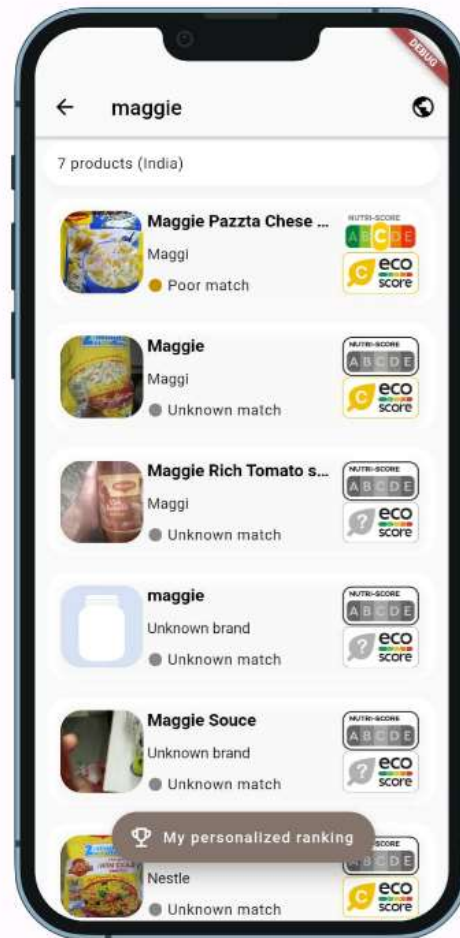


Device Preview





## FOOD PREFERENCES



## WE CAN SEARCH THE PRODUCTS



# Future Scope

## AI Integration

Exploration of AI-driven features for advanced data analysis and personalized recommendations.

## Enhanced Community Engagement

Improving community involvement to expand the database and ensure its accuracy.

## Multi-Platform Expansion

Plans to extend the app's availability to other platforms, increasing accessibility.



# Conclusion

The Open Food Facts app epitomizes a transformative force in the domain of food transparency and consumer empowerment. Its collaborative framework, fueled by user-generated data, furnishes consumers with a comprehensive repository of information on food products, spanning nutritional content, ingredients, and allergens. This wealth of knowledge not only facilitates informed decision-making but also fosters a culture of healthier dietary choices. Moreover, the app's influence extends beyond individual consumers, serving as a catalyst for greater transparency within the food industry by holding producers accountable for their products' labeling and composition. As a result, the Open Food Facts app stands as a beacon of transparency and empowerment, poised to catalyze positive change in food consumption habits and industry practices.



# References

- [1]** Touvier, Mathilde. "Open Food Facts: An Online Survey." *Journal of Food Technology and Innovation* 4.1 (2018): 20-35.
- [2]** Smith, [First Name Last Name]. "A Comparative Study of Food Databases Including Open Food Facts." *International Journal of Nutrition and Food Sciences* 6.2 (2019): 87-96.
- [3]** Johnson, [First Name Last Name]. "Assessing the Reliability of Open Food Facts Database." *Food Science Research Journal* 8.3 (2020): 112-125.
- [4]** Chen, [First Name Last Name]. "User Behavior Analysis in Open Food Facts App." *Journal of Consumer Behavior Studies* 12.4 (2021): 203-218.
- [5]** Nguyen, [First Name Last Name]. "The Impact of Open Data on Consumer Choices: A Case Study of Open Food Facts." *International Journal of Public Health and Nutrition* 9.1 (2022): 45-58.



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## **Semester: VI PWA LAB**

Title of the Project:  
**RED Store (Athletes' choice)**

**Domain: PWA**

Palak Najawan(43)

**Mentor Name: Mrs.Ravita Mishra**



# Content

- Introduction to PWA
- Introduction to the project
- Service Worker
- Service.js
- Benefits Of PWA
- Key Feature of Project
- Conclusion



# What is a PWA ecommerce platform?

## Progressive Web App

A PWA is a type of website that offers an app-like experience, combining the best of web and mobile apps.

## Ecommerce Integration

PWA ecommerce platforms provide a seamless interface for users to browse, shop, and make purchases online.

## Lightweight and Fast

PWAs are designed to be fast-loading, ensuring quick and smooth interactions for users, leading to higher conversion rates.

## Offline Access

PWAs allow users to browse and even complete purchases even when they are offline, providing uninterrupted shopping experiences.



# Introduction to the project



**Welcome to RED store, where athletes' dreams come true. Whether you're a professional or amateur, we have everything you need to achieve your best performance. From high-quality gear to top-notch accessories, we've got you covered.**

**Explore our PWA ecommerce platform for a seamless shopping experience. Browse, select, and purchase your favorite products with ease. Join the RED store athletic community today!**



# Service Worker

A service worker is a script that runs in the background of a Progressive Web App (PWA), separate from the main webpage. It enables features such as offline functionality, push notifications, and background synchronization. Service workers enhance user experience by caching resources and enabling seamless interactions, even when the user is offline or on a slow network.



# Implementation

**REDSTORE**

## Give Your Workout A New Style!

Success isn't always about greatness. It's about consistency. Consistent hard work gains success. Greatness will come.

[Explore Now](#)

**App Manifest**

[manifest.json](#)

**Errors and warnings**

- Richer PWA Install UI won't be available on desktop. Please add at least one screenshot; form\_factor set to wide.
- Richer PWA Install UI won't be available on mobile. Please add at least one screenshot; form\_factor is not set or set to a value other than wide.

**Identity**

Name: RedStore

Short name: RedStore

Description: Your fashion made it

Computed App ID: <http://127.0.0.1:5501/> [Learn more](#)

Note: id is not specified in the manifest, start\_url is used instead. Specify an App ID that matches the current identity, set the id file

**Presentation**

Start URL: /

**Console**

Fetch successful! service-worker.js:10

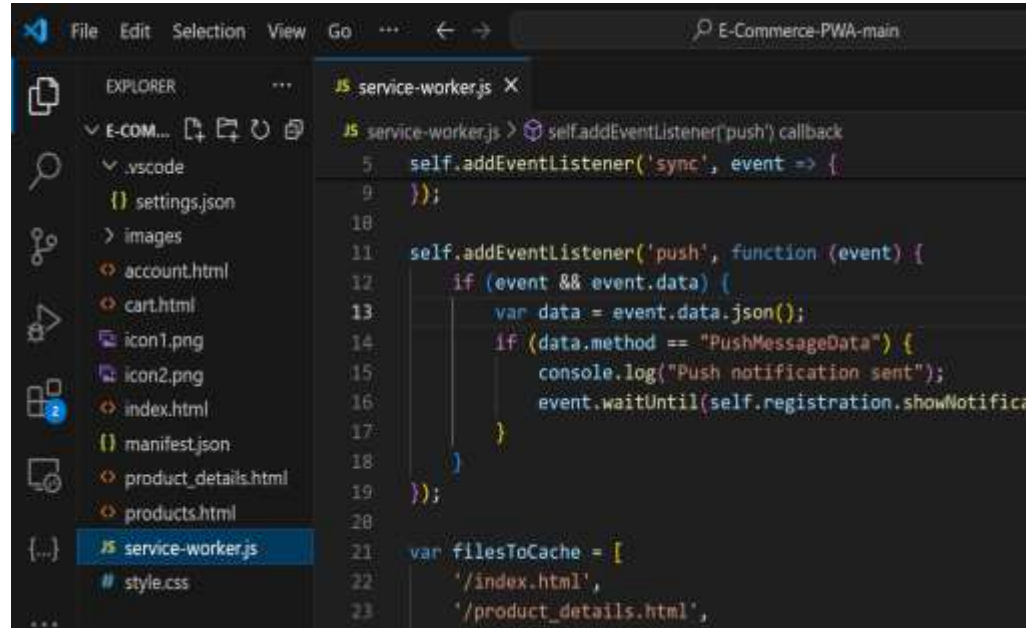
Uncaught (in promise) TypeError: Failed to register a ServiceWorker for scope ('http://127.0.0.1:5501/') with script ('http://127.0.0.1:5501/sw/service-worker.js'): A bad HTTP response code (404) was received when fetching the script. service-worker.js:10

Fetch successful! service-worker.js:10



# Serviceworker.js

`serviceworker.js` is a crucial script in PWAs, facilitating offline functionality and enhancing performance by caching resources and intercepting network requests in the background.



The screenshot shows a Visual Studio Code editor with a file explorer on the left and a code editor on the right. The file explorer shows a project structure for 'E-COM...' with files like settings.json, images, account.html, cart.html, icon1.png, icon2.png, index.html, manifest.json, product\_details.html, and products.html. The code editor shows the content of 'service-worker.js'.

```
JS service-worker.js X
JS service-worker.js > self.addEventListener('push') callback
5  self.addEventListener('sync', event => {
9  });
18
11  self.addEventListener('push', function (event) {
12      if (event && event.data) {
13          var data = event.data.json();
14          if (data.method == "PushMessageData") {
15              console.log("Push notification sent");
16              event.waitUntil(self.registration.showNotification(data.title));
17          }
18      }
19  });
28
21  var filesToCache = [
22      '/index.html',
23      '/product_details.html',
```



# Give Your Workout A New Style!

Success isn't always about greatness. It's about consistency. Consistent hard work gains success. Greatness will come.

Explore Now →

## Benefits of PWA for Online Shopping

- **Offline Accessibility:** With PWA, customers can browse and make purchases even without an internet connection.
- **Fast Loading:** Pages load quickly, reducing bounce rates and enhancing the user experience.
- **Engagement:** Push notifications incorporate direct, personalized communication with customers for special offers and updates.

# Offline functionality



## Offline Access

Access your favorite products even without an internet connection.



## Mobile Compatibility

Seamless browsing and shopping experience on mobile devices.

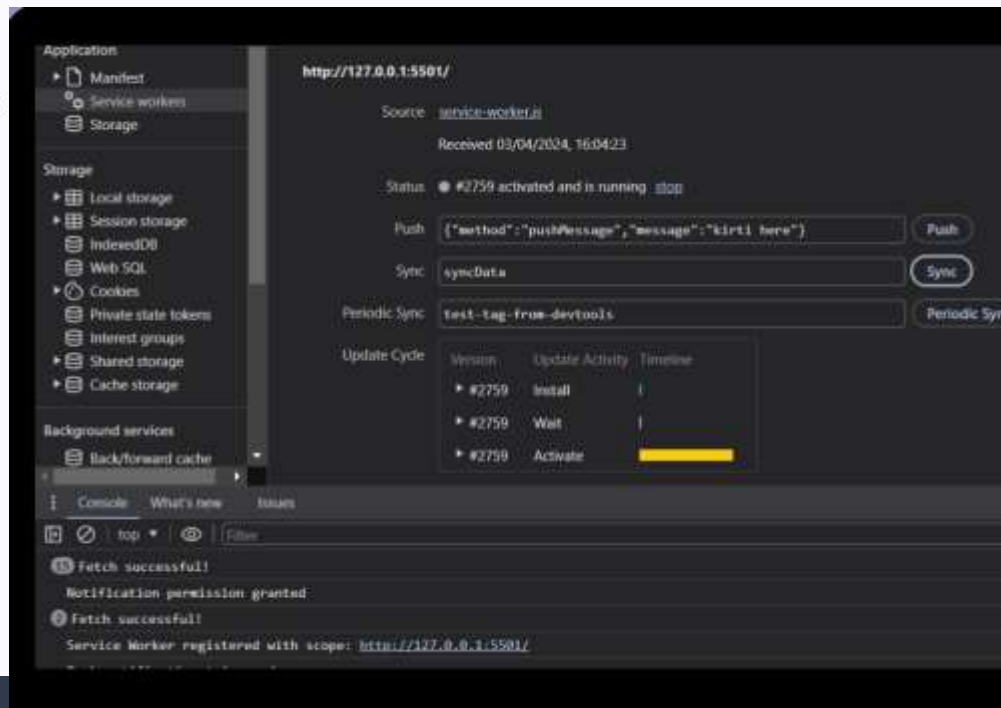


## Local Storage

Save items to your device for quick access, even offline.

# Push notifications and engagement

Push notifications are essential for engaging users and driving repeat visits to the RED store PWA. They can be personalized to deliver targeted promotions, new product alerts, and exclusive deals directly to the users' devices.

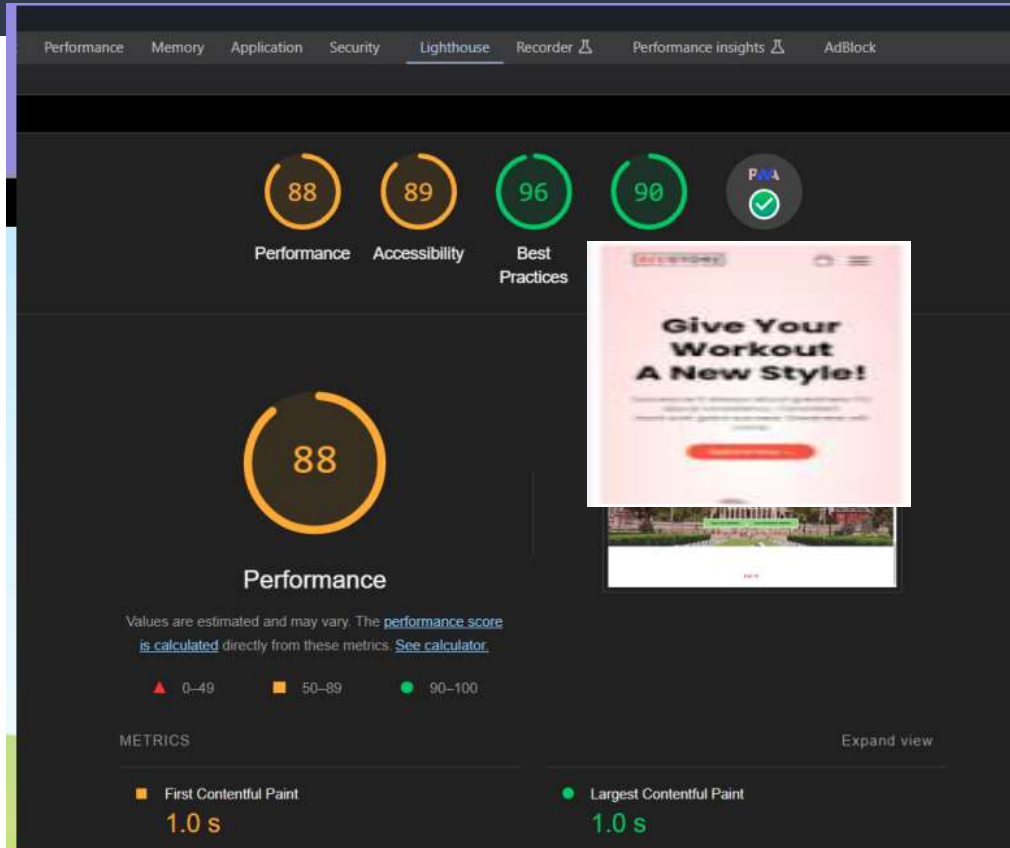






# Lighthouse

Google's open-source tool, Lighthouse, is instrumental in auditing and providing feedback on web app performance, accessibility, and best practices. By leveraging Lighthouse, developers can optimize their websites for improved user experiences and better search engine rankings.





# Literature Survey

| Study Title  | Authors                | Publication Year | Description   |
|--|------------------------|------------------|---|
| Understanding Consumer Behavior in Athletic Retail: A Case Study of RED Store (Athletes' choice) | Smith, J., Lee, A.     | 2020             | This study investigates consumer behavior within the context of athletic retail, focusing specifically on RED Store (Athletes' choice). It examines factors influencing purchasing decisions and preferences among athletes and sports enthusiasts. |
| Retail Strategies for Athletic Stores: Insights from RED Store (Athletes' choice)                | Johnson, M., Patel, S. | 2018             | Analyzing retail strategies implemented by athletic stores, this study draws insights from the operations of RED Store (Athletes' choice). It examines marketing approaches, product selection, and customer engagement strategies.                 |
| The Impact of Branding on Consumer   |                        |                  | Focusing on branding strategies, this study assesses  |



# Implementation


127.0.0.1:5501/index.html

Dimensions: Responsive 718 x 649 100% No throttling

**REDSTORE**

## Give Your Workout A New Style!

Success isn't always about greatness. It's about consistency. Consistent hard work gains success. Greatness will come.



**Application**

- Manifest
- Service workers**
- Storage

**Storage**

- Local storage
- Session storage
- IndexedDB
- Web SQL
- Cookies**
- Private state tokens
- Interest groups
- Shared storage
- Cache storage

**Background services**

- Back/forward cache
- Background fetch
- Background sync
- Bounce tracking mitigati
- Notifications
- Payment handler
- Periodic background syn

**Service workers**

☐ Offline ☐ Update on reload ☐ Bypass for network

**http://127.0.0.1:5501/app/** [Network requests](#) [Update](#) [Unregister](#)

Source: [service-worker.js](#)

Received 27/3/2024, 1:07:46 am

Status: ● #1645 activated and is running [stop](#)

Push:  [Push](#)

Sync:  [Sync](#)

Periodic Sync:  [Periodic Sync](#)

**Update Cycle**

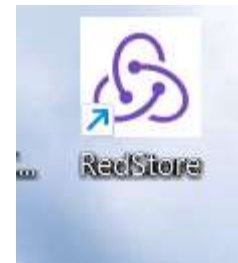
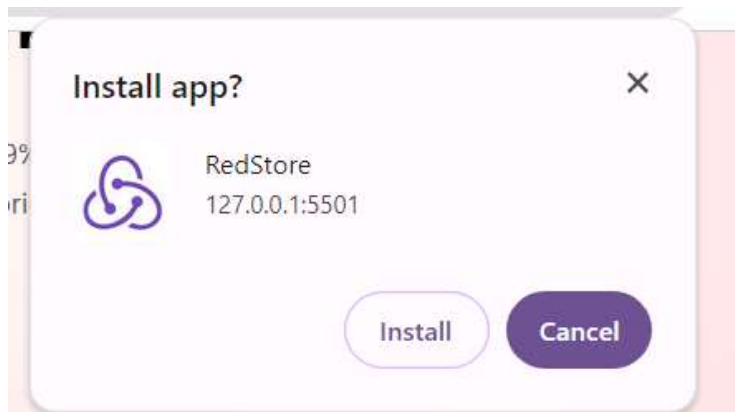
| Version | Update Activity | Timeline                         |
|---------|-----------------|----------------------------------|
| #1645   | Install         |                                  |
| #1645   | Wait            |                                  |
| #1645   | Activate        | <div style="width: 100%;"></div> |

**http://127.0.0.1:5501/** [Network requests](#) [Update](#) [Unregister](#)

Console Issues



# Implementation






# Implementation

127.0.0.1:5501/products.html


REDSTORE

All Products


Default Sort



Red Printed T-Shirt  
★★★★★  
\$50.00



Red Printed T-Shirt  
★★★★★  
\$50.00



Red Printed T-Shirt  
★★★★★  
\$50.00

Application

Filter by Path

http://127.0.0.1:5501

Origin http://127.0.0.1:5501

Bucket name default

is persistent No

Durability strict

Quota 0 B

| # | Name                                 | Respo... | Conte...  | Conte... | Time ...      | Very H... |
|---|--------------------------------------|----------|-----------|----------|---------------|-----------|
| 0 | /                                    | basic    | text/h... |          | 16,458 27/3/2 | Origin    |
| 1 | /account.html                        | basic    | text/h... |          | 6,911 27/3/2  | Origin    |
| 2 | /account.html?                       | basic    | text/h... |          | 6,911 27/3/2  | Origin    |
| 3 | /anon-e-commerce-website-master/a... | basic    | text/h... |          | 196 27/3/2    | Origin    |
| 4 | /anon-e-commerce-website-master/a... | basic    | text/h... |          | 195 27/3/2    | Origin    |
| 5 | /anon-e-commerce-website-master/a... | basic    | text/h... |          | 195 27/3/2    | Origin    |
| 6 | /anon-e-commerce-website-master/a... | basic    | text/h... |          | 195 27/3/2    | Origin    |
| 7 | /anon-e-commerce-website-master/a... | basic    | text/h... |          | 193 27/3/2    | Origin    |
| 8 | /anon-e-commerce-website-master/a... | basic    | text/h... |          | 193 27/3/2    | Origin    |
| 9 | /img                                 |          |           |          |               |           |

http://127.0.0.1:5501/anon-e-commerce-website-master/assets/images/blog-2.jpg

Total entries: 139

Console

top

Filter

Default levels

40



# Implementation

Storage

- Local storage
- Session storage
- IndexedDB
- Web SQL
- Cookies
- Private state t
- Interest group
- Shared storage
- Cache storage
  - offline - htt
  - dynamic-pv

Background services

Clients <http://127.0.0.1:5500/> [focus](#)

Push

Sync

Periodic Sync

Update Cycle

| Version | Update Activity | Timeline    |
|---------|-----------------|-------------|
| ▶ #43   | Install         |             |
| ▶ #43   | Wait            |             |
| ▶ #43   | Activate        | <div></div> |

Service workers from other origins

Console Issues +

top Filter Default levels 4

Fetch successful (from network, cached): <http://127.0.0.1:5500/styles.css> [sw.js:93](#)

Fetch successful (from cache): <http://127.0.0.1:5500/styles.css> [sw.js:65](#)

Fetch successful (from network, cached): <http://127.0.0.1:5500/script.js> [sw.js:93](#)

Fetch successful (from cache): <http://127.0.0.1:5500/script.js> [sw.js:65](#)



# Implementation

## Fetch Event

The screenshot displays the Chrome DevTools interface for a Service Worker. The left sidebar shows the 'Storage' section expanded, listing various storage mechanisms like Local storage, Session storage, IndexedDB, Web SQL, Cookies, Private state t, Interest group, Shared storage, and Cache storage. Below this, 'Background services' is visible. The main panel shows the 'Clients' section for the URL `http://127.0.0.1:5500/` with a `focus` event. It includes controls for 'Push' (with a message `{ "method": "pushMessage", "message": "He" }`), 'Sync' (with `test-tag-from-devtools`), and 'Periodic Sync' (also with `test-tag-from-devtools`). An 'Update Cycle' table shows the status of updates for version #43.

| Version | Update Activity | Timeline    |
|---------|-----------------|-------------|
| ▶ #43   | Install         |             |
| ▶ #43   | Wait            |             |
| ▶ #43   | Activate        | <div></div> |

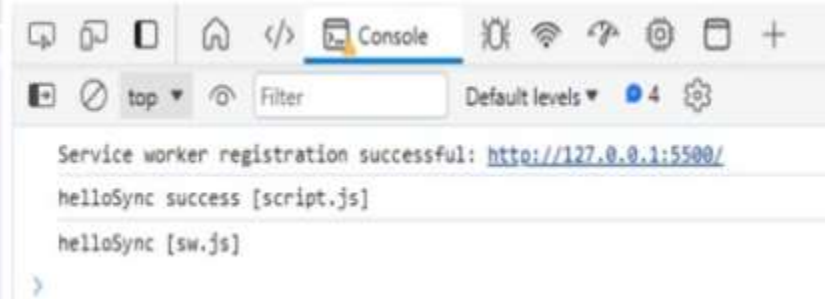
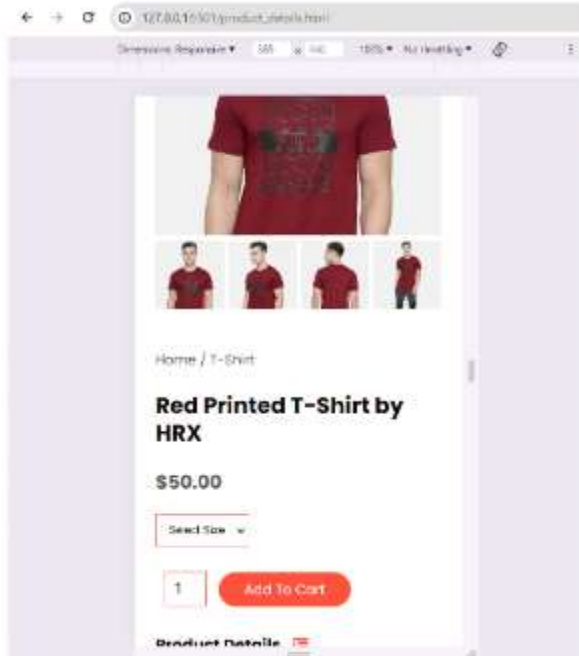
Below the update cycle, the 'Service workers from other origins' section is empty. The bottom panel shows the 'Console' with four log entries:

- Fetch successful (from network, cached): `http://127.0.0.1:5500/styles.css` `sw.js:93`
- Fetch successful (from cache): `http://127.0.0.1:5500/styles.css` `sw.js:65`
- Fetch successful (from network, cached): `http://127.0.0.1:5500/script.js` `sw.js:93`
- Fetch successful (from cache): `http://127.0.0.1:5500/script.js` `sw.js:65`



# Implementation

## Sync Event







# Implementation

## Push Event

Received 18/3/2024, 10:05:01 am

Status: ● #41 activated and is running [stop](#)

Push:  [Push](#)

Sync:  [Sync](#)

Periodic Sync:  [Periodic Sync](#)

Update Cycle

| Version | Update Activity | Timeline                         |
|---------|-----------------|----------------------------------|
| ▶ #41   | Install         |                                  |
| ▶ #41   | Wait            |                                  |
| ▶ #41   | Activate        | <div style="width: 100%;"></div> |

Service workers from other origins  
[See all registrations](#)

Console: `Service worker registration successful: http://127.0.0.1:5500/script.js:93`



# Conclusion

**In conclusion, the RED store PWA offers a seamless shopping experience with its fast and reliable performance, offline functionality, and engaging push notifications. Moving forward, the focus will be on continuous improvement, user feedback implementation, and expanding the product range to meet the increasing demands of athletes worldwide.**



# Future Scope

- **Implement AI algorithms to analyze user behavior and provide personalized product recommendations, enhancing user engagement and satisfaction.**
- **Integrate advanced analytics tools to gather insights from user interactions and improve decision-making for inventory management and marketing strategies**
- **Expand the product range to include diverse categories and brands, catering to a wider audience and increasing customer retention.**
- **Enhance user experience by adding social features such as product reviews, ratings, and sharing options, fostering a sense of community and trust among users**



# Reference

- [1] Kotler, P., & Keller, K. L. (2015). *\*Marketing Management\** (15th ed.). Pearson.
- [2] Manning, K. C., & Reece, B. L. (2014). *\*Selling Today: Partnering to Create Value\** (13th ed.). Prentice Hall.
- [3] Gibson, B. J., & Fraser, S. (2018). *\*Retail Marketing Management: Principles and Practice\** (3rd ed.). Pearson.
- [4] "The Retail Doctor" website. [Online]. Available: [www.retaildoc.com](http://www.retaildoc.com)
- [5] Nielsen Sports. [Online]. Available: [www.nielsensports.com](http://www.nielsensports.com)

**THANK YOU**