

Shop system requirements specification

Strzechowski Konrad

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1 Business description

The store application provides users with a smooth and secure shopping experience while offering administrators robust tools for effective store management. Initially designed to operate in Poland, the application aims to support a thriving online and in-store retail business by covering essential aspects such as product management, order processing, and payment handling.

The application allows administrators to manage products seamlessly, from adding new items to updating existing details and tracking inventory levels in real-time. This ensures that stock availability is always up-to-date, enabling timely restocking and efficient inventory control.

User management is another critical component, with features that enable easy registration, login, and profile management. Users can create accounts using various methods, manage their personal information and payment methods, and view their order history and tracking information. This enhances the overall user experience, making it convenient for customers to shop and manage their interactions with the store.

Order processing is streamlined to ensure efficiency and accuracy. The shopping cart allows users to add or remove items with real-time updates on totals, discounts, and shipping fees. The checkout process is designed to be flexible, supporting multiple shipping options and payment methods. Validation of shipping addresses and payment details before order finalization minimizes errors and enhances the user experience.

Payment handling integrates with multiple payment gateways, ensuring secure transactions through encryption and compliance with industry standards. The system also supports the creation and management of discounts, which can be applied during checkout to provide users with the best possible deals.

Customer service and feedback mechanisms are integrated into the application, allowing users to easily reach out for support and leave reviews and ratings for products. This helps build trust and improve the store's reputation through transparent customer interactions.

The application includes robust analytics and reporting tools, generating detailed sales reports and customer insights. These tools help administrators understand customer behavior, identify trends, and plan marketing strategies effectively.

Scalability is a key consideration, with the application designed to handle increasing traffic and data load efficiently. Future plans include expanding the application's reach beyond Poland to international markets, allowing it to support a global customer base. Integration with various third-party services and the provision of API endpoints enable custom integrations and extended functionalities, ensuring the application remains versatile and adaptable.

Overall, the store application is well-positioned to support a thriving online retail business, offering a secure and user-friendly shopping experience while providing administrators with the tools needed for effective management and growth.

2 Functional requirements

Table 1: User account requirements

Requirement	Comment	MoSCoW
create an account	user can create 1 account for each email address user needs to provide his name and password	M
create an account via gmail	user can create an account using gmail	S
password security	password needs to be secure - has at least 8 signs, 1 digit and 1 special character	M
password reset	user can reset his password through email link	M
login with credentials	User can login to his account using valid credentials	M
login via gmail	user can login to his account using gmail, if his account is connected	S
view own profile	user can view his account details	M
edit own profile	user can edit his account details	M
add address	user can add shipping address	M
add payment method	user can add payment method	M
view purchase history	user can view a history of his purchases	M
view purchase details	user can view details of his purchase	M

Table 2: Product requirements

Requirement	Comment	MoSCoW
view products	user can view a list of products	M
view product details	user can view product details	M
add product comment	logged in user can rate product and leave a comment	S
view product comments	user can view comments about product	S
filter by categories	user can filter products by existing categories	M
filter by text	user can search products by text filter	M
sort	user can sort products by following options: date, price	M
sort	user can sort products by following options: popularity, discount	S
featured products	administrator can highlight products (e.g., Valentine's Day products)	C
discounted product	administrator can discount product for a certain period of time	C
favourites	user can add products to his favourites	C
availability in local stores	user can see availability	W

Table 3: Shopping cart requirements

Requirement	Comment	MoSCoW
add product	user can add available product to the basket	M
product quantity	user can select available quantity of each product (max 5 of the same items per purchase)	M
remove product	user can remove product from the basket	M
add discounts	user can add multiple discounts to the shopping cart, assuming that they are not mutually exclusive	S
remove discounts	user can remove discounts before they are used	S
own shipping address	user can use one of his shipping addresses	M
one-time shipping address	user can use unique address for one-time purchase	M
shipping method	user can select available method of shipping	S
estimated shipping time	user can view estimated shipping time for each shipping method	W
payment method	user can choose a payment method between paypal, credit card and in-store payment.	M
payment currency	user can select available payment currency	M
invoice	user can request an invoice on top of regular bill	S

Table 4: Notification requirements

Requirement	Comment	MoSCoW
bill	user will get an email with all purchase information	S
delivery	user will get emails about new delivery step	C
feedback	user can leave feedback	C
email marketing	user can allow personalized emails with ads	C
app marketing	user can allow personalized push notifications from the app with ads	C

Table 5: Employee requirements

Requirement	Comment	MoSCoW
user actions	employee superset user account	M
sell	employee can sell available product	M
discount	employee can accept purchase discount	S
return	employee can accept product return	S
complaint	employee can accept product complaint	C
order products	employee can order additional products to the store	c

Table 6: Administrator requirements

Requirement	Comment	MoSCoW
add product	admin can add new product	M
import products	admin can import products from CSV files	M
edit product	admin can edit product details	M
delete product	admin can delete products	M
add discount	admin can add discount	M
edit discount	admin can edit discount	M
delete discount	admin can delete discount	M

3 Nonfunctional requirements

Table 7: Nonfunctional requirements

Requirement	Comment
availability	system must ensure 99% uptime
browsers compatibility	ensure compatibility with all major browsers (Chrome, Firefox, Safari, Edge) and their latest versions.
devices compatibility	ensure compatibility with latest versions of Android devices.
functionality	system validation detects 98% of errors before submission
security	only verified admin users can add, edit and delete products and discounts
data protection	all user data must be encrypted
accessibility	application provides comprehensive accessibility features to support users with disabilities
response time	average response time should be under 2 seconds and it must not exceed 4 seconds even during peak hours
throughput	system can handle 8,000 GET requests and 1,000 PUT/POST requests per minute under average load system can handle 40,000 GET requests and 5,000 PUT/POST requests per minute during peak traffic periods
user capacity	supports at least 50,000 concurrent users under normal conditions, with the ability to scale up to 200,000 concurrent users during peak events
scalability	system must handle an increase of 1,000 active users per minute
localization	supports multiple languages and currencies, initially focusing on Polish and English but scalable for internationalization.