TikTok Shop Requirements

Structured Natural Language

Sign In

Basic Properties

- **Requirement ID**: AUTH-001
- **Title**: User Authentication
- **Description**: System shall allow registered users to sign in
- **Actors**: Customer (unauthenticated)

Preconditions

- Customer has registered account
- TikTok Shop application is open
- Network connection is available

Functional Requirements

- The system shall display profile icon in navigation header
- When clicked, system shall show account card with:
  - "Sign in with Google" option
  - "Sign in with Email" option
- For Google sign-in:
  - Redirect to Google authentication page
  - Validate returned credentials
  - Create session if valid
- For email sign-in:
  - Display email/password form
  - Validate against stored credentials
- System shall log all sign-in attempts

1.4 Alternative Flows

- Password recovery:
  - Display "Forgot password" option
  - Send reset link to registered email
- Cancel sign-in:

    - Return to home page
    - Clear partial inputs

1.5 Exception Handling

- Invalid credentials:
    - Show error message
    - Allow retries (max 3 attempts)
- Account lock:
    - Temporary lock after failed attempts
    - Notify user via email

1.6 Postconditions

- Successful sign-in:
    - Create active session
    - Redirect to last visited page
- Failed sign-in:
    - Maintain unauthenticated state
    - Preserve form inputs

Sign Out

Basic Properties

- **Requirement ID**: AUTH-002
- **Title**: User Session Termination
- **Description**: System shall allow signed-in users to end their session
- **Actors**: Customer (authenticated)

Preconditions

- Valid user session exists
- Profile menu is accessible

Functional Requirements

- The system shall display profile icon in authenticated state
- When clicked, system shall show account card with:
  - "Sign out" as menu option
- Upon sign-out selection:
  - Immediately invalidate session token
  - Clear authentication cookies
  - Redirect to home page
- System shall log sign-out event with timestamp

Alternative Flows

- Cancelled sign-out:
  - Closing account card maintains session
  - No state changes occur

Postconditions

- Successful sign-out:
  - All protected routes become inaccessible
  - UI reverts to guest appearance
  - Shopping cart preserved (items remain)
- Cancelled sign-out:
  - Session remains active
  - No interface changes occur

Account Card

Basic Properties

- **Requirement ID**: ACCOUNT-001
- **Title**: Account Card Display
- **Description**: System shall display account management options
- **Actors**: Customer (authenticated)

Preconditions

- Valid user session exists
- User is on any application screen
- Profile icon is visible

Functional Requirements

- The system shall:
    - Display profile icon in header when signed in
    - Show account card when profile icon is clicked, containing:
        - User profile picture/avatar
        - Account management options
        - Navigation shortcuts
        - Sign out option
    - Close account card when:
        - Profile icon is clicked again
        - User clicks outside the card
        - ESC key is pressed

Alternative Flows

- No account card display:
    - If clicked while loading, show loading indicator
    - If permissions change, refresh card contents

Postconditions

- Successful display:
    - Account card appears above other content
    - Background content is dimmed
- After closing:

- UI returns to previous state
- No system state changes occur

Manage Own Account

Basic Properties

- **Requirement ID**: ACCOUNT-002
- **Title**: Profile Management
- **Description**: System shall allow users to manage their account details
- **Actors**: Customer (authenticated)

Preconditions

- Valid user session exists
- Account card is accessible

Functional Requirements

- The system shall:
    - Display "Manage Account" option in account card
    - Show profile details page when selected, containing:
        - Current profile picture
        - Registered email addresses
        - Account information sections
    - Support these profile actions:
        - Upload new profile picture (JPG/PNG <5MB)
        - Remove existing profile picture
        - Add secondary email addresses
    - Validate all inputs before saving changes
    - Return to previous view when closed

Alternative Flows

- Profile picture update:
    - Upload from device storage
    - Crop/edit interface before confirmation
    - Show upload progress indicator
- Email management:
    - Verify new email addresses via confirmation link
    - Limit to 3 secondary emails per account
    - Prevent duplicate email registration

Exception Handling

- Invalid image uploads:
    - Reject unsupported formats
    - Enforce size limits
    - Show appropriate error messages
- Email validation failures:
    - Detect invalid email formats
    - Prevent existing email reuse
    - Handle SMTP delivery failures

Postconditions

- Successful updates:
    - Changes reflect immediately in UI
    - Confirmation toast appears
    - Database records update
- Cancelled operations:
    - No changes persist
    - Return to profile view

Home

Basic Properties

- **Requirement ID**: PAGE-001
- **Title**: Home Page Display
- **Description**: System shall display the TikTok Shop home page
- **Actors**: Customer (any state)

Preconditions

- Customer device meets minimum requirements:
    - Supported web browser or mobile app installed
    - Active internet connection
- TikTok Shop service is available

Functional Requirements

- The system shall:
    - Load home page when:
        - User navigates to root URL
        - User clicks "Home" in navigation
        - User clicks branded logo
    - Display standard page elements:
        - Header with navigation bar
        - Featured products section
        - Personalized recommendations
        - Promotional banners
        - Footer with company links
    - Maintain responsive design:
        - Adapt layout for mobile/desktop
        - Support portrait/landscape orientations

Performance Requirements

- Page shall load within 2 seconds (90th percentile)
- Core content shall be visible within 1 second
- Images may load progressively

Postconditions

- Successful load:
  - All interactive elements enabled
  - Analytics event recorded
- Failed load:
  - Show error message
  - Offer retry option

Shop

Basic Properties

- **Requirement ID**: PAGE-002
- **Title**: Shop Page Display
- **Description**: System shall display the TikTok Shop marketplace page
- **Actors**: Customer (any state)

Preconditions

- Customer has accessed TikTok Shop platform
- Navigation menu is available
- Shop service is operational

Functional Requirements

- The system shall:
    - Display "Shops" option in main navigation
    - Load shop page when:
        - User selects "Shops" navigation item
        - User accesses direct shop URL
    - Present standard shop components:
        - Search and filter controls
        - Product category navigation
        - Featured seller highlights
        - Product grid display
        - Sorting options (price, popularity, etc.)
    - Maintain consistent layout:
        - Header/footer persistence
        - Responsive product cards
        - Infinite scroll loading

Performance Requirements

- Initial shop render within 1.5 seconds
- Product images load progressively
- Smooth scrolling experience (>60fps)

Postconditions

- Successful load:
  - All products properly categorized
  - Filter/sort controls functional
  - Shopping cart remains accessible
- Failed load:
  - Display error state
  - Provide refresh option

All Products

Basic Properties

- **Requirement ID:** PROD-001
- **Title:** Product Catalog View
- **Description:** System shall display all available products to customers
- **Actors:** Customer (authenticated)

Preconditions

- User is signed in
- User has navigated to Shop page
- Product database is available

Functional Requirements

- The system shall:
  - Retrieve and display all active products from database
  - Present products in responsive grid layout containing:
    - Product image (primary)
    - Product name (max 60 chars)
    - Price (formatted with currency)
    - Average rating (1-5 stars)
    - "Like" button with current count
  - Support these user interactions:
    - Like/unlike products (toggle)
    - Infinite scroll loading
    - Click-to-view details

Data Requirements

- Product cards shall display:
  - Minimum 3 product images
  - Current availability status
  - Seller information
  - Shipping options
- Like counts update in real-time
- Sort/filter persists during session

Exception Handling

- Database connection issues:
  - Display cached products if available
  - Show "Try Again" option
  - Log error for technical team
- Empty catalog state:
  - Show "No products found" message
  - Suggest popular categories

Postconditions

- Successful load:
  - All active products visible
  - Like status reflects user preferences
  - Analytics recorded
- Failed load:
  - Partial content available
  - Error recovery options shown

View Product Details

Basic Properties

- **Requirement ID:** PROD-002
- **Title:** Product Detail View
- **Description:** System shall display complete product details
- **Actors:** Customer (authenticated)

Preconditions

- User is signed in
- Valid product exists in database
- User has selected a product card

Functional Requirements

- The system shall:
    - Display dedicated product page containing:
        - Product image gallery (min 3 images)
        - Product title and description
        - Price and discount information
        - Available variants (size/color)
        - Seller information and rating
        - Customer reviews section
        - "Add to Cart" button
    - Support these interactions:
        - Image zoom/scroll
        - Variant selection
        - Quantity adjustment
        - Share functionality

Data Requirements

- Product details shall include:
    - Full specifications
    - Shipping/policy information
    - 5 most recent reviews
    - Average rating breakdown

    - Inventory status (real-time)

Exception Handling

- Missing product data:
    - Show cached version if available
    - Display "Product Unavailable" message
    - Suggest similar products
- Loading failures:
    - Automatic retry (max 2 attempts)
    - Clear error message with support contact

Postconditions

- Successful load:
    - Complete product information displayed
    - Related products suggested
    - View count incremented
- Failed load:
    - Graceful error state
    - Navigation options preserved

Add Product to Cart

Basic Properties

- **Requirement ID:** CART-001
- **Title:** Product Addition to Cart
- **Description:** System shall allow customers to add products to their shopping cart
- **Actors:** Customer (authenticated)

Preconditions

- User is signed in
- Valid product page is displayed
- Product is in stock
- Cart service is available

Functional Requirements

- The system shall:
    - Display "Add to Cart" button on product pages
    - When clicked:
        1. Verify product availability
        2. Add item to user's cart with:
            - Selected variants
            - Chosen quantity
            - Current price
        3. Update cart total calculation
        4. Show confirmation notification
    - Support these scenarios:
        - Single item addition
        - Multiple items addition
        - Quantity adjustments (1-10 units)
        - Variant combinations

Data Requirements

- Cart shall maintain:
    - Product ID and details
    - Selected variants

    - Quantity
    - Price at time of addition
    - Added timestamp
- Real-time inventory checks

Exception Handling

- Out-of-stock items:
    - Prevent addition to cart
    - Show "Notify When Available" option
- Service failures:
    - Queue request for retry
    - Show "Try Again" prompt

Postconditions

- Successful addition:
    - Cart icon updates with new count
    - Subtotal recalculates
    - Product remains in catalogue
- Failed addition:
    - Cart remains unchanged
    - Clear error message displayed

Cart

Basic Properties

- **Requirement ID:** CART-002
- **Title:** Shopping Cart View
- **Description:** System shall display current shopping cart contents
- **Actors:** Customer (authenticated)

Preconditions

- User is signed in
- Cart icon is visible
- Cart service is available

Functional Requirements

- The system shall:
    - Provide cart access through:
        - Profile menu navigation
        - Persistent cart icon in header
    - Display cart contents showing:
        - Product image and title
        - Selected variants
        - Current price
        - Quantity selector (1-10)
        - Item subtotal
        - Removal option
    - Calculate and display:
        - Order subtotal
        - Estimated shipping
        - Applicable taxes
        - Order total
    - Support these interactions:
        - Quantity adjustments
        - Item removal
        - Proceed to checkout

Data Requirements

- Cart shall reflect:
  - Real-time inventory status
  - Current pricing
  - Available promotions
  - Saved shipping preferences

Exception Handling

- Unavailable items:
  - Highlight affected products
  - Provide removal/replacement options
- Price changes:
  - Notify customer
  - Maintain original price if added before change

Postconditions

- Successful view:
  - All cart items visible
  - Accurate totals displayed
  - Checkout options enabled
- Empty cart:
  - Show "Your cart is empty" message
  - Suggest popular products

Order Summary

Basic Properties

- **Requirement ID:** ORDER-001
- **Title:** Order Summary Display
- **Description:** System shall display order summary before checkout
- **Actors:** Customer (authenticated)

Preconditions

- User is signed in
- Cart contains ≥1 valid item
- Address service is available

Functional Requirements

- The system shall:
    - Display order summary when proceeding from cart
    - Show these components:
        - Product list with quantities/prices
        - Selectable shipping addresses
        - Price breakdown:
            - Subtotal
            - Shipping fees
            - Tax calculation
            - Order total
        - Payment method selection
    - Support these actions:
        - Change product quantities
        - Remove items
        - Add/edit shipping addresses
        - Apply promo codes

Calculation Requirements

- System shall calculate:
    - Subtotal (sum of all items)
    - Shipping based on:

        - Address location
        - Package weight
        - Selected method
    - Taxes according to:
        - Jurisdiction rules
        - Product categories

Exception Handling

- Invalid addresses:
    - Highlight issues
    - Prevent checkout
- Price changes:
    - Notify customer
    - Require reconfirmation

Postconditions

- Successful view:
    - All order details confirmed
    - Checkout button enabled
- Changes made:
    - Cart updates persist
    - Totals recalculate immediately

Place Order

Basic Properties

- **Requirement ID:** ORDER-002
- **Title:** Order Finalization
- **Description:** System shall process and confirm customer orders
- **Actors:** Customer (authenticated)

Preconditions

- Valid order summary displayed
- All required information complete:
  - Shipping address verified
  - Payment method selected
  - Items in stock

Functional Requirements

- The system shall:
  1. Validate order completeness on "Place Order" click:
     - Confirm inventory availability
     - Verify payment authorization
     - Check shipping feasibility
  2. Process successful orders by:
     - Generating order confirmation number
     - Reserving inventory
     - Charging payment method
     - Notifying seller
  3. Display confirmation screen showing:
     - Order number
     - Expected delivery date
     - Item summary
     - Customer support information

Data Requirements

- Order records shall include:
  - Snapshot of all product details

    - Pricing at time of purchase
    - Timestamp and status
    - Payment transaction ID
    - Customer/Seller information

Exception Handling

- Payment failures:
    - Retry once automatically
    - Fallback to alternate payment if available
- Inventory conflicts:
    - Notify customer immediately
    - Offer similar alternatives
- System errors:
    - Preserve order draft
    - Provide recovery path

Postconditions

- Successful placement:
    - Order appears in customer history
    - Confirmation email sent
    - Inventory levels updated
- Failed placement:
    - Return to order summary
    - Clear error explanation
    - Cart preserved

View My Order

Basic Properties

- **Requirement ID:** ORDER-003
- **Title:** Order History Access
- **Description:** System shall display customer's past and current orders
- **Actors:** Customer (authenticated)

Preconditions

- User is signed in
- At least one order exists
- Order service is available

Functional Requirements

- The system shall:
  - Provide "My Orders" option in account menu
  - Display order history showing:
    - Order number and date
    - Product thumbnails
    - Current status (Processing/Shipped/Delivered)
    - Total amount paid
  - Allow order details viewing:
    - Full product list
    - Shipping information
    - Payment method
    - Tracking information (if available)
  - Support these actions:
    - Reorder items
    - Contact seller
    - Initiate returns (if eligible)

Data Requirements

- Order history shall:
  - Show last 24 months of orders
  - Group by status category

    - Include search/filter capability
    - Display most recent first

Exception Handling

- Missing orders:
    - Show "No Orders Found" state
    - Suggest shopping options
- Loading failures:
    - Automatic retry (max 2 attempts)
    - Display helpful error message

Postconditions

- Successful view:
    - Complete order details visible
    - Status updates current
    - Navigation options preserved
- Failed view:
    - Clear error state
    - Recovery options provided

Seller Dashboard

Basic Properties

- **Requirement ID:** SELLER-001
- **Title:** Seller Dashboard Access
- **Description:** System shall provide sellers with management dashboard
- **Actors:** Seller (authenticated user with seller privileges)

Preconditions

- User is signed in with verified seller account
- Seller services are available

Functional Requirements

- The system shall:
    - Display "Seller Dashboard" entry point for authorized users
    - Provide dashboard with these main sections:
        - **Add Product**:
            - Form with required fields (name, description, price)
            - Image upload capability (JPG/PNG, max 5MB)
            - Category selection
            - Variant management
        - **Product List**:
            - Sortable/filterable product grid
            - Inventory status indicators
            - Quick edit options
        - **Orders**:
            - Chronological order list
            - Status filters (New/Processing/Shipped)
            - Customer information
    - Support these actions:
        - Add/edit/archive products
        - Process orders (confirm/ship/cancel)
        - View sales analytics

Data Requirements

- Dashboard shall display:
    - Real-time inventory counts
    - Pending order notifications
    - Recent sales performance
    - Customer messages/requests
- Data shall refresh automatically every 5 minutes

Exception Handling

- Permission issues:
    - Redirect to authorization request
    - Clear explanation of requirements
- Data conflicts:
    - Highlight affected items
    - Provide resolution options
- Service outages:
    - Show last cached data
    - Indicate refresh status

Postconditions

- Successful view:
    - All management options available
    - Current data displayed
    - Navigation preserved
- Failed view:
    - Graceful degradation
    - Recovery options provided

Use Case Description

1. Account Authentication

Use Case: Sign In

Actor Customer AND User [Customer]

Preconditions Customer has a registered account AND Customer knows sign in details AND opened website

Main Flow

1. Customer clicks on the icon profile
2. System displays an account card to prompt with options of signing in
3. Customer selects "Sign in with Google Account" option
4. Customer is redirected to Google Account sign in
5. System validates credentials
6. System grants access
7. System logs sign in timestamp

Alternative Flow

- 3.a Customer enters personal email
- 3.b Customer is redirected to sign in with personal email

Postcondition Customer details are validated

Exceptional Flow

- 4.a Customer enter invalid credentials during Google Account sign in
- 4.b Customer forgot password

Postcondition Customer recover sign in details AND attempt to sign in again

Exceptional Flow

- 4.a Customer cancel sign in procedure
- 4.b Customer close sign in window

Postcondition Customer returns to Home page

END Customer session is established

Use Case: Sign Out

Actor Customer AND User [Customer]

Preconditions Customer has signed in

Main Flow

1. Customer clicks on the icon profile
2. System displays an account card
3. Customer selects “Sign out” option
4. System terminates session
5. System logs sign out timestamp
6. System redirects to home page

Exceptional Flow

- 3.a Customer cancel sign out procedure

Postcondition Customer returns to Home page

END Customer session is terminated

2. Account Management

Use Case: Account Card

Actor Customer AND User [Customer]

Preconditions Customer has signed in

Main Flow

1. Customer clicks on the icon profile
2. System displays an account card
3. Customer views options on the account card
4. Customer clicks on the icon profile again
5. System closes the displayed account card

Postcondition Customer returns to Home page

END Customer viewed account card

Use Case: Manage Own Account

Actor Customer AND User [Customer]

Preconditions Customer has signed in

Main Flow

1. Customer clicks on the icon profile
2. System displays an account card
3. Customer selects on “Manage Account” option
4. System displays profile details
5. Customer views profile details
6. Customer closes profile details
7. System closes display of profile details AND account card

Alternative Flow

- 5.a Customer clicks on “Update Profile” option
- 5.b Customer chooses “Upload” option
- 5.c Customer upload picture from their device
- 5.d System updates profile picture

Postcondition Customer profile picture is updated

Alternative Flow

- 5.a Customer clicks on “Update Profile” option
- 5.b Customer chooses “Remove” option
- 5.c System removes profile picture

Postcondition Customer profile picture is removed

Alternative Flow

- 5.a Customer clicks on “Add email address” option
- 5.b Customer enters the email address
- 5.c Customer clicks “Add” button to add
- 5.d System adds email address to profile details

Postcondition Customer additional email address added

END Customer viewed profile details

3. Main Pages

Use Case: Home

Actor Customer AND User [Customer]

Preconditions Customer has a device

Main Flow

1. Customer searches for website
2. Customer clicks on “TikTok Shop” link
3. System displays Home page

Postcondition Customer views Home page

END Customer viewed Home page

Use Case: Shop

Actor Customer AND User [Customer]

Preconditions Customer has opened website

Main Flow

1. Customer clicks on “Shops” on navigation bar
2. System redirects to Shop page
3. System displays Shop page

Postcondition Customer views Shop page

END Customer viewed Shop page

4. Product Browsing

Use Case: All Products

Actor Customer AND User [Customer]

Preconditions Customer has signed in AND clicked Shop page

Main Flow

1. System retrieves product catalogue from database
2. System displays products in product card with its details
3. System arranges the products in grid view
4. Customer views of products displayed
5. Customer clicks the like button at a product
6. System updates the product like count

Exceptional Flow

- 1.a System unable to retrieve product information from database
- 1.b System sends error message

Postcondition Rollback on product database to try and load products

Exceptional Flow

- 5.a Customer clicks the like button at a product to unlike
- 6.a System updates the product like count

Postcondition Product like count is updated

END Customer viewed All Product page

Use Case: View Product Details

Actor Customer AND User [Customer]

Preconditions Customer has signed in AND product exist in database

Main Flow

1. Customer clicks on product card
2. System retrieves product details from database
3. System displays products in its own page with product details
4. Customer views product details page

Exceptional Flow

- 2.a System unable to retrieve product information from database
- 2.b System sends error message

Postcondition Rollback on product database to try and load products

END Customer viewed Product Details page

5. Cart Management

Use Case: Add Product to Cart

Actor Customer AND User [Customer]

Preconditions Customer has signed in AND clicked Product card

Main Flow

1. Customer clicks on “Add to Cart”
2. System adds product to the Cart
3. System sends message to inform product has been added

Alternative Flow

- 1.a Customer adds other products to Cart
- 1.b System adds product to the Cart

Postcondition Multiple products have been added to the cart

Alternative Flow

- 1.a Customer remove product from listing
- 1.b System removes product from listing
- 2.a System recalculates the total

Postcondition Order summary is updated

END Cart total amount updated

Use Case: Cart

Actor Customer AND User [Customer]

Preconditions Customer has signed in

Main Flow

1. Customer clicks on the icon profile
2. System displays an account card
3. Customer selects on “Cart” option
4. System displays the Cart
5. Customer can view products added to Cart

Alternative Flow

- 5.a Customer clicks on “Quantity” arrows to add or lessen quantity of product
- 5.b System recalculates subtotal of product
- 5.c System updates subtotal of product

Postcondition Cart is updated

END Customer viewed cart

6. Order Processing

Use Case: Order Summary

Actor Customer AND User [Customer]

Preconditions Customer has signed in AND added Products in Cart

Main Flow

1. Customer checks their product placed in Cart
2. Customer choose desired address for delivery
3. System calculates number of items and total before tax
4. System calculates tax percentage
5. System calculates total after tax

Alternative Flow

- 1.a Customer remove product from listing
- 1.b System removes product from listing
- 2.a System recalculates the total

Postcondition Order summary is updated

Alternative Flow

- 1.a Customer adds new address
- 1.b System adds news address into summary

Postcondition New address is added

END Order summary is ready for order placing

Use Case: Place Order

Actor Customer AND User [Customer]

Preconditions Customer has signed in AND added Products in Cart

Main Flow

1. Customer checks the order summary
2. Customer clicks "Place Order"
3. System validates Order placed
4. System sends message "Order Placed"

Postcondition Order is placed

END Customer order has placed

Use Case: View My Order

Actor Customer AND User [Customer]

Preconditions Customer has signed in AND placed order

Main Flow

1. Customer clicks on the icon profile
2. System displays an account card
3. Customer selects "My Order" option
4. System displays orders placed
5. Customer checks order details

Postcondition Order is processed

END Customer waits for order to arrive

7. Seller Operation

Use Case: Seller Dashboard

Actor User [Seller]

Preconditions User is signed in

Main Flow

1. User selects Seller Dashboard
2. System displays Seller Dashboard
3. User selects “Add Product”
4. System displays “Add Product” page
5. User selects “Product List”
6. System displays “Product List” page
7. User selects “Orders”
8. System displays “Orders” page

Alternative Flow

- 4.a User upload image to Product Image
- 4.b User input product name
- 4.c User types in product description
- 4.d User chooses category of product type
- 4.e User inputs product price and offer price
- 4.f User clicks “Add” to add product
- 4.g System adds product to database
- 4.h System sends message “Product Added”

Postcondition New product is added

Alternative Flow

- 6.a System retrieves product catalogue from database
- 6.b System displays product available

Postcondition Products displayed

Alternative Flow

- 8.a System retrieves orders from database
- 8.b System displays current orders

Postcondition Orders are displayed

END Seller viewed Seller Dashboard