Feature List - Intershop Progressive Web App 11.1.0

Release: 11.1.0 The Intershop Progressive Web App comes with over 50 B2C and B2B core business features out-of-the-box. It is a reference application with architectural best practices for developers for topics like, e.g., initial page loads, server-side rendering, SEO, or internationalization. Based on the reference application and the full set of REST APIs for B2C and B2B business like quoting, cost center, etc.,Developers can easily tailor the Intershop Progressive Web App to their specific needs.

New Features of the current release are marked **bold**

Please note that features and options beyond the Platform Subscription are explicitly marked as "Additional options."

Benefits for Customers	Benefits for Companies	Benefits for Developers
Smooth and responsive customer experiences. This applies in particular to mobile devices with limited bandwidth. Since only data is transferred and not complete pages, the perceived speed of the pages is much shorter. With data held in the browser cornner, even page transitions are possible that do not require any communication with the server.	The digital world is developing rapidly. Mobile technologies, new end devices, and touch points open up new business opportunities. Reaching customers via different channels and touchpoints, it is, therefore, worth switching to new adaptable strategies. The Intershop Progressive Web App is a first step towards digital success. The top priorities are mobile commerce, personalization, and offer a wide variety of devices and low programmatic development and operating costs.	By using widely accepted standards and frameworks, Angular, web developers can build on their existing knowledge and make Intershop Storefront development much easier than ever before.

2. Experience Management

2.1. Intershop Progressive Web Application	
Toolset	Web Developers can use the Intershop PWA to implement storefront applications based on the Intershop Commerce Management (CM) Modeling REST API and/or 3rd Party Systems.
Templates	Templates contain the HTML that is rendered for the browser and displays the UI.
Services	Services implement business functionality using TypeScript. Services should have a single responsibility by encapsulating all functionality required in it. The API to a service should be as narrow as possible because services are used throughout the application. It is also possible to combine functionality of multiple services in another service to provide a more narrow API.
Components	Components are small and tightly independent bridges between services and templates that provide data for display in templates and collect input from the user to interact with services. Data Binding ties the templates with methods and properties from the components. The components handling the templates should only handle view logic and should not implement too much specific functionalities. If the component does more than just providing data for the templates, it might be better to transfer this to service instances instead. Multiple components and their templates are then composed to pages.
Routes	Routes enable navigation from one view to the next as users perform application tasks. Routes can pass optional parameters along to the supporting view components that help it decide what specific content to present.
Models	Models are definitions of the data that are handled within the application.
Store	The store is the central representation of all data of the application.
State	The state is seen as the single source of truth for getting information of the current application state. All information should be held in the store. There is only one immutable state per application, which is composed of sub-states. To get information from the state, selectors have to be used. Changing the state can only be done by dispatching actions.
Selectors	Selectors are used to retrieve information about the current state from the store. The selectors are grouped in a separate file. They always start the query from the root of the state tree and navigate to the required information. Selectors return Observables which can be held in components and be bound to in templates.
Actions	Actions are used to alter the current state via reducers or trigger effects. Action creators are held in a separate file. The action class contains a type of the action and an optional payload. To alter the state synchronously, reducers have to be composed. Effects are used to handle asynchronous actions.
Reducers	Reducers alter the state synchronously. They take the previous state and an incoming action to compose a new state. This state is then published and all listening components react automatically to the new state information. Reducers should be simple operations which are easily testable.
Effects	Effects can incoming actions to trigger asynchronous tasks like querying REST resources. After successful or erroneous completion an effect might trigger another action as a way to alter the current state of the application.
Schematics	Schematics allow for easy creation of code artifacts that automatically comply to the architecture of the project, saving a lot of time for repetitive tasks and increasing code quality.
Localization	Intershop Progressive Web App uses a mix of Angular's internationalization tools (i18n) and the ngx-translate internationalization library for localization.
Server-side rendering	With Angular SSR a static app version is generated that is easily searchable, linkable, and navigable without javascript. It also makes a site preview available since each URL returns a fully-rendered page. Server-side rendering can be configured differently for different user agents, e.g., being available for search engines but disabled for end customers.
Integrated Content Management	Content managed in Intershop Commerce Management can be integrated into the Intershop Progressive Web App. The content model and integration points in the storefront can be customized according to project specific needs.
Deployment Scripts	Templates for Kubernetes Deployments and DevOps for Microsoft Azure are supplied as part of the project.
Themes	Themes allow to adapt the appearance of the shop. Static themes can be modified in the code. Configurable themes can be modified via variables. Multiple themes (static and/or configurable) can be combined.
2.2. Functional Scope	
Storefront	The Intershop Progressive Web App is an essential component of Intershop's new cloud offering. It is the successor of the Intershop Responsive Web Application. It benefits from the visualization layer and the introduction of clearly defined REST APIs, partners and customers can design and customize the Intershop Storefront easier than ever before. Extensive knowledge of SAML and pipelines or the deployment of new layouts in the Intershop Commerce Management System are no longer necessary.
Accessibility	The Intershop Progressive Web App meets the WCAG 2.1 AA accessibility standards.
Shopping Experience	
Catalog Browsing	Customers can browse categories by different means, like category navigation, breadcrumbs, or category lists.
Product Browsing	Products can be browsed by category and filtered via search filters (supported filter types are dropdown and single or multi-select checkbox). Product lists support endless scrolling. Products too can be sorted by different sorting criteria (relevance, price, etc.)
Search	Projects can choose between *standard* and *SPARQLX* search. Standard search (via CM and Solr) Customers can search products by SKU or search terms found in the product name, descriptions, or any other attribute that is indexed in the search index. Suggested search supports search term suggestions. Search results can be filtered via search filters (supported filter types are dropdown and single or multi-select checkbox). Search supports single or multi-select checkbox). Search supports customer-specific assortments and displays only search results that are valid for the storefront user. SPARQLX search (additional option) Customers can search products by SKU or any attribute that is present in the search index. Search results can be filtered via adaptive search filters. Advanced suggestions are shown for search terms, products, categories, and brands. Several suggestions can be filtered in search filters.
Product Display & Actions	The following product data can be displayed: ✓ Multiple product images, including product zoom ✓ Product prices ✓ Inventory ✓ Description ✓ Shipping information ✓ Product labels (New, Top Seller, Sale) ✓ Product ratings ✓ Product attachments ✓ Product variations ✓ Product bundles The following actions can be performed with products: ✓ Add to cart ✓ Add to compare list ✓ Add to quote ✓ Add to wishlist ✓ Add to order template ✓ Add a review ✓ E-mail a friend ✓ Print product page ✓ Product notification for in stock and price
Product Variations	Products with different variations are displayed in product lists, product detail pages, cart, wishlist, quote details and order history. The selection of the available options is supported via dropdown, swatch images HTML color codes and their combinations. Advanced variation handling for complex products with a lot of variations can be configured (Variation Matrix, Variation Attribute Groups, Variation Attribute Values). Data type number and complex values of variation attributes are supported.
Product Bundles	Product bundles with all related bundled products are displayed on product detail pages and in the shopping cart.
Retail Sets	Retail sets with all related items are displayed on product detail pages and can be added to the cart all at once or individually.
Personalized Product and Category Data	Category, product, and promotion data are displayed in a personalized way for the storefront user.
Scaled Prices	Scaled prices are displayed in product lists, product detail pages, product compare pages, wish lists (B2C), and order templates (B2B), and are used throughout the checkout process.
Related Products	Related products of a certain product are displayed on product detail pages. The following types are supported: ✓ Replacement ✓ Cross-selling ✓ Up-selling ✓ Accessory ✓ Followup ✓ Different order unit ✓ Spare parts
Promotions	Promotion messages and prices are displayed in product detail, product listing, cart and checkout pages.
Cxpilot	Intershop Cxpilot, an AI-supported digital sales and service assistant, is integrated (additional option).
Store Locator Functionality	Store Locator functionality is available.
Store Locator Functionality	Store Locator with Google Maps integration is activated by default for the B2B theme. Store Finder without Google Maps integration is the default configuration for the B2C theme.
Maintenance Page	The maintenance page is shown if the CM server is in maintenance mode (REST requires response with a 503 error).
Checkout	
Shopping Cart	The following data of the shopping cart is displayed: ✓ Items with inventory information, delivery time, additional information as custom fields, quantity, single price, and total price ✓ Subtotal, tax, shipping charges, payment costs, and total of the cart ✓ Applied promotions ✓ Applied warranty ✓ Additional basket information as custom fields The following actions can be performed in the shopping cart: ✓ Update quantity ✓ Add additional information for basket or basket line items ✓ Add coupon ✓ Update cart ✓ Clear cart ✓ Apply promotion code ✓ Assign cost center ✓ Configure a recurring order ✓ Add products to an order template ✓ Quote order as B2B customer ✓ Fast checkout payment
Quick Order	B2B customers can add multiple products to the cart at once by entering product ID and quantity. The product IDs can be SKUs, manufacturer IDs, manufacturer names and the form with additional lines, each with input fields for product ID and quantity. Using the CSV upload, large numbers of products can be added in one step.
Requisitions	B2B customers can create a requisition, which starts an approval process.
Addresses	Invoice and shipping addresses can be selected, added, and modified during checkout. Addresses can be managed in My Account as well.
Shipping	Shipping options including shipping costs, delivery time, and descriptions of the options are displayed and can be selected during checkout. B2B customers will be able to send messages to merchants. Payment options are displayed and can be selected during checkout. The following payment methods are currently supported: ✓ Credit card ✓ Direct debit ✓ Online payment methods, e.g., PayPal ✓ Offline payment methods, e.g., invoice, cash on delivery, cash in advance
Payment	Payment details can be saved, and saved payment details can be selected during checkout. The fast checkout payment functionality is available in the shopping cart. **Note** Most payment methods require payment connector integrations with a third party payment provider. Intershop provides payment connectors for available payment service provider integrations, see Solutions - Payment Connectors.
Review	All details of the order are displayed before order placement: ✓ Invoice address ✓ Shipping address ✓ Shipping method ✓ Payment method ✓ Additional basket information as custom field ✓ Items with inventory information, delivery time, quantity, additional information as custom field, single price, and total price ✓ Subtotal, tax, shipping charges, payment costs, and total of the cart ✓ In case the order is a recurring order, details of recurrences are displayed ✓ In case a buyer or cost center approval is required, approval details are displayed The terms and conditions need to be accepted before placing an order. A summary of the order is displayed after placing an order, including: ✓ Invoice address ✓ Shipping address ✓ Shipping method ✓ Payment method ✓ Additional basket information as custom field ✓ Items with inventory information, delivery time, quantity, additional information as custom field, single price, and total price ✓ Subtotal, tax, shipping charges, payment costs, and total of the cart ✓ Applied promotions ✓ In case the order is a recurring order, details of recurrences are displayed ✓ In case a buyer or cost center approval is required, approval details are displayed
Receipt	
Withdrawal	**Customers can submit withdrawal requests for orders directly through the storefront via the link in the footer.**
Contact Us	Customers can send a request to customer service via the Contact Us form, specifying the reason or type of request, request details, and contact information such as phone number, e-mail address, etc.
Data protection related requests	Data protection related requests (Request Personal Data, Request Personal Data Deleted) are handled via this form as well.
Guest Checkout	Customers can perform a checkout without registering at the store.
OCI Punchout (B2B)	B2B customers can integrate the storefront into their procurement solution via OCI Punchout. The following features are supported: ✓ OCI Punchout Configuration ✓ OCI checkout: Log in to the storefront as an OCI Punchout user, browse visible parts of the storefront, add products to the cart, transfer the cart back to the caller ✓ Product details: Log in to the storefront as an OCI Punchout user, display product details in the OCI Punchout format ✓ Product search: Log in to the storefront as an OCI Punchout user, automatically transfer product details in the OCI Punchout format for a given product and quantity ✓ Background search: Log in to the storefront as an OCI Punchout user, have all products displayed in the OCI Punchout format that match a given search query
cXML Punchout (B2B)	B2B customers can integrate the storefront into their procurement solution via cXML Punchout. The following features are supported: ✓ cXML self-service configuration ✓ cXML checkout: Log in to the storefront as a cXML Punchout user, browse visible parts of the storefront, add products to the cart, transfer the cart back to the caller
My Account	
Login & Registration	The following actions are supported: ✓ Register as B2C customer (simple registration (currently not supported)) ✓ Register as B2B customer ✓ Log into your customer profile (B2C and B2B) ✓ Forgot password ✓ Customer Approval ✓ Newsletter Subscription
SSO Login	Login via external identity provider is supported. Additional users can be invited and can create a new account via SSO. ✓ B2C: Pre-implementation is tested with Keycloak, Azure AD, and Auth0. ✓ B2B: Pre-implementation is tested with Auth0.
My Account Dashboard	The My Account dashboard provides a navigation overview and the following widgets: ✓ Order Widget ✓ Quote Widget ✓ Wish List Widget ✓ Requisition Widget ✓ Approval Widget ✓ Order Templates Widget ✓ Cost Center Widget
Purchases	
Order History	Customers can view their order history (order be filtering) and order details of all orders placed with their user account. Depending on the order status, the customers can view orders from all buyers in their organization and filter by a specific buyer.
Recurring Orders	Customers can view their recurring orders and order details of all recurring orders. Customers can activate and deactivate a recurring order on the order detail page. B2B customers can view recurring orders from all buyers in their organization.
Wish Lists	Customers can view a list of their wish lists and wish list details of all wish lists. Customers can create, edit, and delete wish lists, add and remove products from wish lists, move products between wish lists, and add products to the cart from wish lists.
Requisitions	B2B customers can view their requisitions divided into the following areas: ✓ Pending ✓ Approved ✓ Rejected
Quoting	Customers can view a list of their quotes and quote details of all quotes.
Order Templates	B2B customers can view a list of their order templates and details of all order templates. Customers can create, edit, and delete order templates, add and remove products from order templates, move products between order templates, and add products to the cart from order templates.
My Approvals	
Approvals	Buyer approvers or cost center managers of B2B organizations can view the requisitions that are supposed to be processed or are already processed divided into the following areas: ✓ Waiting for your Approval ✓ Approved Requisitions ✓ Rejected Requisitions Buyer approvers or cost center managers of B2B organizations can approve and reject requisitions.
My Profile	
Profile Settings	Customers can view and edit the following profile data: ✓ E-mail (changing e-mail currently supported without password check) ✓ Password ✓ Contact details ✓ Newsletter Subscription
Payment	Payment details can be saved during checkout and viewed and deleted in the My Account area.
Notifications	Product notifications for availability in stock and for prices can be created on product detail page and viewed, updated, and deleted in the My Account area.
My Organization	
Addresses	Addresses can be created, viewed, and deleted. Preferred shipping and invoice addresses can be defined.
User Management	Administrators of B2B customer organizations can view, add, edit, and delete company account users and manage roles and budget limits of users. Company account users can be imported by bulk import based on an uploaded CSV file.
Cost Center Management	Administrators of B2B customer organizations or cost center managers can view, add, edit, and delete cost centers, assign users to the cost center, and manage cost center budgets as well as user-specific cost center budgets. Cost centers can be imported by bulk import based on an uploaded CSV file.
Punchout	Administrators of B2B customer organizations can view, add, edit, and delete OCI or cXML Punchout users in order to automatically log in users to the storefront when opening a Punchout session.
Content Management	
Pages/Includes	The following pages of the storefront can be managed by the integrated Content Management System (CMS): ✓ Static Content Pages ✓ Footer On all other pages/routes the content is managed via Content Includes or View Contexts (Includes). The following CMS components are supported within the storefront:
Components	✓ Carousel ✓ Container ✓ Dialog ✓ Enhanced Image Teaser (with configurable lazy loading) ✓ Freestyle HTML ✓ Image ✓ Navigation Category ✓ Navigation Link ✓ Navigation Page ✓ Product List (Manual) ✓ Product List (Category) ✓ Product List (Filter) ✓ Product List (REST) ✓ Product List (SPARQLX Recommendations) ✓ Static Content Page Component (with configurable side panel navigation) ✓ Text ✓ Video
View Contexts	View Contexts are supported in the storefront.
Personalized Content	Personalized content can be displayed specifically for different customer segments.
Demo Content	Different pieces within category, family, product, header navigation, search, and basket page are provided to present CMS demo content.
Design Preview	The Design View Tab in CM can be used to preview content changes in the PWA, but without any direct editing capabilities.
Design View Support	The PWA is ready to be rendered in the Design View.
Localization	
Preferred Language	The user's preferred language can be saved as a cookie.