Frontend Modernization Summary (Itemized Audit)

Executive Brief (1-page)

- Total items: 77 (pages 17, components 23, state 4, api 11, mixins 8, system 14)
- Hours: Human 1300–2520; AI-assisted 762–1780
- Team/duration: With 3–4 devs (avg 35 h/week/dev), ~10–16 weeks AI-assisted; ~17–30 weeks human-only
- Top risks: Checkout adapter unification (XL), RFID/hardware, data/API contract drift
- Mitigations: Contract-first adapters, feature flags, dark-launch, test harnesses, phased rollout

First 3 Sprints (2 weeks each)

1. Foundations + ProductCard + Products List
2. Product Detail + Cart (RTK) + Products/Categories/Brands APIs
3. Checkout adapters core + ActiveCart views (baseline)

Executive Overview

- Based on full inventory of pages, components, state, API, mixins, and system areas.
- Includes per-item actions (replace/port/refactor/delete), difficulty, and hour estimates (human vs AI).

Totals & Hours

Frontend Modernization Roll-up

Totals by Category

Category	Human Min	Human Max	AI Min	AI Max
analytics	12	24	7	17
api	164	328	96	232
assets	4	8	2	6
build	36	72	21	51
components	404	768	237	542
config	12	24	7	17
docker	4	8	2	6
firebase	24	48	14	33
hosting	12	24	7	17
kiosk	12	24	7	17
mixins	100	200	58	142
pages	348	656	205	463
pwa	24	48	14	34
router	24	48	14	34
state	88	176	52	124
styling	32	64	19	45

Overall Totals

- Human: 1300-2520 hours
- AI-assisted: 762-1780 hours

Scoring & Estimation Rubric

Fields per Item

- category: pages | components | state | api | mixins | styling | build | router | analytics | firebase | pwa
- item: primary identifier (e.g., ScreenHome.vue)
- route (optional): for pages
- action: replace | port | refactor | delete
- complexity: S | M | L | XL
- difficulty: 1-5 (maps from complexity: S=2, M=3, L=4, XL=5; adjust as needed)
- human_min/human_max: hour range for human-only dev
- ai_min/ai_max: hour range with AI-assisted dev (0.6x-0.7x of human)
- risk: low | medium | high
- deps: key dependencies (state, API, POS, etc.)
- notes: clarifying context

Complexity → Human Hours

- S: 4-8h
- M: 12-24h
- L: 32-64h
- XL: 80-120h

AI Assistance Adjustment

- ai_min = human_min × 0.6
- ai_max = human_max × 0.7

Prioritization (optional)

- priority = business_impact (1-5) × (risk_weight 0.5 + effort_weight 0.5) with lower effort favored
- Use tags: core-flow, kiosk-only, admin-only to batch scheduling

Pages (selected)

item	route	action	complexity	human_min	human_max	ai_min	ai_max	risk
ScreenHome.vue	/	replace	L	32	64	19	45	medium
ScreenBlank.vue	/blank	delete	S	4	8	2	6	low
ScreenDebugCache.vue	/debug-cache	delete	S	4	8	2	6	low
ScreenProducts.vue	/products/:categoryId	replace	L	32	64	19	45	medium
ScreenProducts.vue	/products	replace	L	32	64	19	45	medium
ScreenProductsPromotions.vue	/on-sale	replace	M	12	24	7	17	medium
ScreenProduct.vue	/product/:id	replace	L	32	64	19	45	medium
ScreenBrands.vue	/brands	refactor	M	12	24	7	17	medium
ScreenEffectsUses.vue	/effects-uses	refactor	M	12	24	7	17	medium
ScreenFeaturedProducts.vue	/featured-products	refactor	M	12	24	7	17	medium
ScreenCart.vue	/cart	replace	L	32	64	19	45	medium
ScreenCheckout.vue	/checkout	replace	XL	80	120	48	84	high
ScreenUploadEvents.vue	/analytics	refactor	M	12	24	7	17	low
ScreenIframeTest.vue	/iframe-test	delete	S	4	8	2	6	low
ActiveCartKeepShopping.vue	/active-cart/keep-shopping	refactor/port	M	12	24	7	17	medium
ActiveCartCheckoutCompleted.vue	/active-cart/created	refactor/port	M	12	24	7	17	medium

ThankYouOrderCompleted.vue	/thank-you	refactor/port	M	12	24	7	17	medium

Components (selected)

item	action	complexity	human_min	human_max	ai_min	ai_max	risk
ScreenHome.vue	replace	L	32	64	19	45	medium
ScreenHome* variants	refactor to layout system	M-L	24	48	14	33	medium
ScreenProducts.vue	replace	L	32	64	19	45	medium
ScreenProduct.vue	replace	L	32	64	19	45	medium
ScreenCart.vue	replace	L	32	64	19	45	medium
ScreenCheckout* (Blaze/Treez/Flowhub/Leaflogix/Shopify/Covasoft)	replace via provider adapters	XL	80	120	48	84	high
ScreenFeaturedProducts.vue	refactor	M	12	24	7	17	low
ScreenEffectsUses.vue	refactor	M	12	24	7	17	low
ScreenBrands.vue	refactor	M	12	24	7	17	medium
ScreenUploadEvents.vue	refactor	M	12	24	7	17	low
ScreenIframeTest.vue	delete	S	4	8	2	6	low
ProductCard.vue	replace (port from React e-comm)	M	12	24	7	17	low
ProductImage.vue	replace	M	12	24	7	17	low
ProductGraphs.vue	refactor	M	12	24	7	17	low
Slider.vue	replace	M	12	24	7	17	low
Spinner.vue	replace	S	4	8	2	6	low
ModalTemplate.vue	replace	M	12	24	7	17	low
LottieContainer.vue	port	S	4	8	2	6	low
ShareButton.vue	refactor	S	4	8	2	6	low
ActiveCart* components	refactor/port	M	12	24	7	17	medium
TheSidebar.vue	replace	M	12	24	7	17	low
TheNav.vue	replace	M	12	24	7	17	low
TheBrandSlideshow.vue	refactor	M	12	24	7	17	low

State

item	action	complexity	human_min	human_max	ai_min	ai_max
store.js	replace	M	12	24	7	17
modules/cart.js	replace (port RTK cart)	L	32	64	19	45
modules/products.js	replace	L	32	64	19	45
user slice (new)	port	M	12	24	7	17

API Domains

item	action	complexity	human_min	human_max	ai_min	ai_max	risk
api/http.js	replace	M	12	24	7	17	medium
api/urls.js	replace	S	4	8	2	6	low

LocalRepo/RemoteRepo/repo.js	replace	M	12	24	7	17	medium
db.js/dbconfig.js	refactor	M	12	24	7	17	medium
products domain	replace	L	32	64	19	45	medium
categories domain	replace	M	12	24	7	17	low
brands domain	replace	M	12	24	7	17	low
feature-tags domain	replace	M	12	24	7	17	low
articles domain	refactor	M	12	24	7	17	low
rfid domain	refactor/port	L	32	64	19	45	high
messaging (fb)	refactor	M	12	24	7	17	medium

Mixins & Plugins

item	action	complexity	human_min	human_max	ai_min	ai_max
MergeConfig.js	refactor	M	12	24	7	17
isCardWithAttributes.js	refactor	S	4	8	2	6
HasShopify.js	refactor	M	12	24	7	17
HasProductsPaginated.js	replace	M	12	24	7	17
redirectEvent.js	refactor	S	4	8	2	6
keyboardEvents.js	replace	M	12	24	7	17
offlineMixin.js	replace	L	32	64	19	45
aeropayEvent.js	refactor	M	12	24	7	17

System Areas

category	item	action	complexity	human_min	human_max	ai_min	ai_max
styling	SCSS -> MUI/Tailwind	replace	L	32	64	19	45
assets	Fonts/Images/SVGs	refactor	S	4	8	2	6
build	Webpack 3.x -> Vite	replace	L	32	64	19	45
build	Babel/PostCSS configs	replace	S	4	8	2	6
hosting	Firebase hosting config	refactor	M	12	24	7	17
docker	Dockerfiles	refactor	S	4	8	2	6
router	Route mapping to Next.js	replace	M	12	24	7	17
router	Nav helpers/guards	refactor	M	12	24	7	17
analytics	SDK + schema	replace/refactor	M	12	24	7	17
config	globals -> typed config	replace	M	12	24	7	17
firebase	Functions/messaging	refactor/replace	M-L	24	48	14	33
pwa	Service worker -> Workbox	replace	M	12	24	7	17
pwa	Background sync + uploads	refactor	M	12	24	7	17
kiosk	On-screen keyboard	replace	M	12	24	7	17

Prioritization (Critical Path)

Frontend Modernization Prioritization (Critical Path)

Guiding principle: Ship the shopper flow first (Browse → Product → Cart → Checkout), then expand to layouts, analytics, and PWA. Group work to minimize context switching and maximize reuse.

Phase 0: Foundations (unblock everything)

1. Build/Config → Vite, TypeScript, ESLint/Prettier, MUI theme, Tailwind optional (system: build, config)
   - Blocks: all UI work
2. Router mapping → Next.js App Router, typed routes, nav helpers (router)
   - Blocks: pages/components
3. HTTP client → typed axios/fetch + interceptors (api/http.js, urls.js)
   - Blocks: API domains, data fetching
4. State setup → Redux Toolkit store + React Query (state/store.js)
   - Blocks: products/cart/user slices

Phase 1: Core Shopping Flow (MVP)

5. ProductCard + ProductImage (components)
   - Reuse e-comm patterns; unlocks list/detail
6. Products List (pages/components: ScreenProducts)
   - Filters, paging; depends on products API domain
7. Product Detail (ScreenProduct)
   - Gallery/specs; depends on ProductCard/Image
8. Cart (ScreenCart + RTK cart slice)
   - Port RTK cart; persistence
9. API domains: products, categories, brands (api)
   - Server-state hooks and DTOs

Phase 2: Checkout Unification (XL)

10. Checkout adapters (Blaze/Treez/Flowhub/Leaflogix/Shopify/Covasoft)
    - Single flow + provider adapters; payment/validation
11. ActiveCart views (keep-shopping, created, thank-you)
    - Session and timers; integrate with checkout

Phase 3: Layouts, Discovery, Promotions

12. Home layouts consolidation → configurable layout system (ScreenHome*)
    - M-L, multiple variants in one system
13. Featured / Effects-Uses / Brands (pages/components)
    - Refactors with shared widgets

Phase 4: Reliability, Analytics, PWA

14. Analytics SDK + event schema + instrumentation (analytics)
    - Unified event model, batching
15. PWA/Offline → Workbox, background sync, cache (pwa)
    - Replace custom SW; integrate with React Query
16. On-screen keyboard replacement (kiosk)
    - Modern lib; kiosk ergonomics

Phase 5: Cleanup & Low-Value Items

17. Move dev-only pages to admin; delete legacy (iframe, debug)
18. Firebase functions/messaging: migrate or isolate to admin (firebase)

Dependencies & Blockers

- Foundations (0) → prerequisite to Phases 1–5
- API domains (9) → needed by (6–8, 12–13)
- Checkout adapters (10) → depends on cart and API domains

Suggested Sprinting (2-week sprints)

- Sprint 1: Phase 0 + 5–6
- Sprint 2: 7–9
- Sprint 3–4: 10–11
- Sprint 5: 12–13
- Sprint 6: 14–16
- Sprint 7: 17–18

Risk Notes

- Highest risk: Checkout adapters (XL), RFID/hardware abstractions if included later
- Mitigate by: contract-first adapter design, feature flags, dark-launch