

Design System & Component Reference

A guide to the visual language, component decisions, and clinical rationale behind the Issue Tracker. Presented alongside an OSCAR-constrained implementation to illustrate design adaptation under technical constraints.

PROJECT

Issue Tracker / DTP Tracker

STATUS

Prototype / Design handoff artefact

CONTEXT

OSCAR EMR, Pharmacist Integration

AUDIENCE

Clinicians (pharmacists, physicians, MRPs)

ROLE

Service Design · Information Architecture ·
UX/UI Design

DOCUMENT PURPOSE

Design system for developer implementation

1 Design Principles

Clinicians using this tool are under cognitive load, time pressure, and carry professional accountability for every entry. The design principles reflect these realities.

1.1 Support Consistency While Allowing Customization

The tracker should enable more consistent documentation while respecting individual clinical judgment and workflows.

1.2 Reflect Clinical Reality

The tracker must accommodate the variability and nuance of real-world DTPs, rather than forcing clinicians into rigid categories.

1.3 Fit Into Existing Workflows With Minimal Friction

Fit into existing workflows with minimal friction. Any improvement must work within the constraints of a live clinic and the OSCAR EMR, without adding documentation burden.

1.4 Enable Continuity and Accountability Over Time

Enable continuity and accountability over time. The tool should support follow-up, handoff, and shared understanding amongst care team.

1.5 Design for the Constrained Environment


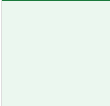




OSCAR is a legacy web EMR with limited CSS and JavaScript support. Every design decision has been made with two versions in mind: the ideal expression and the OSCAR-constrained fallback. The information architecture, field structure, status semantics, and clinical workflow are identical in both. Only the visual layer differs.

2 Colour System

Colour in this system carries clinical meaning. Each colour is tied to a specific status state and appears only in that context — preventing the ambiguity that arises when colour is used decoratively.

2.1 Status Colours




The three primary status states — Active, Flagged, Archived — each have a dedicated colour. These colours appear on status badges, section dividers, filter controls, and row-level thread indicators.

	HEX	TOKEN NAME	CLINICAL MEANING · USAGE
	#1A7A3C	colour-active	Active <i>Currently being managed — requires clinician action. Used for status badges, thread bars, filter checkbox.</i>
	#EBF7EF	colour-active-bg	Active Background <i>Background tint for active status badges, selected radio buttons, summary cards.</i>
	#A05F0A	colour-flagged	Flagged <i>Monitoring — watching for change, may self-resolve. Used for status badges, section header, filter.</i>
	#FDF3E3	colour-flagged-bg	Flagged Background <i>Background tint for flagged status elements.</i>
	#6B6560	colour-archived	Archived <i>Historical record — no longer active. Low visual weight. Rows render at 65% opacity.</i>
	#EDE9E5	colour-archived-bg	Archived Background <i>Background tint for archived elements.</i>

Colour accessibility — All status colour pairs (foreground on background) meet WCAG AA contrast ratios for normal text (4.5:1 minimum). Active: #1A7A3C on #EBF7EF = 5.2:1. Flagged: #A05F0A on #FDF3E3 = 4.7:1. Archived: #6B6560 on #EDE9E5 = 4.6:1.

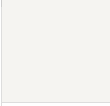
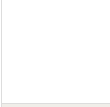
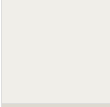
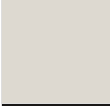
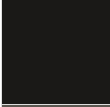
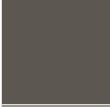

2.2 Chain / Causal Link Colours

Issues are grouped into causal chains or sequences of related drug therapy problems. Each chain has a dedicated accent colour used for thread bars, group headers, and timeline nodes. These colours are secondary to status colours and should never be confused with clinical urgency.

	HEX	TOKEN NAME	CLINICAL MEANING · USAGE
	#5B6FBF	colour-chain-depression	Depression / MDD Chain <i>Indigo — used for thread bar, group label, causal link badges within the depression care chain.</i>
	#2E9688	colour-chain-candesartan	Candesartan Therapy Chain <i>Teal — used for thread bar, group label, and causal link badges within the antihypertensive care chain.</i>
	#8B5CF6	colour-chain-infection	Lip / Infection Chain <i>Violet — used for thread bar and group label within the infection care chain.</i>

2.3 Interface / Chrome Colours

Neutral colours used for page structure, borders, text hierarchy, and surfaces. These colours are used across both the ideal prototype and the OSCAR-constrained version.

	HEX	TOKEN NAME	CLINICAL MEANING · USAGE
	#F5F4F1	colour-bg	Page Background <i>Warm off-white page background. Reduces eye strain compared to pure white.</i>
	#FFFFFF	colour-surface	Surface <i>Card and table backgrounds. Used for content panels, modals, detail boxes.</i>
	#F0EEE9	colour-surface-2	Surface 2 <i>Slightly darker surface — used for table headers, expanded row backgrounds, input fields.</i>
	#DDD9D0	colour-border	Border <i>Default border colour for cards, table cells, input fields.</i>
	#1A1917	colour-text-primary	Text Primary <i>Near-black — used for issue names, modal titles, primary content.</i>
	#5C5851	colour-text-secondary	Text Secondary <i>Dark warm grey — supporting text, column values, detail box content.</i>
	#9A948A	colour-text-muted	Text Muted

Light warm grey — field hints, metadata, timestamps, empty state labels.

3 Typography

3.1 Ideal Prototype — IBM Plex Sans + IBM Plex Mono

IBM Plex Sans was chosen as the primary typeface for the ideal prototype. Designed for information-dense technical interfaces, it has excellent legibility at small sizes, a clinical authority without feeling cold, and a mono companion (IBM Plex Mono) that pairs naturally for numeric data.

IBM Plex Sans is an open-source typeface by IBM released under the SIL Open Font License. It is free to use in web applications via Google Fonts or self-hosted.

ROLE	SIZE	WEIGHT	USAGE
Page title	20px / 40pt	600	<i>Patient name and tool title in the page header</i>
Section heading	13px / 26pt	700	<i>Table action bar title, modal titles, group labels</i>
Body / Row text	13px / 26pt	400	<i>Issue names, medication names, field values</i>
Label	11px / 22pt	700 + uppercase	<i>Column headers, field labels, section dividers (with letter-spacing 0.09em)</i>
Hint / metadata	11px / 22pt	400 + italic	<i>Field hints below labels, empty state text, chip meta</i>
Mono — doses/dates	12px / 24pt	400 (IBM Plex Mono)	<i>Daily dose, med start date, last updated date — any numeric/coded clinical data</i>

3.2 OSCAR Constraints: Arial

OSCAR's rendering environment uses system fonts. Arial is the reliable cross-platform fallback that renders consistently in OSCAR's HTML rendering context. Courier New replaces IBM Plex Mono for numeric clinical data. Font sizes and weight rules are preserved; only the typeface changes.

4 Components

4.1 Status Badge

The status badge is the most critical component in the system. It appears in every table row and must be immediately legible in the context of a dense clinical table.

Design Decision	Clinical Rationale
Colour coded background with coloured text	<i>Foreground only colour (e.g. coloured text on white) fails at small sizes and for users with colour vision deficiencies. The tinted background creates a larger colour region that registers peripherally.</i>
Bullet dot prefix inside badge	<i>The dot is a redundant indicator, it communicates "this is a status" even before the text is read. It also creates a clear visual target for the eye.</i>
All-caps text, 10px, 0.05em letterspacing	<i>Clinical systems convention for status labels. Distinguishes status badges from regular body text at a glance.</i>
2px border radius (OSCAR) / 4px (ideal)	<i>OSCAR constrains near-flat borders. The ideal version uses a slightly softer radius. Both maintain a "label" quality distinct from pills or chips.</i>

4.2 Status Filter — Checkboxes

The filter control uses native HTML checkboxes (styled in the ideal version, native in OSCAR). Checkboxes were chosen over radio buttons or tabs because Active and Flagged are not mutually exclusive views — a clinician may need to see both simultaneously. Archived is unchecked by default because it represents historical data irrelevant to most clinical reviews.

Default state: Active Flagged Archived — This is the "clinical working view" — everything currently on the radar, with history hidden until explicitly requested. A "Reset to default" link appears only when the state has been changed from the default.

Why not tabs? Tabs imply navigating between fundamentally different content types. Active, Flagged, and Archived are status filters on the same content — not separate workspaces. Tabs would prevent a clinician from viewing Active and Flagged issues in a single list, which is a common workflow at the start of a patient assessment.

Why not radio buttons? Radio buttons imply exactly one selection. A pharmacist reviewing a patient may want to see Active + Flagged but not Archived — a two-category selection. Radio buttons cannot express this.

4.3 Status Selection — Vertical Radio Buttons

In the Log Issue and Update Issue modals, status is selected via vertically stacked radio buttons rather than a horizontal layout or dropdown. This follows WCAG and established form design guidance for radio button groups.

Design Decision	Clinical Rationale
Vertical stacking (not horizontal)	<i>Horizontal radio buttons require horizontal eye movement to associate label with control. Vertical stacking aligns all controls to a single left edge — easier to scan, less ambiguous.</i>
Full-width card treatment per option	<i>Each option is a tappable card rather than a small radio circle + text. This increases touch target size, makes the selected state highly visible (colour change on entire card), and reduces mis-selection risk.</i>
Descriptive sub-label under each option	<i>"Active — Requires action now" is more informative than "Active" alone. Clinicians new to the tool understand the clinical implication of each choice from the label itself.</i>
Colour change on selection (not just dot fill)	<i>The entire card border and background shifts to the status colour when selected. This makes the current selection unmistakable — important given the clinical stakes of Active vs Flagged.</i>

4.4 Expanded Row Detail

Clicking a table row expands a detail panel below it. The detail panel contains fields not visible in the collapsed row: Indication, Notes, Related To, Archive Reason (if applicable), and action buttons.

Design Decision	Clinical Rationale
"Update Issue" button inside expanded detail, not on collapsed row	<i>Editing an issue requires reading its current state first. The expand-then-edit workflow matches clinical practice, clinicians edit with context. Putting the edit button on the collapsed row would encourage edits without reviewing context.</i>
Indication vs Notes — two separate fields	<i>Indication is the prescribed reason for a medication (formal, documented). Notes reflects clinical reality; what the clinician observed, what the patient reported, the plan. These frequently differ and conflating them erases clinically important information.</i>
Related To — quick-tap list of recent issues	<i>No algorithm or problem-list dependency. The system surfaces existing issues for this patient as tappable options. The clinician makes the explicit link. This preserves accountability and avoids false confidence from automated grouping.</i>
"Mark as no longer an issue" button (flagged only)	<i>Flagged issues require a deliberate close action rather than a simple status change. The prompted close modal surfaces related active issues and asks the clinician to confirm or dismiss each — preventing silent archiving of clinically connected items.</i>

4.5 Log Issue Modal — Form Structure

The Log Issue form is divided into two sections: Issue Details (always visible) and Medication Details (conditionally enabled). This structure reflects clinical reality — not every issue involves a medication, and the dose/start date fields are meaningless without a medication context.

Design Decision	Clinical Rationale
Medication section dims when medication field is empty	<i>Dose and start date are logically dependent on a medication existing. Dimming (and disabling) them when the medication field is blank prevents empty submissions and signals the dependency visually.</i>
Category field hidden from dashboard; shown only in form	<i>Category is for reporting and internal KPIs, it is not a clinical concept clinicians think in. Surfacing it in the dashboard would pollute the clinical view with administrative taxonomy. It is captured at entry but kept invisible in the patient-facing table.</i>
Med Start Date pre-fills with today	<i>The majority of logged issues are logged at time of encounter. Pre-filling today removes a friction point for the common case while remaining editable for backdating.</i>
Notes field is required; Indication is optional	<i>Indication may not be known or documented. Notes always should be documented. The clinician's observation is the clinical value of this tool. Making the Notes section required ensures the log entry is substantive rather than a bare label.</i>

5 Ideal vs OSCAR-Constrained Comparison

The following table maps every significant design element to its ideal expression and its OSCAR-constrained equivalent. Elements marked as Preserved survive intact. Elements marked as Adapted are functionally equivalent but visually simplified. Elements marked as Deferred require engineering investment beyond OSCAR's current constraints.

Element	Ideal Prototype	OSCAR Constrained	Status
Typeface	IBM Plex Sans + IBM Plex Mono	Arial + Courier New	Adapted
Status badge	Styled pill, custom colours, dot prefix	Flat border box, native colour	Adapted
Row checkboxes	Custom styled, colour-coded on check	Native HTML checkbox, accent-color only	Adapted
Filter checkboxes	Custom styled, status-coloured when checked	Native HTML checkbox, labelled	Adapted

Status selection (modal)	Full-width card radios, vertical, animated	Bordered rows, native radio, vertical	Preserved
Section dividers	Subtle watermark row — tiny dot + label	Coloured text row — standard table row	Adapted
Causal thread bar	3px coloured left border on row hover	Coloured indicator dot in group header	Adapted
Modal animation	Smooth slide-up with backdrop blur	Instant show/hide, solid overlay	Adapted
Expanded row detail	2-col card grid, animated open	Flat detail row, flex wrap	Preserved
Indication vs Notes split	Two separate fields with hint text	Two separate fields with hint text	Preserved
Related-to field	Quick-tap chip list of recent issues	Button list of recent issues	Preserved
Med fields conditional	Dimmed + disabled when no medication	Dimmed + disabled when no medication	Preserved
Update Issue button	Blue outlined button in detail panel	Grey secondary button in detail row	Preserved
Bulk actions bar	Below table, styled checkboxes	Below table, native checkboxes	Preserved
Print / Fax modal	Styled option cards with checkboxes	Native checkboxes in flat rows	Preserved
Timeline view	SVG causal chain with interactive nodes	Placeholder — requires chart library approval	Deferred
Custom animations	CSS transitions throughout	None	Deferred

Reading the status column; Preserved: identical function and visual expression in both versions. Adapted: same function, simplified visual treatment. Deferred: requires additional engineering investment, typically a chart library, custom CSS framework, or JavaScript that may not be available in OSCAR's build environment.

6 Spacing & Layout

A consistent spacing scale reduces visual noise and ensures component relationships are predictable. The following scale is used throughout both prototype versions.

TOKEN	VALUE	USED FOR
space-2	2px	<i>Icon-to-text gap within badges and small inline elements</i>
space-4	4px	<i>Status dot to label within badges</i>
space-8	8px	<i>Field label to hint text; icon gap in buttons; chip gap</i>
space-12	12px	<i>Form grid gap; detail box gap; filter group internal padding</i>
space-16	16px	<i>Table cell horizontal padding; modal body horizontal padding</i>
space-20	20px	<i>Form section gap; modal section spacing</i>

space-24	24px	<i>Modal header padding; page section separation</i>
space-32	32px	<i>Page header margin; major section separation</i>
radius-2	2px	<i>OSCAR-constrained border radius — badges, buttons, inputs</i>
radius-4	4px	<i>Ideal prototype — small elements (badges, filters)</i>
radius-8	8px	<i>Ideal prototype — cards, detail boxes, modals</i>
radius-12	12px	<i>Ideal prototype — main table container, primary modal</i>

7 Key Clinical Design Decisions

These decisions were made specifically for the clinical context and would not appear in a generic CRUD interface. Each represents a place where clinical domain knowledge shaped the design.

7.1 No Auto-Grouping

The initial design explored automatic grouping of related issues by ICD code or problem list. This was rejected for three reasons:

- False confidence — system grouping becomes the clinician's mental model; correcting a wrong group is harder than building a right one from scratch
- ICD codes are too blunt — designed for billing, not causal clinical narratives. Two issues can share a code but be clinically unrelated, or be deeply related but coded differently
- Accountability — if the clinician didn't make the grouping decision, they may not feel responsible for it

The adopted approach: a "Related to" field with a quick-tap list of the patient's existing issues. The clinician makes an explicit link. The visual chain (thread bars, timeline arrows) emerges from those links — not from an algorithm.

7.2 Prompted Close for Flagged Issues

When a clinician marks a flagged issue as resolved, the system surfaces any related active issues and asks the clinician to confirm or dismiss each before archiving. This was designed because:

- Flagged issues often exist because an active issue is expected to resolve them — archiving the active issue without reviewing related flagged ones creates orphaned entries
- Clinicians under time pressure might archive quickly without considering downstream effects
- The prompted modal creates a deliberate pause — a clinical safety checkpoint — without requiring a separate workflow

7.3 Active vs Flagged — Semantic Distinction

These two statuses look similar (both represent "current concerns") but carry different clinical weight:

- Active: requires clinician action. Something must be done. The green colour reflects engagement, not safety.
- Flagged: watching. The clinician has noticed something worth monitoring. Amber reflects caution and attention without urgency.

This distinction was validated through clinical discussion. The colour mapping (green = active, amber = flagged) was deliberately counter-intuitive relative to traffic light convention — in this context green does not mean "safe," it means "engaged." This required the descriptive sub-labels in the radio button component to prevent misreading.

7.4 Archived Rows at Reduced Opacity

Archived rows render at 65% opacity in the table view. They are only shown when the Archived filter checkbox is checked (off by default). This reflects two clinical realities:

- Historical issues are reference material, not active concerns. They should be available for context but should not compete visually with current issues.
- A pharmacist reviewing a complex patient should be able to focus on active and flagged issues without cognitive noise from a long archive.

Archived issues are never deleted — they form the permanent clinical record. The reduced opacity is a display affordance, not a data state. The Archive Reason tag on each archived entry preserves the reason for closure, supporting audit and clinical review.