

Homeschool Tracker v2 (HST_v2) — Canonical UX Charter

Executive Summary & Scope

This UX Charter serves as the single source of truth for design decisions, layout structures, visual density tokens, theme specifications, accessibility requirements, and interaction patterns across the Homeschool Tracker v2 platform. All frontend implementation sessions (S04 Design System & UI Shell, and S06–S15 Vertical Feature Modules) must conform strictly to the specifications outlined in this document.

1. Design Philosophy

Homeschooling families manage complex multi-grade schedules, academic record-keeping, co-op commitments, and daily household routines. The software must serve as a soothing, supportive partner rather than an overwhelming administrative chore. Our design philosophy rests on three core tenets:

1. Calm

- **Low cognitive overhead:** Interfaces prioritize breathing room, gentle neutral tones, and generous spacing over densely packed UI.
- **Stress reduction:** Overdue items and missed schedules are presented as flexible opportunities to reschedule rather than punitive alarms.
- **Low-saturation palettes:** Primary UI surfaces use soft, muted colors. Bright accent colors are reserved exclusively for active states and critical alerts.

2. Clear

- **High legibility:** Clear typography hierarchy with minimum 16px body font and 1.5 line height.
- **Unambiguous navigation:** Navigation is categorized into 4 predictable domain buckets (**Plan**, **Learn**, **Track**, **Manage**) with consistent location and role-based visibility.
- **Predictable interaction models:** Similar tasks share identical UI patterns (e.g., inline editing for tabular data, modal forms for task creation).

3. Kind

- **Supportive tone:** Error messages and empty states offer constructive, actionable paths forward.
 - **Forgiving interactions:** Auto-save on blur, easy undo capabilities, and non-destructive "snooze/reschedule" flows.
 - **Respect for time:** Multi-step wizards break complex setup tasks into bite-sized (~5 minute) workflows.
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2. User Personas

Persona	Role Description & Key Goals	Primary Interaction Frequency	Key Primary Screens
Parent / Primary Educator	Manages family curricula, assigns daily lessons, records grades, monitors progress across multiple children, tracks attendance, and ensures state compliance.	Daily (multiple sessions/day)	Parent Dashboard, Daily Planner, Gradebook, Lesson Queue, Settings
Student	Views daily/weekly assignments, marks tasks complete, logs reading progress, checks personal achievements, and submits work samples.	Daily (1–2 sessions/day)	Student Dashboard, Daily Checklist, Bookshelf, Portfolio
Co-Op / External Teacher	Teaches specific group classes (e.g., Science Lab, Art History), assigns group homework, logs attendance, and submits grades to parents.	Weekly / Semi-Weekly	Teacher Gradebook, Class Roster, Assignment Queue
Co-Op Member / Group Admin	Manages co-op enrollment, facility schedules, shared resource lending, and administrative announcements.	Weekly / Monthly	Co-Op Directory, Facility Calendar, Resource Management
System Administrator	Handles system health, user roles, security settings, subscription management, and global reference data.	Monthly / As Needed	Admin Console, User Directory, Audit Logs

3. Information Architecture (IA)

Navigation is structured into **4 Primary Navigation Buckets**, accessible via a top navbar on desktop and bottom navigation bar on mobile devices.

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| [Brand Logo] Plan | Learn | Track | Manage [Profile/Theme] |
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Role-Based Navigation Visibility Matrix

Navigation Bucket	Sub-Items / Sections	Parent	Student	Teacher	Co-Op Admin	System Admin
:---	:---	:C:	:C:	:C:	:C:	:C:
Plan	Daily Planner, Lesson Queue, Calendar View, Resource Scheduler	V	V (Daily)	V (Classes)	V	V
Learn	Courses & Curricula, Bookshelf & Reading Log, Field Trips, Projects	V	V	V	V	V
Track	Gradebook, Attendance Log, Transcripts & Reports, Portfolio	V	V (Read)	V (Grades)	V	V
Manage	Family Setup, Students, Co-Op Groups, System Settings	V	--	--	V	V

*(Key: **V** = Visible & Accessible, **Read** = Read-only access, -- = Hidden)*

4. Dashboard — Hybrid Cards + Timeline Feed

The Parent Dashboard is the operational hub of the platform. It employs a **Hybrid Architecture** combining high-level summary cards at the top with a chronological daily timeline feed below.

Visual Layout Diagram

PARENT DASHBOARD			
[Child 1 Card]	[Child 2 Card]	[Family Streak Card]	[Unread Msg]
- Emma (Grade 5)	- Liam (Grade 2)	- 14 Days Active	- 2 Co-op Msgs
- 4/5 Tasks Done	- 2/3 Tasks Done	- 92% Completion Rate	- Read Now ->
TODAY'S TIMELINE		[+ Add Task] [Filter]	
08:30 AM	Math Chapter 4 Worksheet	[Emma]	Completed [v]
09:30 AM	Science Lab: Plant Cells	[Liam]	In Progress [...]
11:00 AM	History Reading Ch 12	[Emma]	Upcoming
UPCOMING THIS WEEK			
Wed 10:00 AM	Co-Op Art Workshop	[Family]	Scheduled
Thu 02:00 PM	Field Trip: Planetarium	[Family]	Confirmed

Dashboard Content by Role

- **Parent View:**
 - **Cards (Top):** Individual cards for each child showing daily completion progress bar, current energy level index, and streak counter; overall family activity streak card; unread messages/co-op alerts card.
 - **Timeline Feed (Bottom):** Integrated chronological listing of today's scheduled lessons, assigned chores, co-op events, and field trips. Filterable by child or subject.
- **Student View:**
 - **Cards (Top):** "My Today" task progress ring, current reading goal tracker, personal streak badge.
 - **Timeline Feed (Bottom):** Simplified checklist sorted by time and priority with large touch targets for checking off completed work.

5. Form Patterns — Context-Driven Hybrid

To minimize friction and prevent form fatigue, forms use four distinct patterns based on context and data complexity:

Pattern A: Inline Editing (Tabular Data & Quick Updates)

- **Use Cases:** Gradebook cells, quick task title editing, status updates.
- **Behavior:** Clicking a table cell converts text to an active input field. Pressing **Enter** or blurring saves the change instantly with a subtle green flash. Pressing **Escape** cancels edits. Pressing **Tab** saves and advances focus to the adjacent cell.

Pattern B: Single-Page Forms (Standard Data Entry)

- **Use Cases:** Quick task creation modal, login/registration, editing student profile, book entry.

- **Behavior:** Stacked vertical fields with clear labels above inputs. Primary action button aligned right at bottom, secondary "Cancel" button to the left. Form validation triggers on blur or submission.

Pattern C: Multi-Step Wizards (Complex Setup & Onboarding)

- **Use Cases:** New family onboarding, school year setup, curriculum importer.
- **Behavior:** Top horizontal progress step bar showing active, completed, and upcoming steps. Clear "Back" and "Continue / Save" controls at bottom. State is saved per step.

Pattern D: Progressive Disclosure (Sparing Use for Advanced Settings)

- **Use Cases:** Advanced grading scale setup, custom attendance codes, notification triggers.
- **Behavior:** Complex fields are hidden behind collapsible toggles or "Advanced Options" expanders to avoid overwhelming users during routine setup.

Universal Form Rules

1. **Labels:** Always placed above input fields, crisp 14px/16px font weight 600. Never rely solely on placeholder text.
 2. **Helper Text:** Positioned directly beneath inputs in 12px/14px muted tone.
 3. **Validation Errors:** High contrast error message below the field with `aria-invalid="true"` and `aria-describedby` pointing to the error ID.
 4. **Required Fields:** Explicitly marked with an asterisk * and `required` attribute.
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6. Mobile Responsiveness

The platform supports responsive rendering across three primary breakpoints:

- **Mobile:** 360px – 767px
- **Tablet:** 768px – 1023px
- **Desktop:** 1024px+

Specific Mobile Adaptations

1. **Navigation:** Desktop top horizontal navigation transforms into a bottom sticky bar with icon + label for primary screens, plus a sliding "More" drawer for secondary options.
2. **Gradebook:** Wide grade tables transform on mobile into card lists per student or horizontal scrolling tables with sticky student name columns.
3. **Drag-and-Drop (Lesson Queue):** Touch devices support dedicated touch handle targets (`:before` drag handles) and tap-to-move action menus ("Move Up", "Move Down", "Send to Top") in addition to touch drag gestures.
4. **Long Forms & Modals:** Slide up as full-screen drawers on mobile screens (`<768px`) with sticky bottom action bars for easy thumb access.

5. **Tables & Data Grids:** Automatic horizontal scroll wrapper with gradient edge shadows indicating off-screen content.

7. Visual Density Tokens — "Sparse & Calm"

The system deliberately enforces a **Sparse & Calm** visual density model to prevent cognitive fatigue.

Token	CSS Value / Rule	Design Intent & Context
Body Font Size	16px (1rem)	Baseline body text for high readability
Heading Sizes	H1: 28px, H2: 24px, H3: 20px	Crisp visual hierarchy without aggressive scale
Line Height	1.5 (body), 1.25 (headings)	Adequate breathing room for text blocks
Card Padding	24px (1.5rem)	Generous internal whitespace inside content containers
Section Spacing	32px (2rem)	Clear vertical separation between layout blocks
Cards Per Screen	Max 3 to 4 cards visible	Limits visible items above fold to reduce clutter
Min Touch Target	44px x 44px	Accessible interactive targets for touch and pointer devices
Border Radius	8px (inputs/buttons), 12px (cards/modals)	Soft, friendly corners
Color Saturation	Low saturation neutrals (hsl s: 10%–25%)	Calming UI surfaces

8. Color Personality — 4 User-Toggleable Themes

Users can toggle between four built-in color themes according to personal preference or ambient light conditions.

Theme Definitions & Token Mapping

Theme 1: Calm (Default)

- **Personality:** Soothing sage greens and soft neutral backgrounds. Ideal for focused daily planning.
- **Primary:** #2e6f40 (Sage Green)
- **Primary Light / Accent:** #e8f5e9 (Soft Mint)

- **Background:** #f8faf8 (Off-white Sage)
- **Surface / Card:** #ffffff
- **Text Main:** #1c281e
- **Text Muted:** #5a6b5c
- **Border:** #d0ded2

Theme 2: Warm

- **Personality:** Cozy terracotta, warm sand, and amber accents. Inviting and tactile.
- **Primary:** #a04e28 (Terracotta)
- **Primary Light / Accent:** #fdf3ee (Sand Amber)
- **Background:** #faf6f0 (Warm Cream)
- **Surface / Card:** #ffffff
- **Text Main:** #2c201a
- **Text Muted:** #6e5b52
- **Border:** #e6d7cc

Theme 3: Playful

- **Personality:** Vibrant slate blue, cheerful coral, and sunny yellow highlights. Inspiring for young learners.
- **Primary:** #2b5c8f (Ocean Slate)
- **Primary Light / Accent:** #eef4fa (Sky Tint)
- **Background:** #f4f7fa (Cool Breeze)
- **Surface / Card:** #ffffff
- **Text Main:** #162230
- **Text Muted:** #526375
- **Border:** #d1deec

Theme 4: Dark

- **Personality:** Deep charcoal surfaces with soft emerald accents. Optimized for low-light environment usage.
- **Primary:** #4caf50 (Emerald)
- **Primary Light / Accent:** #1e3822 (Deep Forest)
- **Background:** #121614 (Midnight Charcoal)
- **Surface / Card:** #1a211d (Elevated Charcoal)
- **Text Main:** #e1e8e3
- **Text Muted:** #8e9e91
- **Border:** #2c3830

Technical Implementation Rules

1. **FOUC Prevention:** Theme loading script must run inline in the tag before DOM rendering to read `localStorage.getItem('hst_theme')` and apply `data-theme="..."` directly to `document.documentElement`.
2. **CSS Variables:** All colors must be consumed via CSS variables (e.g., `var(--bg-main)`, `var(--primary)`, `var(--text-main)`).
3. **Persistence:** Toggling a theme updates the `data-theme` attribute on and updates `localStorage.setItem('hst_theme', themeName)`.

9. Onboarding — 4-Step Wizard

The onboarding flow introduces new users to the platform in under 5 minutes without requiring immediate full setup.

[Step 1: Account Basics] ---> [Step 2: Family Setup] ---> [Step 3: School Year] ---> [Step 4: Subjects & Curriculum]

Onboarding Steps Detail

1. **Step 1 — Account Basics:** Parent name, email, password setup, time zone, and primary family role.
2. **Step 2 — Family Setup (Wireframed in S00):** Student profiles (name, grade level, birth date, preferred learning style avatar). Includes + [Add Another Child](#) action.
3. **Step 3 — School Year Setup:** Define start and end dates for current academic year, planned term/quarter breaks, and attendance tracking mode.
4. **Step 4 — Subjects & Curriculum:** Select default subject templates (Math, Language Arts, Science, Social Studies, Art) or import custom subject lists.

10. Empty States — Helpful with CTA

Empty states must never display cryptic messages like "`0 records found`" or blank white boxes. Every empty state follows a 3-part layout pattern:

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|               [ ICON ]               |
|               Friendly Headline Message               |
|               Explanatory text providing context and guidance.               |
|               [ Primary CTA Button ]               |
+-----+
```

Examples Across Vertical Modules

- **Daily Planner (No tasks scheduled):**
- Icon: Sun / Coffee cup

- **Headline:** "All clear for today!"
 - **Explanation:** "There are no lessons or tasks assigned for today. You can take the day off or schedule new tasks."
 - **CTA:** [+ Add Task for Today]
 - **Gradebook (No grades logged):**
 - **Icon:** Award / Pencil
 - **Headline:** "No grades recorded yet"
 - **Explanation:** "Select a subject and student above to enter your first assignment grade."
 - **CTA:** [+ Log First Grade]
 - **Bookshelf (Empty reading list):**
 - **Icon:** Open Book
 - **Headline:** "Your bookshelf is empty"
 - **Explanation:** "Keep track of required reading and favorite books for your children."
 - **CTA:** [+ Add Book]
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11. Accessibility (WCAG 2.1 AA Compliance)

Homeschool Tracker v2 is committed to universal accessibility for educators and students of all abilities.

Key Accessibility Rules

1. **Color Contrast:** Text contrast ratio must meet or exceed **4.5:1** for standard text and **3.0:1** for large text (18pt+ / 14pt bold).
 2. **Focus Rings:** Visible, high-contrast focus rings (**3px solid var(--primary)**) must appear on all interactive elements during keyboard navigation. Custom CSS resets must never use **outline: none** without a custom focus indicator.
 3. **Keyboard Navigation:**
 - **Tab / Shift+Tab:** Moves focus through interactive controls in logical DOM order.
 - **Enter / Space:** Activates buttons and toggles checkboxes/links.
 - **Escape:** Closes active modals, drawers, or inline editing inputs without saving.
 4. **ARIA Attributes:**
 - Icon-only buttons must have explicit **aria-label="..."** attributes.
 - Dynamic modals must use **role="dialog"**, **aria-modal="true"**, and **aria-labelledby="..."**.
 - Modals trap focus while open and restore focus to trigger element upon closing.
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12. Performance Budgets

To ensure fast load times and reliable performance even in rural areas on 4G connection speeds:

- **First Contentful Paint (FCP):** < 1.5s
- **Largest Contentful Paint (LCP):** < 2.5s
- **Time to Interactive (TTI):** < 3.0s
- **CSS Framework Policy:** Zero heavy third-party CSS frameworks (e.g., Tailwind, Bootstrap). Production CSS is modular vanilla CSS (`tokens.css` + `components.css`).
- **JavaScript Bundle Policy:** Zero heavy bundlers or monolithic JS frameworks (e.g., React, Vue, Angular). Vanilla ES6+ modules with standard web platform APIs.

13. Voice & Tone

Our communication style is **warm, direct, encouraging, and clear**.

Voice & Tone Guidelines

Do	Don't
"Great job! Emma completed all 4 tasks today."	"System Notice: User Emma completed batch tasks."
"Looks like a busy week ahead. Would you like to snooze green priority tasks?"	"ERROR 409: Schedule collision detected!"
"No worries—you can easily reschedule missed lessons to tomorrow."	"Warning: You are 3 days behind schedule!"
"Enter your student's details below to get started."	"User must supply required parameter string 'student_id'."

Document Information & Approvals

- **Author:** S00 UX Charter Session
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- **Consumers:** S04 (UI Shell & Tokens), S06–S15 (Vertical Feature Modules)