REPORT

RapidAir UX/UI Audit

Internal assessment of product experience, accessibility, and design-system readiness

RoleModel software

RoleModel Software
February 2026

RapidAir is a capable domain-specific CAD product with strong core mechanics already in place. The audit found that the product does not need a conceptual reset. It needs the surrounding experience, accessibility posture, and system consistency to rise to the level of the engineering underneath it.

> **Audit verdict**
>
> The strongest path is not to replace the editor. It is to fix the accessibility blockers, standardize the non-CAD interface layer, and then modernize the surrounding experience with a clearer design system.

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Executive summary

- 225 hardcoded CSS values across 36 stylesheet files
- 4 critical accessibility violations blocking WCAG AA readiness
- 22 unique colors outside the target design system
- 23 total findings: 4 critical, 8 high, 7 medium, 4 pattern

The natural migration path is clear: resolve the critical accessibility issues first, adopt Optics for the surrounding Rails and application UI layer, and keep the specialized CAD skin where it still serves the product well.

02

What is already working

- **Zero-friction entry:** users can begin designing without an account wall.
- **Reactive pipe calculator:** recommended pipe size updates in real time as the user works.
- **Contextual tool help:** guidance appears at the point of need instead of sending users elsewhere.
- **Silent autosave:** the system protects work without adding interface burden.

Those strengths matter because they show the product already understands the user's task. The audit is about sharpening the wrapper around that task, not discarding the product's best instincts.

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Highest-priority findings

The first sprint should be small, decisive, and compliance-oriented. Four issues deserve to move before any broader visual modernization:

1. Restore visible focus states instead of suppressing them globally.
2. Remove viewport settings that block pinch zoom.
3. Correct navigation semantics and current-location signaling.
4. Add proper modal semantics and keyboard behavior.

> **Why first**
>
> These are high-impact, low-ambiguity fixes. They improve real usability immediately and remove blockers before design-system work begins.

04

System consistency findings

RapidAir currently carries two visual systems at once: CSS custom properties in some areas and compiled-away SCSS variables in others. That split weakens maintainability and makes theming harder than it needs to be.

- The typography scale is incomplete, with only a partial heading definition in place.
- Button styling has multiplied into many variants without a shared token backbone.
- ProjectComponentsPanel is the highest-density hardcoded file and a strong first migration candidate.

The practical move is to standardize the surrounding application chrome and shared interface components first, while leaving specialized CAD behavior intact until the common layer is healthier.

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Experience findings

The editor is the strongest surface. The weaker moments appear before and around it: onboarding, account flows, visual hierarchy, and responsive behavior.

- The registration path undersells the product and asks users to do interpretive work before they have seen the value.
- Visual hierarchy is less intentional outside the editor than inside it.
- Some interaction patterns still depend on native browser behavior or weak feedback loops.
- Mobile treatment trails the quality of the desktop workspace and includes preventable accessibility friction.

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Recommended sequence

1. **Sprint 1:** fix the accessibility blockers and navigation semantics.
2. **Sprint 2:** consolidate shared tokens, typography, buttons, and non-CAD UI patterns around Optics.
3. **Sprint 3:** modernize onboarding, workspace efficiency, and higher-level interaction patterns.

This order keeps the work honest. It removes risk first, creates a cleaner foundation second, and only then spends design energy on broader experience lift.

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Reference notes

The first RapidAir run established the artifact trail future audits should preserve: the original raw audit, a detailed internal report, a polished presentation artifact, and a clear translation from findings into design direction.

What to preserve next time

Keep the raw audit, the finished audit document, the published presentation, and any prototype or deployment that helped make the recommendation legible. The farming system is strongest when the whole chain remains inspectable.