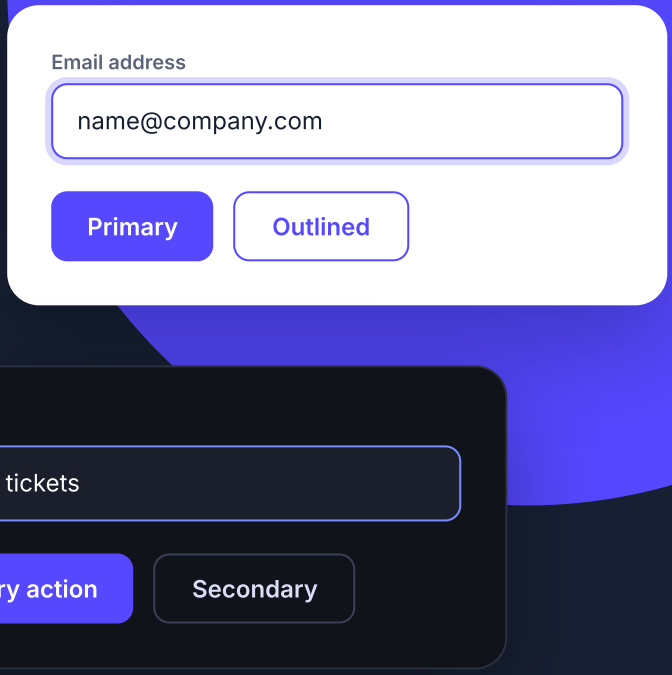
CONNECTWISE

ASIO Design System

MUI component library + dark theme

A portfolio case study about extending Material UI (MUI) into reusable, predictable and scalable enterprise components across light and dark experiences.



EXPERTISE
UX / Product Designer

PLATFORMS
Figma, MUI

DELIVERABLES
Component Library & Documentation

MUI components | States & variants | Light + dark themes | Documentation | Informed by RMM, PSA & Asio

Extending MUI for enterprise product needs

The work used Material UI (MUI) as the component foundation, then adapted component behavior, variants, styling and theme treatment for ConnectWise product experiences.

PROJECT OVERVIEW

A design system brings order to scale. For ConnectWise, that meant going beyond a component library: pairing MUI's primitives with clear standards for behavior, theming and documentation so teams could assemble product experiences consistently.

MUI components · States & variants · Light + dark themes · Documentation

CONTEXT

Enterprise SaaS workflows need a shared UI language across dense, data-rich product areas.

MY CONTRIBUTION

MUI component design, variants, states, interaction logic, dark-theme treatment, accessibility considerations and usage guidance.

DESIGN INTENT

Use MUI as a robust base while creating consistent patterns that fit product requirements and scale across teams.

02 / CHALLENGE

A library is a starting point, not the finished system

MUI provides reusable primitives, but enterprise products still need product-specific decisions around behavior, density, theming, accessibility and documentation.

01	**Product consistency**	Create predictable patterns across different workflows and teams.
02	**MUI adaptation**	Configure and extend components without creating unnecessary one-off patterns.
03	**Theme parity**	Ensure light and dark experiences preserve hierarchy, states and usability.
04	**Handoff clarity**	Make component behavior explicit for designers and engineers.

Three products, one platform experience

Reviewed ConnectWise RMM, PSA (formerly Manage) and the Asio platform to ground the system in how technicians work.

ConnectWise RMM

Endpoint monitoring & management

WHAT TECHNICIANS DO HERE

- Real-time monitoring and alerts across endpoints
- OS and third-party patching with approve, deny and compliance tracking
- Scripting with AI assistance
- Dashboard widgets that drill down to one device

WHAT IT ASKS OF THE UI

Status at a glance · Dense device tables · Charts & widgets

ConnectWise PSA

Formerly Manage · service & business ops

WHAT TECHNICIANS DO HERE

- Tickets routed to service boards, each with its own SLAs, workflows and statuses
- Dispatch, scheduling and calendar view
- Projects with Kanban boards
- Time tracking, agreements and billing

WHAT IT ASKS OF THE UI

Priority & status chips · Board columns · Record detail with tabs

Asio platform

Unified cloud platform

WHAT TECHNICIANS DO HERE

- One data layer shared by ConnectWise and third-party apps
- A common company and site entity
- One dashboard that brings many product UIs together
- AI and automation across products

WHAT IT ASKS OF THE UI

Global navigation shell · Cross-product consistency · Global search

JUNE 2026

ConnectWise announced its AI-native ConnectWise Platform, generally available in July 2026, which adds agentic AI assistants alongside PSA, RMM and security. The system leaves room for AI-assisted actions.

Sources: ConnectWise product pages and press releases; TechRadar, Capterra, G2 and TrustRadius reviews. Based on publicly available information.

What the products ask of the UI

Each observed workflow need maps to a component in the system.

OBSERVED NEED	PRODUCT	COMPONENT	DESIGN RESPONSE	STATUS
Many modules under one shell	Asio	**Navigation**	Side nav, top bar and breadcrumbs	Built
Records with many facets: tickets, companies, devices	PSA · RMM	**Tabs**	Peer views of one record	Built
Long related lists on a device or ticket	RMM · PSA	**Accordion**	Progressive disclosure of sections	Built
Dense lists with status and priority	PSA · RMM	**Table and status chips**	Compact rows, label plus icon	Built
Alerts and patch compliance	RMM	**Alerts and progress**	Semantic color with icon and text	Built
Work organized by status	PSA	**Board columns and cards**	Kanban for tickets and projects	Built
AI-assisted scripts and actions	RMM · Platform	**AI action pattern**	Suggest, review, approve	Planned

DENSITY

Technicians scan many rows all day, so compact layouts matter.

STATUS FIRST

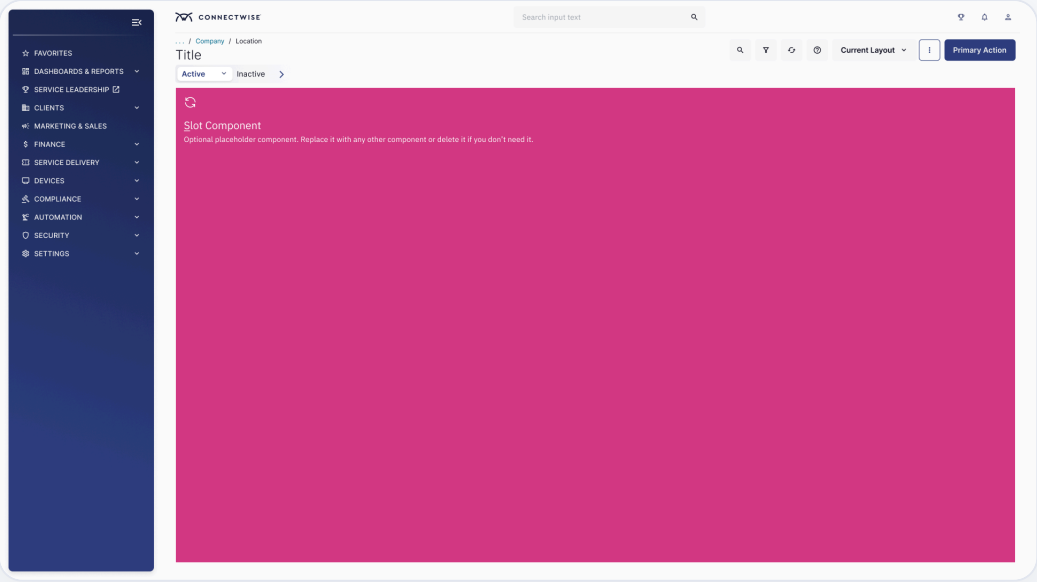
Health, priority and alert state must be readable at a glance.

ONE EXPERIENCE

Patterns repeat across RMM, PSA and Asio so users never relearn.

Real products, side by side

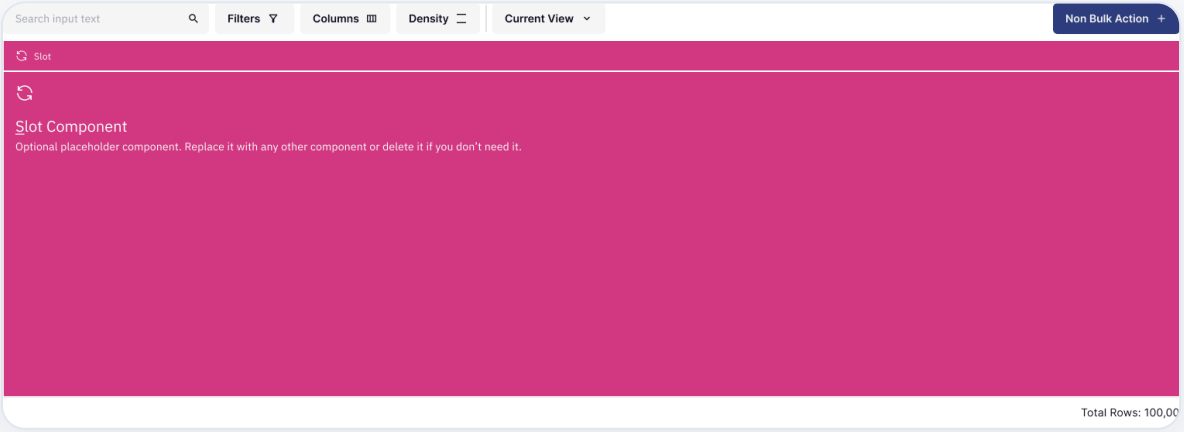
Screens from the ASIO templates anchor each component in the product it came from.



ASIO · PAGE SHELL

Base template

- Dark side navigation with grouped, uppercase product areas
- Top bar with global search, breadcrumbs and page title
- Status tabs and a toolbar of icon actions, layout menu and one primary action
- A slot component marks where page content goes



ASIO · DATA GRID

Data grid · default

- Toolbar with search, Filters, Columns, Density and Current View
- One non-bulk primary action, aligned right
- Slot area for bulk actions and the table body
- Total row count sits below the grid

From product audit to reusable MUI patterns

A portfolio-friendly view of the end-to-end component process.

1 Audit

Review existing UI

OUTPUT

Inventory of patterns and inconsistencies

2 Map

Match needs to MUI

OUTPUT

Needs matched to MUI base components

3 Extend

Create variants & props

OUTPUT

Variants and props for product needs

4 Theme

Validate light + dark

OUTPUT

Tokens checked in both themes

5 Test

States & edge cases

OUTPUT

Every state and edge case covered

6 Document

Usage & handoff

OUTPUT

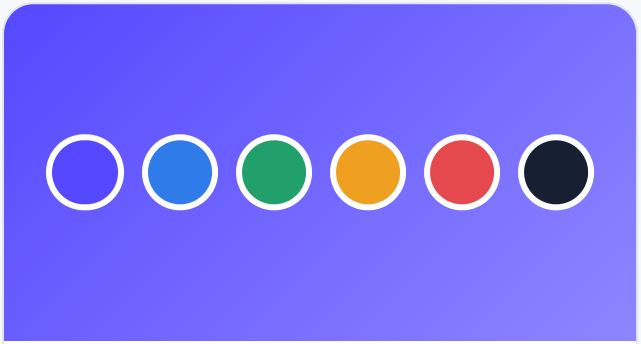
Usage guidance for design and engineering

DESIGN PRINCIPLE

Prefer a shared MUI-based pattern when it solves the product need; extend deliberately when enterprise workflows require additional behavior or presentation.

Theme decisions connect the component family

Tokens and theme rules help MUI components feel like one product system instead of a collection of controls.



Palette

Semantic roles for actions, surfaces, text and status.



Typography

Consistent hierarchy across labels, body content and data.



Spacing & shape

Predictable density, radius and layout rhythm.

Use the actual ConnectWise/MUI theme token names only if they are approved for public portfolio use.

Spacing & grid

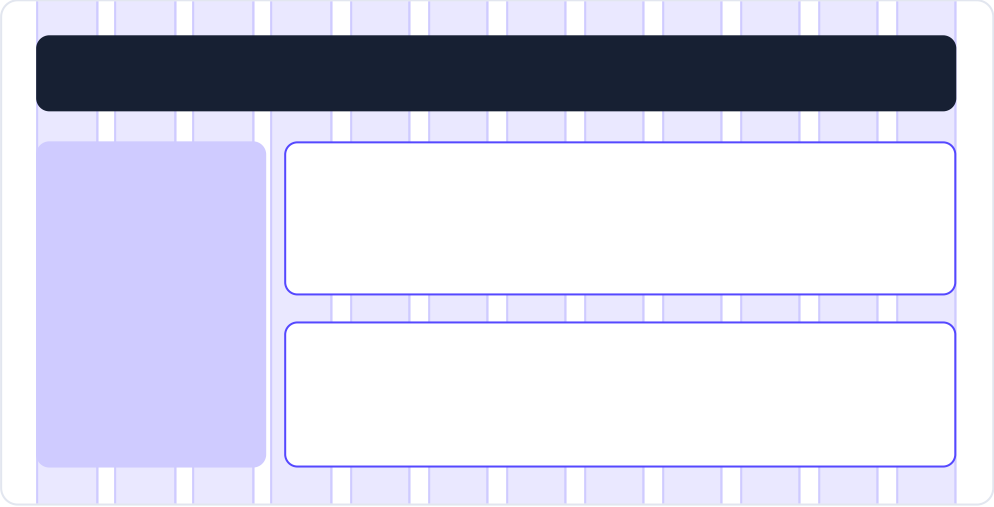
The quiet foundation: an 8px base unit and a 12-column layout keep dense enterprise screens aligned.

SPACING SCALE

1×	8px	
2×	16px	
3×	24px	
4×	32px	
6×	48px	

Every gap, padding and margin is a multiple of the 8px unit (MUI theme spacing), so components line up without one-off values.

12-COLUMN GRID



Dense areas such as tables use tighter spacing steps; forms use more generous ones, all on the same rhythm.

BASE UNIT

8px, shared by designers and engineers.

LAYOUT

12 columns, responsive across breakpoints.

SHAPE

A small set of radii applied consistently.

Typography & iconography

Inter is the primary typeface: legible at small sizes, with tabular figures for dense data columns.

PRIMARY TYPEFACE

Aa

Inter

Regular 400 · Medium 500 · Semibold 600 · Bold 700

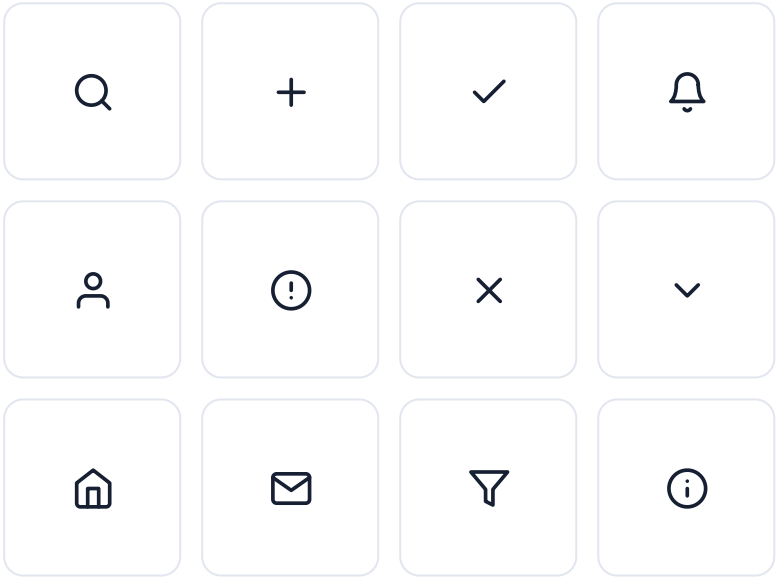
Tabular figures: 1,284 · 0,907 · 4,512

```
typography: { fontFamily: '"Inter", system-ui, "Segoe UI", Roboto, sans-serif' }
```

TYPE SCALE · MUI VARIANTS

h4	**Page title**
h6	**Section heading**
subtitle1	Supporting label
body1	Primary body content for forms and descriptions.
body2	Dense table and secondary content.
button	ACTION LABEL
caption	Helper text and metadata

ICONOGRAPHY



Icons are visual aids that help users finish tasks. A simple outlined style keeps cognitive load low and stays legible on smaller screens, and icons are paired with text where meaning matters.

Color roles

Colors carry meaning. Every color has an assigned role, so the system is easy to modify and extends cleanly across touchpoints.

Primary
Main actions and focus
LIGHT · DARK

Success
Completed, resolved
LIGHT · DARK

Warning
Needs attention
LIGHT · DARK

Error
Failures, validation
LIGHT · DARK

Info
Neutral guidance
LIGHT · DARK

DARK SURFACE HIERARCHY

Background

Paper

Elevated

TEXT ROLES

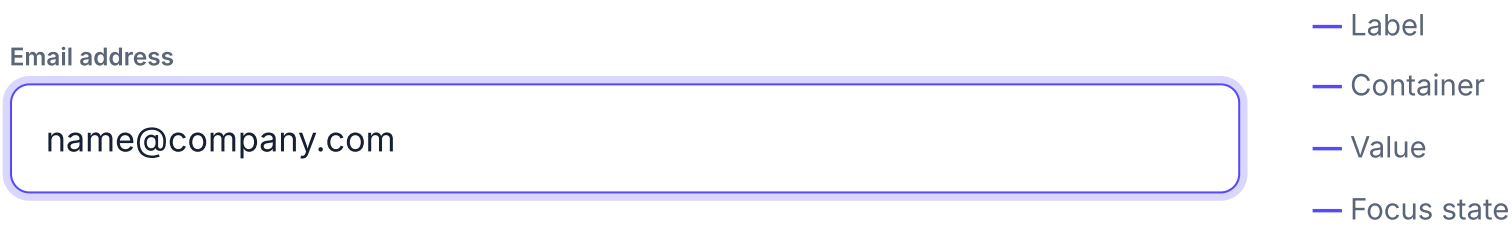
Primary text
Secondary text
Disabled text

Illustrative values shown. Replace with approved ConnectWise theme tokens before publishing.

MUI primitive -> product-ready component

The component story should show what was inherited from MUI and what was configured or extended for product needs.

EXAMPLE / MUI TEXTFIELD



EXTENSION CHECKLIST

- ✓ MUI base component
- ✓ Product variant
- ✓ State behavior
- ✓ Theme tokens
- ✓ Accessibility
- ✓ Responsive context

Inherited from MUI

- Base component and structure
- Core props and API
- Built-in accessibility hooks

Configured

- Theme tokens and palette roles
- Size, density and shape
- Light and dark values

Extended

- Product variants
- State behavior
- Usage guidance

Define behavior across the component lifecycle

MUI components were treated as configurable systems with explicit states and variants.

	DEFAULT	HOVER	FOCUS	PRESSED	DISABLED
Contained	Action	Action	Action	Action	Action
Outlined	Action	Action	Action	Action	Action

SIZE

Small Medium Large

ICON · OPTIONAL

+ New ticket

EXAMPLE PROPERTY MODEL

Variant = contained / outlined | Size = small / medium / large | State = default / hover / focus / pressed / disabled | Icon = optional.

Form fields that stay clear in every state

Form fields share the same lifecycle as buttons and add accessibility requirements of their own.

DEFAULT

Email address

name@company.com

FOCUS

Email address

name@company.com

FILLED

Email address

jo@northstar.com

ERROR

Email address

jo@northstar

Enter a valid email address

DISABLED

Email address

name@company.com

OTHER FORM CONTROLS

Select

High

Checkbox

Radio

Switch

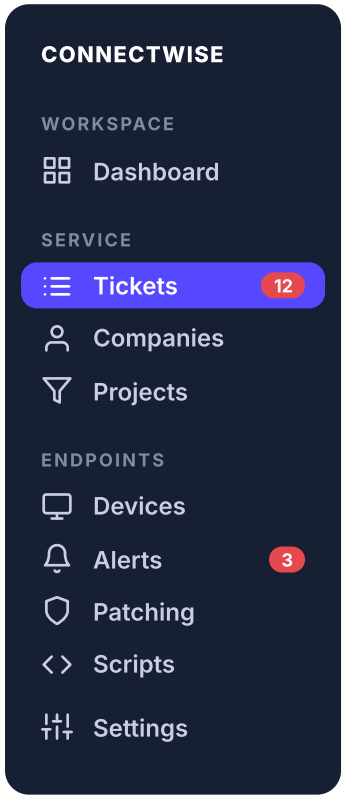
ACCESSIBILITY RULES

- The label stays visible when the field is focused or filled.
- Errors use an icon and a message, never color alone.
- Helper and error text remain clear and specific.

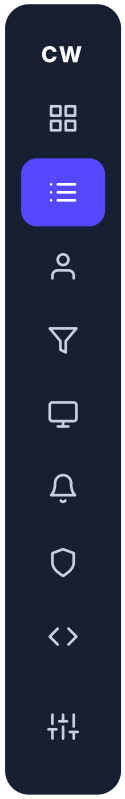
Navigation that scales across products

Asio brings many product UIs into one shell, so navigation has to stay predictable as areas are added.

SIDE NAV · EXPANDED



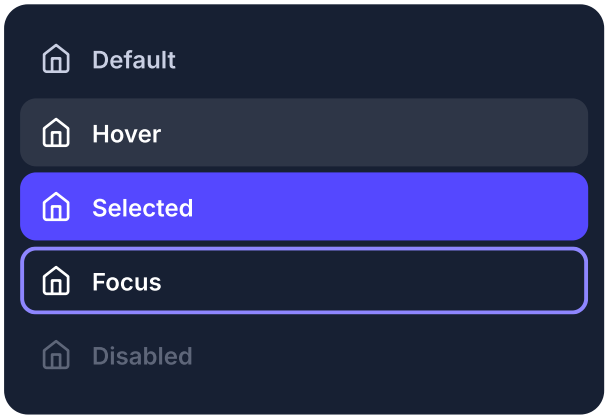
COLLAPSED



TOP BAR · BREADCRUMBS · SEARCH



ITEM STATES



STRUCTURE

- Side nav groups areas by product: Service, Endpoints, Workspace
- Collapses to icons on narrow screens; labels move to tooltips
- Top bar holds global search, notifications and the account menu
- Breadcrumbs show depth on records such as company › ticket

BEHAVIOR & ACCESSIBILITY

- Selected item uses fill and aria-current, not color alone
- Count badges announce their meaning to screen readers
- Tab reaches landmarks; arrow keys move within a group
- Focus ring stays visible in light and dark

DO / DON'T

- Do keep labels short and identical across products
- Don't nest more than two levels deep

Tabs for peer views of one record

A ticket, company or device has many facets. Tabs switch between them without leaving the record.

STANDARD · UNDERLINE

#101 · Printer offline · Northstar

Details | Notes 4 | Time | Configurations | History

Status	Priority	Board
Open	High	Service desk

CONTAINED · SEGMENTED

List | Board | Calendar

For switching how the same data is shown.

DARK THEME

Details | Notes 4 | Time

Selected keeps a marker and higher contrast.

STATES

DEFAULT	HOVER	SELECTED	FOCUS	DISABLED
Tab	Tab	Tab	Tab	Tab

WHEN TO USE

- Peer views of the same object
- Content that should load on demand
- Five or fewer tabs; overflow scrolls with arrows

BEHAVIOR & ACCESSIBILITY

- role=tablist, tab and tabpanel with aria-selected
- Left and right arrows move; Home and End jump
- Selected state uses color and an underline
- Count badges update without moving the tabs

DO / DON'T

- Do keep tab names to one or two words
- Don't use tabs for steps in a process or to navigate between pages

Accordion for long, layered records

Device and ticket pages hold many related lists. Accordions keep the page scannable and reveal detail on demand.

DEVICE PANEL · NORTHSTAR-DC01

Patches 3 pending

Windows cumulative update	**Pending**
Third-party: browser	**Pending**
Compliance	**92%**

Alerts 2 critical

Installed software

Script history

STATES

- **Collapsed**
- **Expanded**
- **Hover**
- **Focus**
- **Disabled**

DARK THEME

Patches 3 pending

Windows update	**Pending**
Compliance	**92%**

Alerts 2 critical

VARIANTS

- Flush: dividers only, for dense panels
- Card: separate bordered items, for settings
- Single-open or multi-open, set per use

BEHAVIOR & ACCESSIBILITY

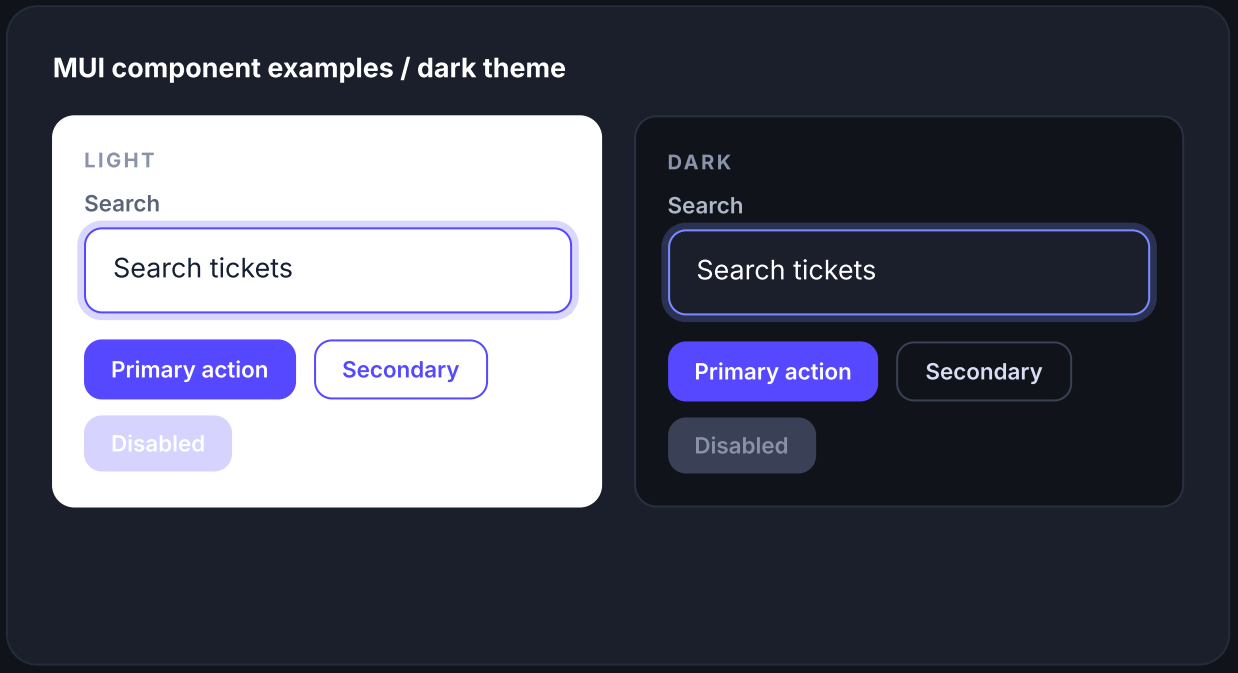
- Header is a button inside a heading
- aria-expanded and aria-controls on every header
- Enter and Space toggle; chevron rotates
- Summary chips give state without opening

DO / DON'T

- Do show a status summary in the header
- Don't hide critical alerts inside a collapsed item

The same component language, rebalanced for dark surf

Dark theme was treated as a system state, not a simple color inversion. Components were checked for surface hierarchy, contrast, focus visibility, disabled states and semantic feedback.



Surface hierarchy

Separate background, paper and elevated surfaces.

Contrast

Preserve readable text and interactive states.

Semantic color

Rebalance success, warning and error against dark surfaces.

Focus & disabled

Keep keyboard focus visible and disabled states understandable.

THEME CHECKS — Background → Paper → Elevated — ✓ Success — ! Warning — × Error

Beyond buttons and fields

A few more components from the family, built on the same tokens, states and rules.

TABS

Details Notes History

Selected state uses color and an underline.

STATUS CHIPS

Resolved Pending Open

Status pairs a label with an icon or text.

ALERTS

Could not save changes

Ticket updated

DATA TABLE ROW

#101	Northstar	High
#102	Acme IT	Medium

Compact rows with a clear hover state.

TOOLTIP

Create a new ticket

Short, supportive text; never the only source of meaning.

PAGINATION

1 2 3

Predictable paging for long lists.

The components working together

Patterns inspired by RMM, PSA and Asio, assembled only from system components.

RMM · DEVICE HEALTH

NORTHSTAR-DC01 ✓ Online

CPU	42%
Memory	68%
Disk	87%
Patch compliance	92%

Disk space low on C:

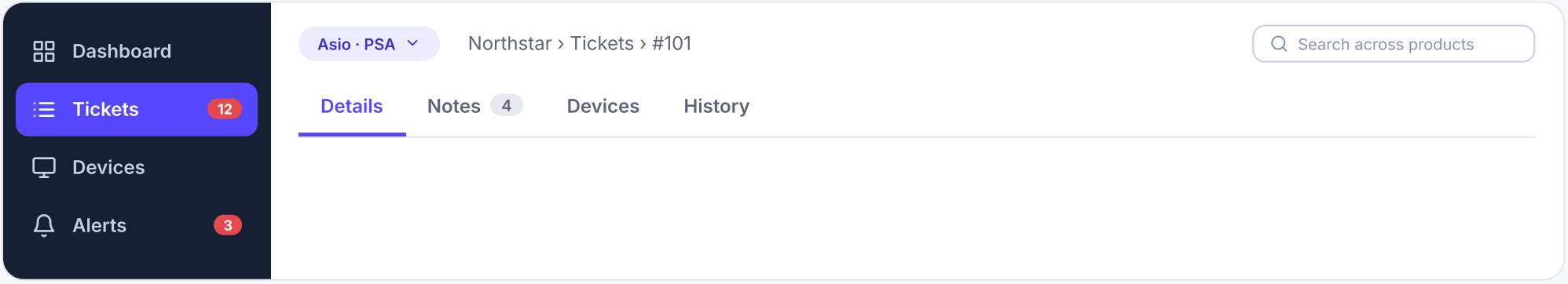
3 patches pending approval

Uses: Chip · Progress · Alert · Accordion

PSA · SERVICE BOARD

New 2	In progress 2	Waiting 1
#104 Email not syncing — High	#101 Printer offline — High	#102 Awaiting vendor — Medium
#105 New user setup — Medium	#103 Backup review — Low	

Uses: Chip · Card · Tabs (List, Board, Calendar)



Asio shell: one navigation, one search and consistent record tabs across products.

Reusable means understandable

Visual specifications were paired with interaction and usage guidance.

ACCESSIBILITY

Focus

Visible keyboard focus treatment.

Contrast

Readable text and states in both themes.

Meaning

Status is not communicated by color alone.

Content

Labels and error messages remain clear.

DOCUMENTATION TEMPLATE

MUI SOURCE

Base component / primitive.

WHEN TO USE

Intended product scenario.

VARIANTS

Supported configurations.

BEHAVIOR

States and interactions.

THEME

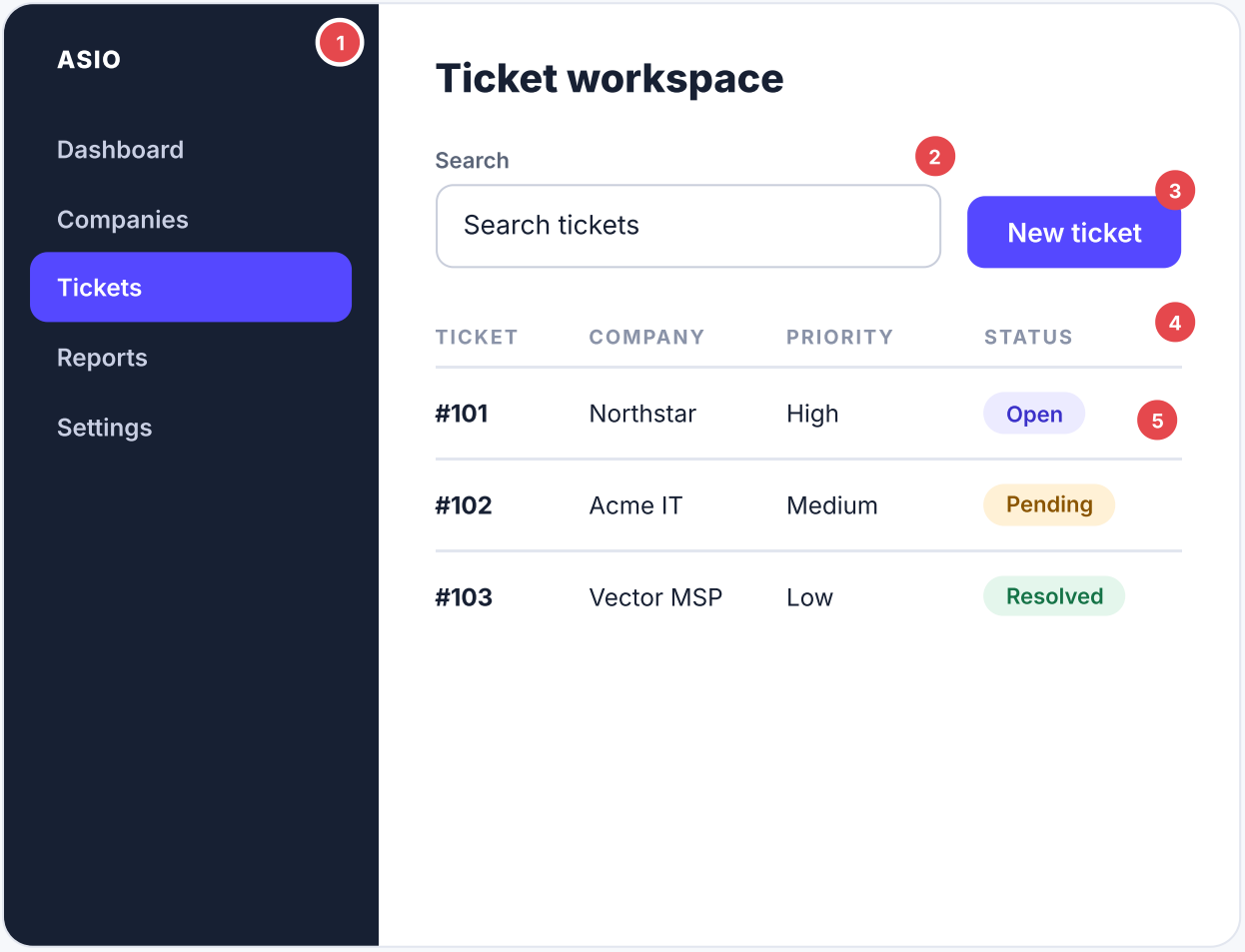
Light and dark treatment.

DO / DON'T

Correct and incorrect usage.

Components have to survive real enterprise workflows

The final check is how the MUI-based components behave together inside dense product scenarios.



WHAT THIS VALIDATES

1. **Navigation**
   MUI drawer with a clear selected state.
2. **Search field**
   TextField with a persistent label and focus ring.
3. **Primary action**
   Contained button, one per view.
4. **Data table**
   Dense rows on the shared spacing scale.
5. **Status chip**
   Label plus color, never color alone.

MUI provided the foundation. The design system created the

The work focused on turning reusable MUI primitives into consistent enterprise patterns across states, workflows and both light and dark themes.

Consistency
Shared MUI-based patterns

Efficiency
Less repeated component design

Theme parity
Coherent light and dark experiences

Alignment
Clearer design-to-development intent

WHAT A COMPLETE SYSTEM CONTAINS

Documentation
When and how to use the system

Visual language
What the product feels like

Component library
The MUI-based patterns shown here

Usage guidelines
Do and don't guidance

Theme code
Tokens engineers build with

A design system is a living thing, and this one is meant to keep evolving with the products it serves.

Portfolio note
Replace these illustrative controls with your actual approved ConnectWise component screenshots for the final public case study.