UI/UX Design Prompt for tf_genie Database Dashboard

Project Overview

Create a comprehensive web-based dashboard application for managing and visualizing data from the tf_genie SQL Server database. The application should provide full CRUD (Create, Read, Update, Delete) functionality for five core tables and include a specialized analytics view for lifecycle management.

Database Schema

Server: tf_genie

Schema: swift

Core Tables:

1. `swift.Masterdocuments`
2. `swift.subdocumenttypes`
3. `swift.Lifecyclestates`
4. `swift.Lifecycledocumentrequirements`
5. `swift.ls_MT7SeriesDependencies`

Analytics View:

- `vw_ls_lifecycle` - Grouped by stateid, statement, credit code, credit name, document code, and document name

Dashboard Architecture & Navigation

Primary Navigation Structure

Design a modern, responsive sidebar navigation with the following hierarchy:

Main Dashboard
- Overview/Home page with key metrics and recent activity

Data Management (Expandable Section)
- Master Documents
- Sub Document Types

- Lifecycle States
- Lifecycle Document Requirements
- MT7 Series Dependencies

Analytics & Reports
- Lifecycle View (vw_ls_lifecycle)
- Custom Reports
- Data Export Tools

System Administration
- User Management
- Audit Logs
- System Settings

Navigation Design Requirements

- Implement a collapsible sidebar that can be minimized to icons only
- Use clear, intuitive icons for each section with tooltips
- Highlight the active page/section with visual indicators
- Include breadcrumb navigation for deeper navigation levels
- Ensure mobile-responsive design with hamburger menu for smaller screens

CRUD Screen Design Specifications

Universal CRUD Interface Pattern

Each table should follow a consistent design pattern with the following components:

List/Grid View

- **Data Table Features:**
- Sortable columns with clear sort indicators
- Advanced filtering options (text search, date ranges, dropdown filters)
- Pagination with configurable page sizes (10, 25, 50, 100 records)
- Column visibility toggles
- Export functionality (CSV, Excel, PDF)

- Bulk selection with batch operations

- **Visual Design:**

- Clean, modern table design with alternating row colors
- Hover effects on rows
- Action buttons (Edit, Delete, View) aligned consistently
- Loading states with skeleton screens
- Empty state illustrations when no data exists

Create/Edit Forms

- **Form Layout:**
- Two-column responsive layout for optimal space utilization
- Logical field grouping with subtle section dividers
- Required field indicators with clear validation messaging
- Auto-save functionality with visual confirmation

- Cancel/Save/Save & Continue buttons

- **Input Components:**

- Modern form controls with floating labels
- Date pickers with calendar widgets
- Dropdown selects with search functionality
- Rich text editors where applicable
- File upload areas with drag-and-drop support

Detail/View Pages

- **Information Display:**
- Card-based layout for different data sections
- Read-only formatted display of all fields
- Related data sections with expandable panels
- Action buttons for Edit/Delete/Duplicate
- Audit trail showing creation and modification history

Table-Specific Requirements

1. Master Documents (swift.Masterdocuments)

- **Key Features:**
- Document preview capabilities
- Version history tracking
- Status workflow indicators
- Related document linking

- Advanced search by document type, status, date ranges

2. Sub Document Types (swift.subdocumentypes)

- **Key Features:**
- Hierarchical display if parent-child relationships exist
- Type categorization with color coding
- Usage statistics showing document counts per type
- Template management integration

3. Lifecycle States (swift.Lifecyclestates)

- **Key Features:**
- Visual workflow diagram showing state transitions
- State duration analytics
- Color-coded status indicators
- Transition rules configuration interface

4. Lifecycle Document Requirements (swift.Lifecycledocumentrequirements)

- **Key Features:**
- Requirement checklist interface
- Compliance status indicators
- Dependency mapping visualization
- Automated validation rules

5. MT7 Series Dependencies (swift.ls_MT7SeriesDependencies)

- **Key Features:**
- Dependency graph visualization
- Impact analysis tools
- Circular dependency detection
- Batch dependency updates

Analytics View: vw_ls_lifecycle

Grouping Structure

Primary grouping hierarchy:
1. **State ID & Statement** (Top level)
2. **Credit Code & Credit Name** (Secondary level)

3. **Document Code & Document Name** (Detail level)

Visual Design Requirements

Interactive Dashboard Layout

- **Summary Cards:** Display key metrics at the top
- Total states count
- Active lifecycle processes
- Pending requirements
- Completion rates

Hierarchical Data Visualization

- **Expandable Tree Structure:**
- Collapsible sections for each state
- Progressive disclosure of credit and document details
- Visual indicators for group levels (indentation, icons, colors)
- Count badges showing items in each group

Advanced Filtering & Search

- **Multi-level Filters:**
- State-based filtering with multi-select
- Credit code search with autocomplete
- Document type filtering
- Date range selectors for lifecycle events

Data Export & Reporting

- **Export Options:**
- Maintain grouping structure in exports
- Multiple format support (Excel with multiple sheets, PDF reports)
- Scheduled report generation
- Email delivery options

Design System & Visual Guidelines

Color Palette

- **Primary Colors:** Professional blue palette (#2563eb, #1d4ed8, #1e40af)
- **Secondary Colors:** Neutral grays (#f8fafc, #e2e8f0, #64748b)
- **Status Colors:**
- Success: #10b981

- Warning: #f59e0b
- Error: #ef4444
- Info: #06b6d4

Typography

- **Headers:** Inter or similar modern sans-serif font
- **Body Text:** System font stack for optimal readability
- **Code/Data:** Monospace font for technical content

Component Library

- **Buttons:** Consistent styling with hover/focus states
- **Form Controls:** Modern, accessible input designs
- **Cards:** Subtle shadows with rounded corners
- **Modals:** Centered overlays with backdrop blur
- **Notifications:** Toast-style messages with auto-dismiss

Responsive Design

- **Breakpoints:**
- Mobile: 320px - 768px
- Tablet: 768px - 1024px
- Desktop: 1024px+
- **Mobile Adaptations:**
- Stacked form layouts
- Simplified navigation
- Touch-optimized controls
- Swipe gestures for table navigation

User Experience Features

Performance Optimization

- **Loading States:** Skeleton screens and progress indicators
- **Lazy Loading:** For large datasets and images
- **Caching:** Client-side caching for frequently accessed data
- **Pagination:** Virtual scrolling for very large tables

Accessibility

- **WCAG 2.1 AA Compliance:**
- Keyboard navigation support
- Screen reader compatibility
- High contrast mode support
- Focus management
- Alternative text for images

User Workflow Optimization

- **Smart Defaults:** Pre-populate forms with likely values
- **Bulk Operations:** Multi-select actions for efficiency
- **Quick Actions:** Context menus and keyboard shortcuts
- **Undo/Redo:** For destructive operations
- **Auto-save:** Prevent data loss during form completion

Technical Implementation Notes

Data Integration

- **Real-time Updates:** WebSocket connections for live data
- **Offline Support:** Service worker for basic offline functionality
- **Sync Indicators:** Visual feedback for data synchronization status

Security Considerations

- **Role-based Access:** Different permission levels for CRUD operations
- **Audit Logging:** Track all user actions with timestamps
- **Data Validation:** Client and server-side validation
- **Session Management:** Secure authentication with timeout handling

Error Handling

- **Graceful Degradation:** Fallback options when features fail
- **User-friendly Messages:** Clear, actionable error descriptions
- **Recovery Options:** Ways to retry failed operations
- **Support Integration:** Easy access to help and support resources

Success Metrics & Testing

Key Performance Indicators

- **User Adoption:** Active users and feature utilization
- **Task Completion:** Time to complete common workflows
- **Error Rates:** Frequency of user errors and system failures
- **User Satisfaction:** Feedback scores and usability ratings

Testing Requirements

- **Cross-browser Compatibility:** Chrome, Firefox, Safari, Edge
- **Device Testing:** Desktop, tablet, and mobile devices
- **Performance Testing:** Load times and responsiveness
- **Accessibility Testing:** Screen reader and keyboard navigation
- **User Acceptance Testing:** Real user workflow validation

This comprehensive dashboard should provide an intuitive, efficient, and scalable solution for managing the tf_genie database while delivering exceptional user experience across all device types and user skill levels.