DRNE Dashboard

Digital RN Experience Interactive Dashboard

UX/UI Design Concept

Based on published research thesis:

DRNE: Bridging the gap between Nurses and Information Technology Specialists

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Project Overview

The DRNE (Digital RN Experience Interactive Dashboard) is a healthcare IT support system design concept that bridges the communication gap between nurses and IT specialists in hospital settings. This UX/UI project transforms nursing informatics research into a design proposal that could improve workflow efficiency, accountability, and patient safety.

Problem Statement

Challenge: In 2015, nurses expressed significant frustration with IT ticketing systems in hospital environments. Issues include:

- Lack of transparency in ticket status and resolution progress
- Poor communication between IT specialists and nursing staff
- Tickets marked as 'resolved' when problems persist
- No accountability or tracking mechanism for IT responses
- Technical problems directly impacting patient safety and care quality

Impact: As one nurse stated: 'No one realizes how quickly we need our computers fixed on this unit. If I can't log in and see the patient's information, then the patient is not treated and will be the one who suffers.'

Research & Discovery

User Research Methods

- Conducted qualitative interviews with nurses across four hospitals
- Analyzed user frustrations with EHR systems post-implementation
- Reviewed literature on nursing time-motion studies and workflow analysis
- Examined communication breakdown patterns between clinical and IT staff

Key Insights

1. Language Barrier: "Many times, it was hard to express the problems that we had so they could fix them." - Nurses and IT specialists speak different professional languages.

2. Lack of User-Centered Design: "You can tell that a nurse didn't design this program!" - EHR systems lack input from actual end users.

3. Documentation Time Burden: Nurses spend 35% of their time on documentation - more than any other single activity including direct patient care (19.3%).

4. Critical Nature of Technical Issues: Small technical problems (font size, screen readability) create significant patient safety risks.

Design Concept

Design Goals

• Provide real-time visibility into IT ticket status and progress
• Establish clear accountability by identifying assigned IT specialists
• Enable transparent communication through comment threads and updates
• Streamline the ticket submission and tracking process
• Reduce frustration between nurses and IT specialists

Information Architecture

The DRNE Dashboard concept is organized into four primary modules:

Module	Features
Dashboard Overview	Real-time statistics, critical alerts, quick actions
Ticket Management	Ticket tracking, status updates, priority levels, assignment visibility
Activity Feed	Real-time updates, resolution notifications, team activity
Knowledge Base	FAQs, troubleshooting guides, training resources

Design Process

Theoretical Framework

The design incorporates two evidence-based theoretical models:

Rogers' Diffusion of Innovation Theory: Ensures the system is designed for adoption through relative advantage, compatibility, low complexity, trialability, and observability.

King's Theory of Goal Attainment: Applies communication and interaction systems theory to improve nurse-IT specialist collaboration and mutual goal setting.

User Flows

Primary User Flow: Submitting & Tracking a Ticket

1. Nurse identifies technical issue during patient care
2. Submits ticket via DRNE dashboard with priority level and description
3. Receives ticket number and real-time status visibility
4. IT specialist is assigned and identified by name with contact info
5. Progress updates appear in activity feed
6. Nurse can add comments or clarifications
7. Resolution is documented with explanation
8. Nurse confirms resolution before ticket closure

Visual Design System

Design Principles

1. Clarity Over Complexity: Healthcare professionals need information quickly. The interface prioritizes scannable layouts and clear visual hierarchy.

2. Status Visibility: Color-coded priority levels and status badges provide at-a-glance understanding.

3. Professional Aesthetics: Clean, modern interface that builds trust and credibility in a clinical environment.

4. Accessibility: WCAG AA compliant color contrasts, readable font sizes (addressing the research finding about unreadable screens).

Color System

Color	Hex Code	Usage
Primary Blue	#0A7EA4	Primary actions, headers
Success Green	#2EC4B6	Resolved tickets, low priority
Warning Yellow	#FFB800	Open tickets, medium priority
Danger Red	#E63946	Critical issues, high priority

Expected Impact & Success Metrics

Quantitative Metrics

• Reduction in average ticket resolution time
• Decrease in duplicate ticket submissions
• Increase in first-time resolution rate

• Improved nurse satisfaction scores with IT support
• Reduction in 'falsely closed' tickets

Qualitative Benefits

• Improved trust between nurses and IT specialists
• Enhanced patient safety through faster technical issue resolution
• Reduced nurse frustration and burnout related to technology
• Better interdisciplinary communication and collaboration

Proposed Technical Implementation

Technology Stack:

• Frontend: React.js for responsive, component-based UI
• Backend: Node.js with Express for API development
• Database: PostgreSQL for reliable data persistence
• Real-time Updates: WebSocket connections for live activity feed
• Integration: HL7-compliant API for EHR system integration

Proposed Development Phases

Phase 1 - MVP:

• Core ticket management system
• Real-time status tracking
• Basic activity feed

Phase 2 - Enhanced Features:

• Knowledge base and FAQ system
• E-learning modules for continuous training
• Mobile application for on-the-go access

Phase 3 - Analytics & AI:

• Predictive analytics for common issues
• AI-powered troubleshooting suggestions
• Automated routing based on issue type

Conclusion

The DRNE Dashboard represents a comprehensive UX/UI design concept for a critical healthcare workflow problem. By transforming nursing informatics research into actionable product design, this project demonstrates the power of user-centered design in addressing communication gaps, accountability issues, and ultimately patient safety concerns. This solution is ready to be built - the research is complete, user needs are documented, and design principles are established. What's needed now is the right healthcare organization ready to invest in improving nurse-IT communication.

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