DSVI Implementation Roadmap - Priority Action Plan

🎯 PHASE 1: CORE USER FLOW COMPLIANCE (High Priority)

🏢 Multi-Level Admin System

Estimated Time: 2-3 weeks

Database Changes Needed:

```sql
-- Add admin levels to user metadata or new table
ALTER TABLE auth.users ADD COLUMN admin_level INTEGER DEFAULT 1;
CREATE TABLE admin_permissions (
  id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
  user_id UUID REFERENCES auth.users(id),
  permission_type TEXT NOT NULL,
  school_id UUID REFERENCES schools(id),
  granted_by UUID REFERENCES auth.users(id),
  created_at TIMESTAMP DEFAULT NOW()
);
```

Implementation Tasks:

☐ **Update AuthContext** - Add admin level detection
☐ **Create Permission Management** - New interface for Level One admins
☐ **School Assignment System** - Restrict Level Two access to specific schools
☐ **Update Navigation** - Role-based menu visibility
☐ **Protected Route Updates** - Level-based access control

📊 Dashboard Landing Page

Estimated Time: 1-2 weeks

New Components Needed:

☐ **AdminDashboard.tsx** - Main dashboard component
☐ **QuickStats.tsx** - Statistics cards component
☐ **AlertsPanel.tsx** - Notifications and alerts
☐ **RecentActivity.tsx** - Latest activities feed

Features to Implement:

- [ ] Total schools counter with breakdown
- [ ] Active/Inactive school status tracking
- [ ] Pending approval alerts
- [ ] Navigation shortcuts to main features
- [ ] Level-based dashboard content

💰 Subscription Management Core

Estimated Time: 2-3 weeks

Database Schema:

```sql
CREATE TABLE subscriptions (
    id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
    school_id UUID REFERENCES schools(id) UNIQUE,
    package_type TEXT NOT NULL CHECK (package_type IN ('standard', 'advanced')),
    start_date DATE NOT NULL,
    end_date DATE NOT NULL,
    status TEXT DEFAULT 'active' CHECK (status IN ('active', 'expiring', 'inactive')),
    last_reminder_sent TIMESTAMP,
    created_at TIMESTAMP DEFAULT NOW()
);
```

Implementation Tasks:

- [ ] **SubscriptionTracker.tsx** - Main subscription interface
- [ ] **Package Assignment** - During school creation/editing
- [ ] **Status Calculations** - Auto-calculate expiring/inactive status
- [ ] **Expiry Detection** - Background job or trigger for status updates

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🎯 PHASE 2: MESSAGING & COMMUNICATIONS (Medium Priority)

📧 Email Integration Setup

Estimated Time: 1-2 weeks

Infrastructure:

- [ ] **Email Service Setup** - Choose provider (SendGrid, AWS SES, etc.)
- [ ] **Email Templates System** - Create reusable templates
- [ ] **SMTP Configuration** - Environment variables and config

Database Schema:

```sql
CREATE TABLE message_templates (
  id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
  name TEXT NOT NULL,
  subject TEXT NOT NULL,
  body TEXT NOT NULL,
  template_type TEXT NOT NULL,
  created_at TIMESTAMP DEFAULT NOW()
);

CREATE TABLE message_history (
  id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
  sent_by UUID REFERENCES auth.users(id),
  recipient_school_id UUID REFERENCES schools(id),
  message_type TEXT NOT NULL,
  subject TEXT,
  content TEXT,
  sent_at TIMESTAMP DEFAULT NOW()
);
```

💬 Messaging Panel

Estimated Time: 2 weeks

Components Needed:

☐ **MessagingPanel.tsx** - Main messaging interface
☐ **TemplateManager.tsx** - Template creation/editing
☐ **RecipientSelector.tsx** - School selection (one/multiple/all)
☐ **MessageHistory.tsx** - Communication history

Features:

☐ Template-based messaging
☐ Bulk messaging capabilities
☐ Level-based messaging restrictions
☐ Message preview and sending
☐ Communication history tracking

🎯 PHASE 3: AUTOMATION & NOTIFICATIONS (Medium Priority)

🔔 Notification System

Estimated Time: 2-3 weeks

Database Schema:

```sql
sql

CREATE TABLE notifications (
  id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
  user_id UUID REFERENCES auth.users(id),
  school_id UUID REFERENCES schools(id),
  type TEXT NOT NULL,
  title TEXT NOT NULL,
  message TEXT NOT NULL,
  read BOOLEAN DEFAULT FALSE,
  created_at TIMESTAMP DEFAULT NOW()
);
```

Implementation:

☐ **NotificationCenter.tsx** - Centralized notifications
☐ **Auto-Reminder System** - 14-day expiry reminders
☐ **In-App Notifications** - Real-time notification delivery
☐ **Email Notifications** - Automated email sending

🤖 Automated Workflows

Estimated Time: 1-2 weeks

Features:

☐ **Auto-Credential Generation** - Random password generation
☐ **Welcome Email Automation** - Send credentials on school creation
☐ **Status Update Triggers** - Auto-update school status
☐ **Subscription Status Monitoring** - Daily/weekly status checks

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🎯 PHASE 4: REPORTING & ANALYTICS (Lower Priority)

📊 Reports & Export System

Estimated Time: 2-3 weeks

Database Schema:

```sql
CREATE TABLE activity_logs (
  id UUID PRIMARY KEY DEFAULT gen_random_uuid(),
  user_id UUID REFERENCES auth.users(id),
  school_id UUID REFERENCES schools(id),
  action TEXT NOT NULL,
  details JSONB,
  created_at TIMESTAMP DEFAULT NOW()
);
```

Components:

- [ ] **ReportsSection.tsx** - Main reports interface
- [ ] **ActivityLogs.tsx** - User activity tracking
- [ ] **ExportManager.tsx** - Data export functionality
- [ ] **PerformanceMetrics.tsx** - System performance tracking

Features:

- [ ] Onboarding data export (CSV/PDF)
- [ ] CMS activity logs per school
- [ ] Admin action accountability logs
- [ ] Performance metrics dashboard

🎯 PHASE 5: ENHANCED FEATURES (Future Enhancement)

🚀 Advanced Workflow Management

Estimated Time: 3-4 weeks

Features:

- [ ] **Task Queue System** - Onboarding task management
- [ ] **Progress Tracking** - Visual progress indicators
- [ ] **Approval Workflows** - Multi-step approval processes
- [ ] **Handoff Management** - Task delegation system

📈 Business Intelligence

Estimated Time: 2-3 weeks

Features:

- ☐ **Usage Analytics** - Website traffic and engagement
- ☐ **Revenue Tracking** - Subscription revenue metrics
- ☐ **Conversion Analysis** - Request-to-onboarding rates
- ☐ **Predictive Analytics** - Churn and renewal predictions

⚒️ IMPLEMENTATION PRIORITY MATRIX

Immediate (Next 2 weeks):

1. **Admin Dashboard Landing Page** - Critical for user flow compliance
2. **Multi-Level Admin System** - Foundation for everything else
3. **Basic Subscription Tracking** - Core business requirement

Short Term (3-6 weeks):

1. **Email Integration & Messaging** - Communication is essential
2. **Notification System** - User experience improvement
3. **Automated Workflows** - Reduce manual work

Medium Term (2-3 months):

1. **Reports & Analytics** - Business intelligence needs
2. **Advanced Permissions** - Granular access control
3. **Performance Monitoring** - System health tracking

Long Term (3+ months):

1. **Advanced Workflows** - Process optimization
2. **Business Intelligence** - Data-driven insights
3. **API Integrations** - External system connections

📋 QUICK WINS (Can be done immediately)

Database Updates:

☐ Add subscription fields to schools table
☐ Create basic admin_level field
☐ Add status tracking for schools

UI Improvements:

- ☐ Create placeholder dashboard with basic stats
- ☐ Add status badges for subscriptions
- ☐ Implement level-based navigation hiding

Configuration:

- ☐ Set up email service environment variables
- ☐ Create basic message templates
- ☐ Add subscription package options to school creation

💡 RECOMMENDATIONS

1. **Start with Phase 1** - Focus on user flow compliance first

2. **Iterate Quickly** - Deploy basic versions and improve iteratively

3. **User Feedback** - Get feedback on dashboard and admin levels early

4. **Database Design** - Plan schema changes carefully to avoid migrations

5. **Testing Strategy** - Implement proper testing for each phase

6. **Documentation** - Keep user documentation updated for new features

This roadmap prioritizes user flow compliance while building toward a comprehensive admin platform that exceeds the original requirements.