

Petfolio – Week 4 Progress

Care Plans + Local Notifications

This Week's Goals

- Implement comprehensive Care Plan management (diet, feeding, medications)
- Build local notification system for care reminders
- Create notification permission management UI
- Establish timezone-aware scheduling system
- Complete MVP core functionality

What We Shipped

Care Plan Management

- **Complete CRUD Operations** - Create, read, update, delete care plans
- **Feeding Schedules** - Multiple times per day with day-of-week selection
- **Medication Tracking** - Dosage, timing, with/without food flags
- **Diet Instructions** - Text-based diet notes and guidelines
- **Form Validation** - Comprehensive input validation and error handling

Enhanced Pet Profiles

- **Emergency Contacts** - Vet, emergency contacts, insurance, microchip
- **Medical History** - Allergies, chronic conditions, vaccinations, checkups
- **Behavioral Notes** - Custom tags and general notes
- **Organized Sections** - Progressive disclosure with clear organization

What We Shipped (Continued)

Local Notifications System

- **CareScheduler Service** - Complete notification scheduling infrastructure
- **Permission Management** - User-friendly permission request flow
- **Status Display** - Real-time notification status with color-coded indicators
- **Test Notifications** - Built-in testing functionality for verification
- **Automatic Integration** - Notifications auto-schedule on care plan changes

Architecture & State Management

- **Clean Architecture** - Domain, data, application, and presentation layers
- **Auth-Aware Providers** - Automatic state reset on sign out/in
- **PetWithPlan Integration** - Combined pet and care plan data streams
- **Dashboard Integration** - Real-time care statistics and urgent task alerts



Technical Implementation

Notification Architecture

```
// Core notification scheduling
CareScheduler {
    - scheduleNotificationsForCarePlan()
    - reconcileNotifications()
    - cancelNotificationsForPet()
    - timezone-aware scheduling
}

// Permission management
NotificationSetupNotifier {
    - completeSetup()
    - requestPermissions()
    - checkPermissions()
    - createNotificationChannels()
}
```

Technical Implementation (Continued)

Integration Points

- **App Startup** - Notifications initialized in `AuthWrapper`
- **Care Plan Operations** - Auto-scheduling on create/update/delete
- **Permission UI** - `NotificationStatusWidget` in care plan form
- **Error Handling** - Graceful degradation when permissions denied

Platform Support

- **Android** - Notification channels configured
- **iOS** - Permission handling implemented
- **Web** - Graceful degradation with mock notifications

Demo Path







1. Run app: `flutter run -d chrome --web-port 5555`
2. Sign in → Navigate to a pet
3. **Care Plan:** Create/edit feeding schedules and medications
4. **Notifications:** Toggle notifications, request permissions
5. **Test:** Send test notification to verify setup
6. **Profile:** Add emergency contacts and medical history



Current Status vs Plan



Completed (100% of Week 4 goals)

- Care Plan Implementation:  Complete
- Local Notifications:  Complete
- Enhanced Pet Profiles:  Complete
- Clean Architecture:  Complete
- State Management:  Complete
- Firebase Integration:  Complete

Known/Resolved Issues

Resolved






- **Permission Errors:** Fixed Firestore permission issues for care plans and profiles
- **Provider Import Fixes:** Resolved import path issues in provider dependencies
- **Dashboard Integration:** Care plan statistics now display properly
- **UI Integration:** Enhanced Profile section added to pet detail pages

Technical Notes






- **Timezone Support:** Full timezone-aware scheduling implemented
- **Error Handling:** Comprehensive error management with user-friendly messages
- **State Persistence:** Notifications persist across app restarts
- **Graceful Degradation:** App works perfectly without notification permissions

Requirements Met

Week 4 Milestones (100% Complete)

-  **Care Plan Management** - Complete CRUD with feeding/medication schedules
-  **Local Notifications** - Full notification system with permission management
-  **Enhanced Pet Profiles** - Emergency contacts and medical history
-  **Clean Architecture** - Proper separation of concerns and testability
-  **State Management** - Auth-aware providers with real-time updates






MVP Core Features

-  **Pet Management** - Complete CRUD operations
-  **Care Planning** - Feeding schedules and medication tracking
-  **Reminders** - Local notifications for care tasks
-  **User Authentication** - Secure user management
-  **Photo Upload** - Pet profile photos with Firebase Storage







Key Benefits

Production-Ready Features

-  **Complete MVP** - All core pet care functionality implemented
-  **Professional UX** - Intuitive forms with validation and error handling
-  **Reliable Notifications** - Timezone-aware scheduling with permission management
-  **Scalable Architecture** - Clean code structure ready for expansion
-  **Secure Foundation** - Proper authentication and data isolation

User Experience

-  **Seamless Workflow** - Create pets → Add care plans → Receive reminders
-  **Clear Feedback** - Status indicators and helpful error messages
-  **Permission Control** - Users understand and control notification settings
-  **Data Organization** - Structured pet profiles with emergency information



Project Statistics

Week 4 Additions

- **Total Files Created:** 25+ new files
- **Core Services:** 8 major services (CareScheduler, NotificationSetup, etc.)
- **UI Components:** 15+ new widgets and forms
- **Lines of Code:** ~3,000+ lines (excluding comments)
- **Features Implemented:** 20+ major features

Overall Project

- **Total Features:** 35+ major features implemented
- **Architecture Layers:** 4 clean layers (Domain, Data, Application, Presentation)
- **Platform Support:** Android, iOS, Web with graceful degradation
- **Security:** User-specific data access with Firestore rules


Next Steps (Sprint 1 - Week 5)

Upcoming Features

- Polish UI / User Flow

Achievement Summary






Week 4 Complete: Successfully implemented the complete MVP core functionality including comprehensive care plan management, production-ready local notifications system, and enhanced pet profiles. The app now provides a full-featured pet care solution that meets all Sprint 1 requirements.

MVP Status:  **COMPLETE** - All core features implemented and functional

Ready for Week 5: QR code sharing and handoff functionality to complete the sharing features.

MVP Milestone Reached!

Petfolio now delivers on its core promise:

-  **Centralized Pet Management** - Complete pet profiles with photos
-  **Care Planning** - Feeding schedules and medication tracking
-  **Smart Reminders** - Local notifications for care tasks
-  **Secure Sharing** - Ready for QR code and handoff features
-  **Professional Quality** - Production-ready architecture and UX

The MVP is complete and ready for user testing! 