LuxMed Patient Portal App Reverse-Engineering Analysis

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Reverse-Engineering Analysis of the LuxMed Patient Portal App

App Overview

Purpose and Main Use Cases

The LuxMed Patient Portal is a comprehensive healthcare management platform that enables users to:

- Book and manage medical consultations and diagnostic tests
- Renew and manage prescriptions digitally
- Access complete medical history and test results
- Participate in preventive healthcare programs
- Communicate with healthcare providers
- Manage personal health data and documents

Target Users

Primary user segments:

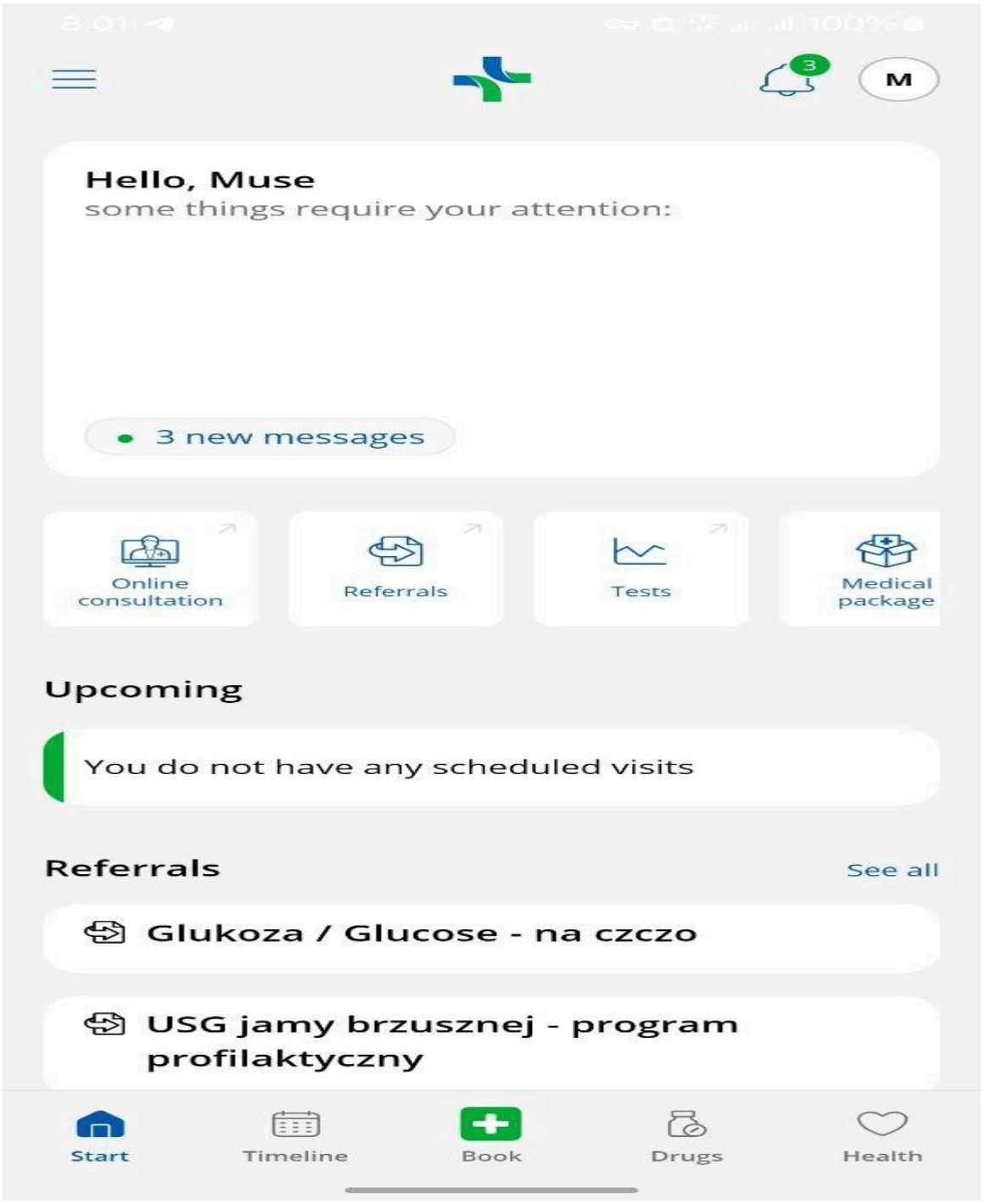
- **Regular patients** managing chronic conditions or ongoing treatments
- **Parents/guardians** managing family healthcare needs
- **Health-conscious individuals** participating in preventive programs
- **Busy professionals** preferring telemedicine solutions

Key user motivations:

- 24/7 access to healthcare services
- Paperless prescription management
- Centralized health records

- Reduced waiting times through online booking

Functional Scope and App Structure



Core Modules/Screens

1. **Start/Dashboard (Core)**
   - Overview of messages, referrals, upcoming visits
   - Quick access to key functions

2. **Timeline (Core)**
   - History of past medical services (visits, tests, telemedicine)
   - Upcoming scheduled services

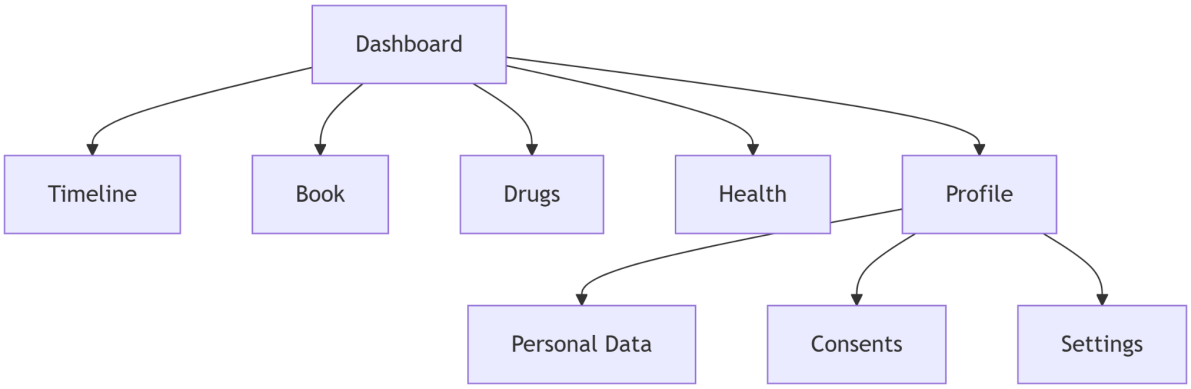
3. **Book (Core)**
   - Service search and booking interface
   - Filtering by service type, location, language

4. **Drugs (Core)**
   - Prescription management
   - Medication ordering system

5. **Health (Core)**
   - Preventive programs
   - Care plans (e.g., vaccination schedules)

6. **Profile/Settings (Core)**
   - User account management
   - Personal data and consent settings

7. **Messages (Extension)**
   - Communication with healthcare providers
   - System notifications



Implementation Analysis

Core vs. Extension Features

Must-have Core Features:
- Appointment booking system
- Medical history tracking

- Prescription management
- User profile management
- Basic dashboard

Nice-to-have Extensions:
- Preventive healthcare programs
- Advanced messaging system
- Document storage
- Multi-language support
- Telemedicine integration

Technical Implementation

AI Development Prompts

Prompt 1: Appointment Booking System

"Create a React Native appointment booking screen with service type dropdown (GP, Dermatology, etc.), location selector (default: Kraków), language toggle (English/Polish), and popular services quick-access section. Integrate with Firebase for real-time availability checking. Required data models: Appointment{serviceID, locationID, datetime, providerID}, Location{city, address, servicesAvailable}."

Prompt 2: Prescription Module

"Implement Flutter prescription management with: 1) Active medications list, 2) Renewal eligibility checker (18-month rule), 3) 'New Order' workflow. Backend: Node.js API with prescription validation logic. Data models: Prescription{medicationID, issueDate, expiryDate, renewalsLeft}, Medication{name, dosage, form}."

Prompt 3: Health Programs Dashboard

“Build a preventive programs UI showing: 1) Available programs with eligibility indicators, 2) Progress trackers for active programs, 3) Vaccination schedules. Use

Firestore for user-specific program data. Models: HealthProgram{id, name, eligibilityRules, duration}, UserEnrollment{programID, startDate, progress}."

Effort Estimation

Feature	Effort	Potential Blockers	MVP Priority
Appointment Booking	Medium	Integration with healthcare providers	High
Medication Management	High	Prescription validation logic	High
Health Timeline	Low	Data aggregation from multiple sources	Medium
Preventive Programs	Medium	Eligibility rules implementation	Low
User Profile	Low	Data privacy compliance	High

Technology Stack Recommendation

Frontend:
- React Native (cross-platform mobile development)
- TypeScript (type safety)
- Redux Toolkit (state management)

Backend:
- Node.js with Express
- Firebase Firestore (primary database)
- Firebase Authentication (user management)

Additional Services:
- PDFKit (for document generation)

Peer Feedback Integration

After discussing with peers, we find one way that could increase the efficiency and effectiveness between app and the client that is an integration of personalized health dashboard with wearable devices that can track give real time info to both the client and patient at the same time.

Implementation Roadmap

1. Phase 1 (MVP - 4 weeks)
   - User authentication and profile management
   - Basic appointment booking system
   - Simple medication tracking

2. Phase 2 (6 weeks)
   - Full prescription management
   - Medical history timeline
   - Basic messaging system

3. Phase 3 (3 weeks)
   - Preventive healthcare programs
   - Advanced analytics
   - Telemedicine integration

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