

Healthcare Innovation

SimMan App

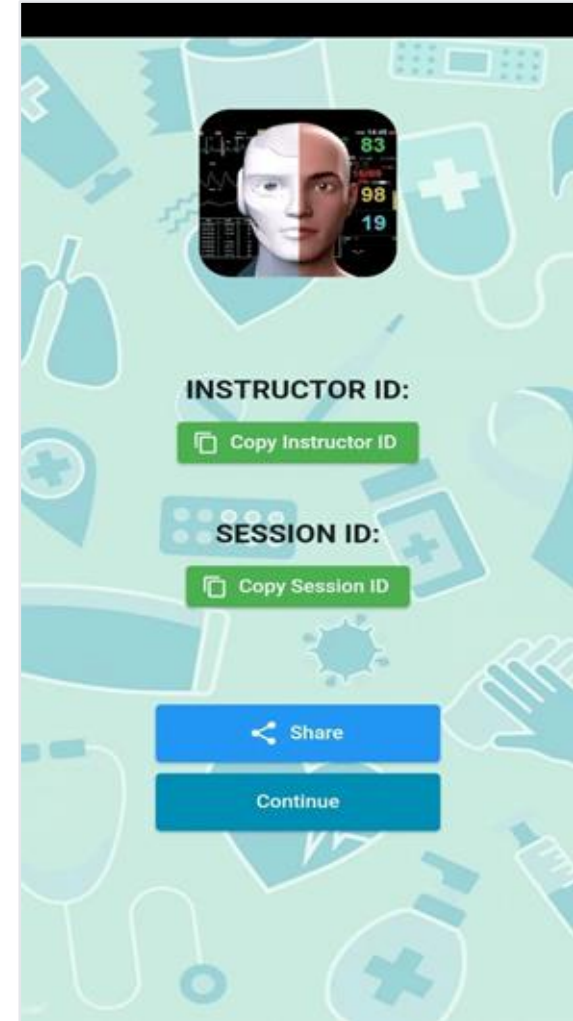
Mobile Medical Simulation Platform

Advancing Medical Training Through Realistic, Accessible Simulation

 Android

 iOS

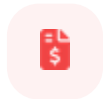
 Flutter



 The Challenge

Traditional Simulation Limitations

Before SimMan App, medical institutions faced significant barriers to delivering consistent, high-quality simulation training.



High Equipment Costs

High-fidelity mannequins are extremely expensive to purchase and maintain, often costing tens of thousands of dollars per unit.



Lack of Portability

Heavy, hardware-bound simulators cannot be easily moved, restricting training to specific physical locations or simulation centers.



Limited Accessibility

Smaller institutions and developing regions struggle to afford simulation labs, creating a disparity in training quality.



Restricted Availability

Individual learners preparing for exams like PLAB 2 cannot access simulation tools for self-study or remote practice.



The client required a scalable, software-driven solution to replicate clinical scenarios without expensive physical infrastructure.

Our Solution

SimMan App

A mobile-first digital simulation platform transforming medical training accessibility.

SimMan brings realistic clinical scenarios to smartphones and tablets, enabling affordable, high-fidelity training for medical students, nurses, and professionals preparing for exams like PLAB 2.



Instructor-Led Scenarios

Real-time control of clinical events



Dynamic Physiological Response

Vitals react to student interventions

Built with Flutter

Smooth performance on iOS & Android



Core Functionality

Comprehensive Simulation Features

Designed to replicate real-world clinical environments with high fidelity and ease of use.



Instructor-Led Scenarios

Instructors can create and control custom clinical scenarios, from routine check-ups to critical emergencies.



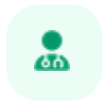
Dual-Device Setup

Seamlessly connects an Instructor device for controls and a Student device as the patient monitor via Wi-Fi.



Realistic Vital Signs

Displays high-fidelity ECG waveforms, blood pressure, SpO₂, respiration rate, and temperature in real-time.



Dynamic Patient Response

The virtual patient reacts physiologically to treatments—improving with correct care or deteriorating if mismanaged.



Real-Time Parameter Control

Instantly adjust vitals during active sessions to introduce new challenges or simulate sudden complications.



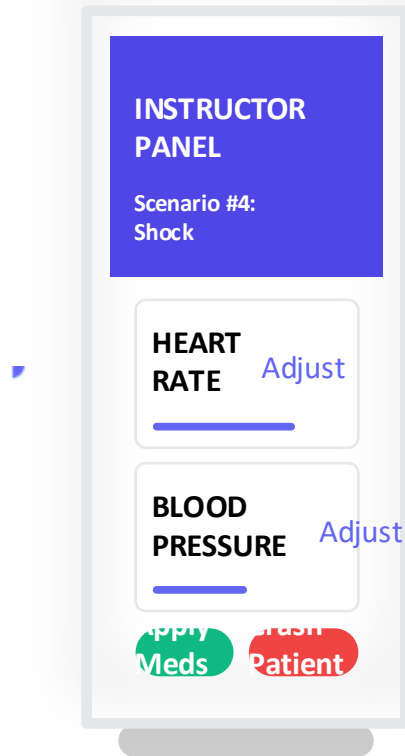
Secure Sessions

Encrypted data handling ensures all training logs and session histories are stored securely and privately.

System Workflow

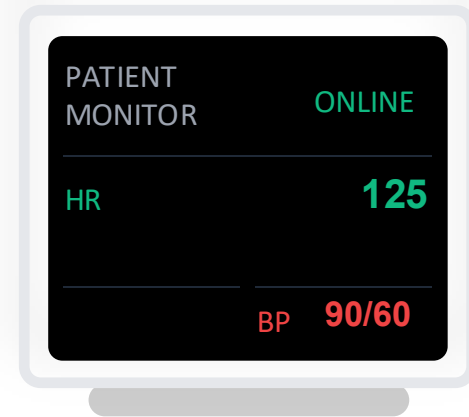
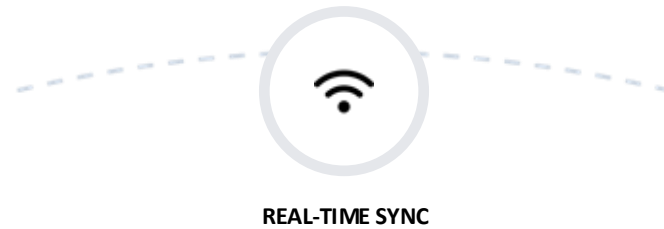
Dual-Device Architecture

Seamless synchronization between instructor controls and student simulation



Instructor Device

Controls scenario parameters, introduces complications, and monitors student actions.



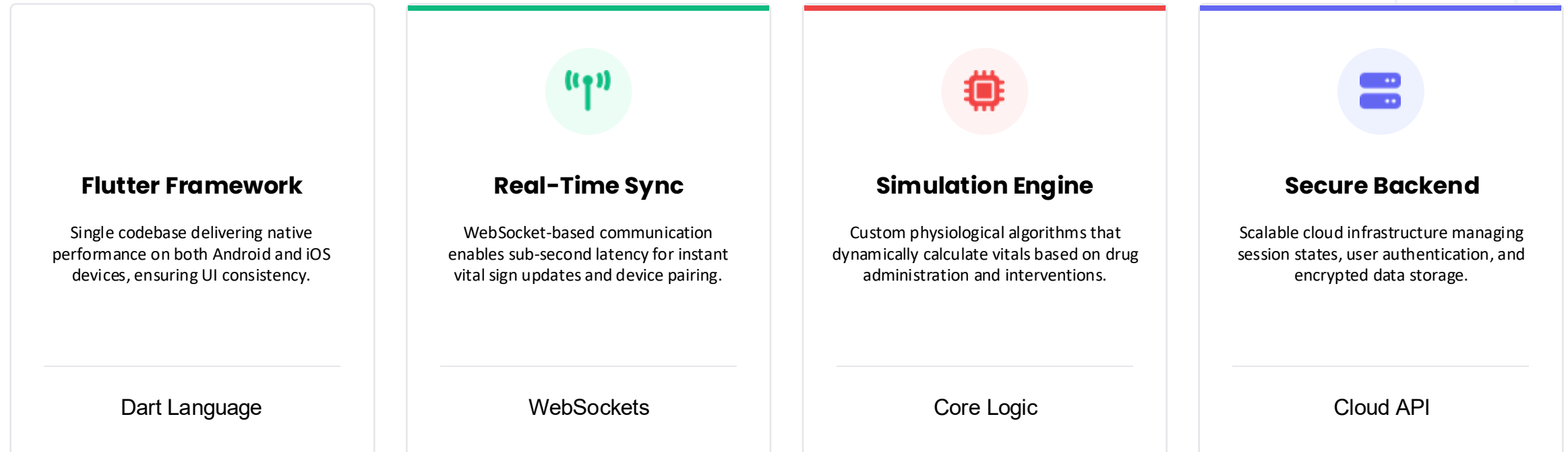
Student Device

Displays vital signs, responds to clinical decisions, and simulates patient outcomes.

Under The Hood

Robust Technology Stack

Engineered for cross-platform consistency, real-time performance, and medical-grade reliability.



Methodology

Development Approach

A structured, milestone-driven process tailored for medical accuracy and reliability.

Requirement Analysis

Deep dive into clinical workflows and training needs to define precise simulation scenarios and objectives.

UX Design

Crafting realistic patient monitor interfaces and intuitive instructor controls for high-fidelity simulation.

Simulation Logic

Developing complex algorithms for vital sign dynamics and physiological responses to treatments.

04

Connectivity Integration

Implementing real-time WebSocket communication to ensure instant sync between instructor and student devices.

05

Testing & Validation

Rigorous QA testing for clinical accuracy, system reliability, and usability across different devices.

06

Deployment

Successful launch on Apple App Store and Google Play Store with post-launch support and updates.

Project Outcomes

Results & Impact

Delivering scalable, cost-effective medical training solutions that bridge the gap between theory and practice.



Enhanced Accessibility

Eliminated the need for expensive hardware mannequins, making high-fidelity simulation accessible to smaller institutions and individual learners.

- ✔ Hardware-Free Solution



Flexible Training

Empowered instructors with full control over scenarios, allowing customization for varied learning levels from novice to expert.

- ✔ Instructor Controlled



Better Decision Making

Improved clinical decision-making skills through real-time patient responses where treatments directly impact physiological outcomes.

- ✔ Real-Time Feedback



Exam Preparation

Provided critical support for PLAB 2 and life support certifications, offering targeted practice scenarios for exam success.



Ultimate Portability

Created a "lab in a pocket" solution suitable for classrooms, simulation centers, and remote learning environments anytime, anywhere.

Our Expertise

Why This Project Matters

SimMan App exemplifies Rex Technologies' ability to deliver complex, mission-critical solutions in the healthcare sector.

“ Client Value

"Bridging the gap between theoretical medical knowledge and practical clinical skills through accessible technology."



Advanced Real-Time Simulation



Building complex logic engines that mimic real-world physiological responses instantly.

Healthcare & EdTech Innovation



Creating specialized interactive learning platforms tailored for medical professionals.

Flutter Cross-Platform Excellence



Delivering seamless, native-quality experiences on both iOS and Android from a single codebase.

Instructor-Driven Learning



Designing dual-role interfaces that empower educators to control training outcomes.

Scalable & Secure Architecture



Ensuring data privacy and system reliability for enterprise-grade training environments.