

# BobiHealth: Intelligent Monitoring for Safer Pregnancies

Shruti Chopra,, PhD <sup>1</sup>; Vandana Yadav, MS<sup>1</sup>; Stan Kachnowski, PhD, MPA <sup>1</sup>

<sup>1</sup>Healthcare Innovation and Technology Lab (HITLAB)



## INTRODUCTION

In the United States, approximately **3.6 million births** occur annually. Continuous monitoring of key maternal health indicators—such as blood pressure, pulse rate, and symptom changes—is essential for safe pregnancy outcomes (CDC, 2023). Fluctuations in these parameters can signal early onset of conditions such as **preeclampsia, gestational diabetes, or preterm labor**, requiring timely clinical intervention.

However, many expectant mothers lack reliable, clinically validated tools to track these changes between prenatal visits. This gap, combined with maternal cognitive load and limited access to real-time support, contributes to missed opportunities for early detection and care.

**BobiHealth** addresses these challenges by offering an AI-enabled maternal monitoring platform designed to track essential health parameters, deliver early alerts, and enable seamless data sharing with providers—supporting safer, more informed pregnancy journeys.

## OBJECTIVES

- Assess alignment of the BobiHealth platform with its stated functionality and user expectations for usability, security, and effectiveness.
- Identify usability issues by evaluating the app against established heuristic design principles.
- Generate actionable design insights to guide refinement of the BobiHealth platform and enhance user experience.

## STUDY METHODOLOGY

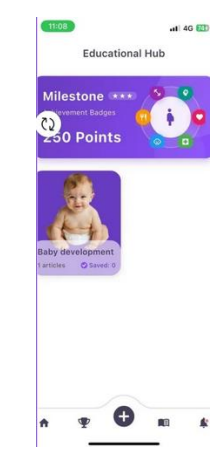
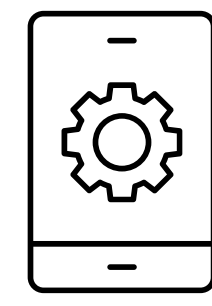



- Two independent HITLAB researchers conducted a structured heuristic evaluation of the BobiHealth app to identify usability strengths, issues, and severity levels.
- A user persona reflecting the target demographic, needs, behaviors, and context of use was developed to guide the assessment.
- The evaluation was based on Jakob Nielsen's 10 Usability Heuristics, examining interface design, navigation, system feedback, and user support.

## RESULTS

### Strength Identified

<b>Clean and Informative Layout</b>	A well-organized home screen provides an intuitive overview of pregnancy progress, vitals, and symptom tracking.
<b>Calming, Supportive Design</b>	Soft color palettes and intuitive icons promote comfort and reduce cognitive load for expectant mothers.
<b>AI Chatbot with Built-in Safety</b>	The BobiAI assistant clearly communicates its role and limitations, with visible medical disclaimers that reinforce user safety and trust.
<b>Personalized and Flexible Interaction</b>	Multiple chatbot “personalities” offer varied communication styles, enhancing relatability and engagement.
<b>Smart Data Tracking and Validation</b>	Monitoring tools effectively track physical and emotional changes, supported by data validation mechanisms that improve reliability of insights.
<b>Relevant, Actionable Insights</b>	Symptom-based recommendations are context-aware, easy to understand, and support timely decision-making and escalation of care.

### Recommendations

	<b>Expand Education Hub Content</b>	Enhance the learning library with topic filters, maternal wellness content (nutrition, mental health, etc.), and short video guidance.
	<b>Enhance App Preferences &amp; Personalization</b>	Introduce adjustable settings for notifications, display options, and privacy preferences to support personalized control.
	<b>Improve Symptom Guidance</b>	Replace generic responses with more tailored, evidence-based recommendations driven by AI.
	<b>Strengthen In-App &amp; Web Support</b>	Add in-app About Us, FAQs, and Help sections; expand website resources with detailed user guides and support documentation.
	<b>Ensure Design &amp; Feature Consistency</b>	Merge duplicate “Education Hub” entries, and make “Coming Soon” features clearly inactive or visually disabled.

## BobiHealth: An App for Safer, Smarter Pregnancy - Connect, Track, Thrive.

### Key Features

#### Real-Time, AI-Driven Monitoring

Continuously analyzes wearable and self-reported data to detect early deviations from healthy pregnancy patterns.

#### Dynamic Alerts & Early Risk Detection

Combines vitals, hydration levels, fetal movement inputs, and symptom logs to flag potential risks—such as preeclampsia—enabling timely clinical action.

#### Accessibility & Equity Focus

Delivers real-time, evidence-based guidance anytime, supporting mothers across diverse geographies and resource settings.

#### Comprehensive Health Documentation

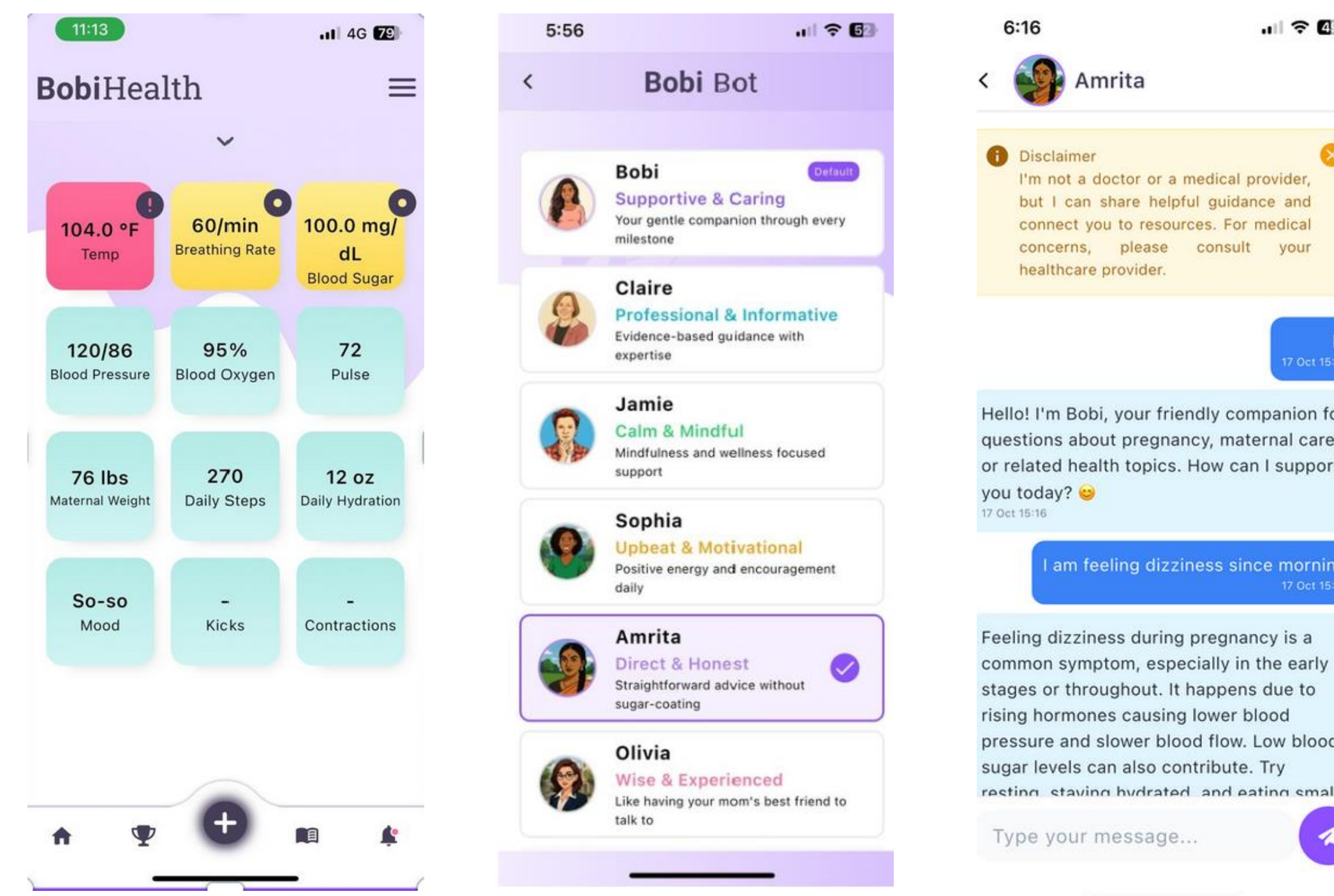
Captures vitals, mood, symptoms, and fetal activity through guided inputs that reduce user error and ensure complete, reliable records.

#### Tiered, Contextual Recommendations

Provides color-coded insights and AI-driven recommendations—from reassurance to urgent alerts—empowering confident, informed decision-making.

#### BobiBot Experience

Offers clear, trustworthy AI support through defined boundaries, simple explanations, and customizable chatbot personalities that enhance relatability and engagement.



### Awards and Recognition



BobiHealth Awarded **"Top Pregnancy Health Tracking Tool 2025"** by Healthcare Tech Outlook

### Heuristics

Heuristics	Rating (out of 5)
 Visibility of System Status	1 2 3 4
 Match between system and the real world	1 2 3 4
 User control and freedom	1 2 3 4
 Consistency and standards	1 2 3
 Error prevention	1 2 3 4 5
 Recognition rather than recall	1 2 3 4
 Flexibility and efficiency of use	1 2 3
 Aesthetic and minimalist design	1 2 3 4 5
 Help users recognize, diagnose, recover from errors	1 2 3 4
 Help and documentation	1 2 3

## CONCLUSIONS

BobiHealth addresses a critical gap in maternal healthcare by enabling continuous and reliable monitoring throughout pregnancy. Its integrated tracking of physical, emotional, and behavioral indicators offers a holistic support system that enhances safety and confidence for expecting and new mothers.

The app's AI-supported insights and BobiAI chatbot help users interpret symptoms, make informed decisions, and seek timely care. HITLAB's evaluation confirms strong usability and thoughtful design foundations, while also identifying targeted enhancements needed to strengthen feedback clarity, accessibility, and in-app guidance.

With these refinements, BobiHealth is well-positioned to serve as a trusted maternal health companion—promoting safer pregnancies, smoother postpartum recovery, and improved self-management for mothers.

### ACKNOWLEDGEMENTS

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