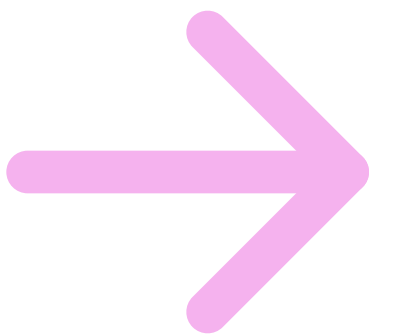
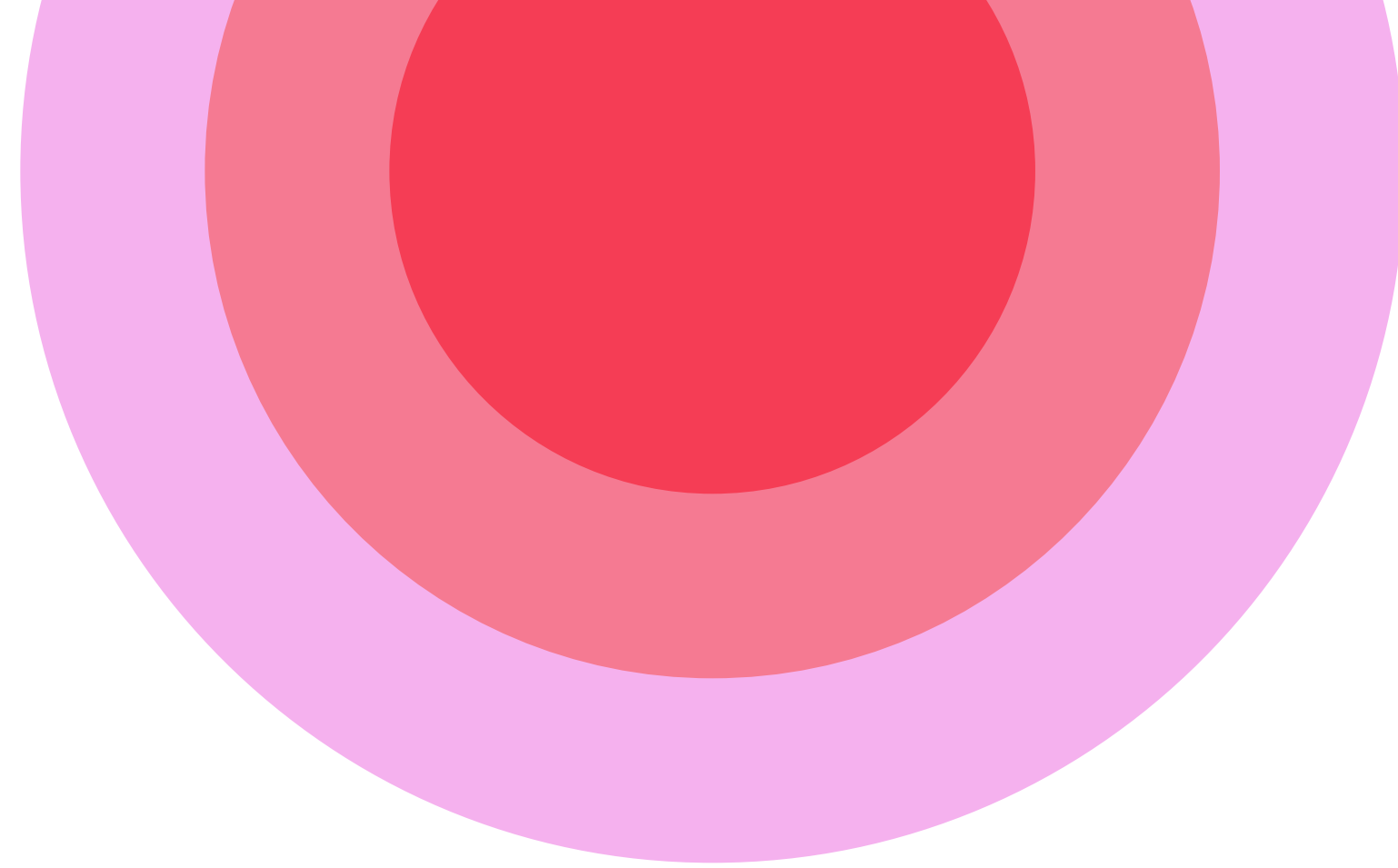




CareBear

A playful way for children to communicate their health symptoms





Problems

of children to communicate their health symptoms



limited vocabulary

to accurately describe their symptoms or how they are feeling

fear of the unknown

e.g. fear of medical equipment or procedures can make them reluctant to communicate openly.

anxiety and stress

related to medical appointments, e.g. due to fear of pain, fear of needles, fear of separation from parents, or fear of being judged

cultural and familiar influences

Cultural beliefs and family attitudes towards illness can impact how comfortable children feel discussing their symptoms

Background

Opportunities

Challenges

HCI for health and wellbeing: Challenges and opportunities

Ann Blandford

UCL Interaction Centre & UCL Institute of Healthcare Engineering, University College London, London WC1E 6BT, UK

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ABSTRACT

In terms of Human-Computer Interaction, healthcare presents a new opportunity for investment in innovative health technologies, particularly around digital health technologies; on the other hand, most interactive health technologies are difficult to use and few innovative technologies have achieved significant success. This paper, through a review of change, with a shift from care being delivered by professional staff to patients being engaged and involved in shared decision making. Technically, the challenges of digital health technologies and information resources; culturally, the pace of change in healthcare; and the "space" of interactive health technologies, users and uses, and the review of the past and present, I highlight opportunities for and the design and deployment of digital health technologies. This paper discusses the experience, and opportunities to deliver healthcare and empower people in ways that better fit their lives and values.

empower people to manage their health and wellbeing

threats to privacy

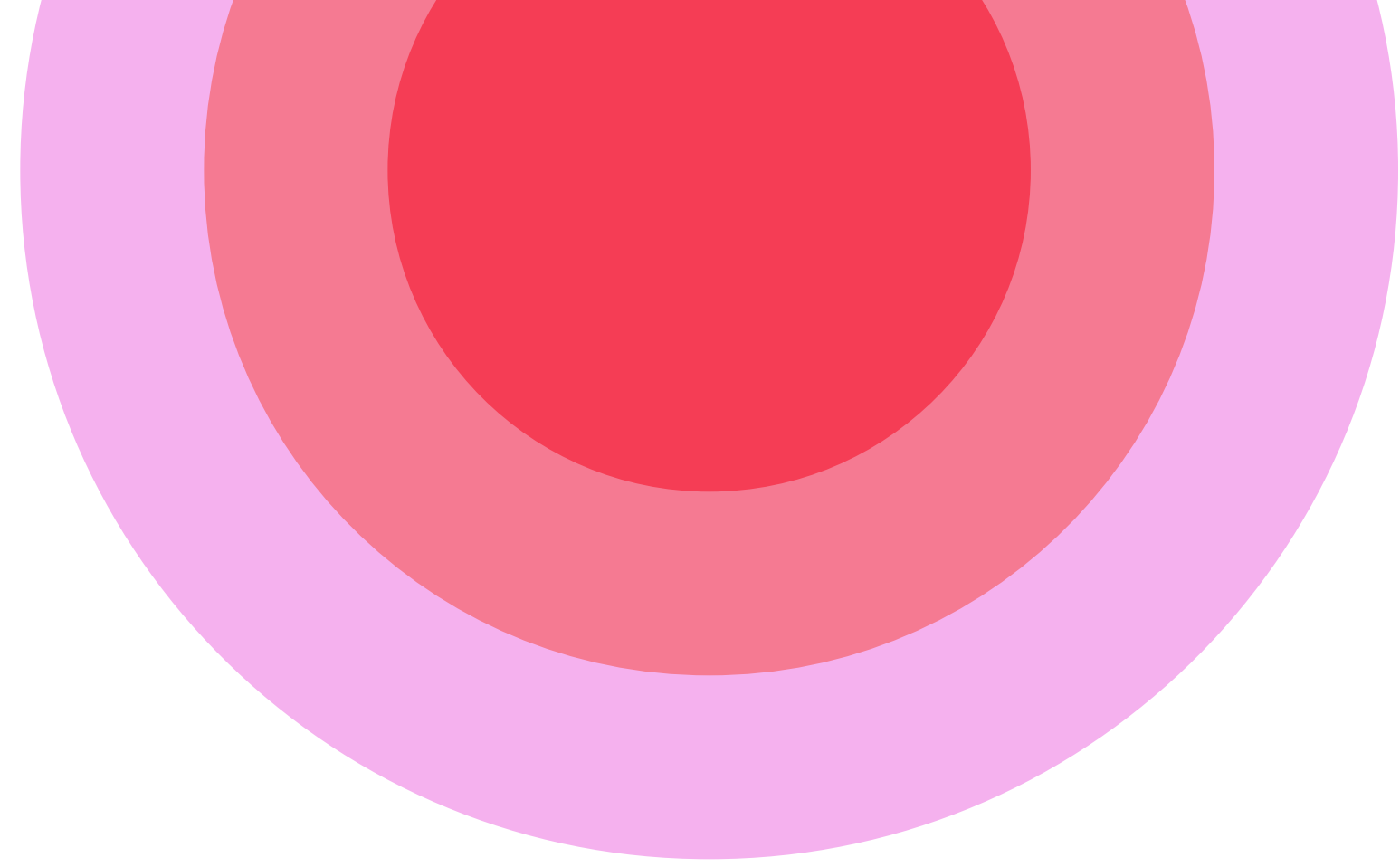
healthcare that better fits in peoples live

patient trust

bring user centered design to health technology

complexity of contexts

"digital divide"



3rd wave HCI

Turn to embodiment

Practical Engagement

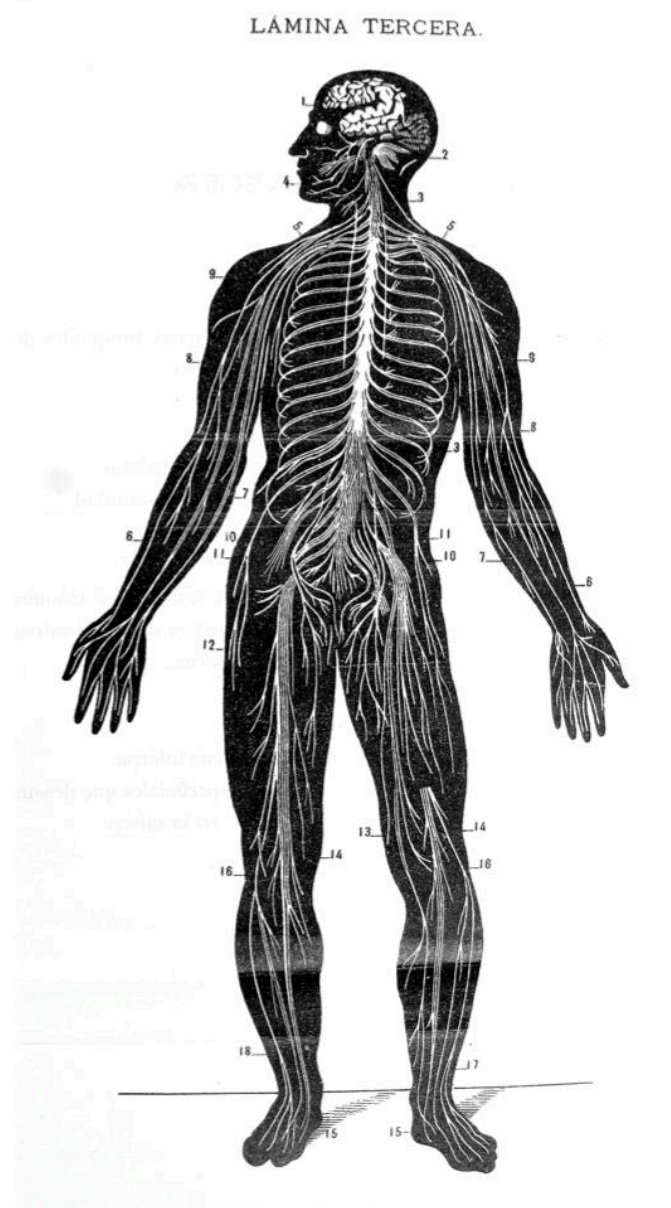
Diversity of physical ways we can touch, manipulate, and use interfaces

Meanings are inscribed in Interactions

Meanings are created by exploring, adapting, and adopting interactive technologies, incorporating them into one's world and everyday practices

3rd wave HCI

The somatic turn



Lian Loke, University of Sydney
Thecla Schiphorst, Simon Fraser University

The Somatic Turn in Human-Computer Interaction

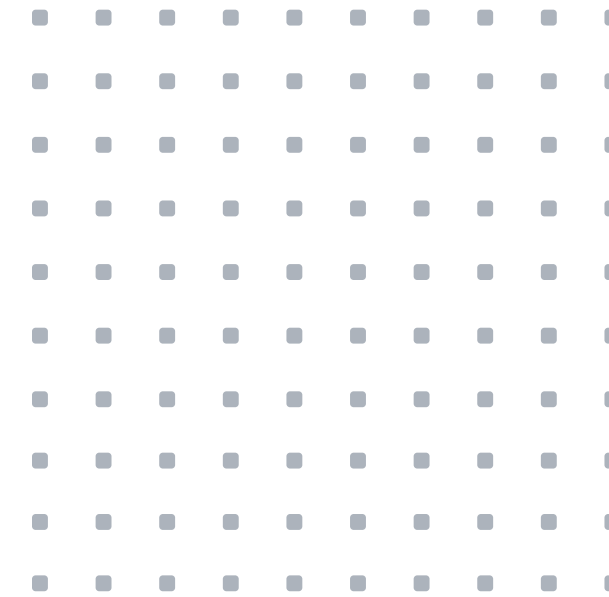
Insights
 → The body is both an instrument and a material for creative exploration and expression.
 → Attentional techniques play a key role in transforming felt bodily experience.
 → Somatic sensibility has an evaluative dimension.

Given the... and socially directed... we HCI an... "somatic turn" is a... that we are also beginning to see in the interaction design and... more, on design... self-observati... phy, somaest... and... the... social, and... Somatic body-based... train awareness of self and environment through directed attention to bodily sensing.

feeling, and moving. This self-inquiry at the heart of somatics provides a rich experiential ground from which to understand and empathize with the experiences of others, the people for whom we design. Somatics practices explicitly frame an ethical relationship between care of self and our capacity to care for and act in the world. Somatics proposes an ameliorative practice of self-cultivation that aligns with the social tenets of research through design in HCI, which seeks to transform the world from its current state to a preferred state. The role and responsibility of the designer in

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SEPTEMBER-OCTOBER 2018 INTERACTIONS 55

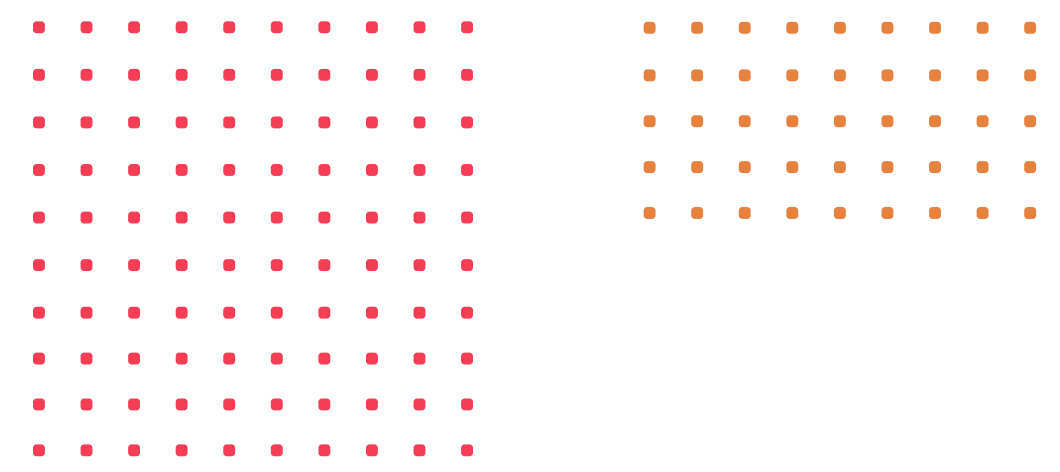


"This comes with the realization by health authorities that in order to **decrease the burden on the public health system, citizens need to be empowered** with tools and techniques for **monitoring and improving their own personal well-being.**"

"The somatic approach can also provide **tools and techniques** for an individual person to acquire some sense of **mastery over their own mental, emotional, and physical well-being.**"

"One of the defining features of somatics is **the privileging of the subjective, first-person perception** of one's own body. This is **in contrast to the dominant third-person views** of the body encountered in science [...]."

"One research strategy is to **design technologies to support developing skills of experience.**"



Our Goals

01

Facilitate Communication about Symptoms

02

Enhance Comfort, Trust and Familiarity

03

Monitor Health and Detect Emergencies

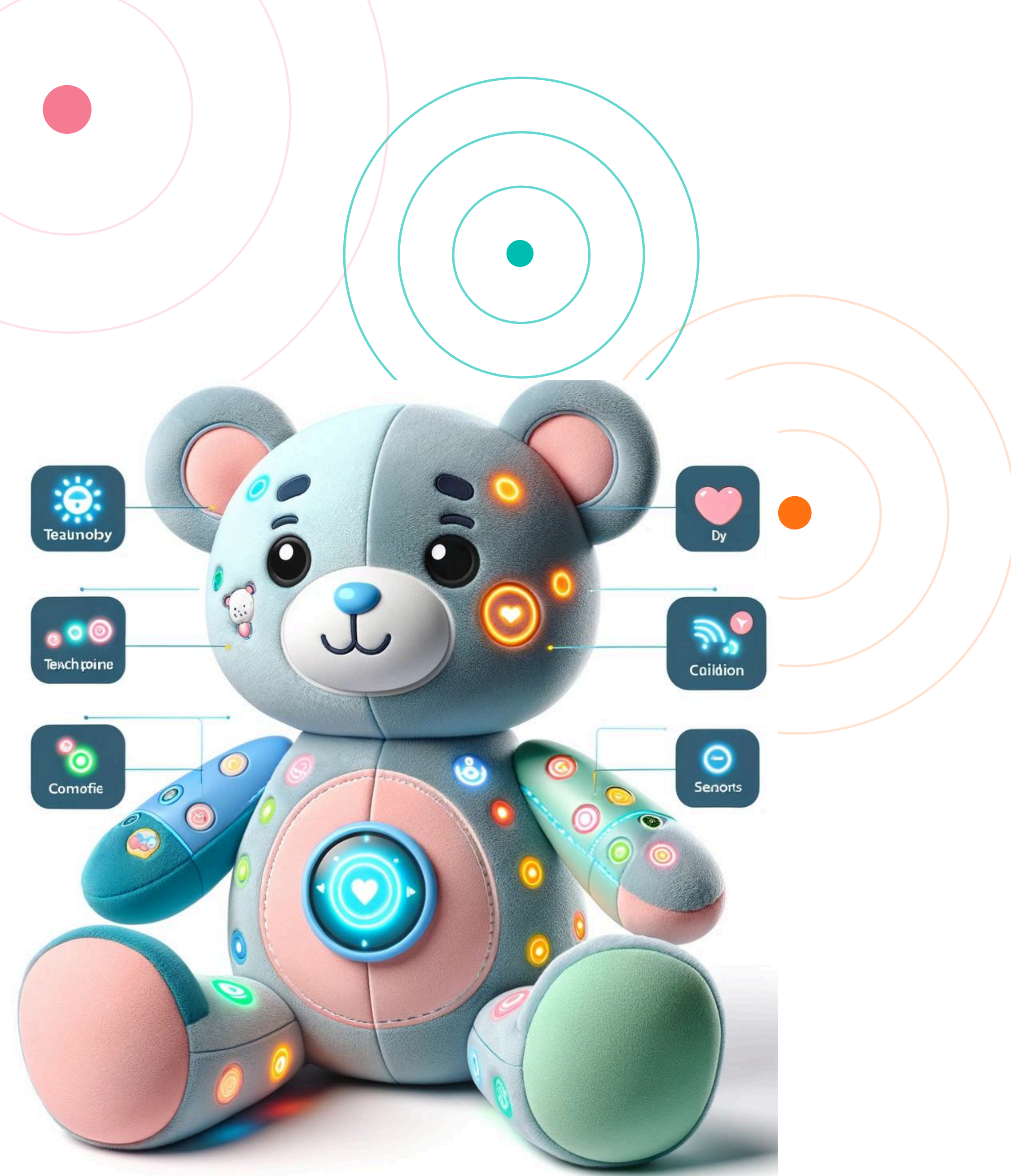
04

Support Caregivers and Healthcare Providers

Our Solution

CareBear

- interactive AI-powered device, specifically designed for children to communicate their health symptoms more effectively
- Children can interact with this device by pointing to where they feel pain, describing the nature of their discomfort, and even rating their pain level on a scale



Functionalities

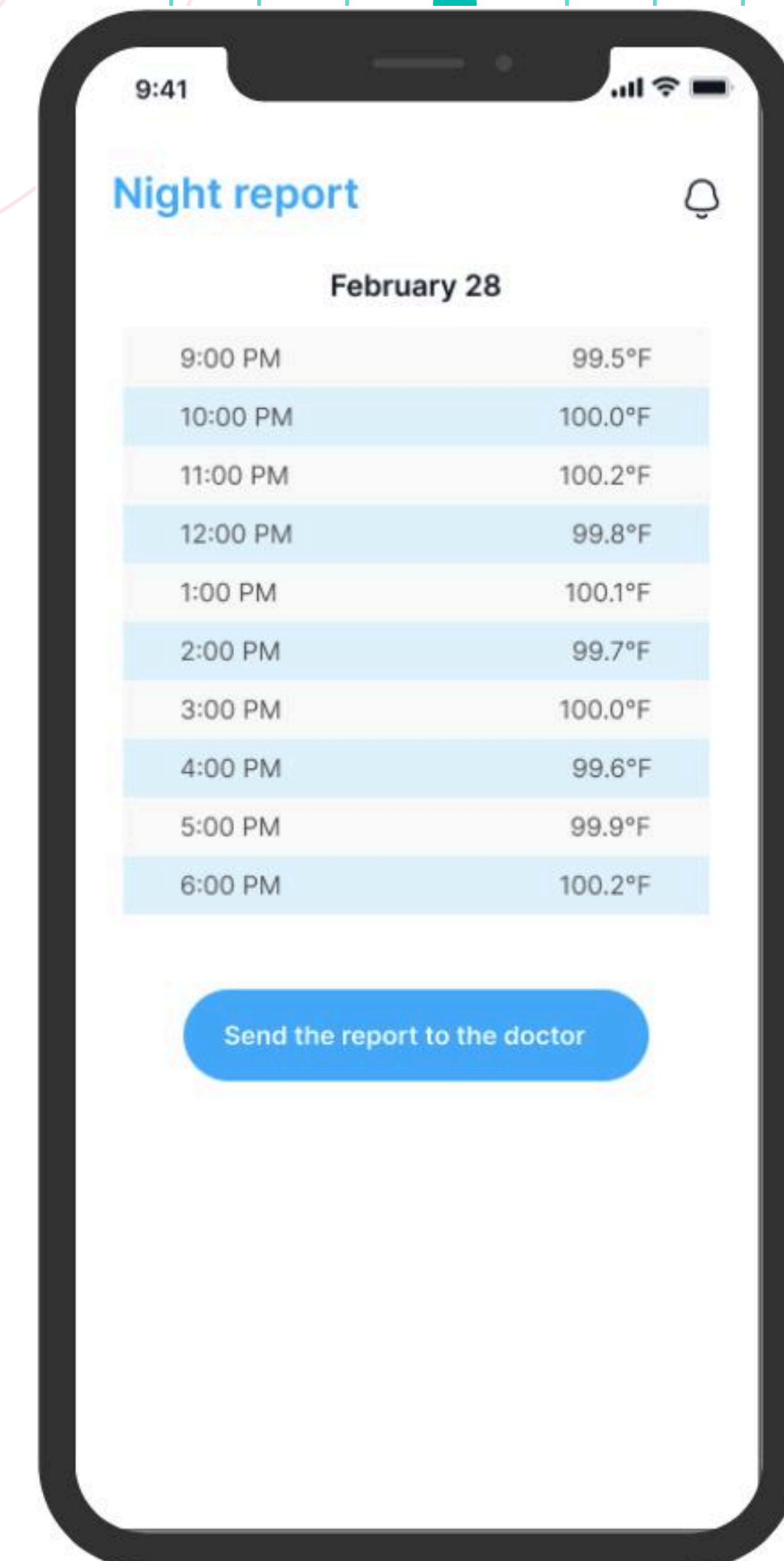
- measure **temperature** with a sensor
- buttons all over the bear for pressing and showing the location of the pain
- buttons **measure pain levels**
- camera (in the eyes) for **emotion recognition**
- **speech recognition**
- **turn on/off features**



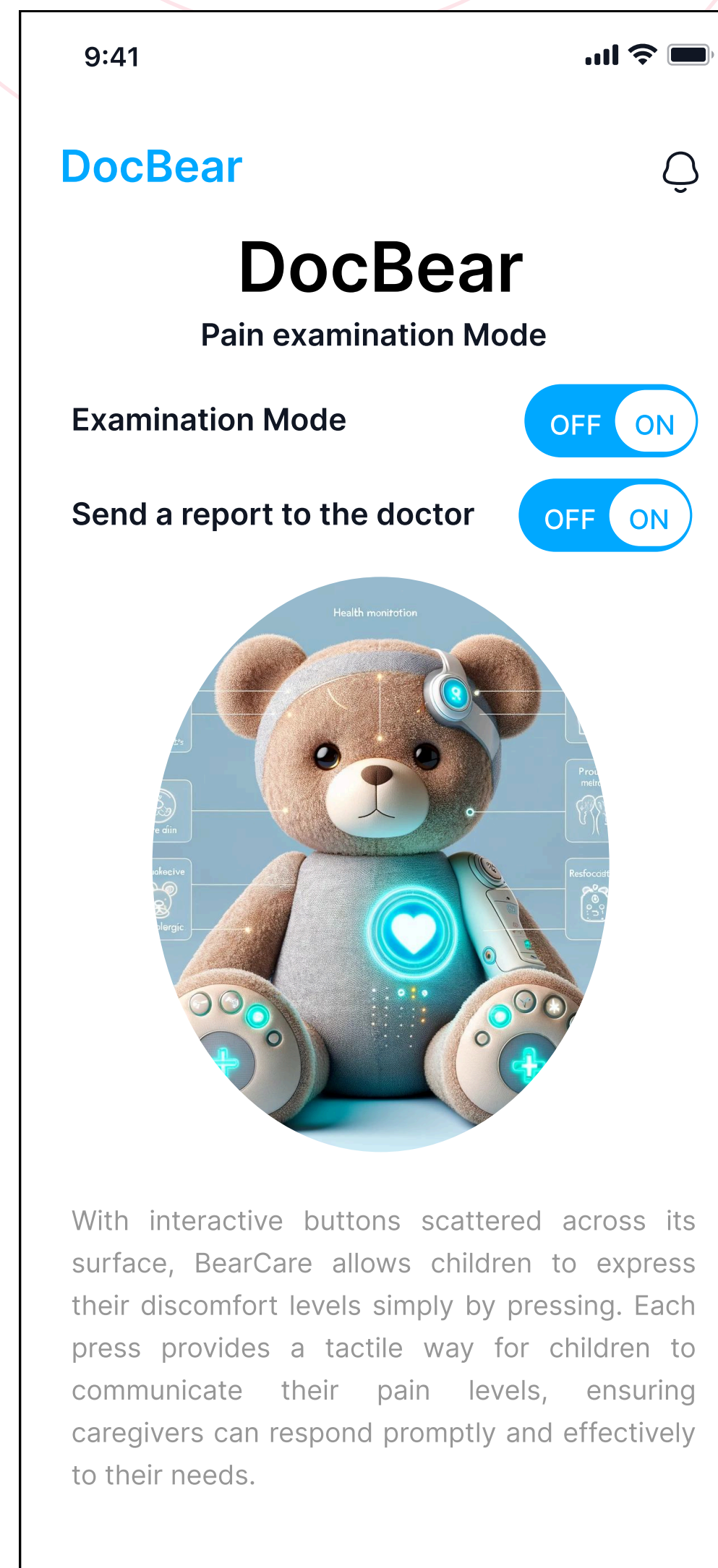
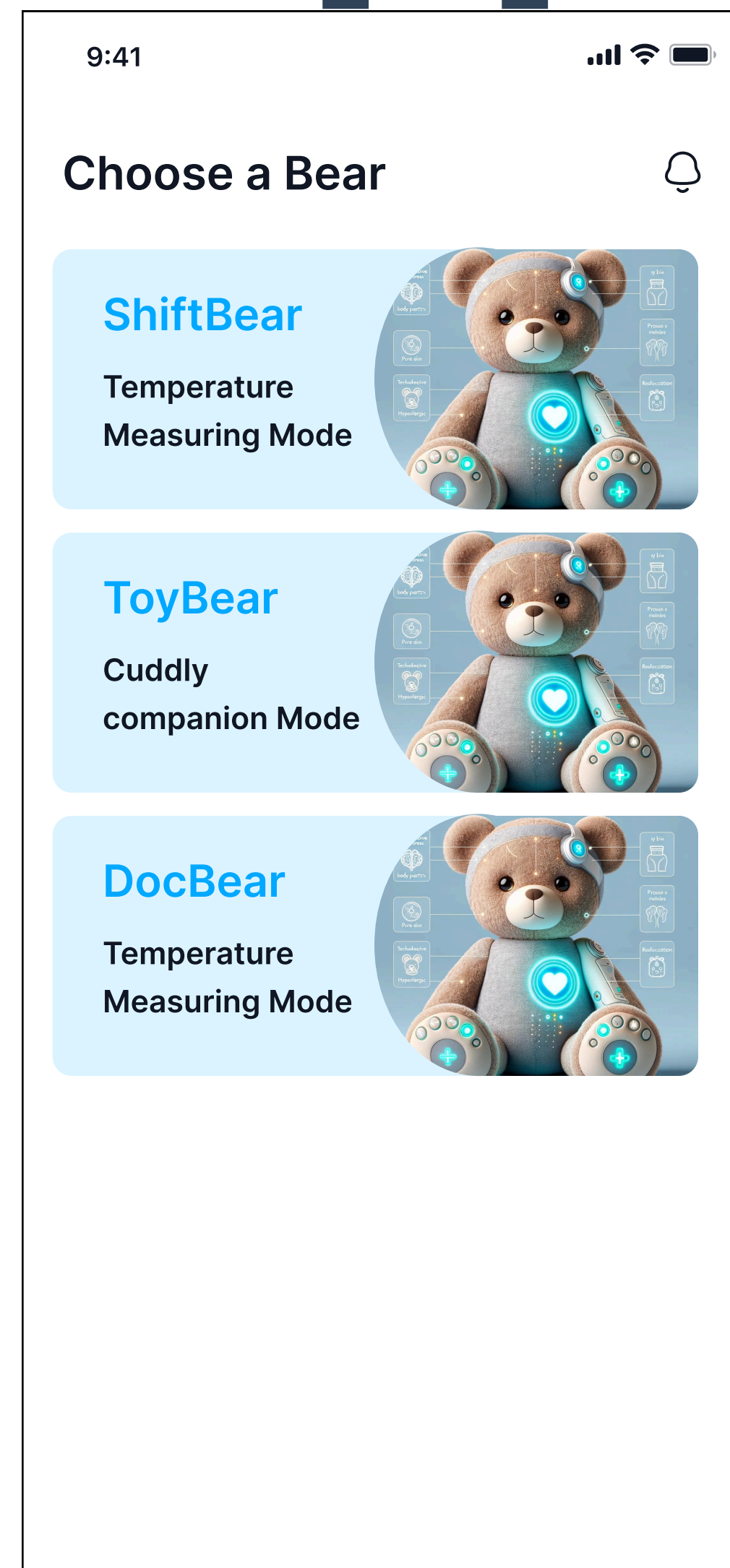
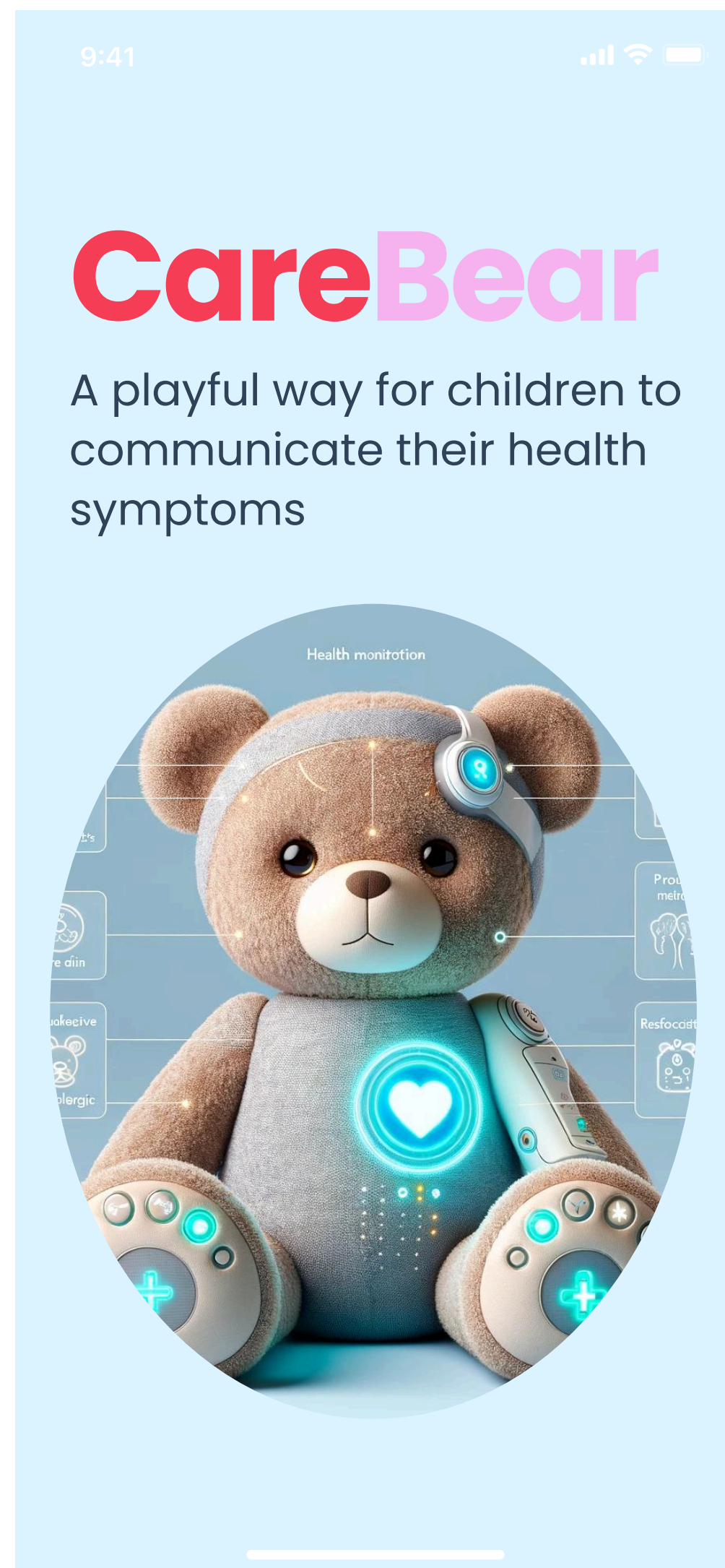
AI Component

- interpreting the **child's input**, **providing initial feedback**, and communicating the symptoms in a structured format **to caregivers or medical professionals**
- include **natural language processing** to understand **verbal descriptions of symptoms**, machine learning algorithms to interpret the **location and intensity of pain** based on the child's inputs, and an intuitive interface for children to interact with easily

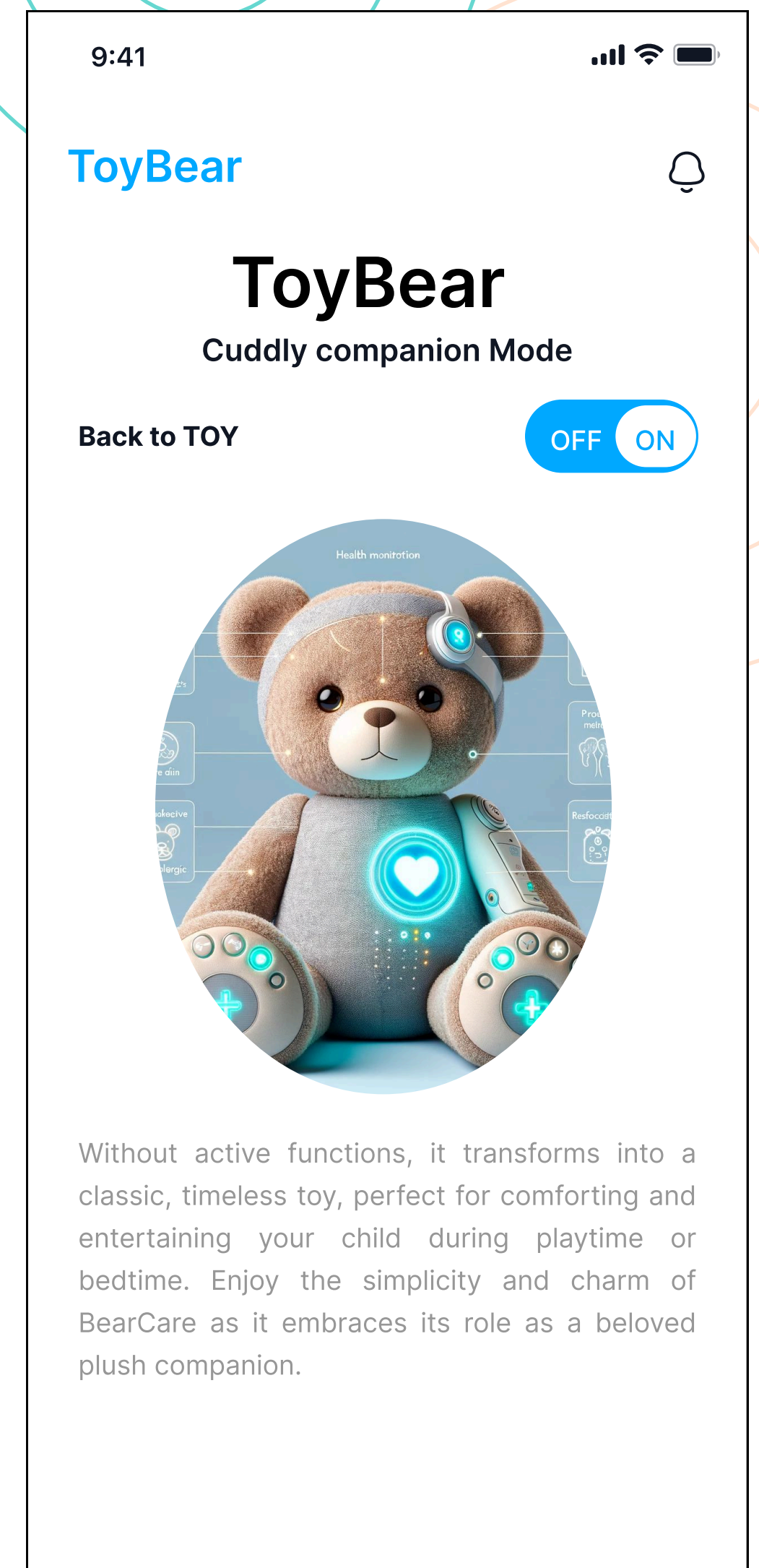
--> makes it easier for children to communicate their symptoms but also supports healthcare providers in diagnosing and treating children's ailments more accurately



Mobile App

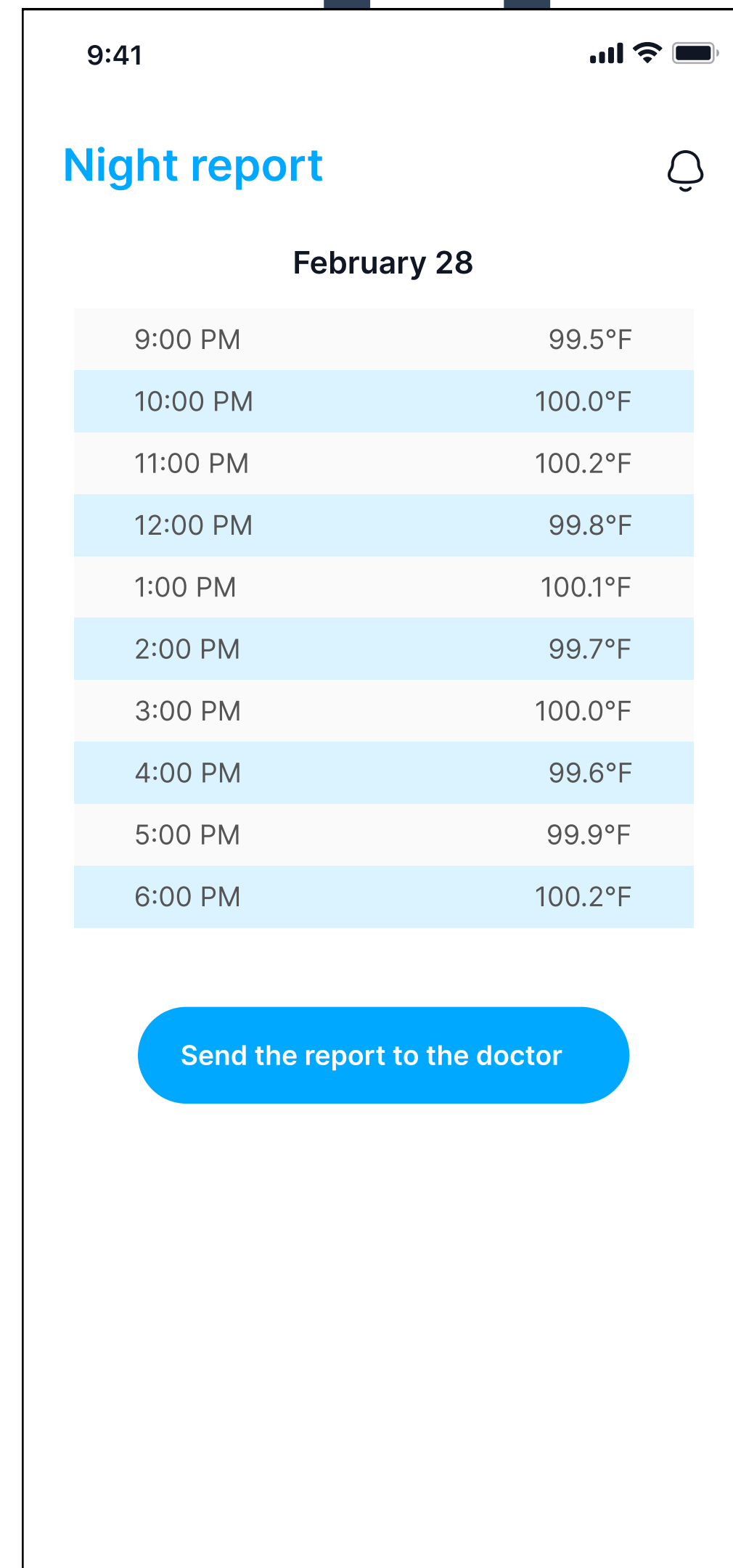
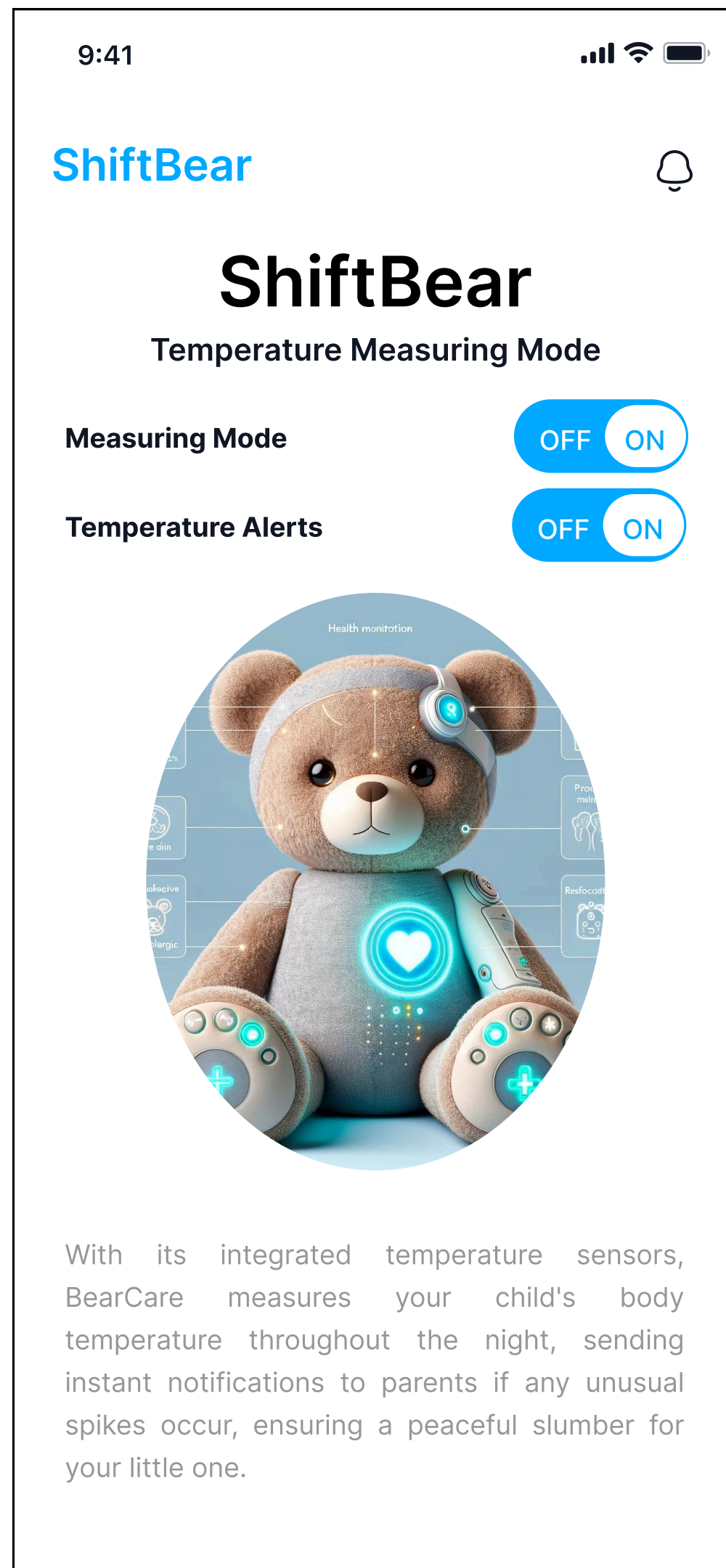


With interactive buttons scattered across its surface, BearCare allows children to express their discomfort levels simply by pressing. Each press provides a tactile way for children to communicate their pain levels, ensuring caregivers can respond promptly and effectively to their needs.



Without active functions, it transforms into a classic, timeless toy, perfect for comforting and entertaining your child during playtime or bedtime. Enjoy the simplicity and charm of BearCare as it embraces its role as a beloved plush companion.

Mobile App



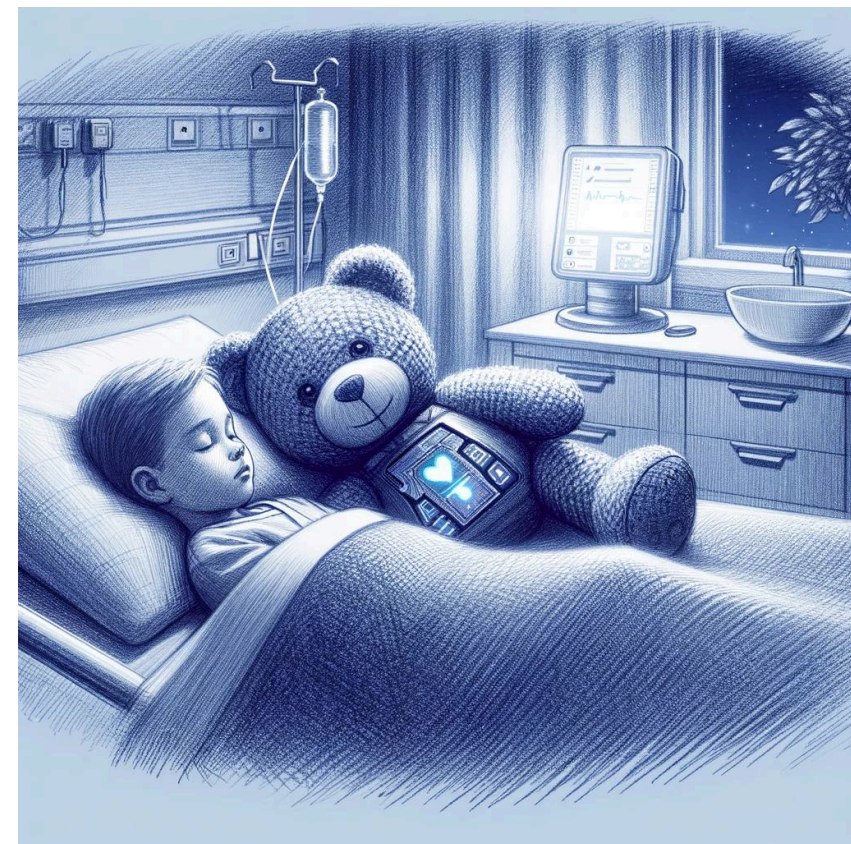
Use Case

- at the hospital

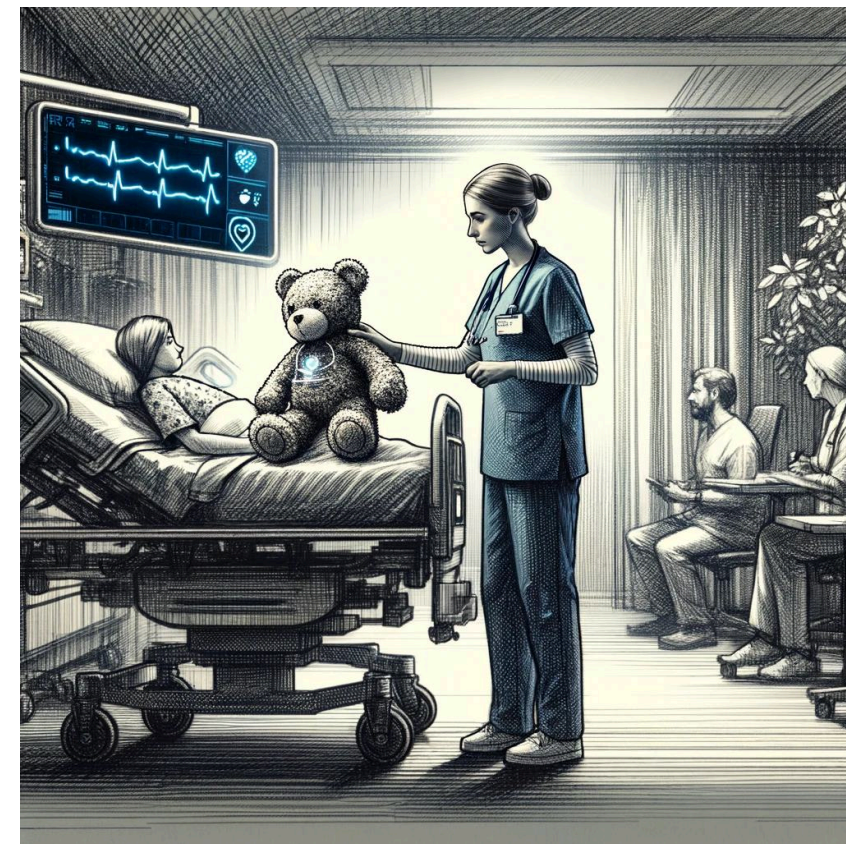
The teddy monitors the child's temperature, sounds and emotions during the night



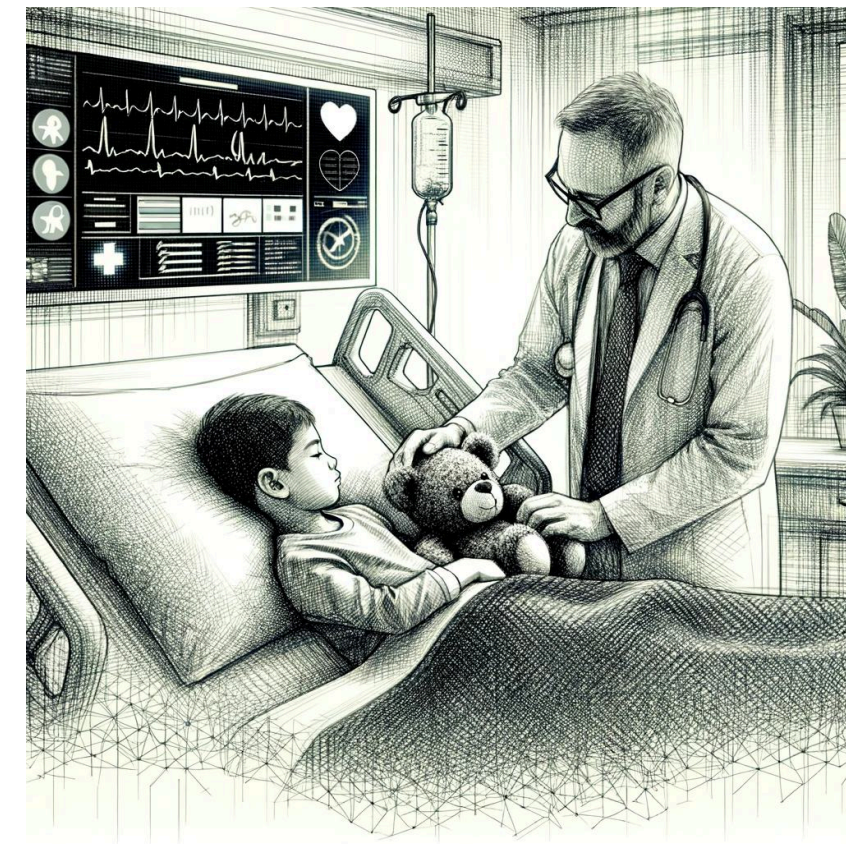
Child is in hospital and gets a teddy for health monitoring



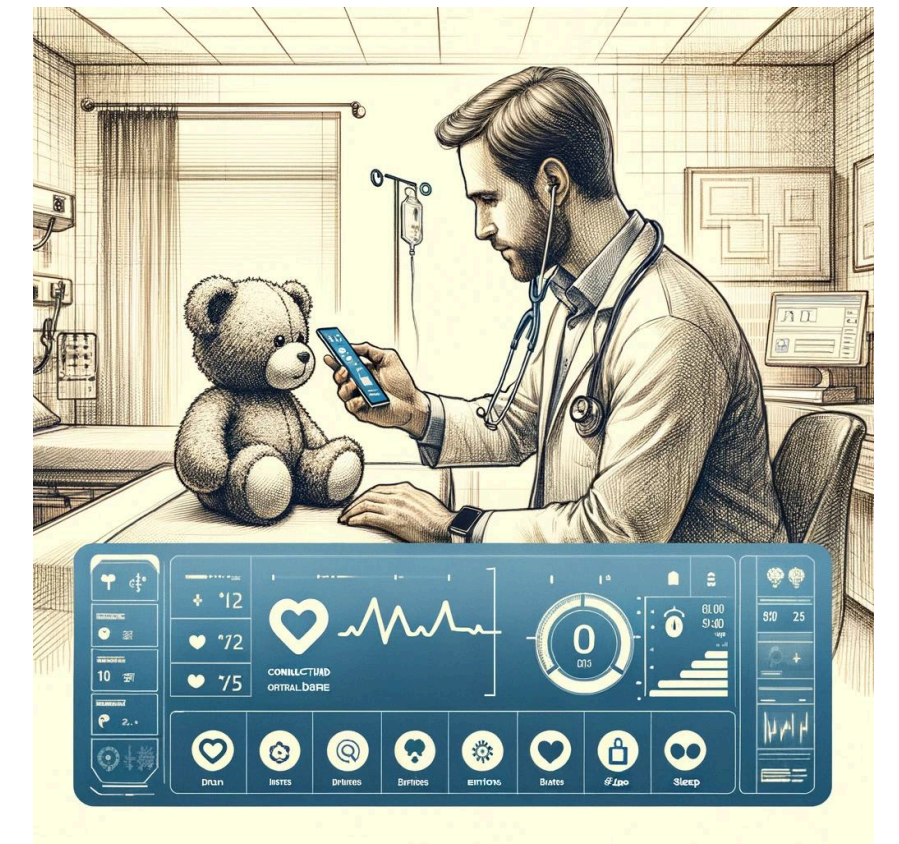
The child develops a high temperature and sends a message to the nurse (emergency detection)



The doctor comes to check the next morning and sends the data from the teddy to the app



The doctor receives all data in a structured format and can quickly obtain a holistic overview of the health status



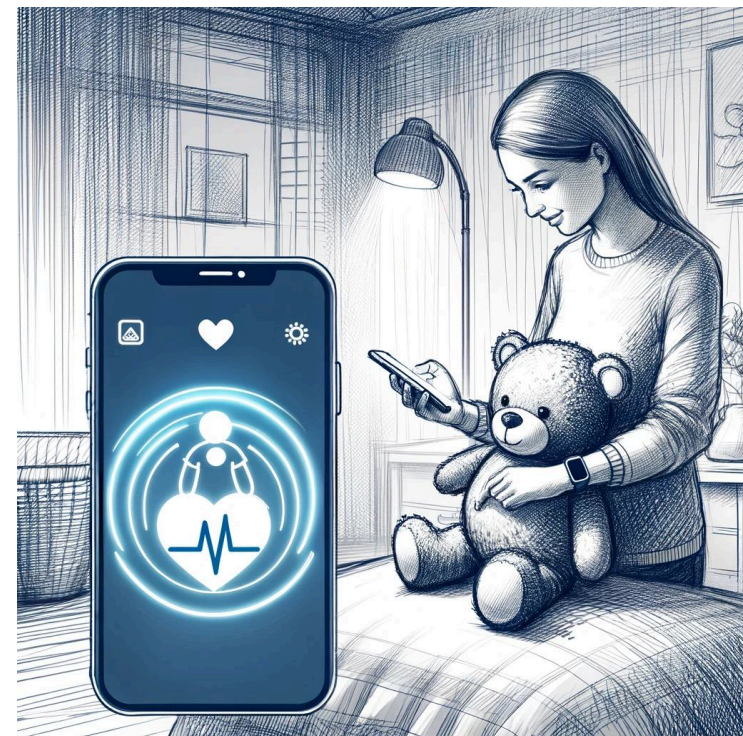
Use Case

- at home

Mom comes in and turns on the teddy with the app



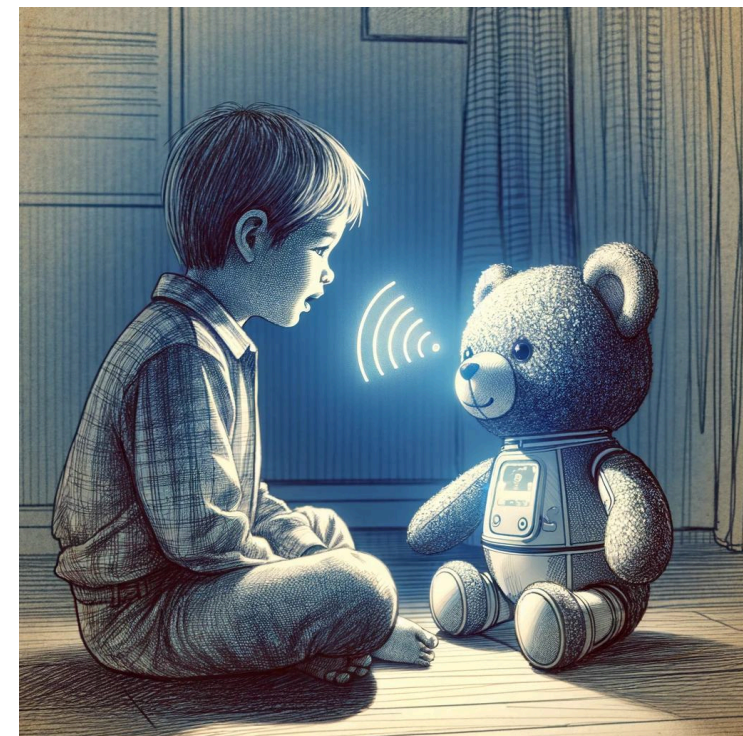
Child cuddles with teddy



Mum sits down with the child and explains that the child can show where it hurts on the teddy



Teddy recognises the child's feelings and symptoms using a camera and speech recognition. The child also presses on certain points on the teddy and the pain levels are recognised by the pressure.



The mum is given an overview of the symptoms in the app and receives advice



The mother can also chat live with a Doctor



Thanks

CareBear

