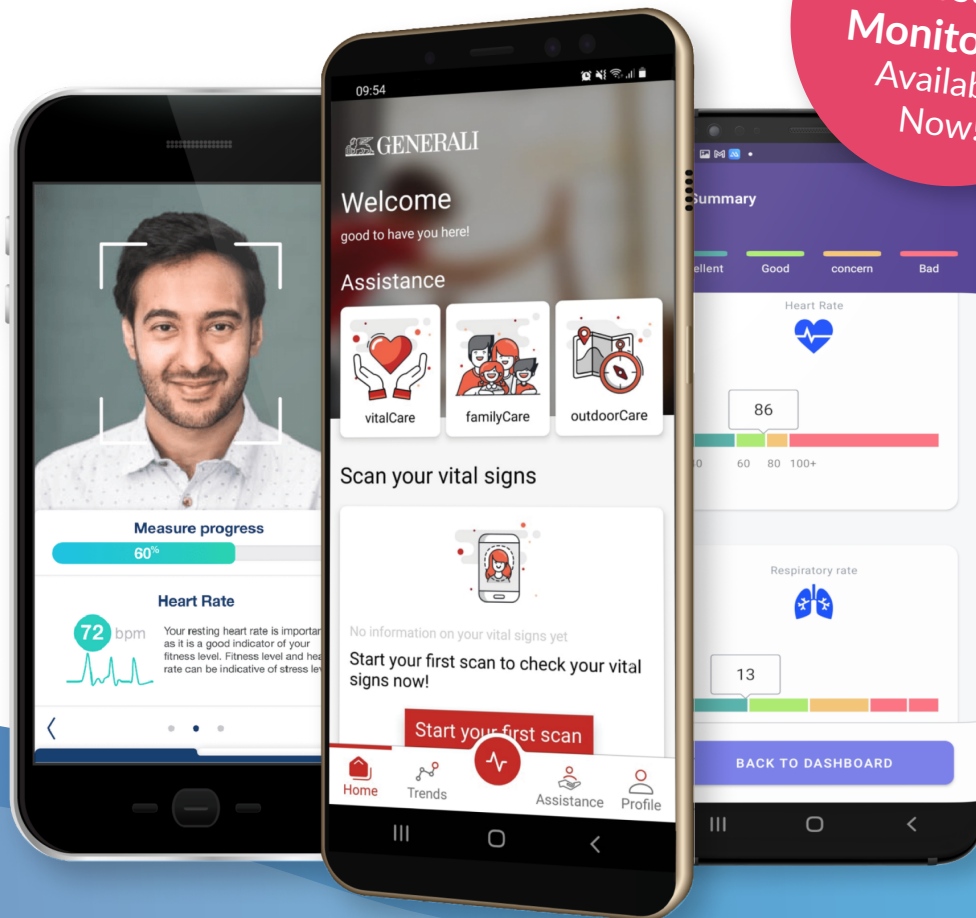# binah.ai
Health. Care. Anywhere.

Binah.ai
Software Development Kit
(SDK)

Blood Pressure Monitoring *Available Now!*

Examples of applications powered by Binah.ai SDK

binah.ai
Health. Care. Anywhere.

Binah.ai Software Development Kit (SDK)

Vital Signs Selfie Monitoring

Binah SDK turns smartphones, tablets and laptops into health and wellness monitoring tools. Using our easy-to-integrate and UI-agnostic SDK, you can can easily add health and wellness monitoring to your app or workflow and customize the experience to suit your clients' needs without any privacy risks or concerns, as all processing is done on the end-user's device.

The Business Need

In our fast-paced and vastly connected world, there is a growing need to measure vital signs in a way that is simple, accessible and affordable. To foster a business flow that maximizes your ROI, Binah's SDK offering contains all that is required to support and easily scale a variety of use cases, including one-time measurements for cases like underwriting or telehealth, or recurring sessions on registered devices for cases like health and wellness monitoring, medication adherence, or employee wellness applications.

What is Binah SDK?

Binah.ai's Software Development Kit (SDK) powers your existing application and enhances your user experience with the capacity to extract vital signs from smartphones, tablets or laptops.
Within seconds, any supported device can measure physiological health and stress parameters by analyzing a short video feed of the user's face via the front camera or the user's finger via the rear camera.
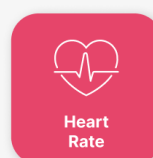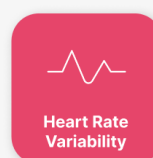
ISO 13485:2016 — DEKRA Certified | HIPAA COMPLIANT | GDPR Representation — CERTIFIED 2021-04-13
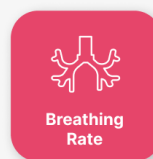
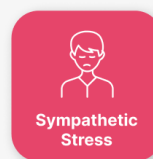|		
Blood Pressure	Heart Rate	Heart Rate Variability
Breathing Rate	Oxygen Saturation	Sympathetic Stress
Parasympathetic Activity	Pulse Respiratory Quotient (PRQ)	7/10 Medium — Wellness Score

NEW
Binah Wellness Score

Enable clients to get one simple score that reflects general wellness levels in just 60 seconds. The Binah.ai Wellness Score is based on the physiological parameters measured by Binah.ai.

Low   Medium   High

1 2 3 4 5 6 7 8 9 10
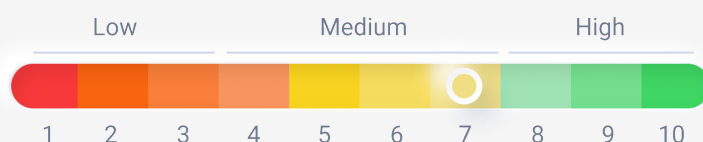
Integration Options

Binah offers SDK libraries for the following languages and platforms:

Android native SDK (Java/Kotlin/React Native)
- Android API version 27 and above
- Camera with a supported frame rate of 30 fps
- CPU-ARMv8-A
- The device must have at least 3GB of RAM
- Note: the list of supported devices is continually updated

iOS native SDK (Objective-C/Swift/React Native)
- iOS devices running iOS 13 and above iPhone 8 and all devices released afterward
- iPad (6th generation) and all devices released afterward
- PPG specifically requires a torch positioned next to the rear camera

Windows SDK (.Net)
- Windows 10 64bit, i3 processor or above
- 4GB RAM or above, using the integrated laptop camera or a USB camera with VGA resolution 640x480 and 30 fps

Web SDK (Javascript)
iOS devices
- Safari browsers with iOS version 15.2 or above
- iPhone 8 and all iPhone devices released afterward

Android devices
- Chrome browsers version 95 or above
- Camera frame rate 15 fps and resolution of at least 640x480
- CPU-ARMV8-a
- Note: the list of supported devices is continually updated

Benefits

Vital signs results within seconds - Get your heart rate results in approxmiately 10 seconds and the other vitals shortly after.

No demographic dependencies - The SDK only analyzes a video stream and does not require any demographic information. The technology is agnostic to gender and skin color, allowing you to freely create a user experience based on your specific business needs.

Runs on the edge - All algorithms run on the device. No internet connection is required to measure vital signs. No personal data is sent out, and there are no privacy concerns.

Easy integration and 24/7 human support - The simplest integration with comprehensive documentation, reference applications, and our Customer Success team available to support your needs at anytime.

Availability - Your end-users already carry the required hardware with them everywhere.

Various SDK Types - iOS and Android libraries in native languages and cross-platform frameworks for mobile application development. C# library for Windows Applications. Javascript library for Web applications.

Multiple pricing models to best suit your business needs - choose from our "per measurement" or "per device" license options and scale effortlessly.

UI/UX Agnostic - Enjoy total control over UI/UX design and supports both portrait and landscape orientations.

The scientific baseline enabling the SDK

Binah's SDK is based on photoplethysmography and remote-photoplethysmography (PPG and rPPG, respectively). PPG is a popular technology that has traditionally been used in medical devices, like finger pulse oximeters, to measure changes in red, green, and blue light reflected from the vessels near the skin's surface.
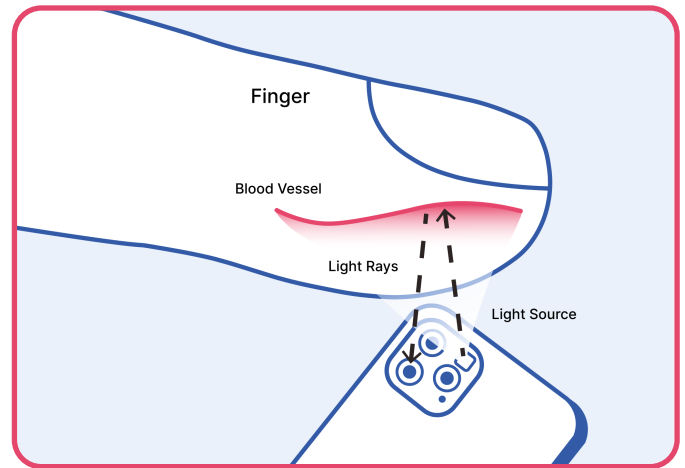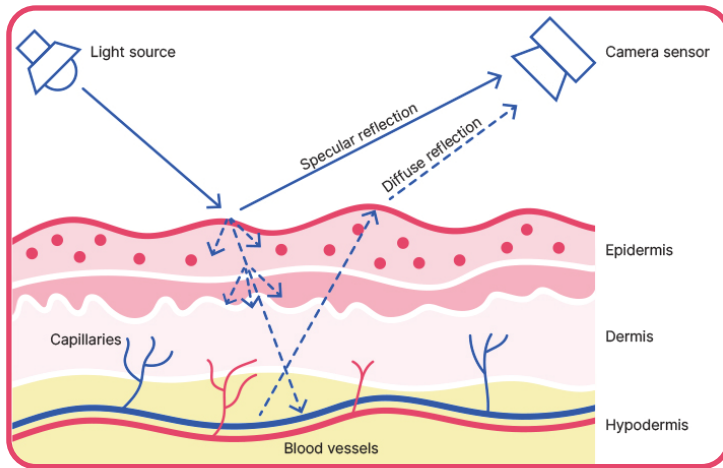
At Binah.ai, we took PPG technology a step further and developed rPPG (remote PPG) technology, which enables everyday cameras to measure these variations in light with the same level of accuracy without requiring contact with the skin.

SIGNAL FLOW

Light Analysis

Light from surrounding environment or device torch penetrates skin and reflects off blood vessels to camera

1

Camera Calibration

Binah.ai connects to camera and receives captured video stream. Camera parameters adjust to optimize video feed

2

Luminance Correction

When required, light levels are processed to improve vital signs accuracy

3

ROI Detection

Face is isolated from background image and region of skin is identified for analysis

4

RGB Data Extraction

RGB (red, green, blue) values are extracted from skin

5

Vital Signs Calculations

Each vital sign is calculated based on varying quantities of data. Results appear within 10 sec. to 1 min.

6

Eager to Learn More?

Visit our website https://www.binah.ai or contact us at https://www.binah.ai/contact/.

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