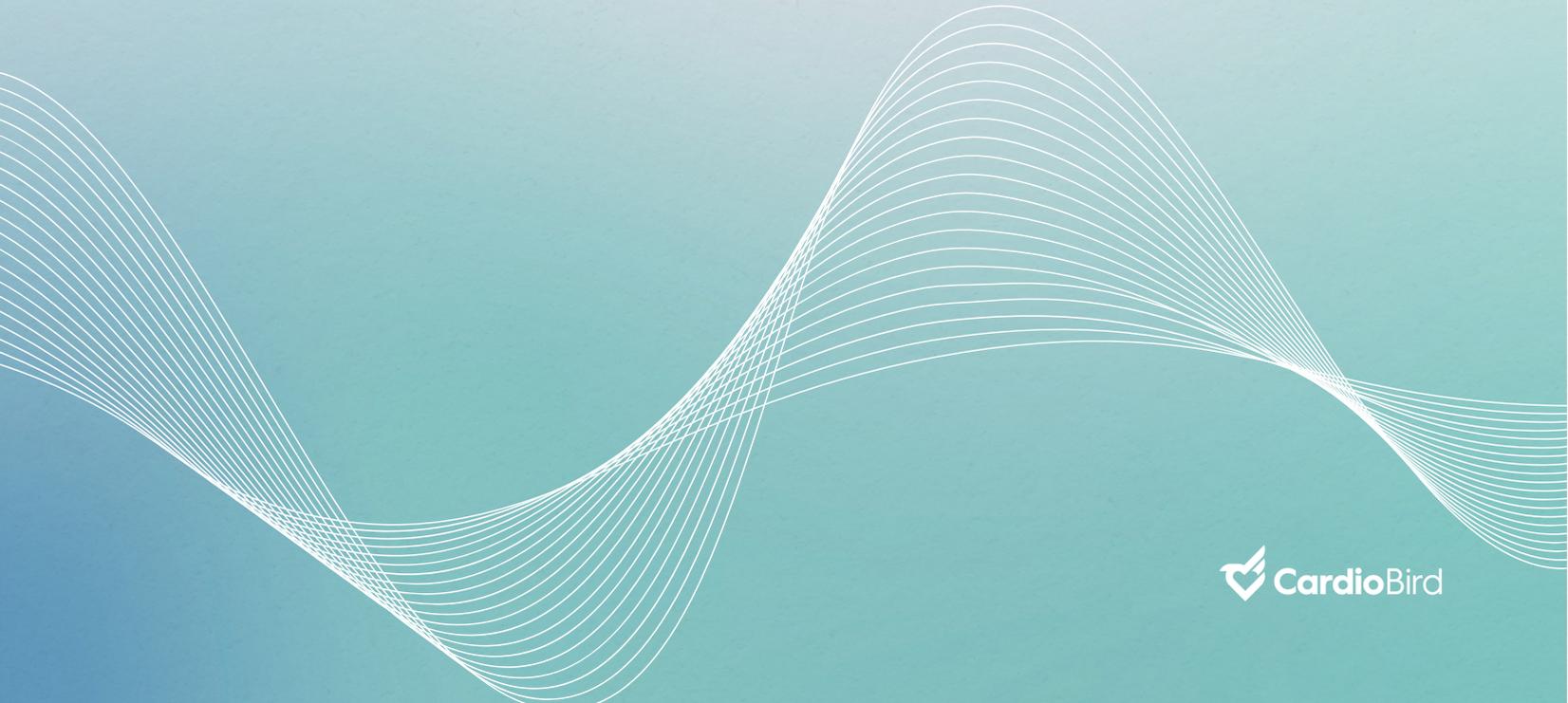


Whole**heartedly** Engineered

CardioBird ECG User Manual



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General Information

Preparation CardioBird Device Electrocardiogram (ECG)



CardioBird ECG device, app and mobile device (smart phone or tablet)



ECG Cables & Clips



Spirit or water* should be applied for better skin-to-electrode conductivity

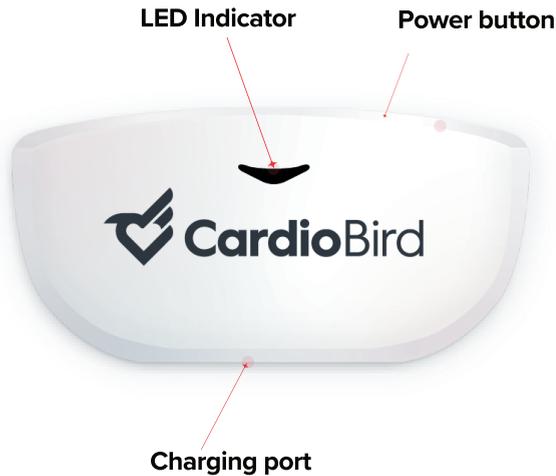
*conductive gel when necessary



Animal should be placed on an insulated material* to reduce possible electrical interference

*towel or plastic mat

General Information



*Serial Number (S/N) at the back of the device.

CardioBird Device

CardioBird Device is a single-lead ECG signal recorder for animal use. By connecting the Device with CardioBird mobile application, user can view, record, and submit ECG and clinical data for AI / Expert analysis and interpretation.

Battery Run Time

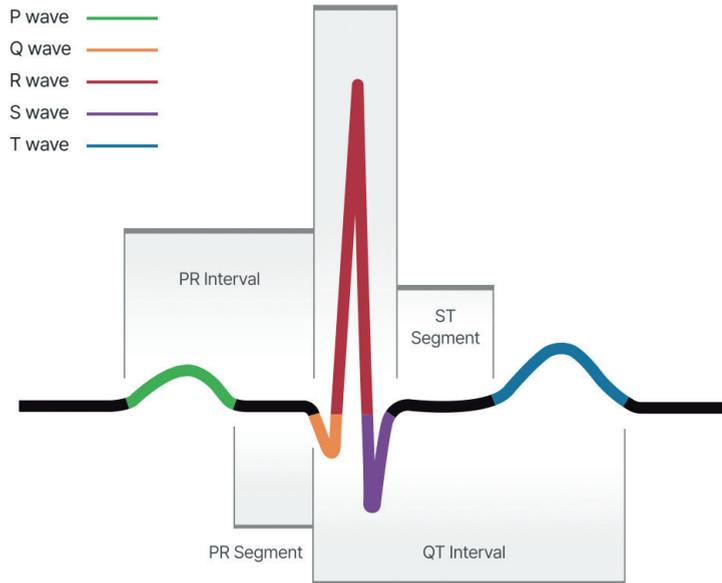
- Continuous: 48 hours
- On-demand: 7 days

LED indicator and battery level

Green	Yellow	Red
50% - 100%	15% - 50%	0% - 15%

Please charge device when LED is yellow or red.

General Information



ECG measures the electrical activity of the heart including rate, rhythm and wave morphologies.

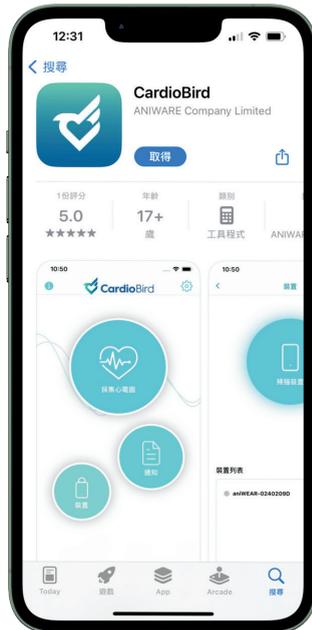
- **P wave:** Atrial depolarisation
- **QRS complex:** Ventricular depolarisation
- **T wave:** Ventricular repolarization

Getting Started

iOS App Store



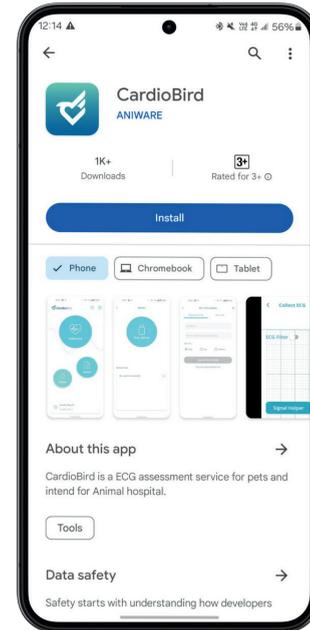
or
Search "**CardioBird**"
in iOS App Store



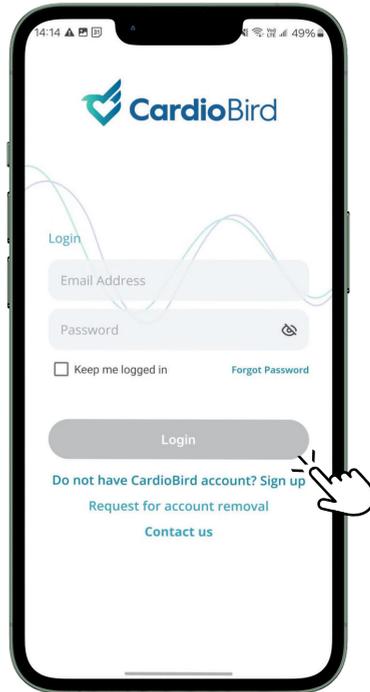
Android Google
Play Store



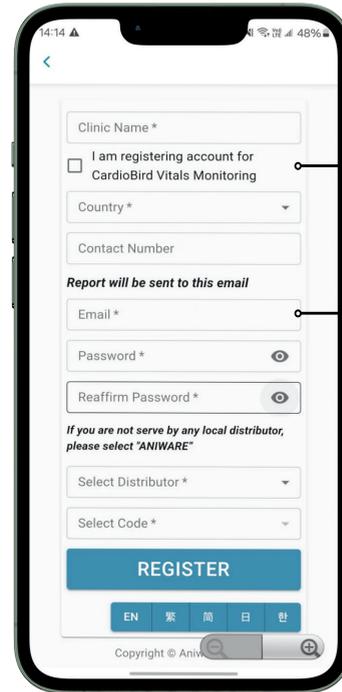
or
Search "**CardioBird**"
in Google Play Store



Getting Started



Open CardioBird mobile application and click “sign up”



Register a new account by providing above information in mobile application

Applies only to CardioBird AI-Vitals users

CardioBird reports will be sent to this email address

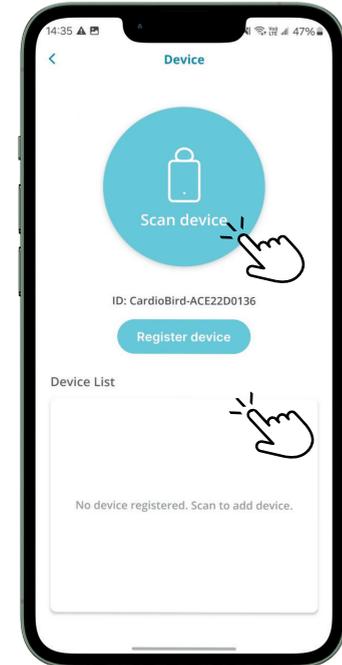
Getting Started



Click on "Device" button



Press and hold power button for 3-5 seconds until LED light is flashing



Click "Scan device" to search for CardioBird device. Click "Register device" once a device is detected to begin pairing.

Note: Bluetooth pairing with CardioBird device must be done via CardioBird app, not via the mobile device's internal bluetooth settings. Once successfully paired, all users with access to said account do not need additional pairing to the same CardioBird device.

Getting Started



Carefully separate the positive and negative electrodes

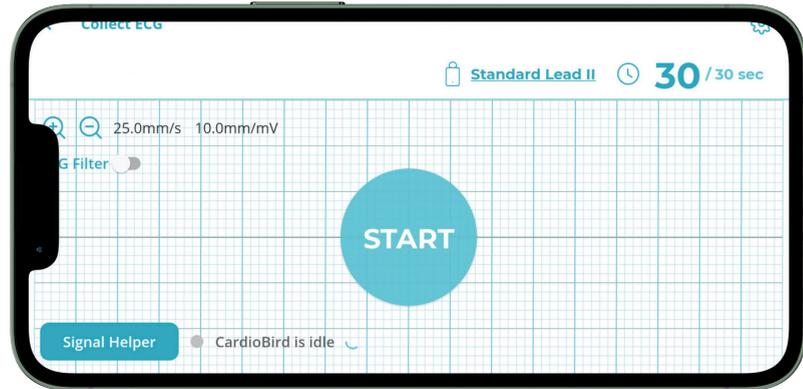


Attach the positive electrode (green) and negative electrode (red) to the back of the device as indicated

Conducting an ECG Test



Click on “Collect ECG” to begin a ECG test

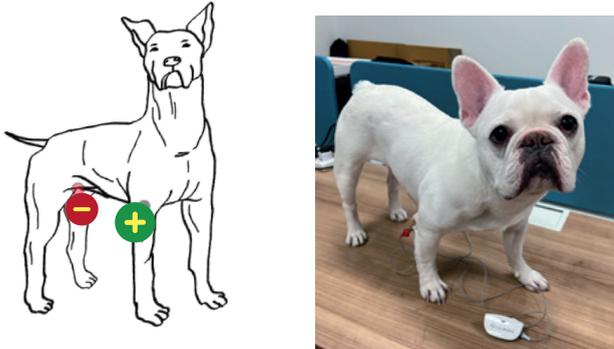


A running signal (flat line) will enter the data collection screen, indicating the system is ready for the ECG test. The signal could be wavering since the electrodes are not connected to animal yet.

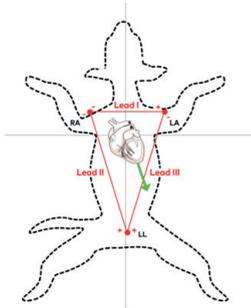
Note: Get the system ready first before applying to the animal to minimize the possible stress.

Conducting an ECG Test

Start with Lead II under Standing position



Attach ECG clip on patient's **right arm** and **left leg**. The ECG clip can be attached anywhere between the animal's armpit and paw.



✓ GOOD

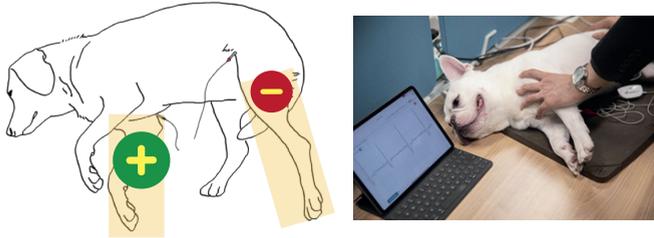
✗ BAD



*or signal with no discernible P waves yet having a clean baseline

Wait 5-10 seconds for a clean signal to enter the data collection screen. You know you are having good signal when you can see the P waves* and QRS complexes.

Conducting an ECG Test



Standard Lead II under Right Lateral Recumbent position

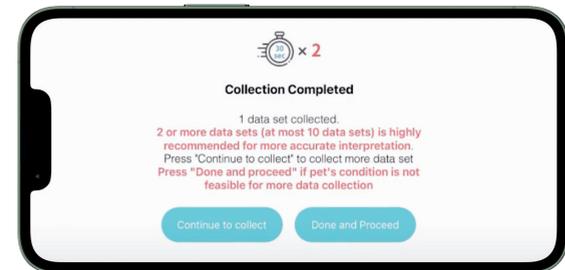
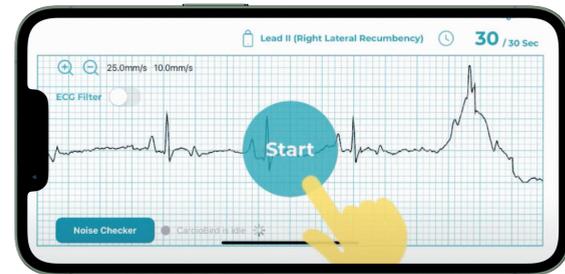
Once a good signal can be seen from standing position, assist the animal to lie down on its right hand side (right lateral recumbent)*.

*If the animal cannot cooperate, they may stand up during the ECG recording. Standing position could affect the ECG amplitude and axis measurement while have no effect on rhythm detection.

Click “Start” to begin 30 seconds recording when signal has returned stable from movement and you can see P waves* and QRS complexes.

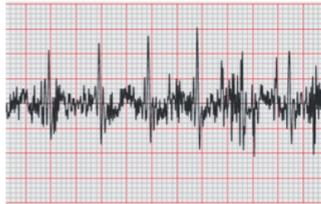
*or signal with no discernible P waves yet having a clean baseline

Repeat the step for another record of ECG. 2 sets of clean ECG recordings are recommended. Click “Done and Proceed” to submit when 2 or more good signal quality datasets have been recorded.

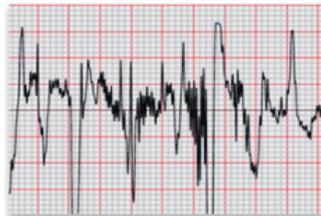


Conducting an ECG Test

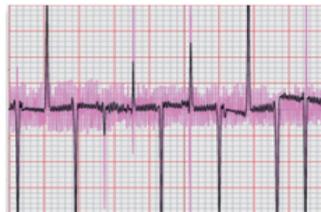
ECG Collection Process After ECG Collection



Poor electrode contact / AC noise



Muscle tremor / Movement artifact



Electrostatic noise



Spread out dense hair areas and wet skin surface in contact with electrodes (spirit or water) to improve conduction

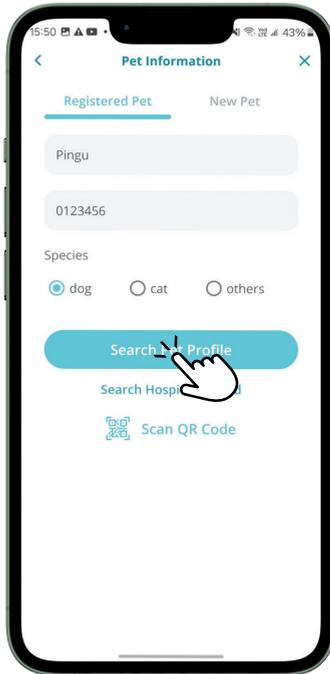
Record when the animal is calm and when the movement artifact is minimal. Move the electrode away from the trunk area, towards the arm or paws areas would reduce the influence from muscle tremor.



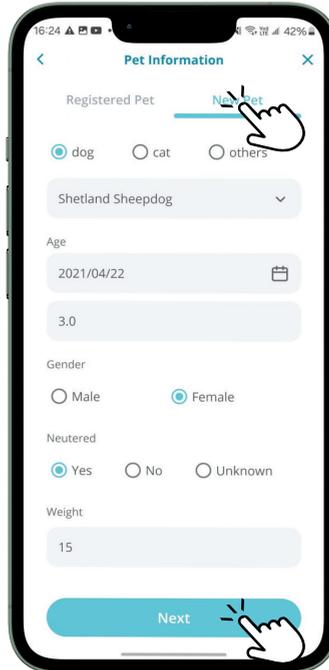
Maintain distance from large electronic devices or items with metallic surface. Use towel or plastic mat when collecting ECG on a metallic table.

Conducting an ECG Test

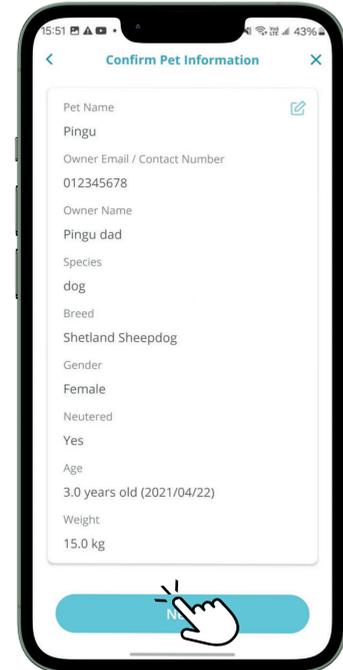
ECG Collection Process **After ECG Collection**



Search for existing patient information if applicable



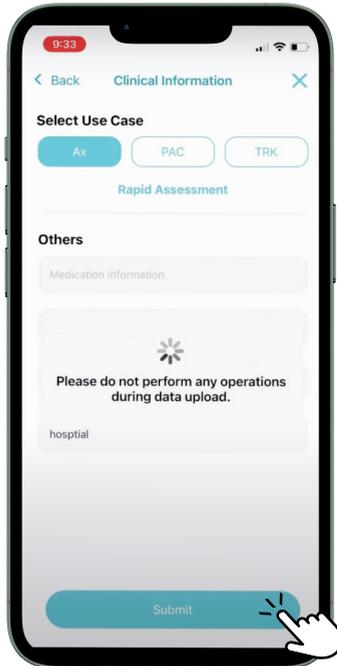
Create new pet profile for new patients



Confirm pet profile information

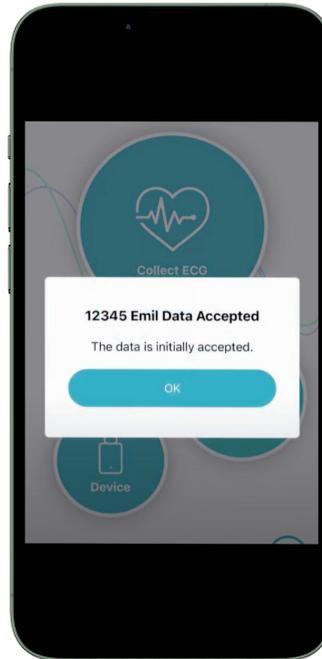
Conducting an ECG Test

ECG Collection Process **After ECG Collection**

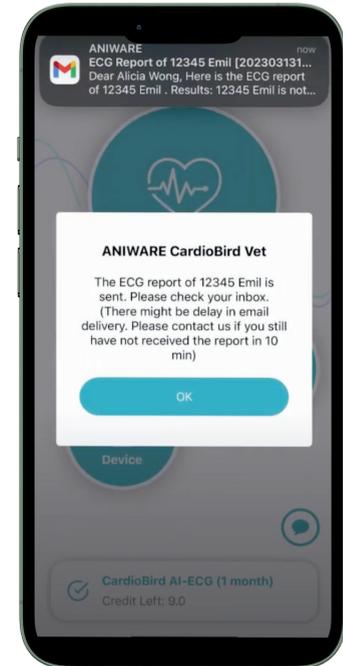


Select use case and click “submit”

- **Ax:** Wellness assessment
- **PAC:** Pre-anaesthetic check
- **TRK:** Heart disease tracking



Keep the animal with you until you received the signal quality assessment result. The turnaround time is ≤ 5 min after data upload.

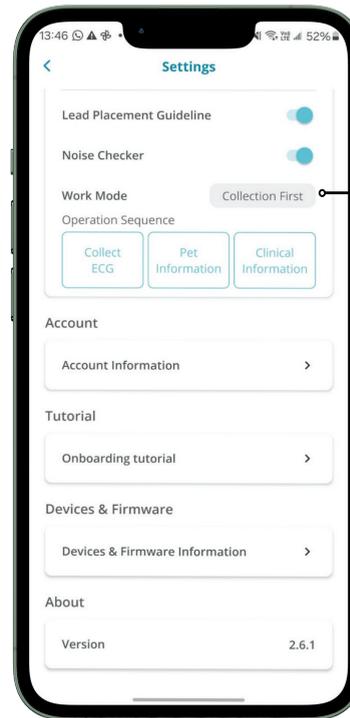
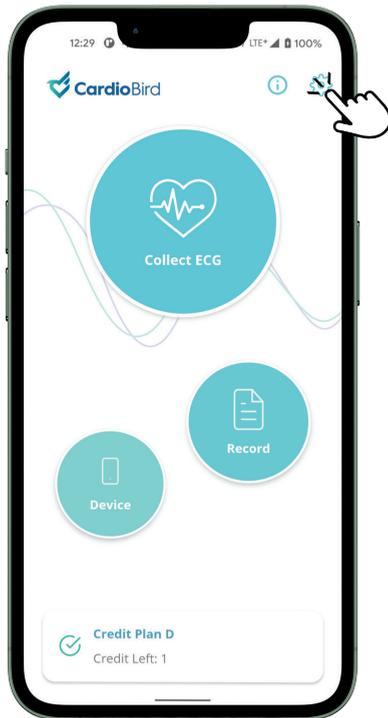


Report shall be delivered to your app and email ≤ 15 min*.

* ≤ 30 min for Expert-ECG report

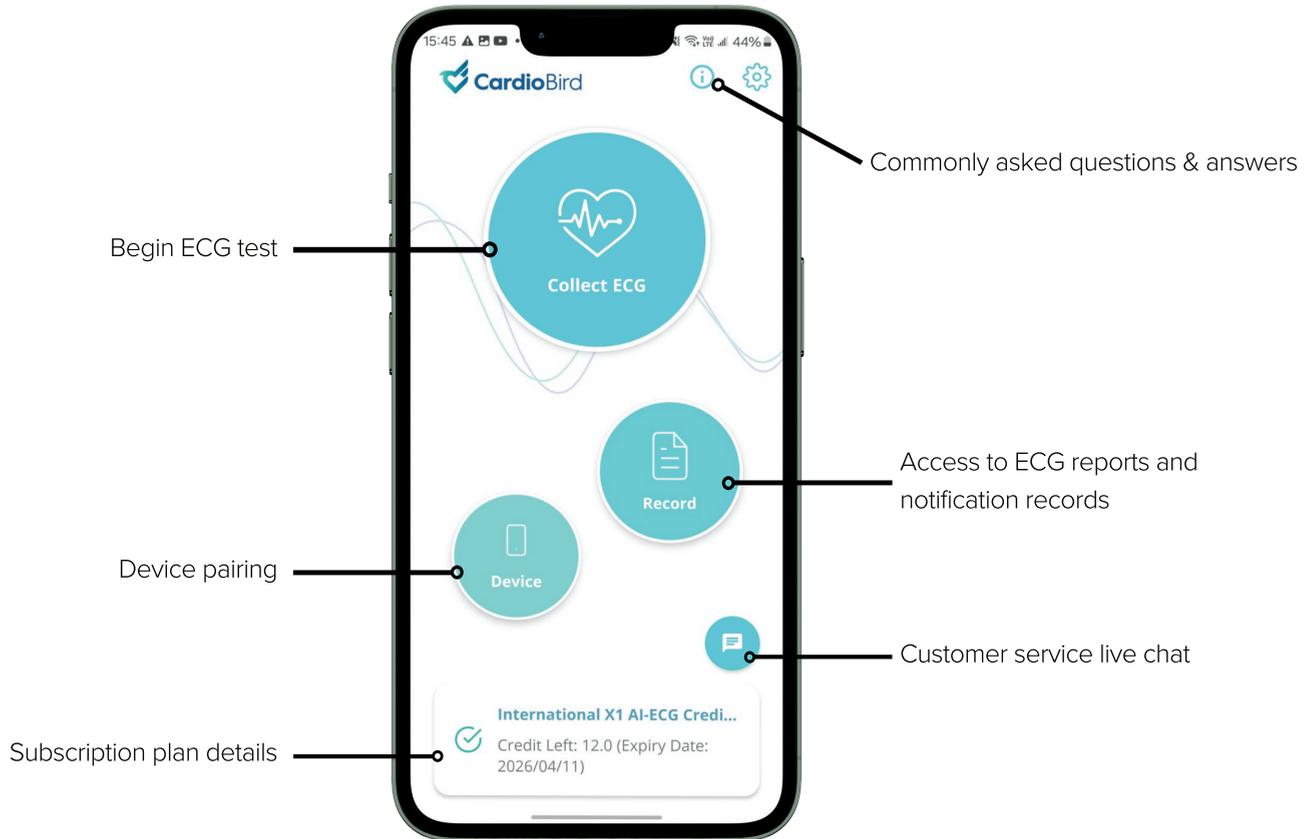
Conducting an ECG Test

Workflow customization



Collect ECG first or
Input Pet and Clinical
information first.

Navigating the Mobile Application





www.cardiobird.com

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