CaseVision Golf App Quick Guide

The CaseVision Golf APP, using with iTrack, can be used for golf teaching and training, realizing the digitization and intelligentization of golf teaching. In addition, by providing players with swing videos, data, curves, etc. to improve their swing and putting, it can realize a closed-loop training system with real-time feedback, which can effectively help players optimize and correct and improve their swing and putting movements.

1. Preparation

1.1 Download the App

Download can be found on the official website: www.casevisiongolf.com

There are three ways to use iTrack:

Use iTrack by logging in or registering; this will allow you to upload data to the cloud.

When using iTrack in "Offline Mode", data is stored locally.

Using iTrack in "Portable Mode" allows you to skip the registration and login screen and directly enter the app.

However, registration and login are required for first-time use. Logging in is also necessary for extended periods of offline work.

1.2 iTrack device network settings

(1) iTrack has its own WIFI hotspot function. You can use it by connecting your iPad to iTrack.

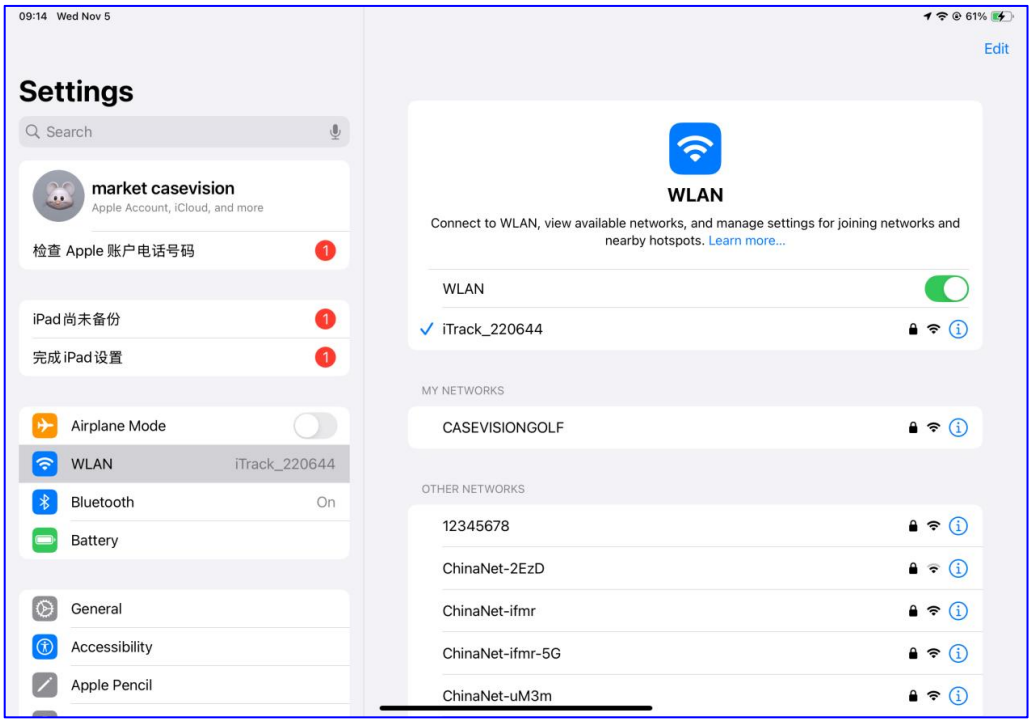


Figure 1 Network Connection

(2) In the APP login interface, click offline login to enter the device option, check the device, and then click the peripheral parameter icon 

to open the peripheral parameter window.

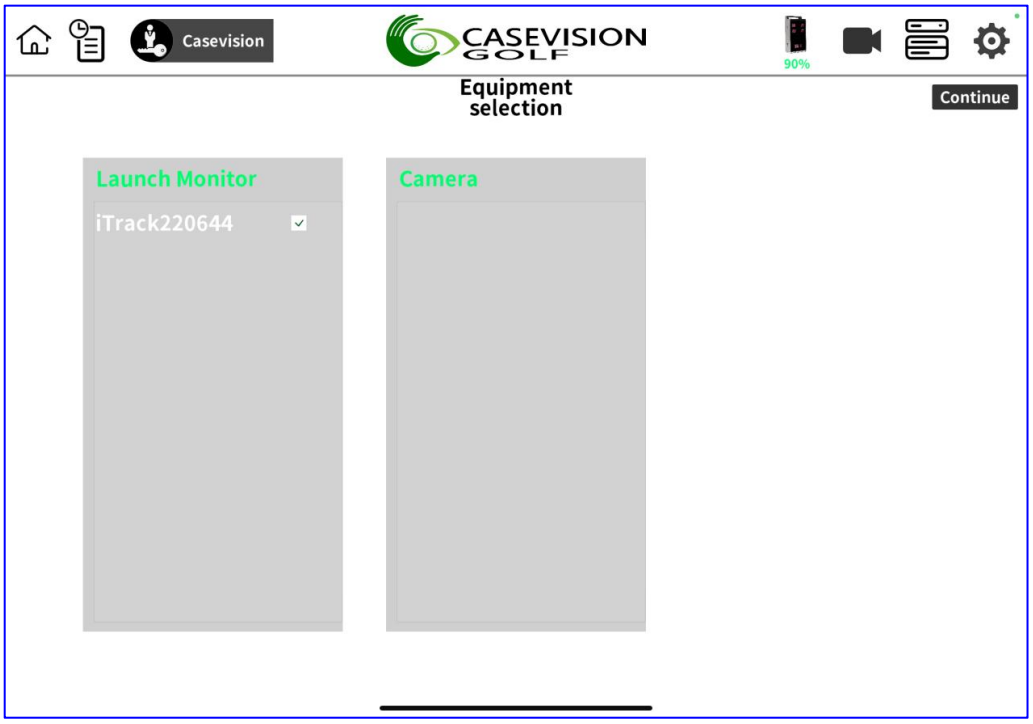


Figure 2 Offline mode device selection interface

(3) Click WiFi Configuration in the Peripheral Parameters window to configure the external WiFi network.

Figure 3 Peripheral parameter window

(4) Select the network iTrack wants to connect to.

Figure 4 Network Configuration Window

(5) Enter the network password:

Figure 5 Password Input Window

(6) Complete configuration:

Figure 6 WiFi Status in Network Configuration

iTrack devices save the last successfully connected Wi-Fi configuration and automatically connect upon next startup, eliminating the need for repeated setup.

This completes the iTrack network configuration.

You can return to the login page using the following methods:

You can return to the login page using the following methods:

Click the settings icon ⚙ to open the settings window, select user information, and then click OK in the pop-up prompt window.

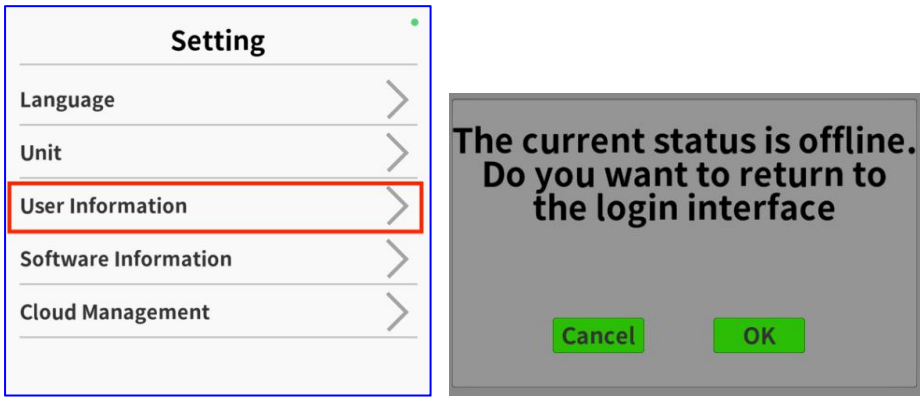


Figure 7 User information prompts in offline mode

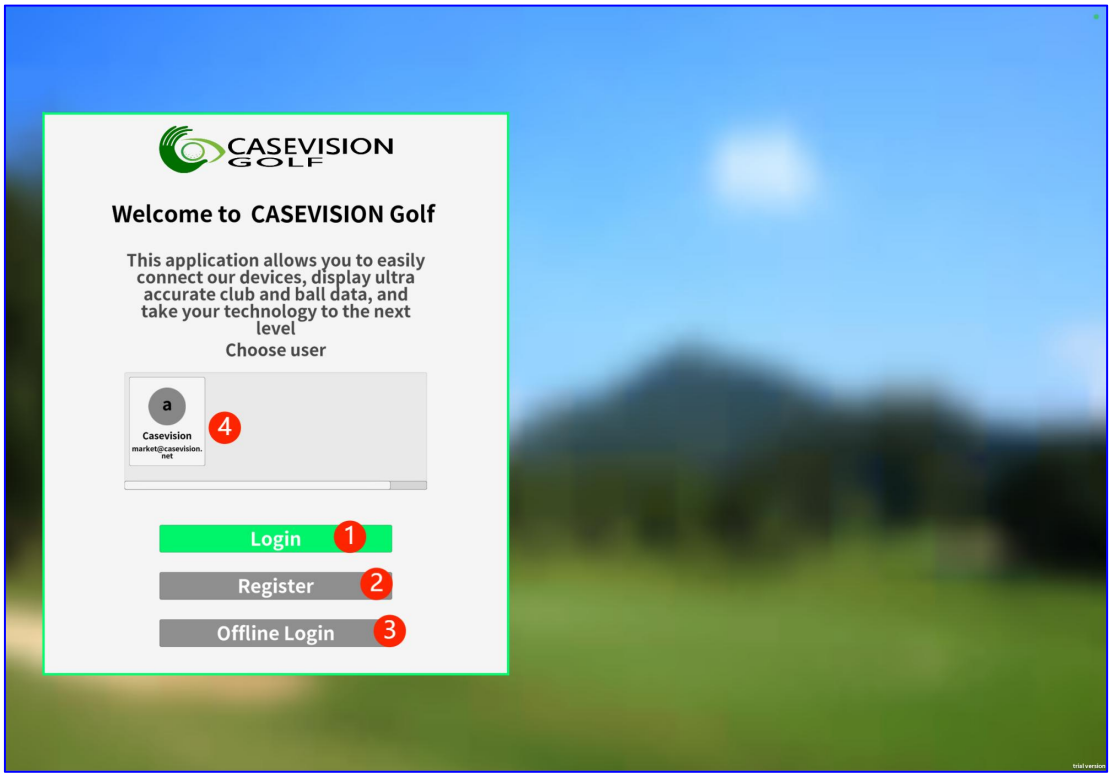


Figure 8 Registration and Login Interface

(1) **Login** Button: Clicking the **login** button will take you to the login interface.

(2) **Register** Button: Clicking the **register** button will take you to the registration interface.

(3) **Offline Login** Interface: **Offline mode** means that no internet connection is required. Clicking the **offline login** interface will take you to the APP in offline mode. In offline mode, except for the player management icon being

unresponsive and the user information function in the settings window being different, all other functions are the same as in online mode.

(4) **User List**: The interface will list previously logged-in users. Selecting a user will allow you to log in without a password.

1.3 Registration

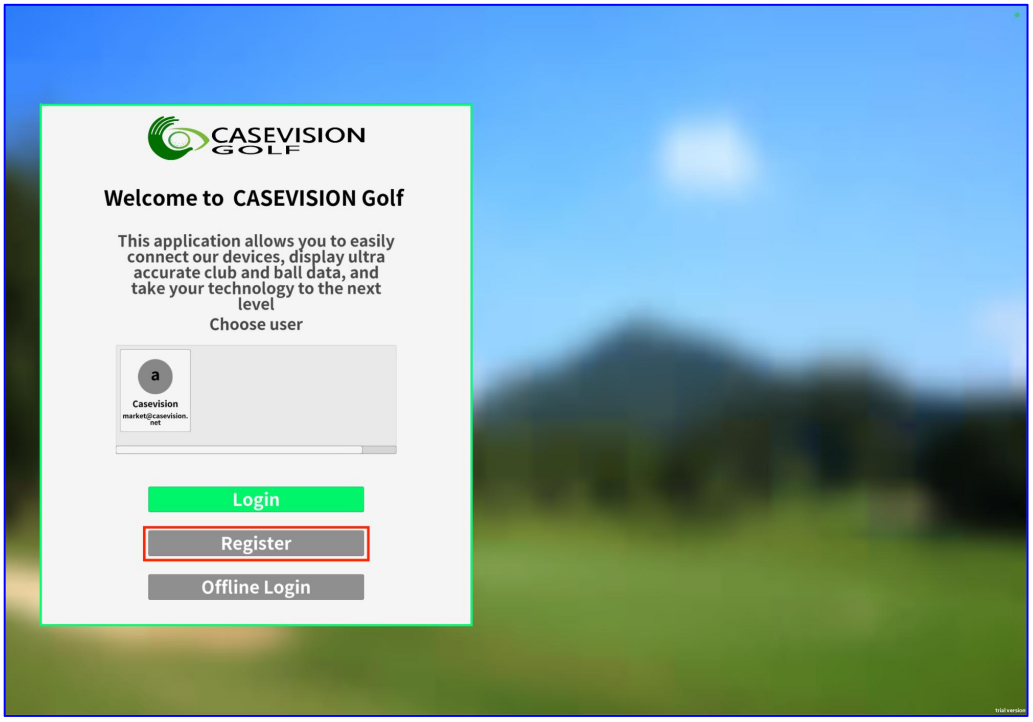


Figure 9 Registration and login interface - select Register

Click **Register**: Clicking the Register button will take you to the registration interface.

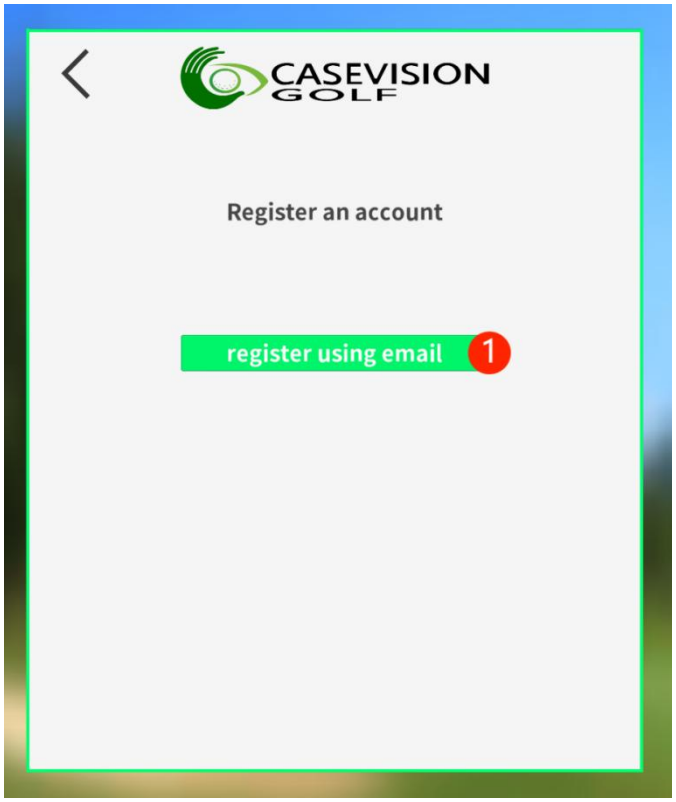


Figure 10 Selecting a Registration Method

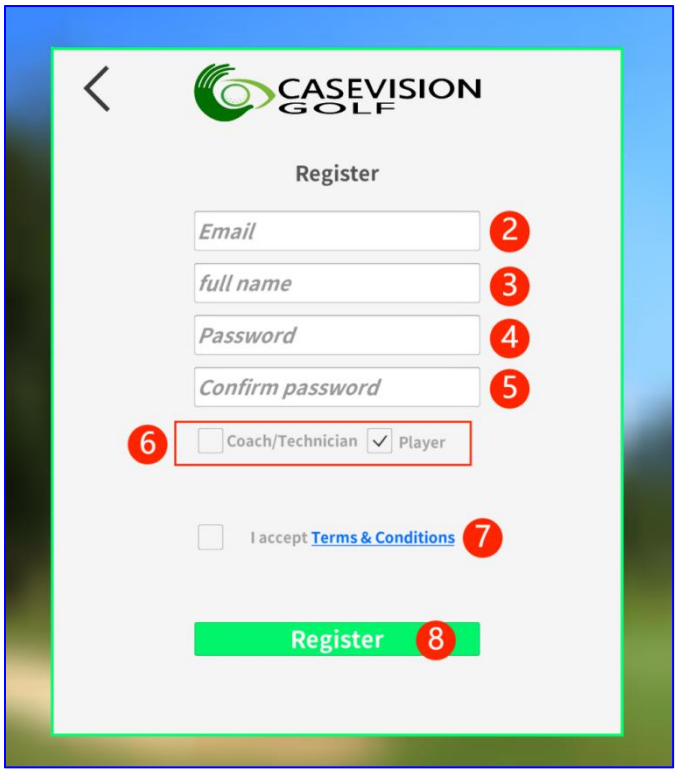


Figure 11 Registration interface

(1) Email Registration: Click to register a new user via email.

(2) Email Address: Enter your email address to register. The same email address cannot be used repeatedly.

(3) Username: Enter your username. The same username cannot be used repeatedly.

(4) Password: Set your password.

(5) Confirm Password: Confirm your password again.

(6) Role Selection: Select your role as a coach or player.

(7) Confirm Terms: Check the box to confirm the terms.

(8) Confirm Registration: Return to the login screen.

1.4 Login

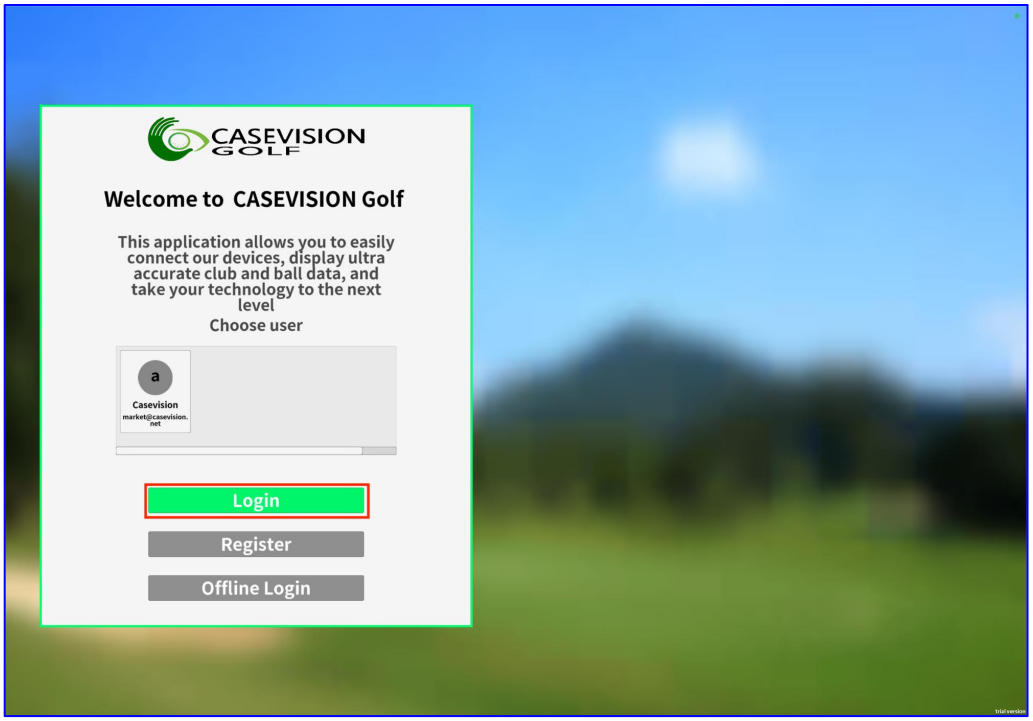


Figure 12 Registration and login interface - select login

Clicking **login** will display the following interface:

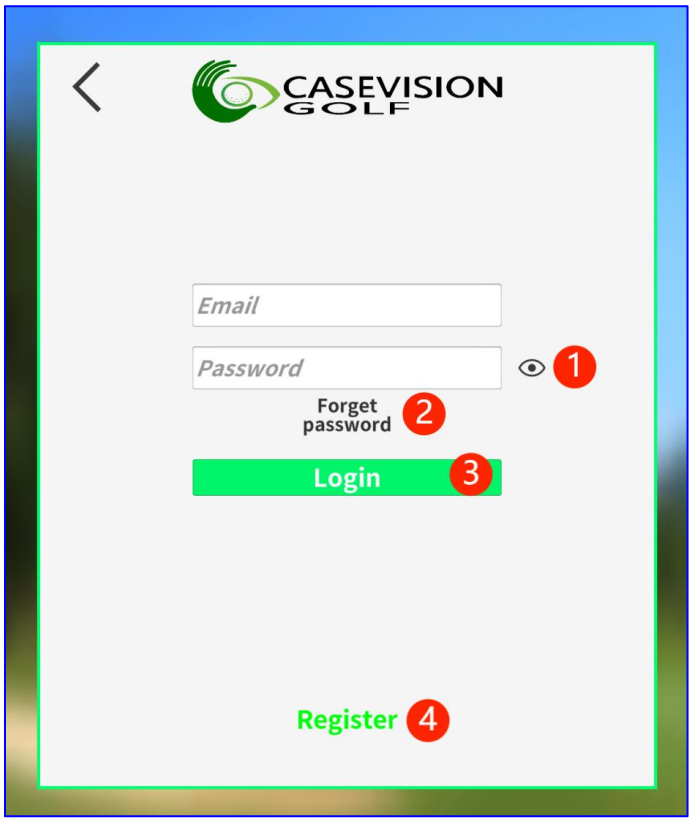


Figure 13 Login Interface

(1) **Show Password**: Click the Show Password icon to display your password.

(2) **Forgot Password**: Click Forgot Password to access the password reset interface.

(3) **Login** Button: After entering your email and password, click the Login button to enter the device selection interface.

(4) **Register** Button: Clicking this button will take you to the registration interface. For details, please refer to section 1.3.

1.5 Offline Login

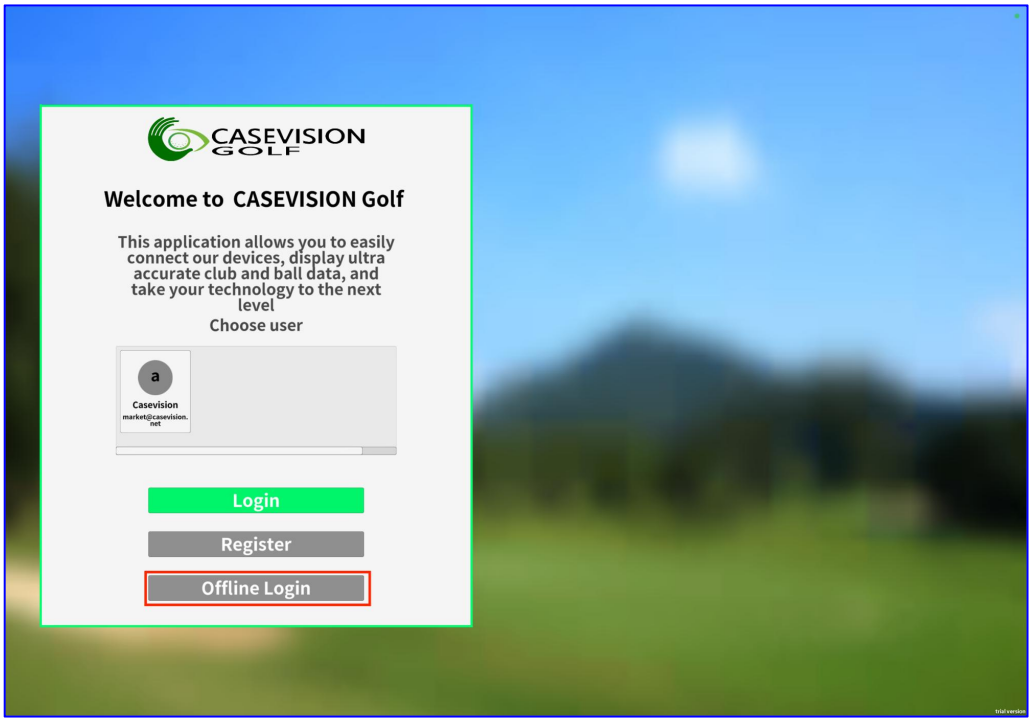


Figure 14 Registration and login interface: Select offline login

Click **Offline Login**: This will take you to the device selection interface in offline mode.

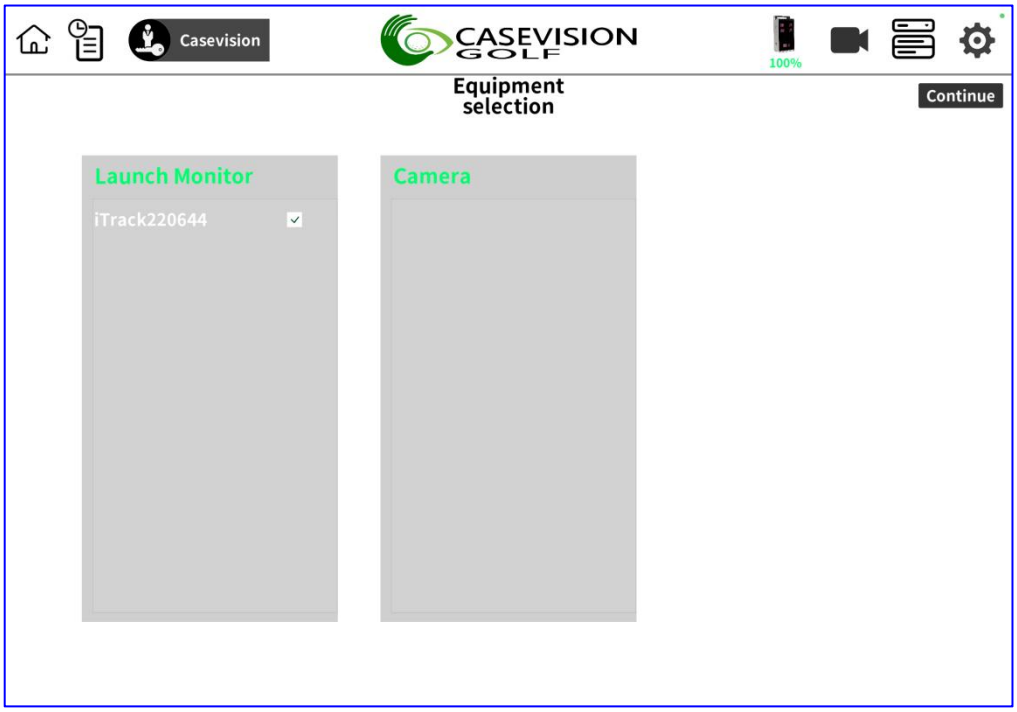


Figure 15 Offline Mode Device Selection Interface

In offline mode, all functions are the same as in online mode except that the player management icon is inoperable, the user information function in the settings window is different, and the data is only saved locally.

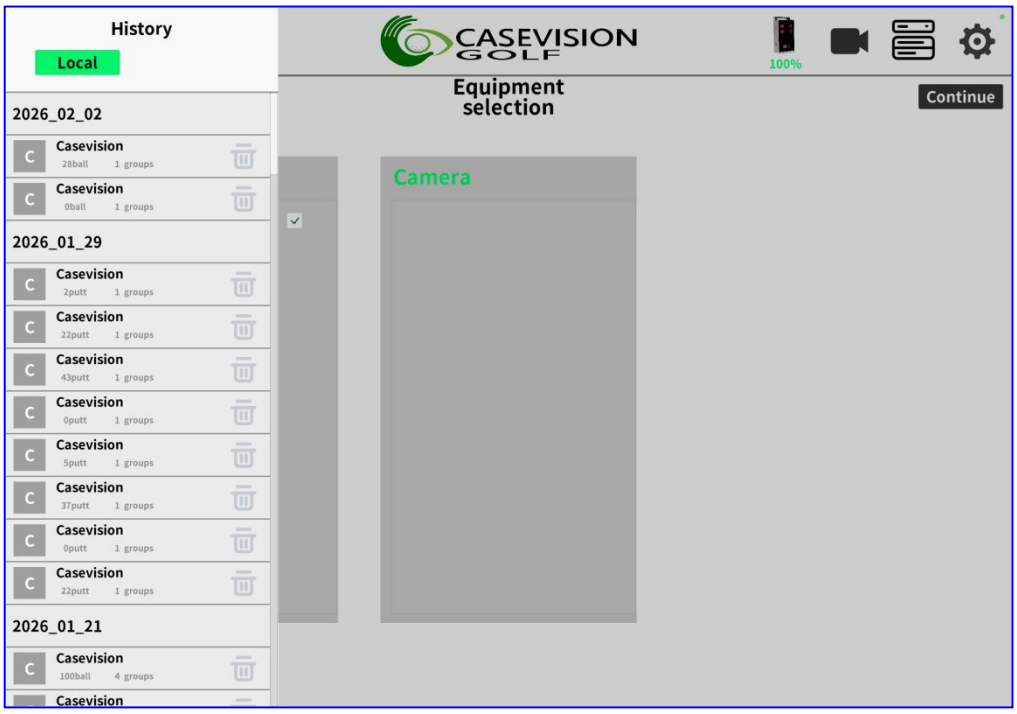


Figure 16 Historical data of devices in offline mode

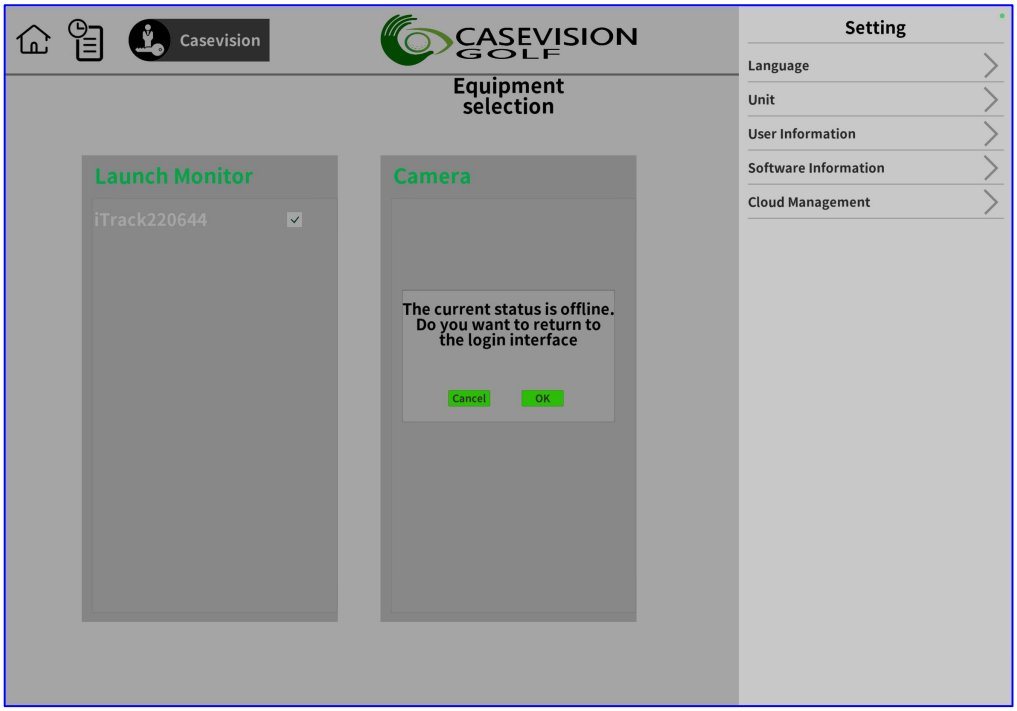


Figure 17 User information in offline mode

1.6 Portable Mode Login

Click the **settings icon** , then click **software information**, then check the **portable mode**. After checking, restart the Casevision APP to enter portable mode.

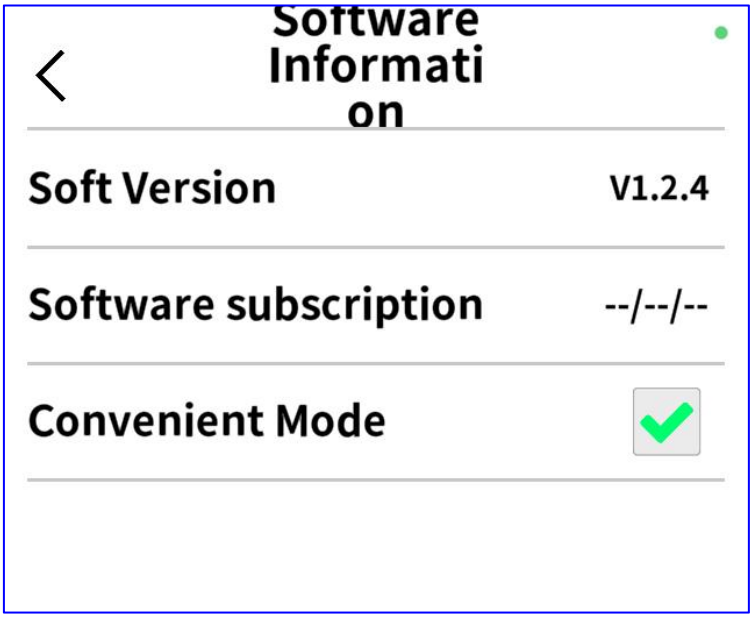


Figure 18 Portable Mode Settings

In portable mode, the Casevision APP can be accessed directly without logging in, and the peripheral selection interface will change to a device search interface. When the iPad is not connected to the iTrack device's WiFi, the peripheral search interface will show "Not Connected"; after the iPad is connected to the iTrack device's WiFi, the peripheral search interface will show "Connected". Clicking "Continue" will take you directly to the training interface.

Figure 19 Portable mode device search interface.

In portable mode, the settings window does not contain user information or cloud management settings, and the historical data window only retains local historical data.

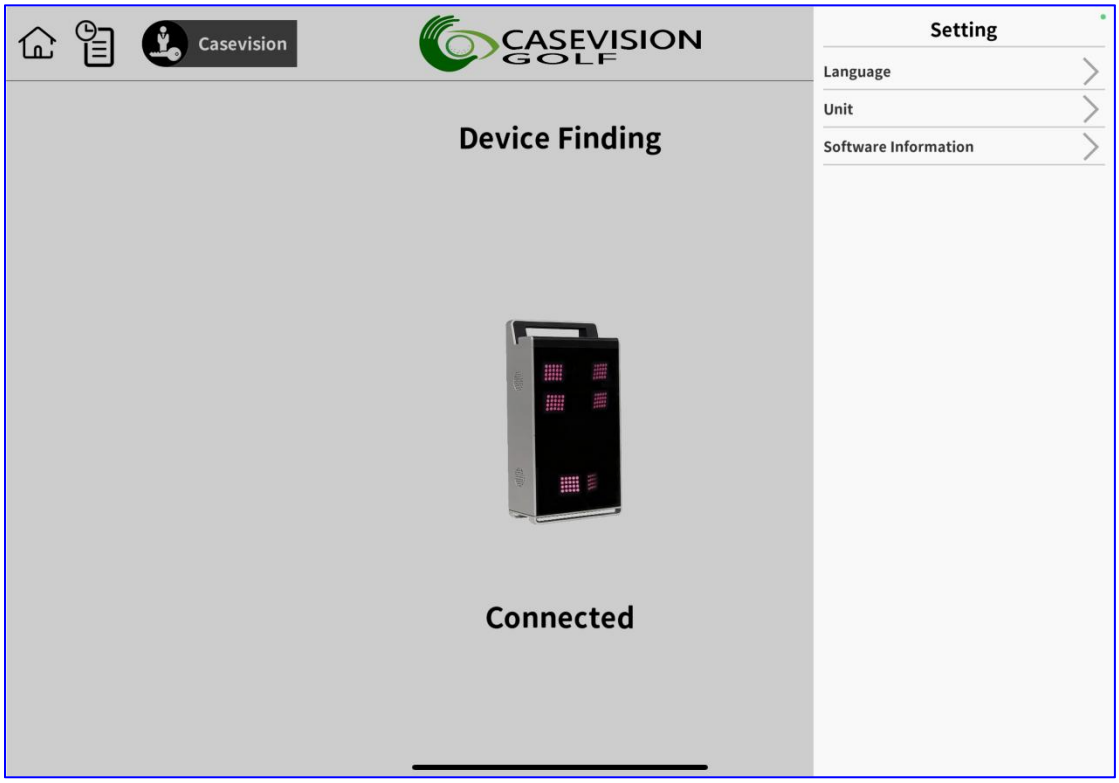


Figure 20 Portable Mode Settings and History

1.7 Device Selection

After successful login, you will enter the device selection interface. Search and display devices and cameras connected to the iTrack device's WiFi network by category: Transmit Monitor and Camera. In push-stick mode, a biomechanical sensor section will be added to the peripheral selection interface.

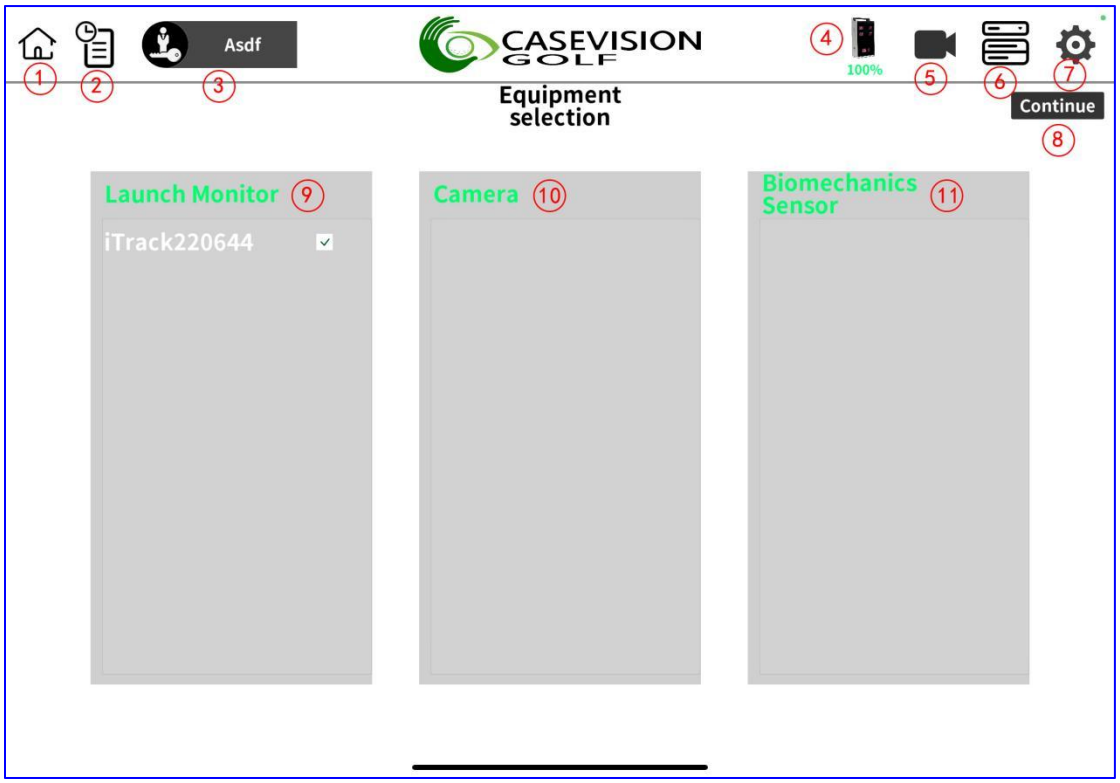


Figure 21 Peripheral Device Selection Interface

The main icons and buttons in the peripheral device selection interface are described below:

Table 2-2-1

SN	icon	description	SN	icon	description
1		exit	2		Historical data
3	Asdf	Player Management	4	100%	Peripheral parameters

5		Camera enabled	6		Peripheral selection
7		Settings Management	8		continue

(1) **Exit Training** Icon: Clicking this icon in the training interface will exit training and return to the previous interface. It is ineffective in other interfaces.

(2) **Historical Data** Icon: Clicking this icon will open the historical data window to view local or cloud-based historical data.

(3) **Player Management** Icon: Clicking this icon will open the player management window, providing operations such as creating, searching, following, and modifying players. This provides coaches with the ability to manage students. It is not operable in the peripheral selection interface or in the convenient mode.

(4) **Peripheral Parameter** Icon: This icon appears when the iTrack device is selected in the launch monitor bar. Clicking it will open the peripheral parameter window, allowing you to view device parameter information and providing operations such as device calibration, atmospheric pressure setting (only available in swing mode), device mode switching, and WiFi configuration (only operable in offline mode).

(5) **Camera Enable** Icon: Clicking this icon will open the camera settings window, providing operations such as turning the camera on or off, and switching between front and rear cameras.

(6) **Peripheral Selection** Icon: Clicking this icon will enter the peripheral selection interface. It is only effective in the main training interface. (7) Settings

Management Icon: Clicking this icon opens the settings window, providing options for language, unit, user information, software information, and cloud management.

(8) **Continue** Button: After selecting the iTrack device in the transmit monitor bar, clicking this button enters the main training interface.

(9) **Transmit Monitor** Bar: When an iPad or iPhone is connected to the iTrack device's WiFi, the iTrack device is displayed in the transmit monitor bar.

(10) **Camera** Bar: When a CaseVisionCamera is online, it can be displayed in this bar. Selecting this camera will use it as the video acquisition source.

(11) **Biomechanical Sensor** Bar: When a Bluetooth gyroscope is online in push-stick mode, it can be displayed in this bar. Selecting this sensor will measure push-stick rhythm data.

1.8 Peripheral Parameters

After selecting the **iTrack** device in the transmit monitor bar, click the **Peripheral Parameters** icon to open the P**eripheral Parameters** window.

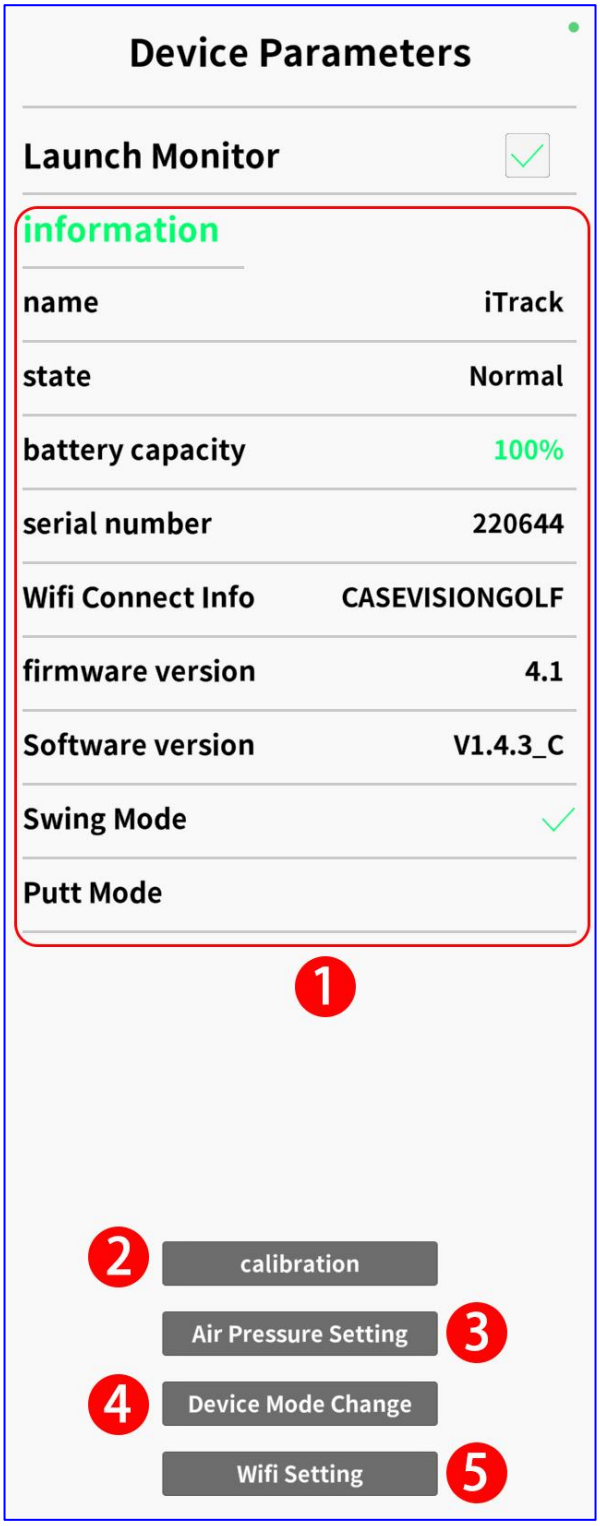


Figure 22 Peripheral Parameters Window

(1) Device Information: View device information, WiFi status, and current mode.

(2) Calibration: Click to enter the calibration interface. See **section 1.9** for details.

(3) Atmospheric Pressure Setting: Click to set the atmospheric pressure. This

setting is only displayed in swing mode. See **section 1.10** for details.

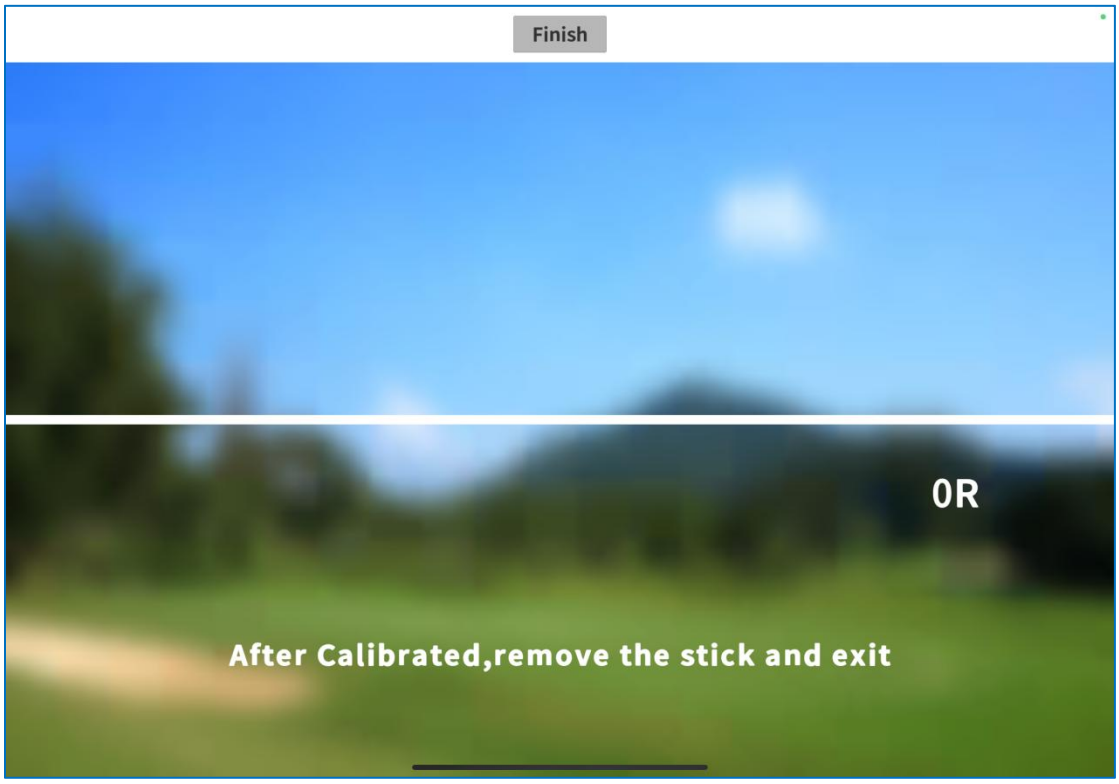
(4) Device Mode Switching: Click to switch between swing and putting modes. See **section 1.11**for details.

(5) WiFi Configuration: Click to configure external WiFi. **See section 1.2** for details.

1.9 Device Calibration

In both swing and putting modes, angle adjustments must be made each time the iTrack is reset to determine the target direction the device is pointing.

Click the calibration button in the peripheral parameters window to enter the angle calibration interface in swing mode. In putting mode, perform angle calibration first, then zero-position calibration. Switch between calibration modes by clicking "Angle" and "Zero" in the upper left corner.



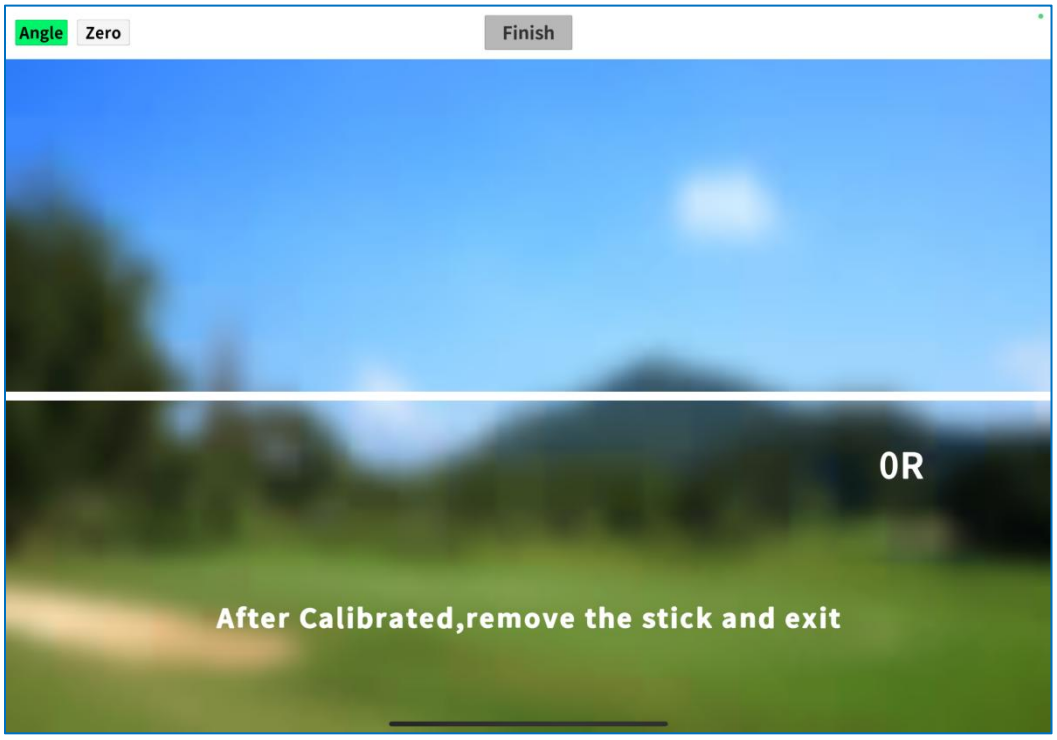


Figure 23 Angle Calibration Interface

In the angle calibration window, after placing the calibration stick, the angle data will be displayed at the bottom of the interface. After adjusting the device angle, click "Finish" to close the calibration interface.

In putter mode, zero-position calibration is mandatory; otherwise, the device will lack reference values for the stick face angle, lie angle, dynamic tilt angle, and impact point position.

In the zero-position calibration window, align the ball with the marked point and place it in the ball detection area. After stabilizing the putter in the zero-position position for a few seconds, the zero-position data will be displayed in the window. Click "Finish" to close the calibration window. When zero-position calibration is complete, a "Save calibration data?" prompt window will pop up. Clicking "Cancel" will invalidate this calibration and inherit the previous

calibration data; clicking "Confirm" will save the calibration data, which will be the current calibration data.

Figure 24　Zero-position calibration interface

1.10 Atmospheric pressure setting

In swing mode, the atmospheric pressure can be set according to different altitude environments. The atmospheric pressure can be set in the range of 45-102.3 kPa.

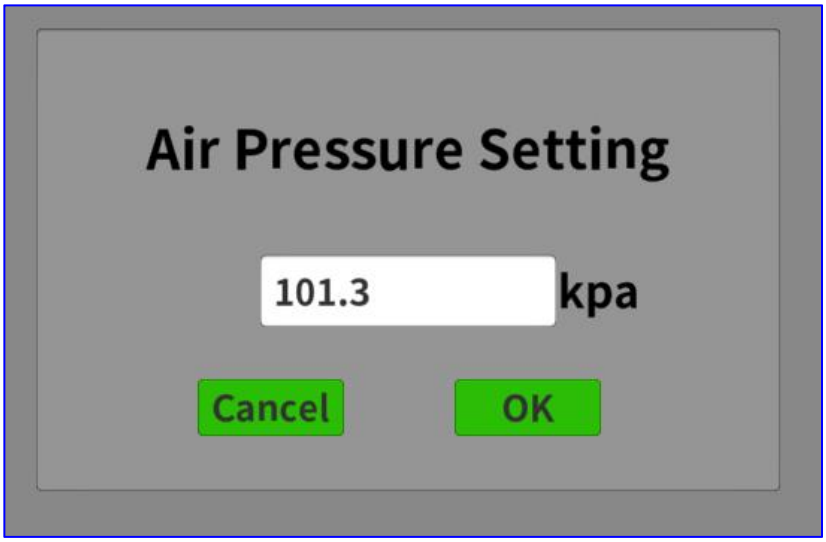


Figure 25 Atmospheric Pressure Setting Window

1.11 Device Mode Switching

iTrack has two working modes: Swing Mode and Putting Mode, which can detect swing data and putting data respectively. Click the Device Mode Switch button in the Peripheral Parameters window, follow the prompts, and restart the iTrack device to complete the mode switch.

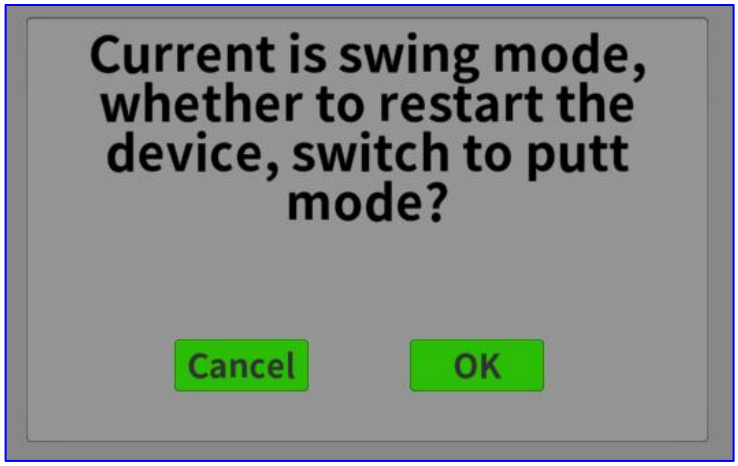


Figure 26 Mode Switching

2. Entering Training

Click the large training icon on the main training interface to start the current training session.

Figure 27 Main Training Interface

2.1 Selecting a Player

When entering training as a coach, you will be prompted to select a player. Use the "Recent," "Following," and "All" filters to find the player for this training session. Click the player's icon to enter the training interface.

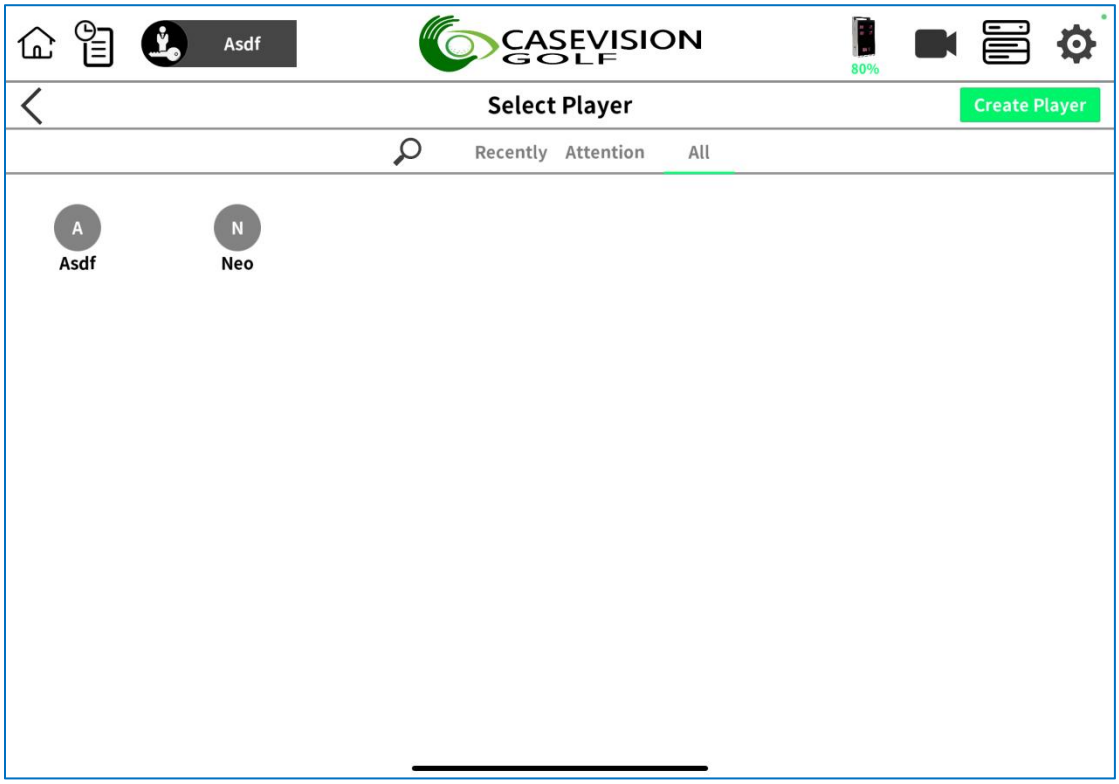


Figure 28 Selecting a Player Interface

When entering training as a player, the default player for this training session is yourself. Skip player selection and proceed directly to the training interface.

2.2 Training Interface

The training interface display will vary depending on the iTrack device mode. Figure 10 shows swing training, and Figure 11 shows putting training.

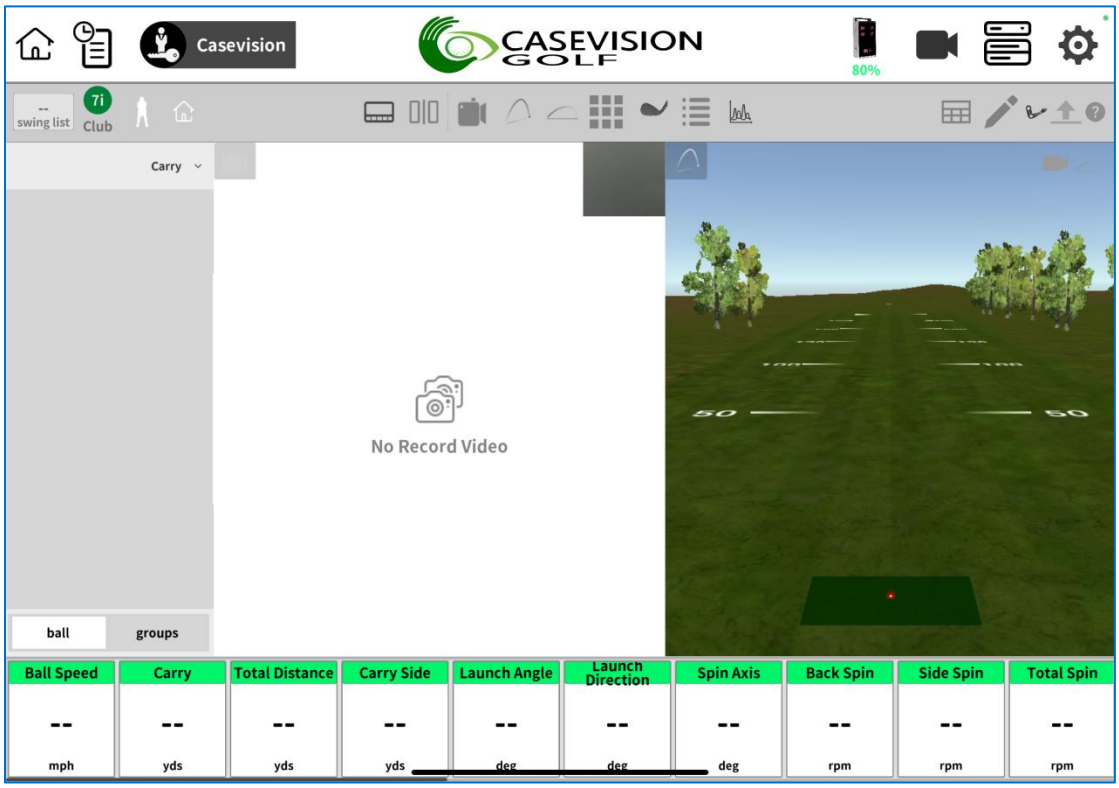


Figure 29 Swing Training Interface

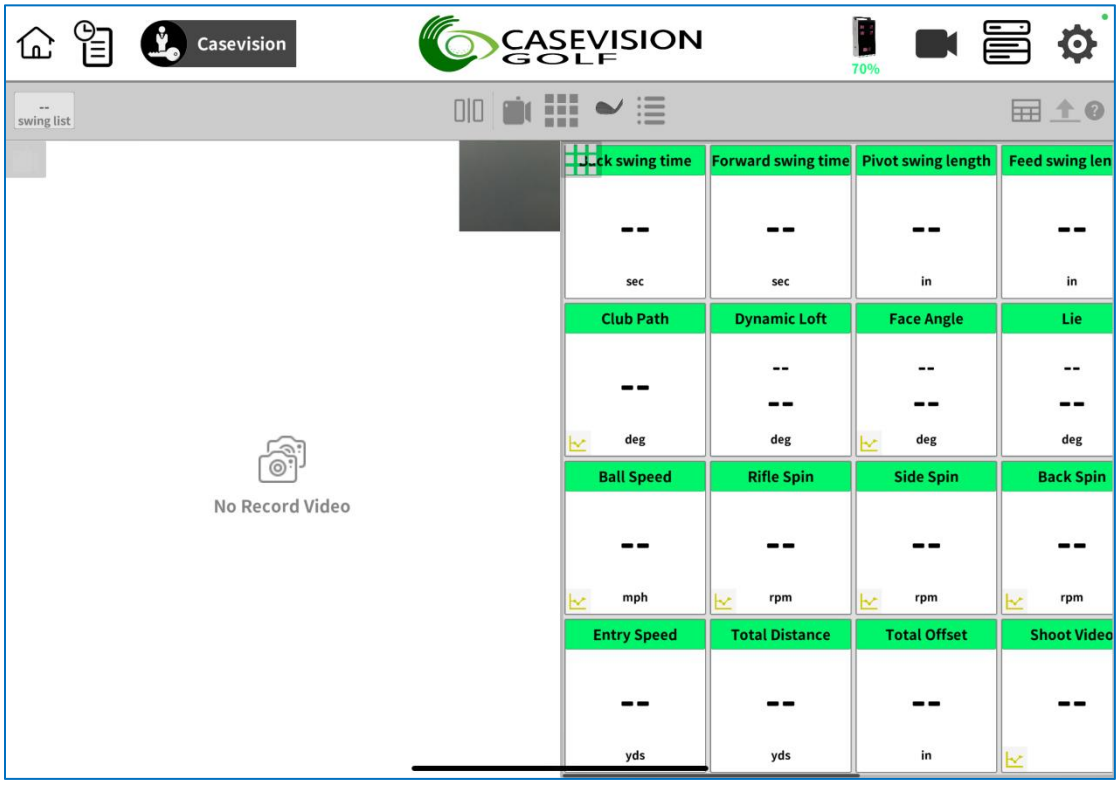
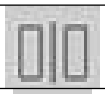


Figure 30 Putting Training Interface

The main icons and buttons in the training interface are explained below.

Table 2-4-1

SN	icon	description	SN	icon	description
1			2		Club Selection
3		Camera Position	4		Indoor/Outdoor Scene Switch
5		Data Bottom Bar	6		Window Split
7		Image View	8		3D Ballistic View
9		2D Ballistic View	10		Data Label View
11		Clubface Data View	12		Statistics View
13		Kinetic Chain View	14		Share
15		Select Display Data	16		Smart Line Drawing
17		Biomechanical Analysis	18		Manually Upload Data to Cloud
19		Data Definition			

(1) Shot List Icon: Controls whether the shot list is on or off.

(2) Club Selection Icon: Clicking this allows you to select a club. The purpose of club selection is to categorize shots for easier statistics.

(3) Camera Position Icon: The camera can be placed in front of or to the side of the swinger; this can be switched. This facilitates the analysis of golf swing videos, such as AI analysis of player swings.

(4) Indoor/Outdoor Scene Switching Icon: This switch is mainly used to select the indoor/outdoor scene algorithm when performing AI swing analysis.

(5) Data Bottom Bar Icon: Controls the display and closing of the data bottom bar.

(6) Window Split: Splits the screen into two windows, left and right. The two windows can switch between view scenes, but cannot switch to the same scene.

(7) Image View Icon: Displays the full-screen swing image.

(8) 3D Ballistic View Icon: Clicking this displays a single 3D ballistic view.

(9) 2D Ballistic View Icon: Clicking this displays a single 2D ballistic view.

(10) Data Label View Icon: Clicking this displays a single data label view.

(11) Clubface View Icon: Clicking this displays a single clubface data illustration view.

(12) Statistics View Icon: Clicking this icon displays a single statistics list view.

(13) Kinetic Chain View Icon: Clicking this icon displays a single force timing curve view.

(14) Share Icon: Displayed when a statistics view is available. Clicking this icon opens the data statistics interface and allows you to send the training data to a target email address.

(15) Select Display Data: Clicking this icon opens the data display selection window, allowing you to set the data displayed in the data bottom bar and label view.

(16) Smart Line Drawing Icon: Clicking this icon opens the smart line drawing settings window, allowing you to set the skeletal lines displayed in the image view scene.

(17) Biomechanical Analysis: When the image view scene is a valid image, clicking this icon calculates the force timing in the kinetic chain view scene and the foot pressure in the image view scene.

(18) Manual Upload to Cloud Icon: If automatic upload is not selected in the cloud management settings window, clicking this icon uploads the selected shot to the cloud.

(19) Data Definition Icon: This is a help file; clicking it displays the data definition for the test.

2.3 Mobile Device Placement

CaseVisionGolf captures swing videos using an iPad or iPhone camera and features intelligent analysis functions such as intelligent line drawing, swing plane tracking, identification of key swing positions, foot pressure analysis, and force sequence analysis (kinetic chain). Therefore, it's crucial to maintain a suitable relative position between the iPad (or iPhone) and the swinger: adjust the tripod distance and height so the golfer's full-body position is visible in the frame.

Figure 31 Swing Placement Position

Figure 32 Putter Placement Position

3. Swing Training View

In swing mode, iTrack can detect ball launch data (ball speed, launch angle, direction angle, backspin, sidespin, total spin, axis angle), clubface data at impact (clubface angle, dynamic elevation angle), clubhead data (clubhead speed, clubhead trajectory, attack angle), and flight parameters (trajectory data, landing point, roll distance, distance from target, maximum flight altitude, flight time, landing angle), and provide dynamic video of the clubhead impact process.

This data is directly displayed in the data label view  and data bottom bar  , while animation effects are shown in the ballistic view  and clubface view  , and statistical values are provided in the statistics view  .

3.1 Shot Detection Area

When training in the iTrack swing mode training interface, placing the ball in the ball detection area in front of the iTrack device will trigger a ball detection prompt box in the training interface.

Figure 33 Ball Detection Area in Swing Mode

When the ball is locked within the green detection area, a voice prompt will play to remind the golfer to prepare for the shot. After a swing, the hit count increases, and the training interface automatically refreshes and displays the video and data. Clicking the icon -- swing list (Hit List) expands or collapses the list window. When the list is expanded, selecting a previous hit record allows you to review the swing video and data.

3.2 Sign View and Data Bottom Bar

Clicking the "Select Display Data" icon allows you to customize the data filtering effect. When there is a lot of data, you can slide left and right in the sign view or data bottom bar.

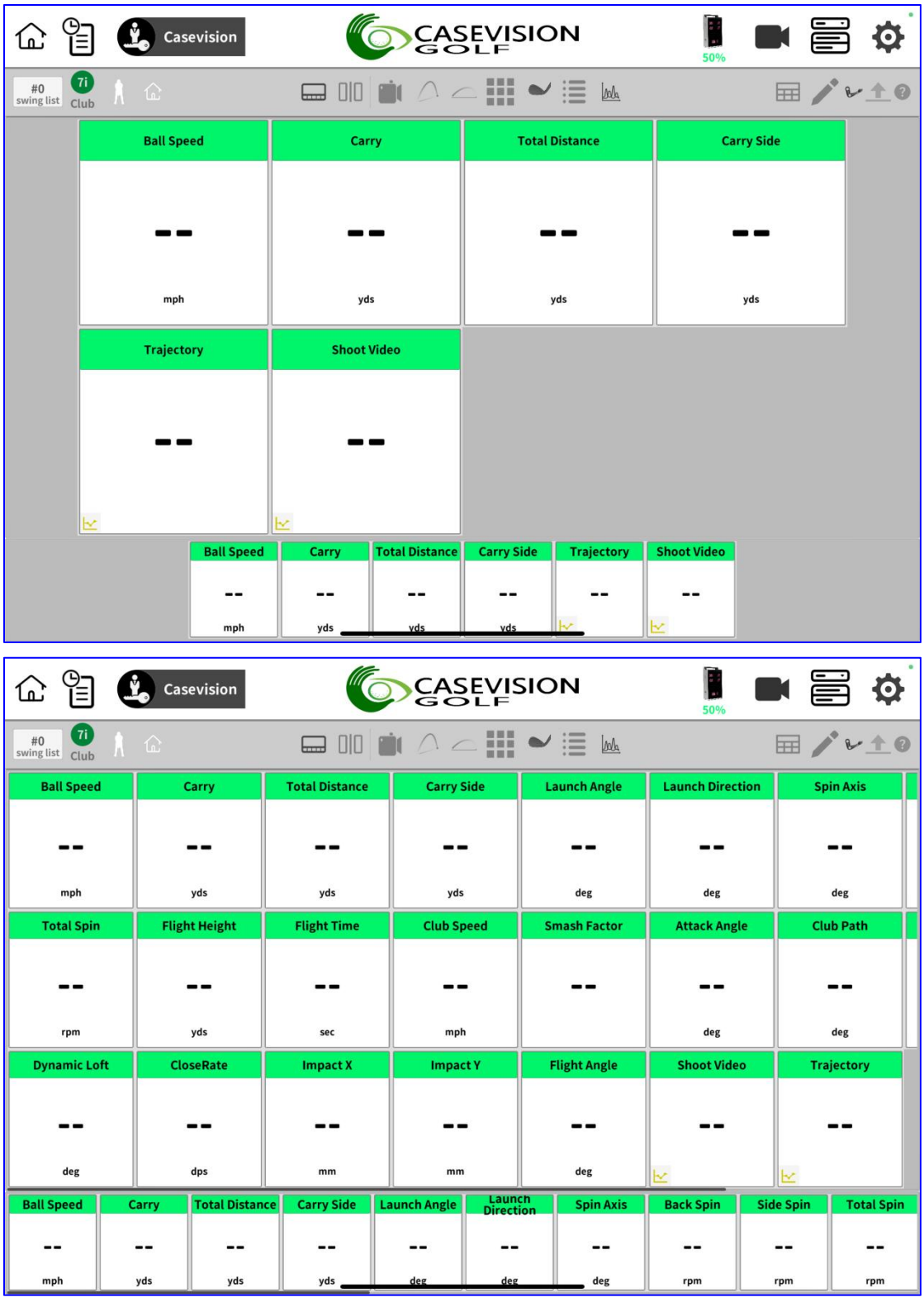


Figure 34 Data Bottom Bar and Sign View

Double-clicking the "Launch Video" sign with the process data icon will pop up a floating window displaying the dynamic video of the swing impact

process.

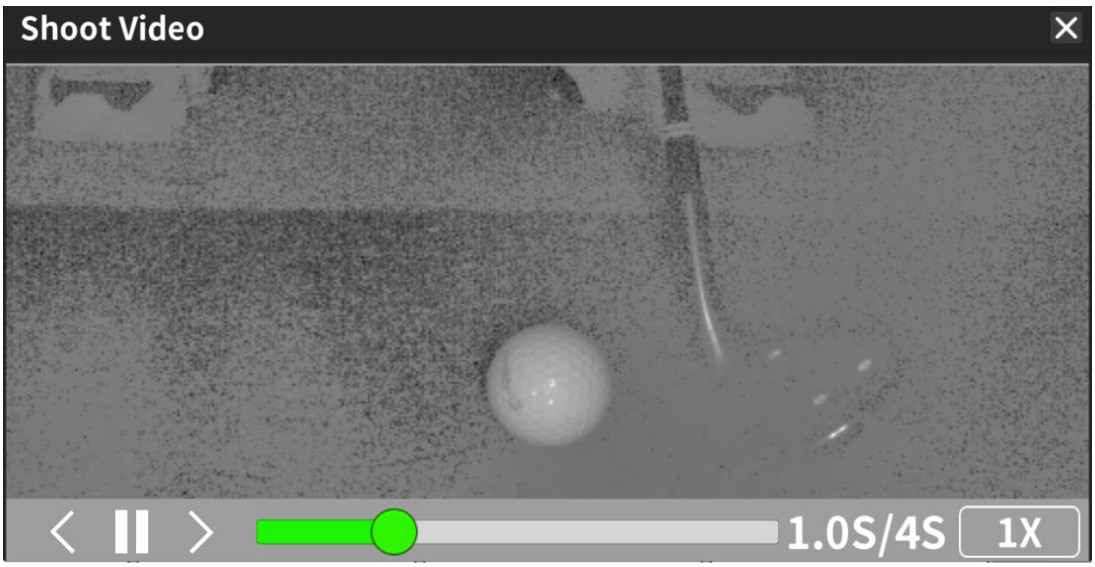


Figure 35 Swing Impact Process Video

3.3 Image View

Using AI technology, it provides functions such as intelligent line drawing, swing plane tracking, swing key position recognition, foot pressure analysis, and force sequence analysis.

(1) Click the icon  (Intelligent Line Drawing). Frontal line drawing: head circle, spine line, shoulder line, hip line, knee line, hand position, body side line. Side view lines: arm line, leg line, hip line, balance line, topswing plane, bottomswing plane.

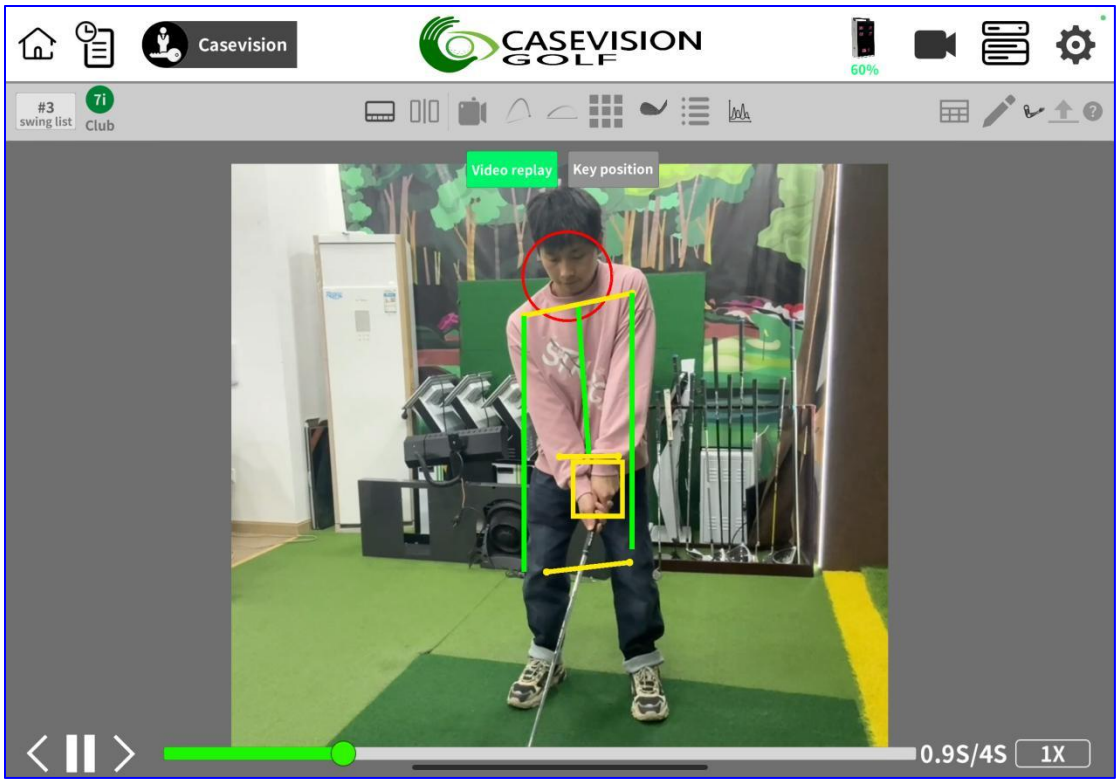


Figure 36 Front view

Figure 37 Side view

(2) Identify and extract images of key swing positions: setup, take-off, backswing,

apex, downswing, release, impact, release, follow-through, foreswing, follow-through. In the iTrack device's swing mode, clicking "Key Positions" in the image view displays a group of position images. Individual position images can be selected and enlarged on the right. Once you select a key position you are interested in, it will be displayed with each swing, providing quick feedback without requiring you to search for it yourself.

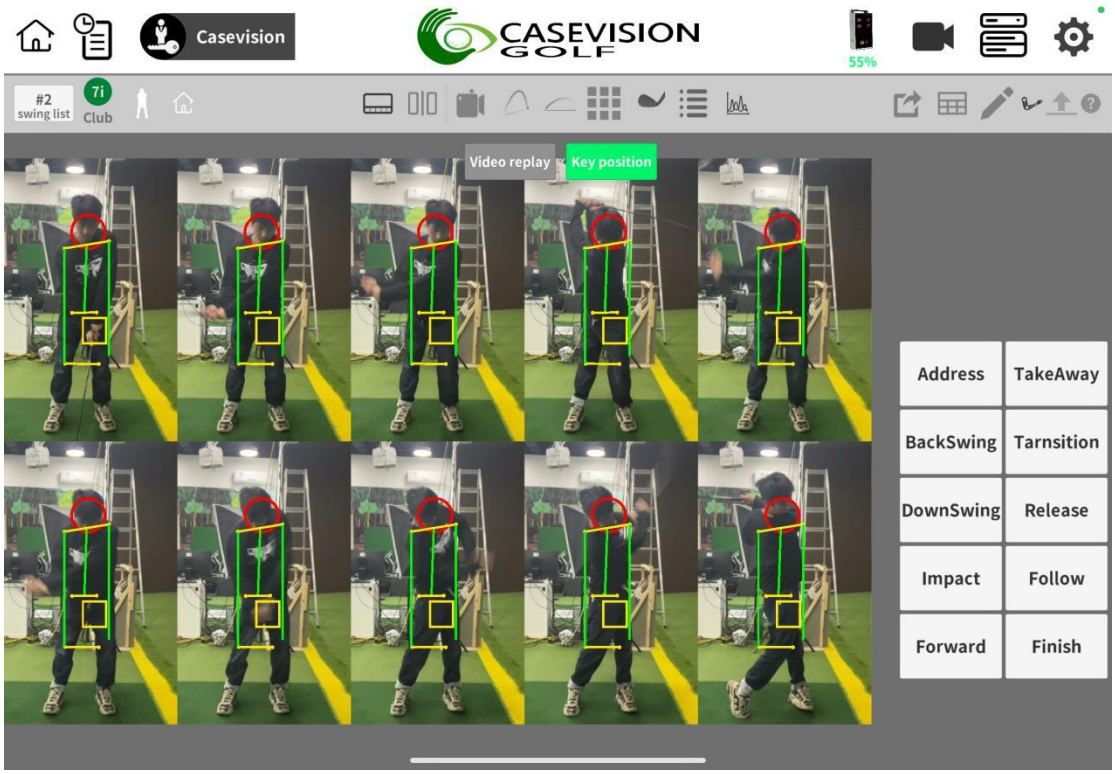


Figure 38 Key Position Image Group

3.4 Ballistic View

The ballistic view uses a 3D trajectory as its animation content, with a default frontal view. Clicking the icon  in the upper right corner of the view (view switching) allows you to switch between five viewpoints: frontal, top, side,

oblique, and slanted. Clicking the icon  (2D Trajectory) overlays the side and top views of the 2D trajectory onto the trajectory view. If overlaying is already enabled, the 2D trajectory display is canceled.

Figure 30 3D Trajectory View

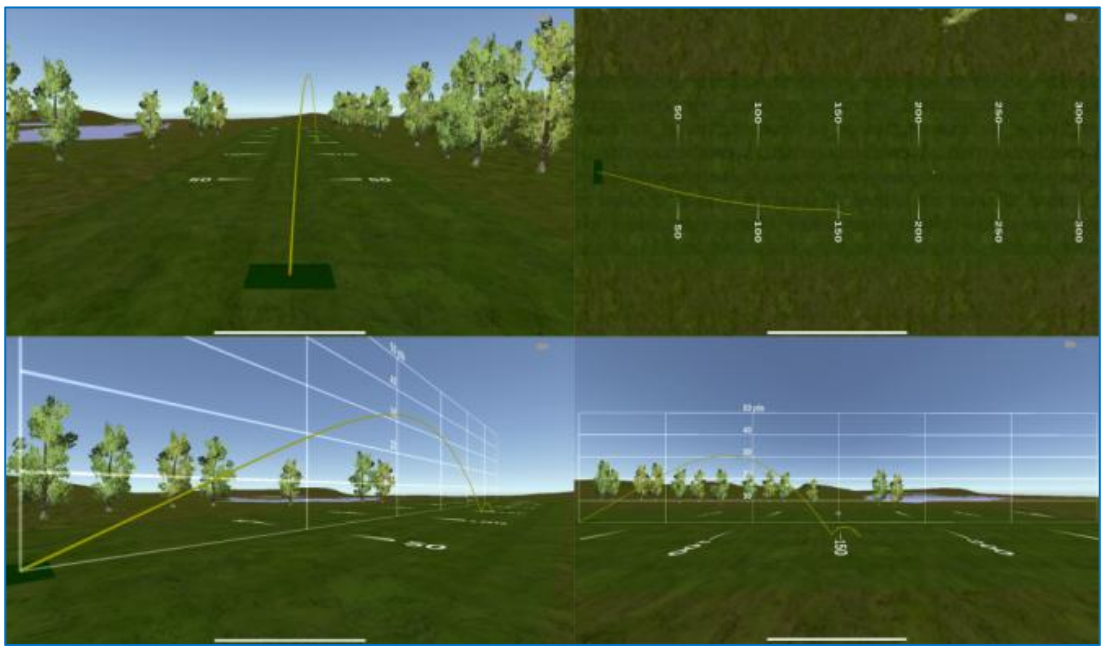


Figure 40 Trajectory Perspective

Figure 41 2D Trajectory View

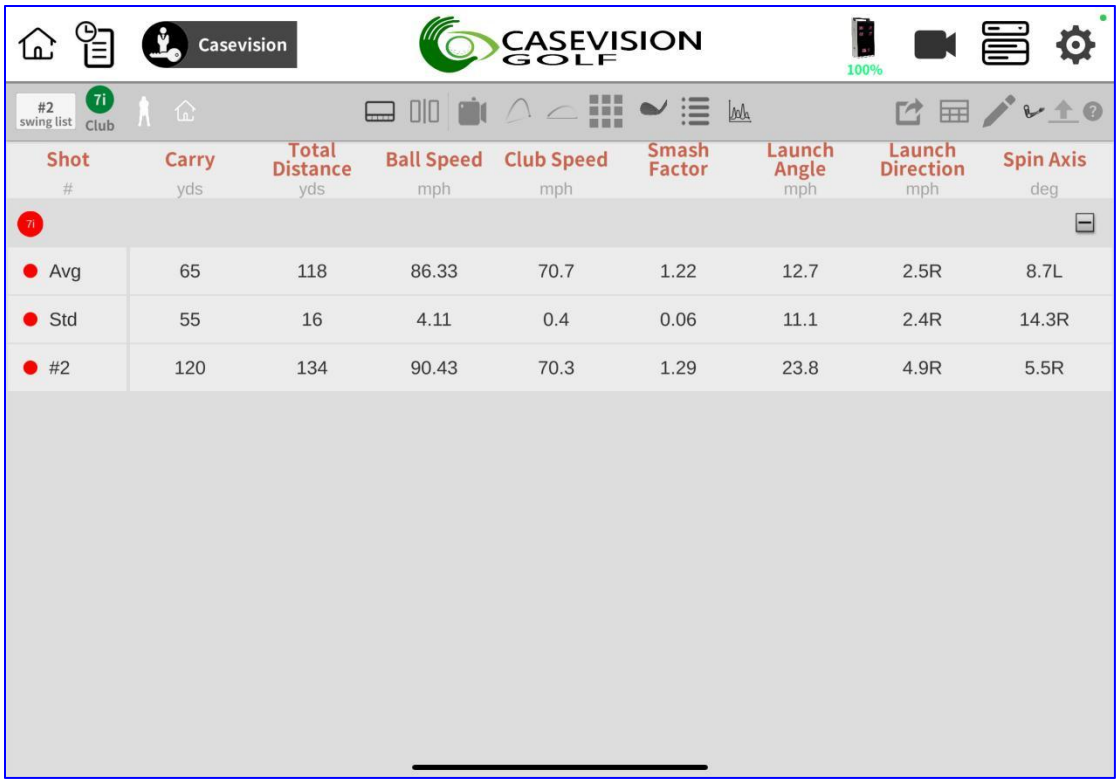
3.5 Clubface View

The clubface view presents a 3D view of the clubface analysis for this swing.

Figure 42 Clubface View

3.6 Statistical View

The statistical view groups the data by club type, summarizing all shots for each group to obtain the average (Avg) and variance (Std), and displays the data for the most recent shot for that group. Clicking the icon  in the upper right corner (Share) allows you to share the statistical data via email.



Shot #	Carry yds	Total Distance yds	Ball Speed mph	Club Speed mph	Smash Factor	Launch Angle mph	Launch Direction mph	Spin Axis deg
7i								
Avg	65	118	86.33	70.7	1.22	12.7	2.5R	8.7L
Std	55	16	4.11	0.4	0.06	11.1	2.4R	14.3R
#2	120	134	90.43	70.3	1.29	23.8	4.9R	5.5R

Figure 43 Statistical View

3.7 Kinetic Chain View

After successful mechanics calculation, the kinetic chain view displays the motion sequence curves and angle curves for this shot.

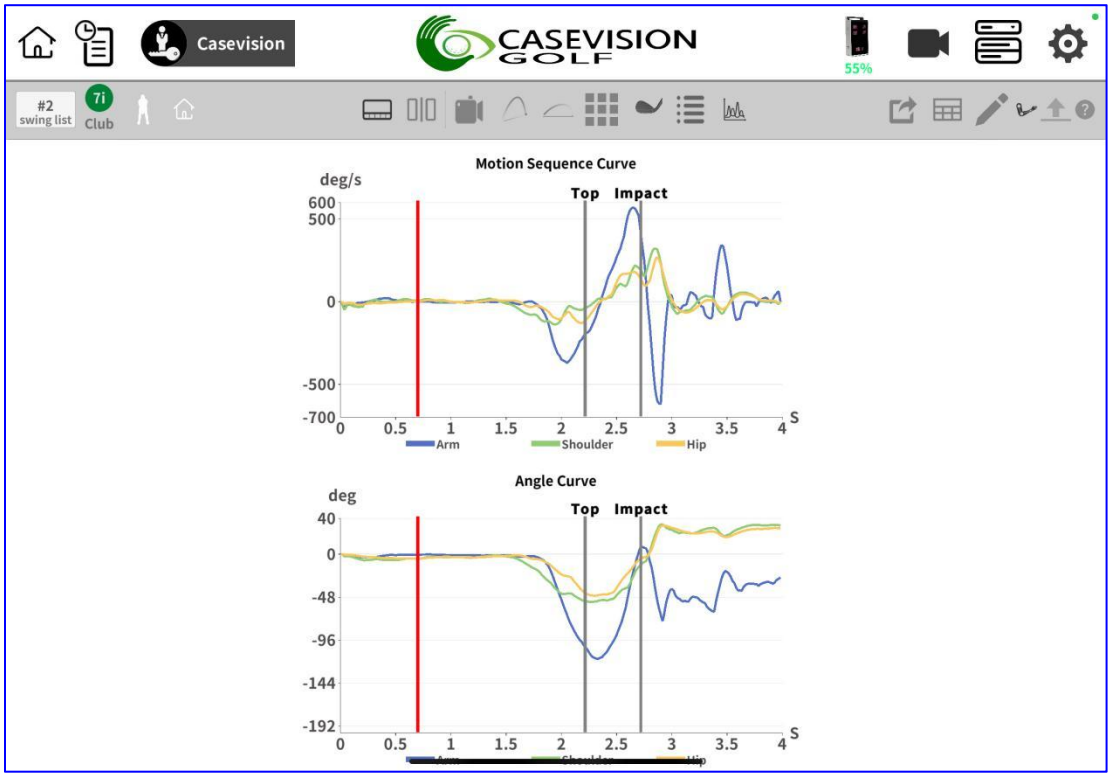


Figure 44 Kinetic Chain View

4. Putting Training View

iTrack can operate in putting mode, detecting the following putting data: rhythm data (backswing time, downswing time, putt length, tempo), clubhead data (clubhead speed, angle of attack, clubhead path angle), clubface data (dynamic loft, clubface angle, lie angle, impact point, clubface spin, clubface twist before and after impact), and ball launch data (ball speed, spin, impact efficiency, launch direction angle, launch angle). On a green with set putting conditions (ball distance from the hole, green speed), it calculates the ball's trajectory data (entry speed distance, total distance, total offset), providing dynamic video and trajectory images of the impact process.

This data is directly displayed in the signage view  , and simultaneously shows 3D data of the clubhead and clubface in the clubface view  . Statistical values are provided in the statistics view  and can be shared via email.

4.1 Shot Detection Area

Placing the ball in the ball detection area in front of the iTrack device will trigger a ball detection prompt in the training interface.

Figure 45 Ball Detection Area in Putting Mode

When the ball is locked within the green detection area, a voice prompt is triggered to alert the player to prepare for the shot. After each putt, the shot count increases, and the training interface automatically refreshes the video and data display. Clicking the icon 

(Shot List) expands or collapses the list window. When the list is expanded, selecting a previous shot record allows for review of the video and data.

4.2 Video View

The video view displays the video of the current putt, allowing for control of the video progress, pause, and playback speed adjustment.

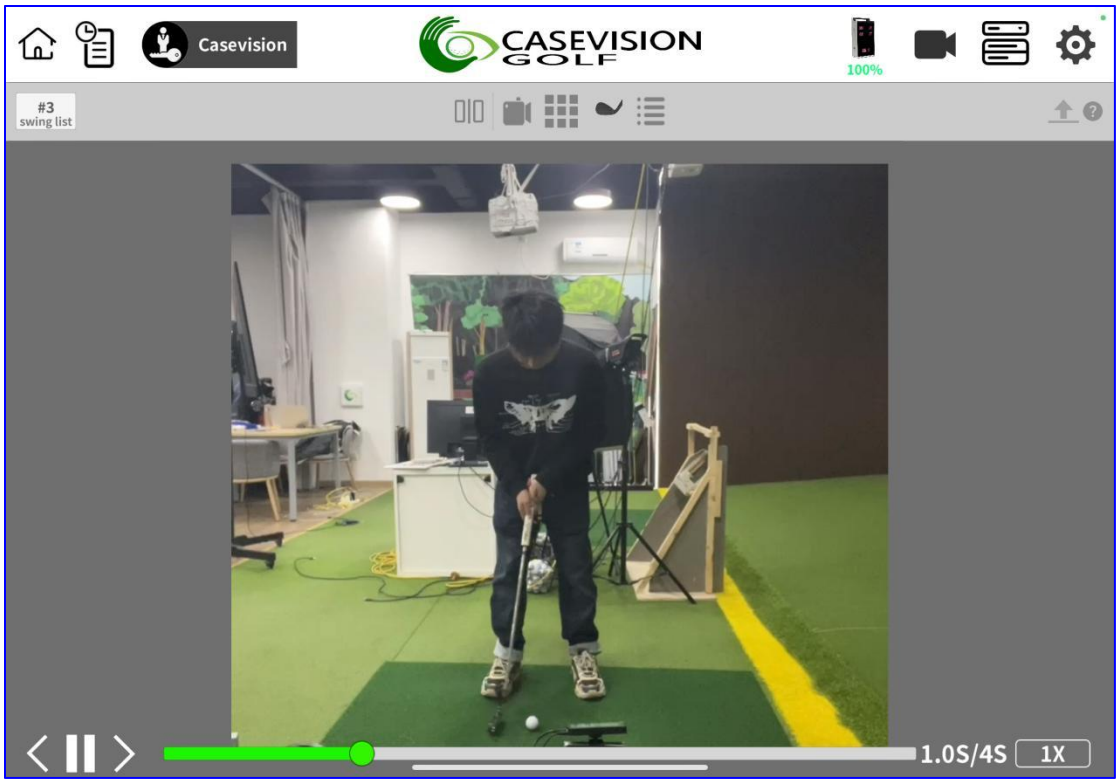


Figure 46 Putting Video View

4.3 Data Label View

Clicking the data settings icon allows for customized data filtering effects. When there is a large amount of data, the label view or data bottom bar can be swiped left and right.

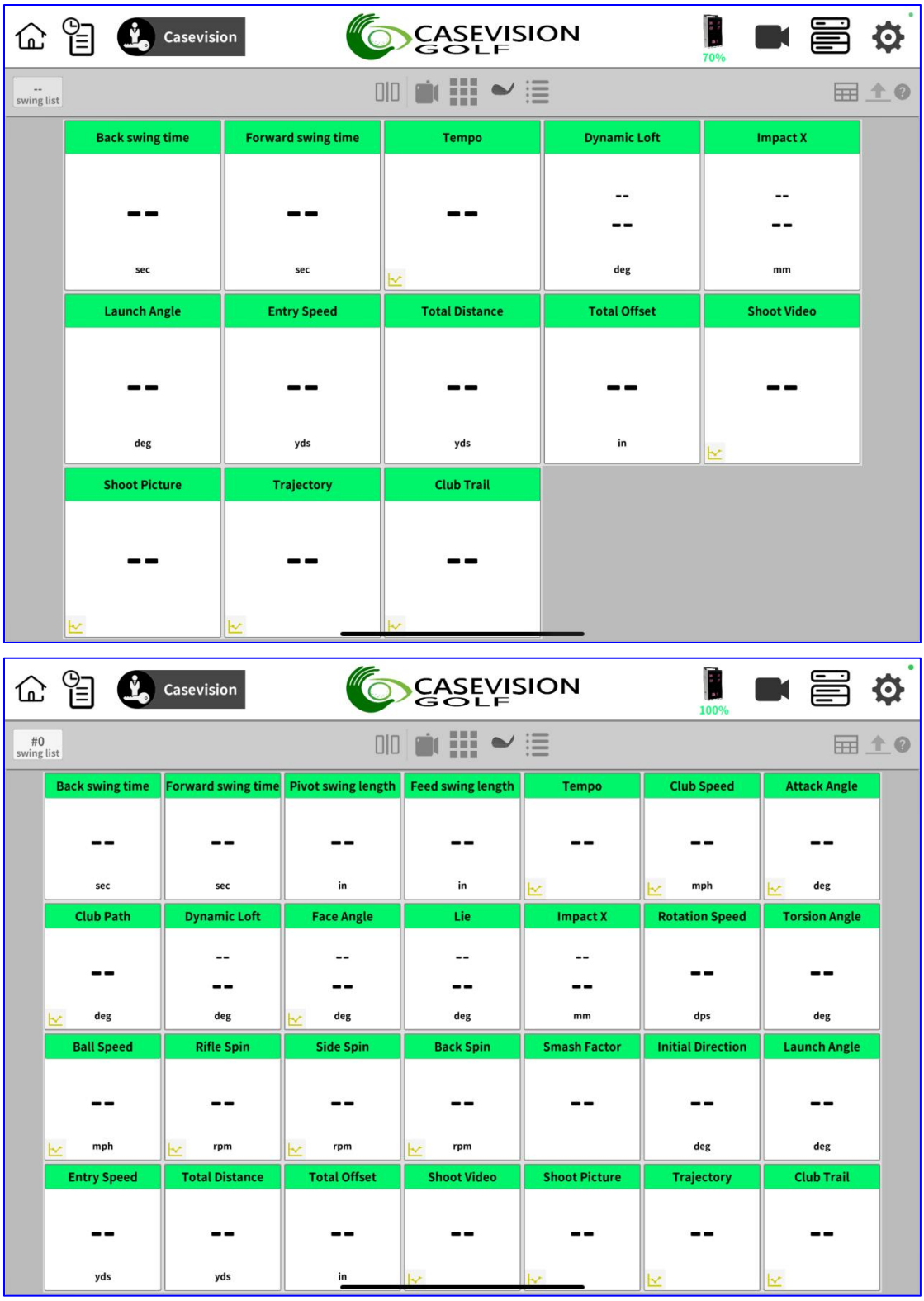


Figure 47 Putting Label

(1) Double-clicking the "Launch Video" label with the process data icon  will pop up a floating window displaying the dynamic video of the current putt

impact process.

Figure 48 Putting Impact Video

(2) Double-click the "Launch Image" sign with the process data icon  to display a pop-up window showing the trajectory image of the putting impact.

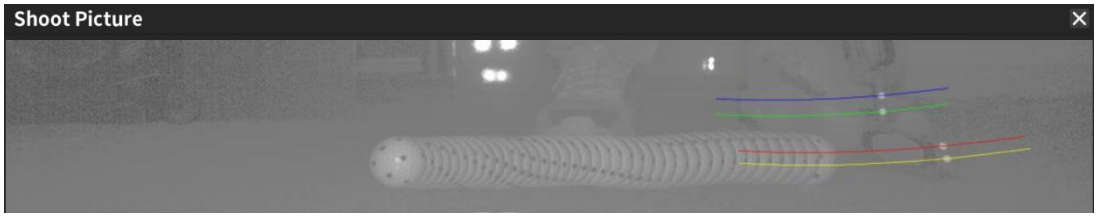


Figure 49 Putting Impact Image

(3) Double-click the "Movement Trajectory" sign with the process data icon  to display a pop-up window showing the ball's trajectory on the green. Parameters such as the distance between the ball and the hole and the green speed can be manually set.

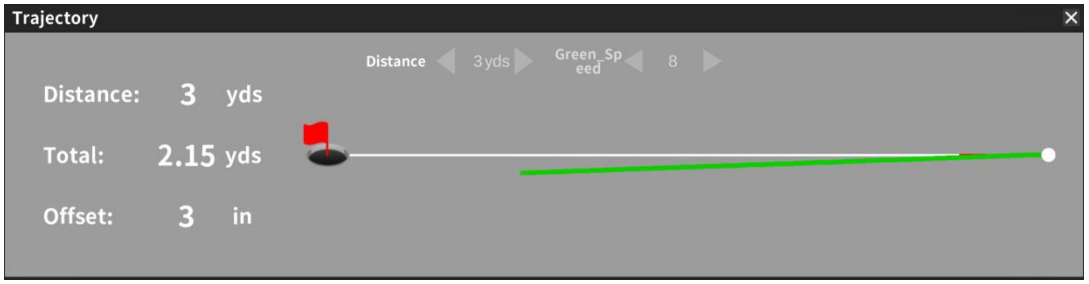


Figure 50 Ball's Motion Trajectory

(4) Double-click the "Clubhead Trajectory" sign with the process data icon  to display a pop-up window showing the clubhead's trajectory.

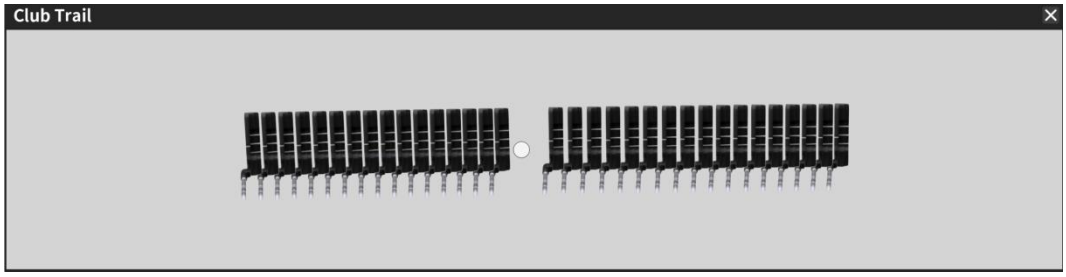


Figure 51 Clubhead Trajectory

(5) In addition to the instantaneous impact value, rhythm, clubhead speed, attack angle, clubhead path angle, ball speed, and clubface orientation also have process data. These signs will also have a process data icon  in the lower left corner. Double-clicking a sign with a process icon  will display a pop-up window showing the process curve of that data.

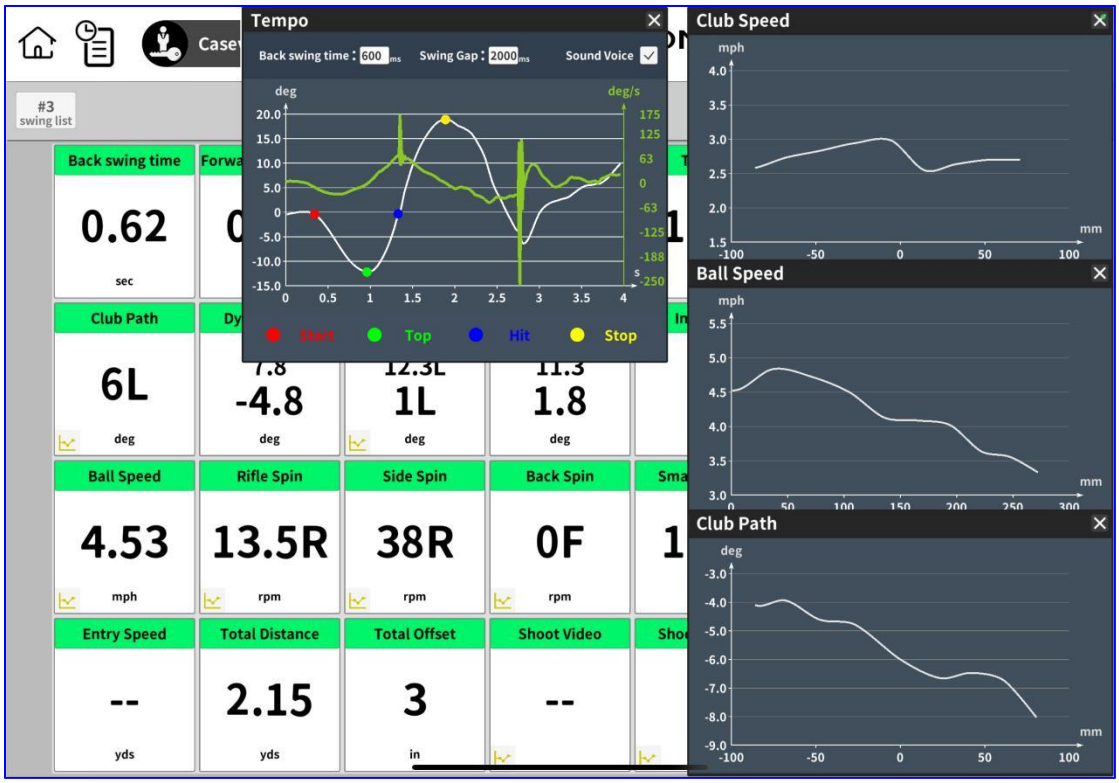


Figure 52 Process Data Graph

4.4 3D Clubface View

The 3D clubface view displays the data of the putter head face in 3D.

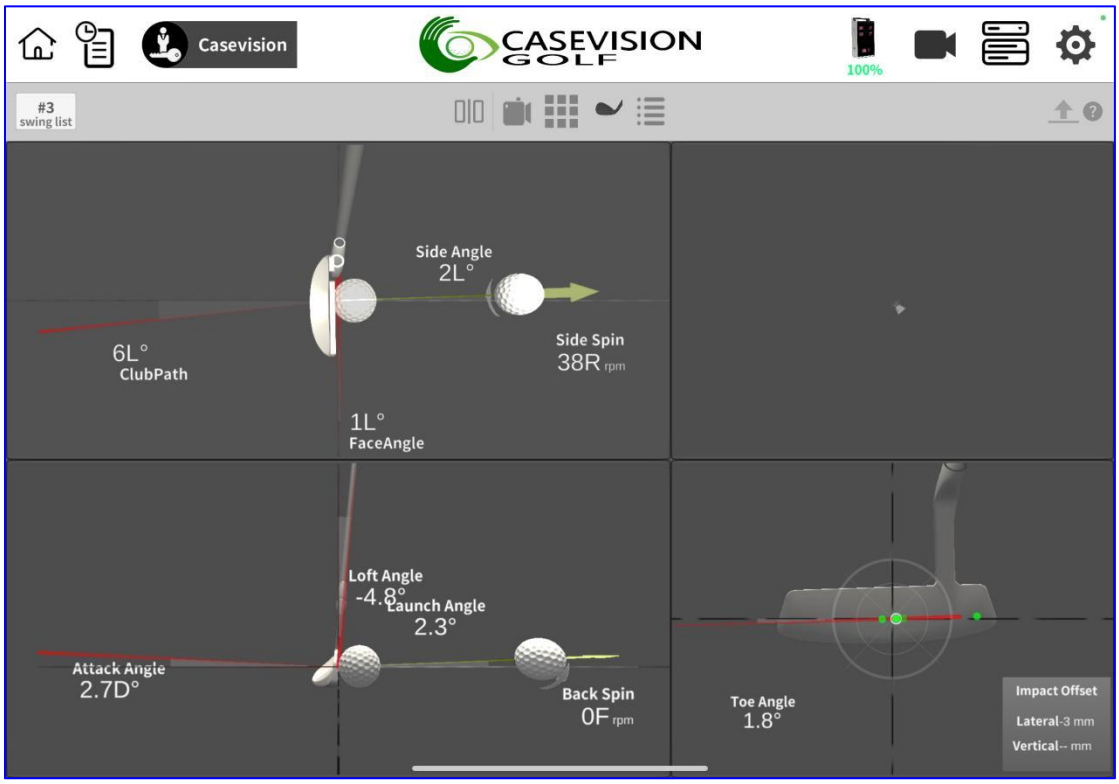


Figure 53 Process Data Graph

4.5 Statistical View

The statistical view summarizes all putting shots to calculate the average (Avg) and variance (Std), and displays the data for the last shot. Click the icon  in the upper right corner (Share) to share the statistical data via email.

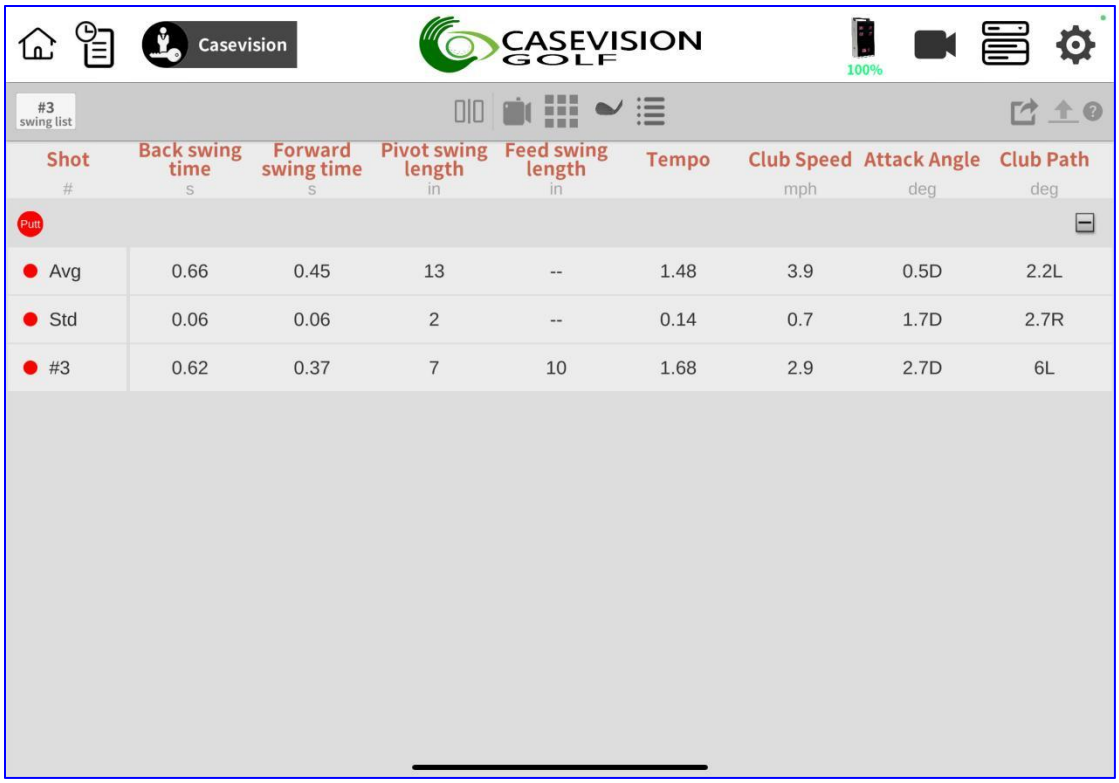


Figure 54 Putting Statistics View