

# PUTTVIEW X

User Manual V.1.3



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## Quick start (1/2)



1. Unpack the portable case.



2. Put on PuttView X and turn it on with a short press of the power button on the back-right of the device.



3. Now, press the "Start" button that is seen through the lens and set the "Green speed" and the "Power" setting which represents your intended putt strength.



4. To begin, say "Hey PuttView" and walk slowly around the putting area, carefully scanning the surface as you look left and right.

## Quick start (2/2)



5. Now, set the target by looking down at the hole position from above. Once you've aligned the circle with the hole, confirm it by saying: "New Target".



6. To set the starting position for your putt, simply align the cursor by looking at the desired location within a successfully scanned area and confirm it by saying: "New Ball".



7. To set the visual aids, press the with index your finger P-Bubble to open the features menu. You can toggle the features on and off by pressing the respective button or customize further by long-pressing the button. Enjoy!



In contrast to previous versions of PuttView X, the eye calibration now works automatically and does not require any setup.

# General help/improvements

## **Increase hologram stability**

Scan a larger area. This will establish more reference points and helps PuttView X to stay stable.

## **Increase general accuracy**

Scan the area thoroughly around the putt by slowly looking at the line of the putt and its direct vicinity while walking.

## **Decrease hologram drift**

Avoid fast head movements and move normally to reduce hologram drift.

## **Avoid confusing PuttView X**

Avoid turning the visor up and down, while moving around the green because it can lose orientation.

## **Ensure tracking accuracy near the hole**

Take the PuttView X case onto green and place it in your field of view within the scanned area. This acts as an added reference point for increased accuracy.

## **Increase stability and avoid overheating**

Use the included heat attachments to protect PuttView X from direct light and heat.

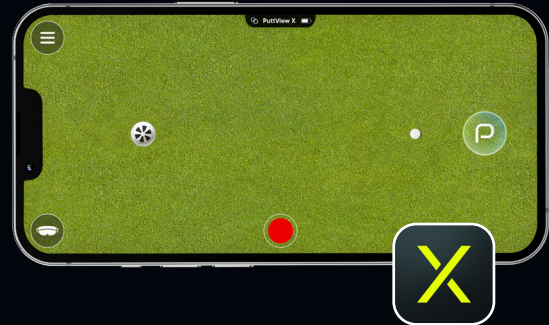
What's in the box

# What's in the box (1/2)



## Microsoft HoloLens 2

The heart of PuttView X  
which brings greens to life



## Companion App

Download from Apple Appstore  
& Google Playstore. Search for  
PuttView X: Companion



## Portable Wi-Fi Router

Connector between  
the Companion App  
(smartphone) and  
PuttView X



## What's in the box (2/2)



### Heat and sun protection

1x Heat and sun deflector (front)

1x Heat deflector (rear)

### Portable case

For the safe transportation of  
PuttView X and the accessories



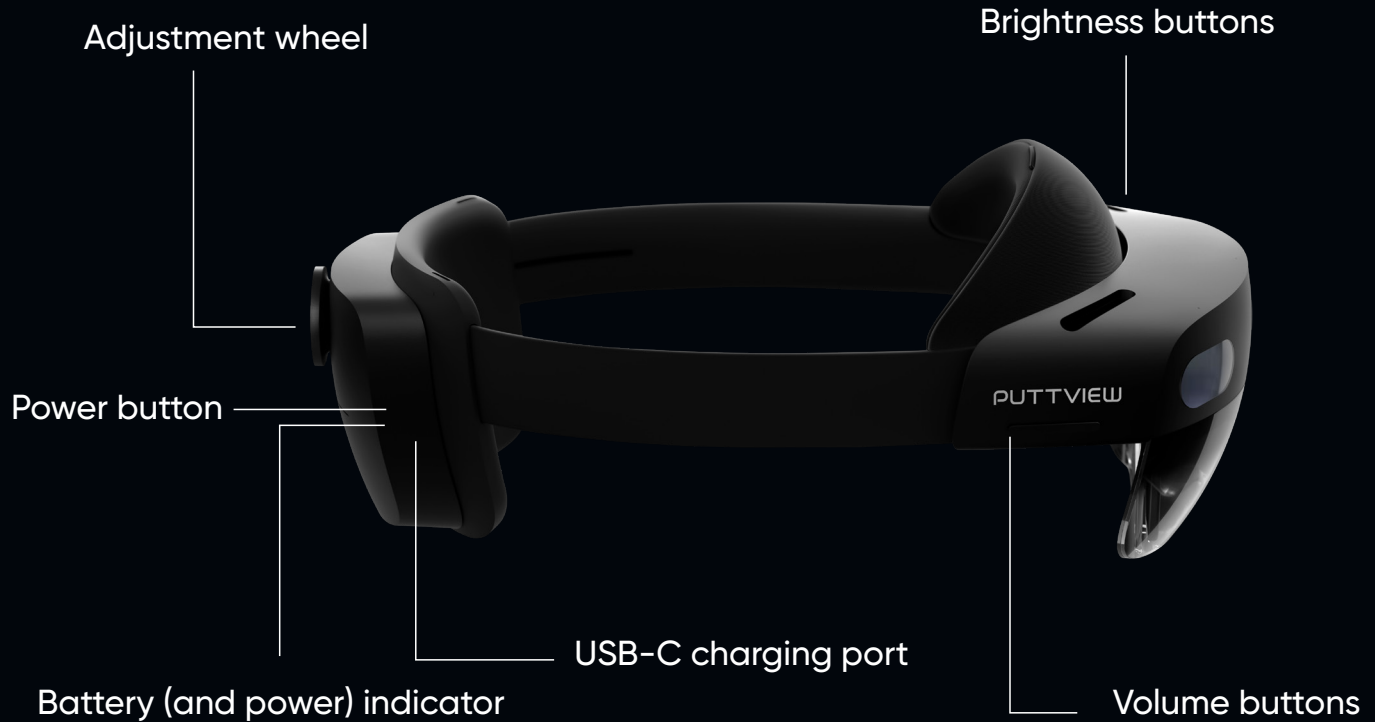
### Shoulder strap

To carry the  
portable case



# Initial setup

# PuttView X controls



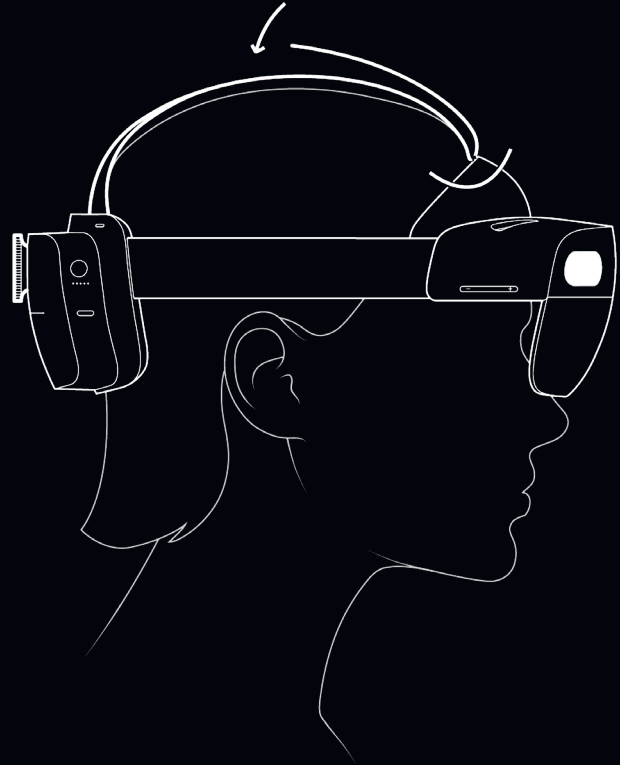
# Turn on/off

## Functions of the power button for various operating states

Task	Action	Action by PuttView X
Turn on from completely off	Simple press the power button.	All five lights are flashing and then change to show how much the battery is charged. After four seconds there is a sound signal.
Standby	Simple press of the power button.	All five lights are flashing and will die down afterwards.
Reactivate from standby	Simple press the power button.	All five lights are flashing and then change to show how much the battery is charged. There is an immediate sound signal.
Turn off	Press the power button for 5 seconds.	All five lights are flashing and will die down afterwards.
Restart PuttView X if something doesn't look right	Short press the power button, wait two seconds, then press it again.	The PuttView X starting animation will show up after 10 seconds.
Force shutdown of PuttView X	Press the power button for at least 10 seconds.	All five lights are flashing and will eventually disappear.

# How to put it on (1/2)

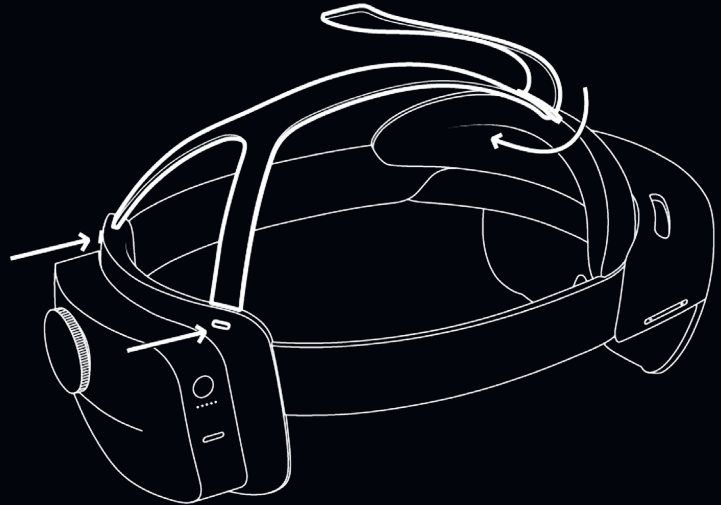
Place PuttView X on your head. If you are wearing glasses, you can leave them on. The forehead pad should sit comfortably on your forehead with the back strap centered on the back of your head. Now turn the dial at the back of the harness so PuttView X sits firmly on your head. If necessary, adjust the headband by pulling or loosening the head strap as seen in the picture.







# How to put it on (2/2)

## Adjusting the head harness


The head strap is not required but can make wearing PuttView X more comfortable, especially during extended use. To remove the head strap, open the strap on the front and slide it through the retractable loop on the forehead pad. To release the back of the head harness, press the button under each connection tab (see picture) and pull gently. For reattachment push the connection tabs back into the slots until they snap into place and pull the strap back through the loop on the front.



# PuttView X gestures

Gestures	Action (IMAGE)	Action by PuttView X
Press	Select button 	Selects the pressed menu item.
Long press	Open sub menu 	Opens a sub menu if one is available.
Looking at the palm of your hand	Open settings menu 	Opens settings menu where you can adjust green speed etc.
Pinch	Slider value selection 	The slider is moved by pinching and dragging it to the desired value. Once the pinch is released, the value is selected.

# PuttView X voice commands

Voice command	Action	Action by PuttView X
„Hey PuttView“ „Okay PuttView“		Starts scanning and initializes the hole and ball selection menu.
„New Target“		Sets a new target where the cursor is placed.
„New Ball“		Sets a new ball where the cursor is placed.
„Close“		Closes the hole and ball selection menu.
„New Putt“		Resets the target and the ball.
„Hide companion“ „Show companion“		Hides or shows the Putt menu which leads you to the feature settings.



# Heat and sun protection

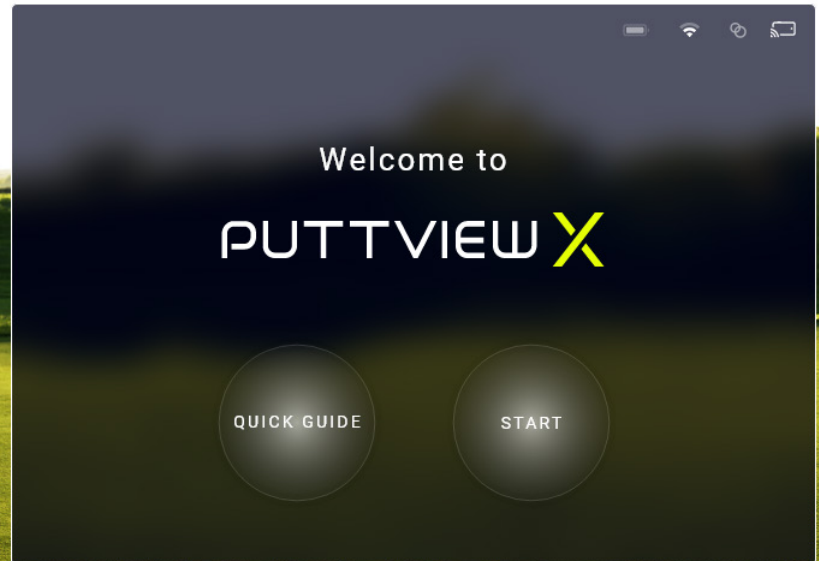
Like with other technical gadgets, direct sunlight or strong heat can reduce the performance of PuttView X. This can result in the glasses shutting down due to overheating. A significant improvement in performance in heat reduction can be achieved with the heat and sun protection. We therefore recommend using the attachments in temperatures upwards of 25° Celsius (77° Fahrenheit) or if it is really bright outside. The silver foil that sticks in front of the camera helps PuttView X to adapt better in very bright environments and improve tracking.



# Get started

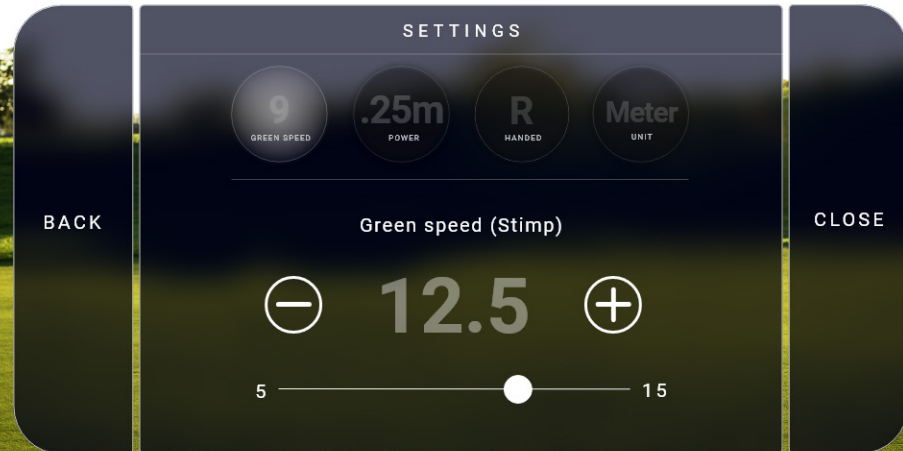
# Starting

When you start PuttView X, you'll see an animation and hear a sound signal indicating that the device is powering on. This will be followed by a starting screen, letting you know when the system is ready for operation.



# Green speed

Before hitting the first putt, make sure to set the correct green speed. Change green speed or power by pressing the respective bubble, then pinch, hold, and drag the slider or press the + and - buttons to adjust the value. Be aware that measurements using the Stimpmeter might result in 1-2 stimp less than with a True Roller. Therefore, it is best to set the Stimpmeter reading first and fine tune by adjusting the green speed in the main settings after hitting a couple of putts.



# Prepare your surroundings/ green scan

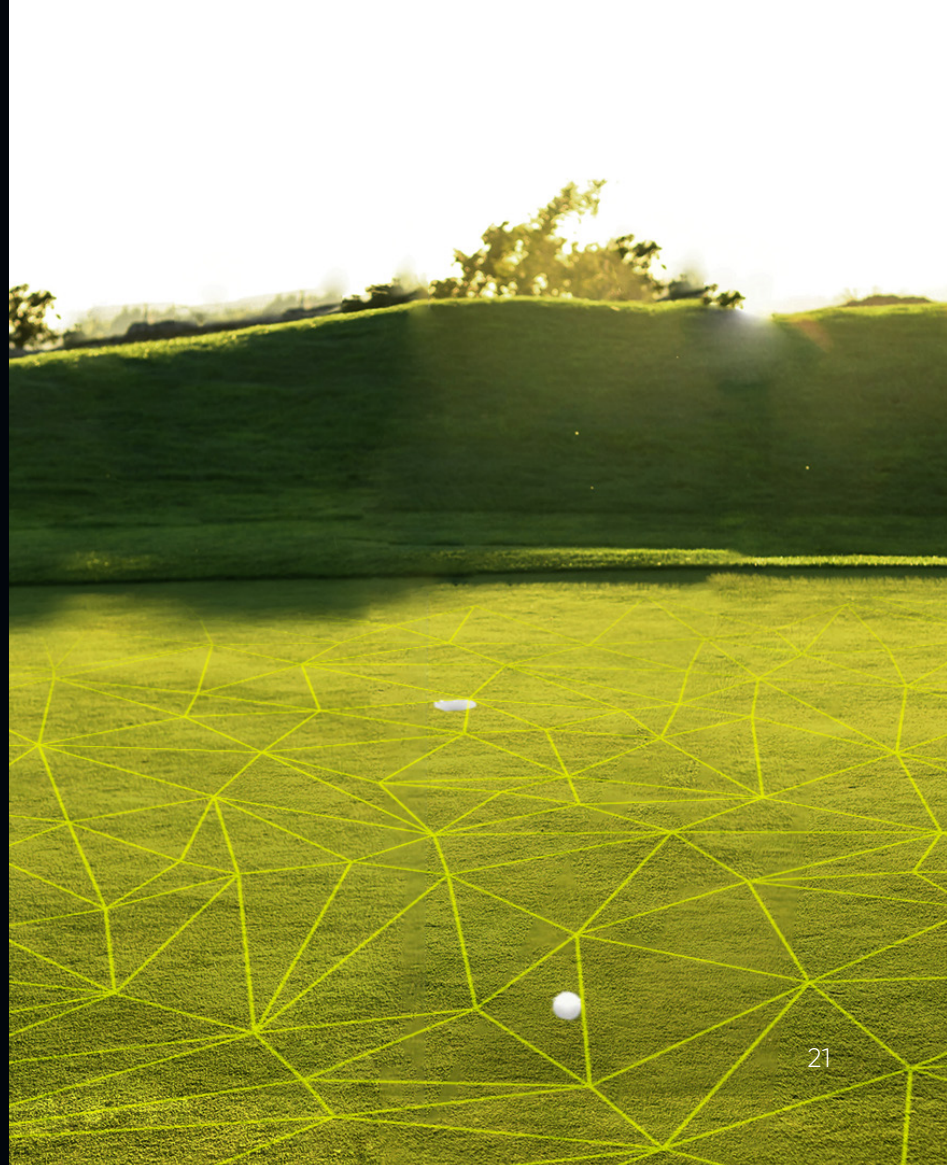
Activate scanning by saying „**Hey PuttView**“ or using the button in the hand menu. Look at the ground to scan the surface. The yellow triangles that appear indicate scanned areas. A larger scanned area improves stability.



Stability is better when there are objects (e.g. PuttView X case) to be referenced by the cameras.



Make sure not to run or make sudden movements.

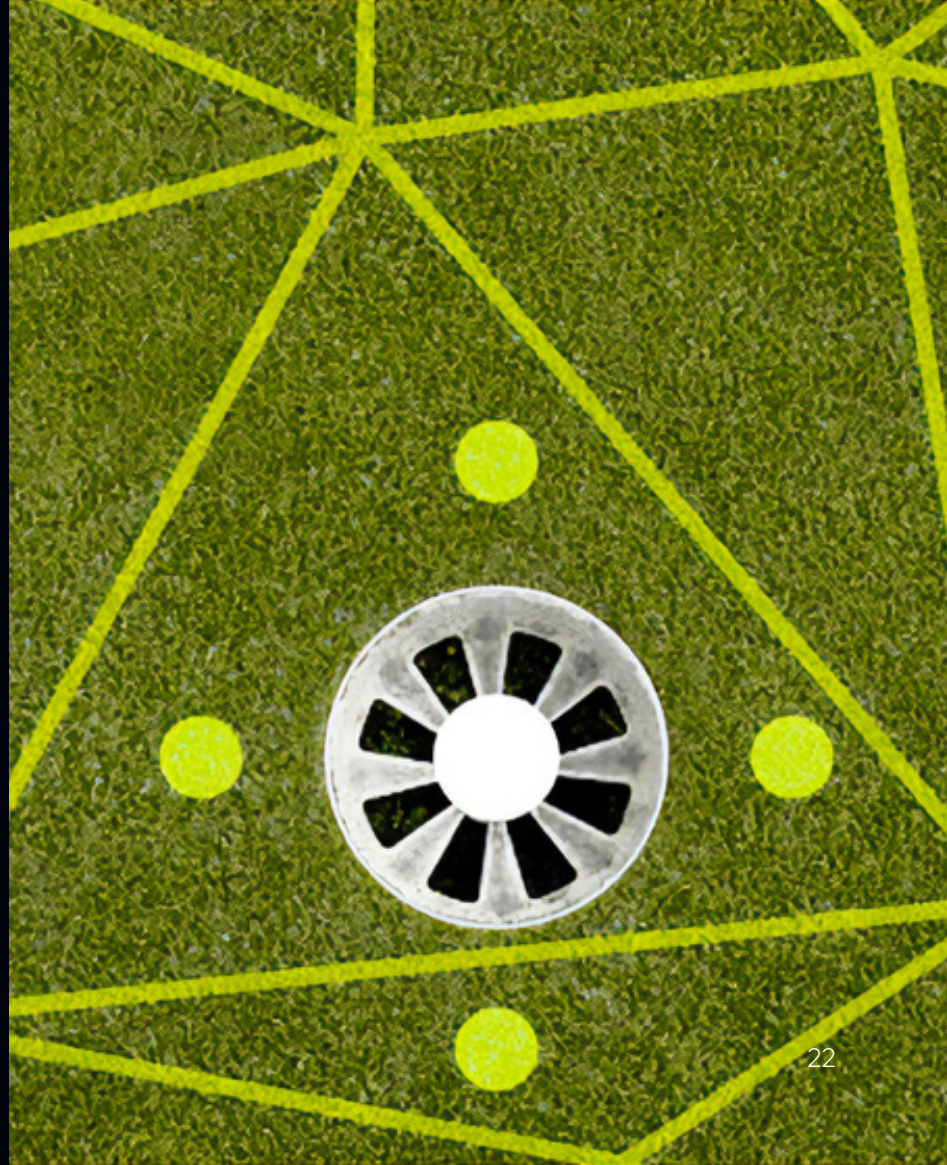
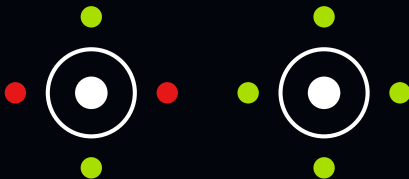




# Set up a target

To position a new target, say „**New Target**“ at your preferred position. It can be any point, not just the actual hole. Please note that the cursor will be visible until you place a ball. If you want to readjust the target or set a new one without changing the ball position, use the voice command „**Close**“ to make the cursor disappear.

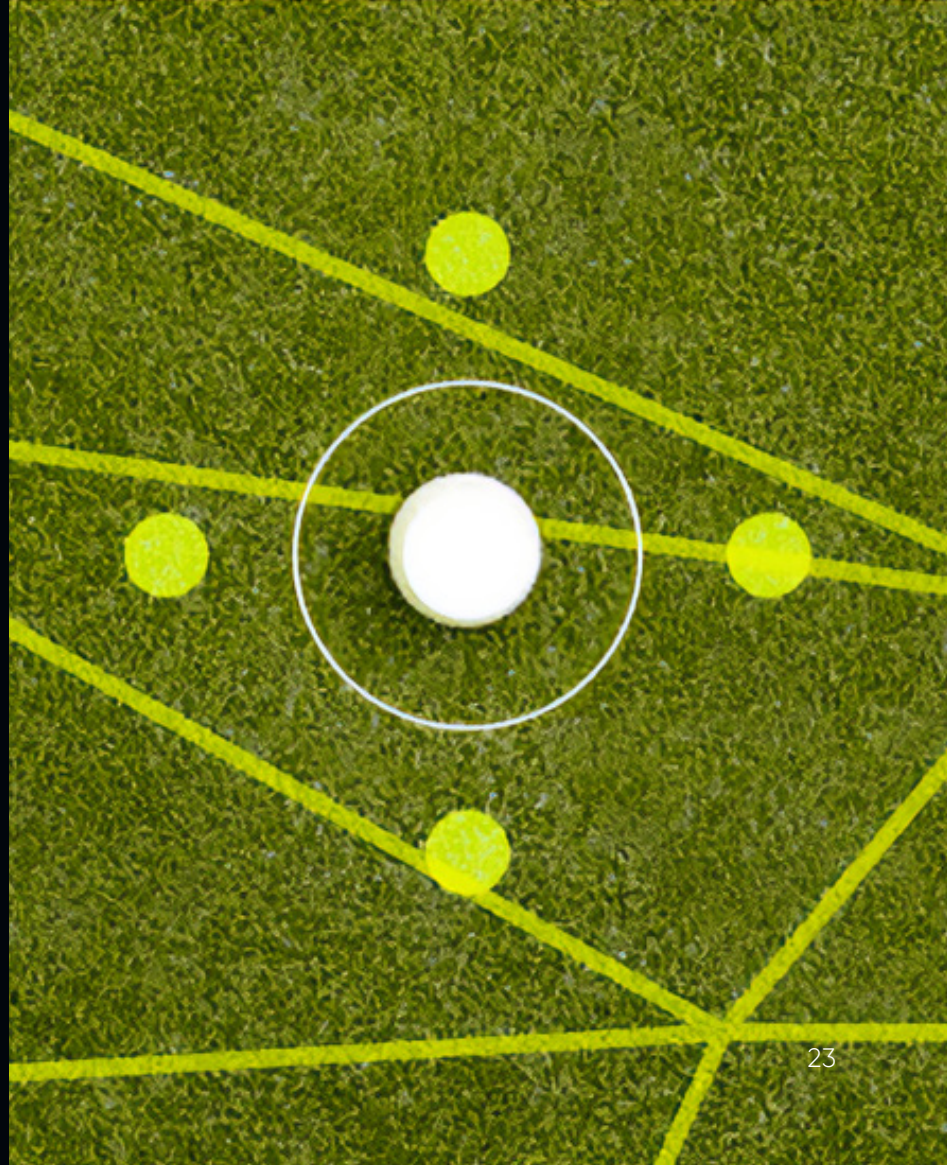
When placing a target or ball position, make sure you place it in the yellow triangle area and all four points around the cursor are green.



# Place a ball

After setting the target, say **“New Ball”** to place it at the preferred position. If something goes wrong, a message will hint at the next steps.

If you want to keep the target but would like to choose a different putt, you can always set a new ball by saying **„Hey PuttView“** followed by **„New Ball“**. Simply make sure you stay within a 10 meter range of the target as this is the maximum putt length you can set.





# Putt calculation

The putt will then be calculated by our algorithm taking into account the hole location, ball position, slope, green speed and power of the putt. Once your putt is calculated, you will be shown the Aiming Line **(1)** and Ideal Line **(2)** of your chosen putt by default. Depending on the length of the putt this can take a couple of seconds. Be aware that the maximum distance you can set for a putt is 10m.





# Play a new putt

If you want to move to a different location on the green, set a new target, or if you are outside the 10m range, you can reset the putt. Activate PuttView X by saying „Hey PuttView“. Then say „New Putt“ and both the ball and target will be removed. Now you can move to the new location and simply set a new target and ball position.



# Recalculate putt

If you feel like PuttView X didn't calculate your putt correctly then walk towards the target and scan the area again. After that you can press the recalculate putt button in the settings menu. This will calculate your putt with the new data.



# Rescan green

If you feel like PuttView X has gathered false spatial information and always calculates your putt wrong, press the green scan button from the settings menu. This will delete all spatial information and PuttView X will gather spatial data again.



# Putt menu

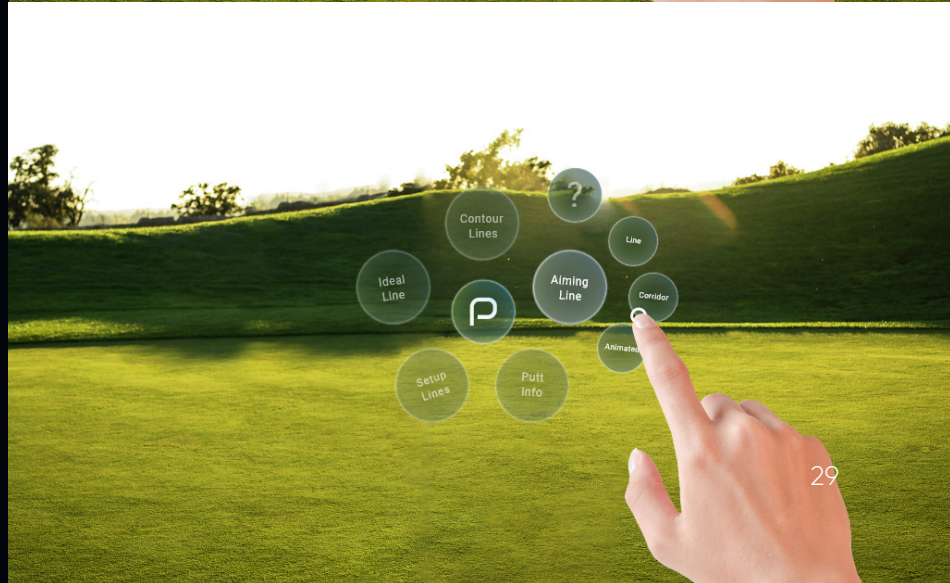
The Putt menu will follow you around while using PuttView X. Pushing it will lead you to the feature settings which let you adjust the visuals of your putt. It also shows an animation when a putt is calculating. When it gets in your way, you can now hide it by saying „Hide companion“ and show it again by saying „Show companion“.





# Feature settings

Pressing the floating bubble (P) with your index finger will open the feature settings. It lets you control and adjust the visuals you want to see with PuttView X. By pushing and hovering your index finger inside the bubbles of the Ideal Line, Aiming Line, or Contour Lines, you can open a sub menu with even more controls such as animations (works both on PuttView X and the Companion App).



# Putt settings

To open up the settings menu, look at the palm of your hand. Here you can adjust things like green speed, power (i.e. distance past), the units (m/ft) and the color of the lines. Press the bubble you want to interact with with your index finger. To close the menu again, press close in the upper left corner or after a few seconds it will close itself. In this menu you can set up the following:

## **Green speed**

Green speed is the speed of the ball on the green and is measured in STIMP. Ask your golf course for the current green speed.

## **Power**

Power sets your putt speed intention. You can set power to anywhere between 3ft past the hole and dead-weight speed.

## **Colors**

You can apply different color schemes to make the holographic lines appear in different colors.

## **Handed**

Set whether you are left or right handed.

## **Unit**

Here you can change the unit of measurement between imperial and metric.

## **Hey PuttView**

You can enter scanning without using the voice commands.

## **Record**

Record the glasses view and download later in the app .

## **Rescan green**

Deletes all spatial information from the device and restarts the scanning progress.

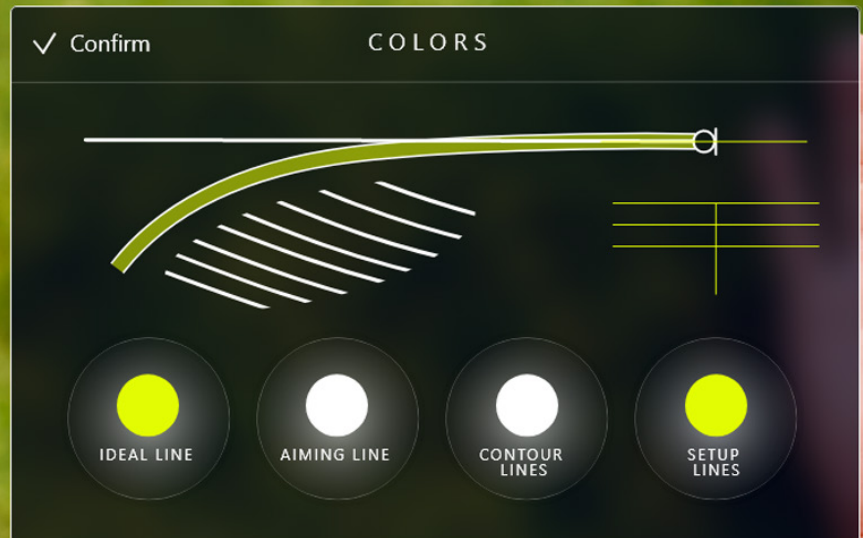
## **Recalculate putt**

If you feel the putting line was calculated wrong this button will recalculate the putt with currently available data.



# Colors

To customize the colors of the visuals, simply access the color menu and toggle the feature bubbles to your preferred choices. The graphic above will display a representation of your current settings. To save the changes, simply tap the back button and close the menu.

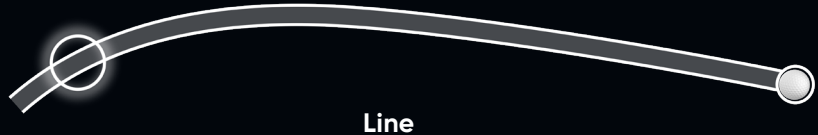




# Features and explanations

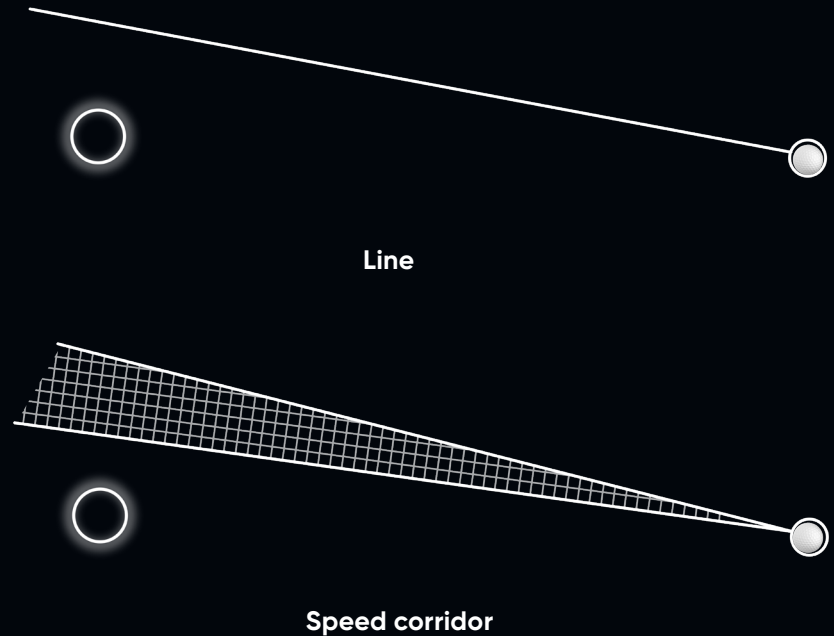
# Ideal Line

This feature displays the ideal path of the ball on the green, from any ball position to any hole location and for various starting speeds. By taking away the element of green reading you can focus on matching line and speed on your putt. This helps you develop a more consistent putting stroke.



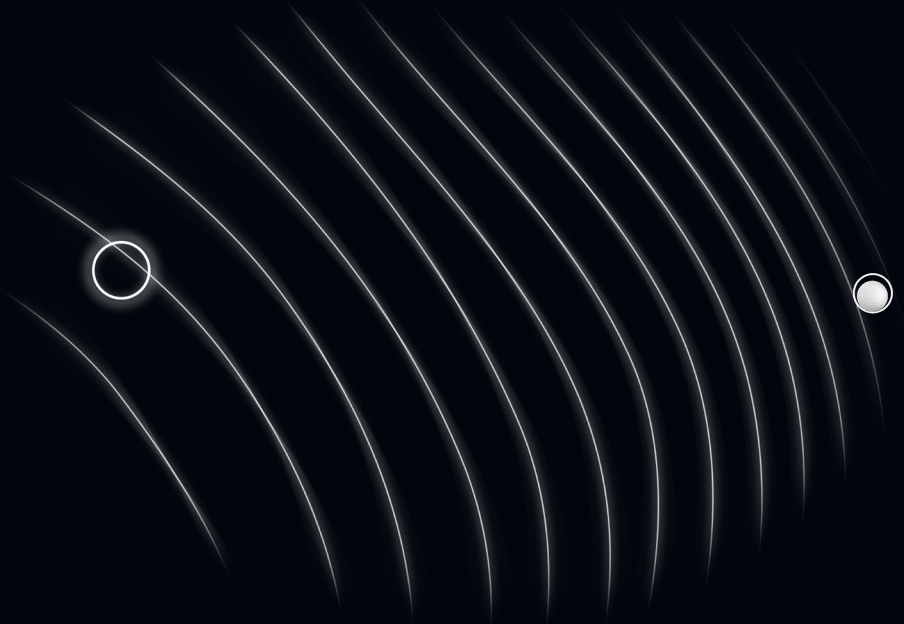
# Aiming Line

See how far you have to aim outside the hole in order to make the putt. This helps you to focus on starting your ball on your intended line. If you get the speed right, the impact of break will take care of the rest. This is perfect for improving your ability to start your ball on line, as well as speed control.



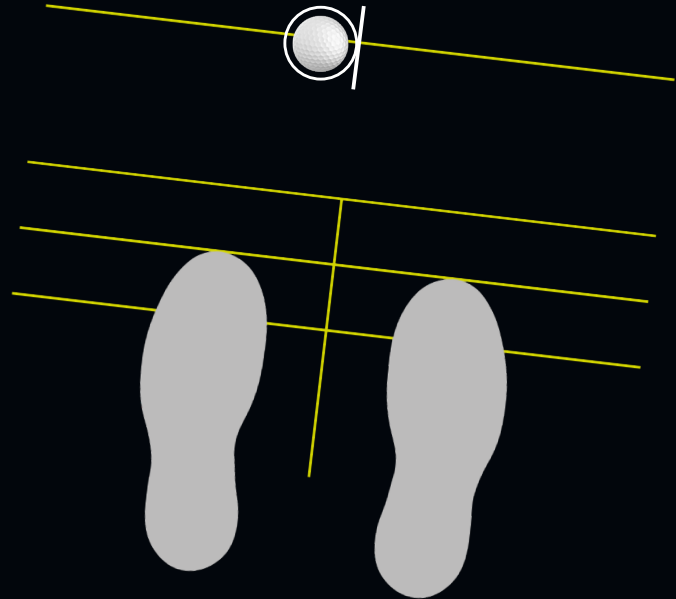
# Contour Lines

The Contour Lines visualize all slopes on the green like in a topographic map. The lines connect points of equal elevation and enable you to quickly identify the slopes of the green. The Contour Lines help you to understand the impact of gravity and read breaks better on the course.



# Setup Lines

The Setup Lines help check on your alignment and posture. Check if your alignment and posture stay consistent throughout your practice. Being able to maintain the same starting position, helps you to become more consistent in your stroke as well as to get a steady pre-shot routine.



# Putt Info

Know all the important aspects of your putt. The Putt Info shows the actual distance, play as distance, the slope of the green, as well as the amount of break so you know how each parameter changes throughout slope and distance.

<b>LENGTH</b>	<b>0.6 m</b>
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<b>PLAY AS</b>	<b>0.8 m</b>
----------------	--------------

<b>APEX</b>	<b>46%</b>
-------------	------------

<b>BREAK</b>	<b>2" outside left edge</b>
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<b>LAUNCH SPEED</b>	<b>1.1 m/s</b>
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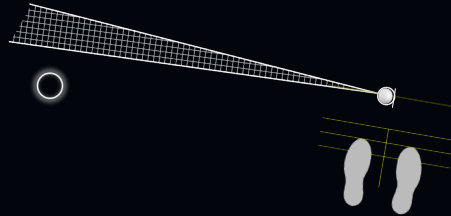
<b>CAPTURE SPEED</b>	<b>0.5 m/s</b>
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# Example putts



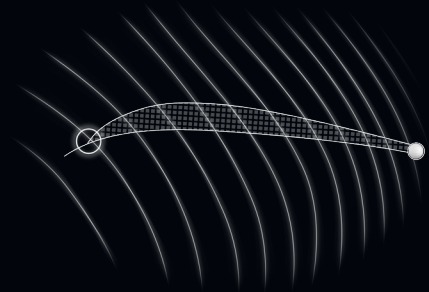
## **Ideal Line + Aiming Line**

The Ideal and Aiming Lines show you the two versions to visualize a putt. The Ideal Line is the actual path of the ball, while the Aiming Line shows the straight line you will have to aim at.



## **Aiming Line Corridor + Setup Lines**

The Aiming Line Corridor visualizes all possible Aiming Lines with their corresponding speeds. Speed options vary from dead-weight speed to 3ft past. The Setup Lines visualize a neutral stance for golfers.



## **Ideal Line Corridor + Contour Lines**

The Ideal Line Corridor visualizes all possible ideal lines with their corresponding speeds. The Contour Lines help improve your visual perception of break and therefore your green reading skills.

# Companion App



# Download Companion App

Open the Apple App Store or Google Play Store on your device. Search for „PuttView X: Companion“ and look for the official app with the PuttView X logo. Tap the „Install“ or „Get“ button, and the app will automatically download and install on your device.

Once the installation is complete, you can locate PuttView X: Companion app on your device's home screen or app drawer.



# Connect Companion App with PuttView X

Make sure that PuttView X and the smartphone are connected to the mobile router. This can be seen by a small 2 on the WiFi signal on the router once it is fully booted. The order in which devices need to be turned on first is not important anymore.



Micro-USB  
charging port

Power button

Long press to start and shut down.

# Your personal assistant

The Companion App lets you control all visuals of PuttView X through your smartphone. Amend or adjust the features for the user depending on what you would like them to see through the glasses. Green speed, power, and handedness can also be set through the app. Screen casting enables the app user to see everything that is seen by the PuttView X user live.



# Screen casting

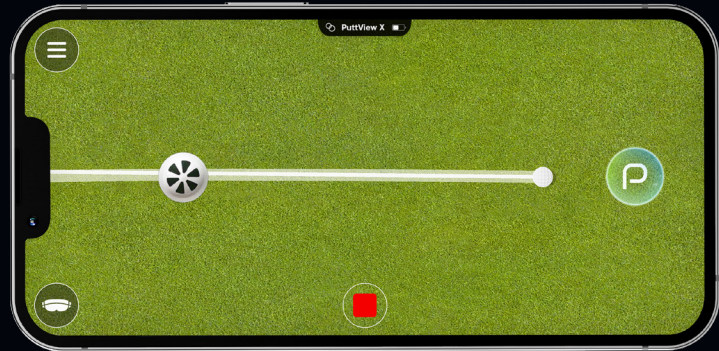
For screen casting it is important that PuttView X is connected to the router. If this is the case, you can press the screen casting button on your smartphone and wait, until a message is shown that the phone and the glasses are connected to each other. Now you can see everything that the PuttView X user sees.



Performance is reduced  
when using screen casting.

# Record PuttView X inside view

You can easily record a player's putt through PuttView X and download the files to your smartphone. This feature allows students to later see what they were doing during a specific putt or lesson or share their experience with their friends. Recording can be started in the settings menu or on the smartphone by pressing the red record button.



# Troubleshooting

# Troubleshooting (1/4)

Issue	Reason	Solution
„The putt you have chosen exceeds the 10m / 33 feet limit. Set a new ball or new target to continue.“	Putts are limited to a max distance of 10m / 33 feet.	Choose a ball or target so that the resulting putt is less than 10m / 33 feet limit.
“The putt you have chosen is under the 30 cm / 1 foot limit”	Putts are limited to a min distance of 30cm / 1 feet.	Choose a ball or target so that the resulting putt is more than 30cm / 1 feet.
“Look at the ground while moving slowly around your desired putt. Then try again.”	The putt could not be calculated. The green data was not sufficiently scanned by PuttView X.	Walk from ball to target, then back to the ball. Slowly look at the line of the putt and its direct vicinity while walking. Stand right above your target and gaze straight down. Say “Hey PuttView” and align the cursor directly with the hole.
“Please make sure that at least one of the dots is green.”	<ul style="list-style-type: none"><li>• The green data was not sufficiently scanned by PuttView X.</li><li>• You tried to set the ball on an obstacle.</li></ul>	Walk around the desired position and slowly look around the green. Extend the radius around the position if necessary.

## Troubleshooting (2/4)

Issue	Reason	Solution
"Please look at the ball or target while moving slowly around it. Valid positions are shown on the ground as a ball and target with four green dots."	The putt could not be calculated. The green data was not sufficiently scanned by PuttView X.	Walk from ball to target, then back to the ball. Look slowly at the line of the putt and its direct vicinity while walking. Avoid making sudden head movements.
"The aiming line corridor could not be calculated. Please try scanning more of the green around the aiming line."	The aiming line corridor needs more scanned area to the sides of the putt.	Scan more around the side of your desired putt.
"The ideal line corridor could not be calculated. Please try scanning more of the green around the ideal line."	The ideal line corridor needs more scanned area to the sides of the putt.	Scan more around the side of your desired putt.



# Troubleshooting (3/4)

Issue	Reason	Action by PuttView X
My lines are not displayed correctly.	<ul style="list-style-type: none"> <li>• The green scan might not be accurate enough.</li> <li>• There might be obstacles inside the putt that corrupt the scan.</li> <li>• Green speed is not set accurately.</li> </ul>	Remove all obstacles within the putt line. Check the green speed in the settings menu. Walk to the ball and look at the complete putt. Gaze downwards while walking slowly from ball to target and back. Then, try to set the ball again. If nothing helps press rescan green in the settings menu.
Ball does not follow the displayed line.	<ul style="list-style-type: none"> <li>• There might be obstacles inside the putt that corrupt the scan.</li> <li>• Green speed is not set accurately.</li> <li>• Imperfections in the green.</li> </ul>	Remove all obstacles within the putt line. Set green speed in the settings menu. Then, try to set the ball again. Imperfections or damages of the green (e.g., pitch marks) can not be accounted for.
The target is moving / not set up correctly.	<ul style="list-style-type: none"> <li>• The target might have been set up from too far.</li> </ul>	Scan a larger area. This will establish more reference points and helps PuttView X to stay stable.

# Troubleshooting (4/4)

Issue	Reason	Action by PuttView X
I can't place a new ball/target, even though I know it is a valid ball position.	The data of the surrounding seems to be incorrect at the desired position.	Try to scan the area around that position by standing close to the putt line and looking at the ground. A position can only be set if you can see the cursor and at least one dot is green. It helps to press rescan green in the settings menu.
PuttView X turns itself off automatically, even though the battery is charged.	PuttView X might be overheated.	Let your PuttView X cool down. Then use the heat deflectors to prevent overheating.



Since the product is still under development, the troubleshooting area is also growing. For further help have a look at [www.puttview/support](http://www.puttview/support).

# Technical support

## Europe, Middle East and Asia

Monday to Friday: 09:00 – 21:00 (CET/CEST)

+49 40 423 06777

[support@puttview.com](mailto:support@puttview.com)

## USA

Monday to Friday: 6:00 AM – 3:00 PM (EST)

+1 917 267 7815

[support@puttview.com](mailto:support@puttview.com)

# PUTTVIEW

UPGRADE YOUR GAME

[www.puttview.com](http://www.puttview.com)

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