2-Finger Twist Gesture/Rotor

Action

- The **2-finger twist** is used to navigate through items in the **rotor**.
- Twisting clockwise moves to the next item in the rotor.
- Twisting counterclockwise moves to the previous item in the rotor.

Why Is The 2-Finger Twist/Rotor Gesture Important?

- The **2-finger twist gesture** moves to the next or previous item in the rotor.
- The **rotor** is a virtual popup menu that allows VoiceOver users to adjust settings and access additional commands quickly from any app, anywhere.

What Is The Rotor?

- The rotor provides a quick way to adjust settings without finding and navigating through standard buttons and menus.
- The rotor is a virtual control that functions like a physical dial, such as an old-fashioned radio dial.
- The rotor is only available when VoiceOver is on.
- Each 2-finger twist will move to the next/previous option in the menu.
    - Make the rotor gesture multiple times to move through all the items available in the rotor.
- The 1-finger swipe up/down gestures are used to adjust the rotor action.
    - Depending on the current rotor option, the 1-finger swipe up will increase or decrease the option, or the 1-finger swipe will provide additional actions.
- Example:
    - Perform the **2-finger twist** until you hear "speech rate."
    - Use a **1-finger swipe up** to increase speed or a **1-finger swipe down** to decrease it.
- The rotor is always available when VoiceOver is on, but it only visually appears briefly after performing the 2-finger twist.
    - Any time a 1-finger swipe up or down is performed, the last item in the rotor (or the app's default rotor setting) will be adjusted – even when the 2-finger twist gesture was not performed first.
    - Since the VoiceOver Playground app is specifically designed to teach VoiceOver gestures and skills, the rotor is intentionally disabled, except for lessons and games that specifically focus on rotor-related skills.
- The items in the rotor vary by app—app developers define which options appear.

The VoiceOver Playground app does not require customization; however, if desired, advanced users can customize rotor settings by going to:

Settings > Accessibility > VoiceOver > Rotor

Prerequisites

- 2-finger swipe up/down
- 2-finger tap

Warm Up Activities

- Twist Cap Activity

Physical Gesture

- **Common method:**
  - Make a **fist** and extend the index finger and thumb.
  - Place both digits on the screen simultaneously and twist about a quarter turn.
  - Clockwise = next item, Counterclockwise = previous item.

Modifications

The rotor gesture can be physically challenging for some people, especially for young children. Here are additional options for creating the rotor gesture:

- **Right finger down / left finger up:**
  - Use the index finger of each hand.
  - Place the right index finger near the top on the right and left index finger near the bottom on the left of the screen. Fingers should be about 1 inch (2.5 cm) apart.
  - Drag the right finger down while dragging the left finger up.
- **Draw a half-circle:**
  - Use both index fingers to trace half a circle on the screen with the left finger following the right finger.
- **Thumb and swipe method:**
  - Anchor the thumb on the screen while swiping the index finger in a curved motion.
  - The thumb and index finger should simultaneously touch the screen.
- **Braille Display Method:**
  - If the rotor gesture is physically difficult to perform, use a braille display which requires pressing two keys to produce the rotor command.

Common Issues

- **Gesture not recognized:**
  - **Cause:** Holding one or both fingers on the iPad.
    - **Fix:** The rotor gesture is a moving gesture and should be performed quickly.
- **Only one finger is interpreted:**
  - **Cause:** One finger or thumb touching the iPad first.
    - **Fix**: Both digits should touch the iPad simultaneously.
- **Pinch gesture is recognized**:

    - **Cause**: If the fingers come together or if the fingers move apart, the iPad will recognize this as a pinch in or pinch out gesture.
    - **Fix**: Maintain the same distance between the fingers.
    - **Tip:** Practice by hold a **plastic bottle cap** between the thumb and index finger while twisting.
        - Holding the bottle cap will keep the child's fingers from moving together or apart while making the twist gesture.
- **Long fingernails interfere:**
    - **Cause:** The pad of the finger/thumb is not making contact.
        - **Fix:** Ensure the pads of the thumb and finger touch the screen.
        - **Tip:** Long fingernails may interfere with making this gesture – a fingernail will not activate the iPad's screen.

Earcon

- The **rotor gesture** plays a clicking sound.
- Each twist produces one click, signaling movement to a new rotor option.
    - The rotor earcon is a mechanical tick or click, while the moving to next/previous item earcon is quicker and sharper clicking sound.

Lessons

Lesson 1: 2-Finger Twist

- **Goal**: Learn to perform the clockwise and counterclockwise 2-finger twist gestures.
- **Screen Layout**:
    - Three ballet dancers are in the middle of the screen.
- **Breakdown**:
    - The child performs a 2-finger twist to help the ballerinas to spin and twirl.
    - Turning clockwise and counterclockwise helps the ballerinas dance; a different musical sound is heard each time.
    - The lesson is completed when the child performs 2-finger twist clockwise and counterclockwise twice.

This structured approach ensures children develop proficiency in the 2-finger twist gesture, which is the first step in using the rotor feature.