How To Do The DJI Dolly Zoom

The Dolly Zoom, also known as the Vertigo effect, is a cinematic technique that can be achieved with a DJI Mini 4 Pro drone using its Waypoint feature. This technique involves simultaneously changing the drone's distance from a subject and adjusting the camera's zoom, creating a disorienting effect where the background appears to expand or contract while the subject remains relatively the same size.

Historically, DJI had incorporated the Dolly Zoom into its app for some drones, such as the Mavic Zoom, but it is not a standard feature in all current models, like the Mini 4 Pro, requiring users to create it manually using Waypoints. Source video: https://youtu.be/Angm7GvHVYk

Performing the Dolly Zoom with DJI Mini 4 Pro:

1. Preparation and Settings:

Before taking off, access the drone's settings, navigate to "Camera" and then "Grid lines". Enable both the cross and lines on the grid lines display. This helps in precisely setting up the Waypoints, as the effect requires the two Waypoints to be "virtually exactly the same" to work properly.

2. Drone Positioning and Waypoint Creation:

Get the drone up in the air to a suitable height. Set the first Waypoint (Waypoint 1) by pressing the C1 button on the controller. This records the drone's current position.

Fly the drone backwards a short distance. Set the second Waypoint (Waypoint 2) by pressing the C1 button again. You should now have two Waypoints established.

3. Configuring Waypoint Settings:

Waypoint 1:

Access the settings for Waypoint 1.Set a "camera action" to "start recording". Adjust the speed. A suggested speed is around 12 (units not specified, but likely m/s or a relative value).

Waypoint 2:

Access the settings for Waypoint 2. Verify the speed is set as desired (it might automatically match the global speed or the previous Waypoint's setting). Scroll to adjust the camera's zoom to 4x. Set a "camera action" to "stop recording".

4. Executing the Mission:

Go back from the Waypoint settings and press "Next," then "Go". The drone will automatically return to Waypoint 1, start recording, and then fly towards Waypoint 2 while zooming, creating the Dolly Zoom effect.

Upon reaching Waypoint 2, it will stop recording.

5. Reviewing and Refining:

After the mission, the drone will typically return to home or land, depending on the end-of-flight settings. You can view the recorded footage directly on the controller.

The process often requires "trial and error" and "experimenting" to get the desired effect. Factors like the drone's speed and the distance between Waypoints significantly influence the outcome.

If the effect is not perfect, you can re-enter the Waypoint mission, adjust settings (e.g., ensuring recording stop at Waypoint 2), save and exit, and then re-execute the mission.

Tips and Considerations:

Obstacle Avoidance: When flying Waypoint missions, obstacle avoidance settings should be set to "Bypass" or "Break," but importantly, not "Off". If an obstacle is detected during a Waypoint mission, the drone will "break" (stop) rather than bypass it, unlike manual flight. This is because Waypoint missions are often designed for repeatable flight patterns, and an obstruction indicates a need for awareness and route checking.

Experimentation: The Dolly Zoom technique is highly dependent on experimentation and fine-tuning, as factors like drone speed and Waypoint distance greatly impact the final effect.

Weather Conditions: It is advisable to avoid performing this technique on windy days, even though the Mini 4 Pro is capable, to achieve the best results.

Visual Alignment: The grid lines help ensure precise alignment between the two Waypoints, which is crucial for a successful Dolly Zoom effect.

POI (Point of Interest): While not directly used in the Dolly Zoom explanation, Waypoint missions can utilize a Point of Interest (POI) feature where the drone's camera aims at a specific location throughout the flight, even adjusting its heading and altitude to maintain focus. The altitude of the POI is where the camera will aim, and adjusting it can significantly affect framing.

Mission Control: During a Waypoint flight, pushing the control stick forward will make the drone fly faster, but pulling it backward will only cause it to brake and stop, not fly slower. Moving the stick left or right has no effect on the drone's path during a Waypoint mission.

Editing Waypoints: Waypoints can be added at the end of an existing sequence, or existing Waypoints can be repositioned. Individual Waypoints can also be deleted.

Mission Start: A Waypoint mission can be started from any designated Waypoint, not just the first one.