**Prompt-based Object Detection with Gemini 2.0.txt**

**Workflow: Post New YouTube Videos to X**

**Overview**

This workflow is designed to automatically post new YouTube videos to the social platform X (formerly Twitter). It retrieves the latest video from a specified YouTube channel, generates an engaging post using OpenAI's GPT-3.5-turbo model, and publishes the post to X using the Twitter node.

**Key Components**

1. **Schedule Trigger ("Check Every 30 Min")**  
   The workflow is triggered every 30 minutes. The **"Check Every 30 Min"** node is configured to poll for new videos at this interval.
2. **YouTube Integration ("Fetch Latest Videos")**  
   The **"Fetch Latest Videos"** node queries the YouTube API to retrieve the most recent video from a specified channel. It filters videos based on the channel ID and the publication time (within the last 30 minutes).
3. **Post Generation ("Generate Post for X with ChatGPT")**  
   Once a new video is detected, the **"Generate Post for X with ChatGPT"** node uses OpenAI's GPT-3.5-turbo model to generate an engaging post. The prompt instructs the AI to write a tweet of no more than 140 characters that includes the video title, description, and a link to the video.
4. **Publishing the Post ("Post to X")**  
   The generated post is then sent to X (Twitter) using the **"Post to X"** node, which is configured with the appropriate authentication credentials.
5. **Helper Information ("Sticky Note", "Sticky Note1")**  
   The workflow includes sticky note nodes that provide contextual information and setup instructions for users. These notes explain the importance of entering the correct YouTube Channel ID, and they provide additional setup tips.

**Data Flow**

1. **Trigger:**  
   The workflow is initiated either manually or on a schedule via the **"Check Every 30 Min"** node.
2. **Fetching Video:**  
   The **"Fetch Latest Videos"** node retrieves the latest video from the specified YouTube channel.
3. **Generating Post:**  
   The retrieved video data (including video ID, title, and description) is passed to the **"Generate Post for X with ChatGPT"** node, where GPT-3.5-turbo creates an engaging social media post.
4. **Publishing:**  
   The generated post is published to X using the **"Post to X"** node.

**Setup Instructions**

1. **YouTube Integration:**
   * Ensure that you have configured your YouTube OAuth2 credentials correctly in n8n.
   * Enter the correct YouTube Channel ID in the **"Fetch Latest Videos"** node.
2. **Twitter Integration (X):**
   * Configure your Twitter (X) OAuth2 credentials in n8n.
   * The **"Post to X"** node should be set up with the correct credentials and target channel.
3. **OpenAI Integration:**
   * Make sure that your OpenAI API credentials are set up properly.
   * Adjust the prompt in the **"Generate Post for X with ChatGPT"** node if you need to customize the post generation.
4. **Schedule Configuration:**
   * The **"Check Every 30 Min"** node triggers the workflow at 30-minute intervals. You can adjust this interval if needed.
5. **Testing:**
   * Use the manual trigger or wait for the scheduled execution.
   * Verify that the generated post includes the video title, description, and link, and that it adheres to the 140-character limit.

**Troubleshooting**

* **No Video Retrieved:**
  + Ensure that the channel ID in the **"Fetch Latest Videos"** node is correct.
  + Verify that there is a new video uploaded within the polling interval.
* **Post Generation Issues:**
  + If the AI-generated post does not meet your expectations, consider refining the prompt in the **"Generate Post for X with ChatGPT"** node.
* **Authentication Errors:**
  + Check your OAuth2 credentials for YouTube, Twitter (X), and OpenAI to ensure they are correctly configured and valid.

**Additional Resources**

* YouTube API Documentation
* [Twitter API Documentation](https://developer.twitter.com/en/docs/twitter-api)
* [OpenAI API Documentation](https://platform.openai.com/docs)
* [n8n Documentation: HTTP Request Node](https://docs.n8n.io/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/)