

**NED UNIVERSITY OF ENGINEERING AND  
TECHNOLOGY**



# **N8N – SOCIAL MEDIA POSTING AUTOMATION**



**Submitted By:**

Usman Rasheed Siddiqui

Noor Ul Ain Amin

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## 1 Project Overview

This project implements an **n8n-based Social-Media Posting Automation Workflow** designed to streamline, validate, approve, and publish content across multiple social media platforms. The workflow ensures that all posts follow organizational guidelines through structured approvals, automated checks, and error handling before being published.

The system supports **official and non-official posts**, integrates approval hierarchies, and enables seamless posting to **Instagram, Facebook, and LinkedIn** with proper caption formatting and media validation.

Additionally, it provides **real-time feedback to users** when errors occur, helping maintain content quality and compliance.

## 2 End-to-End Benefits

- **Centralized Social Media Management**  
Single workflow to manage posting across multiple platforms.
- **Structured Approval Process**  
Reduces the risk of unauthorized or incorrect content being published.
- **Rule-Based Validation**  
Automatically enforces official post guidelines (image dimensions).
- **Real-Time Error Feedback**  
Sends email notifications to users when:
  - Images are private or invalid
  - User tries to make an official post while not following official post's image guidelines
  - Drive link does not contain an image
  - URLs are incorrect or not from Google
  - Any other issue occurs during the workflowThis ensures users are aware of mistakes and can correct them promptly.
- **Time Efficiency**  
Eliminates manual back-and-forth between content creators and administrators.
- **Error Handling & Reliability**  
Detects and manages failures gracefully without breaking the workflow.

- **Transparency & Tracking**

Updates **Google Sheets** with:

- Form submissions (media link, platform, media status, post type, media link, publisher status, approval, time)
  - Event logs (post IDs, success/failure, timestamps, date and time)
- Each post has a **unique ID** for tracking and updates during the workflow.

- **Flexible Content Formatting**

Supports:

- Bullet points
- Paragraph-based captions
- Platform-specific caption formats

### 3 How the Workflow Works

#### 3.1 User Form Submission

- The workflow begins by prompting the user to **fill out a Form** containing:
  - Post Title text
  - Caption text
  - Media Link
  - Email
  - Platform selection (Instagram, Facebook, LinkedIn)
  - Post type (**Official** / **Non-Official**)

#### 3.2 Initial Validation & Classification

- Checks whether all required fields are filled.
- Determines if the post is **Official** or **Non-Official**.
- Validates media links:
  - Detects invalid or private Google URLs
  - Verifies image dimensions for official posts
- **If an error occurs** (invalid URL, private media, official post rule breaking, etc.):
  - Sends an email to the user explaining the issue

- Asks the user to correct and resubmit
- Updates the tracking sheet with the error status

### 3.3 Approval Routing Logic

#### For Official Posts

- Verifies image coordinates (**1280 x 1280**) according to official posting guidelines.
- **If requirements are met:**
  - Post moves to the next stage for posting process
- **If requirements fail:**
  - Sends email to the user detailing the error.
  - Updates Google Sheet with status.
  - Stops or redirects for correction.

#### For Non-Official Posts

- Post is routed without strict image validation.

### 3.4 Admin Approval Stage

- Admin reviews the post:
  - **If approved:**
    - Workflow proceeds to social media publishing.
  - **If rejected:**
    - Email notification sent to the user.
    - Status updated in Google Sheet.

### 3.5 Social Media Posting

- Publishes posts on selected platforms:
  - Instagram
  - Facebook
  - LinkedIn
- Handles:
  - Caption formatting (paragraphs, bullet points or hashtags)

- Platform-specific requirements
- Media upload and attachment

### 3.6 Error Handling & Logging

- Errors during posting (API failures, media issues, etc.) are:
  - Logged in the **event log sheet**
  - Email notifications sent to the user with details of the failure
  - Google Sheet updated with failure status

### 3.7 Final Status Update & Tracking

- **Google Sheet** is updated with:
  - Media link, platform, post status
  - Admin remarks
  - Publisher status
  - Media status
  - Time
  - Event logs (post ID, timestamps, success/failure, time)
- Each post has a **unique ID**, ensuring all updates, corrections, or re-submissions are accurately linked and tracked.

### 3.8 Automated Rejection and Remarks

In case user makes following mistakes:

- Non-official post image in an official post image
- Wrong media Link

The admin remarks are filled in automatically with the error message and the Approval is automatically set to “No”

## 4 Future Enhancements

The workflow is designed to be scalable and adaptable. Planned additions include:

- **Multiple Photo Uploads**

Allow users to upload more than one image per post, handling galleries or carousel formats.

- **Scheduled Posting**

Enable posts to be published at specific dates and times for better content planning.

- **Comments Management**

Automatically track, moderate, or respond to comments on published posts (subject to API capabilities).

- **Mentions Handling**

Detect and process mentions/tags in captions or comments (if social media APIs allow).

- **Enhanced Error Handling & Logging**

Include advanced checks for scheduled posts, multiple images, or API limitations.

- **Scalable Reporting**

Extend Google Sheets or event log to track additional attributes such as scheduled time, number of images, mentions, and comment actions.

## 5 Workflow Working Snapshots

### 5.1 Form Filling

The figure consists of two side-by-side screenshots of a web form titled "Social Media Post Form". The form is designed for requesting approval for social media content. The left screenshot shows the top half of the form with the following fields filled: "Post Title" is "CIS Community – Coders Arena (General Post)", "Caption" contains several hashtags (#CISCommunity, #CodersArena, #CodeTogether, #LearnToBuild, #ProgrammingCommunity, #TechStudents), and "Email" is "siddiqui.uas1@gmail.com". The right screenshot shows the bottom half of the form with "Media Link" as a Google Drive URL, "Target Platform" with checkboxes for Facebook, Instagram, and LinkedIn all checked, and "Post Type" with the "Official" radio button selected. A red "Submit" button is at the bottom of the right form. At the very bottom of the right screenshot, it says "Form automated with n8n".

Figure 1: Form filling

## 5.2 Automated Google Sheet Appending



dad8-45ea-9298-9b6	14-12-2025	 CIS Community - Official	<p>Welcome to Coders Arena, where ideas turn into code</p>  <p>What we focus on:</p> <ul style="list-style-type: none"> <li>• Learning by building</li> <li>• Collaborative coding</li> <li>• Real-world problem solving</li> </ul> <p>Join the arena. Level up your skills.</p> <p>#CISCommunity #CodersArena #CodeTogether #LearnToBuild #ProgrammingCommunity</p>	<a href="https://drive.google.com">https://drive.google.com</a> Facebook, Instagram, LinkedIn	Done	Done
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Figure 2: Sheet Update

### 5.3 Approval For Social Media Posting

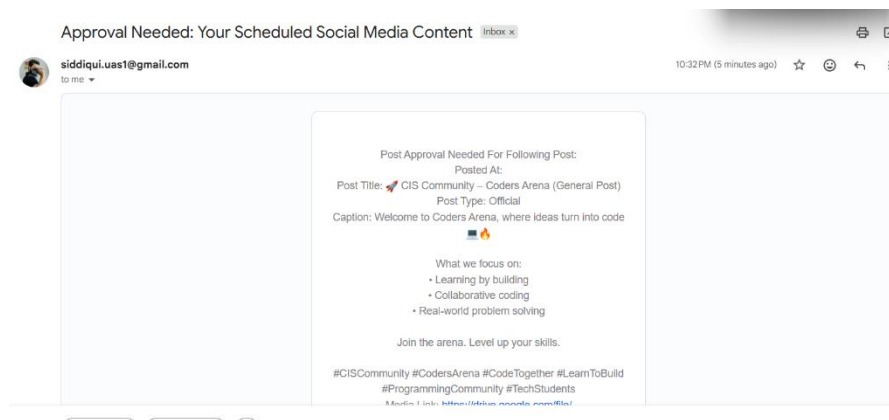


Figure 3: Approval Requirement



## 5.4 Successful Post on Platforms

### 5.4.1 Instagram



Figure 4: Instagram Successful Post

### 5.4.2 LinkedIn

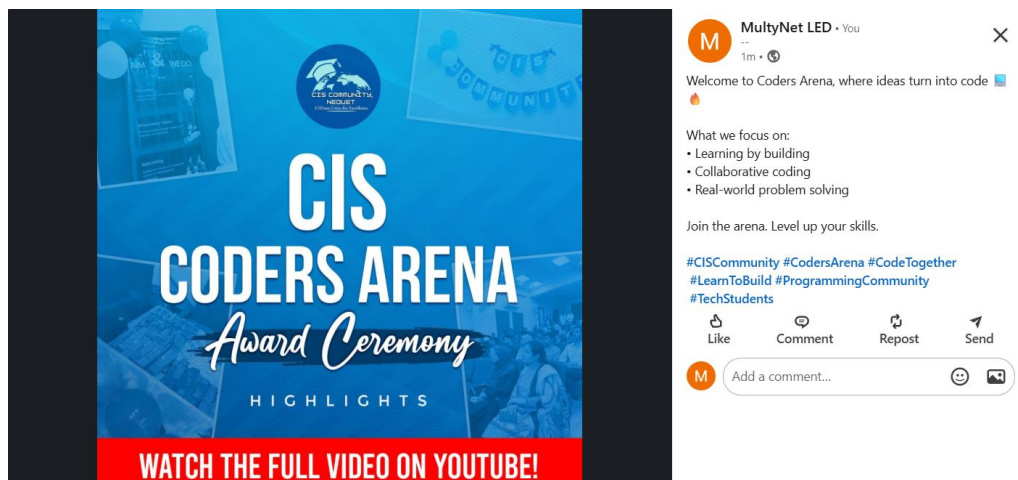


Figure 5: LinkedIn Successful Post

### 5.4.3 Facebook



Figure 6: Facebook Successful Post

### 5.4.4 Event Log Update

5bd9c508-dad8-45ee	Dec 14, 2025 22:39	CIS Community – 18035365205528041	Instagram	Successful
5bd9c508-dad8-45ee	Dec 14, 2025 22:39	CIS Community – 917306958122443_122109630003130890	Facebook	Successful
5bd9c508-dad8-45ee	Dec 14, 2025 22:39	CIS Community – urn:li:share:7406025062530674688	LinkedIn	Successful

## 6 GitHub Repository Link

For the actual workflow, and demonstration video. Use the provided GitHub link below:

[n8n Automation Social Media Content](#)

## 7 Individual Contributions

### 7.1 Usman Rasheed Siddiqui

- Content Hub management (adding and updating content during pre-posting processing)
- Official & Non-Official Post Identification
- LinkedIn Post Publishing via API
- Form-Based Input Collection
- Pre-Posting n8n Workflow Processing
- Validation & Error Handling Before Publishing
- Automated Error Notification Emails (Before Publishing)
- Unique Posting ID Generation

## 7.2 Noor Ul Ain Amin

- Posting on Instagram using Graph Api Integration
- Posting on Facebook using Graph Api Integration
- Updating Event Logs after posting process
- n8n workflow error handling during and after posting process and sending email notifications