

1.0 Objectives of session #1

In this session we'll be exploring workflows, automation, AI and media to give you an all-round feel for workflows. In later sessions we will dig into the details and learn more about tools and technology. If you're not comfortable with coding or maths or drawing or ... any aspect of the course, let the instructor know. There are many different alternatives available to learn the subject.

By the end of the module, you should

- Understand the stages of a typical media workflow and how content moves from cameras to viewers.
- Identify areas where AI tools can enhance efficiency and accuracy within media workflows.
- Gain hands-on experience using real-world AI tools
- Evaluate the role of automation and AI within modern media workflows and distinguish between the two concepts

Understanding Workflows in TV

A workflow is your invisible production assistant. It's the system that watches for specific conditions (triggers), executes a series of technical operations (processes), tracks what's happening (events), records everything for troubleshooting (logs), and produces the files you need (artifacts). Triggers, Processes and Events might involve humans, computers, robots or other workflows.

The text below **assumes** automation to make the text shorter and easier to understand. Humans are often involved in all steps of workflow, so keep that in mind as you read.

 TRIGGER detected



 PROCESS executes



 EVENTS emitted



 LOGS recorded +  ARTIFACTS created

The Five Core Components

1. Triggers: What Starts the Action

A trigger is the "go" button for your workflow. In TV, timing is everything, and triggers are how workflows know when to spring into action. They're the watchful eyes monitoring your infrastructure, waiting for the right moment to kick off automated processes.

What triggers do: They continuously monitor specific conditions and fire when those conditions are met, initiating the workflow process chain.

Live TV Examples:

- **Time-based:** Start recording at 19:59:55 for the 8 PM news broadcast
- **File-based:** New commercial spot uploaded to the ingest folder
- **Signal-based:** GPI trigger from master control at segment transition
- **Event-based:** Live feed goes active from remote location
- **Status-based:** The talent shows up on set and needs to be **managed** so the show is recorded in reasonable time

2. Processes: The Work That Gets Done

Processes are the actual operations that happen once a trigger fires. This is where the real work occurs—encoding video, moving files, switching sources, adjusting audio levels, checking values, moving kit, managing humans. Each process is a discrete step in your production chain, and workflows string these together into reliable, repeatable sequences.

What processes do: They execute specific tasks in a defined sequence, with each step potentially dependent on the success of previous steps.

Live TV Examples:

- **Transcoding:** Convert incoming 4K feed to HD and SD for multi-platform distribution
- **Quality control:** Run checks for black frames, silence, compliance, language or technical glitches
- **Routing:** Switch video path to a backup and sound a loud claxon when a major fault happens
- **Audio processing:** Apply loudness normalization to meet broadcast standards
- **File operations:** Copy as-run logs to archive server and cloud backup

3. Events: Real-Time Status Updates

Events are the workflow's way of communicating what's happening right now. While processes do the work, events broadcast status updates that other systems (and humans) can respond to. They're the running commentary of your automation system, keeping everyone informed. An upstream event is likely to be a trigger to a downstream workflow.

What events do: They emit real-time notifications about workflow state changes, allowing monitoring systems and downstream processes to react immediately.

Live TV Examples:

- **Process started:** "Encode job for evening news package initiated"
- **Progress updates:** "Graphics render 45% complete"
- **State changes:** "Backup feed now active on Program output"
- **Warnings:** "Incoming signal level below threshold on Camera 3"
- **Completion:** "Commercial ingest complete, file ready for playout"

4. Logs: Your Troubleshooting Lifeline

Logs are the permanent record of everything that happened during a workflow execution. When something goes wrong at 3 AM (and it always does), logs are what save you. They capture the who, what, when, and why of every action, giving you the forensic trail needed to diagnose problems and prove what actually occurred.

What logs do: They create detailed, timestamped records of all workflow activities, decisions, errors, and outcomes for debugging and compliance.

Live TV Examples:

- **Timing logs:** Precise timestamps for every workflow step and process execution
- **Error logs:** "Encoder timeout after 30 seconds, retry attempt 2 of 3"
- **Decision logs:** "Selected backup feed due to primary signal loss"
- **Compliance logs:** Complete audit trail for FCC requirements and rights management
- **Performance logs:** Processing times, bandwidth usage, resource consumption

5. Artifacts: The Tangible Results

Artifacts are the actual files, media assets, live feeds, happy talent and outputs that workflows produce. These are the deliverables—the things you can measure, play out, archive, send to clients, or use in the next production step. While processes do the work and logs record what happened, artifacts are ultimately the things of value that workflows create.

What artifacts do: They represent the final or intermediate outputs of workflow processes—the files and media that have business or production value.

Live TV Examples:

- **Media files:** Encoded video files ready for playout or archive (MXF, MOV, MP4)
- **Proxy files:** Low-resolution versions for quick review and editing
- **Playlists:** Generated rundowns with timecodes and segment markers
- **Metadata files:** XML or JSON describing content, rights, and technical specs

- **Reports:** As-run logs, QC reports, closed caption files (SCC, SRT)
- **Graphics packages:** Rendered lower thirds, bugs, and animated elements

How It All Works Together

In live TV production, these five components work as an integrated system. A **trigger** detects your condition (like an incoming feed), which initiates a **process** (such as recording and transcoding). As the process runs, it emits **events** (status updates) while **logs** capture detailed information about every step. Finally, the workflow produces **artifacts** (the actual video files, reports, or data you need).

Understanding these components helps you design better workflows, troubleshoot problems faster, and communicate more effectively with engineering teams. When something goes wrong, you know where to look: Check the logs for what happened, examine the events for when it happened, verify the trigger was correct, review the process steps, and confirm whether the expected artifacts were created.

Complete Example: Breaking News Workflow

Trigger: Director presses "Breaking News" button in control room

Process: Switch graphics package to breaking news theme, trigger lower-third animation, adjust camera preset to newsdesk, ready teleprompter script

Events: "Breaking news mode activated", "Graphics loaded", "Camera 1 repositioned", "Teleprompter ready"

Logs: Timestamped record of button press, all system responses, timing of each action, any errors or warnings

Artifacts: Recorded segment file, as-run log with timing marks, captured stills for social media, closed caption file

Understanding workflows means understanding the language of modern broadcast.

Created for TV technicians who keep the show running.

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Assign To

Edit



Student Pairs - assignment a1.2

1, 16
2, 15
3, 14
4, 13
5, 12
6, 11
7, 10
8, 9

Step 1: get into groups based on the pairings above

Step 2: each group collects 2 post-it pads and pencils

Step 3: receive your random picture

Step 4: write instructions to draw the picture using ONLY the words below (~15 mins)

over, under, above, below

**curve, line, triangle, square, rectangle,
point, edge**

**tiny, small, medium, big, large, huge,
bigger than, smaller than, sharp, gentle,
thick, thin, empty, filled**

**start, end, top, bottom, middle, corner,
corners**

**up, upwards, down, downwards, left,
leftwards, right, rightwards, in, inwards,
out, outwards, angle, vertical, horizontal**

**at, the, in, out, inside, outside, with,
without**

Step 5: when instructed, your instructions will be passed to another group

Step 6: when you have finished drawing - stick your artwork on the wall (~5 mins)

Step 7: Compare the drawing with the original
Step 8: discuss what strategies might work better

Step 9: return the pictures and have another go

Points None
Submitting Nothing

Filter by

All

+View Split Screen

Collapse Threads

Group discussionsGroup discussion

Assign To

Search entries or author...

Sort by

Newest First

View Availability

- Author
- Teacher

Created Nov 5 4:41am | Posted Nov 5 4:41am | Last edited Nov 5 4:41am

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Manage Discussion

Discussion Topic: 1.3 Discussion - An Olympics workflow1.3 Discussion - An Olympics workflow

What happens in each of these boxes? (processes)

What causes those actions to start/stop? (triggers, events)

How do you know it's working? (visibility, observability, metrics, logs, artifacts)

How do you communicate success ? (status)

Reply

Filter by

All

+View Split Screen

Collapse Threads

Group discussionsGroup discussion

Assign To

Search entries or author...

Sort by

Newest First

View Availability

- Author
- Teacher

Created Nov 5 4:44am | Posted Nov 5 4:44am

Published

Manage Discussion

Discussion Topic: 1.4 Discussion - what do you watch1.4 Discussion - what do you watch

How would the different genres & types of content change the Olympics workflow?

Reply

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Assign To

Edit

Student Pairs - assignment a1.5

1, 15
16, 14
2, 13
3, 12
4, 11
5, 10
6, 9
7, 8

Congratulations - You're a producer!



Your job is to design a workflow to create a new version of the clip on the left.

https://youtu.be/GNklozD4s_o



You **can** change the sport, style, format, layout, athlete, number of languages, delivery format etc.

You **can** imagine a budget you're trying to hit - anything from unlimited to student youtube creator.

You **cannot** do any of the work yourself - you're planning a workflow for other people.

You **can** express your workflow in **text**, as a **miro-board**, a paper diagram, a collection of photographs, pencil-on-post-it.

You can use **free** online tools to help - you have around **30 minutes** to prepare your masterpiece

There are no right or wrong answers. Everyone will get 5 minutes to explain their workflow to the group.

Points None
Submitting Nothing

Due	For	Available from	Until
-	Everyone	-	-

 [Rubric](#)

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 Assign To

 Edit



Story Creation with AI Tools

Student Pairs - assignment a1.6

1, 14
15, 13
16, 12
2, 11
3, 10
4, 9
5, 8
6, 7

1 Story Creation

Use an AI chatbot to create a **script** for a news story, no more than 900 characters. This must be based on a real story that actually happened, but please keep it light.

2 Text to Speech

Use Free Text to Speech & AI Voice Generator from [ElevenLabs](#) to create a voice over for this news article.

3 Create a Teaser Video Clip

Use a free account on a video generator like pollo, artist, veo etc. to create short teaser video clip that "represents" the script.

4 Create a Poster for RSS/Listings/PDFs

Use a static image generator like Craiyon.com, gemini, copilot etc. to create a single image that represents your video.

★ Stretch Goal

Link it all together on a single free webhost page like netlify.

Assignment 3 - Story Creation with AI Tools

Points 0

Submitting Nothing

Due	For	Available from	Until
-	Everyone	-	-

 [Rubric](#)

Module #1 Quiz

 This is a preview of the published version of the quiz

Started: Nov 24 at 11:17am

Quiz Instructions

Workflow Basics

Select the **Edit** button to customize your quiz instructions, format, and questions.

*Want to add questions? Select **Edit** and then the **Questions** tab at the top.*

Question 1

1 pts

What is a workflow?

- ☐ A way of getting wok done by dividing it up into dependent processes
- ☐ A plumbing pump that's not broken
- ☐ A special type of accounting system for billing clients
- ☐ A way of using computers to replace humans in the workplace

Question 2

1 pts

Workflows can only ever have one trigger

- ☐ True

☐ False

Question 3

1 pts

Which of the following are process that you might find in a workflow

- ☐ another workflow
- ☐ a file based process like transcoding
- ☐ a hardware process like some physical switching operation
- ☐ a human process like performing a visual QC on a video clip
- ☐ a human process like fetching a mocha coffee for the course leader
- ☐ a silent process like validating the backup feed is available

Question 4

1 pts

Which of the following outcomes might you use events for?

- ☐ triggering another workflow
- ☐ stopping another workflow
- ☐ starting a logging session
- ☐ turning on an warning light
- ☐ updating a progress bar on a screen
- ☐ starting a timer
- ☐ stopping a timer

Question 5

1 pts

What should you do with logs?

- ☐ Read them all - they're important
- ☐ Put them in a bin - nobody reads them
- ☐ Store them in a database
- ☐ Put them in a logging specific database like Prometheus
- ☐ Make them look pretty with a visualisation tool like Grafana
- ☐ All of the above - it depends on the workflow

Quiz saved at 6:17pm

Submit Quiz