

Educational Videos & AI Multimedia

Guest Speaker at Course

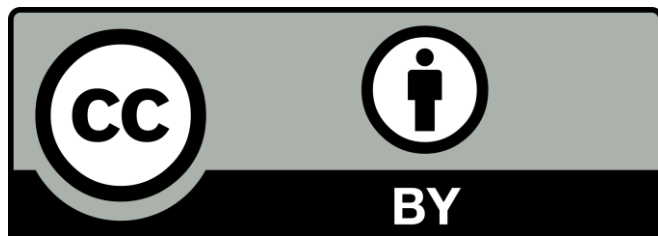
“Educational Technology for Strong Schools” at Asian University for Women (AUW)

Benedikt Brünner | 2024-10-23

Slides and Licence

Slides available at <https://doi.org/10.3217/cb0ex-hsa94>

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ed-tech.at

Outline

1. introduction: Graz University of Technology
2. generative AI in educational videos
3. current research: AI avatars

Graz University of Technology

- Austria, located in the heart of Europe
- diverse array of engineering and scientific programmes
- organizational unit
Educational Technology
- *We care about **e**Education*



TU Graz Campus Alte Technik, Imagesource: www.markus-kaiser.at

Generative AI in Educational Videos

Creating Learning Videos

canvas for collecting ideas

Learning Video Canvas
COLLECTION OF IDEAS FOR THE LEARNING VIDEO

Title of the learning video

Question / problem / motivation
What is being explained and why?

LEARNING GOAL
What should viewers know/be able to do/have done after watching the video?

What needs to be said?

What needs to be visualized?

What needs to be shown?

What needs to be written/shown as a text?

What needs to be repeated?

PRODUCTION AND SCHEDULE

Resources

1. Staff
☐ Expert
☐ Camera person
☐ _____
☐ _____

2. Equipment
☐ Camera
☐ Laptop
☐ _____
☐ _____

3. Places
☐ Studio
☐ Field
☐ _____
☐ _____

Schedule

From _____ to _____
Pre-production (planning, script)

From _____ to _____
Production (recording, audio, video, screencast)

From _____ to _____
Post-production (cutting, finalizing, export)

PUBLICATION

Planned date of publication: _____

Place of publication: 

License:
☐ CC BY 4.0
☐ CC BY-SA 4.0
☐ _____
☐ _____

TO BE CLARIFIED

☐ _____
☐ _____
☐ _____
☐ _____

TARGET GROUP
Who will/should learn with the video?

Prior knowledge
What can be expected?
What can you build on?

Setting
How will people learn with the video?

How is the target group addressed?
"Ladies and Gentlemen..."
"Hey, you!"

Special requirements, e.g. subtitles, simple language, translation

IDEAS FOR IMPLEMENTATION

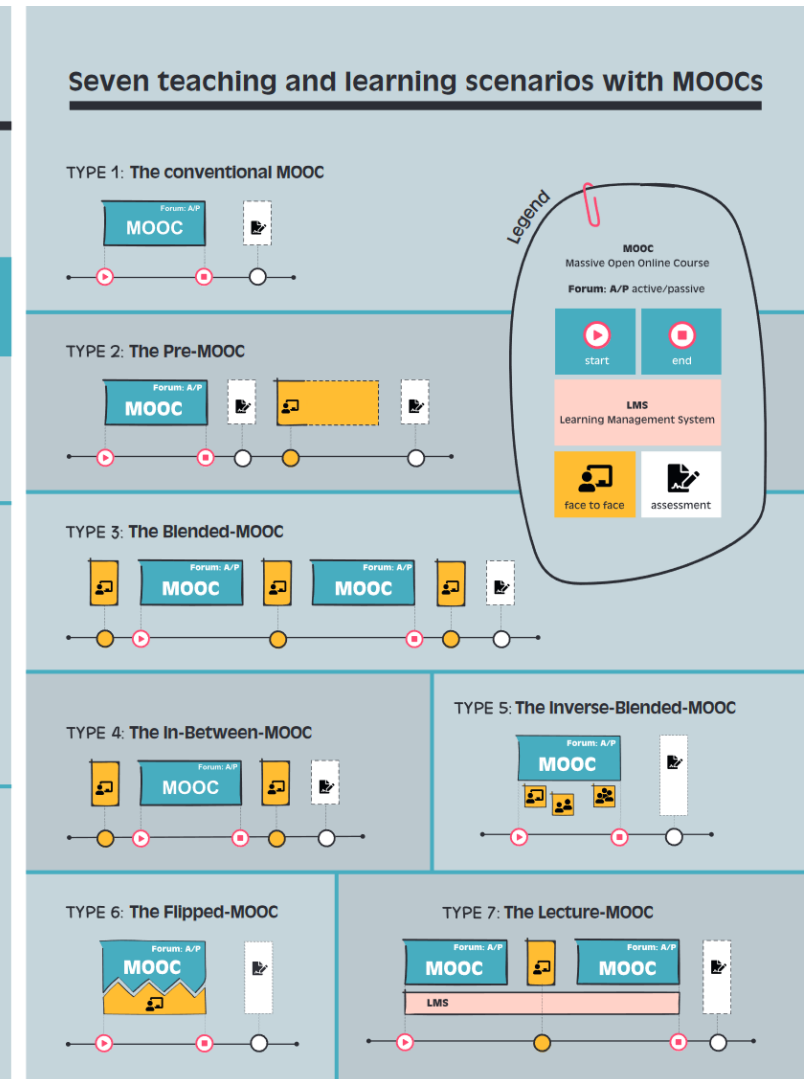
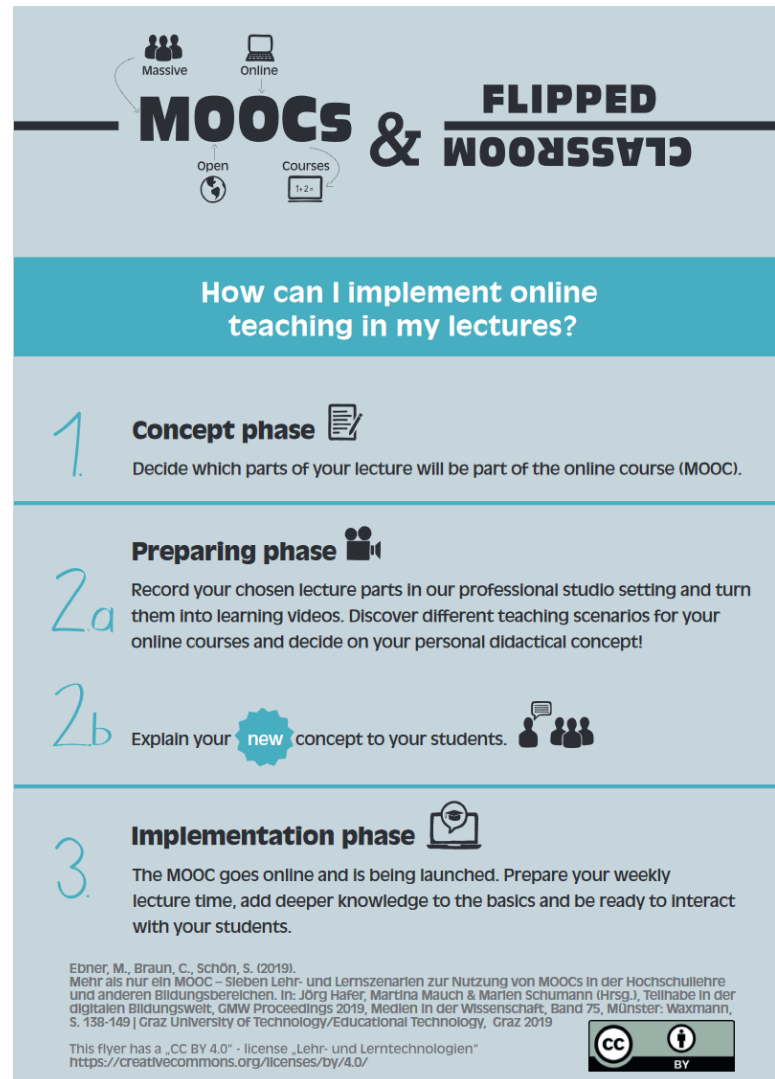
Ideas for the story (on the back)

CC BY 4.0 iMooX.at, version 04/2021, <https://creativecommons.org/licenses/by/4.0>

iMooX.at/page/creator?lang=en CC-BY 4.0 iMooX.at

7 Using Learning Videos

Massive Open Online Courses



elearningblog.tugraz.at/archives/11381 CC-BY 4.0 Lehr- und Lerntechnologien, TU Graz

Generative AI in Educational Videos

- Storyboard
- Assets
- Audio
- Video

Storyboard Generation

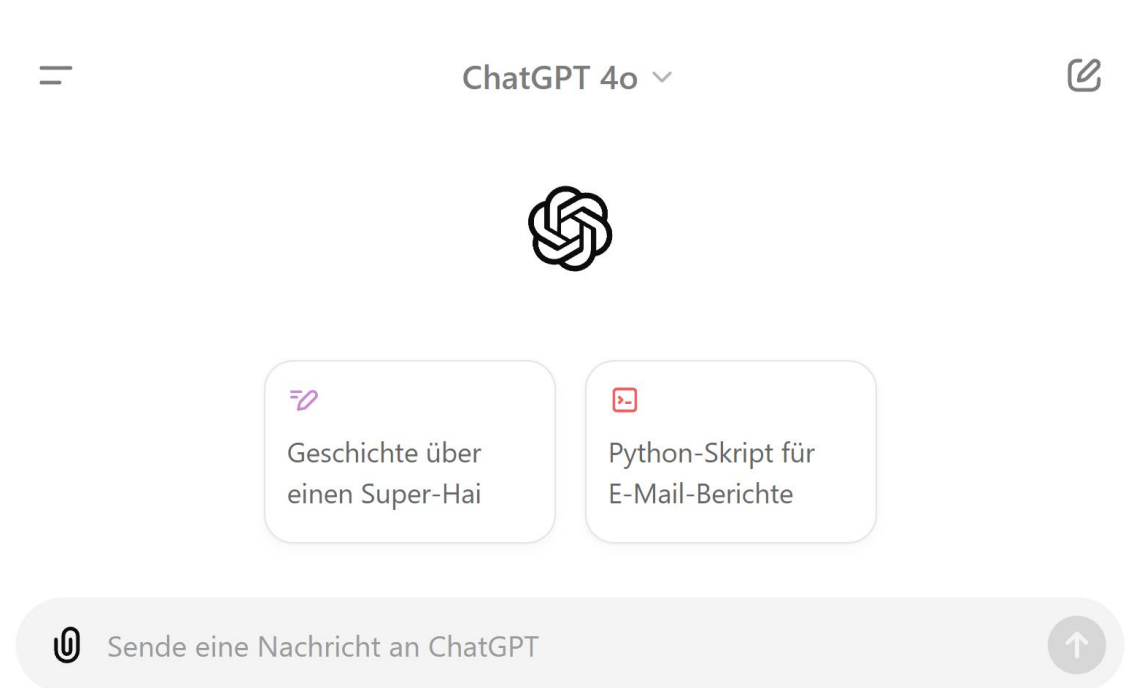
Storyboard Prompt for Educational Video

Title: Understanding the Water Cycle

Objective: To educate viewers on the stages of the water cycle, including evaporation, condensation, precipitation, and collection.

Target Audience: Middle school students (ages 11-14)

Duration: 5 minutes



Screenshot chatgpt.com

Storyboard Translation



Translator ▾



Start free trial

Menu

Translate whole documents

Save time and effort by translating an entire document with one click.

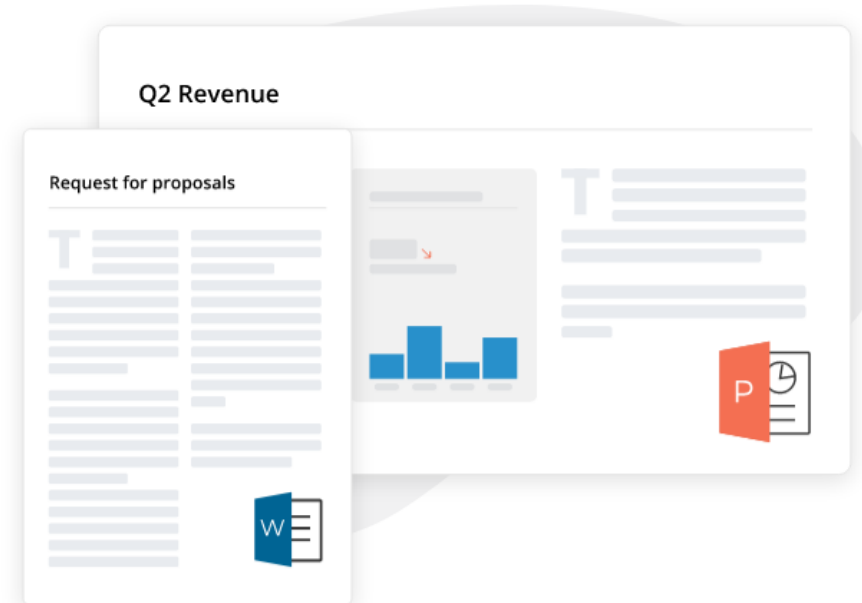
Translate PDF, Word, and PowerPoint files

All translated documents maintain their original formatting. With DeepL Pro, you can also edit translated documents, as well as [translate larger files](#) and [more file types](#).

FEATURE INCLUDED IN

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Screenshot deepl.com

Storyboard to Video



Home Who Uses Pictory ▾ Features ▾ Learn ▾ Business ▾ Pricing Login

Talk To Sales

FREE TRIAL

What Video Will You Create Today?



Script To Video In Just Minutes

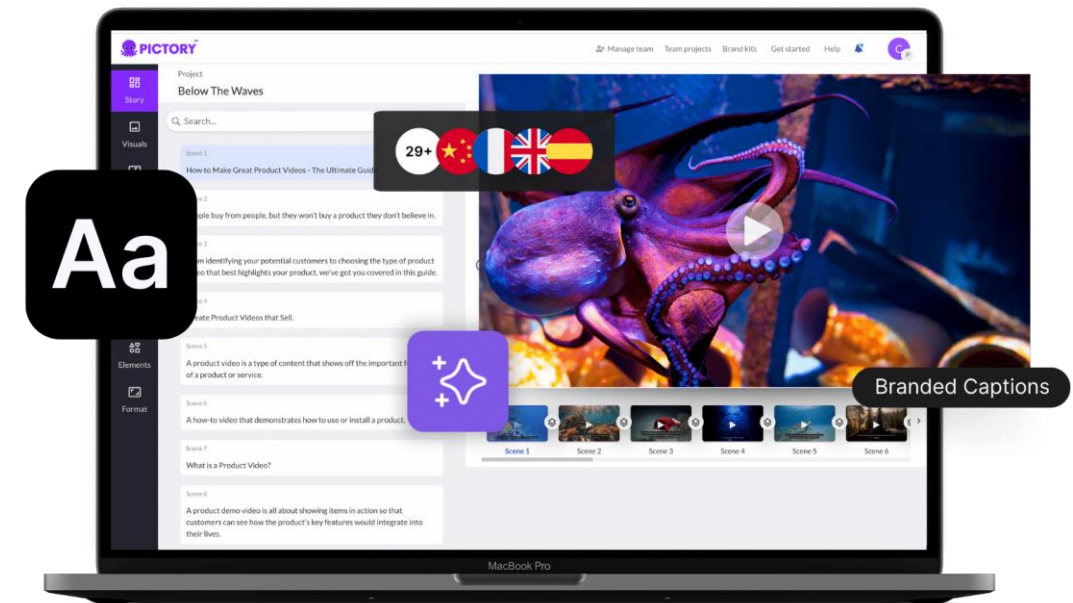
Professional quality videos from your script complete with realistic AI voices, matching footage and music in just a few clicks.

[More Information >](#)

Turn Blog Posts Into Videos For Better SEO and Reduced Bounce Rates

Blog posts automatically become captivating videos both that readers and search engines love.

[More Information >](#)



Screenshot pictory.ai

Storyboard to Video

Result: MOOC [iMooX.at/course/GIKI](https://imoox.at/course/GIKI)

Societech: Die Gesellschaft im Kontext der Informationstechnologie



German Publication: Wenn Künstliche Intelligenz einen kompletten Online-Kurs produziert: Der KI-generierte MOOC „Societech“ [fnma Magazin 03/23](https://fnma.at/magazin/03-2023)

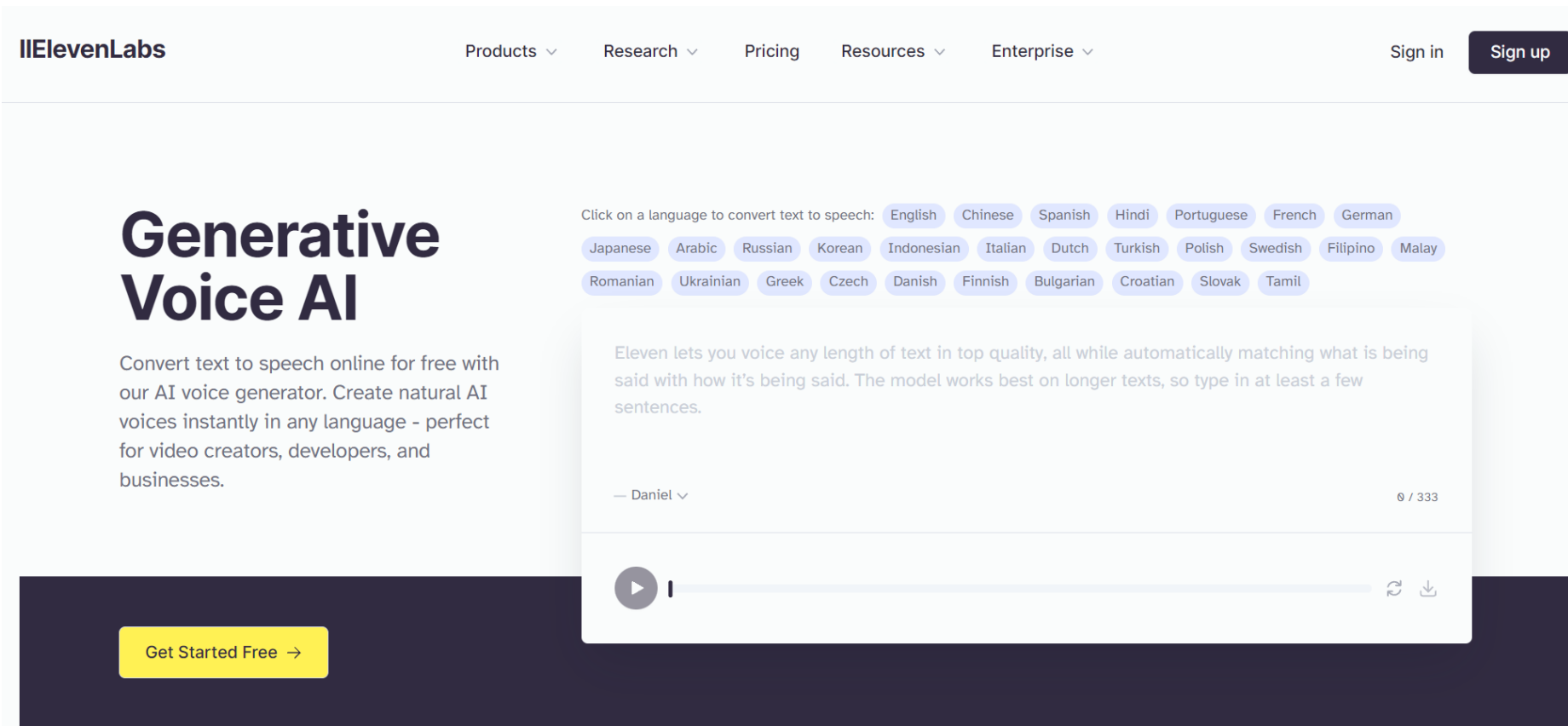
Asset Generation

generate a background image, abstract and colorful, large areas so it does not distract, for an educational video

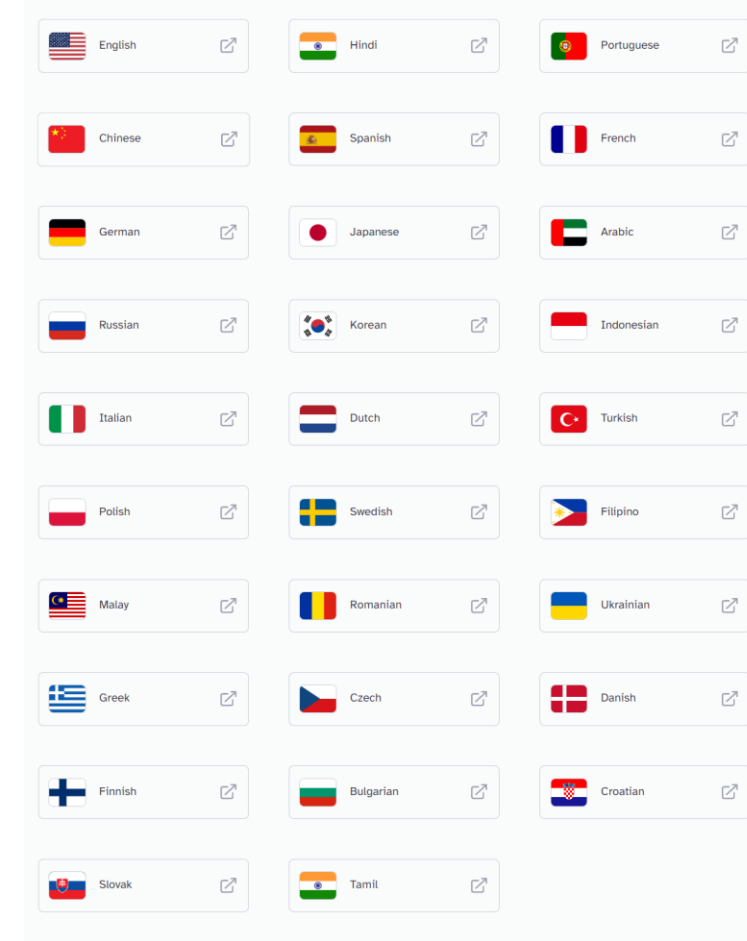


Here is the abstract, colorful background image suitable for an educational video. If you need any adjustments or further customization, please let me know!

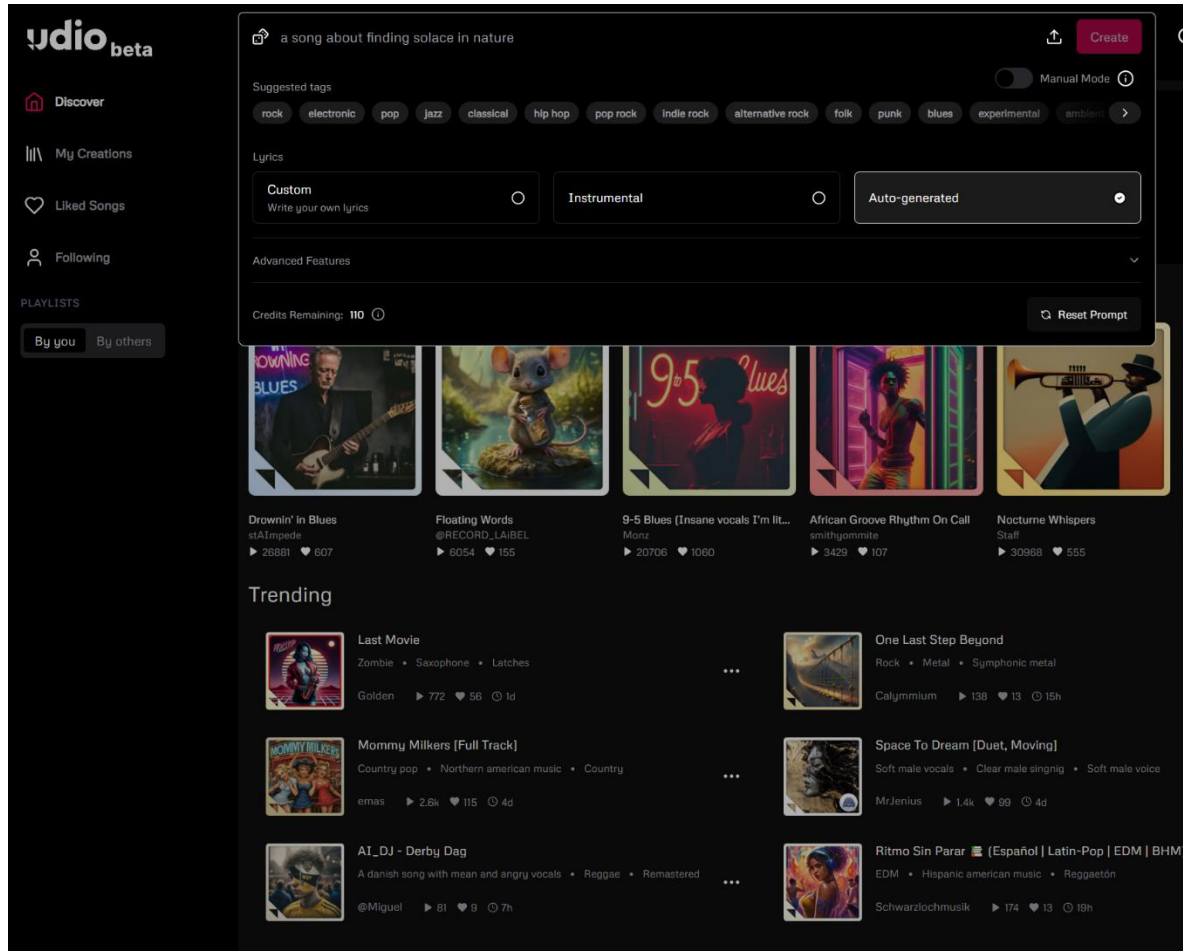
Audio: Text to Speech



Screenshot elevenlabs.io



Music



Screenshot udio.com



Post form

<https://x.com/udiomusic/status/1778045322654003448>

AI Sound Engineer

Our features

Make better audio

Auphonic is your all-in-one audio post production webtool to achieve a professional quality result.

[Listen to our algorithms →](#)



Intelligent Leveler

Balances levels between speakers, music and speech – no compressor knowledge required.



Filtering & AutoEQ

Removes unwanted frequencies and sibilance (De-Esser) and creates a clear, warm, and pleasant sound.



Multitrack Algorithms

Process multiple tracks to create an optimized mixdown - featuring automatic ducking, noise gate and crosstalk removal.



Speech2Text & Automatic Shownotes

Multilingual speech-to-text with auto-generated shownotes and chapters displayed in a shareable transcript editor.



Noise & Reverb Reduction

Define whether Auphonic should remove only static or also fast-changing noises and if we should keep or eliminate music.



Cut Filler Words and Silence

Automatically cut silent segments, pauses, and filler words like "ah", "uhm", "mh", or "ähm" in multiple languages.



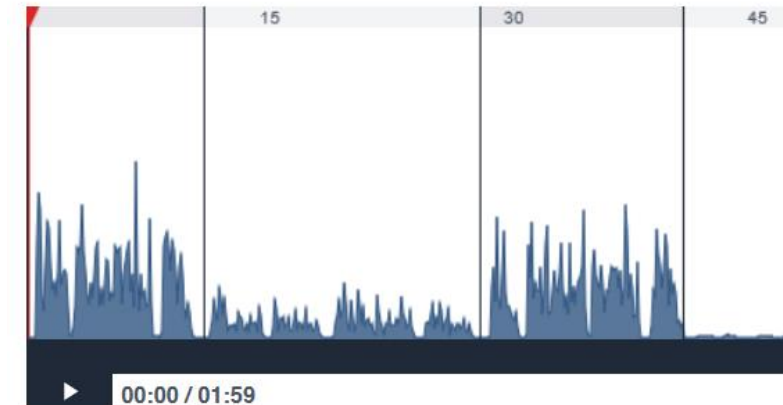
Loudness Specifications

Define a target loudness, true peak limit, MaxLRA and more for consistency across files and compliance with audio specs.

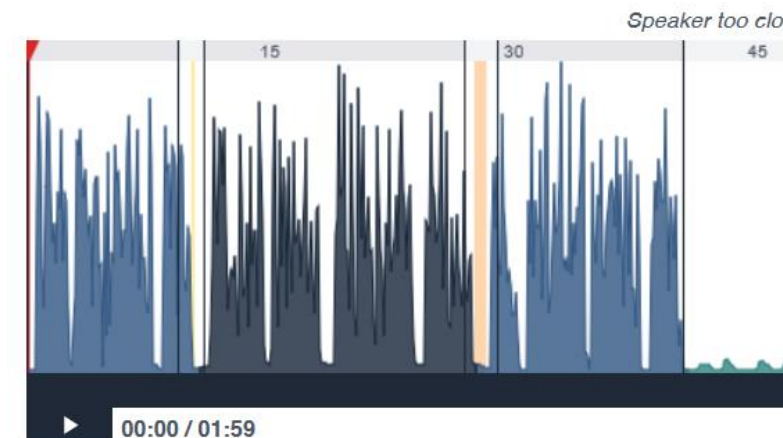


Video Support, Metadata & Chapters

We produce enhanced audio or video podcasts with chapters and waveform audiograms in all output formats you need.

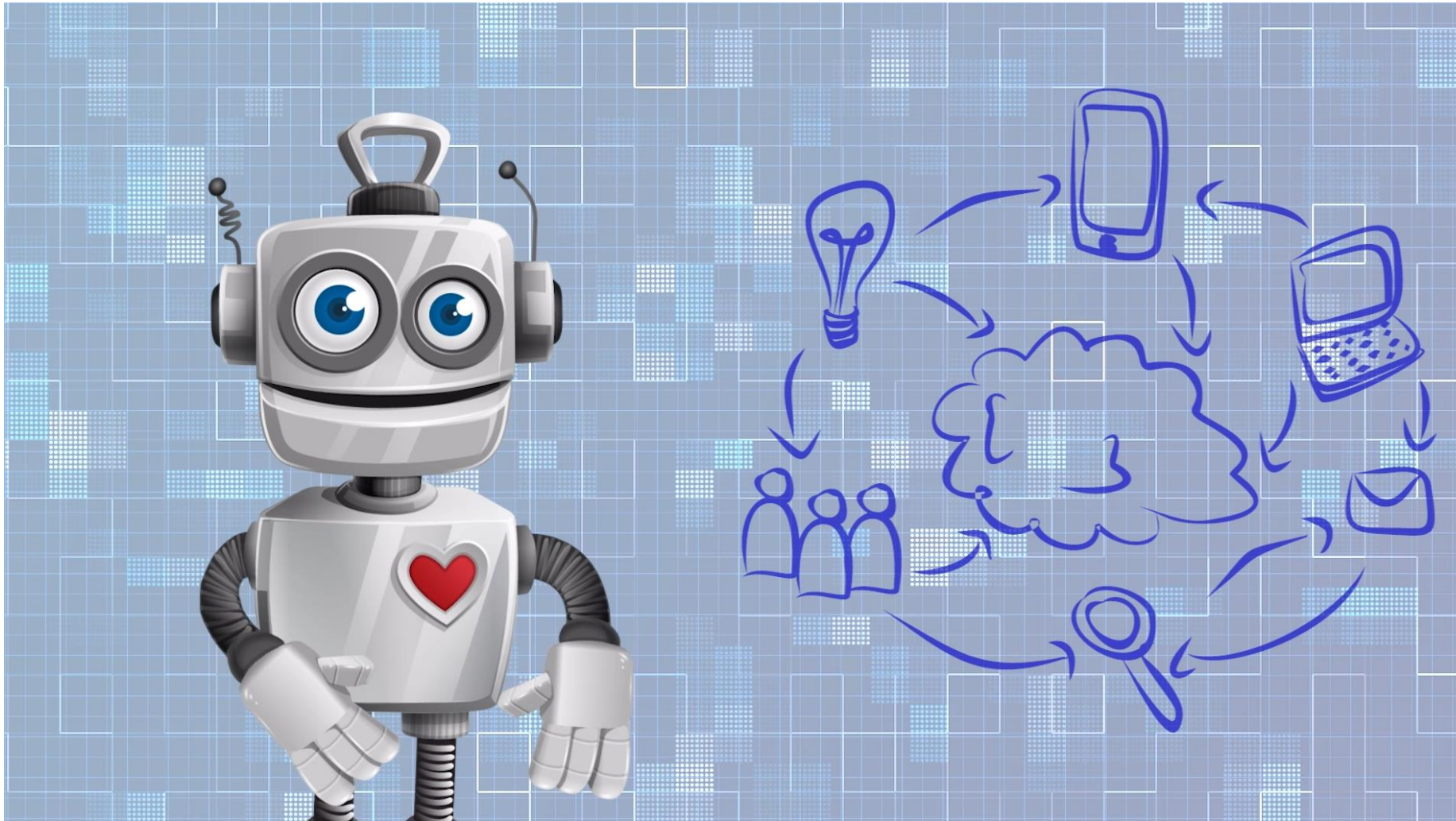


Processed with Adaptive Leveler:

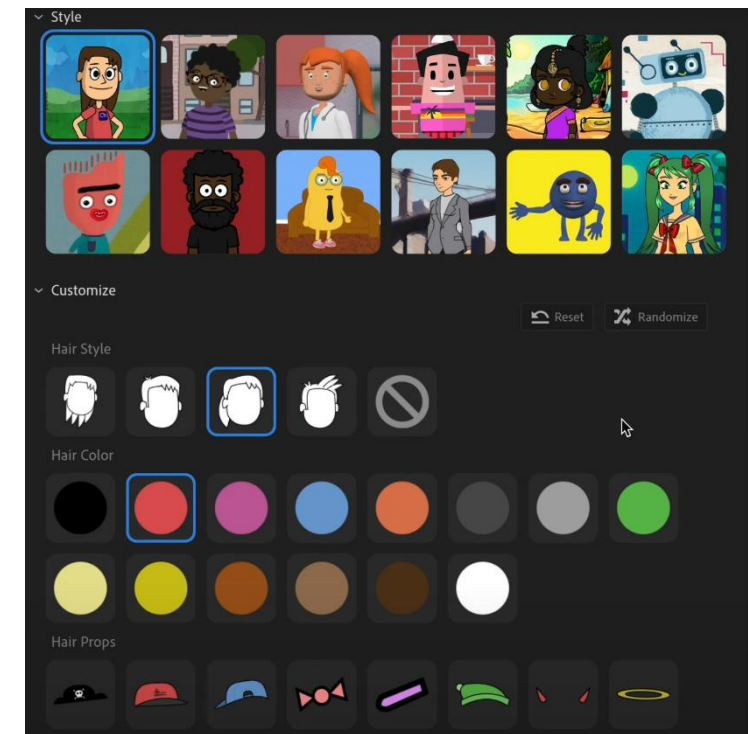


Screenshot auphonic.com

Video: Character Animation



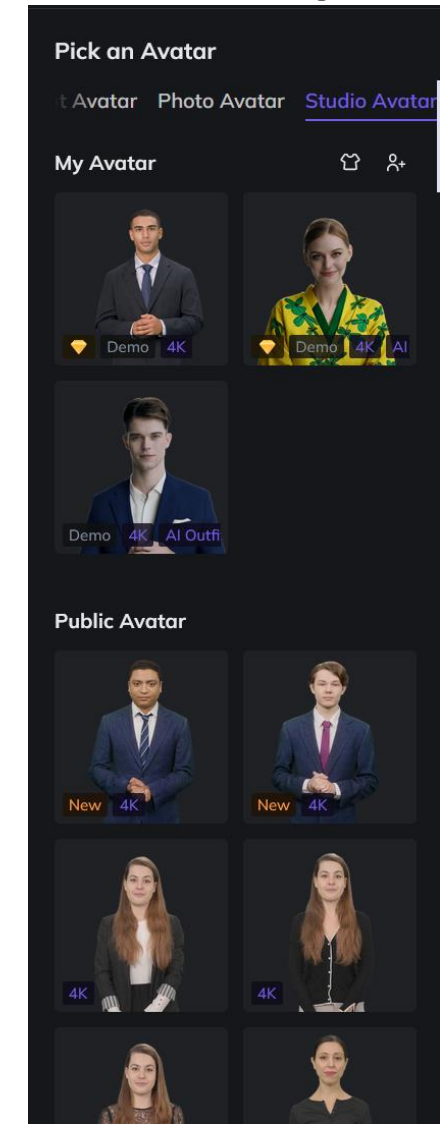
Screenshot Adobe Character Animator



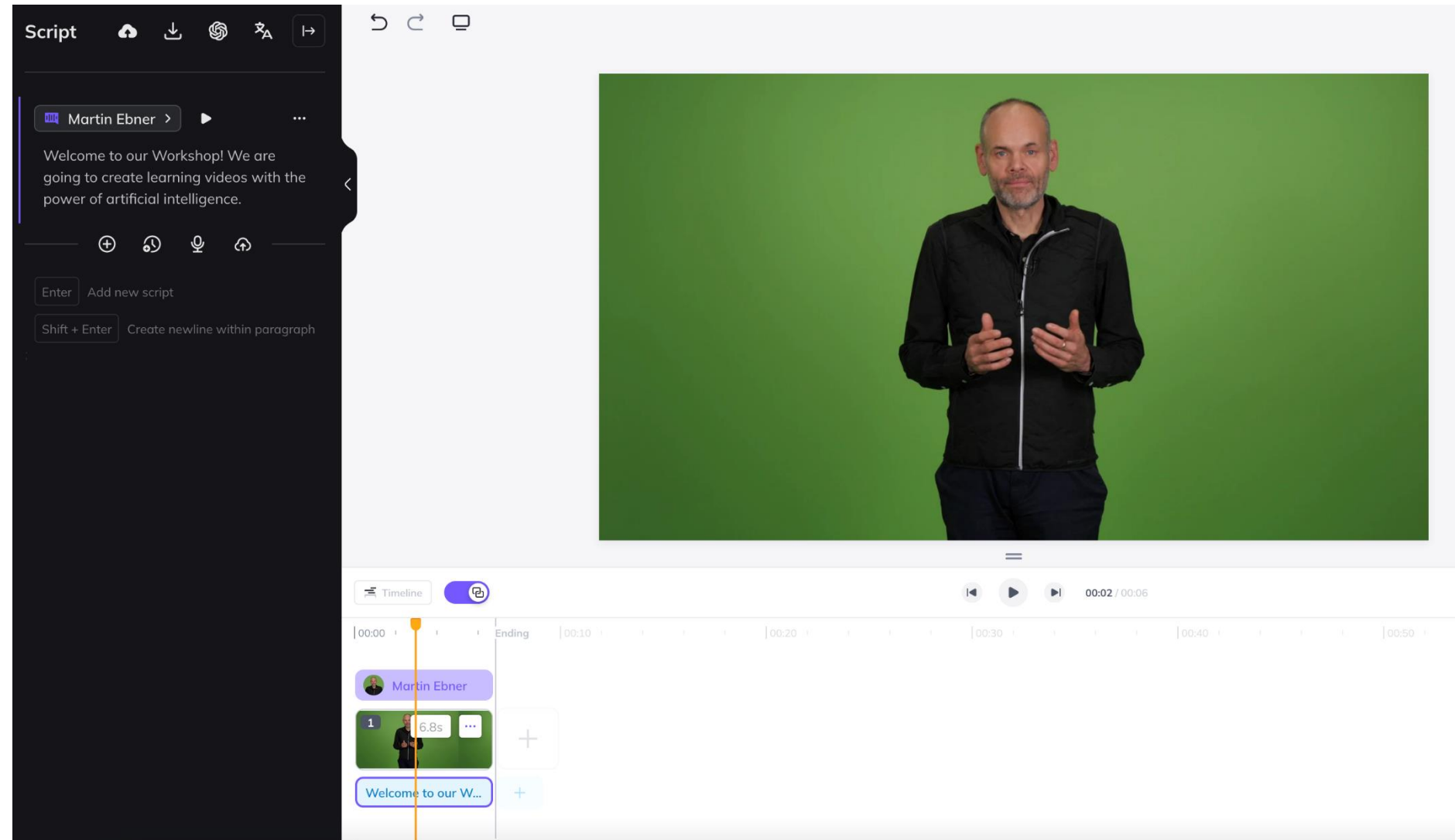
Video: Human Avatar



Screenshot HeyGen



Workflow for Human Avatar Videos





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Workflow for Human Avatar Videos

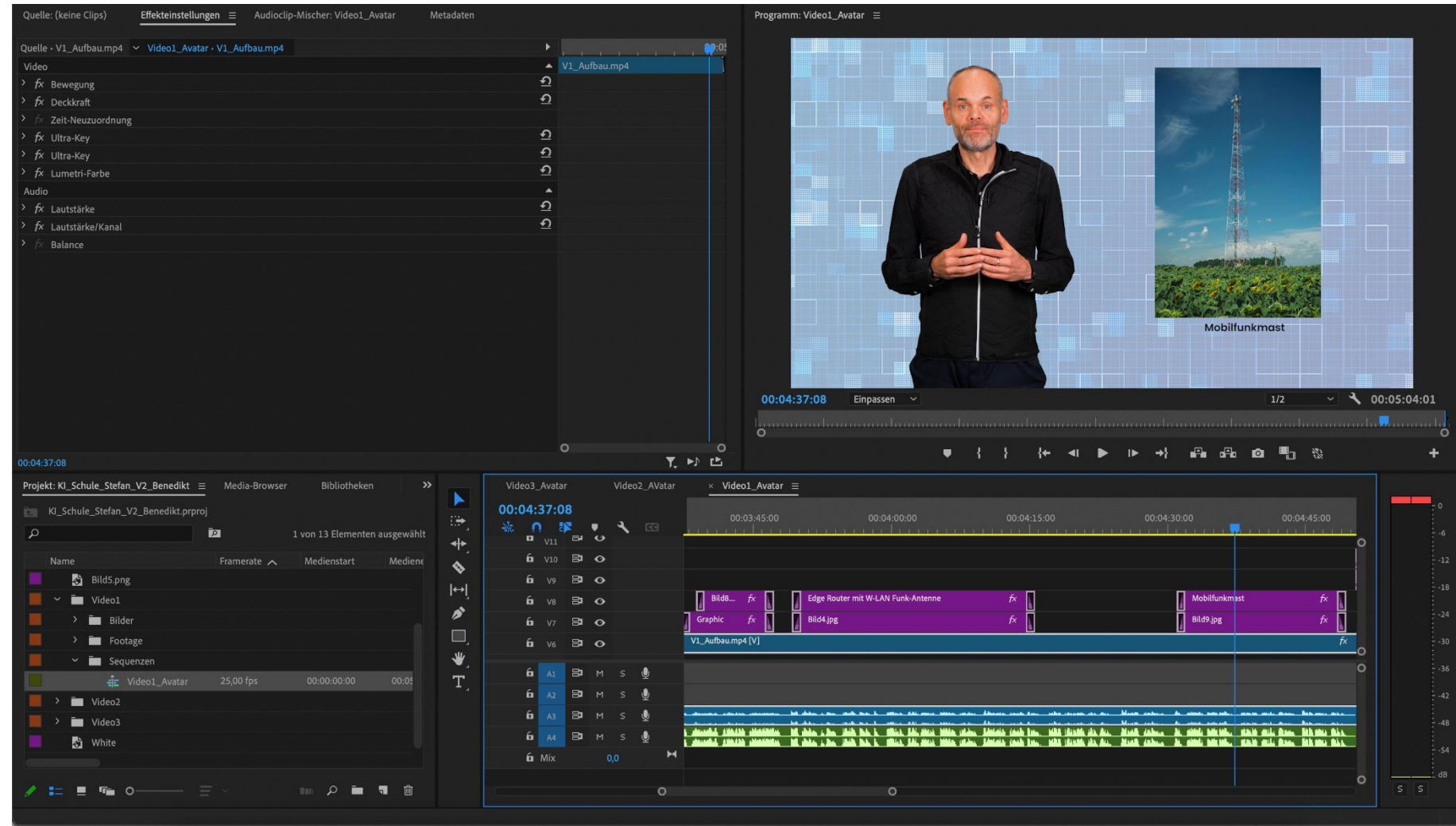
green screen
is removed



Workflow for Human Avatar Videos

assets and text overlays will be added

Screenshot Adobe
Premiere Pro



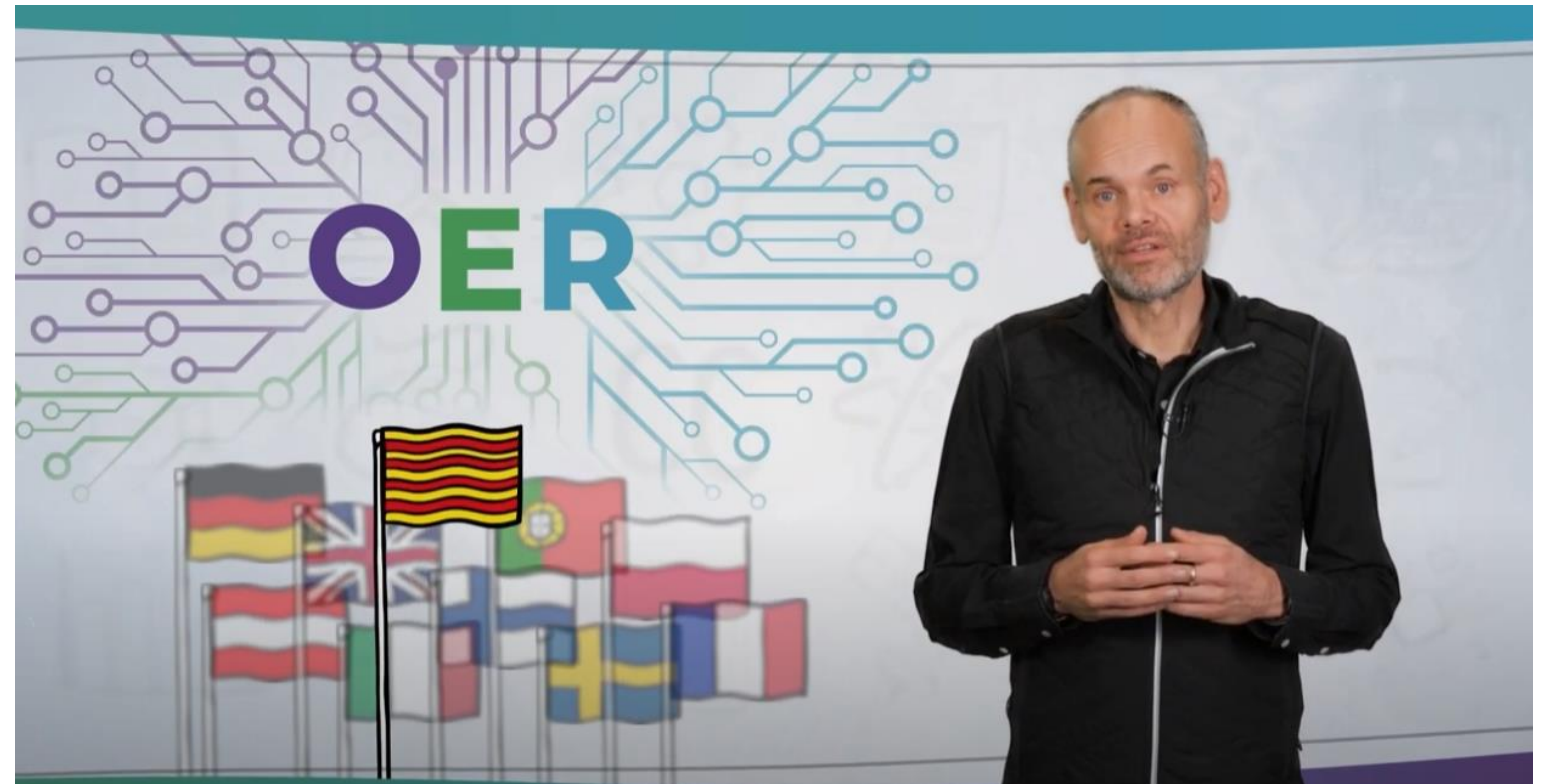
Multilingual Video Generation

iMooX.at/course/OERinHE

CC-BY 4.0 iMooX.at

OER MOOC

- custom avatar
- fine-grained post production
- + automatic translation with feedback loop
- + 11 languages
- avatar emotions



youtube.com/watch?v=KpEWw5zz--c

Current Research: AI Avatars

MOOC iMooX.at/course/infoFit24



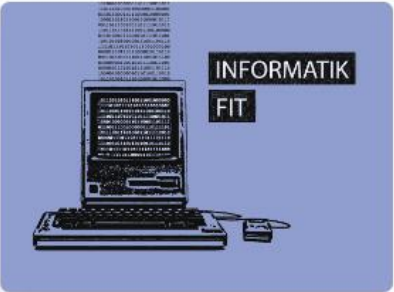
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 DE

Self-study

Computer Sciences



Get Fit in Computer Science (2024/25)

Graz University of Technology

Benedikt Br  nner

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[Content](#)



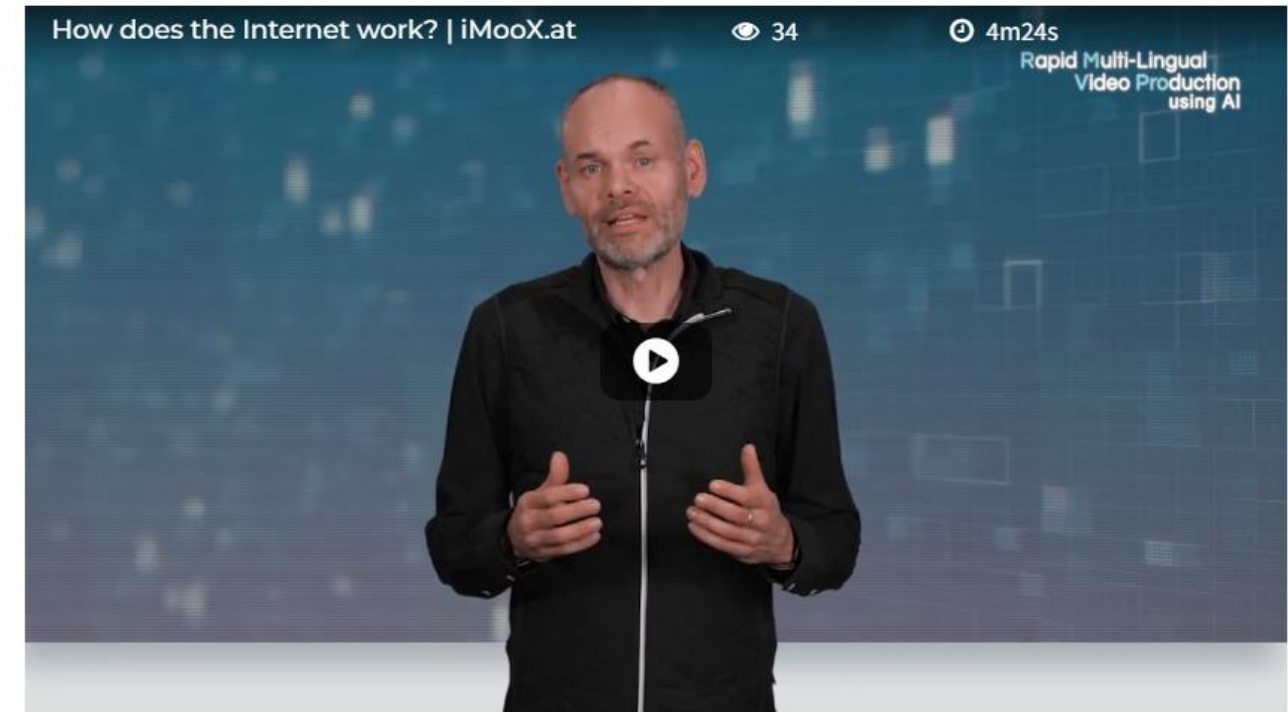
Rating

Students can Select Language

 Deutsch

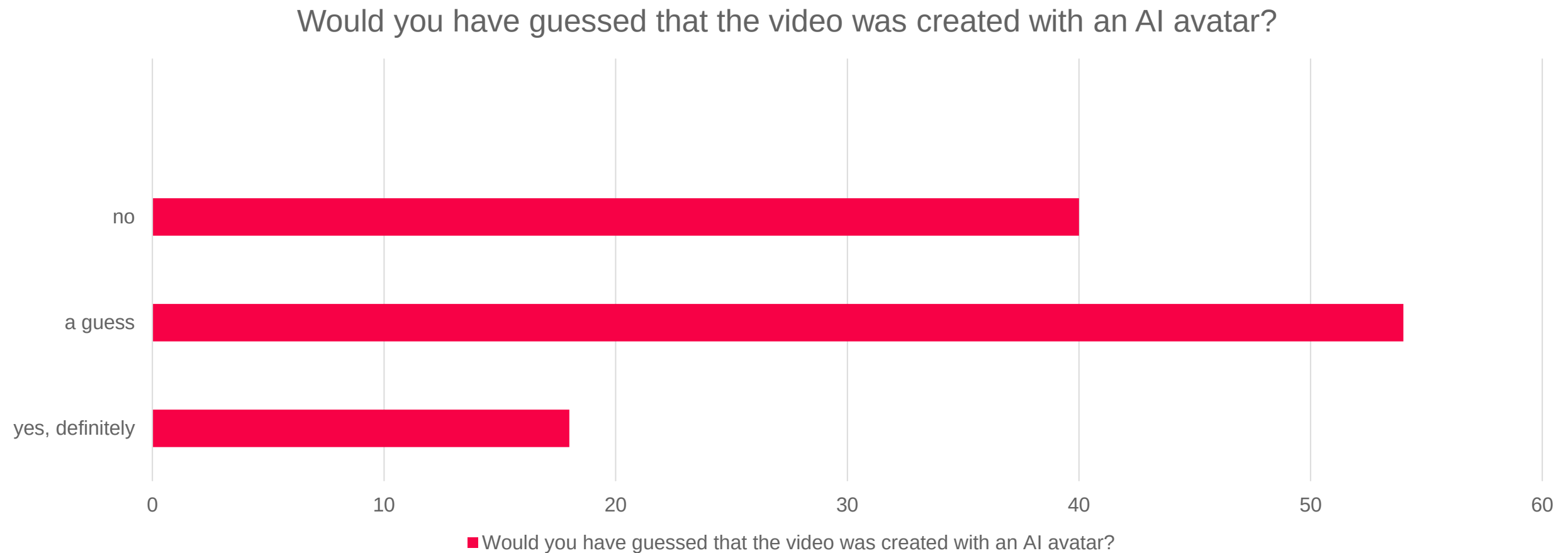


 Englisch

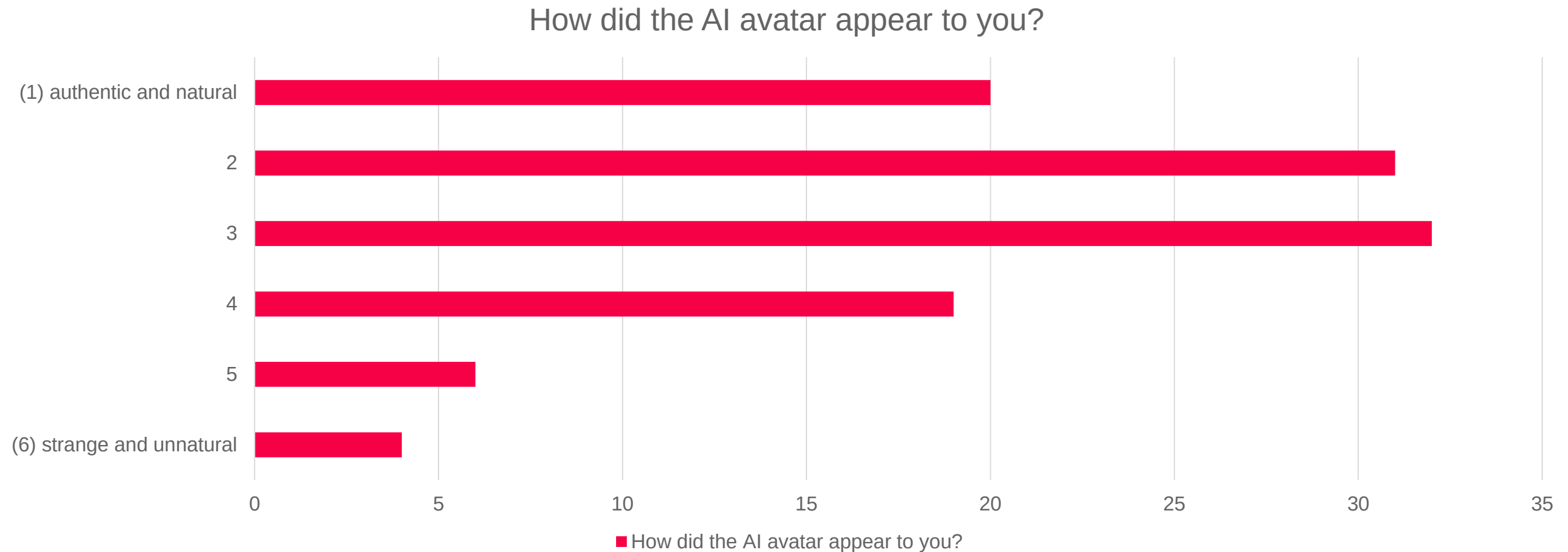


[Transkript zum Video](#)

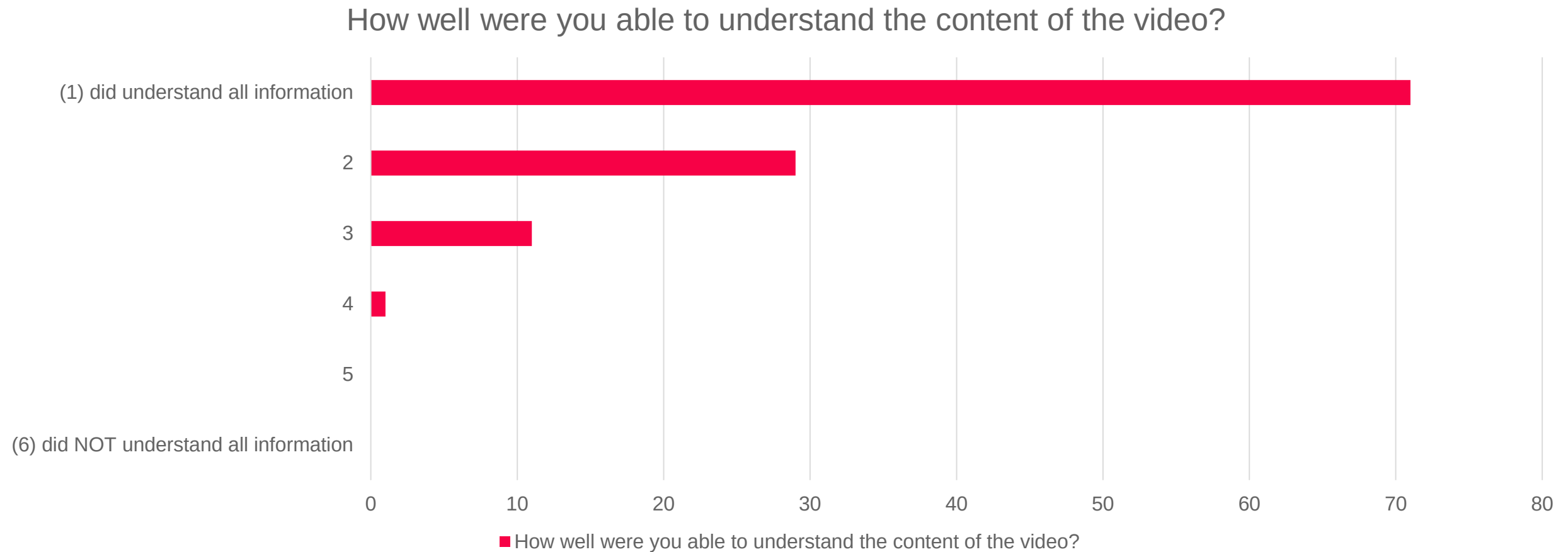
Feedback from Students



Feedback from Students

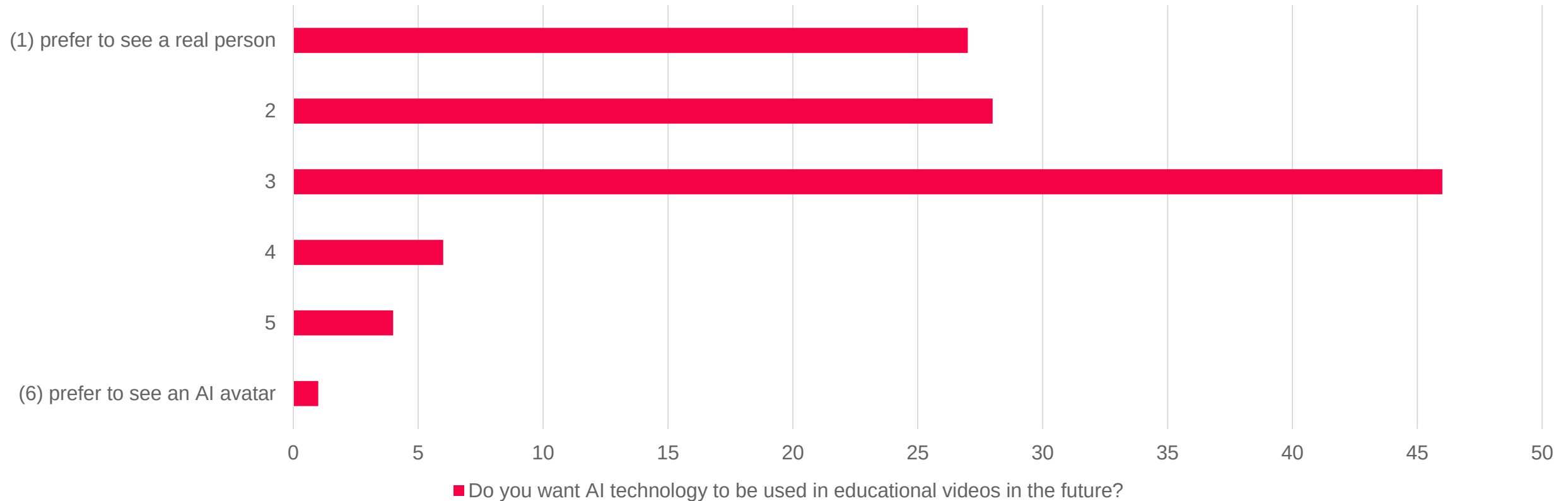


Feedback from Students



Feedback from Students

Do you want AI technology to be used in educational videos in the future?



How does the Internet work?

youtube.com/watch?v=eTM5ZSZ2TnU



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