

Creating Educational Videos with an AI Avatar Video Generator

2024-07-02 | EdMedia 2024 Workshop: Creating Educational
Videos with an AI Avatar Video Generator

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Outline

1. Introduction
2. Proposal: Rapid Multi-Lingual Video Production
3. Hands On
4. Discussion: *What does this impose?*
5. Outlook

Introduction

Creating Learning Videos

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>

<https://imoox.at/page/creator?lang=en> CC-BY 4.0 iMooX.at

Generative AI Technologies for Video Creation

- Storyboard
- Assets
- Audio
- Video

Storyboard Generation

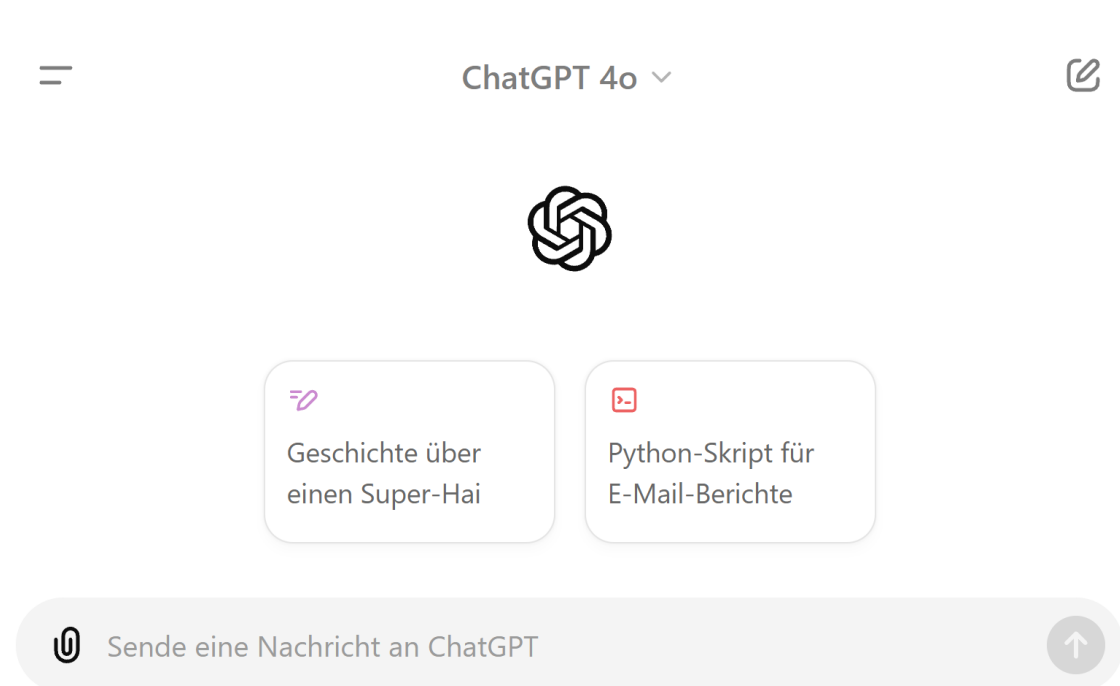
Storyboard Prompt for Educational Video

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



Start free trial

Menu

Translate whole documents

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

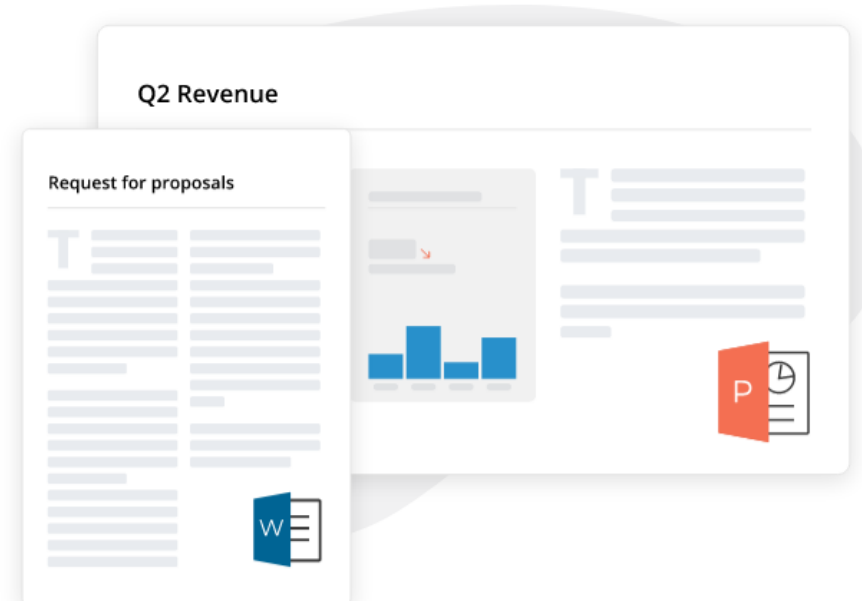
Translate PDF, Word, and PowerPoint files

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

ALL PLANS

[Compare plans](#) →



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

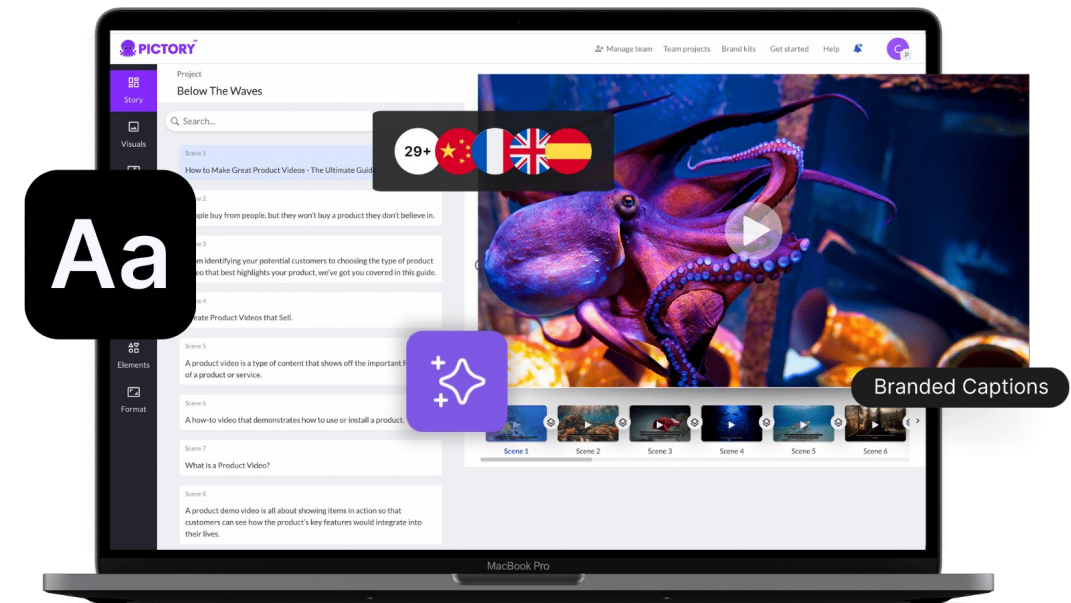
Professional quality videos from your script complete with realistic AI voices, matching footage and music in just a few clicks.

[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 >](#)

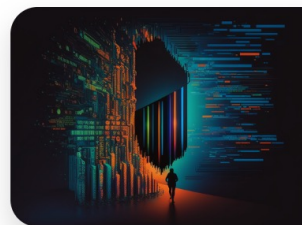


Screenshot pictory.ai

Storyboard to Video

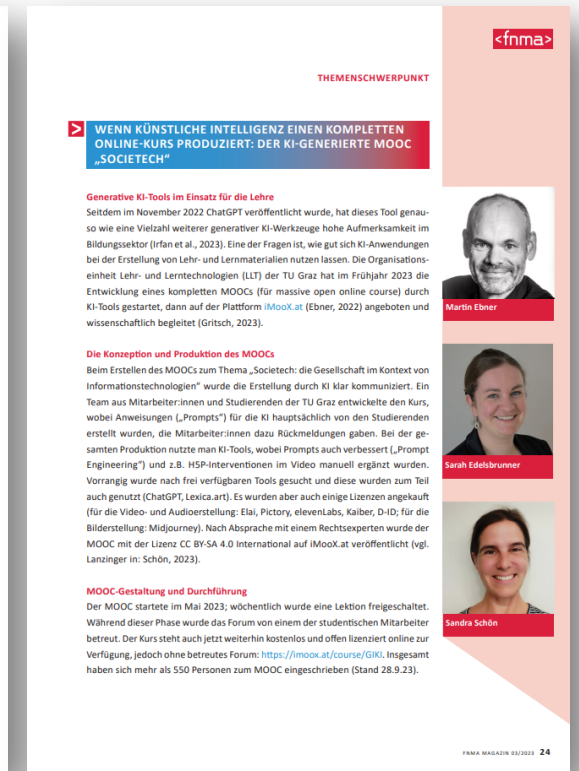
Result: MOOC imoox.at/course/GIKI

Societech: Die Gesellschaft im Kontext der Informationstechnologie



Willkommen im MOOC

Technische Universität Graz
TU Graz Lehr- und Lerntechnologien, Studierende der TU Graz und Michael Lanzinger



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)

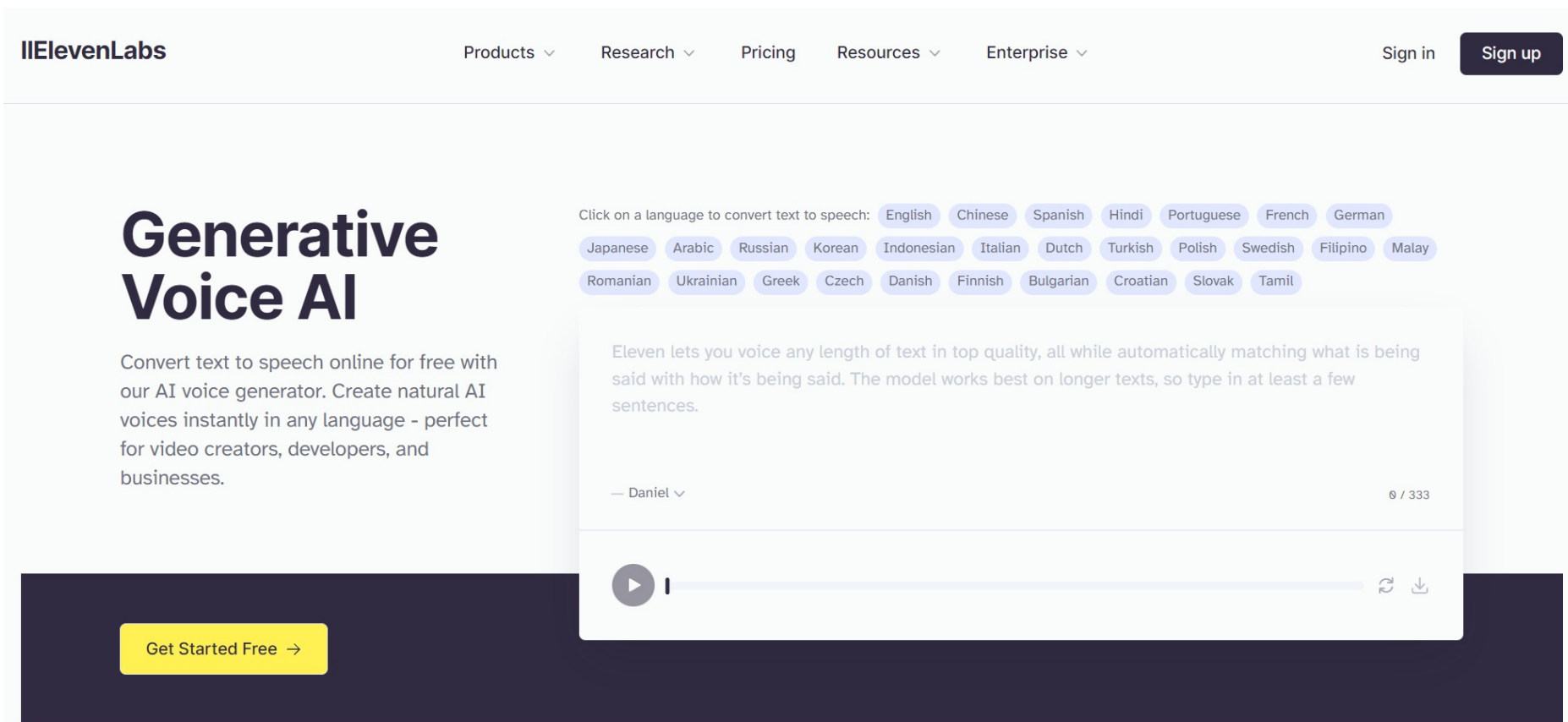
Asset Generation

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



IIElevenLabs Products ▾ Research ▾ Pricing Resources ▾ Enterprise ▾ Sign in **Sign up**

Generative Voice AI

Convert text to speech online for free with our AI voice generator. Create natural AI voices instantly in any language - perfect for video creators, developers, and businesses.

Click on a language to convert text to speech: English Chinese Spanish Hindi Portuguese French German Japanese Arabic Russian Korean Indonesian Italian Dutch Turkish Polish Swedish Filipino Malay Romanian Ukrainian Greek Czech Danish Finnish Bulgarian Croatian Slovak Tamil

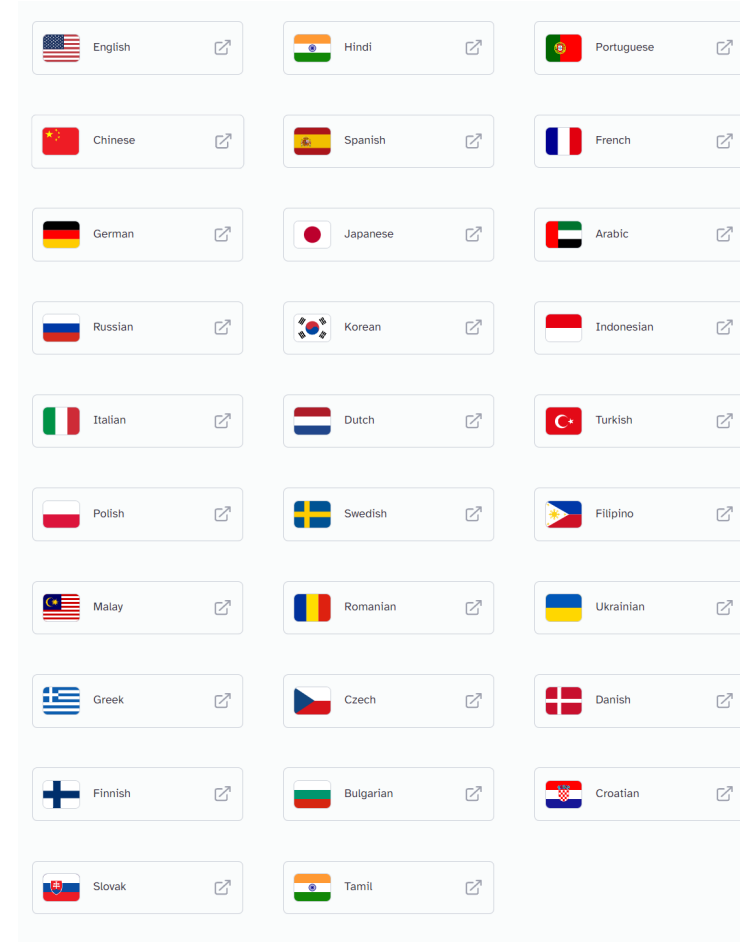
Eleven lets you voice any length of text in top quality, all while automatically matching what is being said with how it's being said. The model works best on longer texts, so type in at least a few sentences.

— Daniel ▾ 0 / 333

⏮ | ⏭ 🔁 ⬇

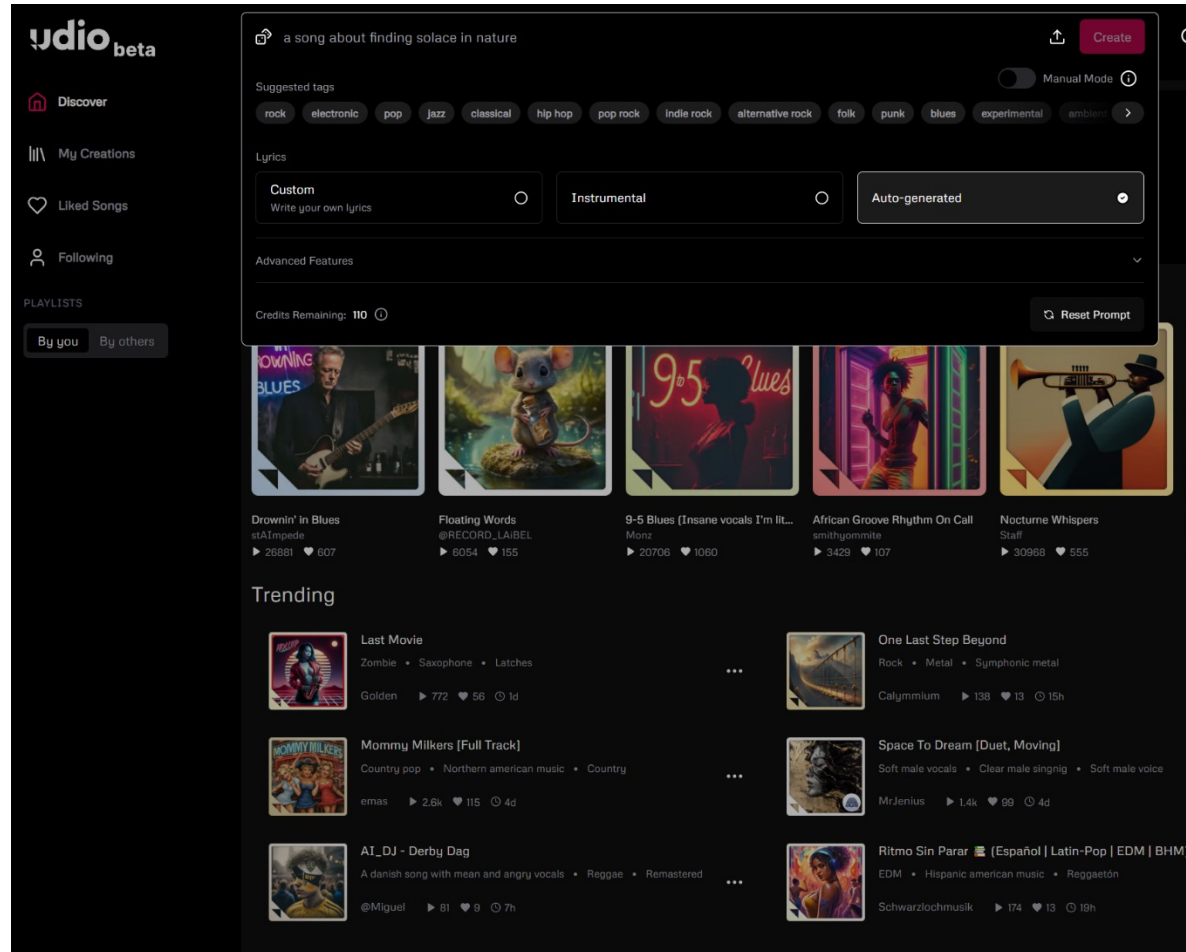
Get Started Free →

Screenshot elevenlabs.io



English	Hindi	Portuguese
Chinese	Spanish	French
German	Japanese	Arabic
Russian	Korean	Indonesian
Italian	Dutch	Turkish
Polish	Swedish	Filipino
Malay	Romanian	Ukrainian
Greek	Czech	Danish
Finnish	Bulgarian	Croatian
Slovak	Tamil	

Music






Screenshot udio.com



Post form

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

   [Create](#)



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.



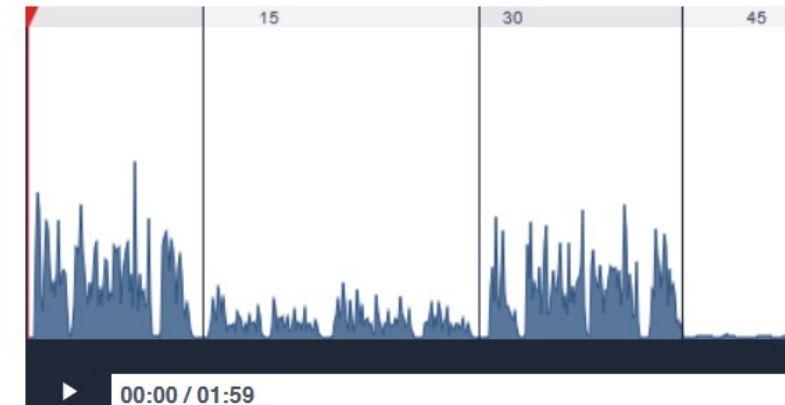
Loudness Specifications

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

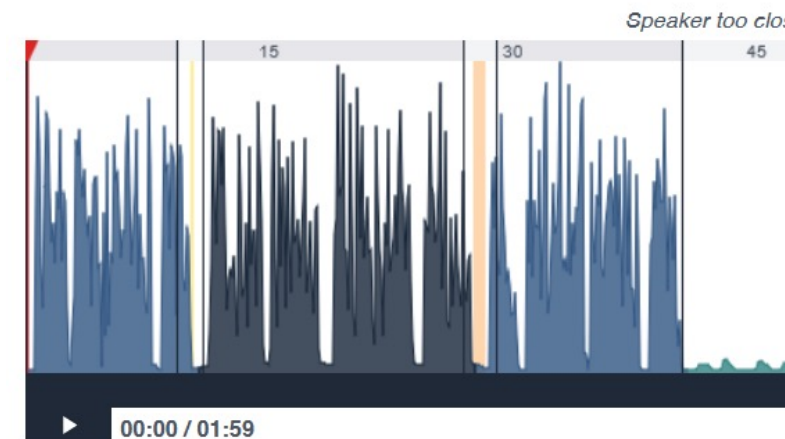


Video Support, Metadata & Chapters

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

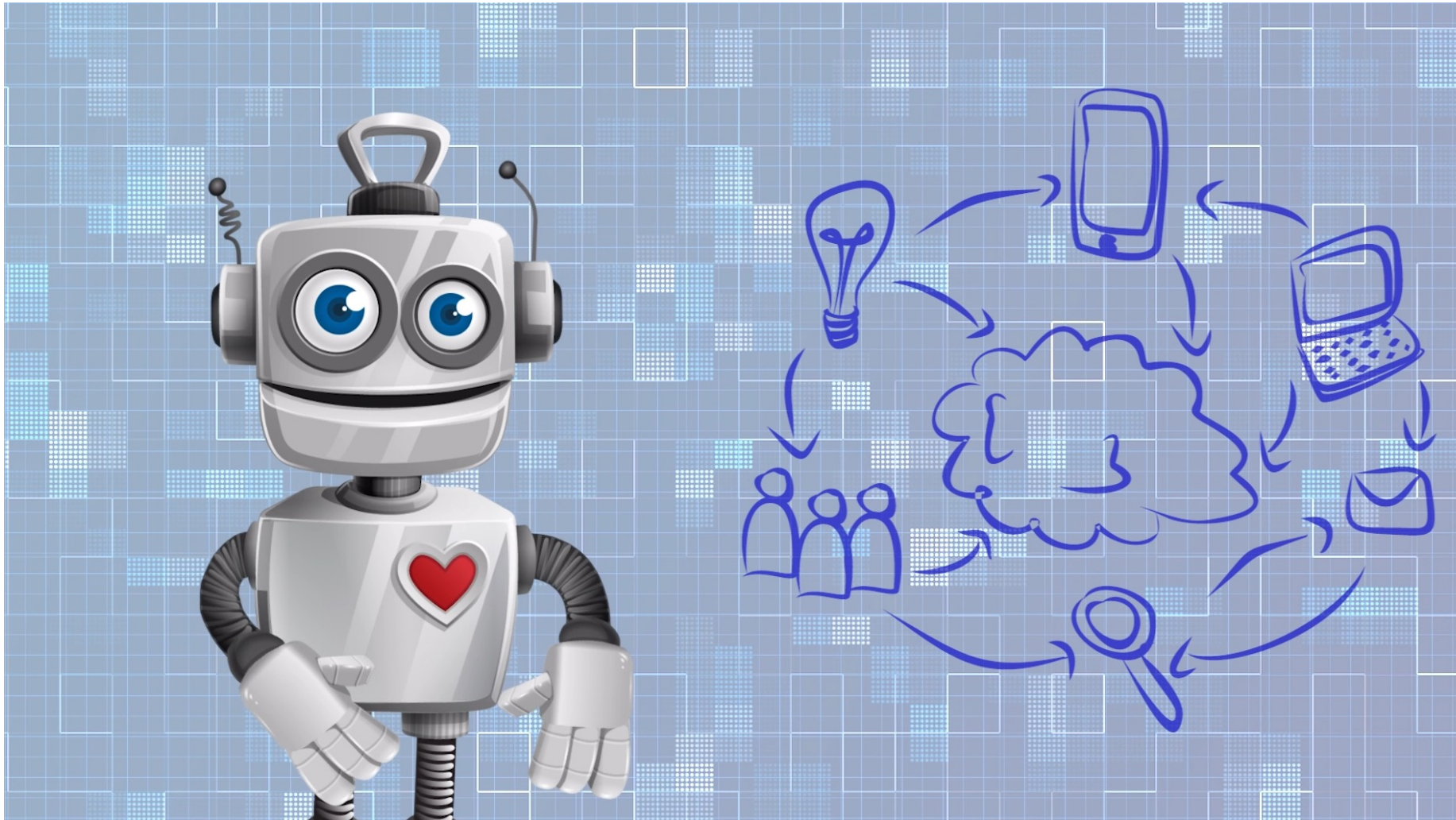


Processed with Adaptive Leveler:

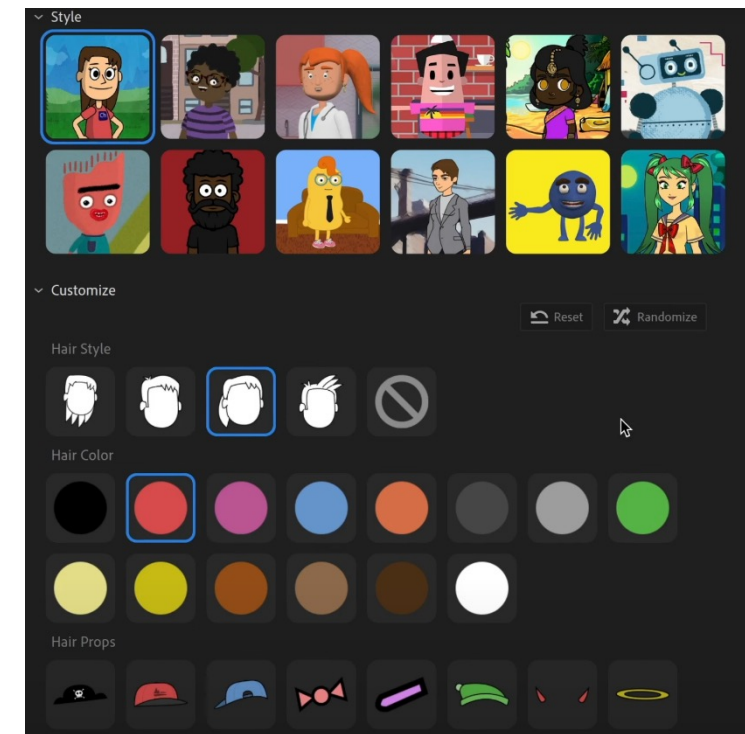


Screenshot auphonic.com

Video: Character Animation



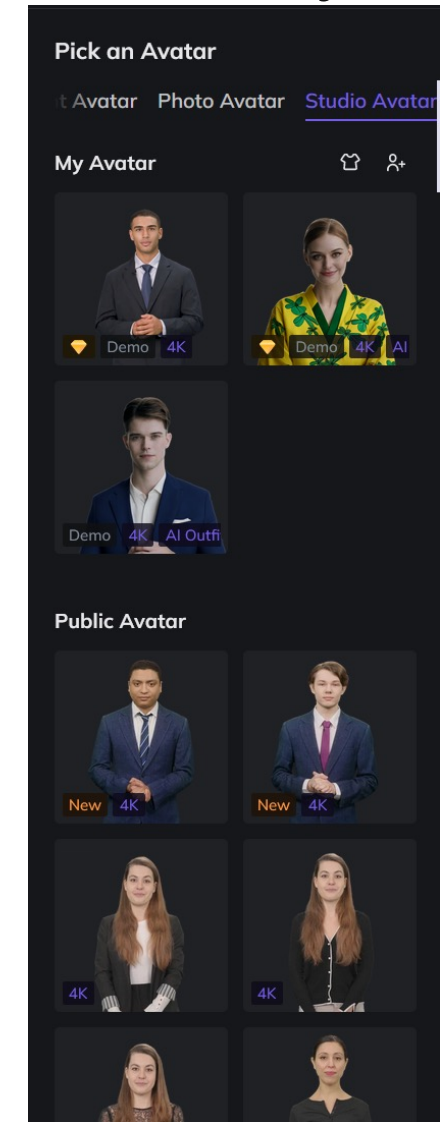
Screenshot Adobe Character Animator



Video: Human Avatar



Screenshot HeyGen





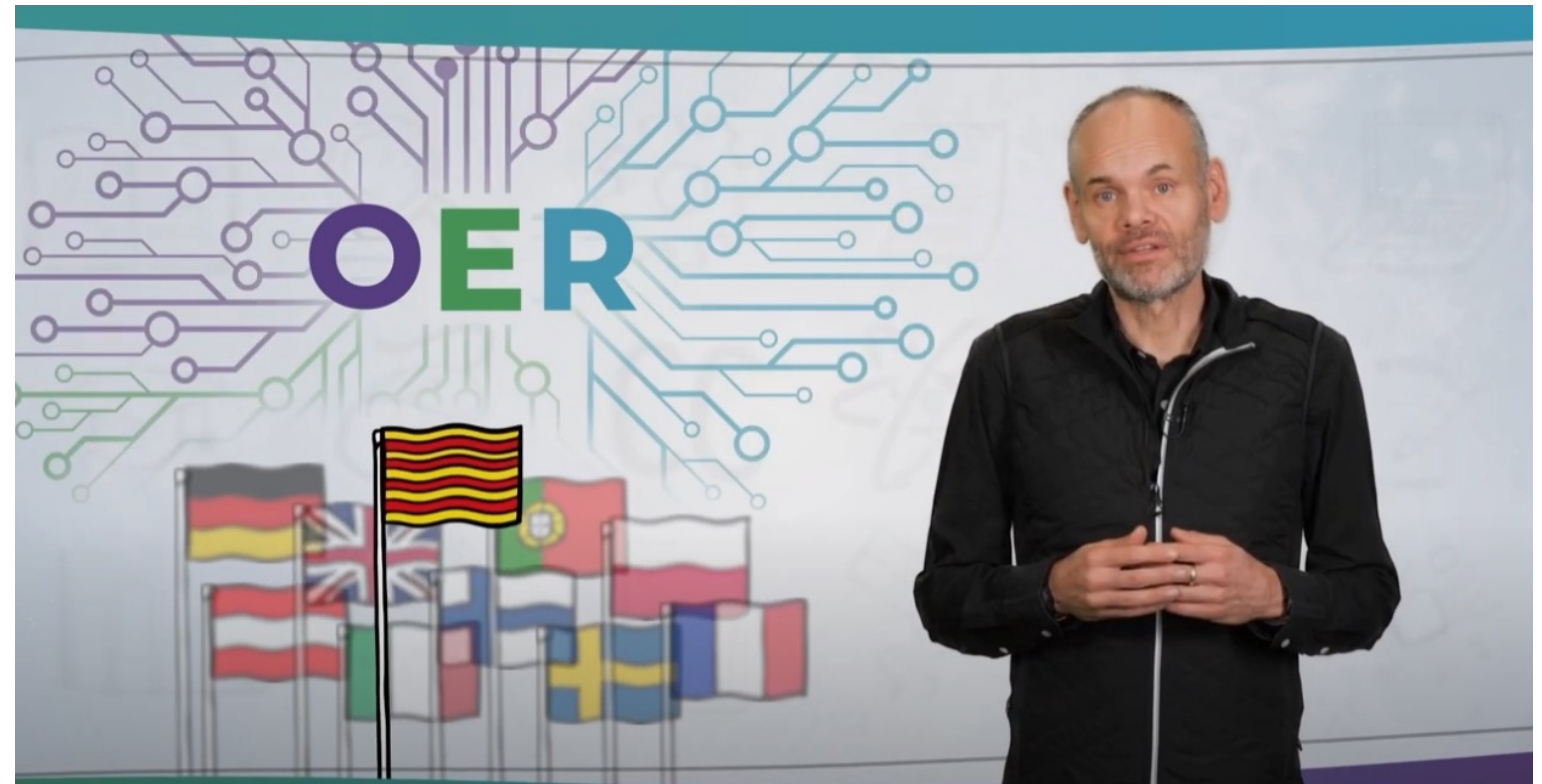
Multilingual Video Generation

<https://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



<https://www.youtube.com/watch?v=KpEWw5zz--c>

Proposal: Rapid Multi-Lingual Video Production **RMVPro**

Joint Paper for EdMedia 2025

Rapid Multi-Lingual Video Production - RMVPro

- goal: rapid multi-lingual video production by utilising ai
- 3 stages
 - **stage 1:** plan video, create storyboard and assets (+ feedback loop)
 - **stage 2:** translate storyboard (+ feedback loop)
 - **stage 3:** generate video (+ feedback loop)

Planned Publication for EdMedia 2025

- introduction
- research method
 - description of RMVPro process
- outcome
 - workshop: proof of concept
- discussion
 - evaluation of the workshop and final videos
- initial draft of publication written by Martin Ebner & Benedikt Brünner
- send to you via e-mail on 1st December, 2024
- proofreading and feedback until 1st February, 2025

Stage 1 (finished)

RMVPro

Stage 1 (finished): plan video, create storyboard and assets

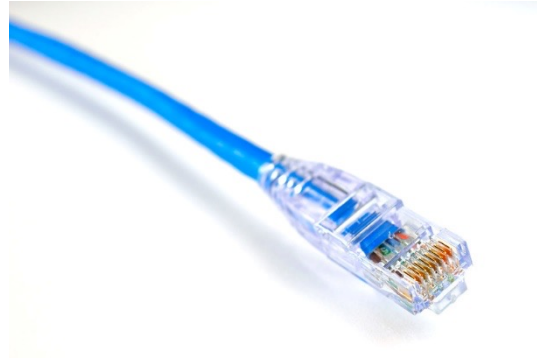
- **topic:** introduction to networking technologies
- **target group:** secondary school students (aged 15 to 18 years)
- **storyboard:** created and improved by one feedback-loop with experts from Graz University of Technology, Austria
 - optional: feedback-loop with other experts (skipping this today)

Stage 1 (finished): plan video, create storyboard and assets

- **learning objectives** (according to Bloom's taxonomy):
 - Knowledge: Learners can name the basic components and functions of the internet, including networks, servers and routers.
 - Comprehension: Learners can explain how data is transmitted over the Internet from a server to a computer using edge routers, core routers, and fiber optic cables.
 - Application: Learners can identify the differences between global networks (Internet) and local area networks (LAN) and match appropriate examples from everyday life.
 - Analysis: Learners can compare the different types of transmission (Ethernet, W-LAN, mobile data) and analyze their advantages and disadvantages.

Stage 1 (finished): plan video, create storyboard and assets

- assets



Stage 1 (finished): plan video, create storyboard and assets

- video style



Stage 2

RMVPro

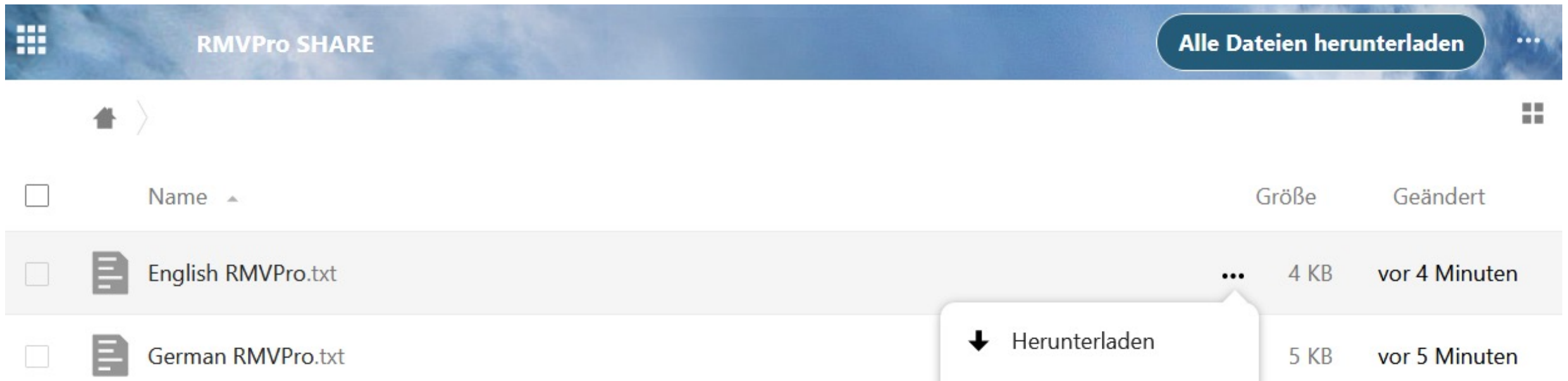
Stage 2: translate storyboard (+ feedback loop)

- all texts were translated with ai (DeepL)
 - 20 scenes (4 - 20 seconds)
 - 23 text overlays in the video
- **your task: check, how those translations are pronounced**
 - use elevenlabs.io to test the pronunciation
 - correct text, if needed
 - send us updated version

Stage 2: translate storyboard (+ feedback loop)

step 1: go to ed-tech.at/2024/edmedia

step 2: download your language-version



The screenshot shows the RMVPro SHARE interface. At the top, there is a header bar with the text "RMVPro SHARE" and a button labeled "Alle Dateien herunterladen". Below the header, there is a table listing files. The table has columns for "Name", "Größe", and "Geändert". There are two files listed: "English RMVPro.txt" (4 KB, vor 4 Minuten) and "German RMVPro.txt" (5 KB, vor 5 Minuten). A dropdown menu is open for the "English RMVPro.txt" file, showing a download icon and the text "Herunterladen".

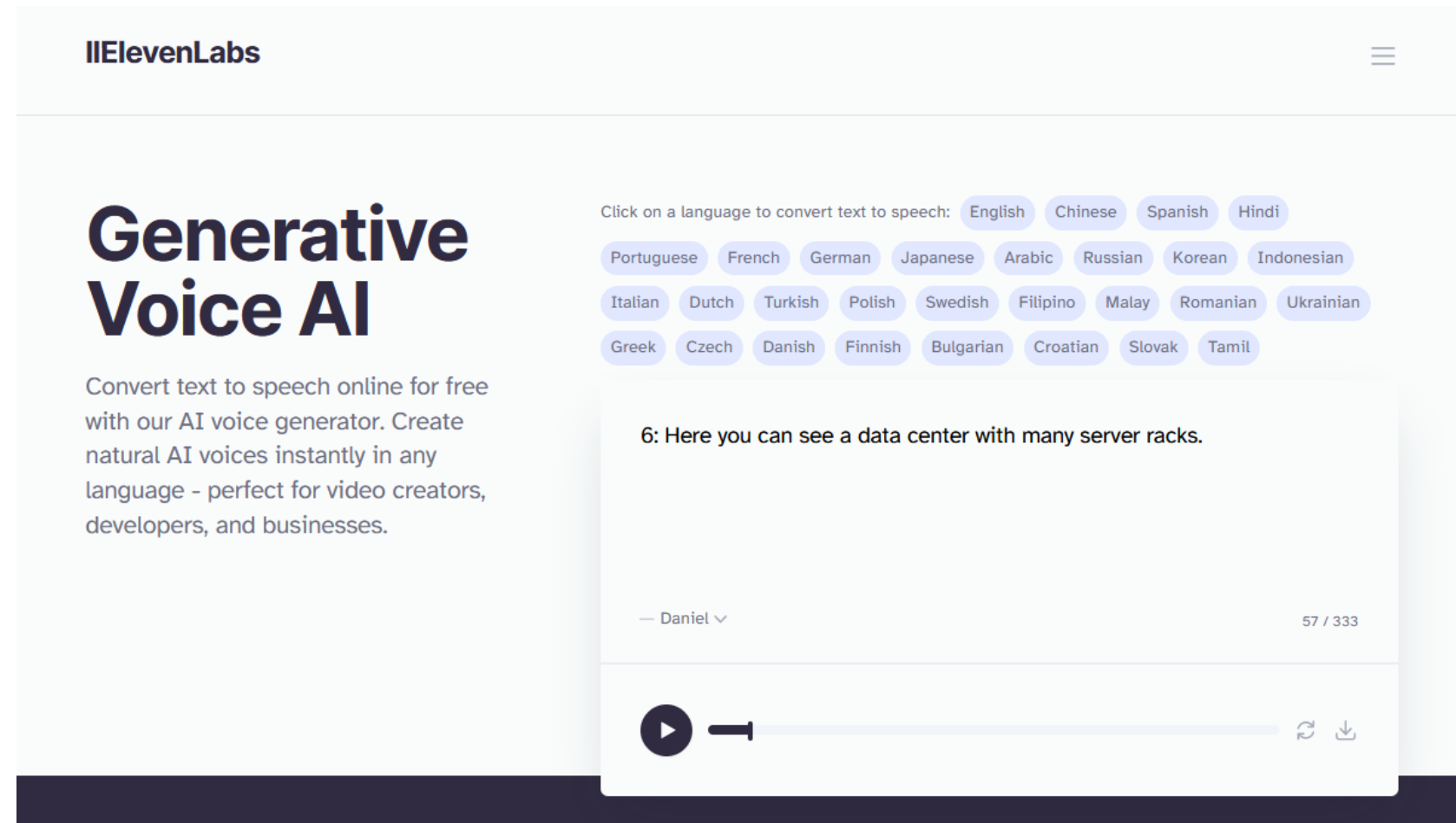
	Name	Größe	Geändert
<input type="checkbox"/>	English RMVPro.txt	4 KB	vor 4 Minuten
<input type="checkbox"/>	German RMVPro.txt	5 KB	vor 5 Minuten

Stage 2: translate storyboard (+ feedback loop)

Screenshot elevenlabs.io

step 3: copy-paste
each scene in
elevenlabs.io

step 4: update text,
if needed



Stage 2: translate storyboard (+ feedback loop)

step 5: send us via submission form at ed-tech.at/2024/edmedia

- language
- updated text
- your name
- e-mail
- institution
- country
- agreement to be a co-author

Stage 2: translate storyboard

Overview

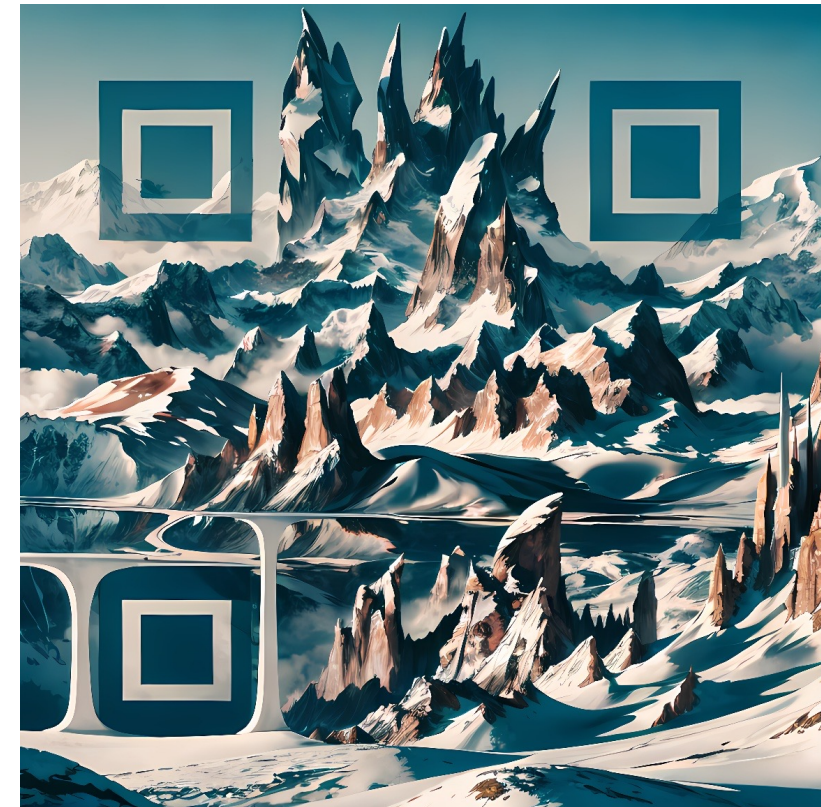
step 1: go to ed-tech.at/2024/edmedia

step 2: download your language-version

step 3: copy-paste each scene in elevenlabs.io

step 4: update text, if needed

step 5: send us via submission form at ed-tech.at/2024/edmedia

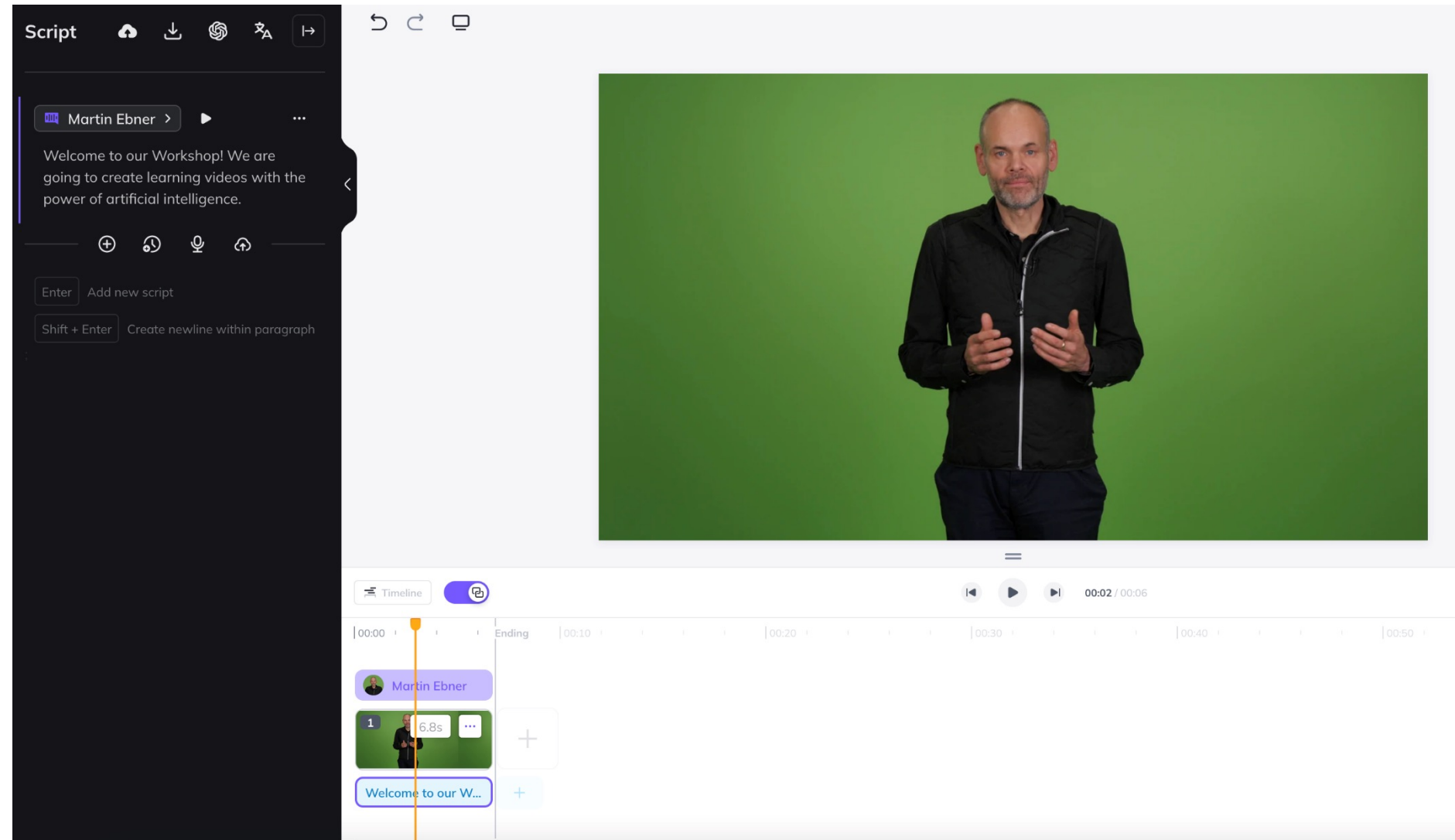


Stage 3 (after workshop)

RMVPro

Stage 3 (after workshop): generate video (+ feedback loop)

video according
to new
storyboard will
be generated
with
HeyGen



Stage 3 (after workshop): generate video (+ feedback loop)

green screen
will be
removed



Stage 3 (after workshop): generate video (+ feedback loop)

assets and text overlays will be added



Screenshot Adobe
Premiere Pro

Stage 3 (after workshop): generate video (+ feedback loop)

- feedback loop
 - the following weeks
 - we will send you via e-mail a preview of video
 - please give us feedback until 1st September, 2024
 - What was not pronounced correct?
 - What was spelled wrong?
 - How satisfied are you with the video?

Reminder: Planed Publication for EdMedia 2025

- initial draft of publication written by Martin Ebner & Benedikt Brünner
- send to you via e-mail on 1st December, 2024
- proofreading and feedback until 1st February, 2025

Feedback

How satisfied are you with the RMVPro method?

Feedback

Did you experience some technical issues?

Feedback

How satisfied were you with the translation / grammar / language output?

Feedback

Would you like to produce multi-lingual videos yourself
with the RMVPro method?

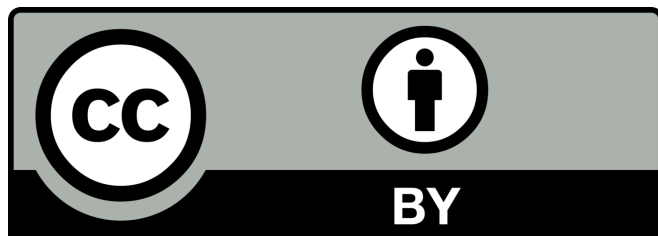
Discussion

Outlook

Slides and Licence

Slides available at <https://doi.org/10.3217/a74w2-9xn05>

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ed-tech.at

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Martin Ebner & Benedikt Brünner