Creating a space of characters with the Japanese Visual Media Graph

Magnus Pfeffer

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DFG Deutsche Forschungsgemeinschaft

Hacking the Asian Waves: Shaping Cultural Flows in the Global Cultural Imagination

Culture Futures Lab,
LASALLE, University of the Arts Singapore
26 May 2026

Outline of the presentation

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1. Introducing the **Japanese Visual Media Graph** (JVMG) project
2. From a **continuous space** of characters to a **categorical space** of character traits
3. **Image generation**: from randomness to keeping images “stable”

Introduction of the project

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- Project idea and lead: **Magnus Pfeffer** and **Martin Roth**
- Databases by enthusiast communities are often the **most up-to-date online resource for checking information**

- Project aim: Make these databases available for **large-scale quantitative research, in collaboration with the communities**
- **CC BY-NC-SA 4.0** license
  - Funding: German Research Foundation (DFG), 6 years duration

JVMG knowledge graph frontend: https://mediagraph.link/overview

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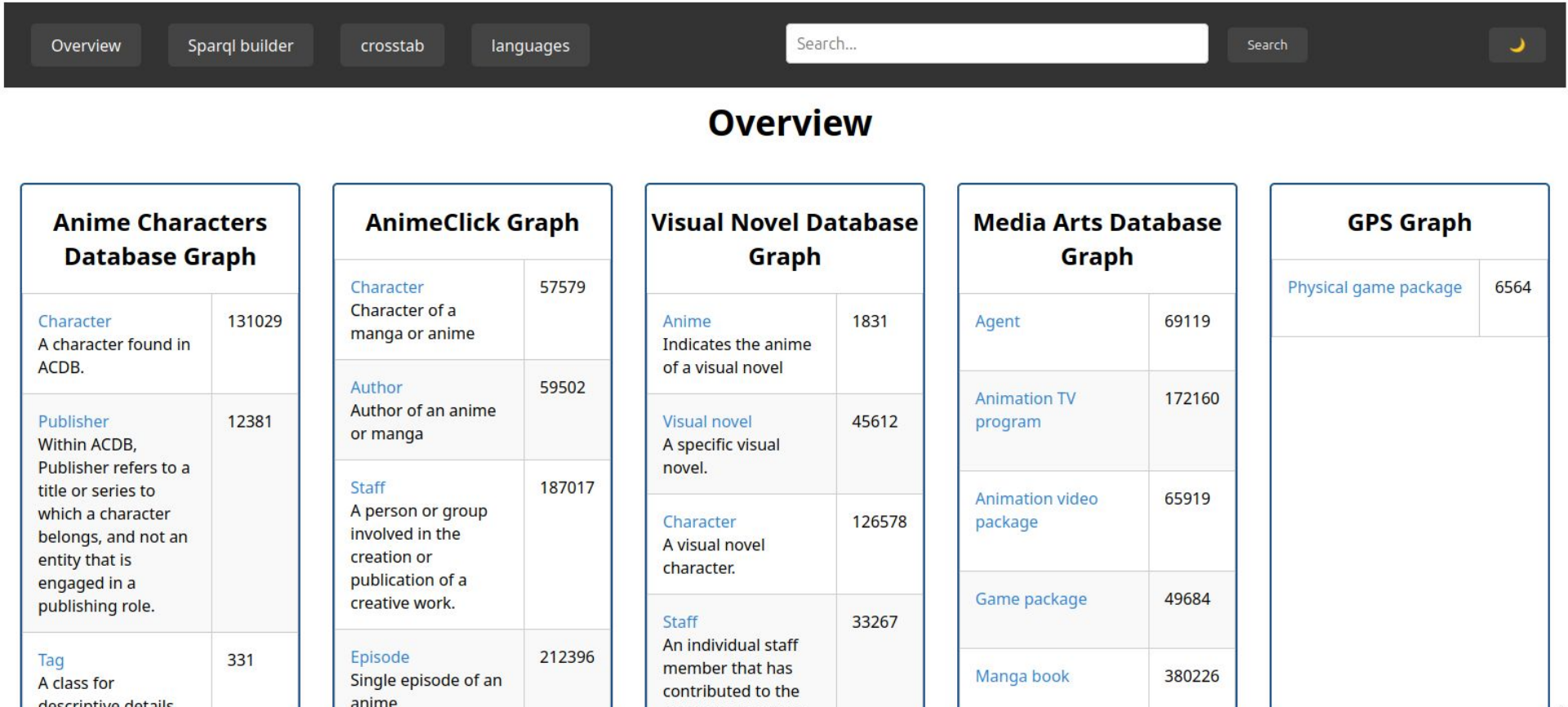

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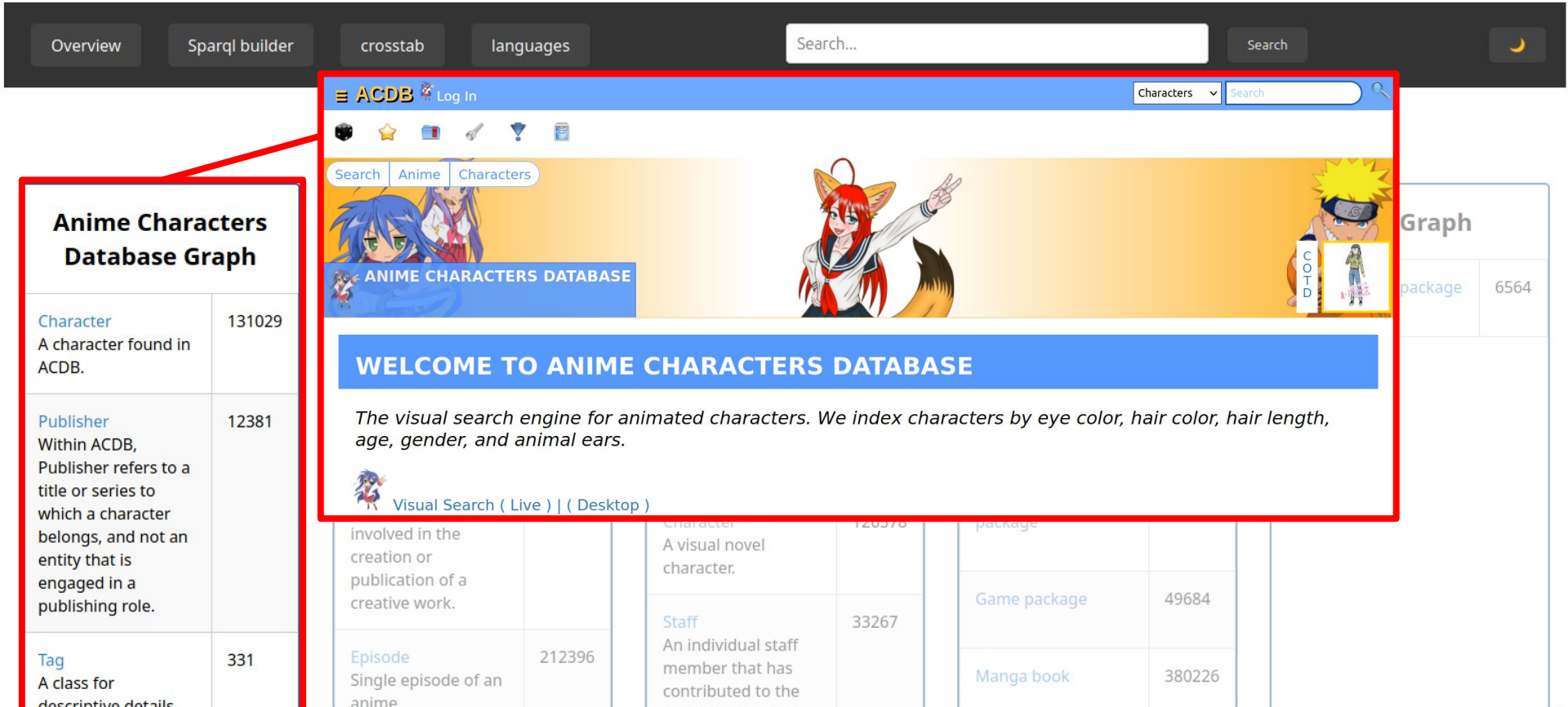

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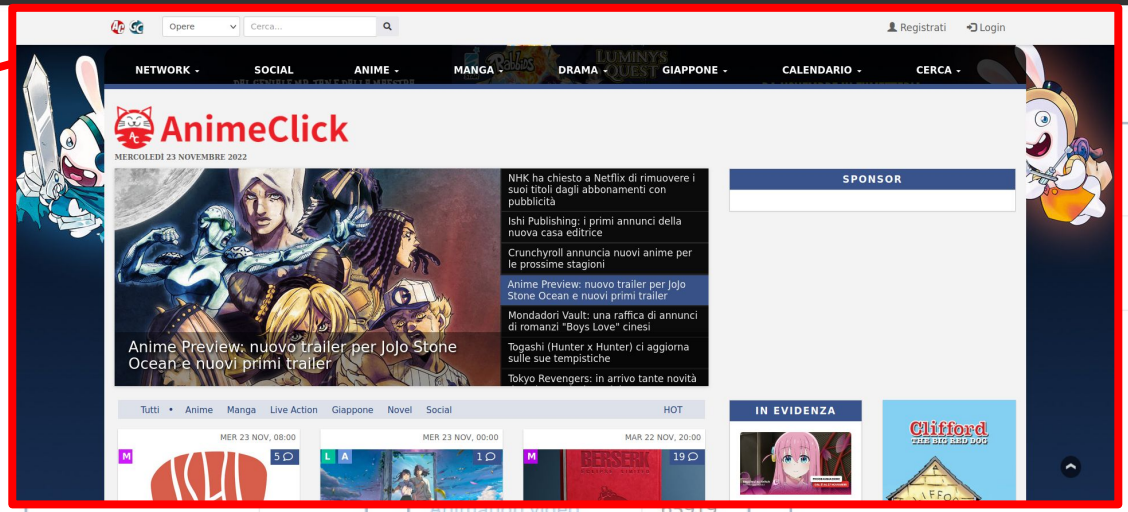
Overview | Sparql builder | crosstab | languages | Search... | Search

Anime Characters Database Graph

Character A character found in ACDB.	131029
Publisher Within ACDB, Publisher refers to a title or series to which a character belongs, and not an entity that is engaged in a publishing role.	12381
Tag A class for descriptive details	331

AnimeClick Graph

Character Character of a manga or anime	57579
Author Author of an anime or manga	59502
Staff A person or group involved in the creation or publication of a creative work.	187017
Episode Single episode of an anime	212396



Character A visual novel character.	126578
Staff An individual staff member that has contributed to the	33267

package	
Game package	49684
Manga book	380226

JVMG knowl

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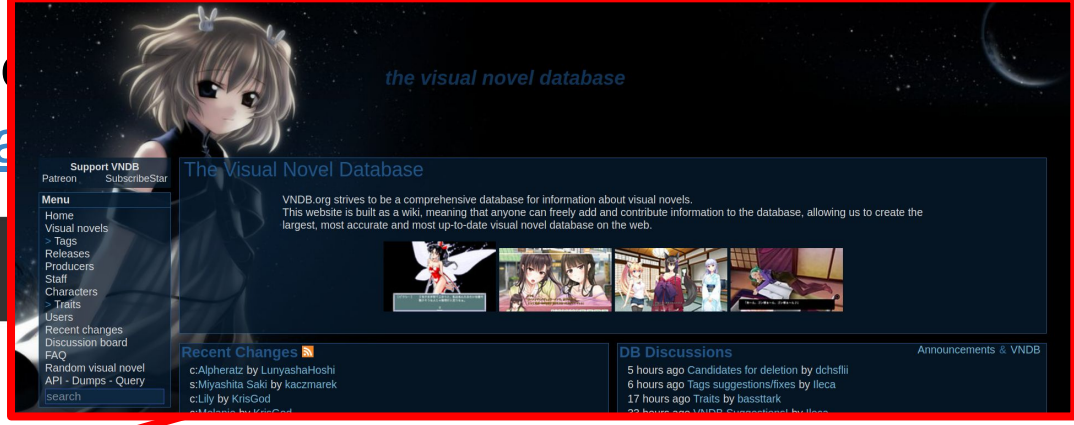

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Visual Novel Database Graph

Anime Indicates the anime of a visual novel	1831
Visual novel A specific visual novel.	45612
Character A visual novel character.	126578
Staff An individual staff member that has contributed to the	33267

Media Arts Database Graph

Agent	69119
Animation TV program	172160
Animation video package	65919
Game package	49684
Manga book	380226

GPS Graph

Physical game package	6564

JVMG knowledge graph frontend: https://mediagraph.link/overview

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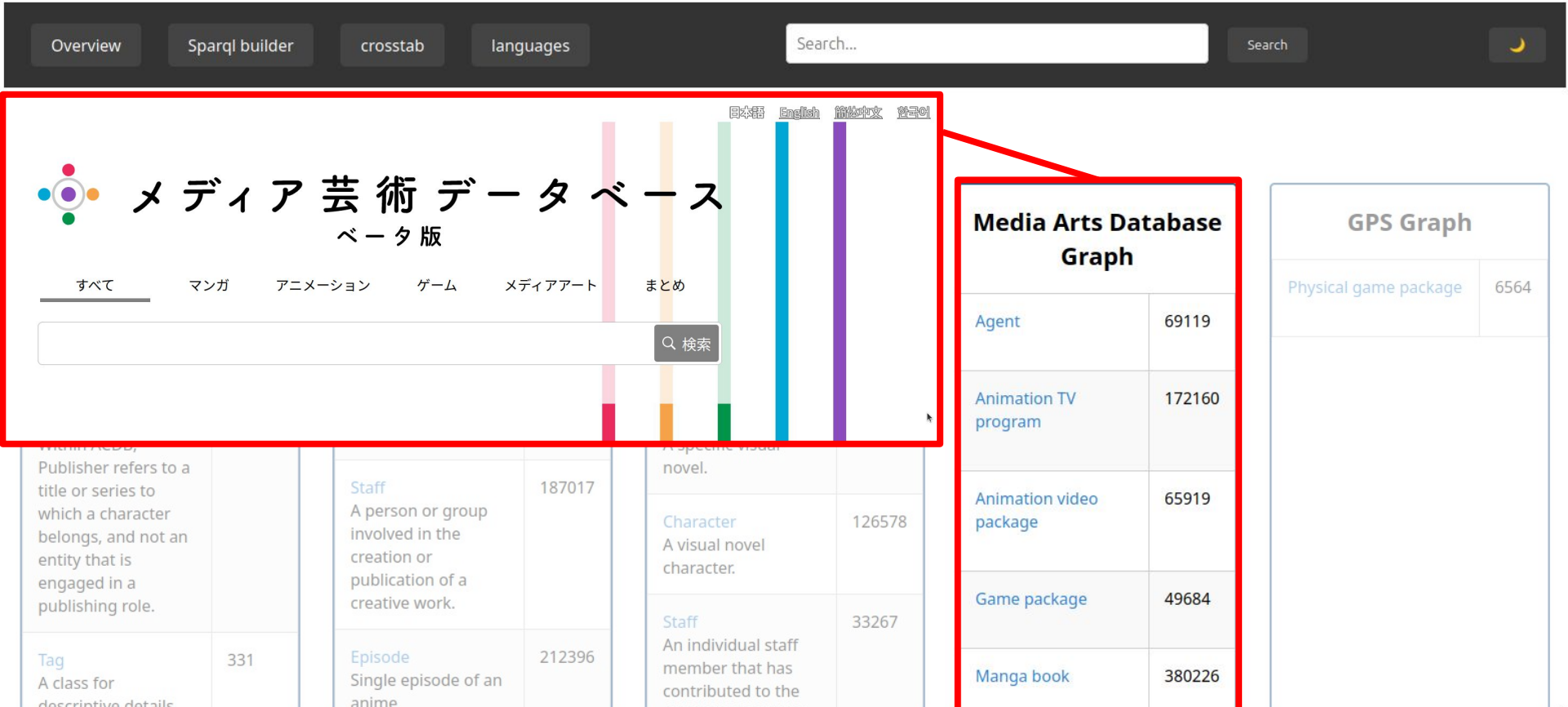

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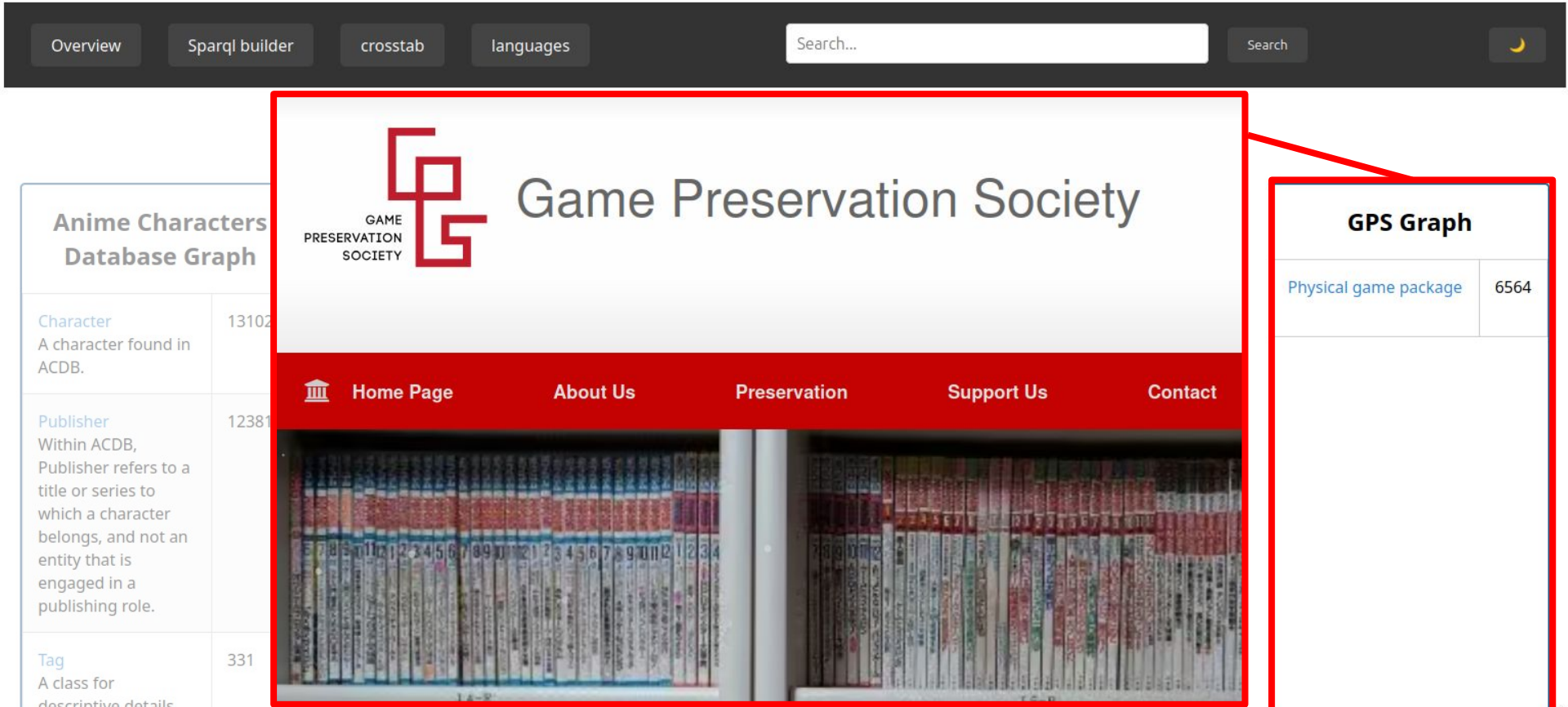

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From a continuous space of characters to a categorical space of character traits

JVMG knowledge graph frontend: https://mediagraph.link/overview

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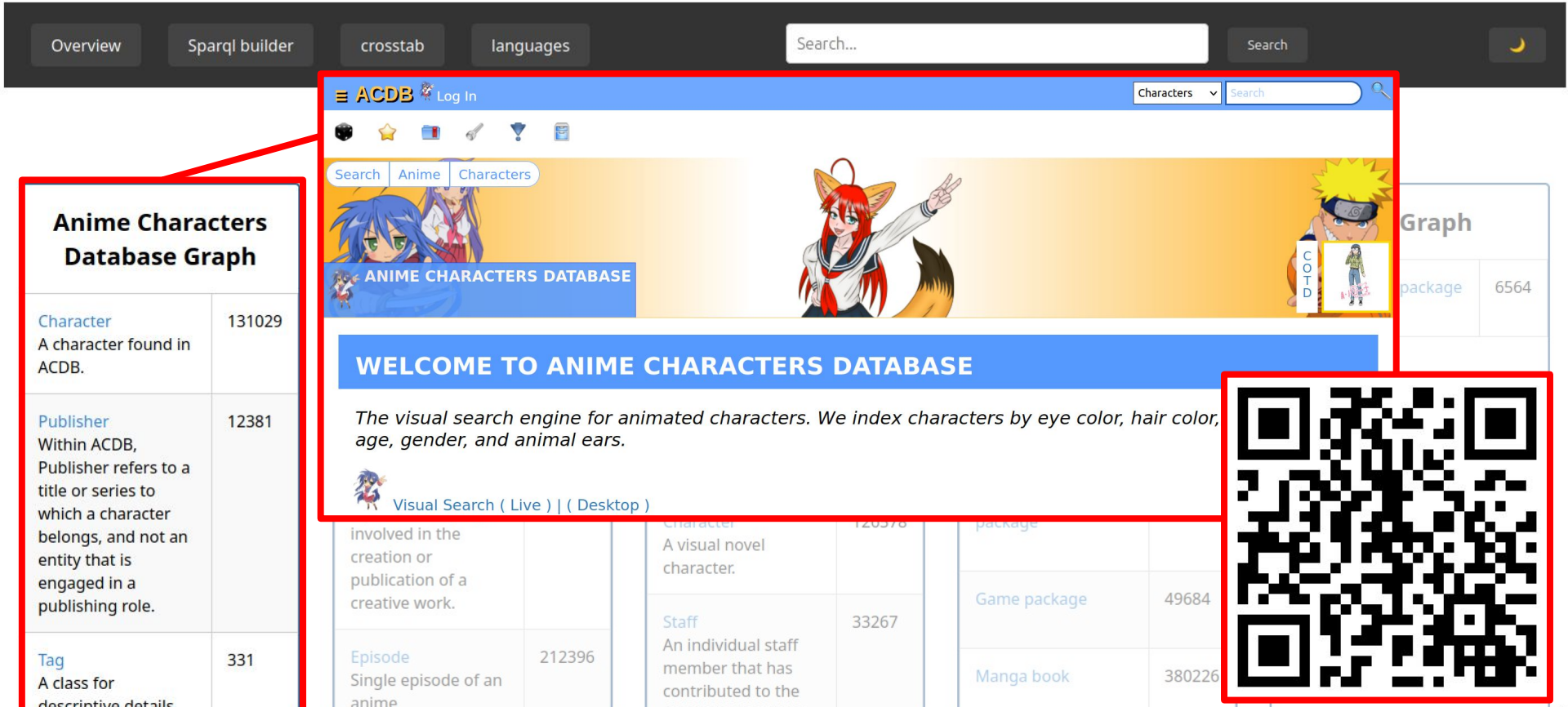

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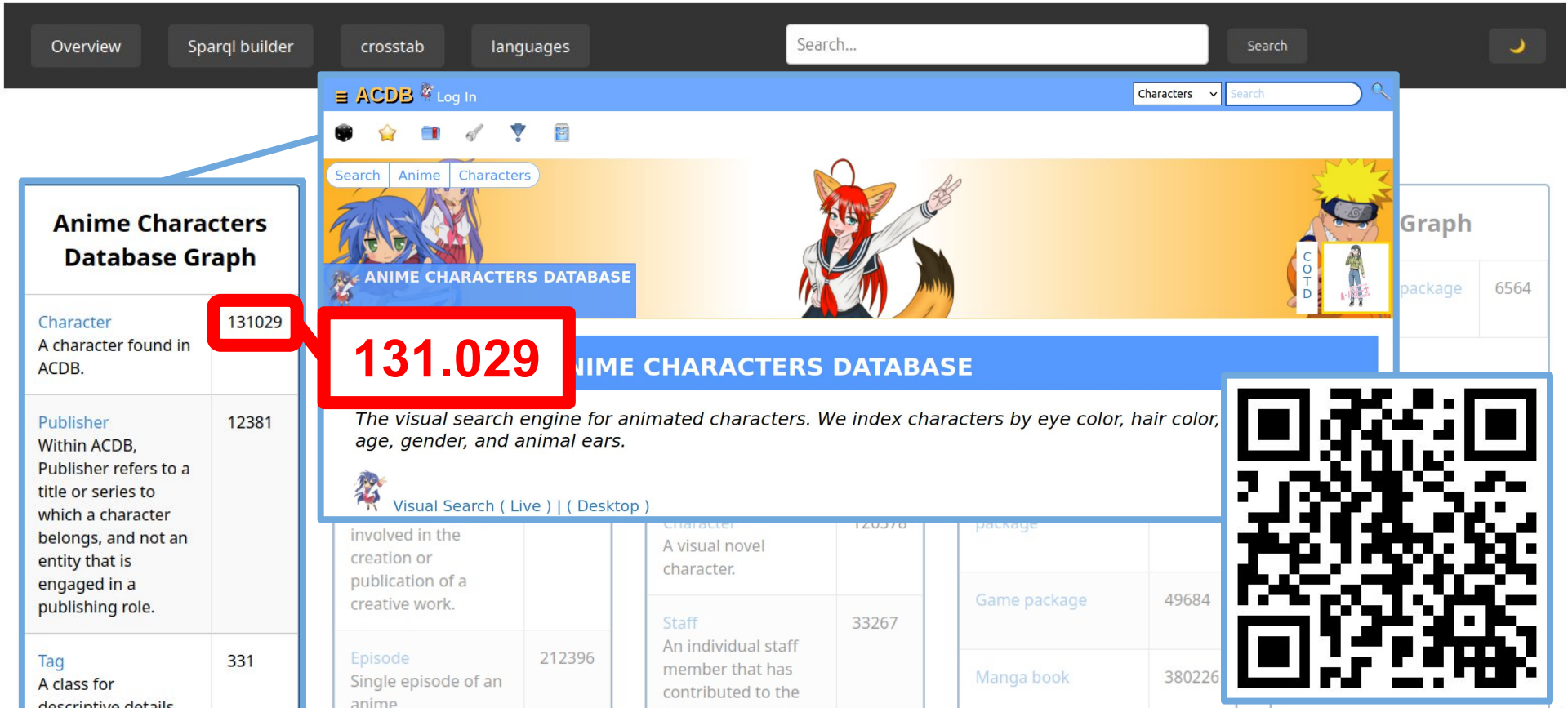
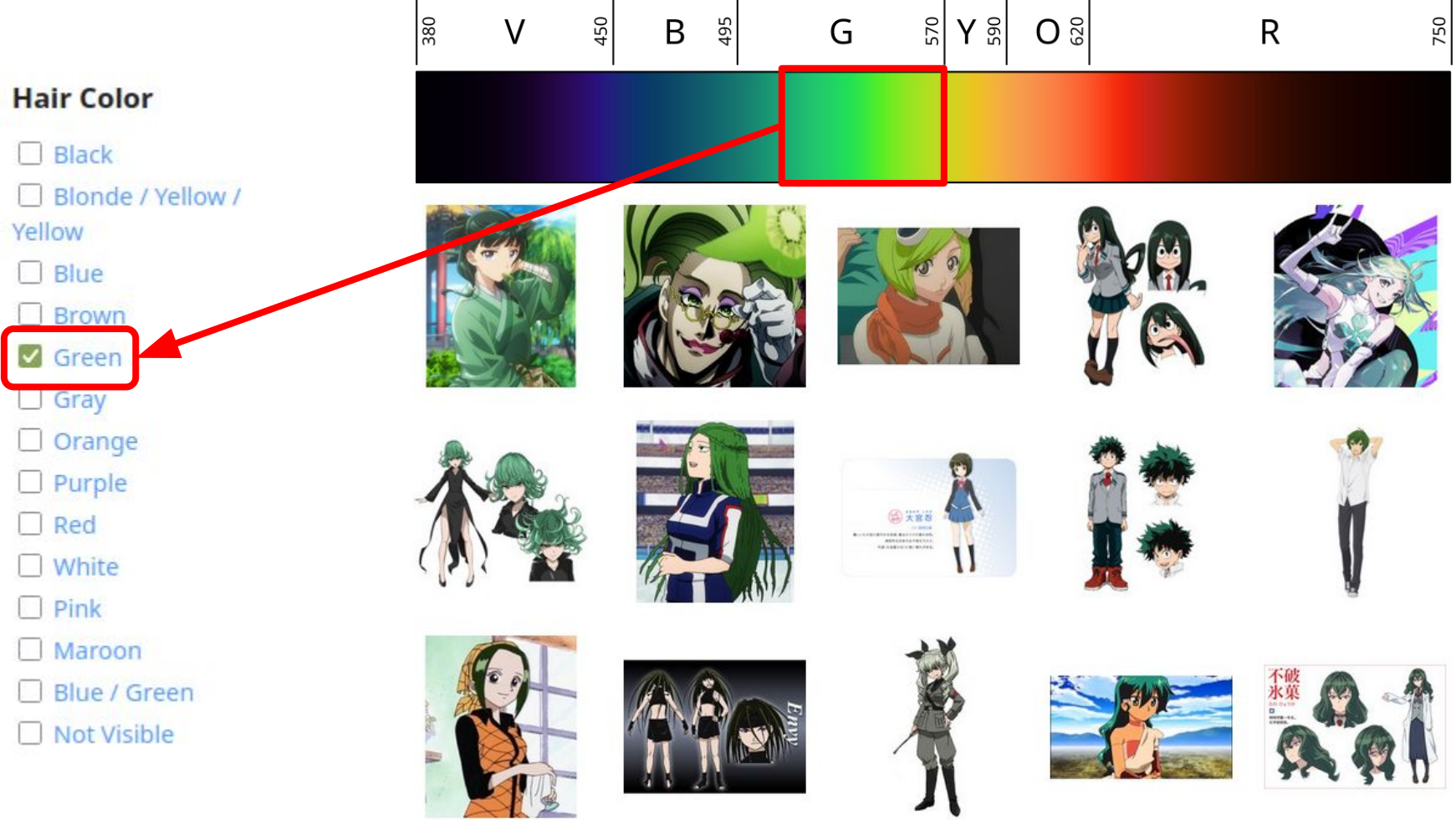


Hair Color

- [ ] Black
- [ ] Blonde / Yellow / Yellow
- [ ] Blue
- [ ] Brown
- [x] Green
- [ ] Gray
- [ ] Orange
- [ ] Purple
- [ ] Red
- [ ] White
- [ ] Pink
- [ ] Maroon
- [ ] Blue / Green
- [ ] Not Visible

Image source: https://www.animecharactersdatabase.com



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Continuous space of characters transformed into combinations of categorical character traits

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- **4 genders**
- **5 apparent age** values
- **4** types of **animal ears** (including “no”)
- **8** levels of **hair length**
- **14** different **hair colors** (including “not visible”)
- **13 eye colors** (including “not visible”)
- This might not seem like much, but this is already a space of **116.480 different possible combinations**
- (There are even more search dimensions in ACDB)

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Generating an explorable image “space”

Main idea

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- Turn the idea of **cataloging characters by traits** on its head:
  Use **traits to generate variations** of a character to explore in different settings
- Step 1: Pick settings and character
  - Three locations, three visual styles, one character
- Step 2: Pick meaningful variations of the character
  - Two character shapes, two expressed genders, three moods, three poses, three hair lengths, five hair colors and four eye colors
- Step 3: Notice that this means creating 19.440 images
  - and question your life choices

Implementation

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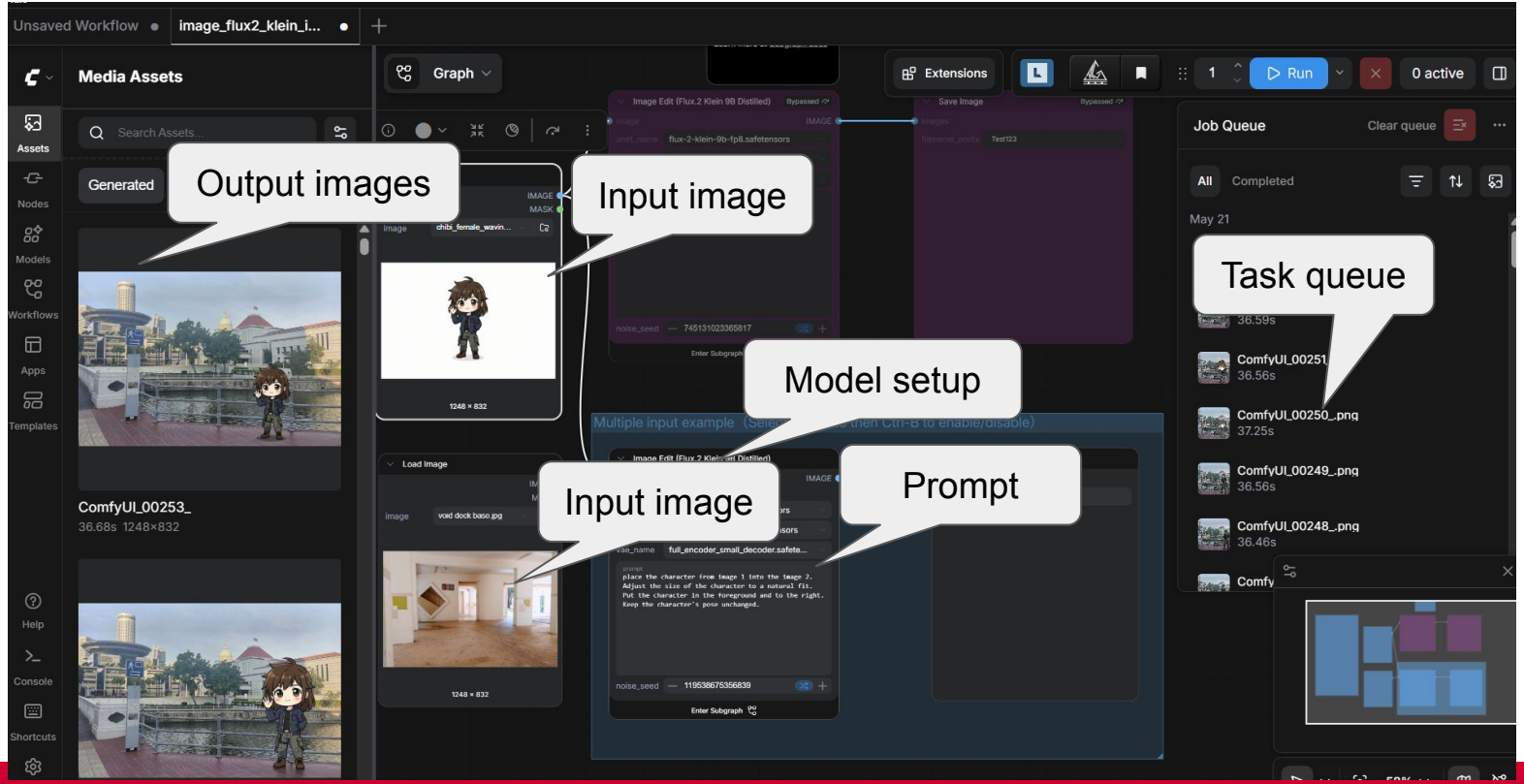
- Idea: Use generative AI to create the necessary images
- But: AI apps and services have strict usage limits and/or high cost

- Solution: use “open weight” models
  - can be downloaded and used on local hardware (requires a graphics card)
  - image quality depends on model size
  - larger models create better images, but take more memory and time

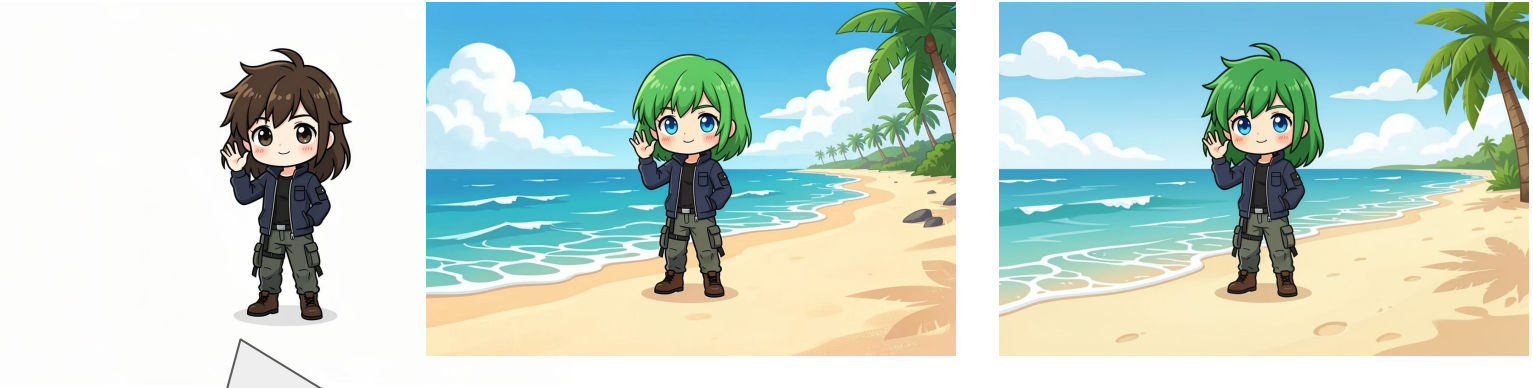
- Image generation can be run on university server to speed up generation
  - Fast servers and multiple graphics cards available

Tool: ComfyUI - web based genAI workflows



Challenges

- Models are unstable:
  same start image and prompt will lead to slightly different outcomes



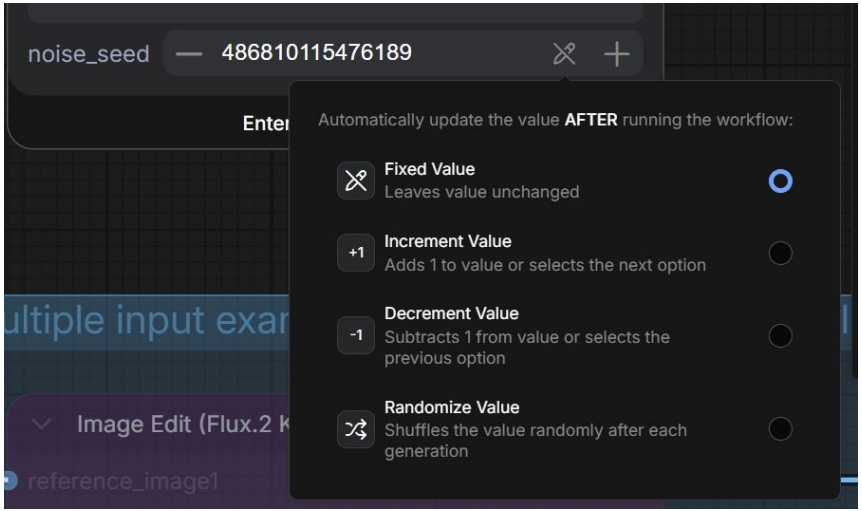
Challenges

- The reason for the variations comes from the way generative models work
- They start with a random pixel cloud and form the image iteratively
- The starting distribution is key to the variations

- Solution: Computers do not use “true” randomness, but algorithms

- We can control the algorithms by fixing the start values

- But some randomness remains :(



Thank you for your attention!

Get in touch with us:

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Second phase

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