Educational Technologies for Open Educational Practices 1

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Summary

- Introductions
- The 'right' infrastructure for open pedagogy

Two Paths

- ELearning using Github Pages, Static Site Generators, and H5P
- ELearning using Jupyter Notebooks and Google Colab

- Concluding thoughts

Introductions

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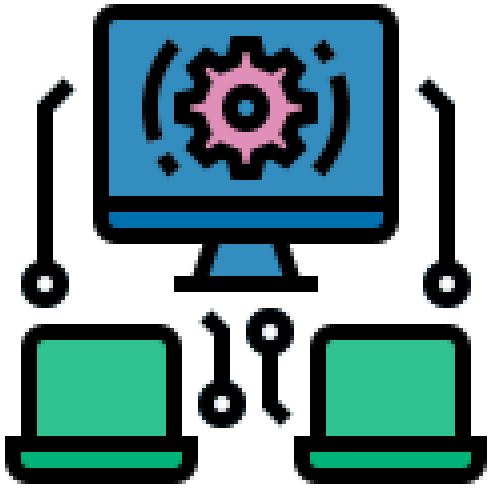
A Question of Infrastructure

- One of the most important considerations for an any open educational practice
- Influenced by: institutional values; resourcing (or lack thereof); support; sustainability
- Directly affects **what you can do in a lesson**

articulate

Adobe



A Question of Infrastructure

- Can you create quality eLearning using open tools?

*

* GitHub is not open source; but does operate under an open spirit

A Question of Infrastructure

- Can you create quality eLearning using open tools?

… is a static site hosting service that takes HTML, CSS, and JavaScript files straight from a repository on GitHub

… is a fast and modern static site generator written in Go

…is free and open-source content collaboration framework based on JavaScript.

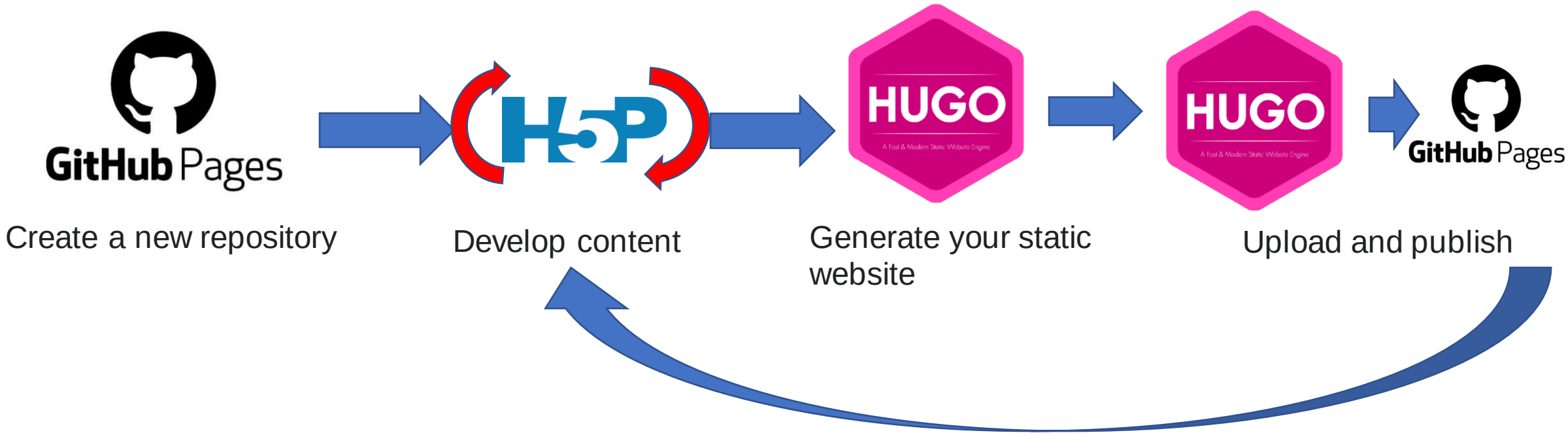
A Question of Infrastructure

… to host everything. Repository publicly available, shareable, pull requests, forking

… to generate the static website, including all the content. Essentially operating as a set of templates for modular learning content. Themeable.

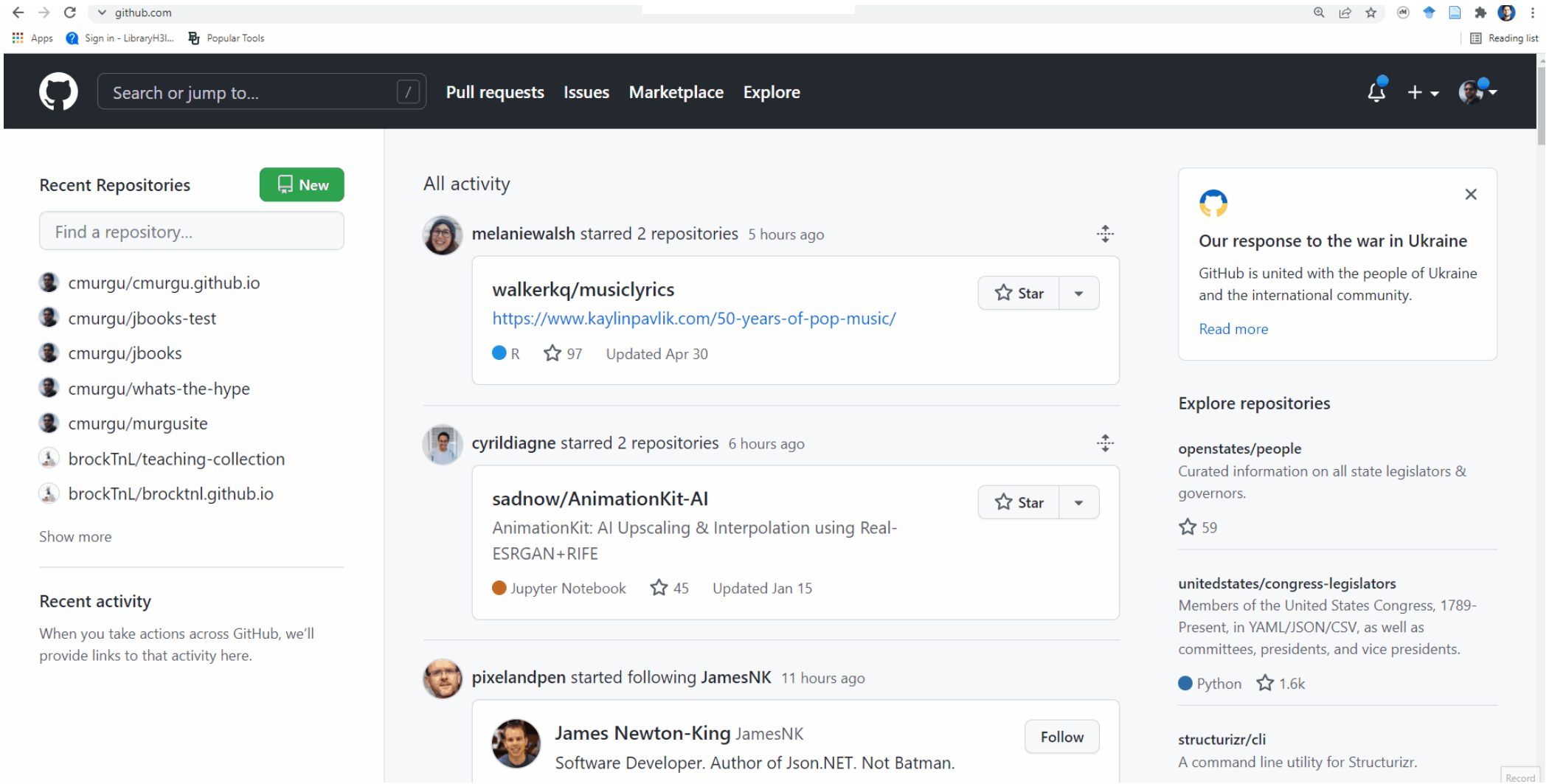
… adding interactive content and activities using H5P (via eCampus Ontario studio)

What's Involved (flow chart)

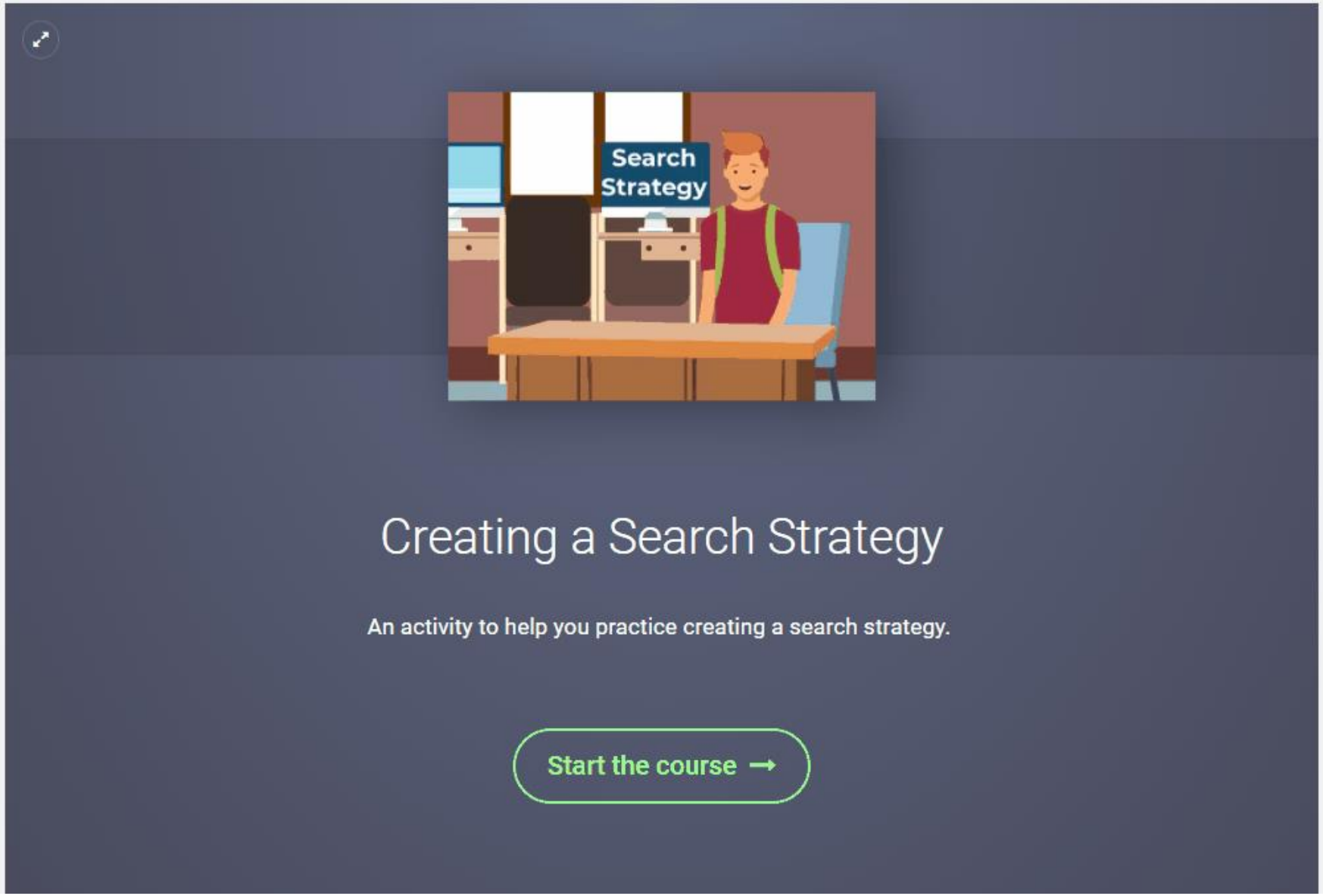


Create a Repository

GitHub Pages

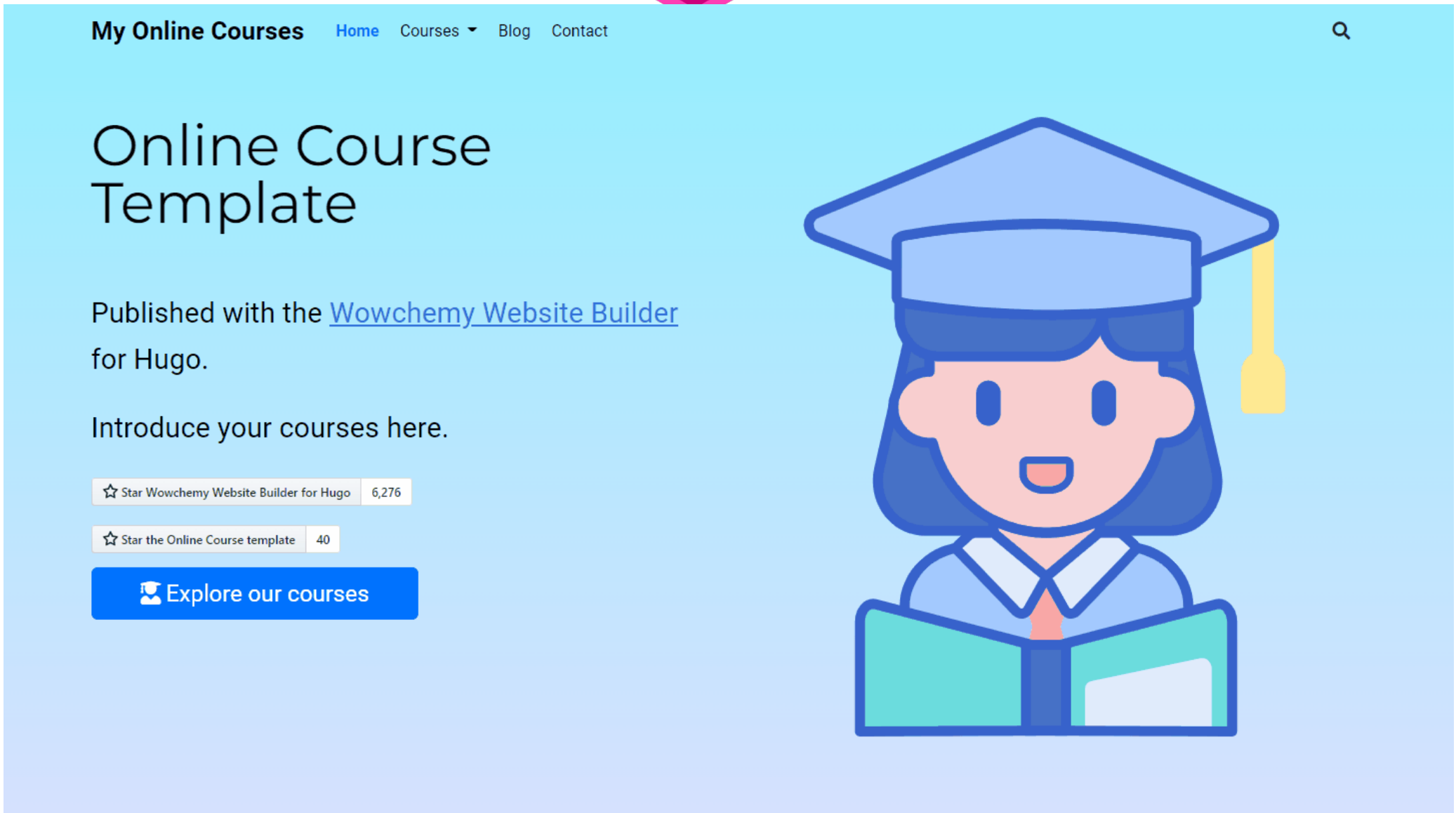


Design Content

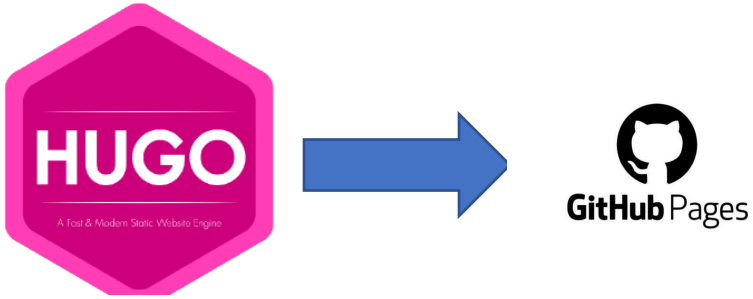


Generate Website

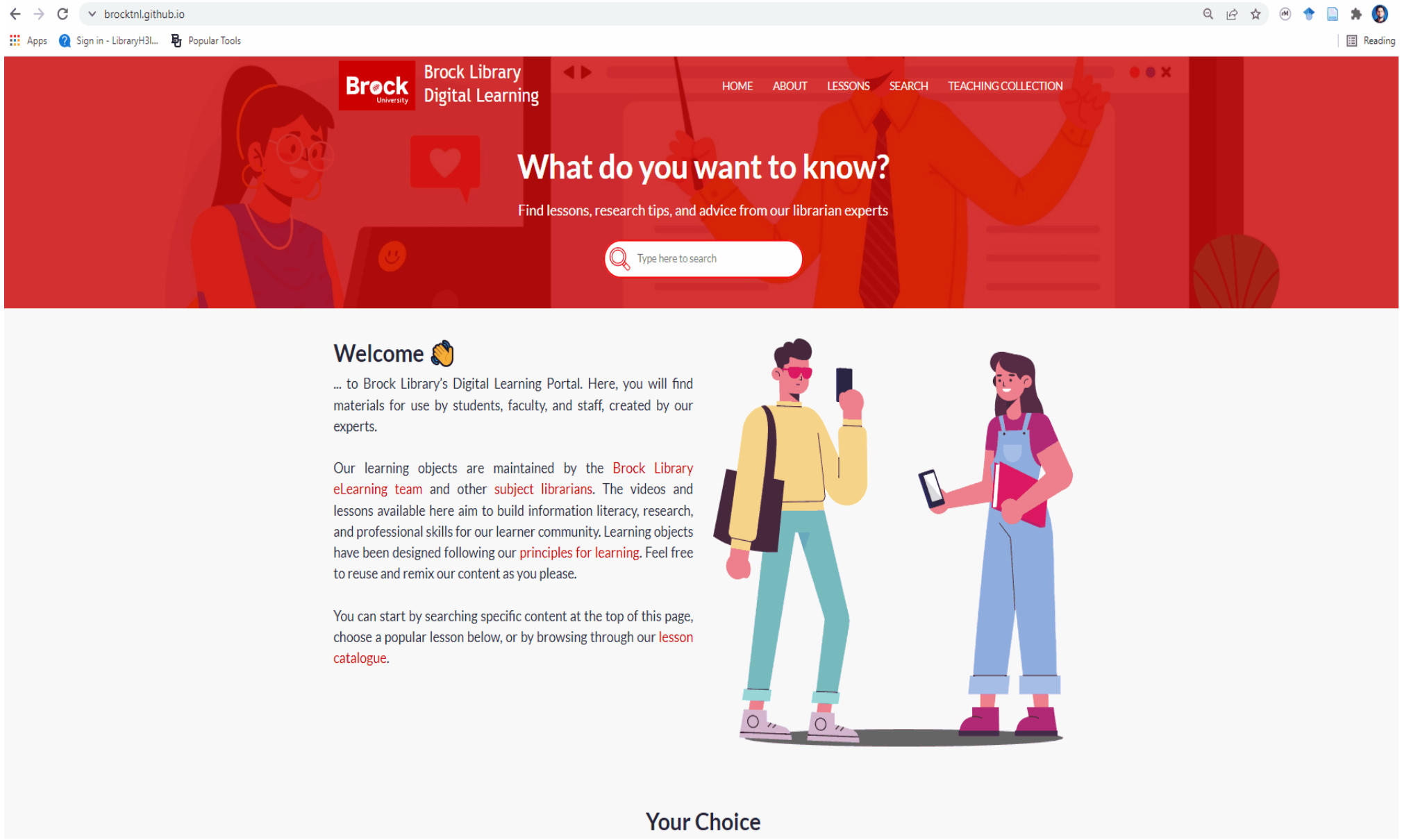
Preview Website



Push and Publish



Result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Your Choice

What skills are required?

- Some comfort with the command line (very minimal) — great opportunity to play around with Git and Hugo
- Some comfort with Github repositories, basic HTML, CSS (and Javascript if you want to go wild)
- Access to H5P authoring editor (if you want to go this route)

Advantages

- You control ***<u>everything</u>*** (goodbye Springshare Libguides )
- Static websites = simple HTML.
  - No databases or heavy infrastructure to lug around, maintain, and transfer over the lifetime of the project
- Control = sidestepping institutional and bureaucratic red tape
- Technical skill development and personal/professional challenges

Disadvantages

- You control ***everything***
- Institutional red tape is sometimes helpful and adds to 'authenticity' or 'legitimacy'
- Accessibility considerations

Another Question of Infrastructure

- Can you teach students about programming concepts without worrying about technological bottlenecks?

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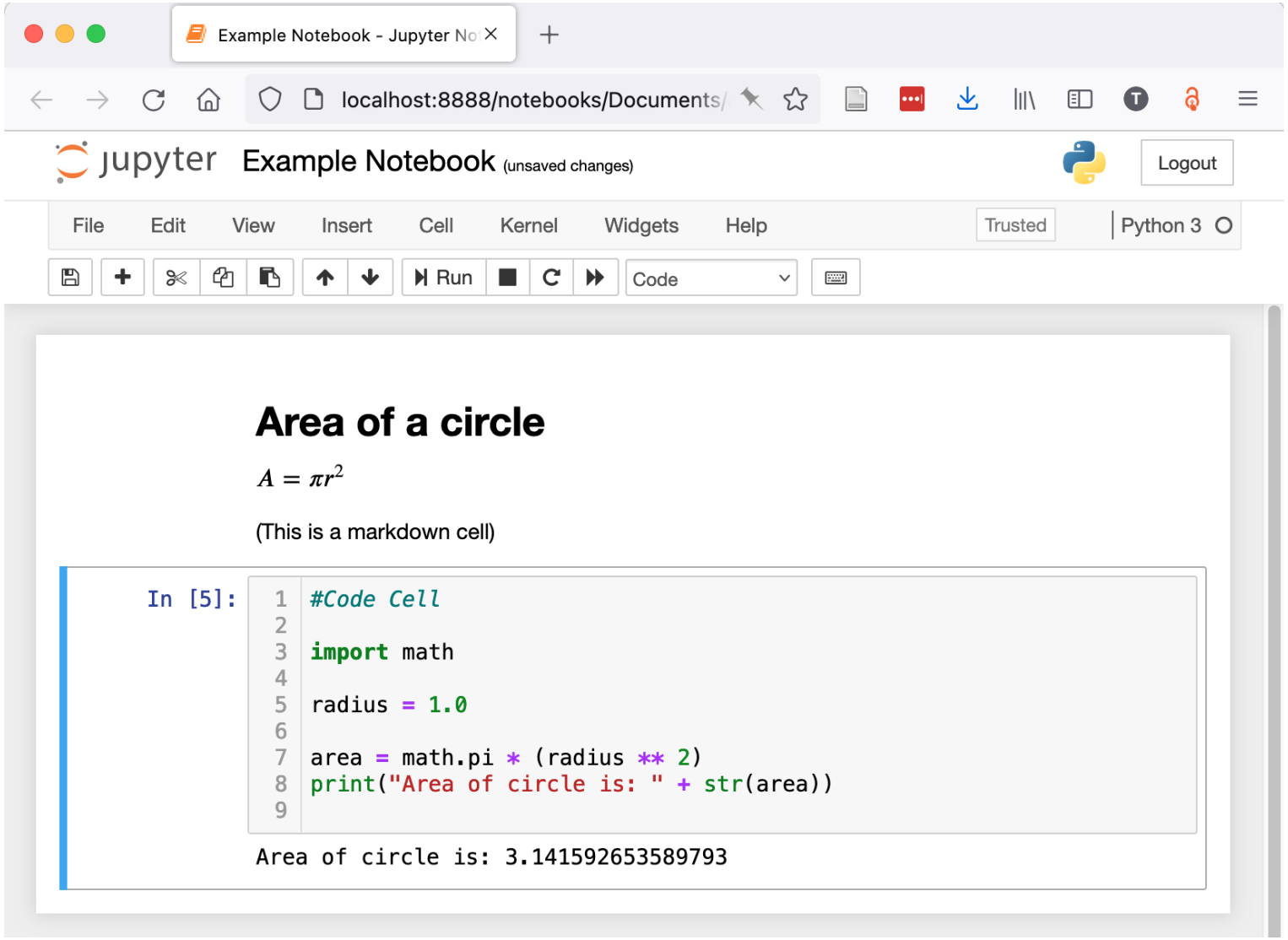
- Can you teach students about programming concepts without worrying about technological bottlenecks?

The Notebook Interface

- Represent a new paradigm of teaching and learning things that involves code presented in a web page that can be shared

- Comes in many different shapes and sizes but normally it is use for the Python Programming Language

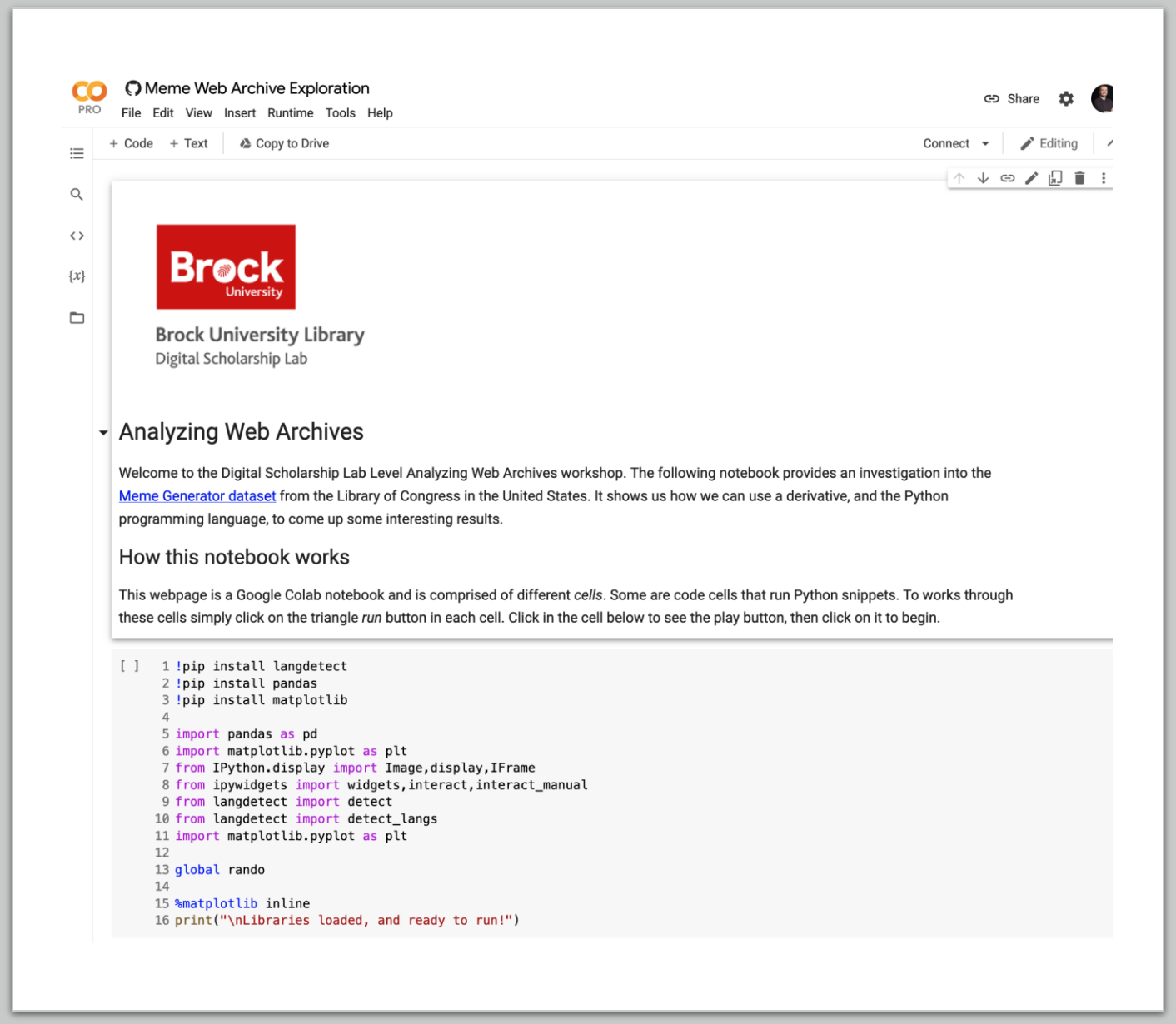
The Notebook Interface



The Notebook Interface

- You can share notebooks and shortcut a lot of technical setup and knowledge of code

- Popular 'flavours' include
  - Anaconda
  - Compute Canada
  - Google Colab



Case Studies

- Digital Scholarship Lab Workshops
- COMM 4P35 Seminar
- Archives Unleashed
- Python for Librarians

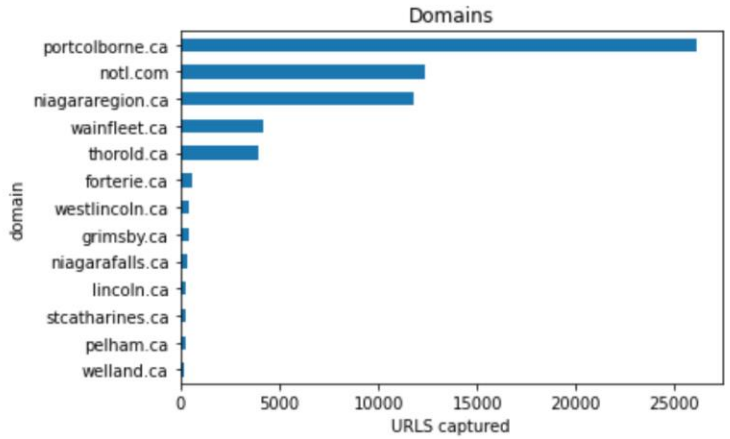
General information about the dataset

In [ ]:
```
print("Total Number of total records in dataset: ",len(archive_data))
```

```
Total Number of total records in dataset:  61160
```

Domains information captured in dataset:

In [ ]:
```
ax = archive_data.groupby("domain")["url"].count().sort_values().plot(kind='barh')
ax.set_title("Domains")
ax.set_label("Number of captures")
ax.set_xlabel("URLS captured")
plt.show()
```



Workflow

- Create the notebook
- Post the notebook on GitHub
- Share a link with learners that will load the notebook into the Google Colab Interface
- Learners copy the notebook into their own environment
- Work through the material
- Learners can return to the material to review and modify

Let’s try

- Link in chat box

Conclusion

- Open pedagogical practices largely dependent on infrastructure, whether for OER creation or affecting student learning experiences
- For OER, pipelines of completely accessible technology exist to create high-quality eLearning
- For open learning, software are available that limit the technological bottlenecks for students

Contact us

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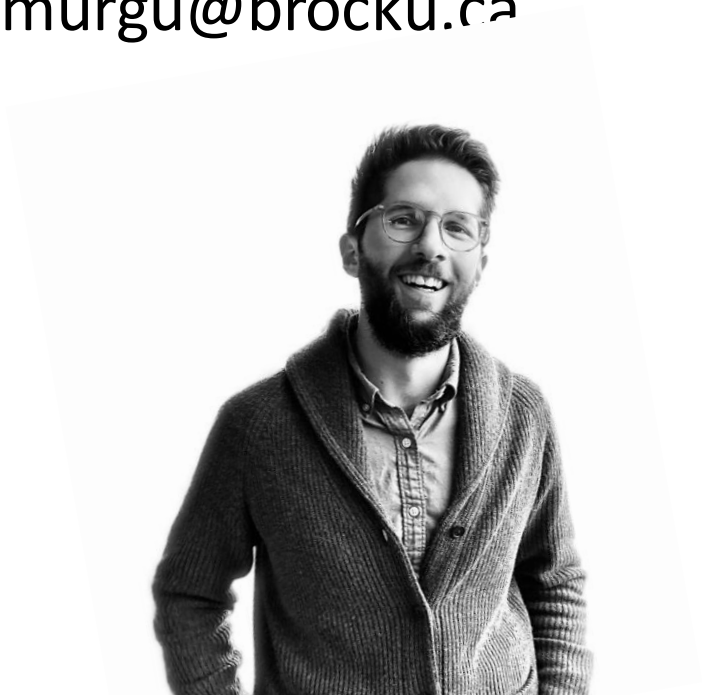

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