



# Perseus Digital Library Scaife Viewer

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# Outline

- History and Motivation
- Tour of Scaife
- Text Pipeline, CTS URNs, CapiTainS
- Architecture
- Beyond Perseus
- Next Iteration
- ATLAS
- How to Contribute

# History and Motivation

- Perseus Digital Library
- P4 “Hopper”
- Make it much easier to add new texts
- Make a more open and extensible platform
- Scaife Viewer

# Scaife Viewer

- Part of the Open Greek and Latin Project
- Funded by the Humboldt Chair of Digital Humanities at the University of Leipzig
- Developed by Eldarion, Inc.
- Open Source under an MIT License
- Named for Ross Scaife (1960–2008)

# A Reference Model for Capabilities of Online Readers

## Selecting Passage

browsing, by reference, text search

## Navigation

## Viewing the Passage

styling, locating

## Annotation

styling, interlinear, hover, sidebar

## Synchronised Reading

translations, other editions, commentaries, images



[scaife.perseus.org](#)

Log in Sign up

# Perseus Digital Library Scaife Viewer

Browse Library Text Search

or try the Iliad or Plato's Apology.

1,834 works in 2,320 editions and translations (1,178 in Greek and 612 in Latin)

50.1 million words (20.1 million in Greek, 15.6 million in Latin)

## About the Scaife Viewer

The **Scaife Viewer** is a reading environment for pre-modern text collections in both their original languages and in translation. It is the first phase of work towards the next version of the Perseus Digital Library, Perseus 5.0.

[read more](#)

## Recent Changes

WEEK OF APRIL 29TH, 2019

- added the ability to customize text width
- added text and XML exports
- improved search performance
- add caching to improve library performance
- fixed various bugs

(v2019-05-01-001 release)

WEEK OF MARCH 18TH, 2019

- launched a newsletter for [The Scaife Viewer Project](#)

■ scaife.perseus.org/library/ ⌂

 Scaife Viewer    Browse Library    Text Search    Log in    Sign up

# Library

TEXT GROUPS AND WORKS

Find a text group or work... (e.g. Plato or Apology)

expand all | collapse all      sort by: text group | CTS URN | work

> [Quintilian]	urn:cts:latinLit:phi1002
> Acta Joannis	urn:cts:greekLit:tlg0317
> Adamantius Judaeus	urn:cts:greekLit:tlg0731
> Adamnan Saint 625?-704	urn:cts:latinLit:stoa0007
> Aelius Herodianus	urn:cts:greekLit:tlg0087
▽ Aeschylus	urn:cts:greekLit:tlg0085
Suppliant Maidens	urn:cts:greekLit:tlg0085.tlg001
Persians	urn:cts:greekLit:tlg0085.tlg002
Prometheus Bound	urn:cts:greekLit:tlg0085.tlg003
Seven Against Thebes	urn:cts:greekLit:tlg0085.tlg004
Agamemnon	urn:cts:greekLit:tlg0085.tlg005
Choephoroe	urn:cts:greekLit:tlg0085.tlg006
Eumenides	urn:cts:greekLit:tlg0085.tlg007
> Aesop	urn:cts:greekLit:tlg0096
> Agatharchides	urn:cts:greekLit:tlg0067
> Agathererus	urn:cts:greekLit:tlg0090
> Agathias Scholasticus	urn:cts:greekLit:tlg4024
> Alcidamas	urn:cts:greekLit:tlg0610
> Alciphron Rhet., Soph., AD 2/3	urn:cts:greekLit:tlg0640
> Alexander of Aphrodisias	urn:cts:greekLit:tlg0732
> Alypius	urn:cts:greekLit:tlg2135
> Ammianus Marcellinus	urn:cts:latinLit:stoa0023

Scaife Viewer [Browse Library](#) [Text Search](#) Log in Sign up

# *Text Search*

**SEARCH GUIDE**

- + signifies AND operation
- | signifies OR operation
- negates a single token
- " wraps a number of tokens to signify a phrase for searching
- \* at the end of a term signifies a prefix query
- ( and ) signify precedence
- $\sim num$  after a word signifies edit distance (fuzziness)
- $\sim num$  after a phrase signifies slop amount

"love Socrates"~2

Search Type:  Form  Lemma (Greek only)

Results Format Showing 1-2 of 2 ◀◀ page 1 of 1 ▶▶

Instances  Passages

Text Groups Plutarch 2

Plutarch, Alcibiades, Chapter 6 Section 1 (6.1) [translation](#)

But the love of Socrates, though it had many powerful

---

Plutarch, Alcibiades, Chapter 4 Section 1 (4.1) [translation](#)

him. But it was the love which Socrates had for him that bore

Showing 1-2 of 2 ◀◀ page 1 of 1 ▶▶

Scaife Viewer [Browse Library](#) [Text Search](#) Log in Sign up

# Text Search

SEARCH GUIDE

- + signifies AND operation
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Search Type:  Form  Lemma (Greek only)

Results Format

Instances  Passages

Text Groups [clear](#)

- Plato 31

Works

Lysis	9
Phaedrus	6
Euthyphro	5
Symposium	3
Hipparchus	3

Showing 1-10 of 31

Plato, Lysis, 212 (212) [edition](#)

Plato, Euthyphro, 10 (10) [edition](#)

Plato, Lysis, 213 (213) [edition](#)

Plato, Euthyphro, 11 (11) [edition](#)

Plato, Hipparchus, 227 (227) [edition](#)

Plato, Lysis, 221 (221) [edition](#)

Plato, Lysis, 222 (222) [edition](#)

Plato, Lysis, 207 (207) [edition](#)

Plato, Euthyphro, 9 (9) [edition](#)

Plato, Phaedrus, 256 (256) [edition](#)

page 1 of 4

Showing 1-10 of 31

page 1 of 4

■ scaife.perseus.org/reader/urn:cts:greekLit:tlg0012.tlg001.perseus-grc2:1.1-1.7/

 Scaife Viewer [Browse Library](#) [Text Search](#) [Log in](#) [Sign up](#)

→  

Homer, Iliad  
*Iliad, Homeri Opera*  
Book 1 Line 1 to Book 1 Line 7 (1.1–1.7)

▼  add parallel version

μῆνιν ἄειδε θεὰ Πηληϊάδεω Ἀχιλῆος  
οὐλομένην, ἦ μυρί' Ἀχαιοῖς ἄλγε' ἔθηκε,  
πολλὰς δ' ἵφθιμους ψυχὰς Ἄϊδι προΐαψεν  
ἡρώων, αὐτοὺς δὲ ἐλώρια τεῦχε κύνεσσιν  
οἰωνοῖσι τε πᾶσι, Διὸς δ' ἐτελείετο βουλή,  
ἐξ οὗ δὴ τὰ πρῶτα διαστήτην ἐρίσαντε  
Ἀτρεΐδης τε ἄναξ ἀνδρῶν καὶ δῖος Ἀχιλλεύς.

 **Scaife Viewer** [Browse Library](#) [Text Search](#) [Log in](#) [Sign up](#)

[scaife.perseus.org/reader/urn:cts:greekLit:tlg0012.tlg001.perseus-grc2:1.1-1.7?highlight=μῆνιν%5B1%5D](#)

**Homer, Iliad**  
*Iliad, Homeri Opera*  
Book 1 Line 1 to Book 1 Line 7 (1.1–1.7)

**PASSAGE REFERENCE**  
1.1-1.7

**TEXT SEARCH**  
  
 Form  Lemma (Greek only)  
Use text input above to find text in this version.

**ANCESTORS**  
1

**add parallel version**

μῆνιν ἄειδε θεὰ Πηληϊάδεω Ἀχιλῆος  
οὐλομένην, ἦ μυρί' Ἀχαιοῖς ἄλγε' ἔθηκε,  
πολλὰς δ' ἵφθιμους ψυχὰς Ἄϊδι προΐαψεν  
ἡρώων, αύτοὺς δὲ ἐλώρια τεῦχε κύνεσσιν  
οἰωνοῖσί τε πᾶσι, Διὸς δ' ἐτελείετο βουλή,  
ἔξ οὗ δὴ τὰ πρῶτα διαστήτην ἐρίσαντε  
Ἄτρεῖδης τε ἄναξ ἀνδρῶν καὶ δῖος Ἀχιλλεύς.

**CTS URN**  
[urn:cts:greekLit:tlg0012.tlg001.perseus-grc2:1.1-1.7](#)

**TEXT MODE**  
NORMAL HIGHLIGHT  
click and shift-click on words to highlight

**TEXT SIZE**  
Aa Aa Aa Aa Aa

**TEXT WIDTH**

**HIGHLIGHT**

**EXPORT PASSAGE**

**MORPHOLOGY**  
**μῆνις** noun 3rd  
**μῆν-ιν** accusative singular feminine

**TOKEN LIST**

**WORD LIST**  
Number in parentheses is frequency per 10k in this work.  
**μῆνις** wrath, anger (0.97)

**CHS COMMENTARY**  
**Iliad 1**  
Gregory Nagy

The comments I offered in Classical Inquiries 2016-2017 on *Iliad* Rhapsody 1 through Rhapsody 24, starting here with Rhapsody 1, were based mostly on details that derive from seven books that I indicate in the Bibliography by way of these abbreviations: BA, GMP, H24H, HC, HPC, HQ, HR, MoM, PasP, PH. Each one of these books has its own *index locorum*. My colleague Anita Nikkanen, an Associate Editor for the online project *A Homer commentary in progress*, tracked the sequences of Homeric verses as listed in the indices for six of these books and then summarized my comments on those verses. Following up on her meticulous work, I am in the process of converting her

sciaife.perseus.org/reader/urn:cts:greekLit:tlg0012.tlg001.perseus-grc2:1.1-1.33?right=perseus-eng3

Scaife Viewer    Browse Library    Text Search    Log in    Sign up

## Homer, Iliad

Iliad, Homeri Opera  
Greek edition

μῆνιν ἄειδε θεὰ Πηληϊάδεω Άχιλῆος  
οὐλομένην, ἥ μυρί' Άχαιοῖς ἄλγε' ἔθηκε,  
πολλὰς δ' ίφθιμους ψυχὰς Άΐδι προΐαψεν  
ήρωων, αύτοὺς δὲ ἐλώρια τεῦχε κύνεσσιν  
οἰωνοῖσι τε πᾶσι, Διὸς δ' ἐτελείετο βουλή,  
έξ οὗ δὴ τὰ πρῶτα διαστήτην ἐρίσαντε  
Ἄτρείδης τε ἄναξ ἀνδρῶν καὶ δῖος Άχιλλεύς.  
τίς τ' ἄρ σφωε θεῶν ἔριδι ξυνέκε μάχεσθαι;  
Λητοῦς καὶ Διὸς υἱός· δὲ γάρ βασιλῆϊ χολωθεὶς  
νοῦσον ἀνὰ στρατὸν ὅρσε κακήν, ὀλέκοντο  
δὲ λαοί,  
οὕνεκα τὸν Χρύσην ἡτίμασεν ἀρητῆρα  
Ἄτρείδης· δὲ γάρ ἦλθε θοὰς ἐπὶ νῆας Άχαιῶν  
λυσόμενός τε θύγατρα φέρων τ' ἀπερείσι'  
ἄποινα,  
στέμματ' ἔχων ἐν χερσὶν ἐκηβόλου  
Ἀπόλλωνος  
χρυσέω ἀνὰ σκήπτρῳ, καὶ λίσσετο πάντας  
Άχαιούς,  
Ἄτρείδα δὲ μάλιστα δύω, κοσμήτορε λαῶν·  
Ἄτρείδαι τε καὶ ἄλλοι ἐϋκνήμιδες Άχαιοί,  
νῦν μὲν θεοὶ δοῖεν Όλύμπια δώματ' ἔχοντες  
ἐκπέρσαι Πριάμοιο πόλιν, εῦ δ' οἴκαδ'  
ἰκέσθαι·  
παῖδα δ' ἔμοι λύσαιτε φίλην, τὰ δ' ἄποινα  
δέχεσθαι,  
ἀζόμενοι Διὸς υἱὸν ἐκηβόλον Άπόλλωνα.  
ἔνθ' ἄλλοι μὲν πάντες ἐπευφήμησαν Άχαιοὶ  
αἰδεῖσθαι θ' ιερῆα καὶ ἀγλαὰ δέχθαι ἄποινα.

Iliad, The Loeb classical library  
English translation

1  
The wrath sing, goddess, of Peleus' son,  
Achilles, that destructive wrath which  
brought countless woes upon the Achaeans,  
and sent forth to Hades many valiant souls  
of heroes, and made them themselves spoil  
for dogs and every bird; thus the plan of  
Zeus came to fulfillment,

5  
from the time when[\*] first they parted in  
strife Atreus' son, king of men, and brilliant  
Achilles. Who then of the gods was it that  
brought these two together to contend? The  
son of Leto and Zeus; for he in anger against  
the king roused throughout the host an evil  
pestilence, and the people began to perish,

10  
because upon the priest Chryses the son of  
Atreus had wrought dishonour. For he had  
come to the swift ships of the Achaeans to  
free his daughter, bearing ransom past  
counting; and in his hands he held the  
wreaths of Apollo who strikes from afar,[\*]  
on a staff of gold; and he implored all the  
Achaeans,

15  
but most of all the two sons of Atreus, the  
marshallers of the people:

*Sons of Atreus, and other well-greaved*

# First1KGreek Pipeline

- Lace OCR
  - Markup (TEI XML / EpiDoc / CapiTainS)
  - GitHub
- 
- Existing Perseus Digital Library
  - Other repositories

# CTS URNs



# TEI XML (EpiDoc)

- Text Encoding Initiative

<http://www.tei-c.org/index.xml>

- EpiDoc

<http://www.stoa.org/epidoc/gl/latest/>

- Markup
- Transcription
- Metadata

# CapiTainS

- Software suite and guidelines for Citable Text

<http://capitains.org/>

- Directory Structure
- Metadata Files
- References Declaration

# Directory Structure

data/

  └ <textgroup>/

    ├ \_\_cts\_\_.xml

    └ <work>/

      ├ \_\_cts\_\_.xml

      ├ <work-identifier-1>.xml

      └ <work-identifier-2>.xml

# References Declaration

1.7

```
<TEI xmlns="http://www.tei-c.org/ns/1.0">
...
<text xml:lang="grc">
  <body>
    <div type="edition" ... >
      <div type="textpart" subtype="Book" n="1">
        ...
        <l n="7">Ατρεΐδης τε ἄναξ ἀνδρῶν καὶ δῖος Ἀχιλλεύς.</l>
```

/TEI/text/body/div/div[@n="1"]//l[@n="7"]

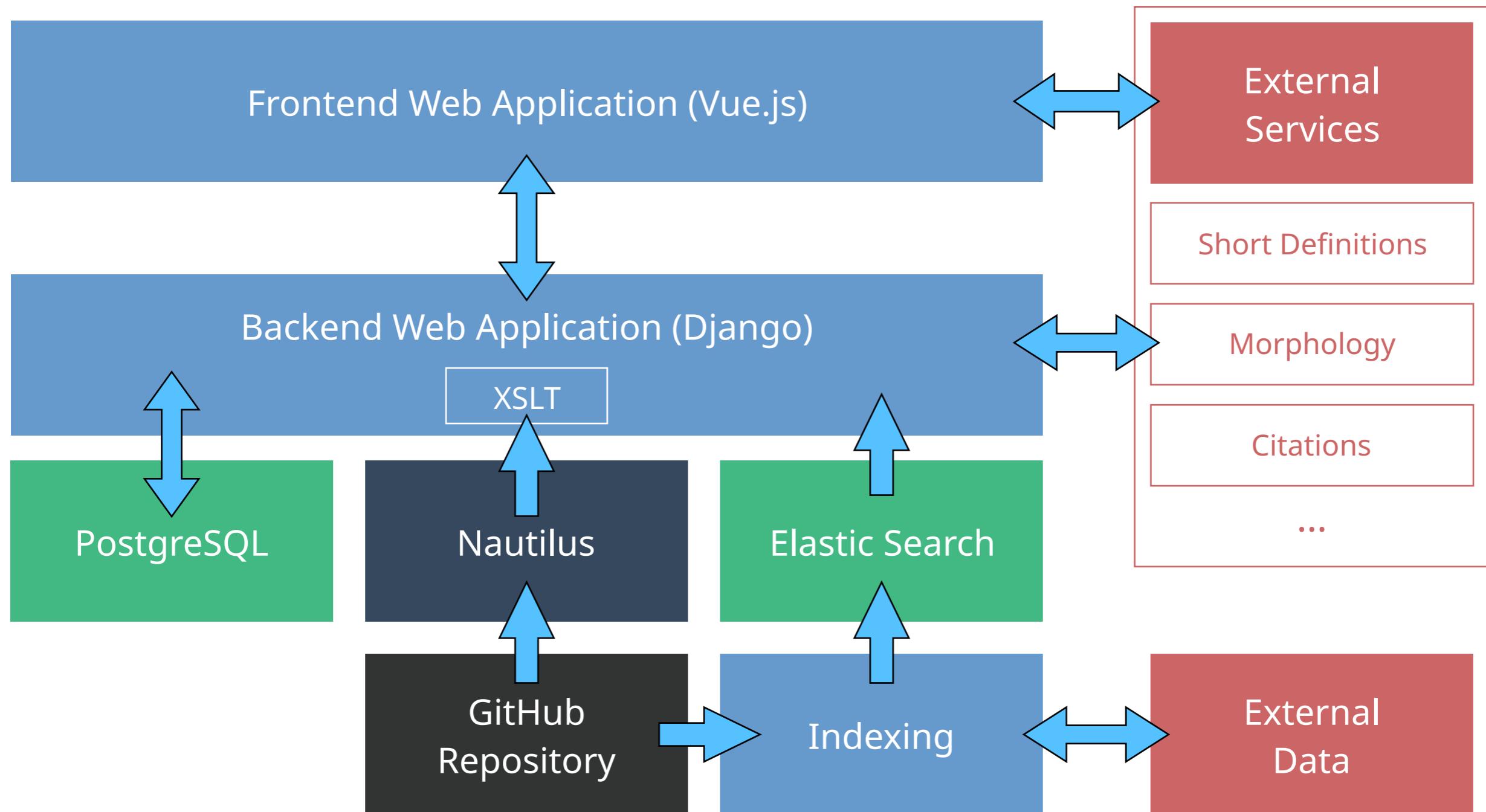
# References Declaration

## 1.7

```
<refsDecl n="CTS">
  <cRefPattern
    n="line" matchPattern="(\w+).(\w+)"
    replacementPattern="#xpath(/TEI/text/body/div/div[@n='$1']//l[@n='$2'])">
    <p>This pointer pattern extracts Book and Line</p>
  </cRefPattern>
  <cRefPattern
    n="book" matchPattern="(\w+)"
    replacementPattern="#xpath(/TEI/text/body/div/div[@n='$1'])">
    <p>This pointer pattern extracts Book</p>
  </cRefPattern>
</refsDecl>
```

/TEI/text/body/div/div[@n="1"]//l[@n="7"]

# Architecture



# Widget Architecture

- Vue.js components
- Inherit from Widget component
- Internal state
- Shared reader state
- Calls to external services

# Beyond Perseus

- Annotation Interoperability project (JHU / Tufts / Mellon)
- Digital Sirah Project (AKU / QNL)
- Brill Scholarly Editions
- Making Sense Project (Brill / Naturalis)
- Hedera Project (Harvard)

# Next Iteration

- Ongoing improvements
- Skeleton and Widgets
- Text Providers / Ingestion
- Chunking (incl. custom TOCs)
- Stand-off Annotation and the “Data-Plane”
- Images (IIIF) and Audio
- Translation Alignment
- Syntax Trees

# Skeleton

The screenshot shows a web application interface with the title "HOMER READER" at the top center. The URL in the address bar is "feature-parallel--readhomer-dev.netlify.com". Below the title, there is a "DONE" button with a right-pointing arrow icon. On the left side, there is a vertical sidebar with several expandable sections, each starting with a plus sign and a small square icon. On the right side, there is a main content area containing a list of features, each with a checked checkbox and a corresponding label.

**Left Sidebar (Expandable Sections):**

- + HOMER READER
- + TEXT SIZE
- + WORD INFO
- + CTS URN
- + HOMER REFERENCE INPUT
- + TEXT WIDTH

**Right Content Area (List of Features):**

- HOMER READER
- HOMER 2X2 READER
- CARD READER
- HOMER PARALLEL READER
- TEXT SIZE

# Sentence Alignment

localhost:8080

HOMER PARALLEL READER

1.1-1.7  
μῆνιν ἄειδε θεὰ Πηληϊάδεω Αχιλῆος  
οὐλομένην, ἦ μυρί' Ἀχαιοῖς ἄλγε' ἔθηκε,  
πιολλάς δ' οἴφθιμους ψυχὰς Ἄΐδι προίαφεν  
ἡρώων, αύτοὺς δὲ ἐλώρια τεῦχε κύνεσσιν  
οἰωνοῖσί τε πᾶσι, Διός δ' ἔτελείετο βουλή,  
ἔξ οὗ δὴ τὰ πρῶτα διαστήτην ἐρίσαντε  
Ἄτρειδης τε ἄναξ ἀνδρῶν καὶ δῖος Αχιλλεύς.

1.8  
τίς τ' ἄρ σφωε θεῶν ἔριδι ξυνέηκε μάχεσθαι;

1.9  
Λητοῦς καὶ Διὸς υἱός:

1.9-1.12  
ὅ γάρ βασιλῆϊ χολωθεὶς νοῦσον ἀνὰ στρατὸν ὅρσε  
κακήν, ὀλέκοντο δὲ λαοί,  
οὕνεκα τὸν Χρύσην ἡτίμασεν ἀρητῆρα  
Ἄτρειδης:

1.12-1.16  
ὅ γάρ ἥλθε θοὰς ἐπὶ νῆας Αχαιῶν λυσόμενός τε  
θύγατρα φέρων τ' ἀπερείσι' ἄποινα,  
στέμματ' ἔχων ἐν χερσὶν ἐκηβόλου Ἀπόλλωνος  
χρυσέῳ ἀνὰ σκήπτρῳ, καὶ λίσσετο πάντας Αχαιούς,  
Ἄτρείδα δὲ μάλιστα δύω, κοσμήτορε λαῶν:

1.17-1.19  
Ἄτρείδαι τε καὶ ἄλλοι ἐϋκνήμιδες Αχαιοί,  
ύμīν μὲν θεοὶ δοῖεν Όλύμπια δώματ' ἔχοντες  
ἐκπέρσαι Πριάμοιο πόλιν, εῦ δ' οἴκαδ' ἵκέσθαι:

1.20-1.21  
παῖδα δ' ἐμοὶ λύσαιτε φίλην, τὰ δ' ἄποινα δέχεσθαι,  
ἄζομενοι Διὸς υἱὸν ἐκηβόλον Ἀπόλλωνα.

1.1-1.7  
The wrath sing, goddess, of Peleus' son, Achilles,  
that destructive wrath which brought countless  
woes upon the Achaeans, and sent forth to Hades  
many valiant souls of heroes, and made them  
themselves spoil for dogs and every bird; thus the  
plan of Zeus came to fulfillment, from the time  
when first they parted in strife Atreus' son, king  
of men, and brilliant Achilles.

1.8  
Who then of the gods was it that brought these two  
together to contend?

1.9  
The son of Leto and Zeus;

1.9-1.12  
for he in anger against the king roused throughout  
the host an evil pestilence, and the people began to  
perish, because upon the priest Chryses the son of  
Atreus had wrought dishonour.

1.12-1.16  
For he had come to the swift ships of the Achaeans  
to free his daughter, bearing ransom past counting;  
and in his hands he held the wreaths of Apollo who  
strikes from afar, 2 on a staff of gold; and he  
implored all the Achaeans, but most of all the two  
sons of Atreus, the marshallers of the people:

1.17-1.19  
Sons of Atreus, and other well-greaved Achaeans,  
to you may the gods who have homes upon  
Olympus grant that you sack the city of Priam, and  
return safe to your homes;

1.20-1.21  
but my dear child release to me, and accept the  
ransom out of reverence for the son of Zeus, Apollo

TEXT SIZE  
Aa Aa Aa Aa Aa

CTS URN  
<urn:cts:greekLit:tlg0012.tlg001.perseus-grc2:1.1-1.50>

# Token Alignment

HOMER PARALLEL READER	
1.1-1.7	1.1-1.7
μῆνιν ἄειδε θεὰ Πηληϊάδεω Αχιλῆος οὐλομένην, ἦ μυρί' Αχαιοῖς ἄλγε' ἔθηκε, πολλὰς δ' οφθίμους ψυχὰς Ἄΐδι προΐαψεν	The wrath sing, goddess, of Peleus' son, Achilles, that destructive wrath which brought countless woes upon the Achaeans, and sent forth to Hades many valiant souls of heroes, and made them

# Beowulf (with Audio)

localhost:8000/app/?fitt=0

Read Beowulf [dev]

jtauber Settings Log out

PROLOGUE

Previous Next

1 Hwæt! Wē Gār-Dena in gēardagum,  
2 þēodcyninga þrym gefrūnon,  
3 hū ðā æþelingas ellen fremedon.  
4 Oft Scyld Scēfing sceapena þrēatum,  
5 monegum māgþum meodosetla oftēah,  
6 egsoðe eorlas, syððan ārest wearð  
7 fēasceaft funden. Hē þæs frōfre gebād:  
8 wēox under wolcnum, weorðmyndum þāh,  
9 oð þæt him æghwylc þāra ymbsittendra  
10 ofer hronrāde hȳran scolde,  
11 gomban gyldan. Þæt wæs gōd cyning.  
12 Ðām eafera wæs æfter cenned  
13 geong in geardum, þone God sende  
14 folce tō frōfre; fyrenðearfe ongeat –  
15 þæt hīe ðær drugon aldorlēase  
16 lange hwīle. Him þæs liffrea  
17 wuldres wealdend woroldāre forgeaf:  
18 Bēow wæs brēme – blād wīde sprang –  
19 Scyldes eafera Scedelandum in.  
20 Swā sceal geong guma gōde gewyrcean,  
21 fromum feohgiftum on fæder bearme,  
22 þæt hine on ylde eft gewunigen  
23 wilgesīþas, þonne wīg cume,  
24 lēode gelāsten; lofdādum sceal

TEXT SELECTION

Lines 0

Fitt

TOKEN ANALYSIS

Toggle Interlinear

AUDIO

Toggle Audio Mode

▶ -3:27

TEXT ANALYSIS

pos: v p d

# Interlinear

localhost:8000/app/?fitt=0

Read Beowulf [dev]

jtauber Settings Log out

PROLOGUE

Previous Next

1 Hwæt! Wē Gār-Dena	in gēardagum,
e p.np np.gp	pp [rd] m.dp
hwæt we Gar-Dene	in gear-dagas
well we Spear-Danes	in days of yore
2 þēodcyninga þrym gefrūnon,	
m.gp m.as v.p1p [a+]	
þeod-cyning þrym gefrignan	
king of the nation glory hear	
3 hū ðā æþelingas ellen fremedon.	
c d.npm m.mp n.as v.p3p [a]	
hu se æþeling ellen fremman	
how that prince deeds of courage perform	
4 Oft Scyld Scēfing sceafena þrēatum,	
av np.ns np.ns m.gp m.dp	
oft Scyld Scēfing sceafna þreat	
often Scyld Scēfing enemy troop	
5 monegum māgþum meodosetla oftēah,	
a.dpf f.dp v.p3s [dg]	
monig māgþ medu-setl ofteon	
many people mead-bench deprive	
6 egode eorlas, syððan ærest wearð	
v.p3s [a] m.ap c av v.p3s [x]	
egsian eorl siððan ærest weorðan	
terrify warrior after first be	
7 fēasceaft funden. Hē þæs frōfre gebād:	
a.nsm v.pp p.nsm d.gsn f.as v.p3s [a]	
feasceaft findan he þæt frofor gebidan	
destitute find he that consolation experience	
8 wēox under wolcnum, weorðmyndum þāh,	
v.p3s pp [rd] n.dp v.dp v.p3s	
weaxan under wolcen weorð-mynd þeon	
grow under cloud honour prosper	

TEXT SELECTION  
 Lines  Fitt 0

TOKEN ANALYSIS  
Toggle Interlinear

AUDIO  
Toggle Audio Mode

-3:27

TEXT ANALYSIS  
pos: v p d

# Alternative Display

localhost:8000/app/?fitt=0

Read Bēowulf [dev]

jtauber Settings Log out

PROLOGUE

Previous Next

1 Hwæt! Wē Gār-Dena in gēardagum,  
2 þēodcyninga þrym gefrūnon,  
3 hū ðā æþelingas ellen fremedon.  
4 Oft Scyld Scēfing sceapena þrēatum,  
5 monegum māgþum meodosetla oftēah,  
6 egode eorlas, syððan ārest wearð  
7 fēasceaft funden. Hē þæs frōfre gebād:  
8 wēox under wolcnum, weorðmyndum þāh,  
9 oð þæt him āghwylc þāra ymbsittendra  
10 ofer hronrāde hȳran scolde,  
11 gomban gyldan. Pæt wæs gōd cyning.  
12 Ðām eafera wæs æfter cenned  
13 geong in geardum, þone God sende  
14 folce tō frōfre; fyrenðearfe ongeat –  
15 þæt hīe ār drugon aldorlēase  
16 lange hwīle. Him þæs liffrea  
17 wuldres wealdend woroldāre forgeaf:  
18 Bēow wæs brēme – blæd wīde sprang –  
19 Scyldes eafera Scedelandum in.  
20 Swā sceal geong guma gōde gewyrcean,  
21 fromum feohgiftum on fæder bearme,  
22 þæt hine on ylde eft gewunigen  
23 wilgesīþas, þonne wīg cume,  
24 lēode gelæsten; lofdādum sceal

TEXT SELECTION

Lines  Fitt 0

TOKEN ANALYSIS

Toggle Interlinear

AUDIO

Toggle Audio Mode

3:27

TEXT ANALYSIS

pos: v p d

# Hedera (Vocabulary Coverage)

Lemmatized Texts Vocabulary Lists jtauber Settings Log out

Lemmatized Texts » VVM 1

**Volcānus** est deus flammae. **Volcānus** nōn facile ambulat, sed saepe labōrat. arma et dōna dīs **deabusque** **Volcānus** dat. et dī et deae **Volcānum** amant. dōna **Volcāni** semper laudant.

**DCC Latin Core Vocabulary**  
The thousand most common words in Latin compiled by a team at Dickinson College led by Christopher Francese.



91.3%

Known

Select

The unknown words are highlighted.

Highlight Known

**Shelmerdine 2nd Edition Vocabulary**  
Vocabulary from the 2nd Edition of Susan Shelmerdine's Introduction to Latin

Select

# Hedera (Personalised Readability)

Lemmatized Texts Vocabulary Lists    jtauber Settings Log out

Lemmatized Texts » VVM 1

**Volcānus** est deus flammae. **Volcānus** nōn facile ambulat, sed saepe labōrat.  
arma et dōna dīs deabusque **Volcānus** dat. et dī et deae **Volcānum** amant.  
dōna **Volcāni** semper laudant.

Toggle Read Mode

28                          18  
Total Tokens              Unique Tokens  
77.8% 0.0% 0.0% 0.0% 11.1% 11.1%

ambulō, ambulāre, ambulāvī, ambulātūrus  
to walk

● ● ● ● ●  
*I definitely know what this word means but could forget soon*

Hide Familiarity

# Hedera (Personalised Glosses)

The screenshot shows a web browser window for the Hedera project at [dev.hederaproject.org/lemmatized\\_text/34/learner/](https://dev.hederaproject.org/lemmatized_text/34/learner/). The interface includes a top navigation bar with links for Lemmatized Texts and Vocabulary Lists, and user account information (jtauber, Settings, Log out). A sidebar on the left lists categories like My Texts, Recent Texts, and Texts by User. The main content area displays a lemmatized text from Virgil's Aeneid (VVM 1) in Latin:

Volcānus est deus flammae. Volcānus nōn facile ambulat, sed saepe labōrat.  
arma et dōna dīs deabusque Volcānus dat. et dī et deae Volcānum amant.  
dōna Volcānī semper laudant.

To the right of the text is a grey box containing a "Toggle Read Mode" button with "On" and "Off" options. Below the text, there are two sections: "Glosses" and "Export". The "Glosses" section lists the meanings for the words in the text:

- ambulat.** to walk
- sed** but, on the contrary, but also, but even, but in fact
- saepe** often, oft, oftentimes, many times, frequently
- arma** weapons; implements, outfit, instruments, tools
- dōna** gift, present
- dat.** give
- deae** a goddess
- semper** ever, always, at all times, continually, perpetually, forever
- laudant.** praise

The "Export" link is located to the right of the glosses section.

# Next Iteration

- More decoupling between Vue.js front-end and headless server
- Server-side aggregation of data at token level
- Indexing to enable cross-source querying
- Stable identifiers!
- Server-side token data plane exposed as GraphQL
- Just-in-time data retrieval from widget still possible
- Personalised annotations

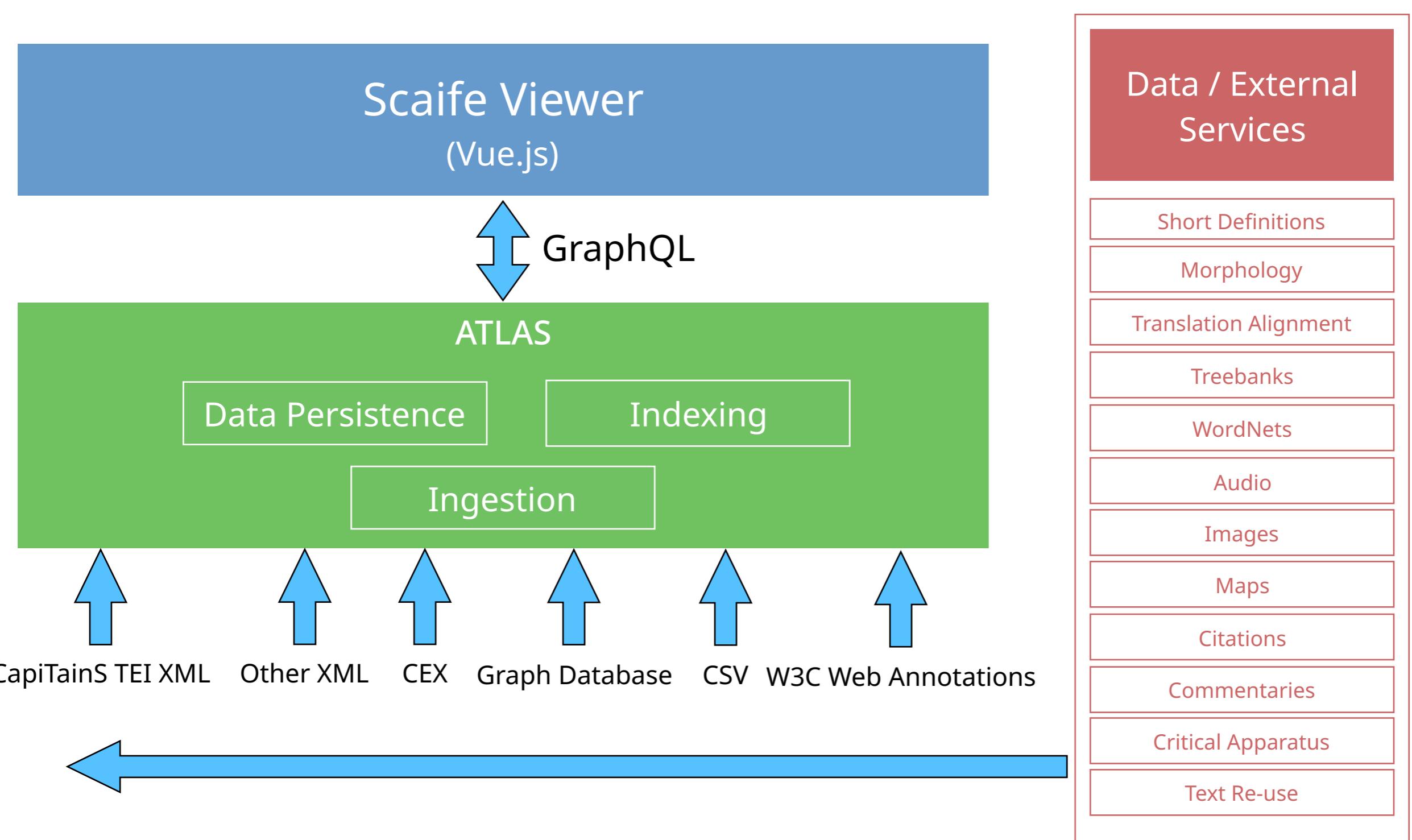


# ATLAS

## Aligned Text and Linguistic Annotation Server

- Get me all the tokens in the first 100 lines of the *Iliad* with each one annotated with part-of-speech and corpus frequency information
- Get me the first 11 lines of the *Iliad* with metrical information and audio with time-codes synchronised to each line
- Get me all the sentences in the first book of the *Odyssey* with Greek and English aligned and with syntax trees of the Greek
- Get me a IIIF manifest of the manuscript of *Le Roman de la Rose* and the text tokens aligned to the images

# Architecture



# How to Contribute

<https://scaife-viewer.org/>

<https://buttondown.email/scaife-viewer/>

<https://github.com/scaife-viewer/>

- Subscribe to newsletter
- Join Slack workspace



# Perseus Digital Library Scaife Viewer

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<Your Project Here>

# Scaife Viewer and ATLAS

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