SURVIVING THE VACUUM: A STRATEGY FOR SUSTAINING SOFTWARE IN THE ABSENCE OF RSE TEAMS

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Slides: https://sdruskat.net/rse18-minimal-infrastructure/

WHO WE ARE

- RSEs in corpus and theoretical linguistics respectively, at the Dept. of German Studies and Linguistics, Humboldt-Universität zu Berlin, Germany

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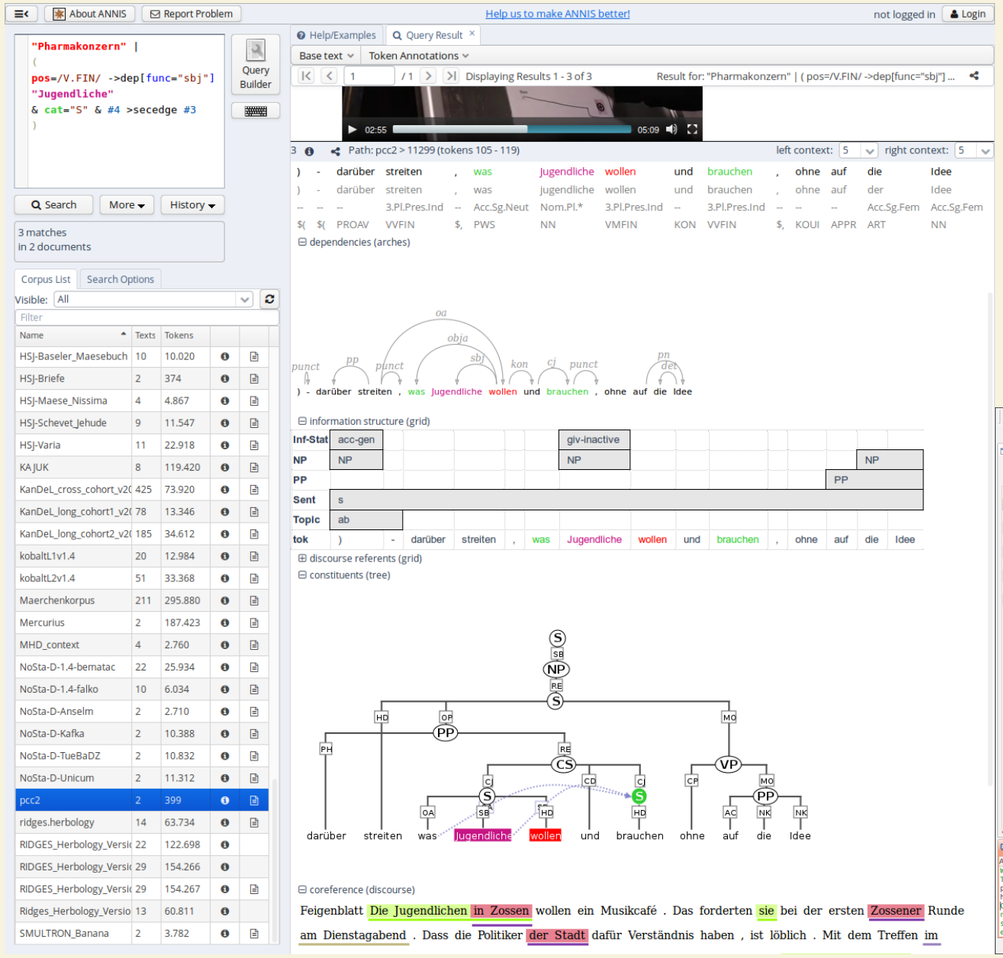
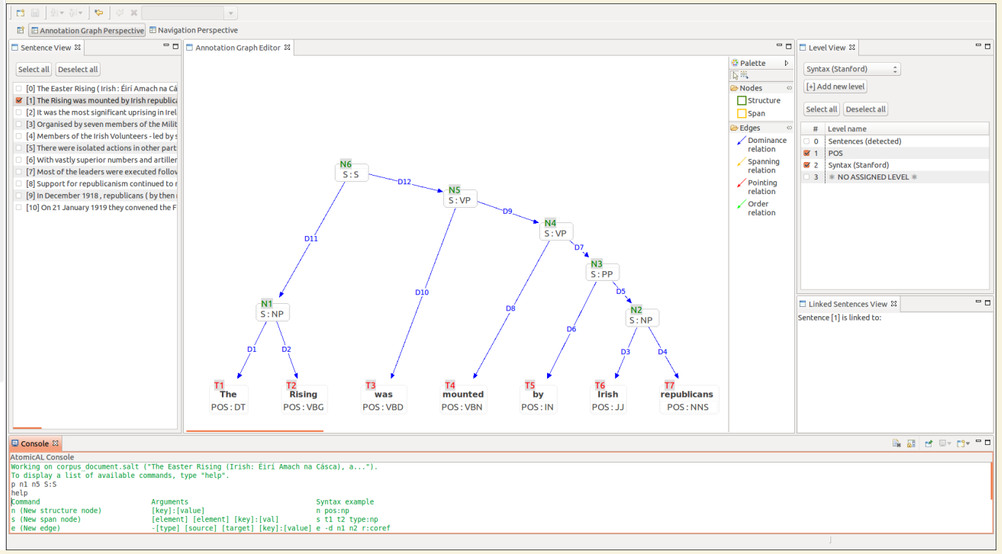
"Emergency" strategy for research projects that produce software but don't have access to a centralized RSE team, to make their software sustainable/re-usable

WHAT WE DO


About ANNIS
Report Problem
Help us to make ANNIS better!
not logged in
Login
"Pharmakonzern" |
(pos=/V.FIN/ ->dep[func="sbj"]
"Jugendliche"
& cat="S" & #4 >secedge #3
)
Query Builder
Search
More
History
3 matches
in 2 documents
Corpus List
Search Options
Visible: All
Filter
Name
Texts
Tokens
HSJ-Baseler_Maesebuch 10 10.020
HSJ-Briefe 2 374
HSJ-Maese_Nissima 4 4.867
HSJ-Schevet_Jehude 9 11.547
HSJ-Varia 11 22.918
KA JUK 8 119.420
KanDeL_cross_cohort_v2(425 73.920
KanDeL_long_cohort1_v2(78 13.346
KanDeL_long_cohort2_v2(185 34.612
kobaltL1v1.4 20 12.984
kobaltL2v1.4 51 33.368
Maerchenkorpus 211 295.880
Mercurius 2 187.423
MHD_context 4 2.760
NoSta-D-1.4-bematac 22 25.934
NoSta-D-1.4-falko 10 6.034
NoSta-D-Anselm 2 2.710
NoSta-D-Kafka 2 10.388
NoSta-D-TueBaDZ 2 10.832
NoSta-D-Unicum 2 11.312
pcc2 2 399
ridges.herbology 14 63.734
RIDGES_Herbology_Versi(22 122.698
RIDGES_Herbology_Versi(29 154.266
RIDGES_Herbology_Versi(29 154.267
Ridges_Herbology_Versio 13 60.811
SMULTRON_Banana 2 3.782
Help/Examples
Query Result
Base text
Token Annotations
Displaying Results 1 - 3 of 3
Result for: "Pharmakonzern" | (pos=/V.FIN/ ->dep[func="sbj"] ...
02:55
05:09
Path: pcc2 > 11299 (tokens 105 - 119)
left context:
right context:
) - darüber streiten , was Jugendliche wollen und brauchen , ohne auf die Idee
dependencies (arches)
information structure (grid)
Inf-Stat
NP
PP
Sent
Topic
tok
discourse referents (grid)
constituents (tree)
coreference (discourse)
Feigenblatt Die Jugendlichen in Zossen wollen ein Musikcafé . Das forderten sie bei der ersten Zossener Runde am Dienstagabend . Dass die Politiker der Stadt dafür Verständnis haben , ist löblich . Mit dem Treffen im


Annotation Graph Perspective
Navigation Perspective
Sentence View
Annotation Graph Editor
Level View
Linked Sentences View
Console
AtomicCAL Console
N6 S : S
N5 S : VP
N4 S : VP
N3 S : PP
N2 S : NP
N1 S : NP
T1 The POS : DT
T2 Rising POS : VBG
T3 was POS : VBD
T4 mounted POS : VBN
T5 by POS : IN
T6 Irish POS : JJ
T7 republicans POS : NNS

WHAT IF WE'RE NOT THERE ANYMORE?

NO RSE TEAM ANYWHERE TO TAKE CARE OF SUSTAINABILITY

WE NEED A STRATEGY ALLOWING EVERYONE TO ...

- Create sustainable research software within project runtime

"Side effects"

- Determine requirements for sustainable maintenance
- Create evidence for making a case for installation of RSE teams

STRATEGY

"MAKE DO"

- Stick to best practices
- Run project as an open source project

+ TWO BUILDING BLOCKS

BUILDING BLOCKS

- Engineer software for (some degree of) re-usability
- Let infrastructure do the rest

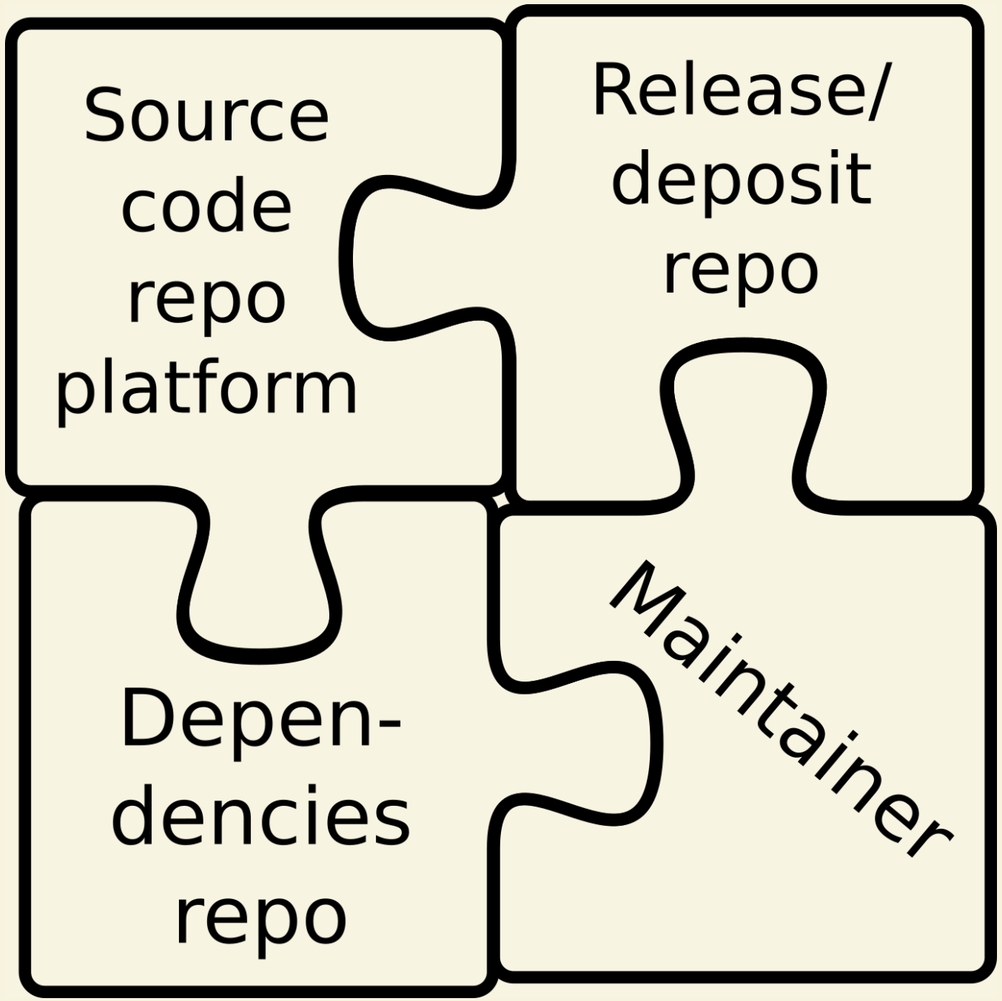
ENGINEER FOR RE-USABILITY

1. Use a generic data model
2. Make software extensible by design

INFRASTRUCTURE WHAT INFRASTRUCTURE?

- Use the free stuff that's there
- Make sure you can exchange tools if necessary
- Implement an actual maintenance role

MINIMAL INFRASTRUCTURE COMPONENTS



COMPONENT FUNCTIONS

Component	Function
Source code repo platform	Host code, docs, issues, landing page
Release & deposit repo	Long-term availability of artifacts, Version/citation metadata
Dependencies repo	Reproducible dependency graphs
Maintainer	Integrate, test, release, communicate, manage infrastructure, document/meta-document

"MAINTAINERS, MAINTAINERS, MAINTAINERS, ..."

- Incur cost, so hire (and train!) a student assistant
  - 10 hours / week should be enough in the long run

OUR CASE

- Deep annotation of linguistic corpora
- Morph architectural & functional prototype
- Generic data model (generic graph)
- Extensible (Eclipse RCP/OSGi)

INFRASTRUCTURE

- GitHub
- Zenodo
- Maven Central, eclipse.org P2, P2 via GitHub

INFRASTRUCTURE SUSTAINABILITY

- GitHub > Software Heritage
- Zenodo (long-term strategy)
- Dependency repos: system-critical, foundations, Software Heritage
- (Plan for hot-swapping)

MAINTAINERS

- Predetermined breaking point
- 4 maintainership changes during project

DOCUMENT! ALL! THE! THINGS!

CONCLUSION

- Minimal requirements for technically sustainable software (?)
- Minimal infrastructure for sustainable software development (?)

WHAT WILL WE HAVE LEARNED (IDEALLY)?

- Sustainable, re-usable software
- Requirements for sustainable maintenance
- Evidence for making a case for RSE teams!

THANKS!

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