# The INCEpTION Platform: Machine-Assisted and Knowledge-Oriented Interactive Annotation



TECHNISCHE UNIVERSITÄT DARMSTADT

Website: https://inception-project.github.io

Project team: https://inception-project.github.io/info/

License: Apache License 2.0

INCEpTION

Gefördert durch DFG Deutsche Forschungsgemeinschaft

# Getting and running INCEpTION

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- Recommend browser: Chrome / Chromium
- Install Java version 11 or higher
  - https://adoptopenjdk.net
- Download the latest INCEpTON version
  - https://inception-project.github.io/downloads/
  - Make sure **not** to extract the JAR file during or after download!
- Run by double-clicking on the JAR file
  - Some tools like WinRAR grab the JAR extension…
  - In this case, right-click and select “Open with… Java”
- After a short moment, the splash screen should appear
  - Tray icon (on OS X: menu icon) appears – right-click for options
  - When start-up has completed, you default browser should open
- Login in as user “admin” with password “admin”

# INCEpTION

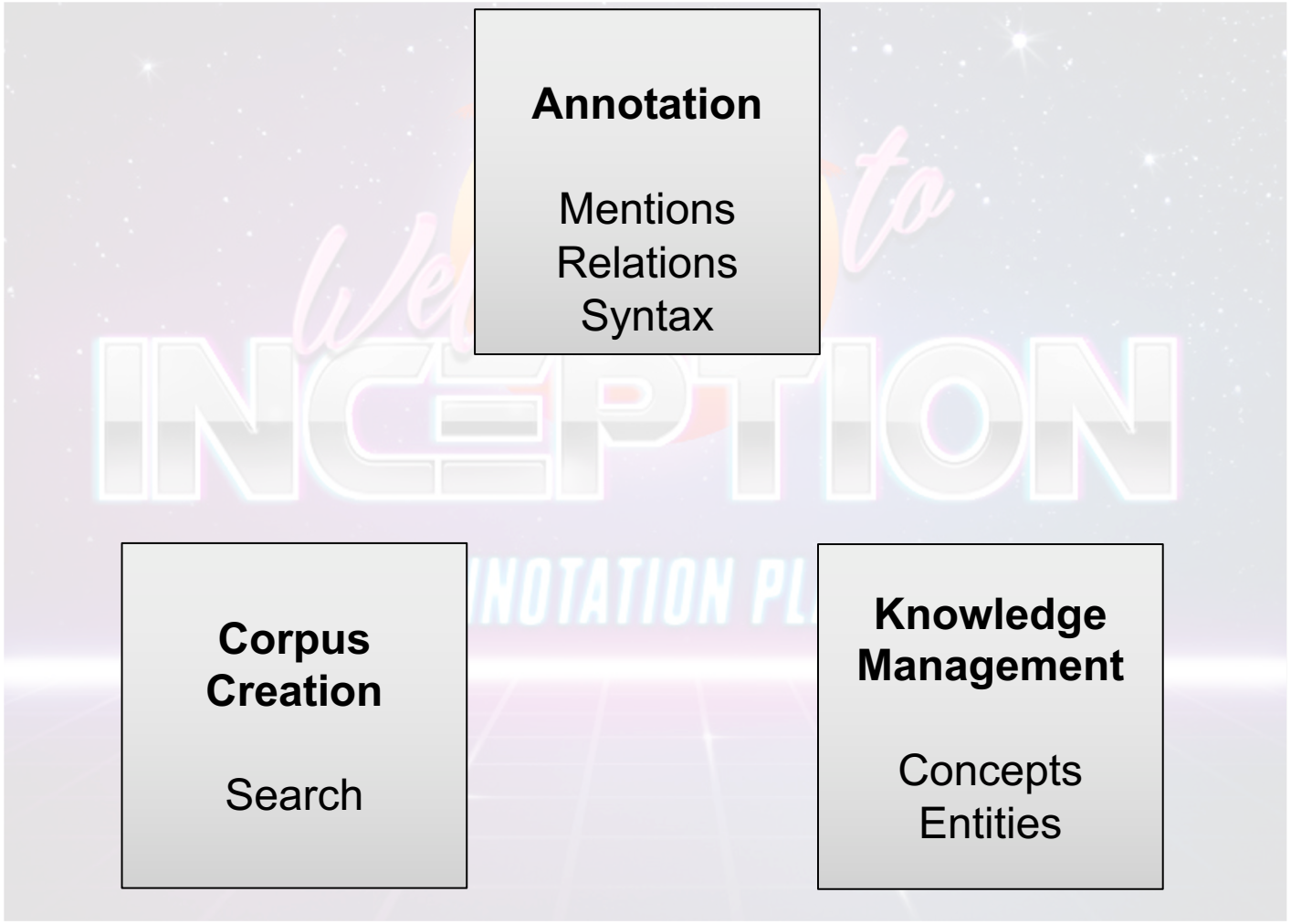
TECHNISCHE UNIVERSITÄT DARMSTADT




Made with https://photofunia.com

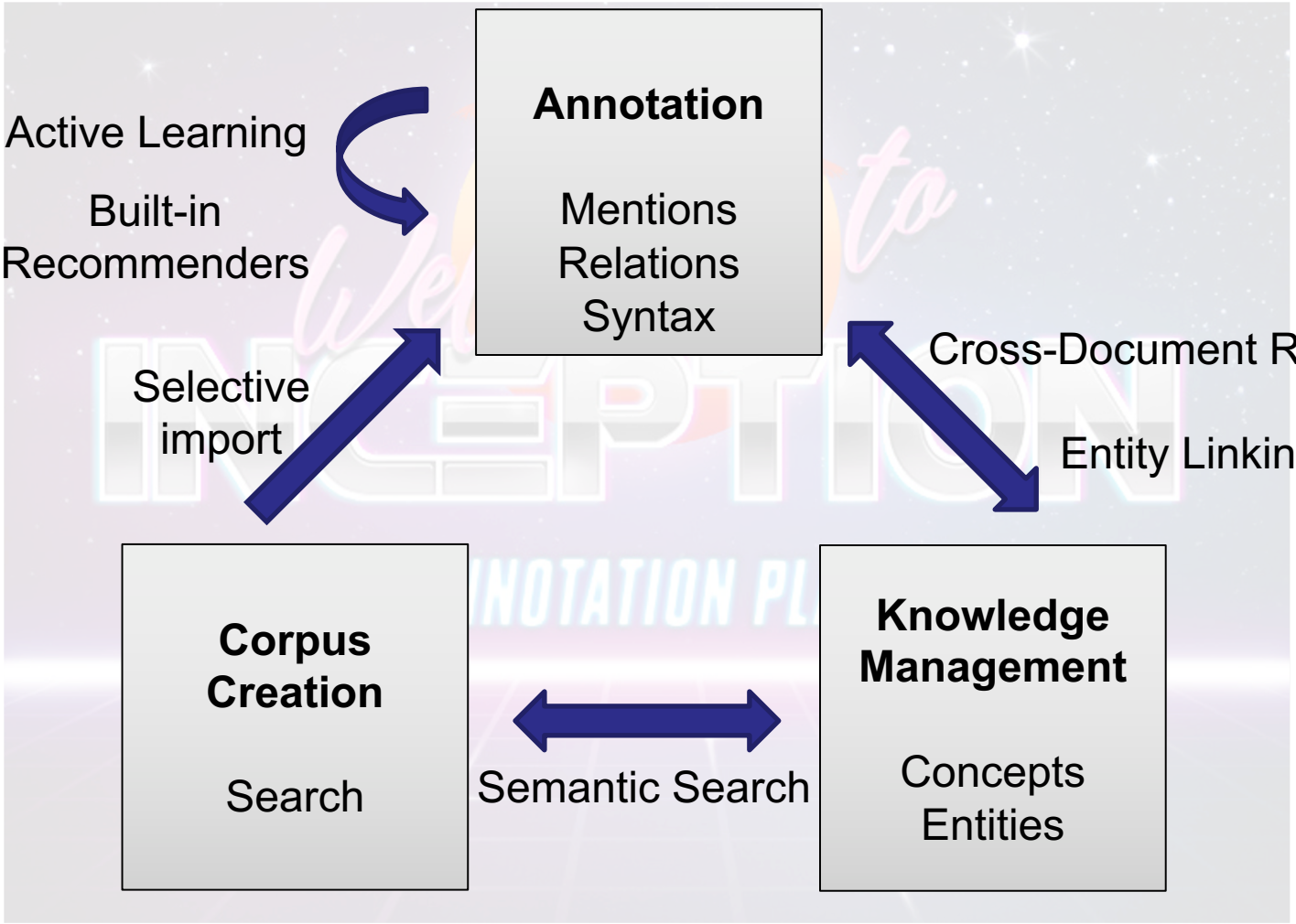
# INCEpTION Platform

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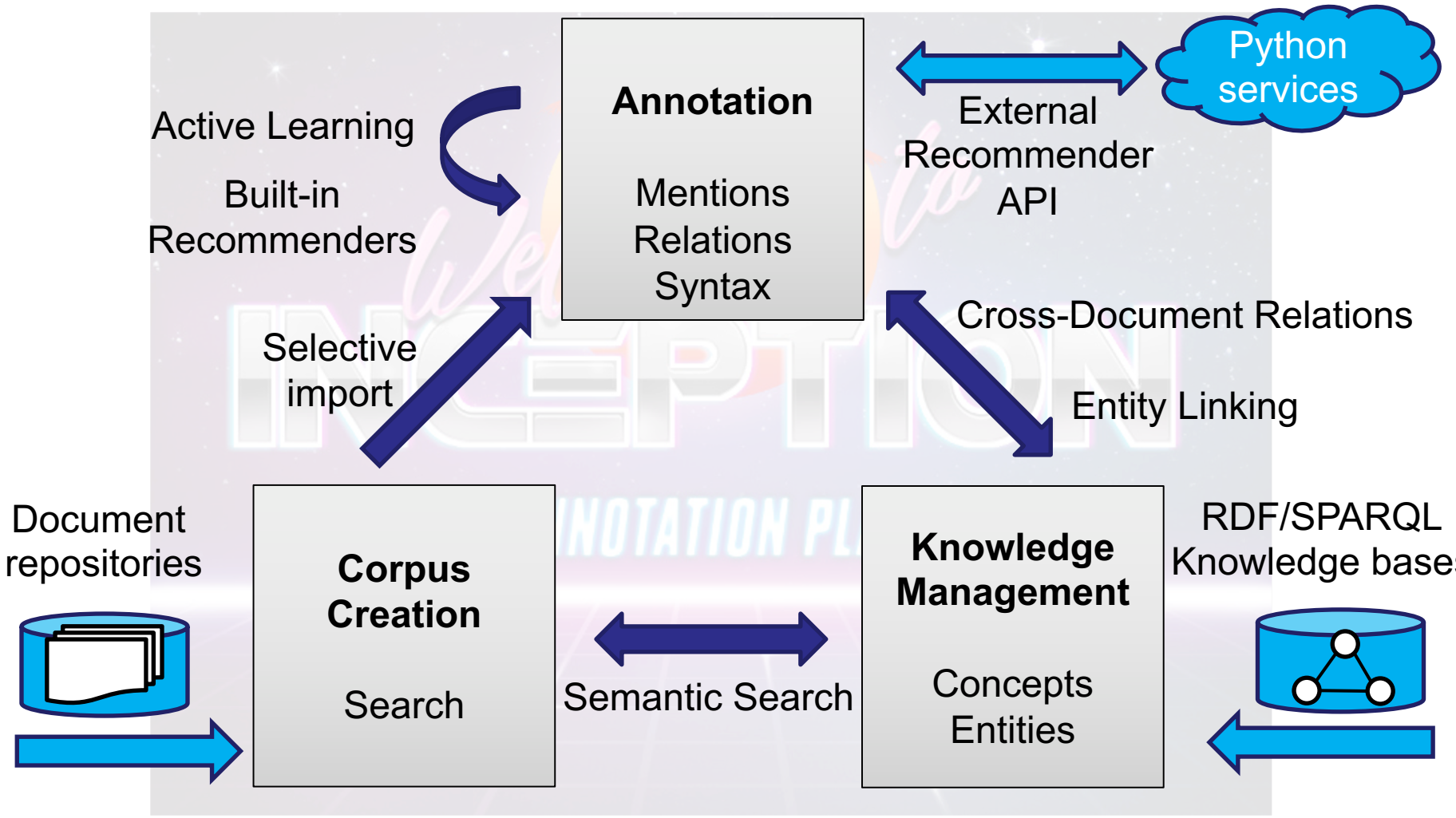


# INCEpTION Platform

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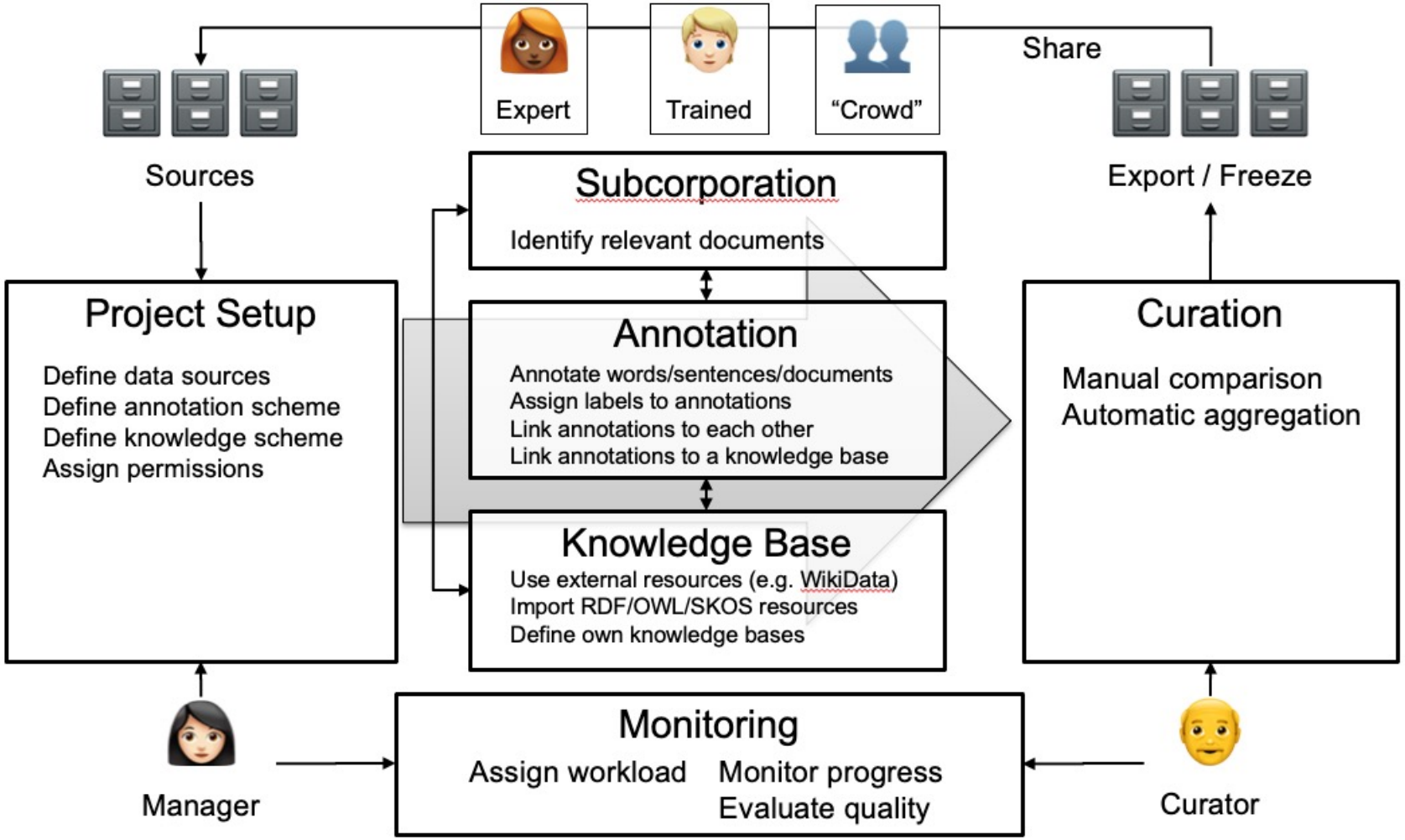


# INCEpTION Platform

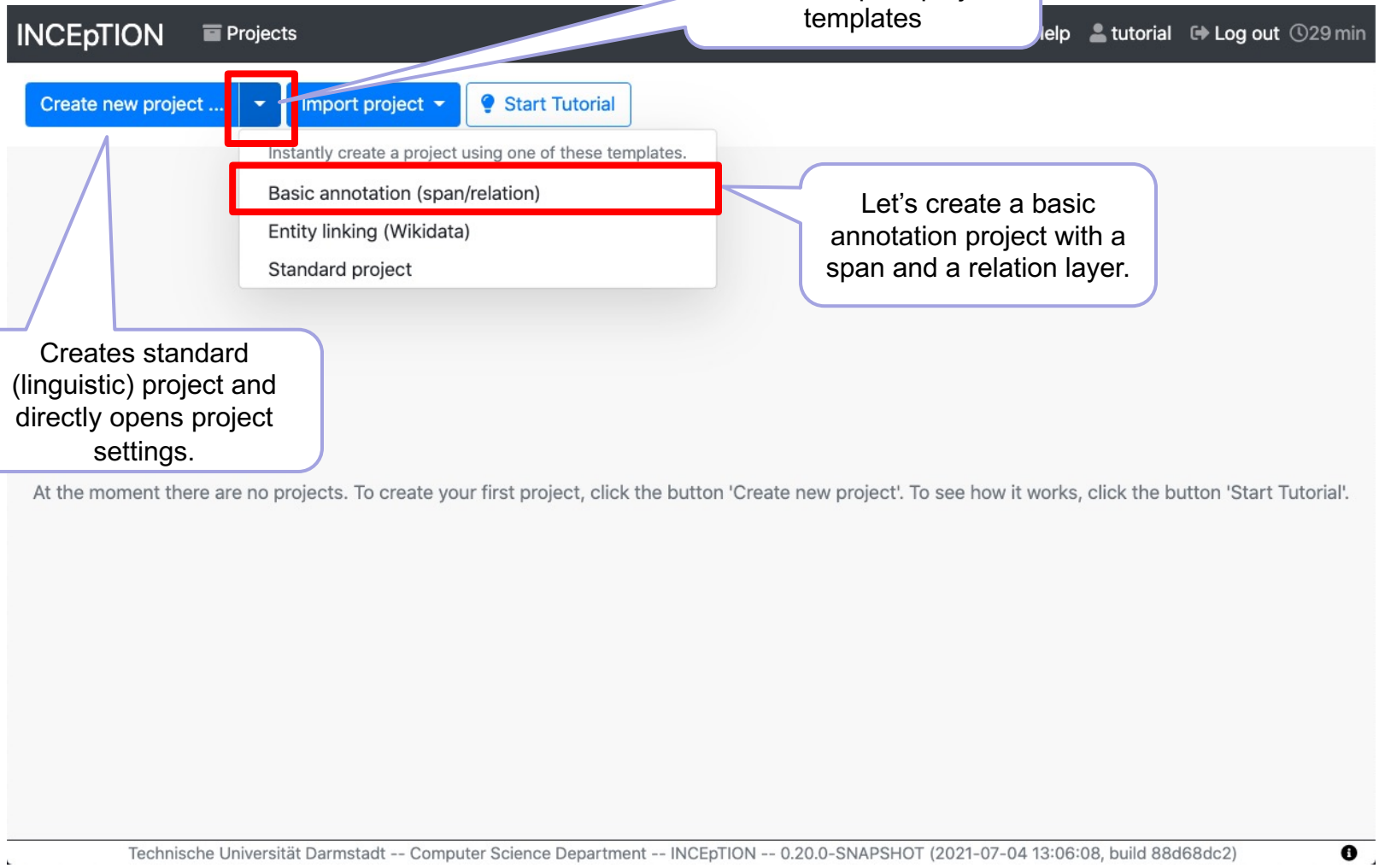


# INCEpTION Workflow

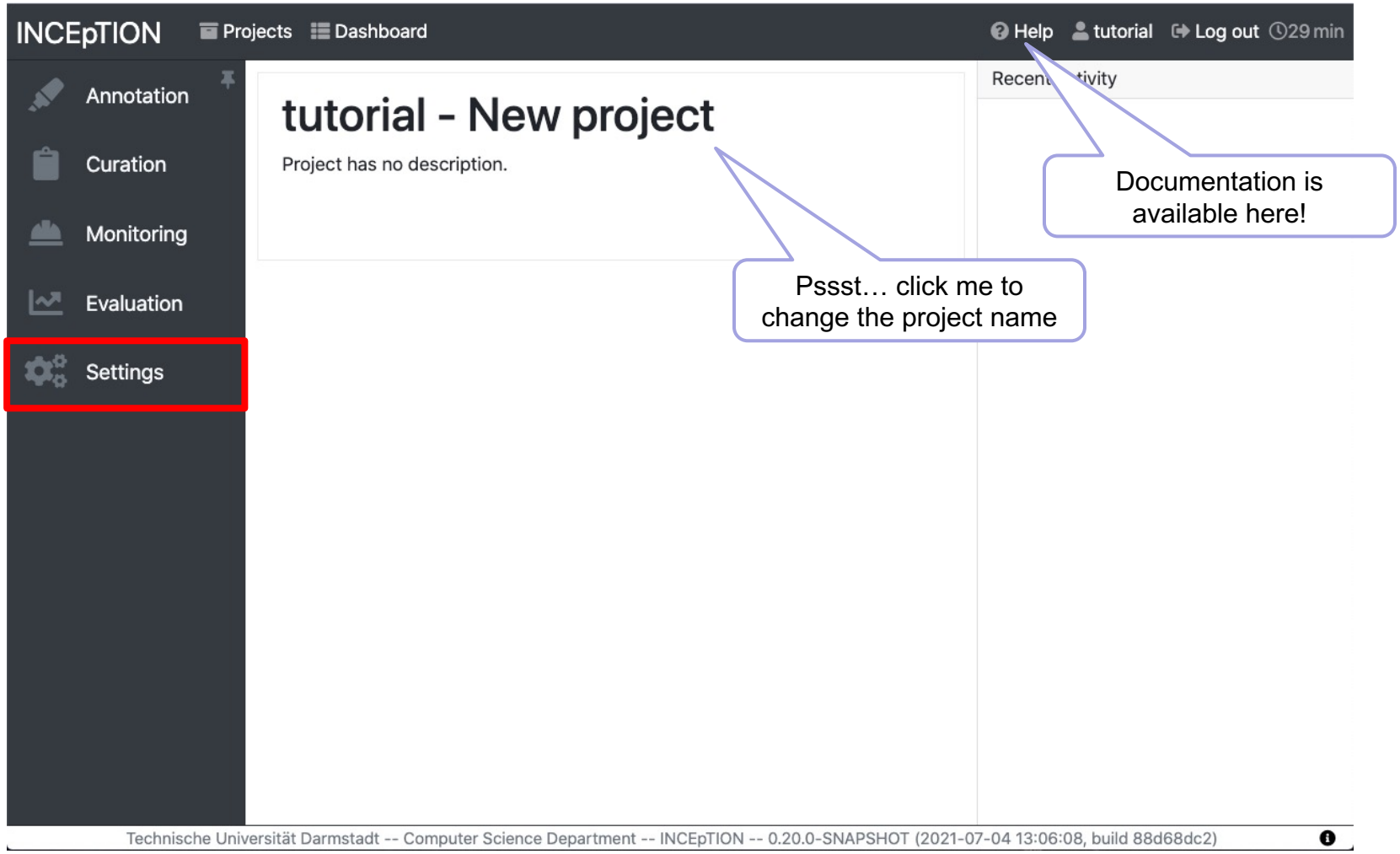
TECHNISCHE UNIVERSITÄT DARMSTADT



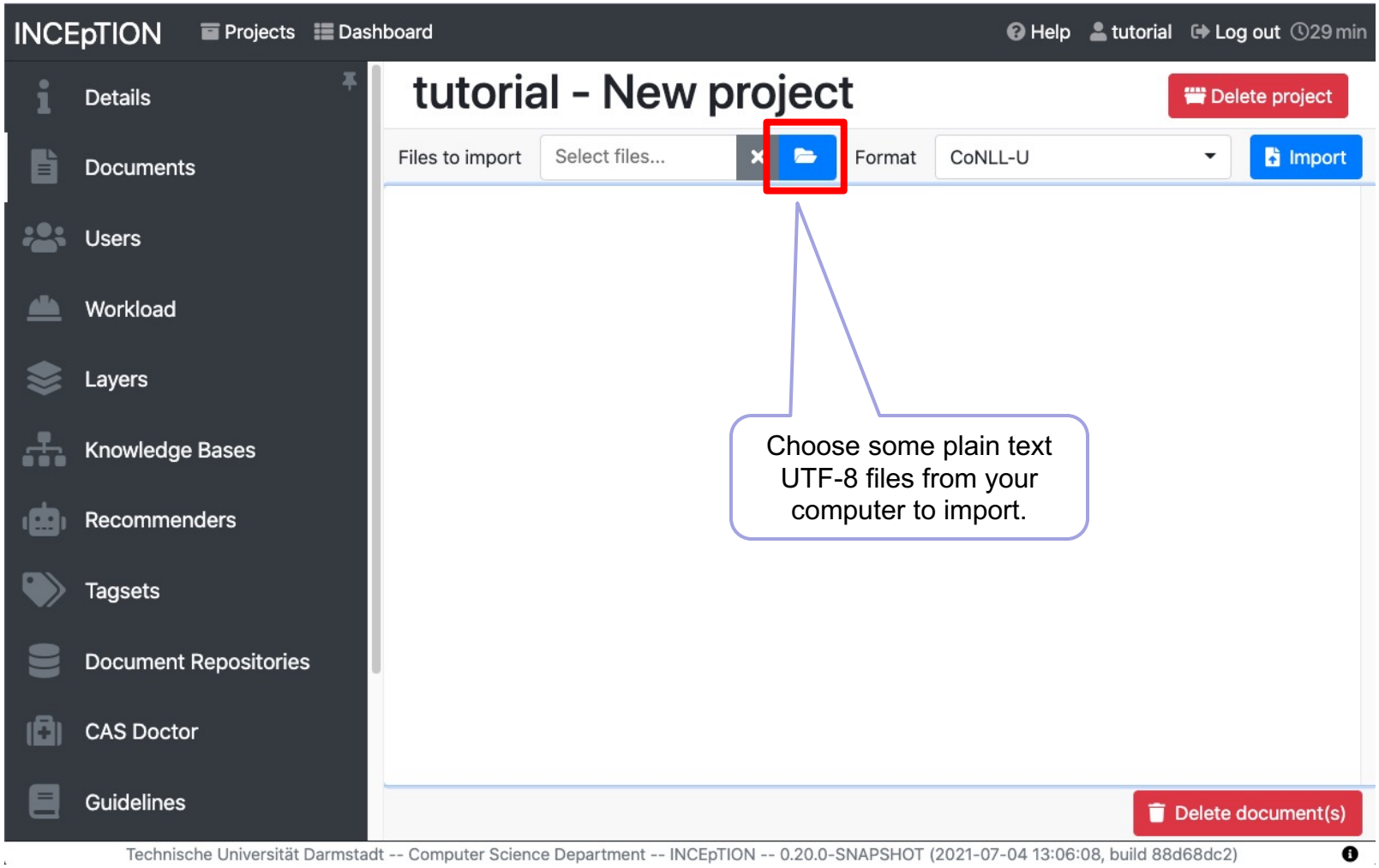
# Let's get started



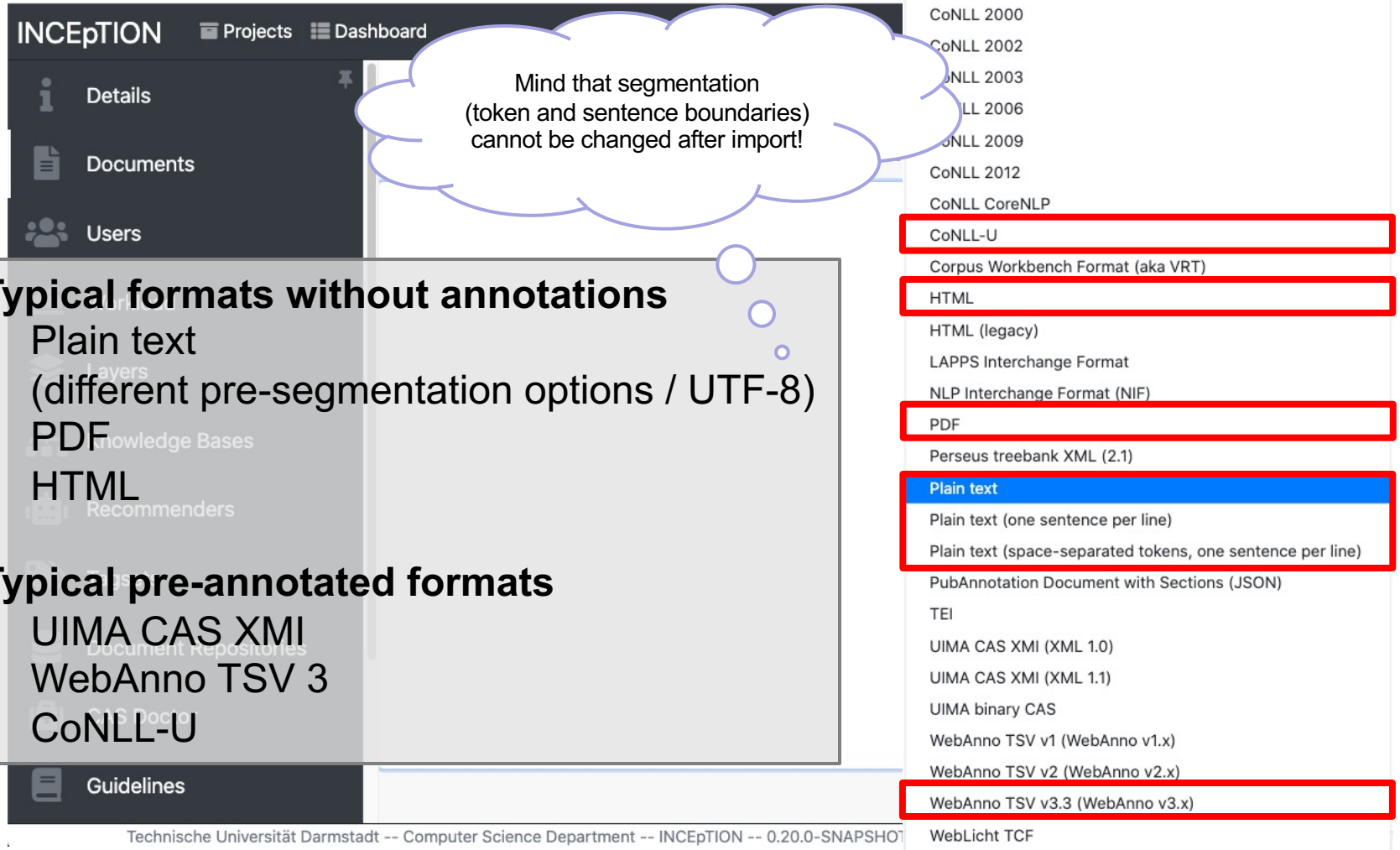
# Project Dashboard



# Importing a text



# File formats



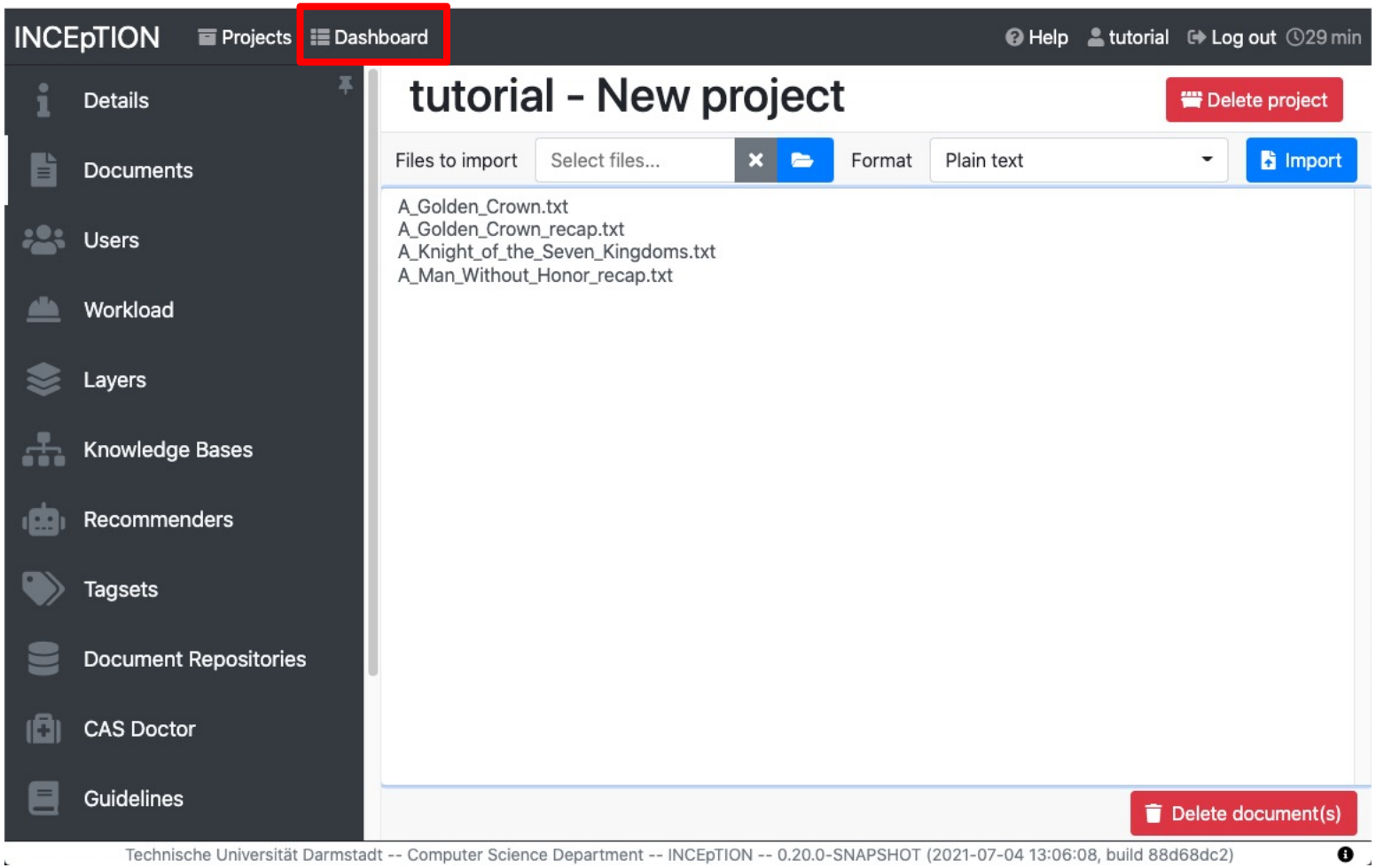

**Typical formats without annotations**

- Plain text
  (different pre-segmentation options / UTF-8)
- PDF
- HTML

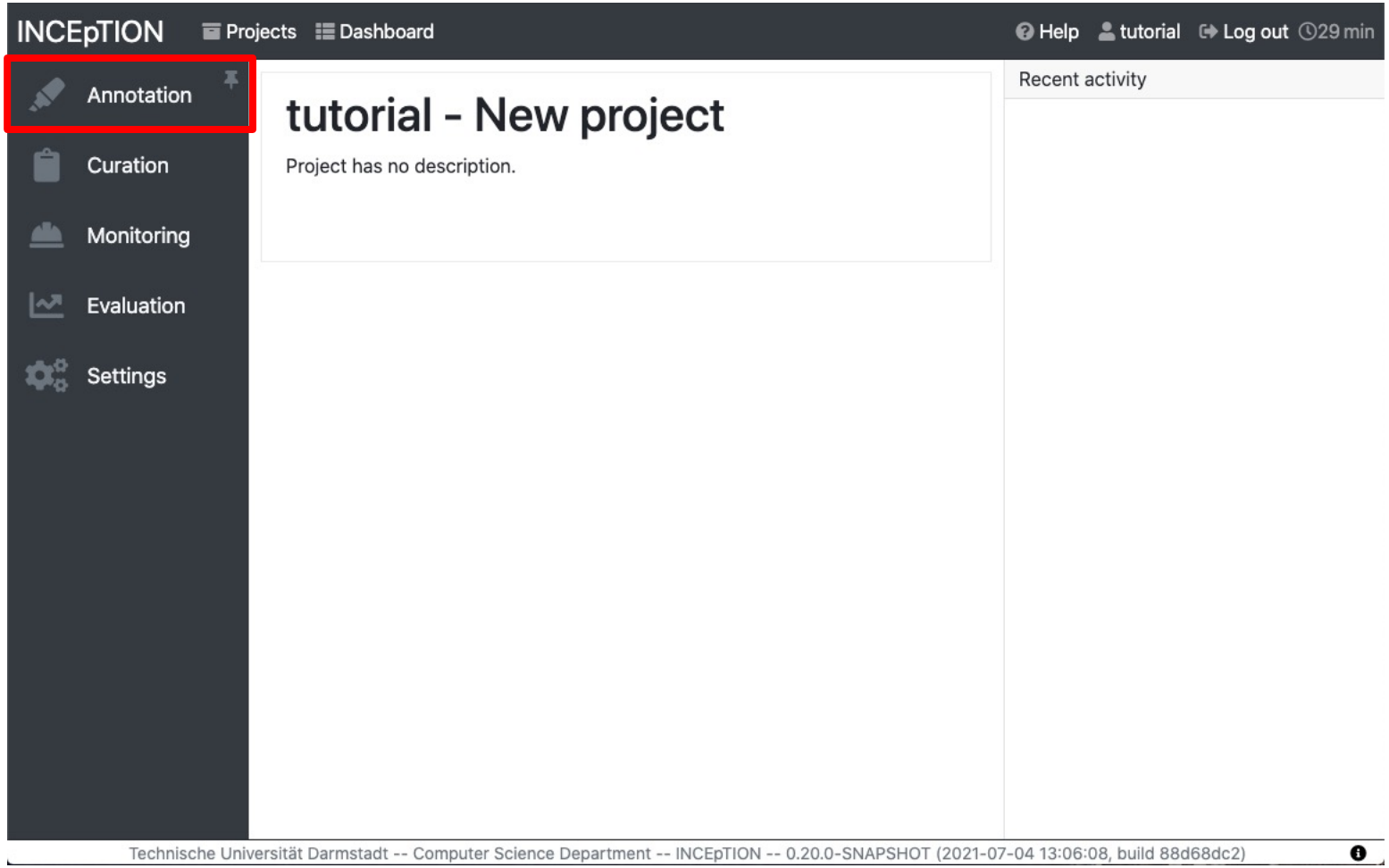
**Typical pre-annotated formats**

- UIMA CAS XMI
- WebAnno TSV 3
- CoNLL-U

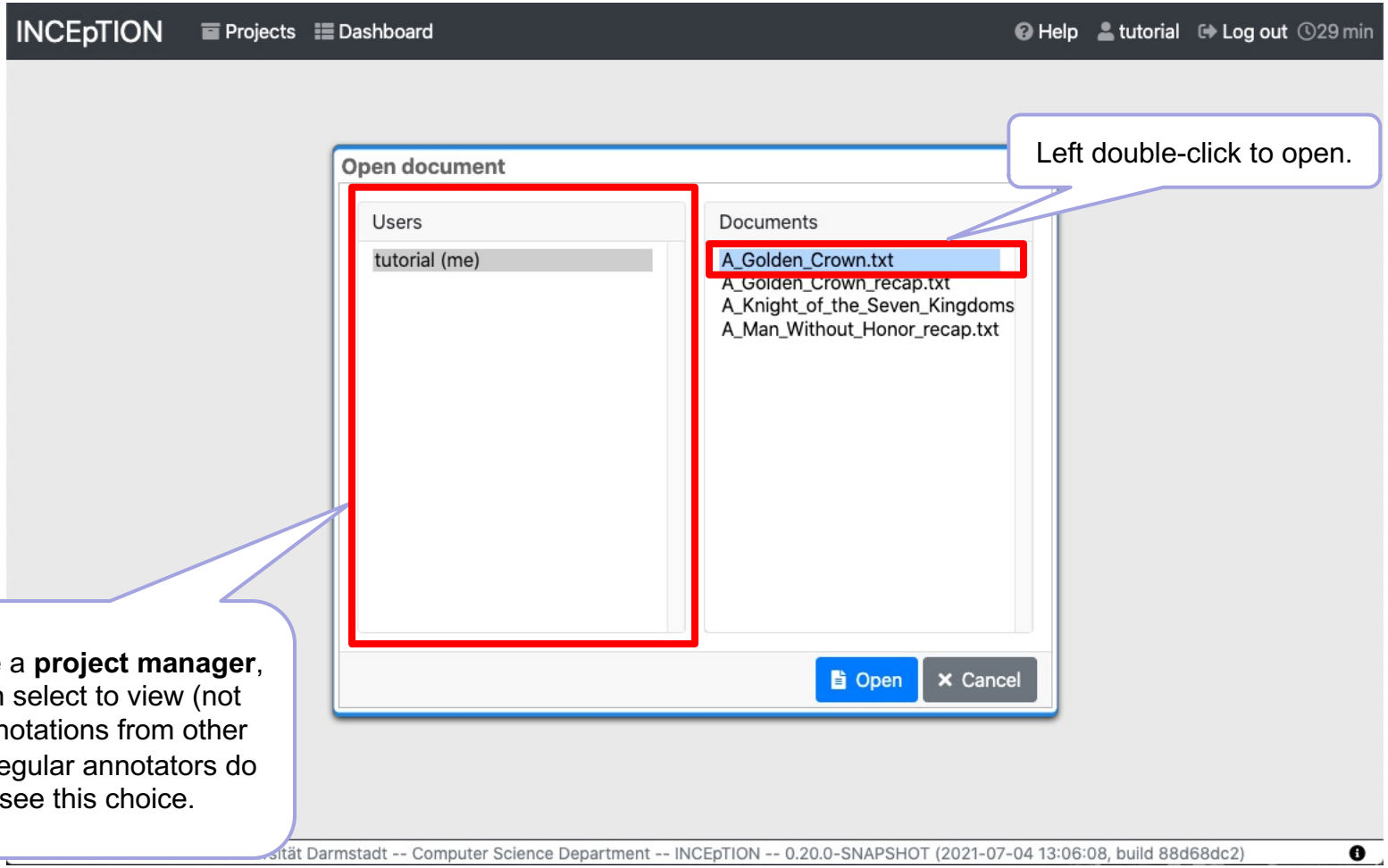
# Imported texts



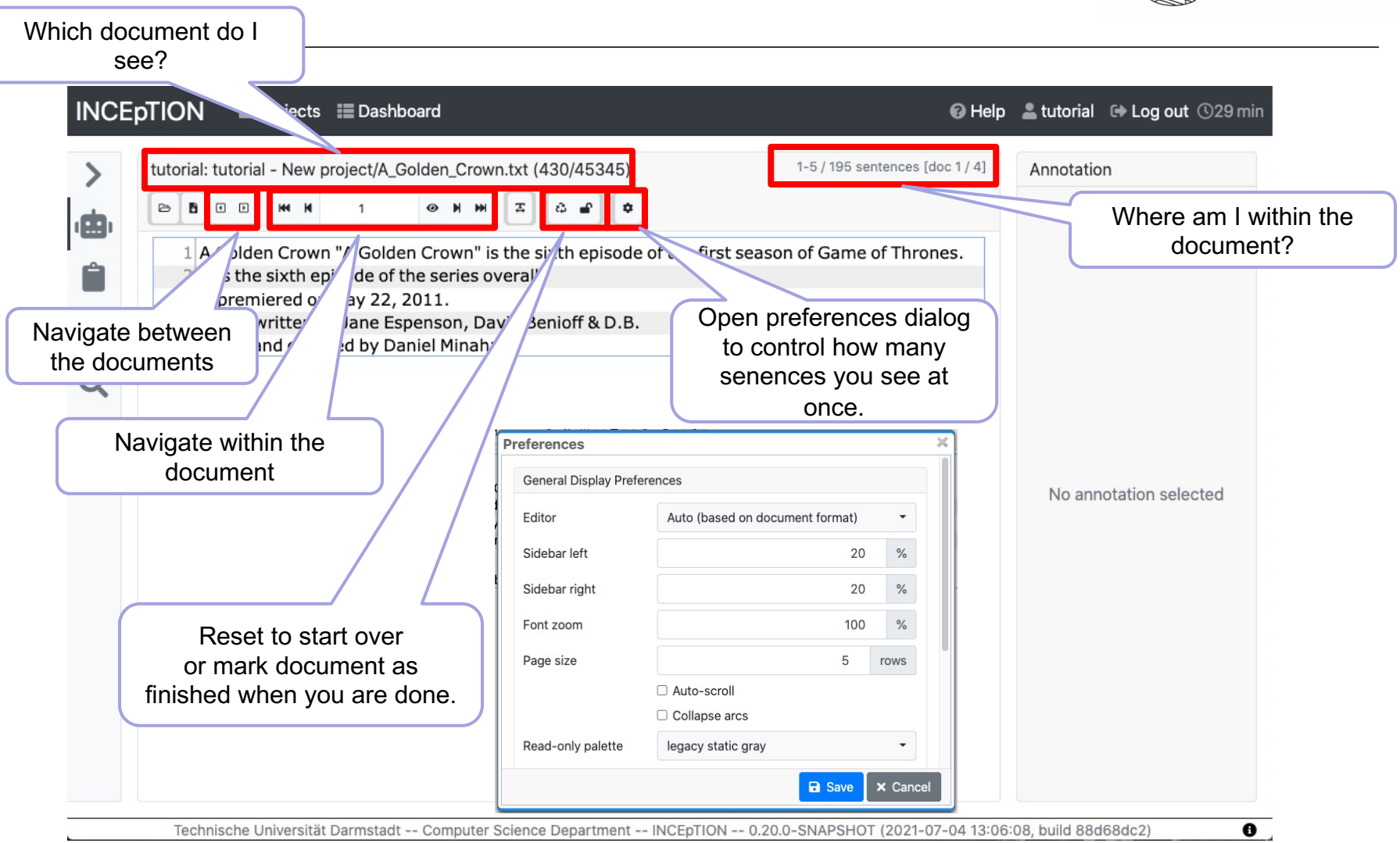
# Back at the project Dashboard



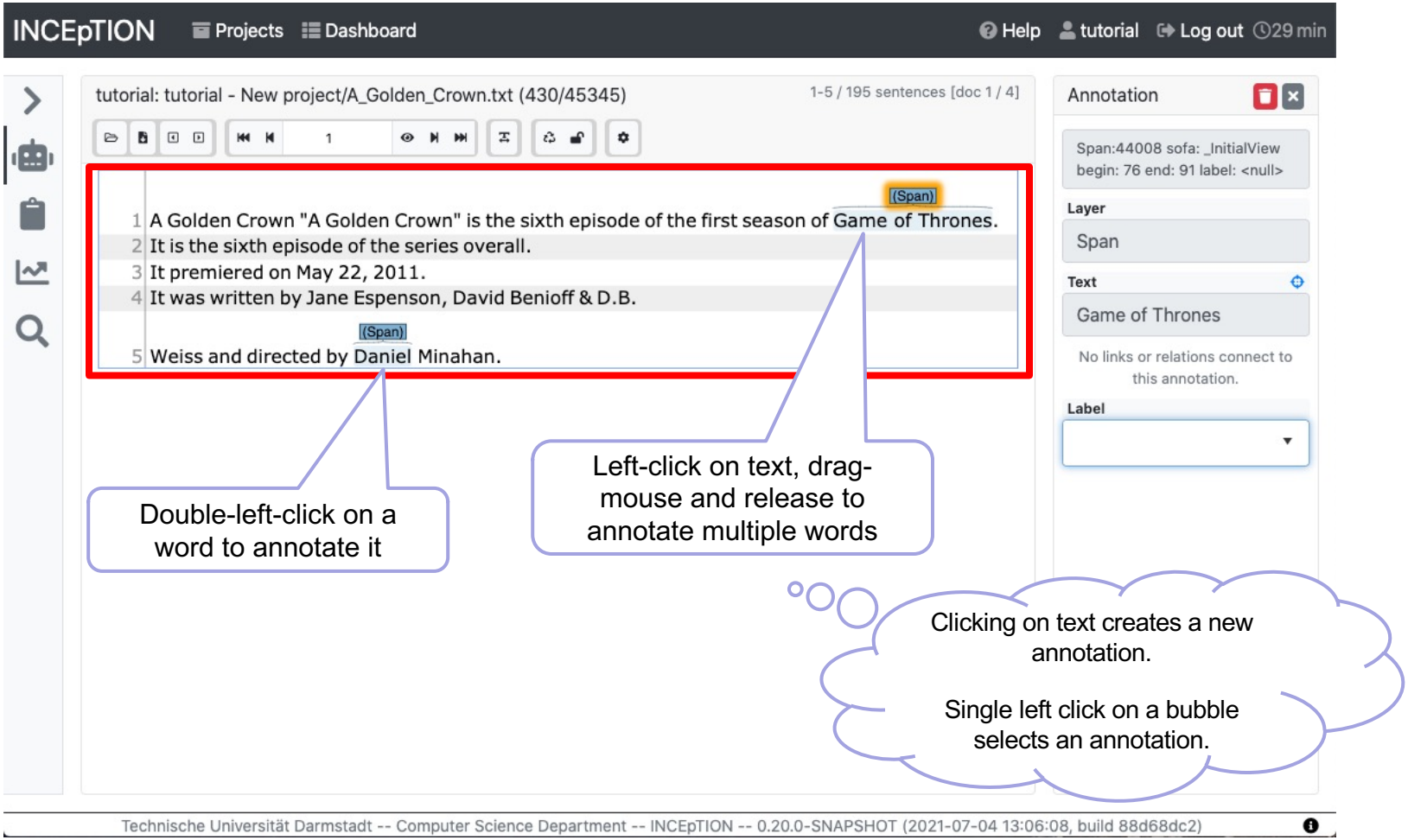
# Opening a document for annotation



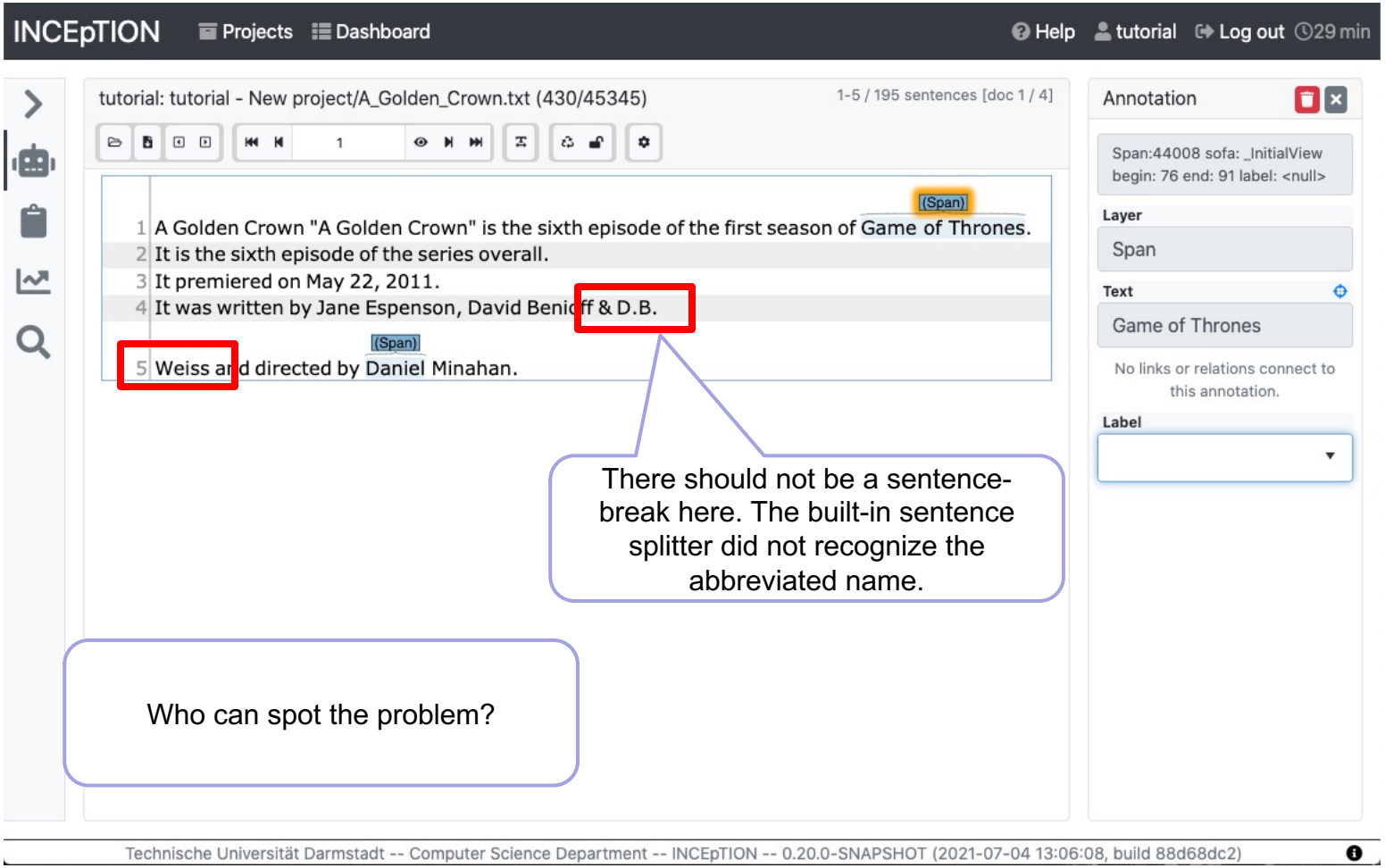
# Annotation screen



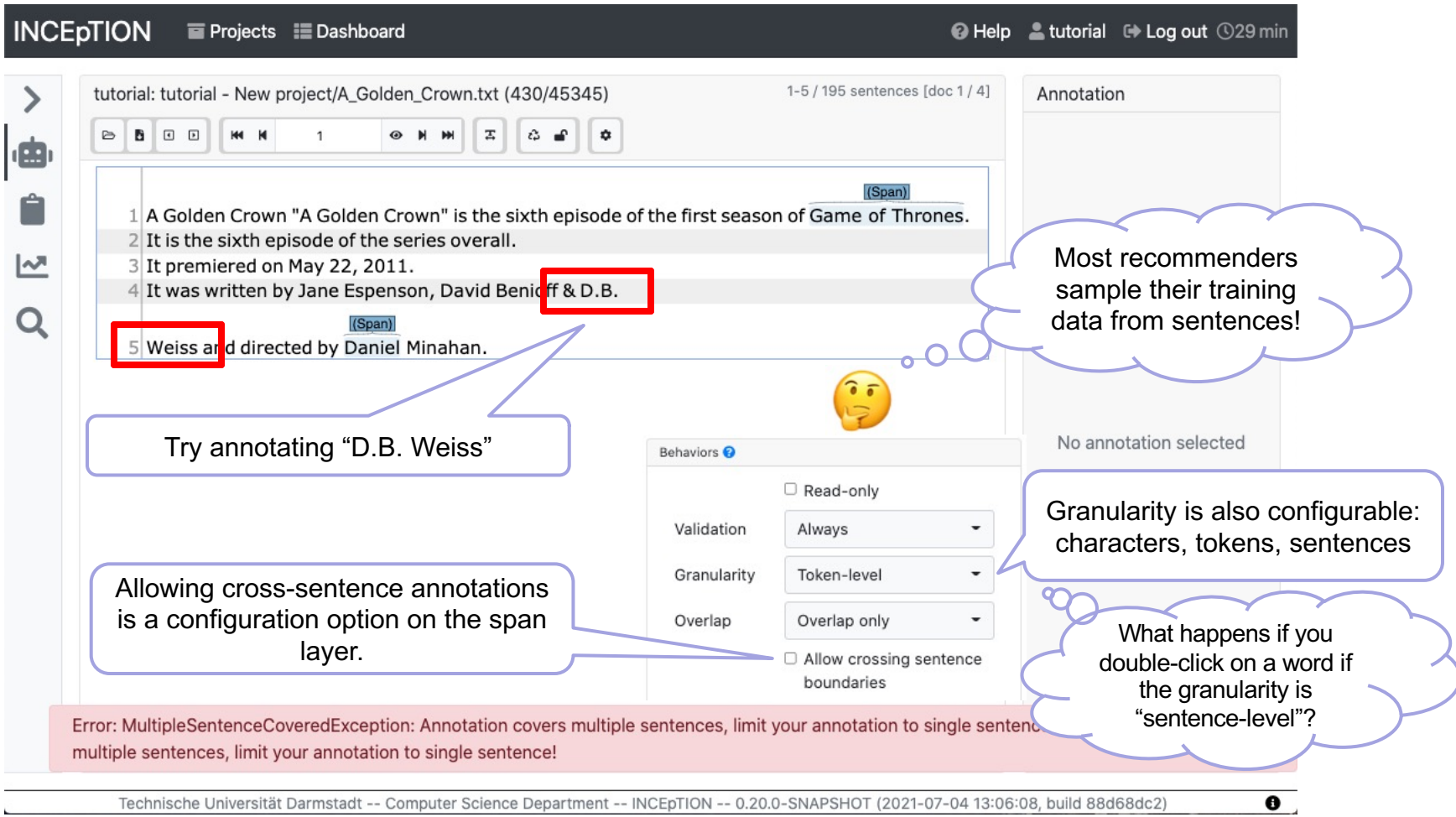
# Creating span annotations



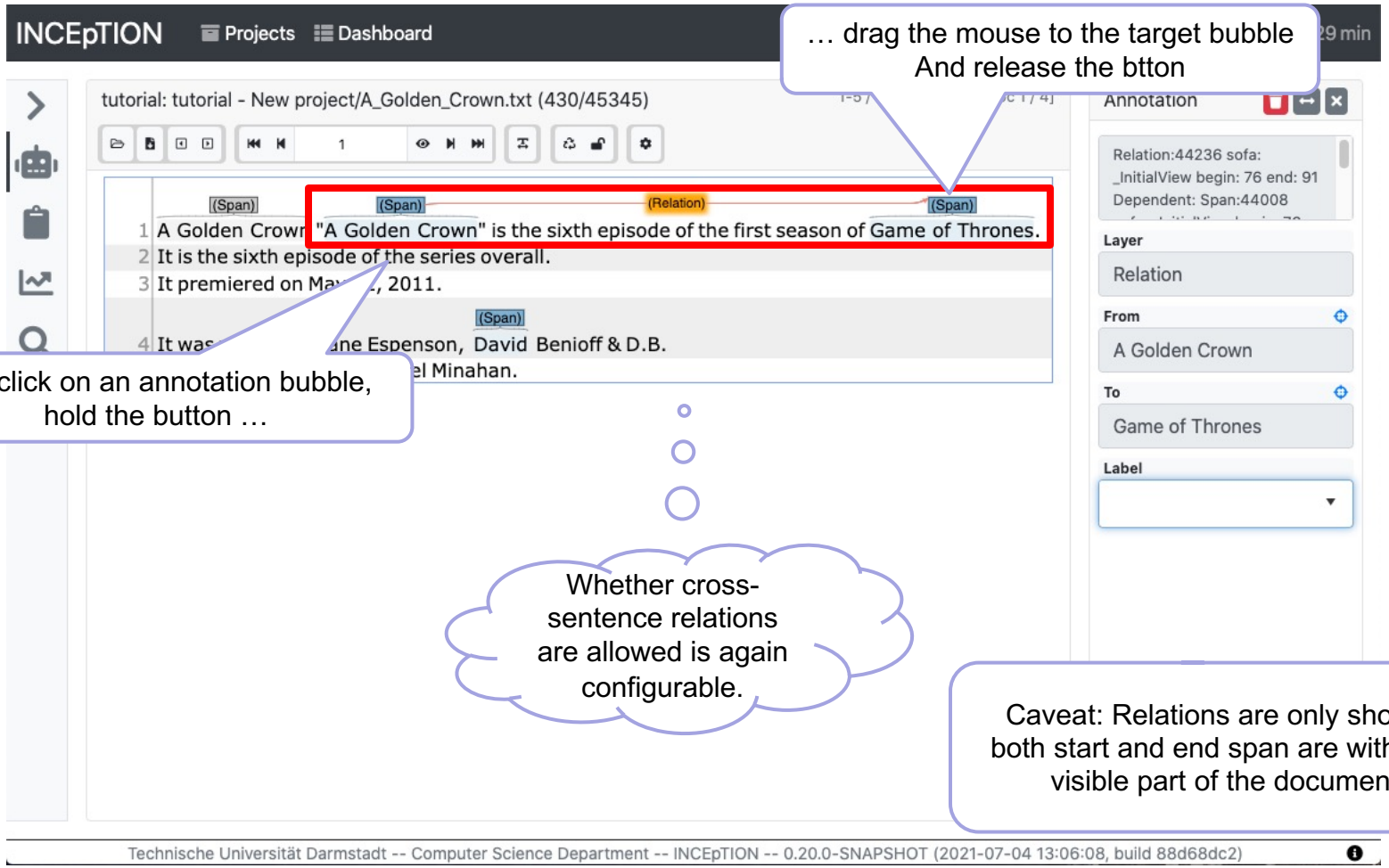
# Pitfall: Insufficiently pre-processed data



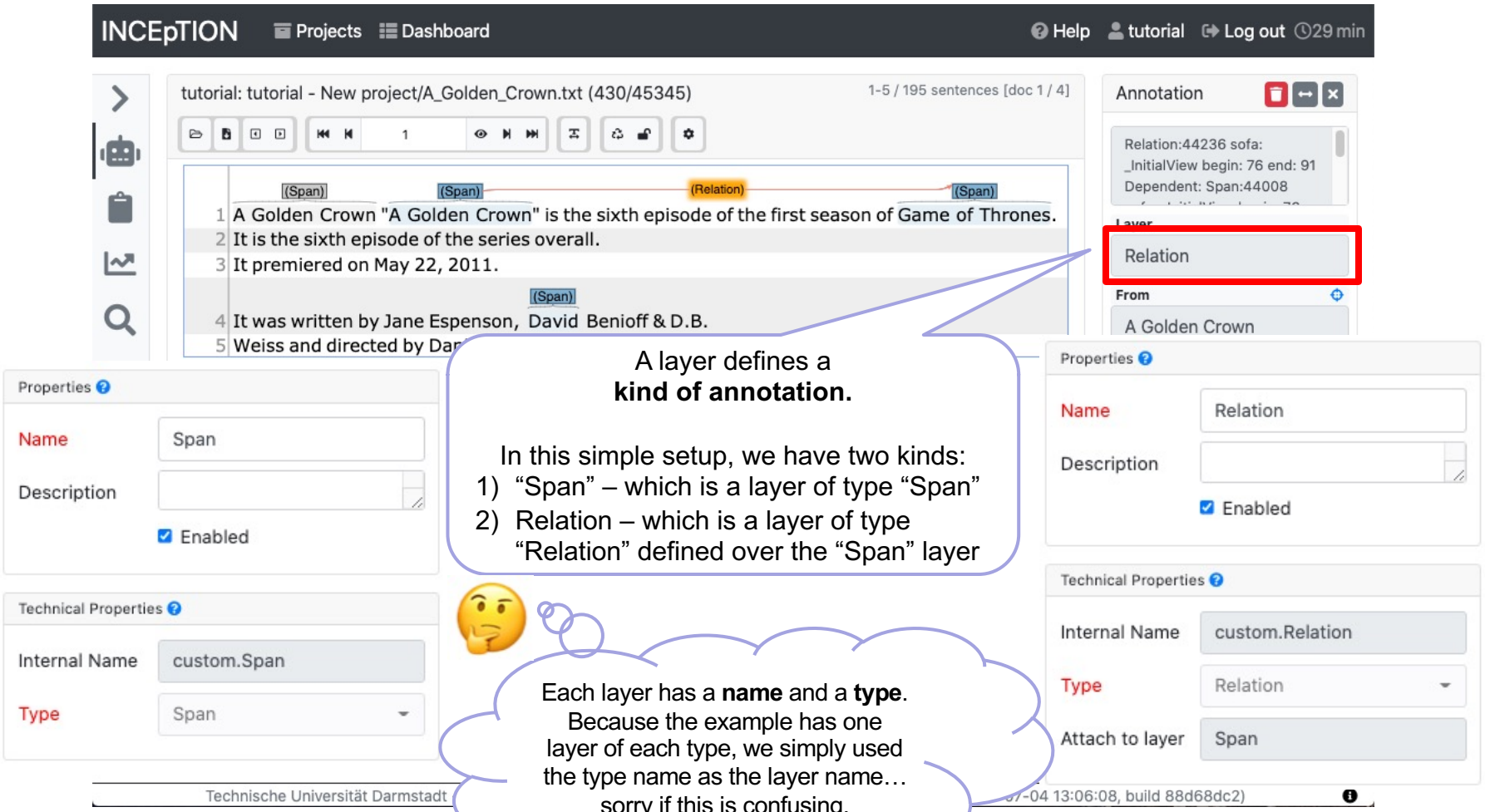
# Why is sentence-splitting important?



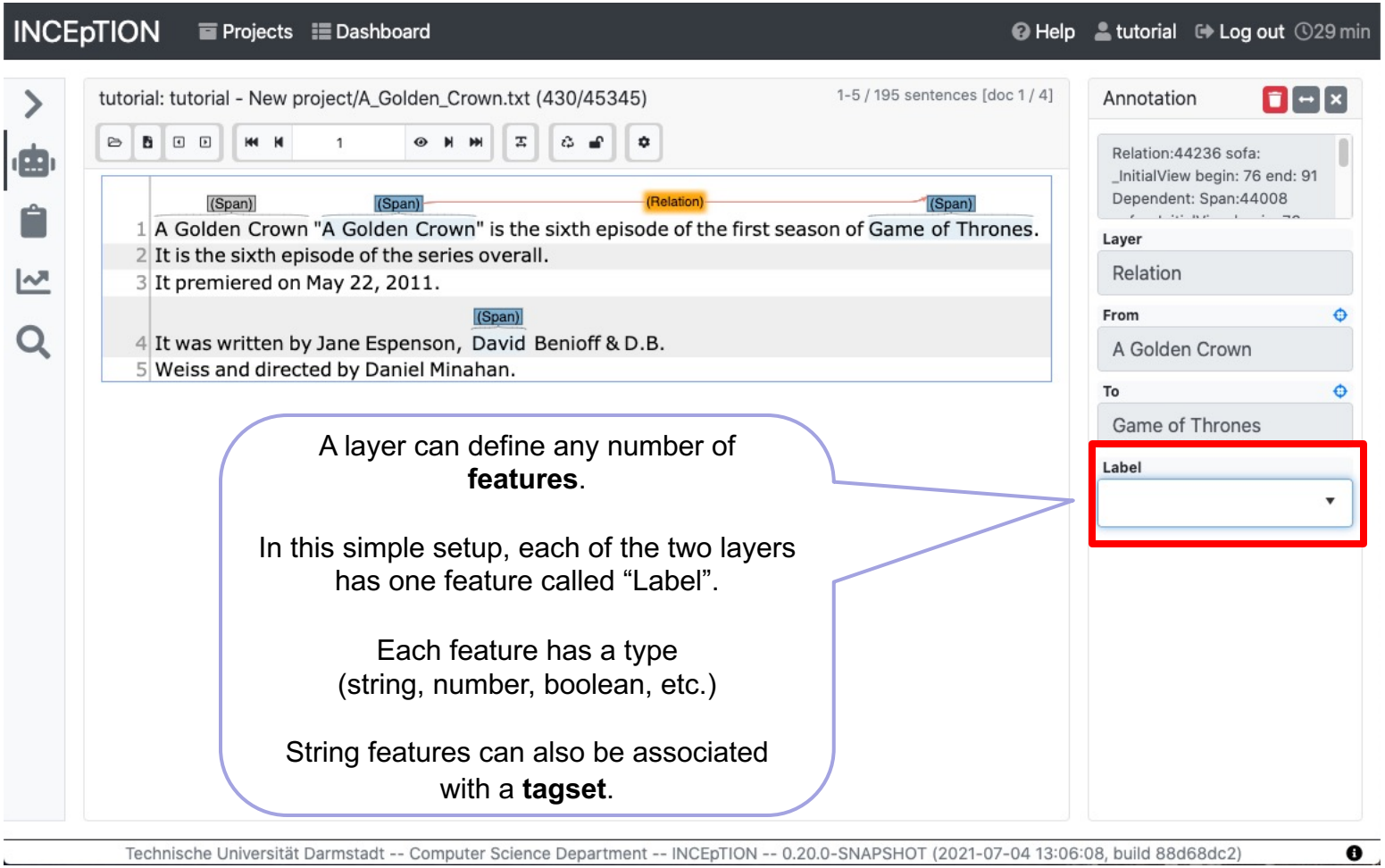
# Creating a relation annotation



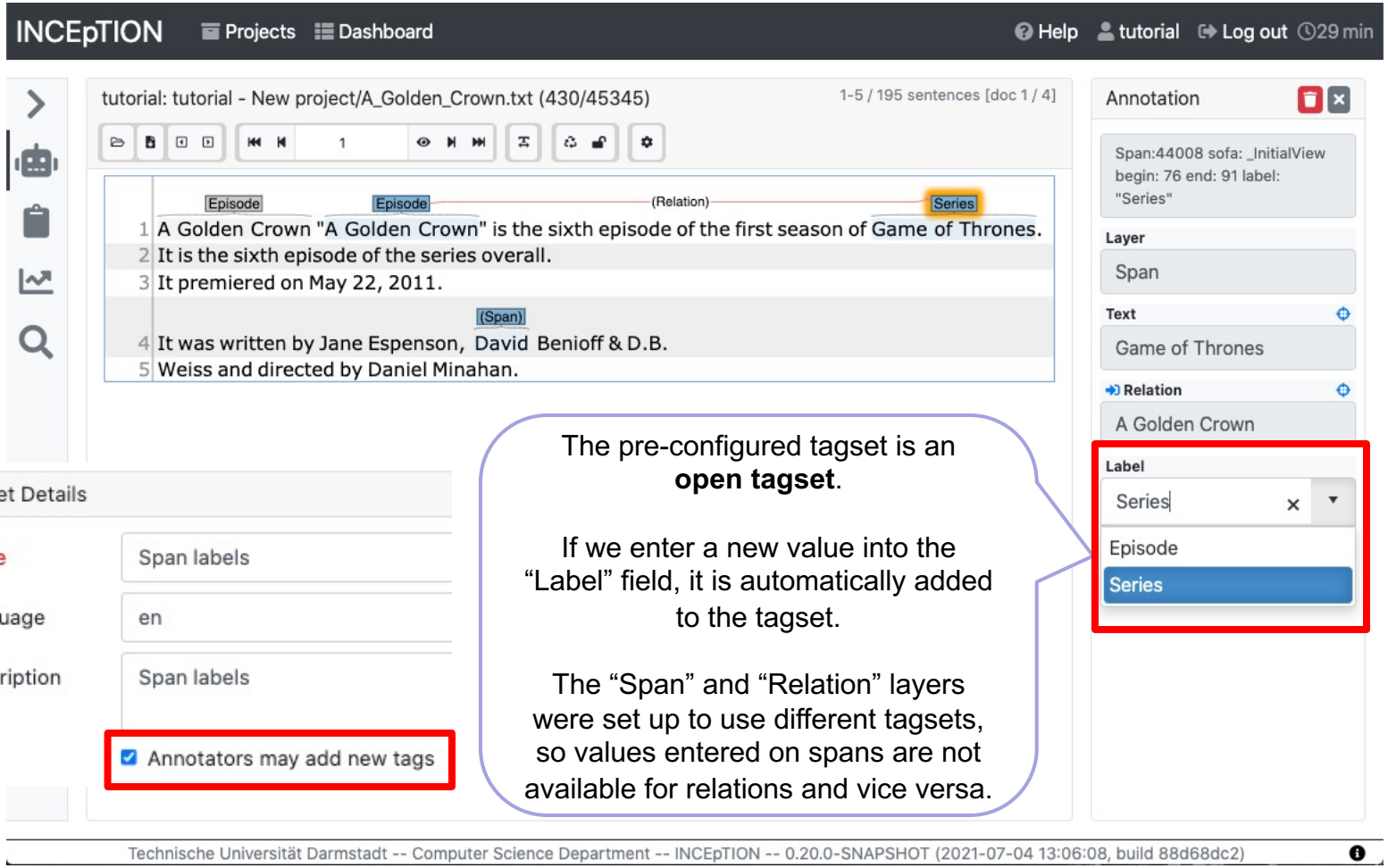
# Layers


INCEpTION
Projects
Dashboard
Help
tutorial
Log out
29 min
tutorial: tutorial - New project/A_Golden_Crown.txt (430/45345)
1-5 / 195 sentences [doc 1 / 4]
(Span)
(Span)
(Relation)
(Span)
1 A Golden Crown "A Golden Crown" is the sixth episode of the first season of Game of Thrones.
2 It is the sixth episode of the series overall.
3 It premiered on May 22, 2011.
(Span)
4 It was written by Jane Espenson, David Benioff & D.B.
5 Weiss and directed by Dar
Annotation
Relation:44236 sofa:
_InitialView begin: 76 end: 91
Dependent: Span:44008
Layer
Relation
From
A Golden Crown
Properties
Name
Span
Description
Enabled
Technical Properties
Internal Name
custom.Span
Type
Span
A layer defines a
kind of annotation.
In this simple setup, we have two kinds:
1) "Span" – which is a layer of type "Span"
2) Relation – which is a layer of type "Relation" defined over the "Span" layer
Properties
Name
Relation
Description
Enabled
Technical Properties
Internal Name
custom.Relation
Type
Relation
Attach to layer
Span
Each layer has a name and a type. Because the example has one layer of each type, we simply used the type name as the layer name… sorry if this is confusing.
Technische Universität Darmstadt
07-04 13:06:08, build 88d68dc2)

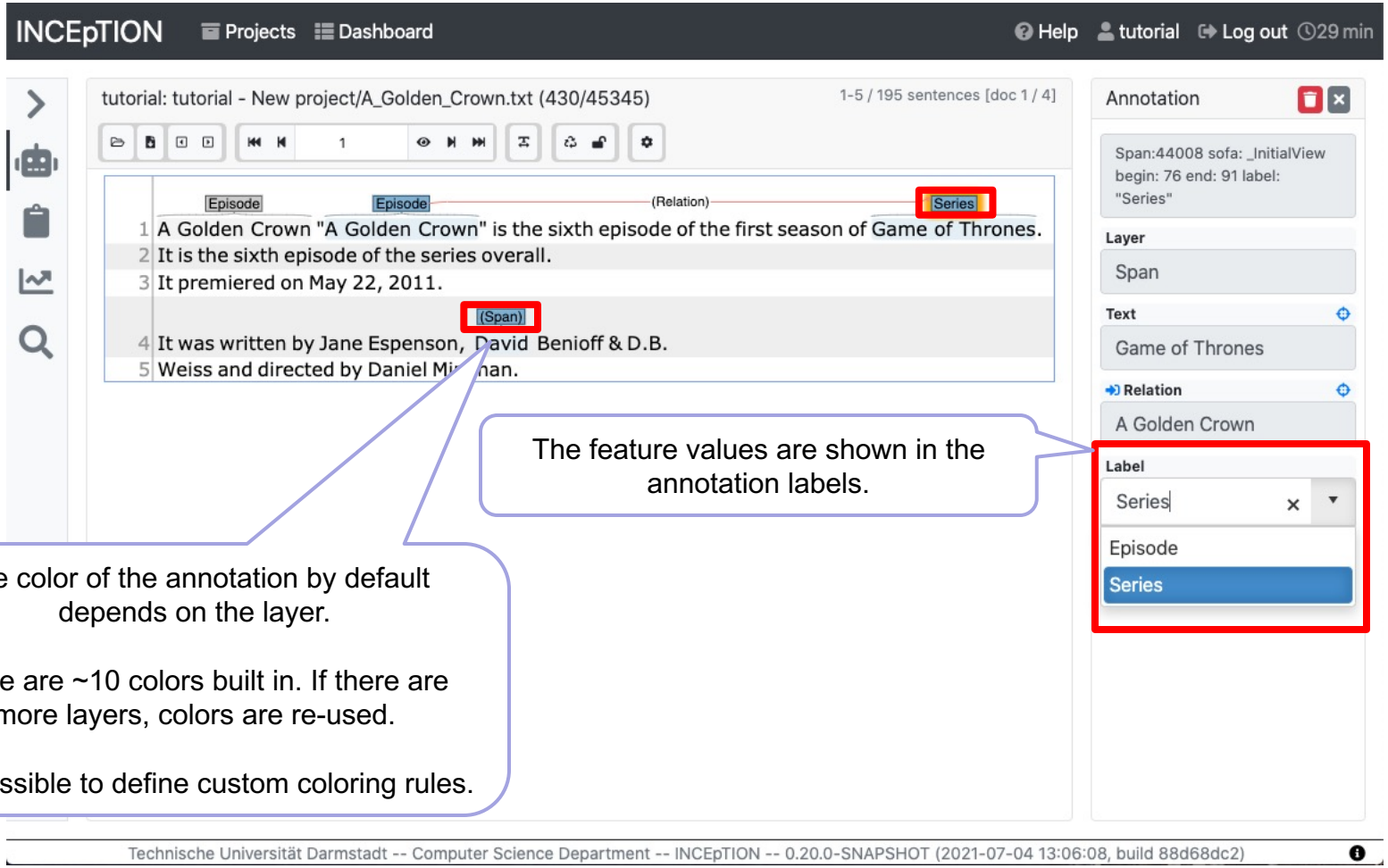
# Features


INCEpTION
Projects
Dashboard
Help
tutorial
Log out
29 min
tutorial: tutorial - New project/A_Golden_Crown.txt (430/45345)
1-5 / 195 sentences [doc 1 / 4]
(Span)
(Span)
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5 Weiss and directed by Daniel Minahan.
Annotation
Relation:44236 sofa:
_InitialView begin: 76 end: 91
Dependent: Span:44008
Layer
Relation
From
A Golden Crown
To
Game of Thrones
Label
A layer can define any number of features.
In this simple setup, each of the two layers has one feature called “Label”.
Each feature has a type (string, number, boolean, etc.)
String features can also be associated with a tagset.
Technische Universität Darmstadt -- Computer Science Department -- INCEpTION -- 0.20.0-SNAPSHOT (2021-07-04 13:06:08, build 88d68dc2)

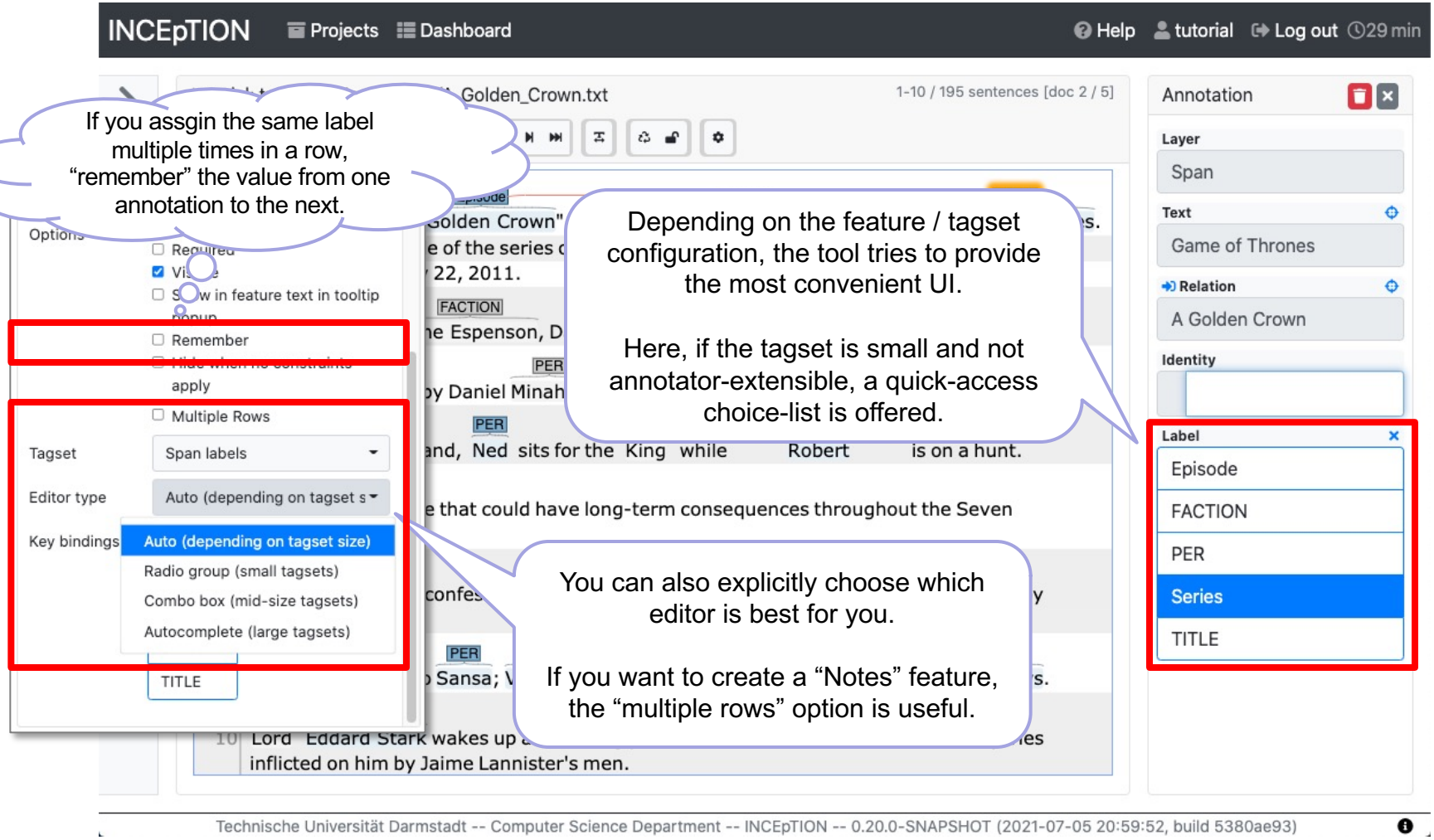
# Assigning labels



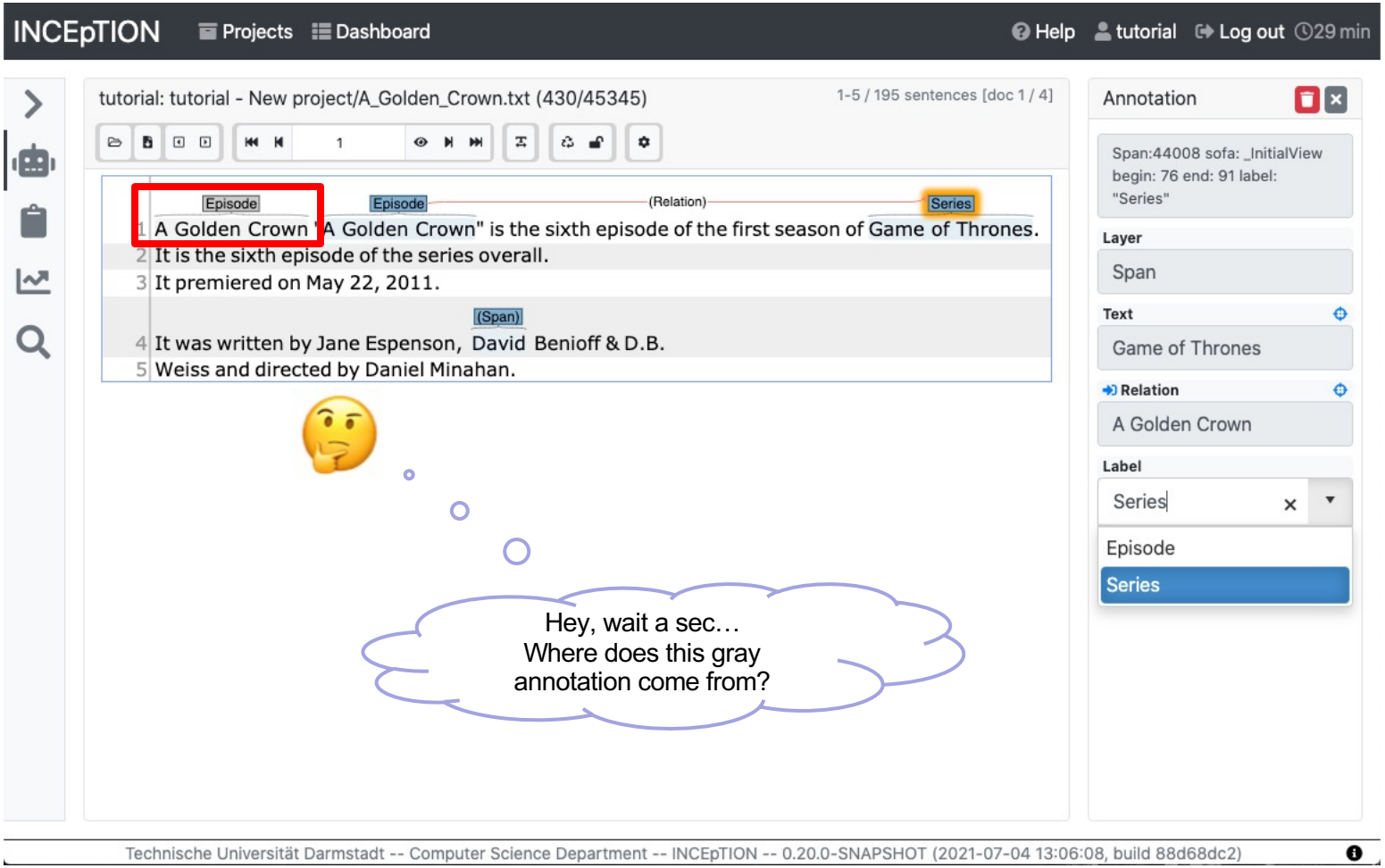
# Labels and colors



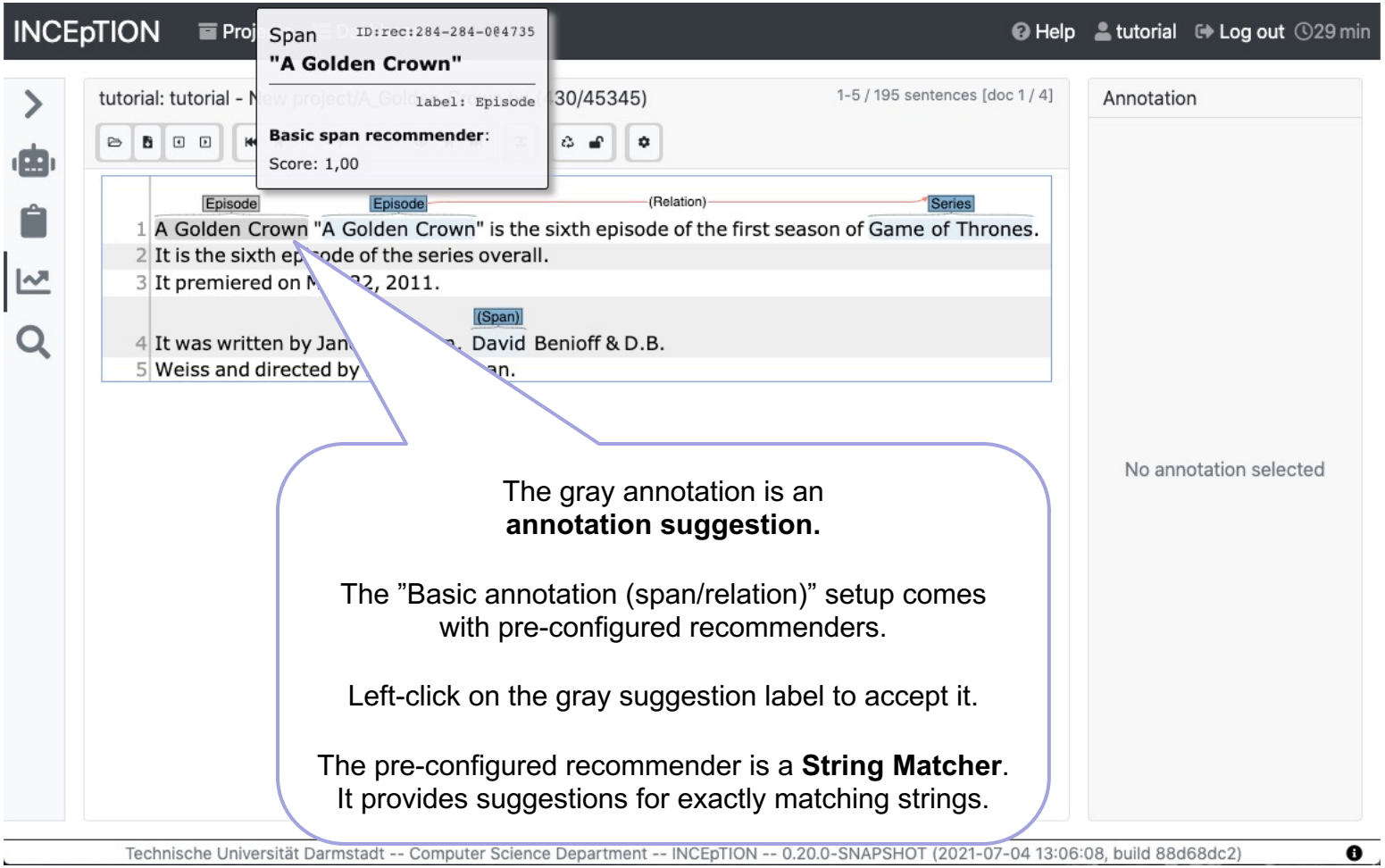
# Alternative feature editors



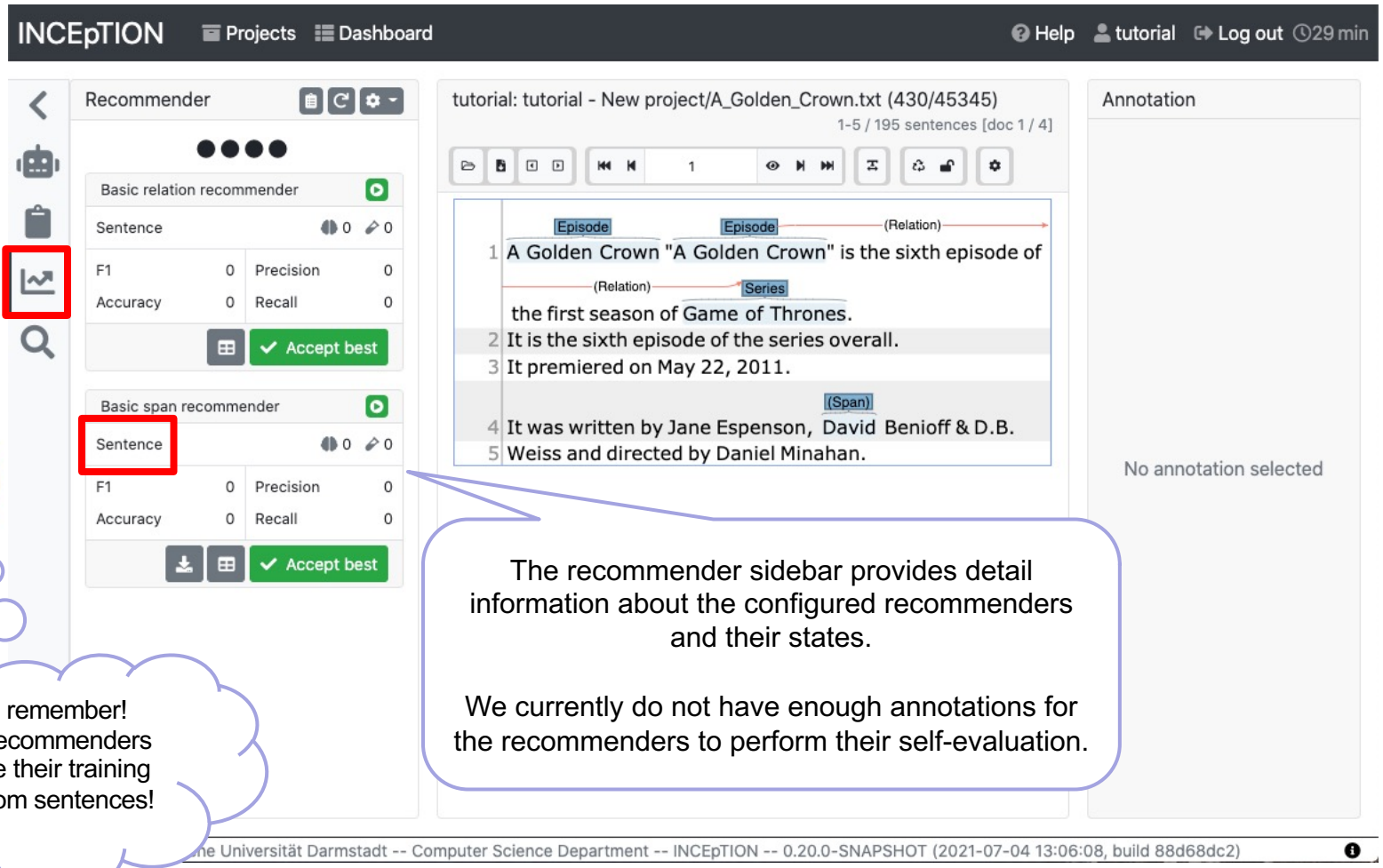
# Mysterious gray annotations



# Annotation suggestions

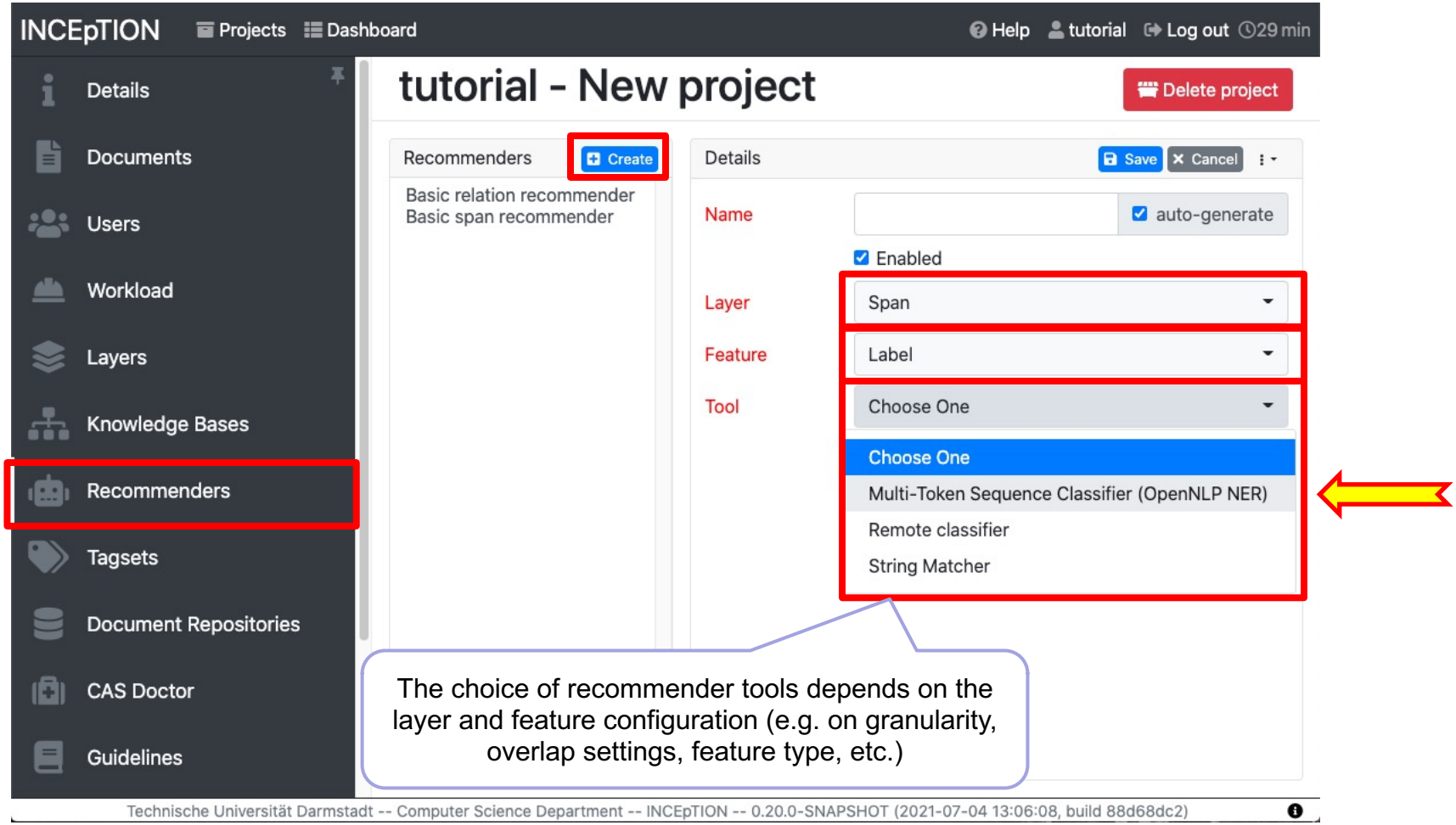


# Recommender sidebar

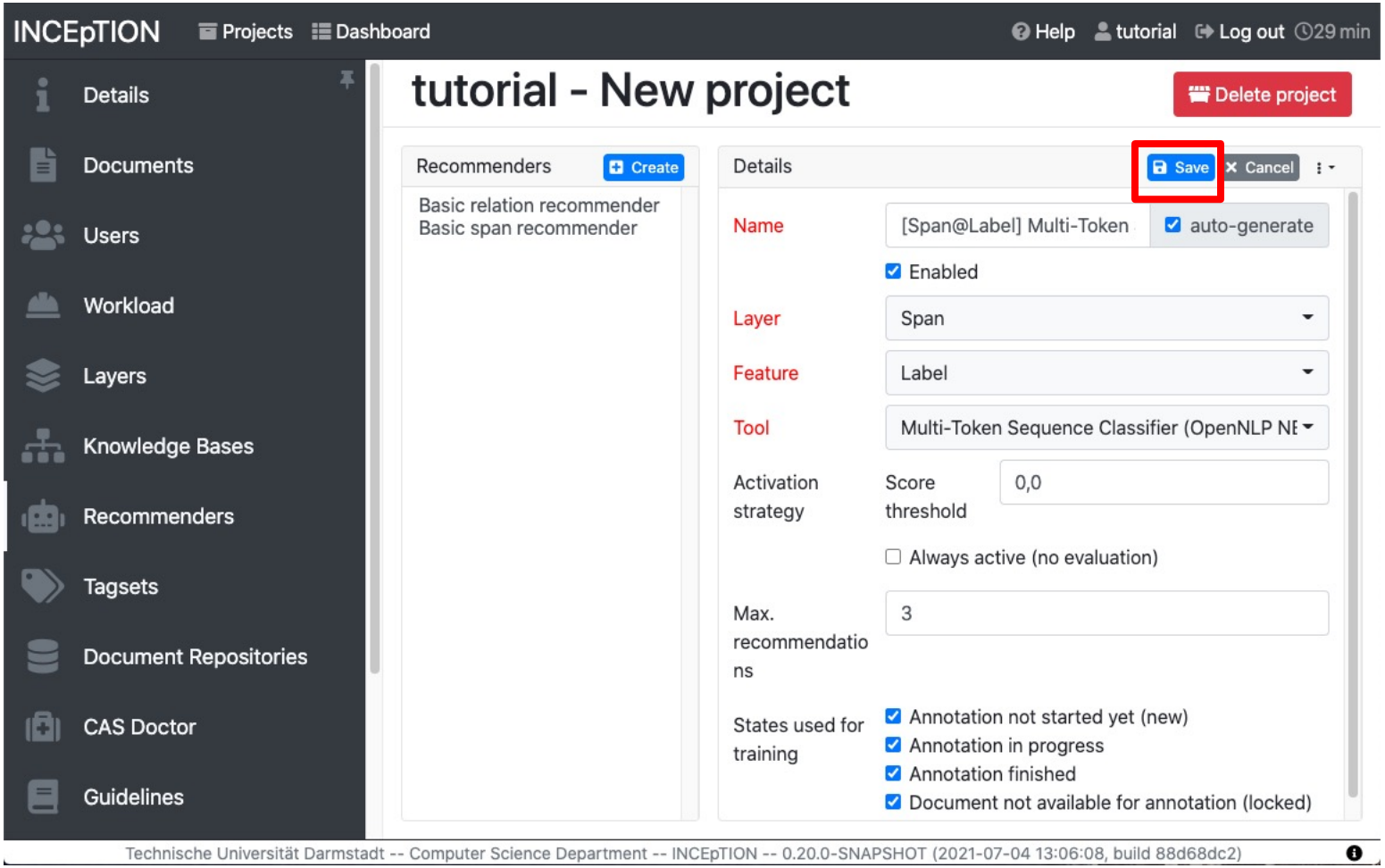


# Let's configure a new recommender

**To get here: click "Dashboard" then "Settings"**

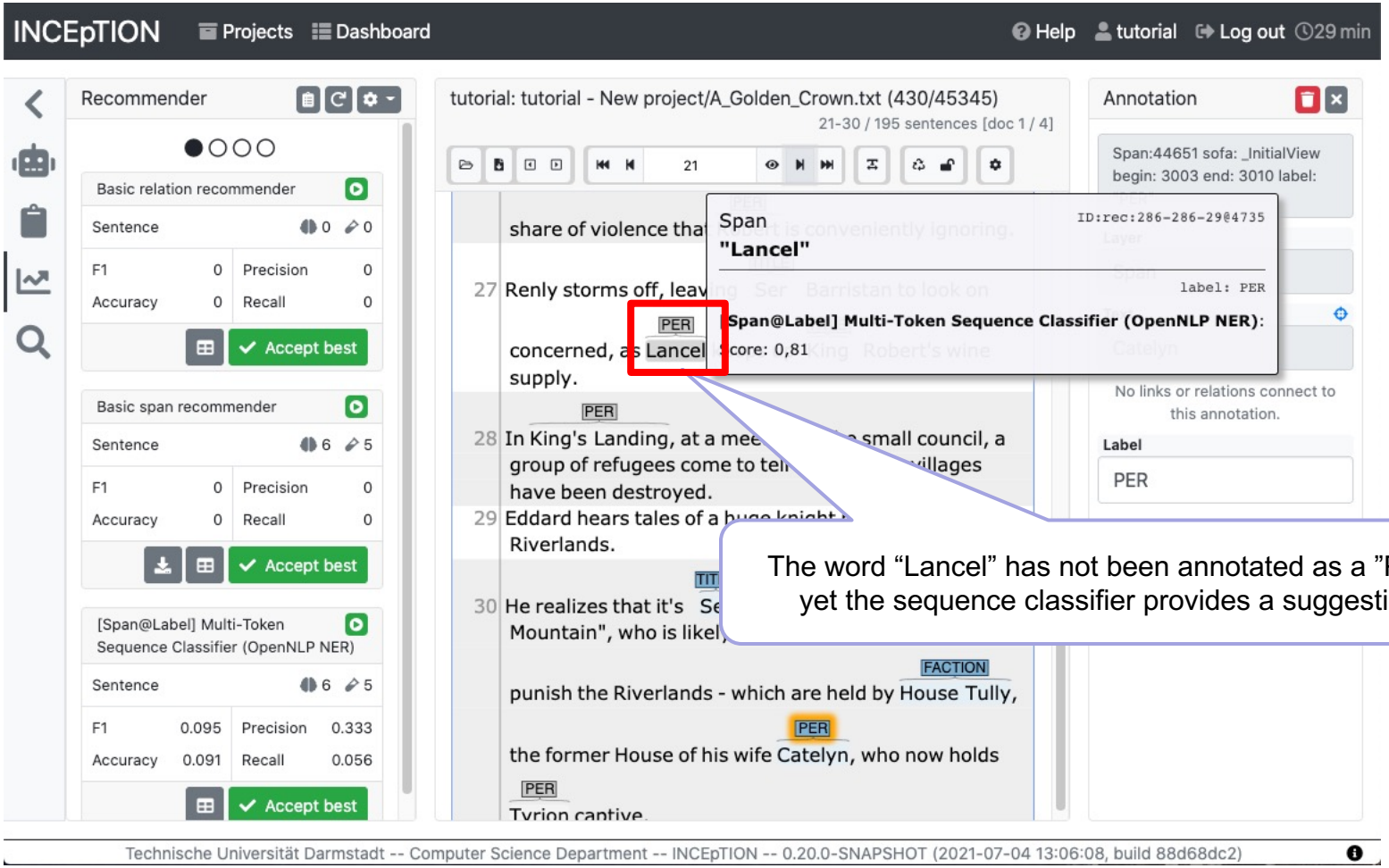


# Sequence classifier



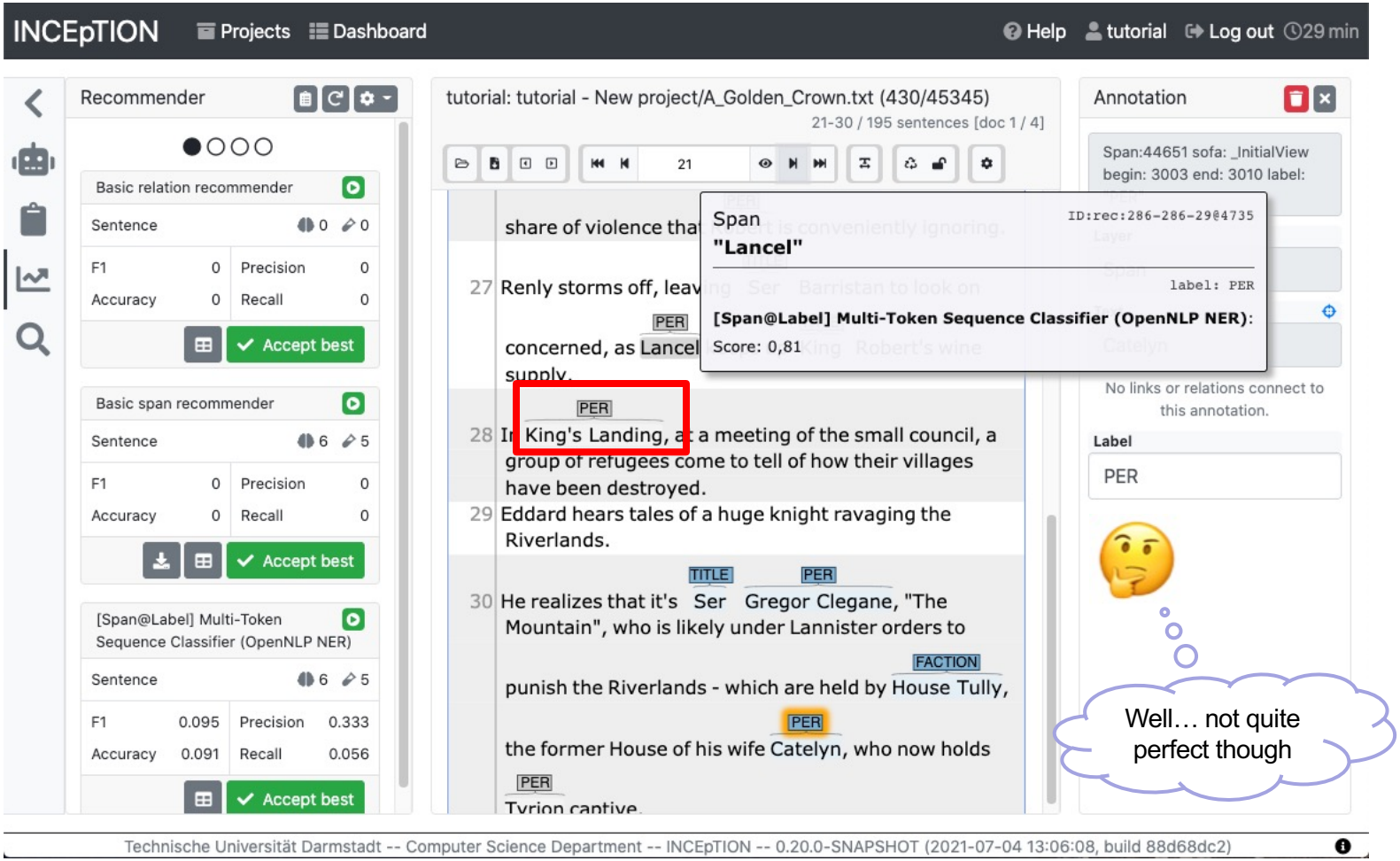
# Sequence classifier generalizes!

**To get here: click “Dashboard” then “Annotation”**

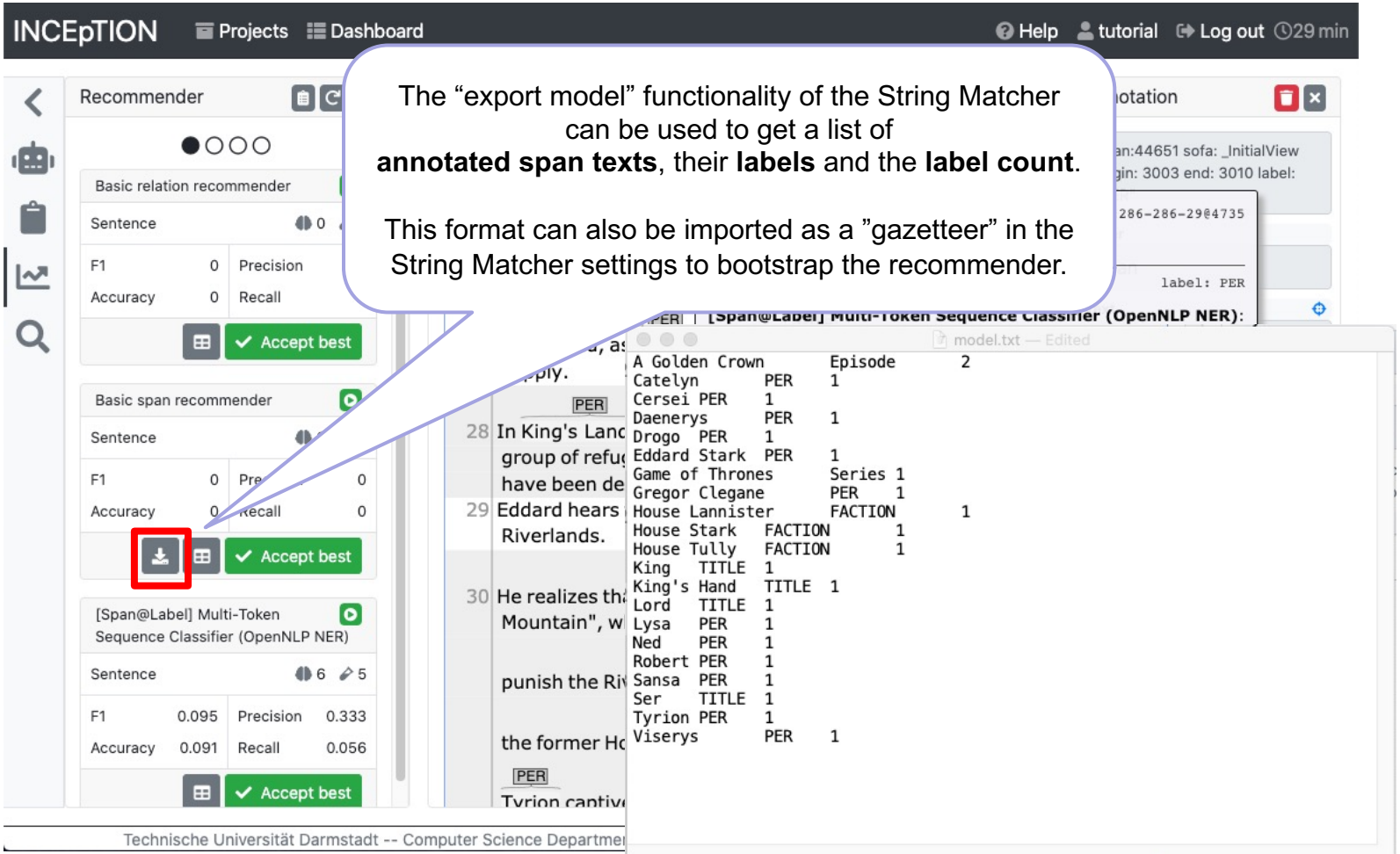


# Sequence classifier generalizes!

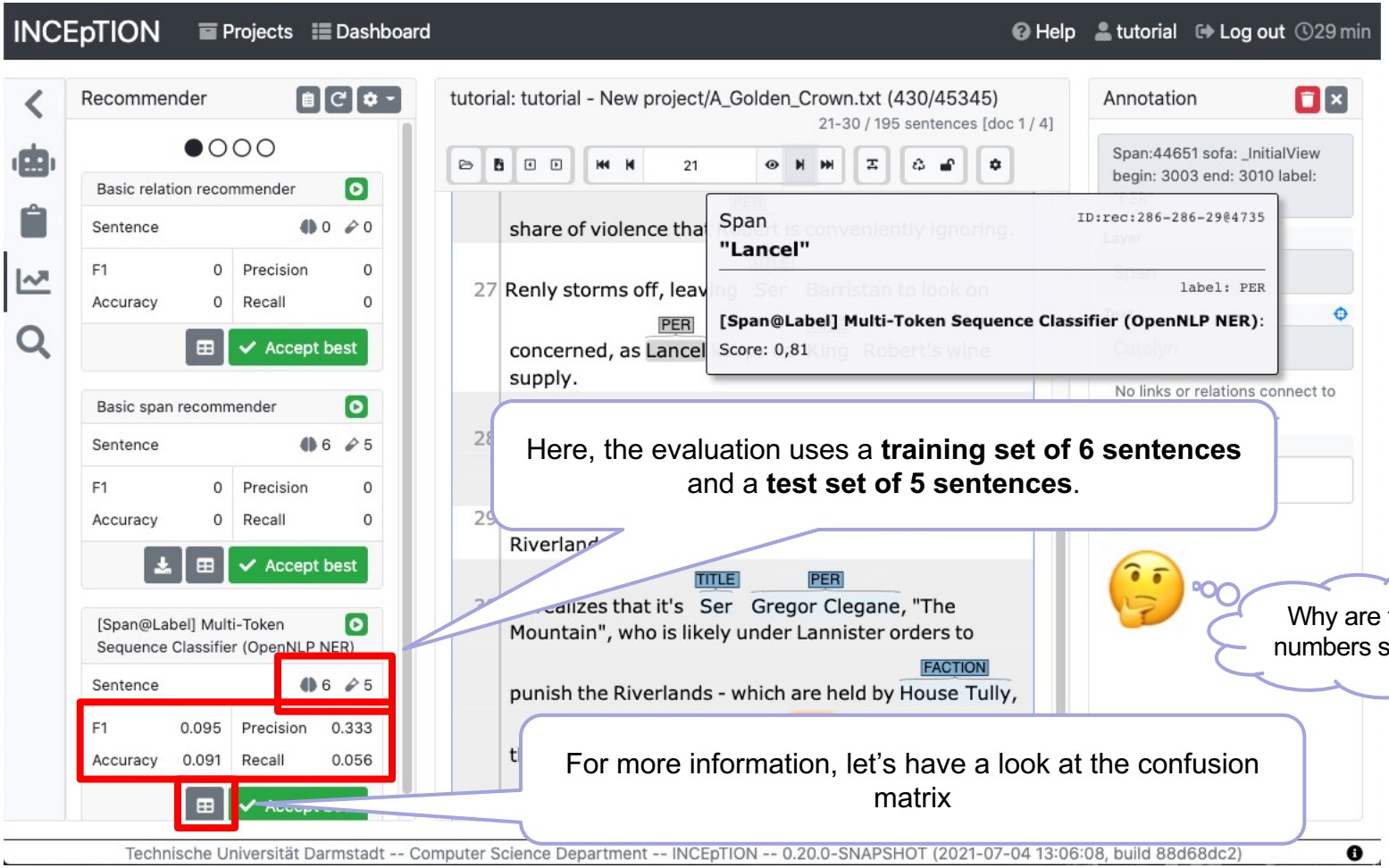
**To get here: click “Dashboard” then “Annotation”**



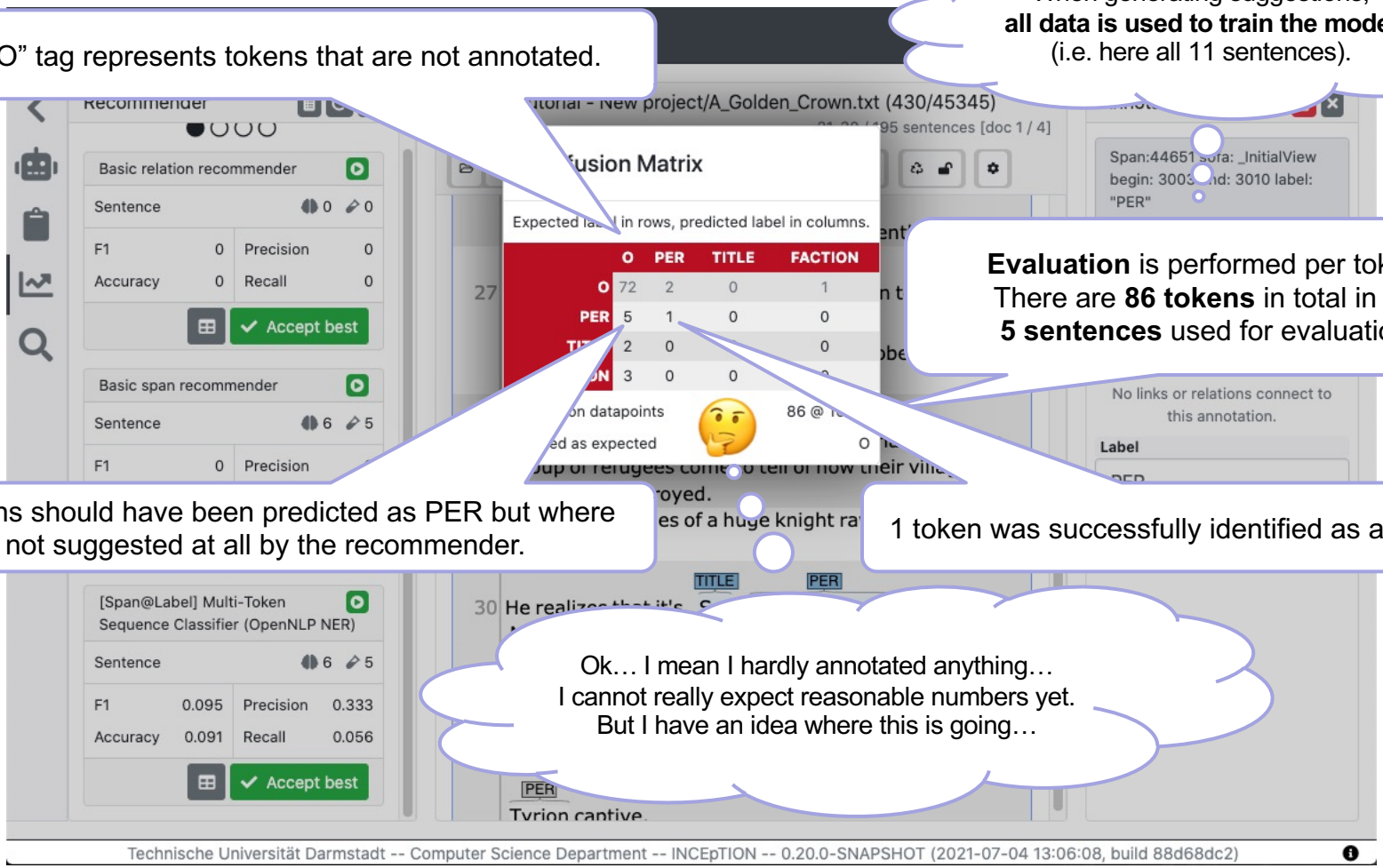
# Exporting label counts



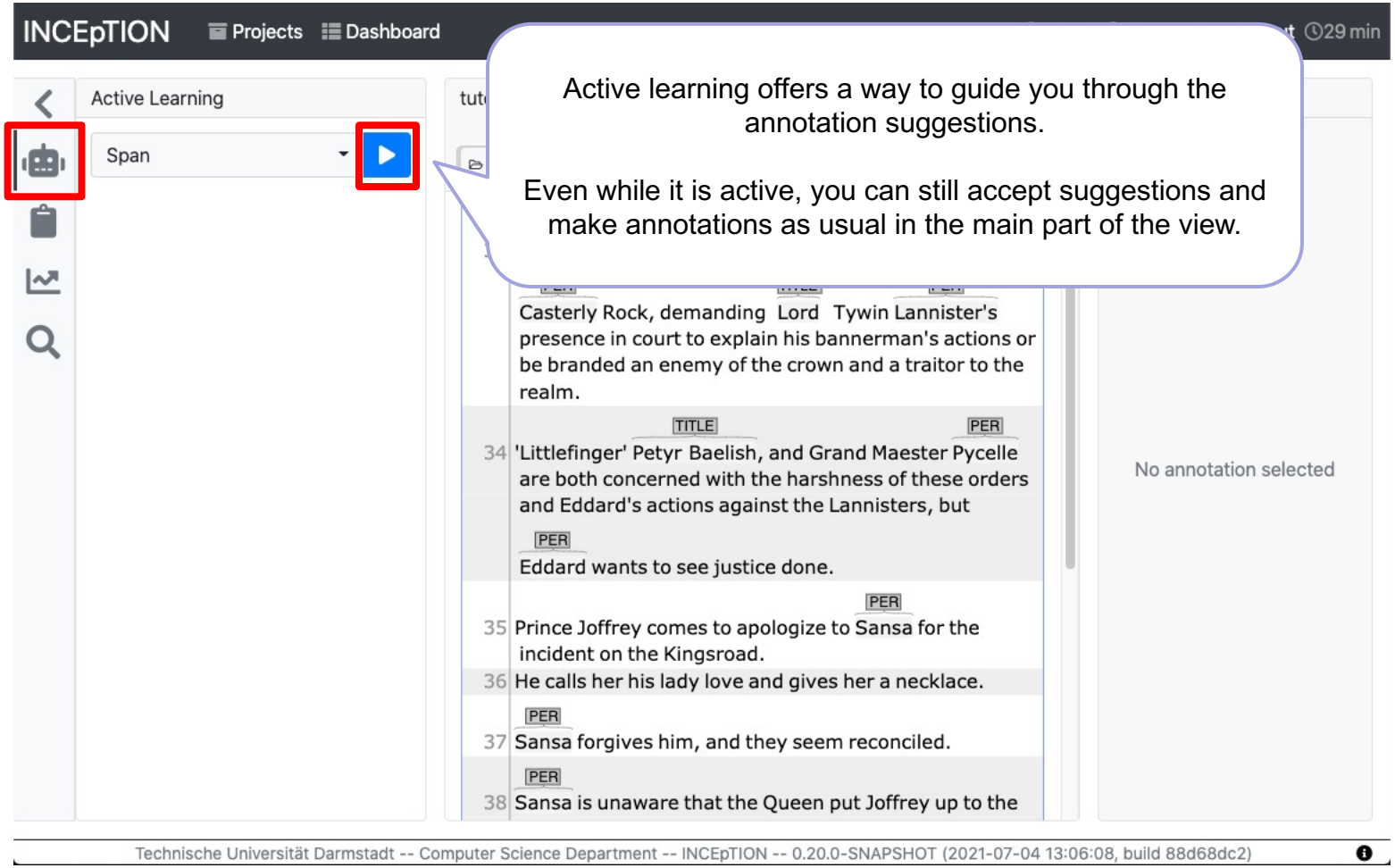
# Interpreting evaluation results



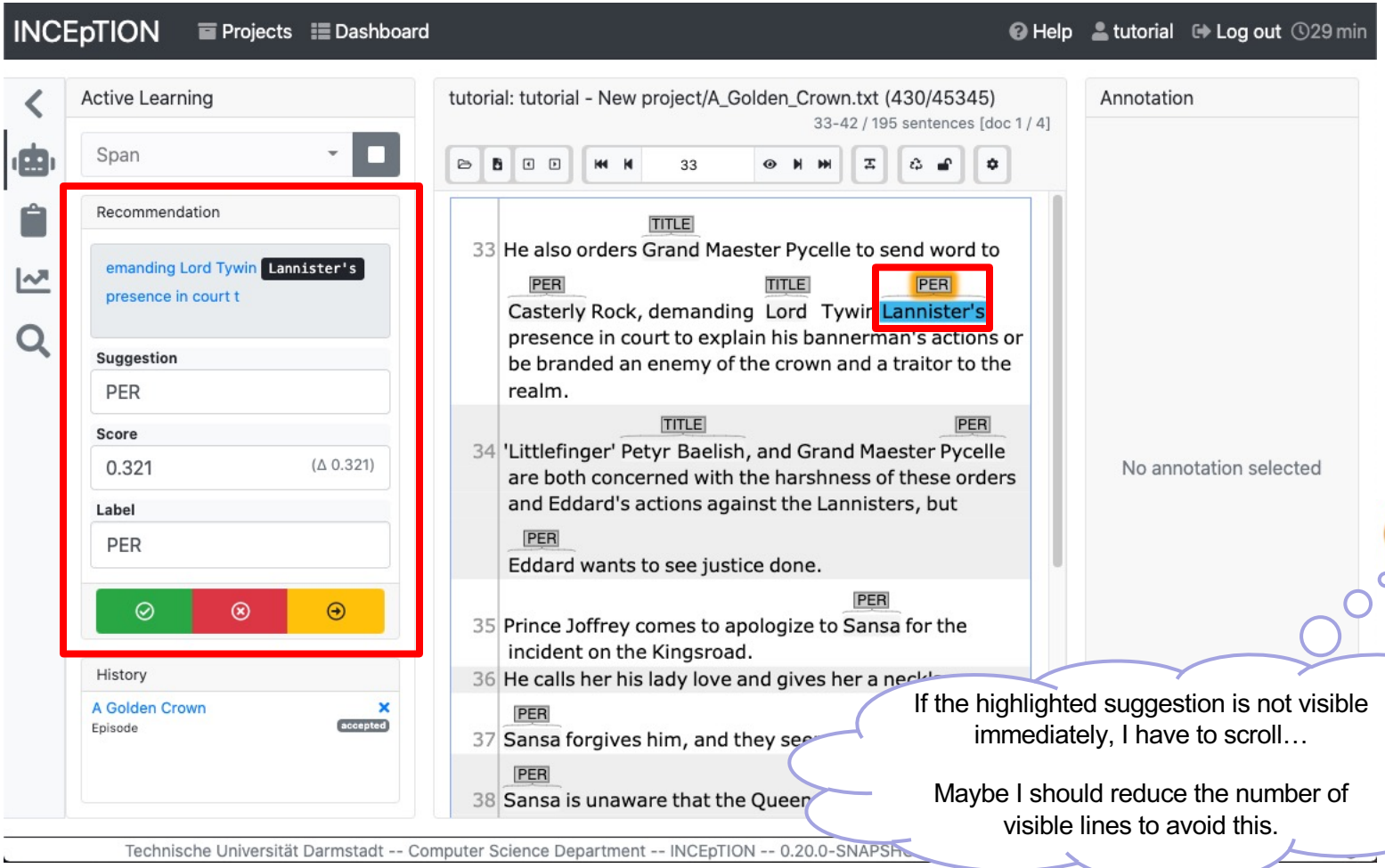
# Confusion matrix



# Give me a hand: Active Learning



# Pitfall: Highlight not visible

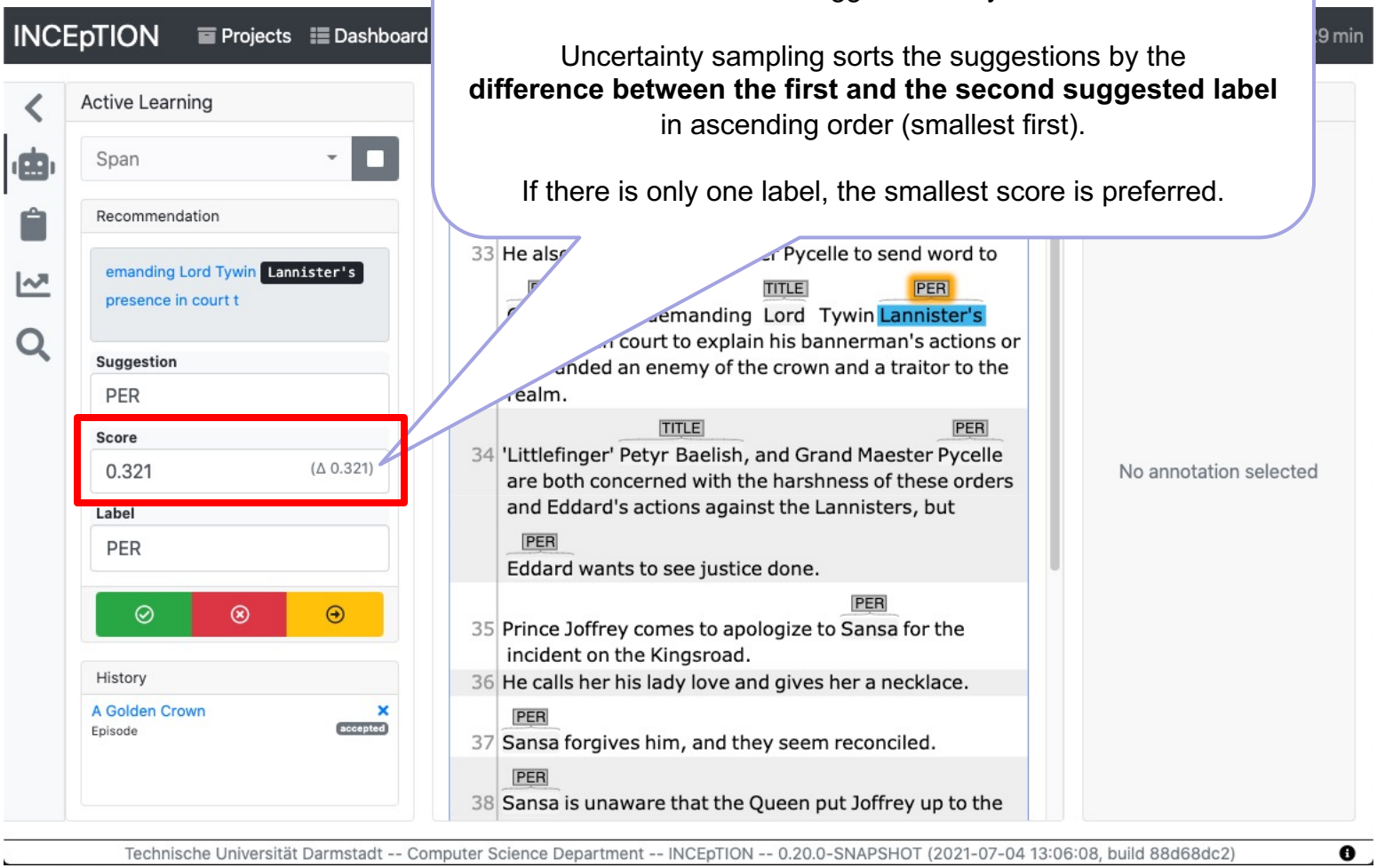


# Active Learning: How does it work?

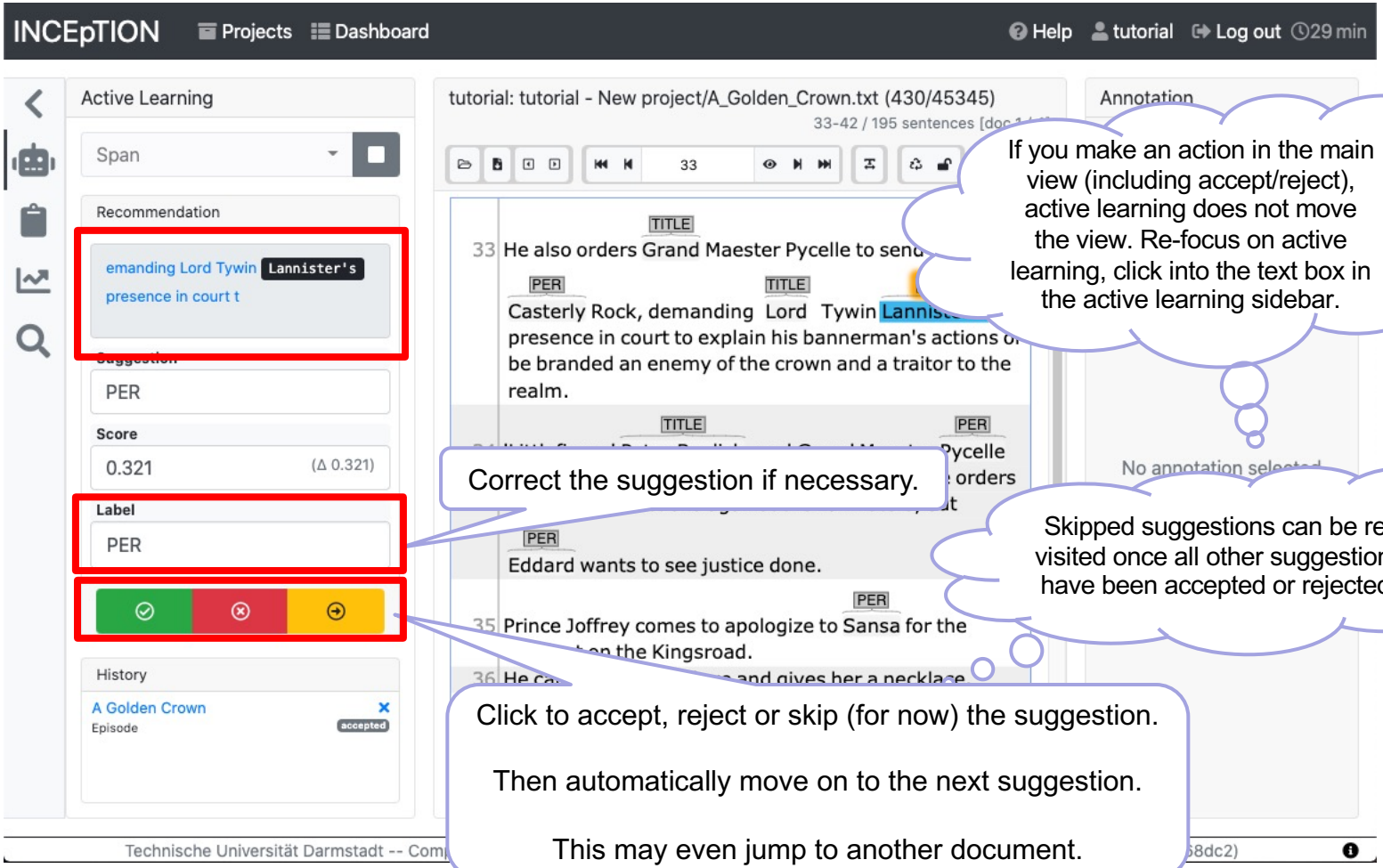
Active learning uses a strategy called **uncertainty sampling** to choose the next suggestion for you to check.

Uncertainty sampling sorts the suggestions by the **difference between the first and the second suggested label** in ascending order (smallest first).

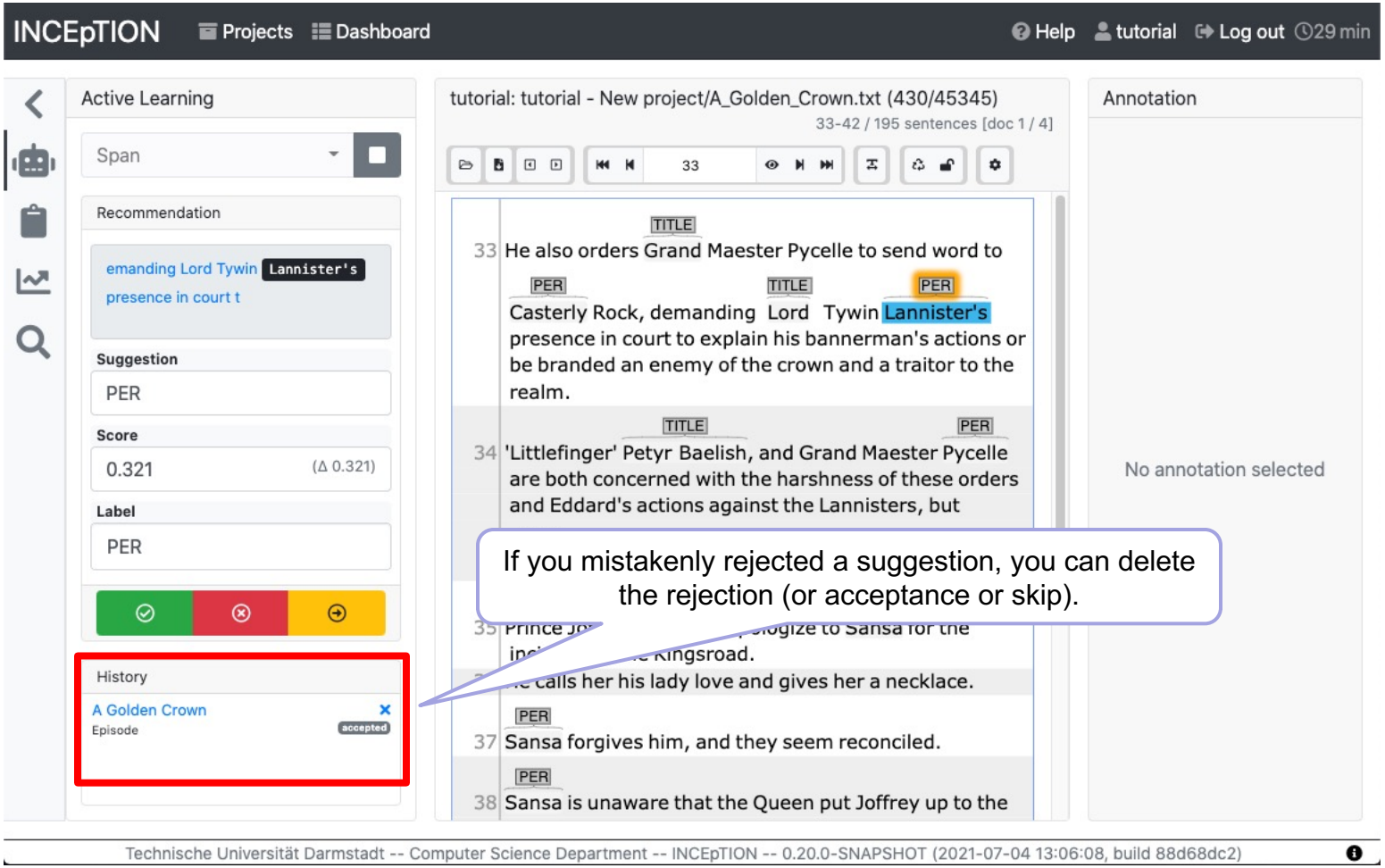
If there is only one label, the smallest score is preferred.



# Correct, Accept, Reject, Skip

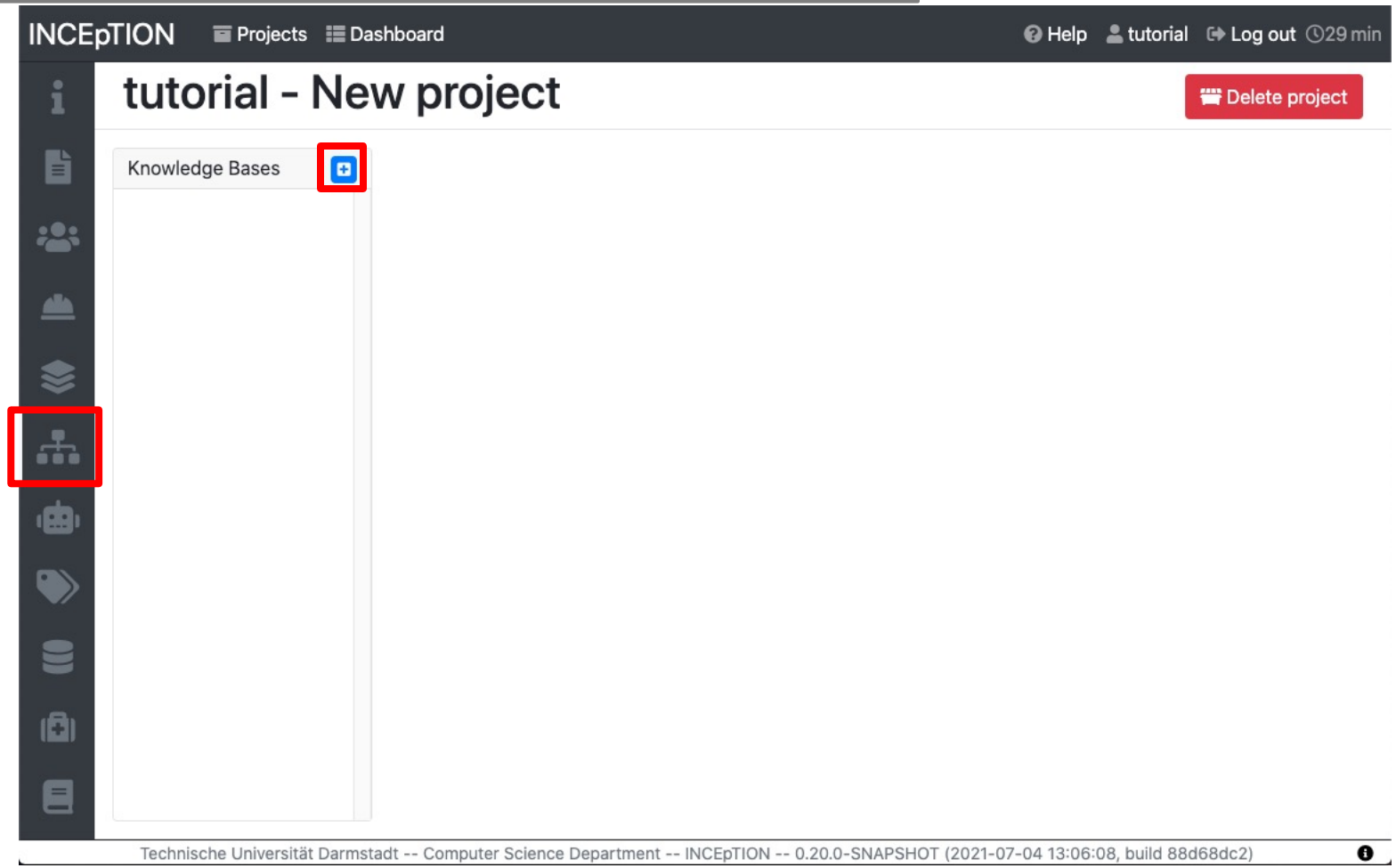


# Learning history

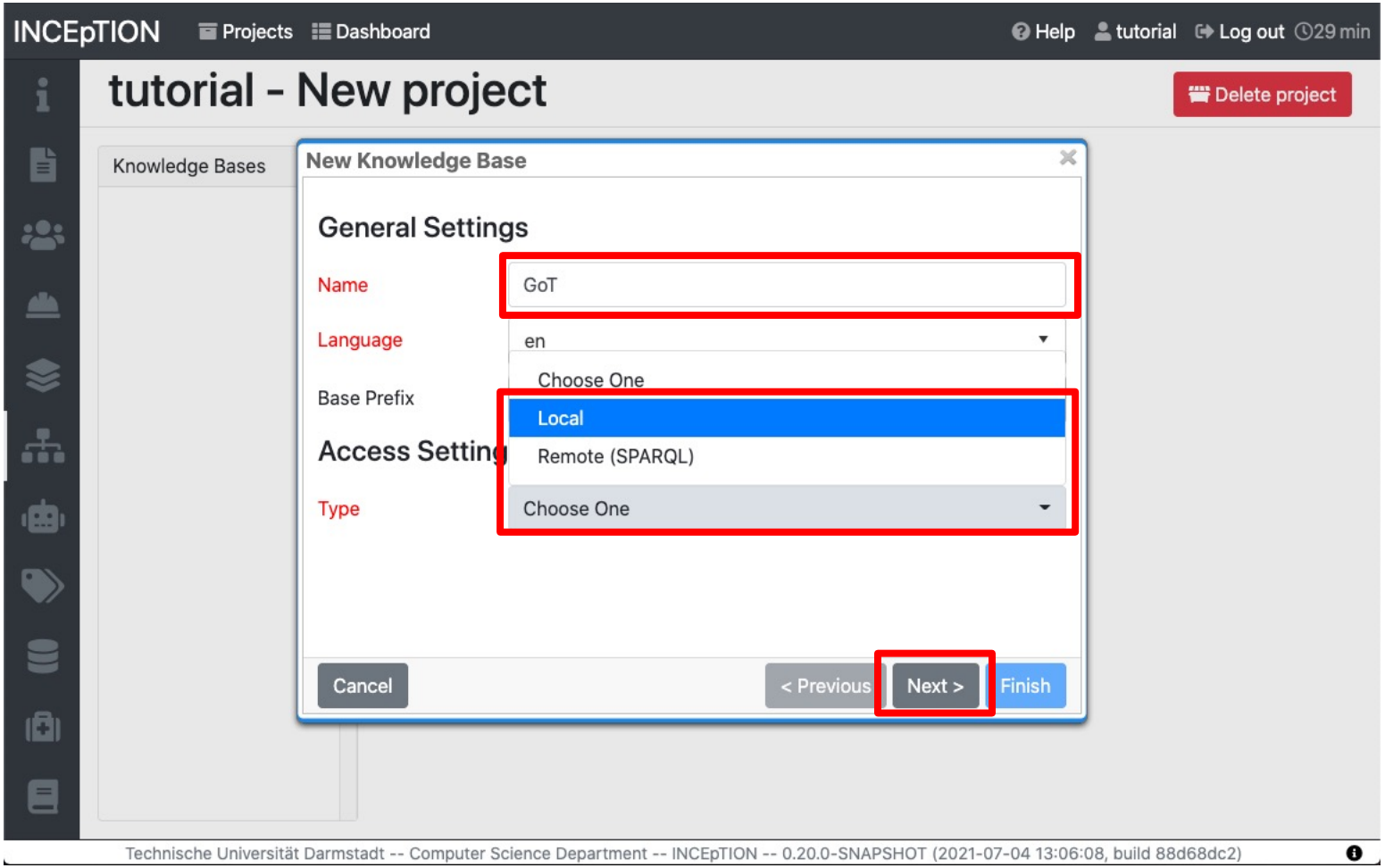


# Normalization / disambiguation: Let‘s use a knowledge base

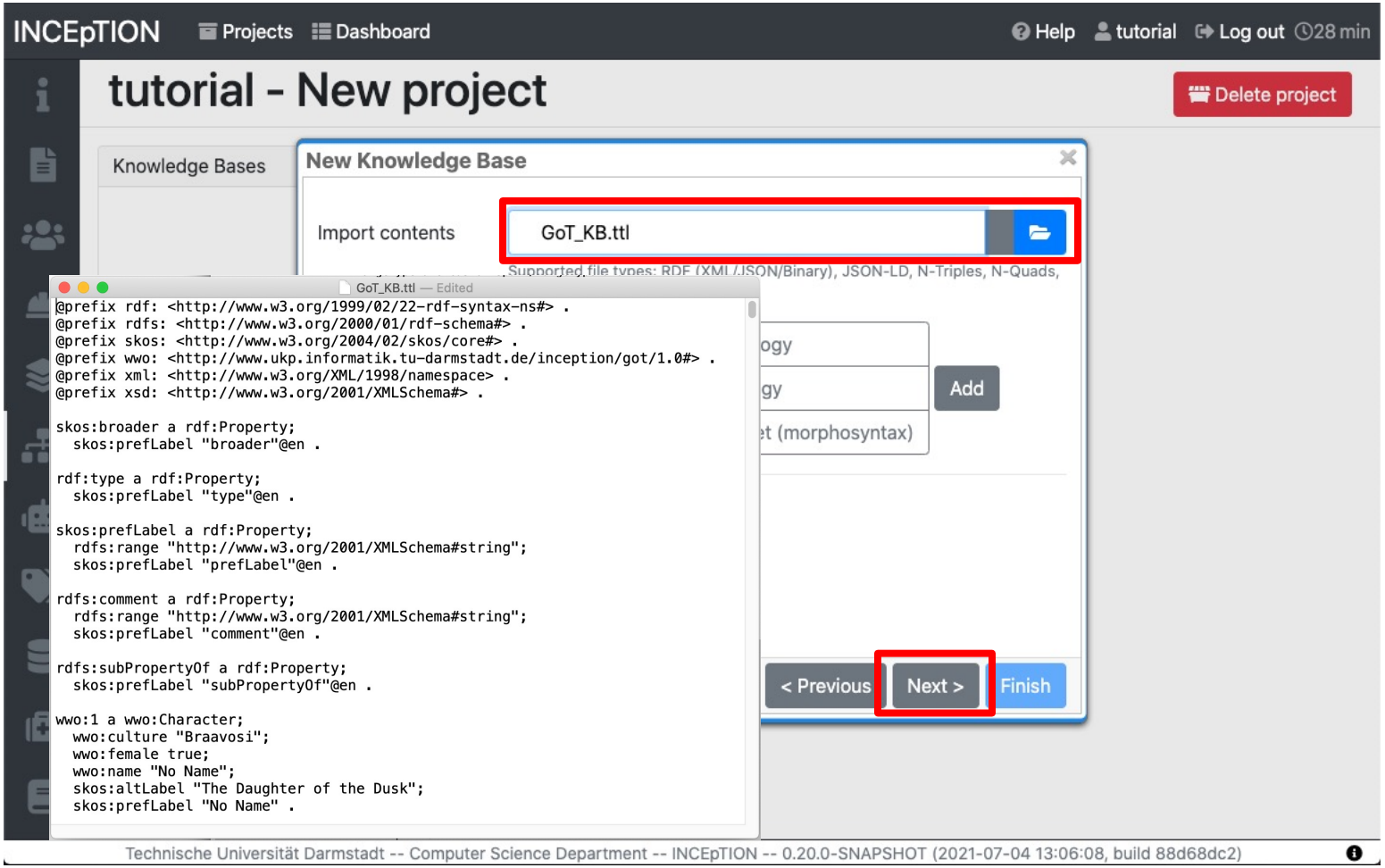
**To get here: click “Dashboard” then “Settings”**



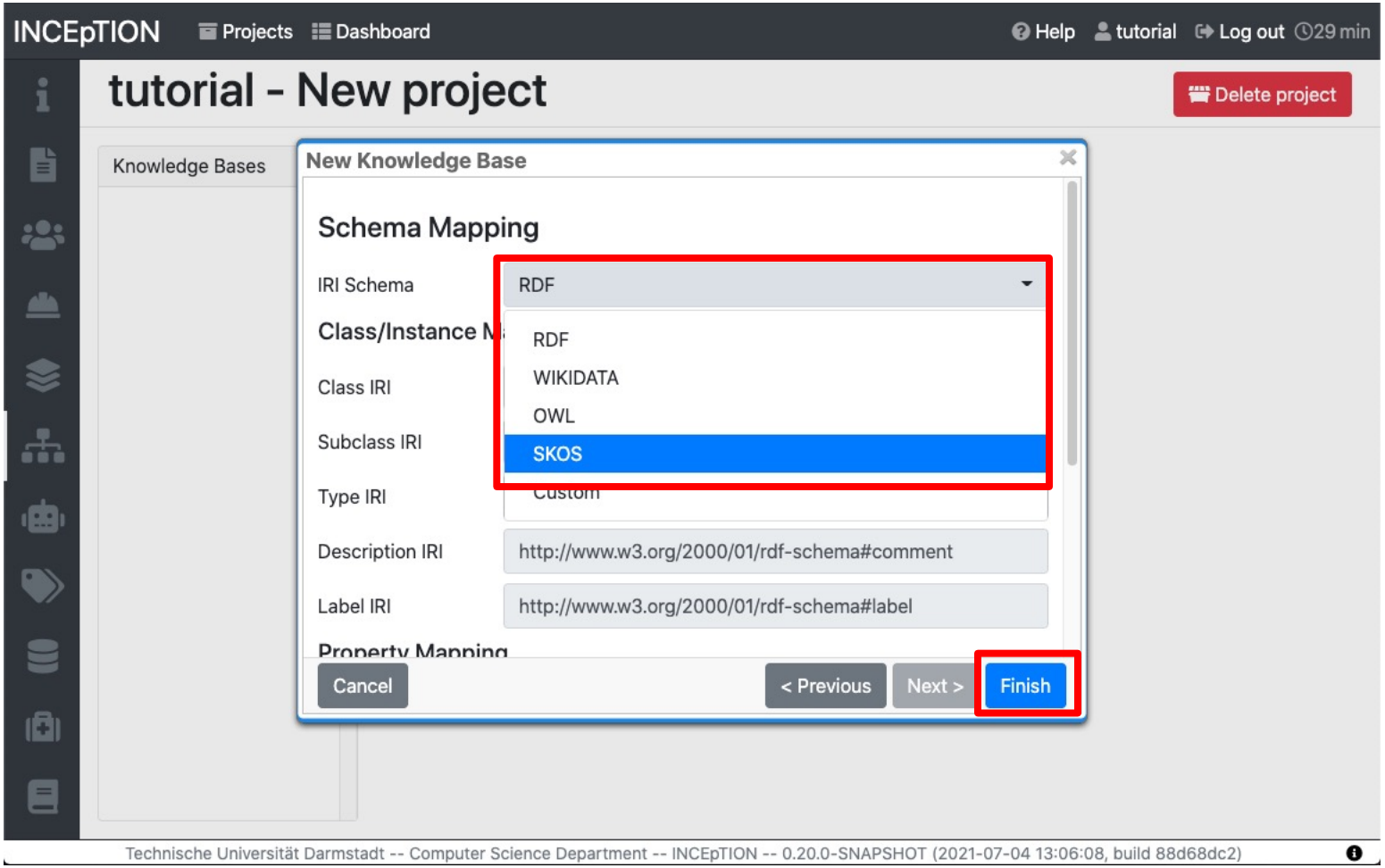
# Creating the knowledge base



# Importing existing data

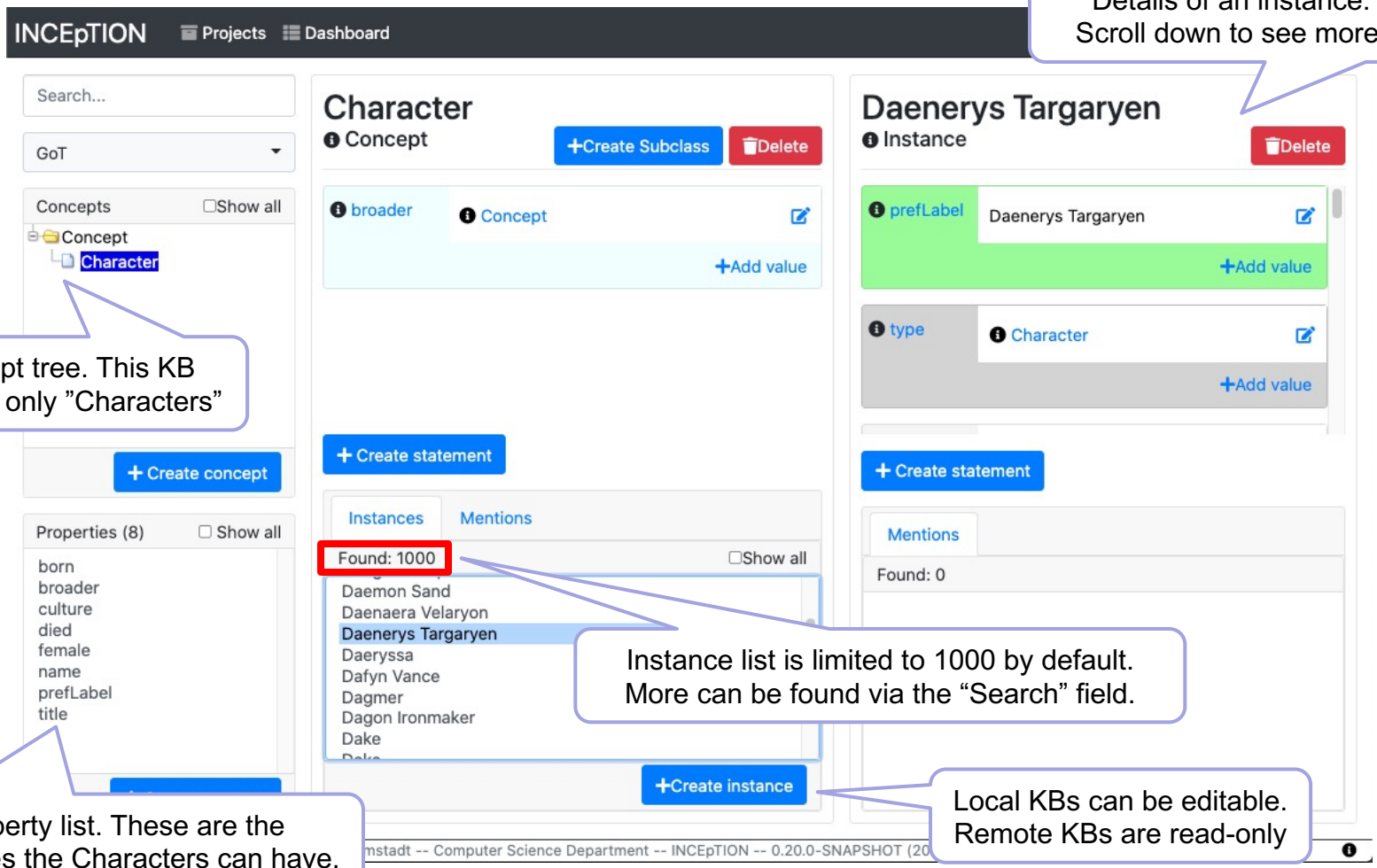


# Selecting the knowledge base schema



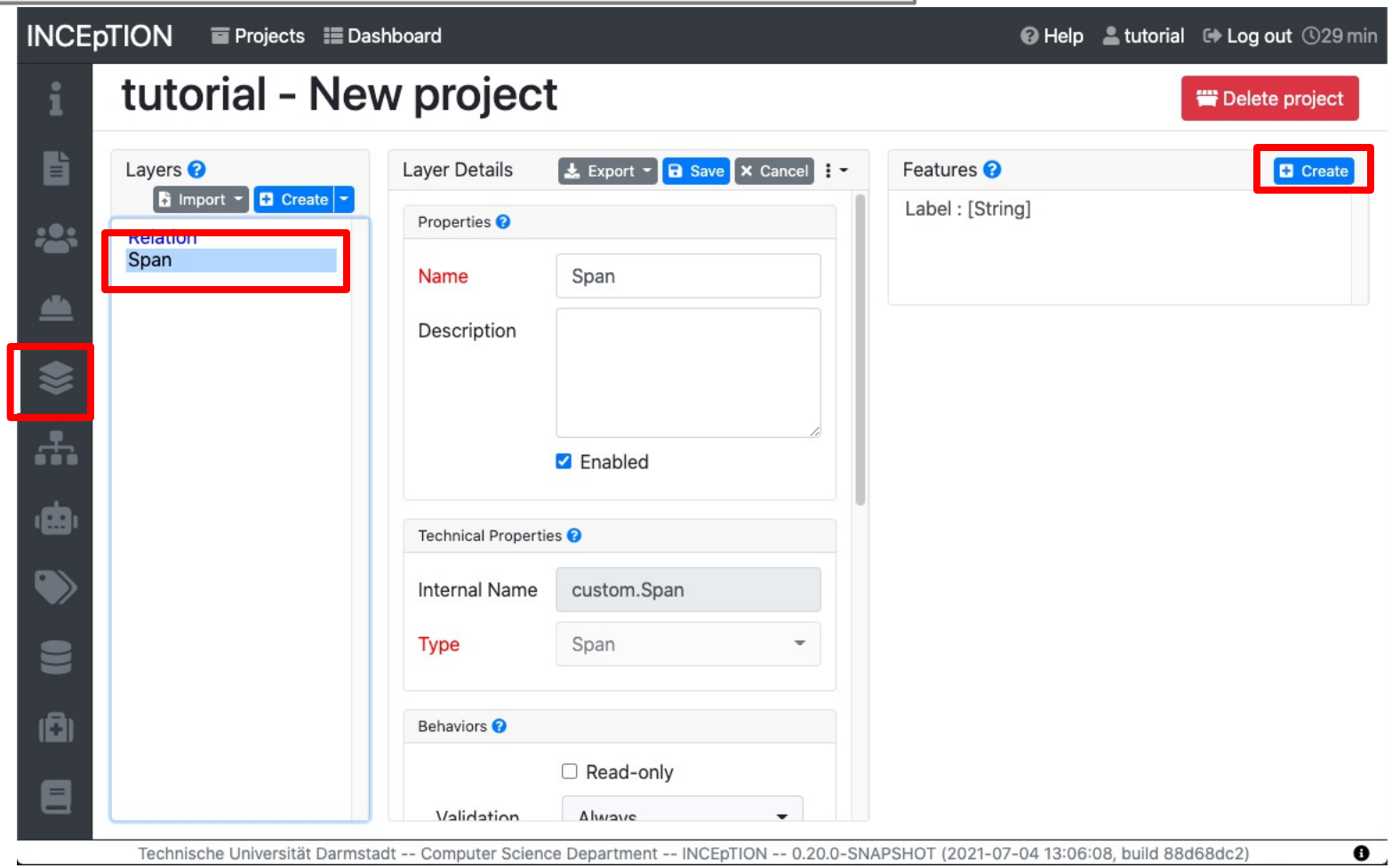
# Having a first look at the knowledge base

**To get here: click “Dashboard” then “Knowledge base”**

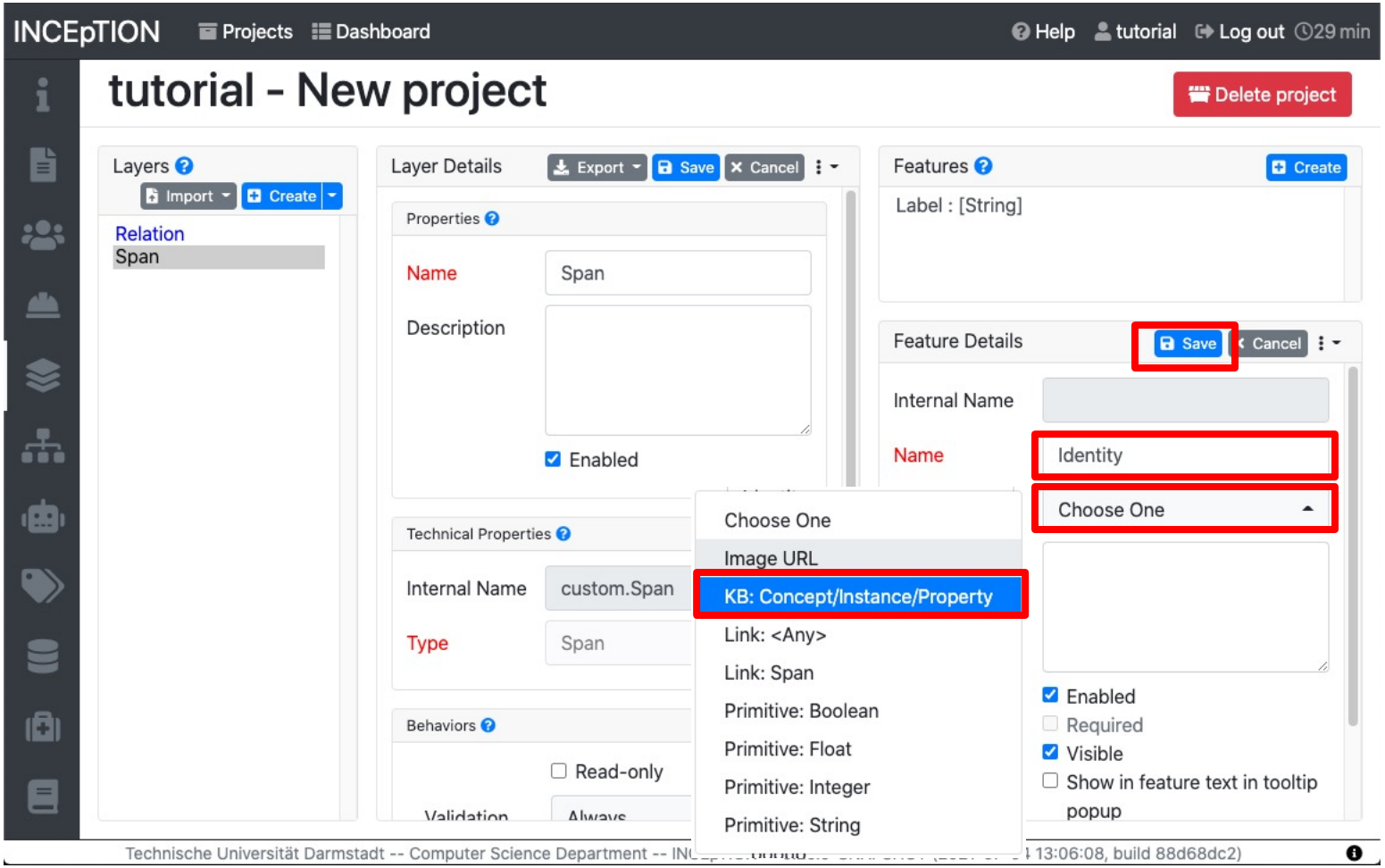


# Let's add a new feature …

**To get here: click "Dashboard" then "Settings"**

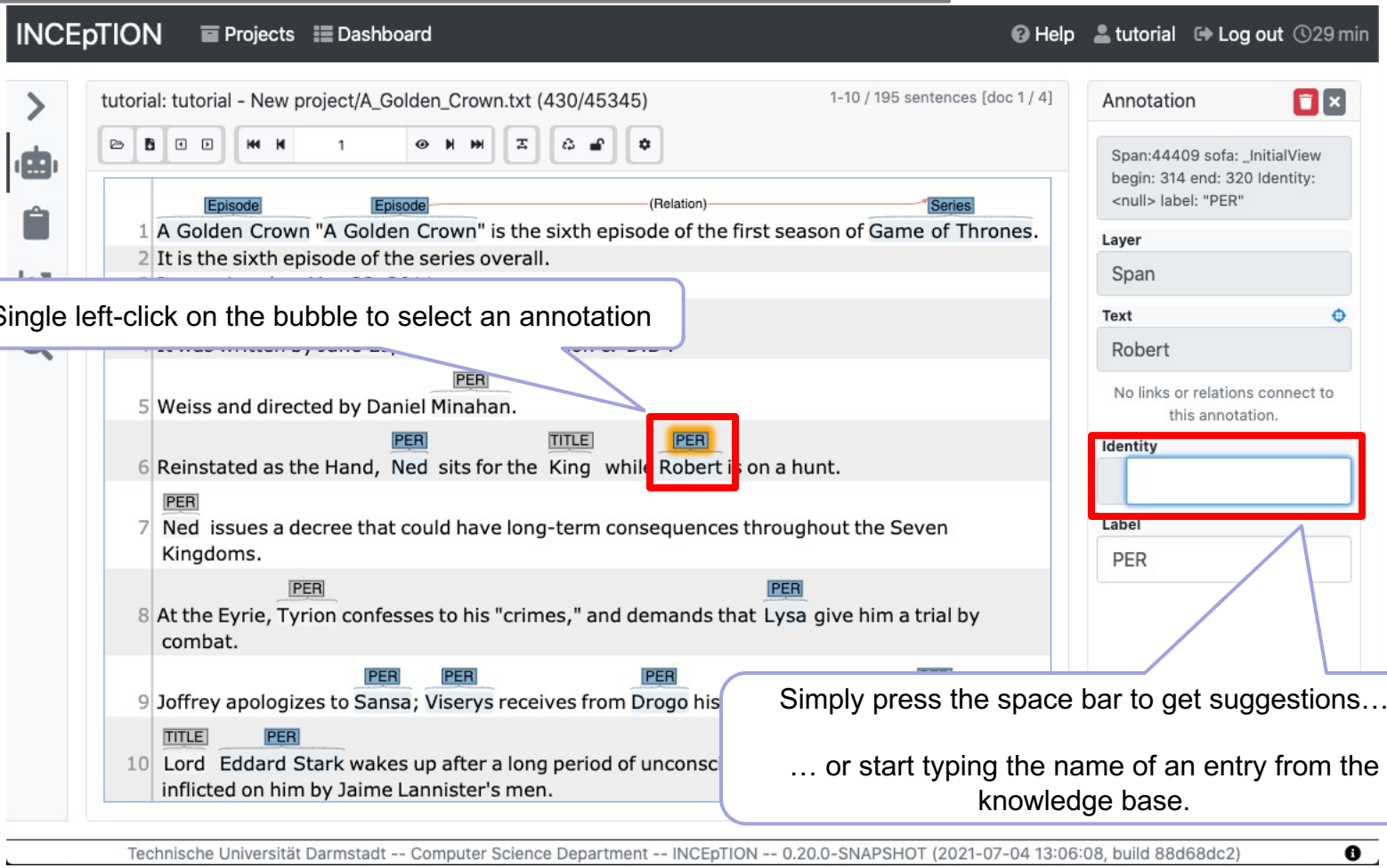


# ... to link to the knowledge base!

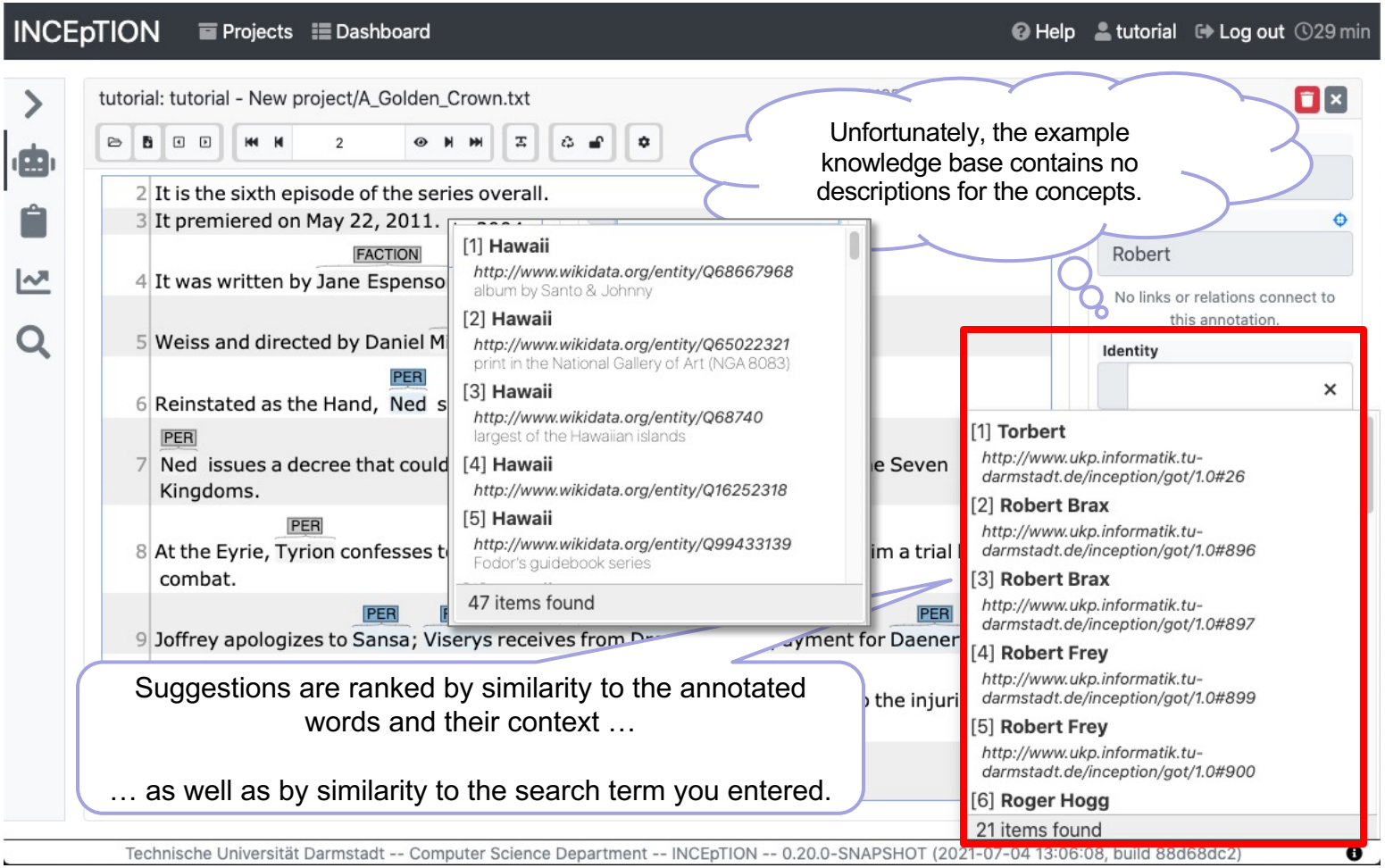


# A first look at the new feature

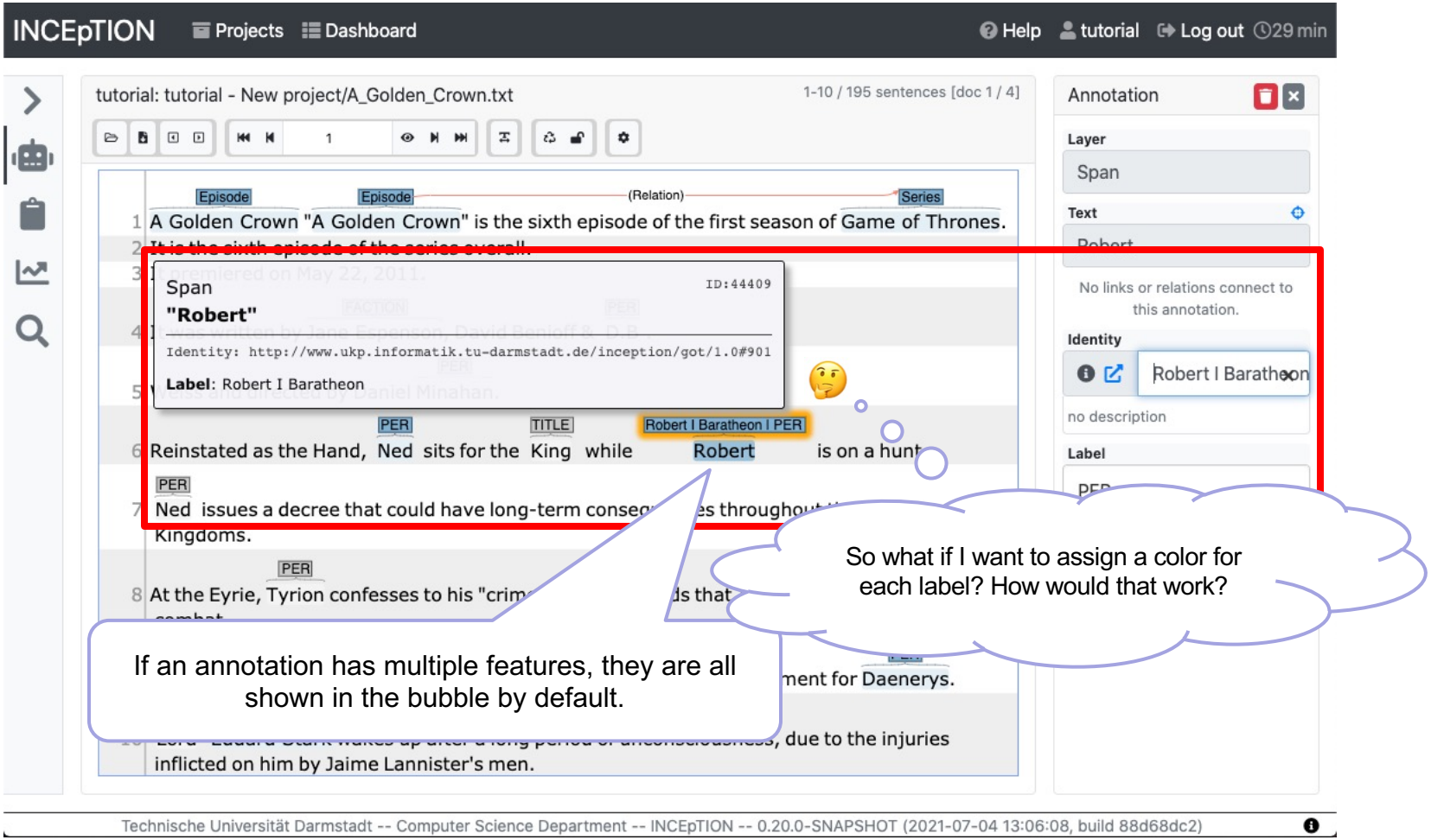
**To get here: click “Dashboard” then “Annotation”**



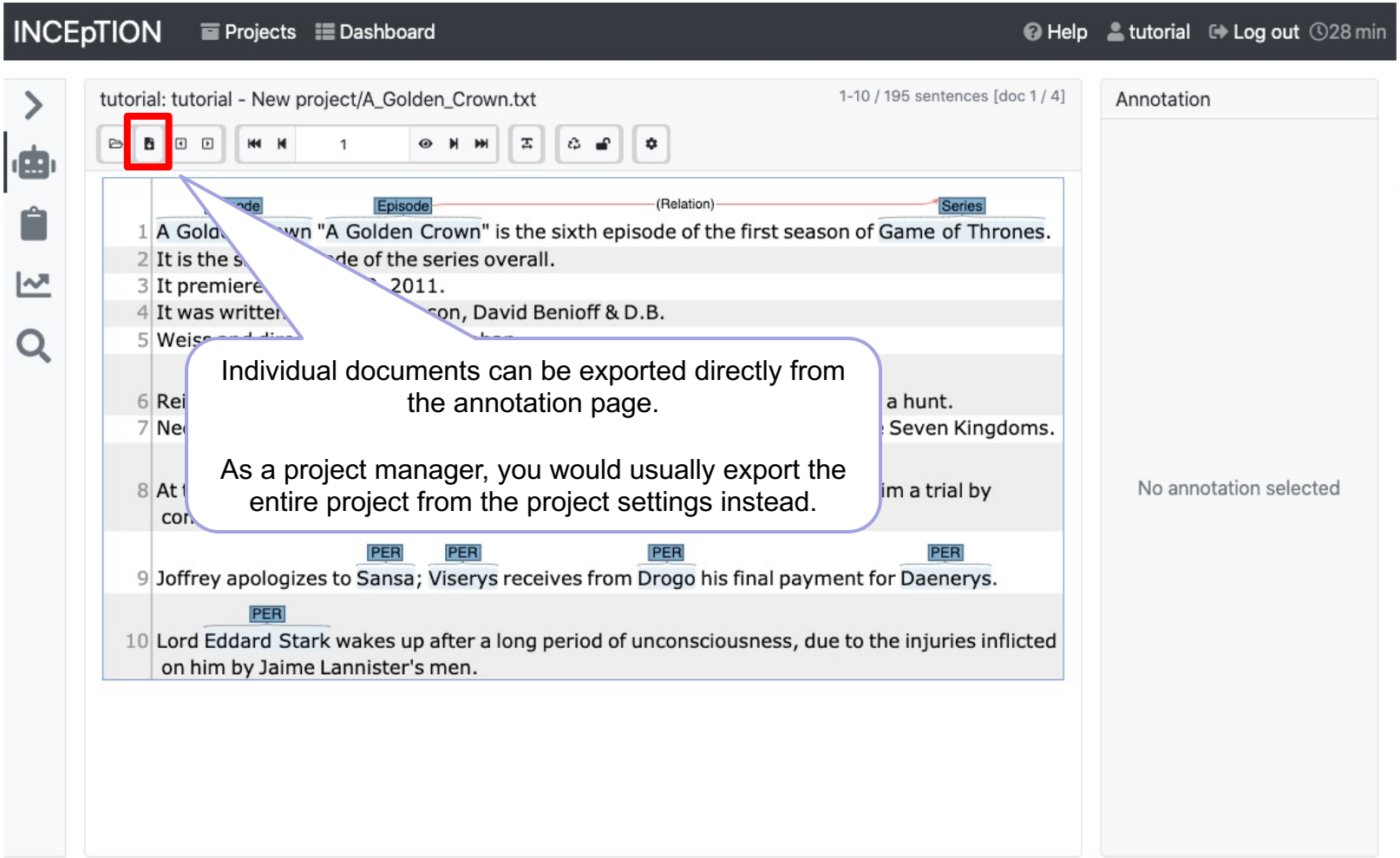
# Disambiguating the annotated entity



# Multiple features in the annotation bubble



# Let's get something out



# WebAnno TSV format

TECHNISCHE UNIVERSITÄT DARMSTADT

```
#FORMAT=WebAnno TSV 3.3
#T_SP=custom.Span|Identity|label
#T_RL=custom.Relation|label|BT_custom.Span


#Text=A Golden Crown
#Text="A Golden Crown" is the sixth episode of the first season of Game of Thrones.
1-1     0-1     A       *[1]    Episode[1]      _       _
1-2     2-8     Golden  *[1]    Episode[1]      _       _
1-3     9-14    Crown   *[1]    Episode[1]      _       _
1-4     15-16   "       _       _       _       _
1-5     16-17   A       *[2]    Episode[2]      _       _
1-6     18-24   Golden  *[2]    Episode[2]      _       _
1-7     25-30   Crown   *[2]    Episode[2]      _       _
1-8     30-31   "       _       _       _       _
1-9     32-34   is      _       _       _       _
1-10    35-38   the     _       _       _       _
1-11    39-44   sixth   _       _       _       _
1-12    45-52   episode         _       _       _       _
1-13    53-55   of      _       _       _       _
1-14    56-59   the     _       _       _       _
1-15    60-65   first   _       _       _       _
1-16    66-72   season  _       _       _       _
1-17    73-75   of      _       _       _       _
1-18    76-80   Game    *[3]    Series[3]       *       1-5[2_3]
1-19    81-83   of      *[3]    Series[3]       _       _
1-20    84-91   Thrones         *[3]    Series[3]       _       _
1-21    91-92   .       _       _       _       _
```

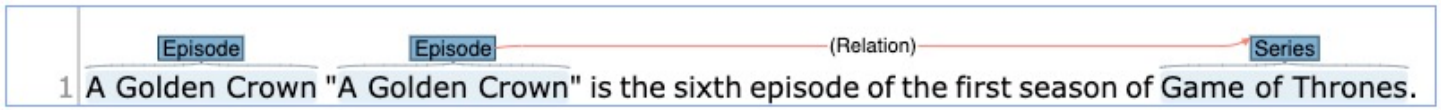
The header tells us what is shown in each column.

**Important:** the columns are not always the same! If you write a script to parse this format, mind the header!

# WebAnno TSV format

TECHNISCHE UNIVERSITÄT DARMSTADT

```
#FO
#T_
#T_
```




```
#Text=A Golden Crown
#Text="A Golden Crown" is the sixth episode of the first season of Game of Thrones.
1-1     0-1     A       *[1]    Episode[1]      _       _
1-2     2-8     Golden  *[1]    Episode[1]      _       _
1-3     9-14    Crown   *[1]    Episode[1]      _       _
1-4     15-16   "       _       _       _       _
1-5     16-17   A       *[2]    Episode[2]      _
1-6     18-24   Golden  *[2]    Episode[2]      _
1-7     25-30   Crown   *[2]    Episode[2]      _
1-8     30-31   "       _       _       _       _
1-9     32-34   is      _       _       _       _
1-10    35-38   the     _       _       _       _
1-11    39-44   sixth   _       _       _       _
1-12    45-52   episode         _       _       _       _
1-13    53-55   of      _       _       _       _
1-14    56-59   the     _       _       _       _
1-15    60-65   first   _       _       _       _
1-16    66-72   season  _       _       _       _
1-17    73-75   of      _       _       _       _
1-18    76-80   Game    *[3]    Series[3]       *       1-5[2_3]
1-19    81-83   of      *[3]    Series[3]       _       _
1-20    84-91   Thrones         *[3]    Series[3]       _       _
1-21    91-92   .       _       _       _       _
```

The sentence text.

Every block in the format is a sentence.
Blocks are separated by an empty line.

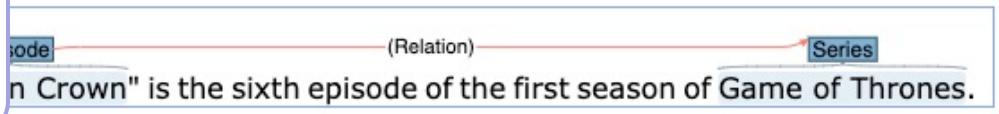
This sentence contains a line break!

Ok…
another segmentation mistake…



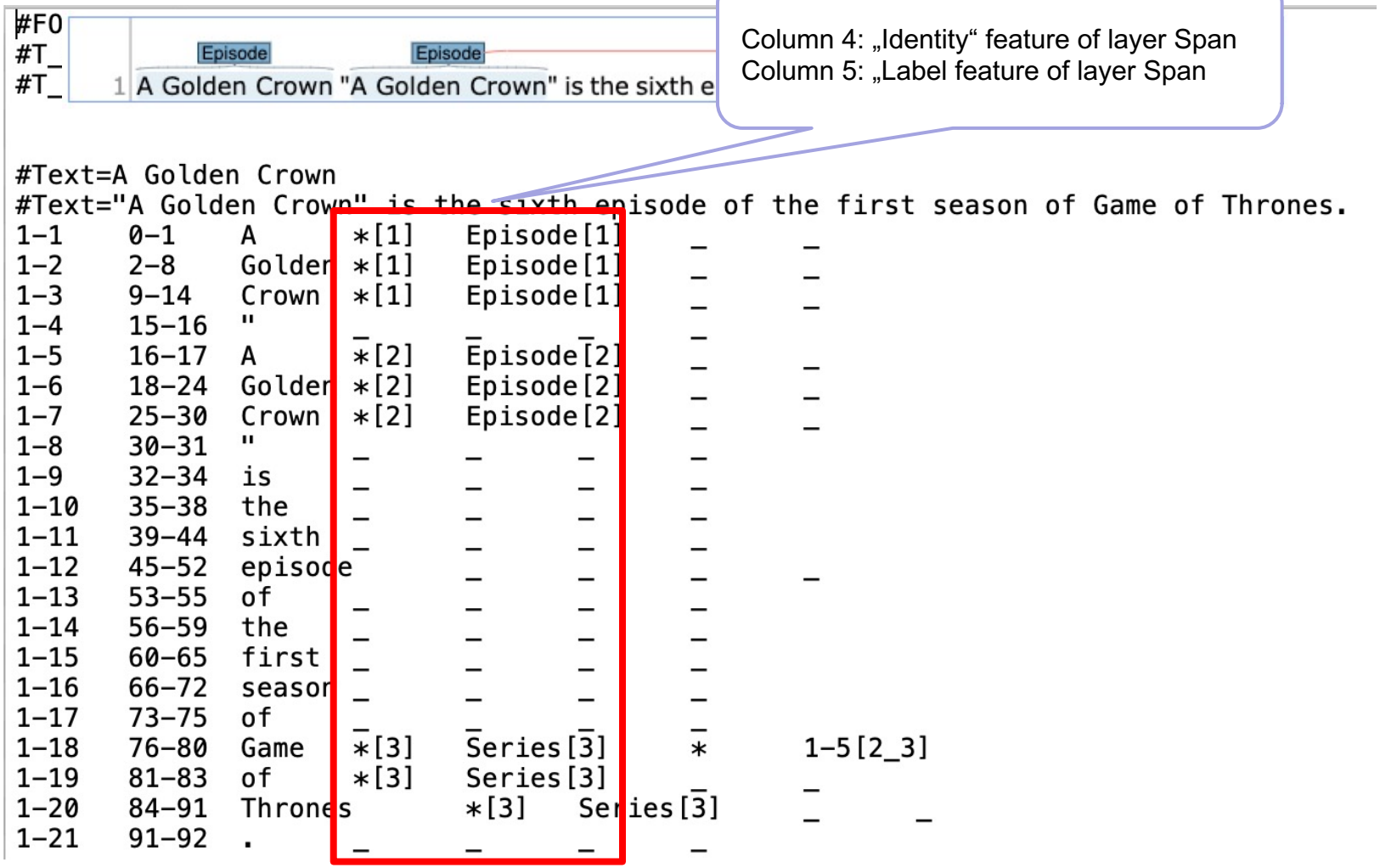
# WebAnno TSV format

Column 1: Sentence and token Ids
Column 2: Character offsets of the tokens
Column 3: Token texts



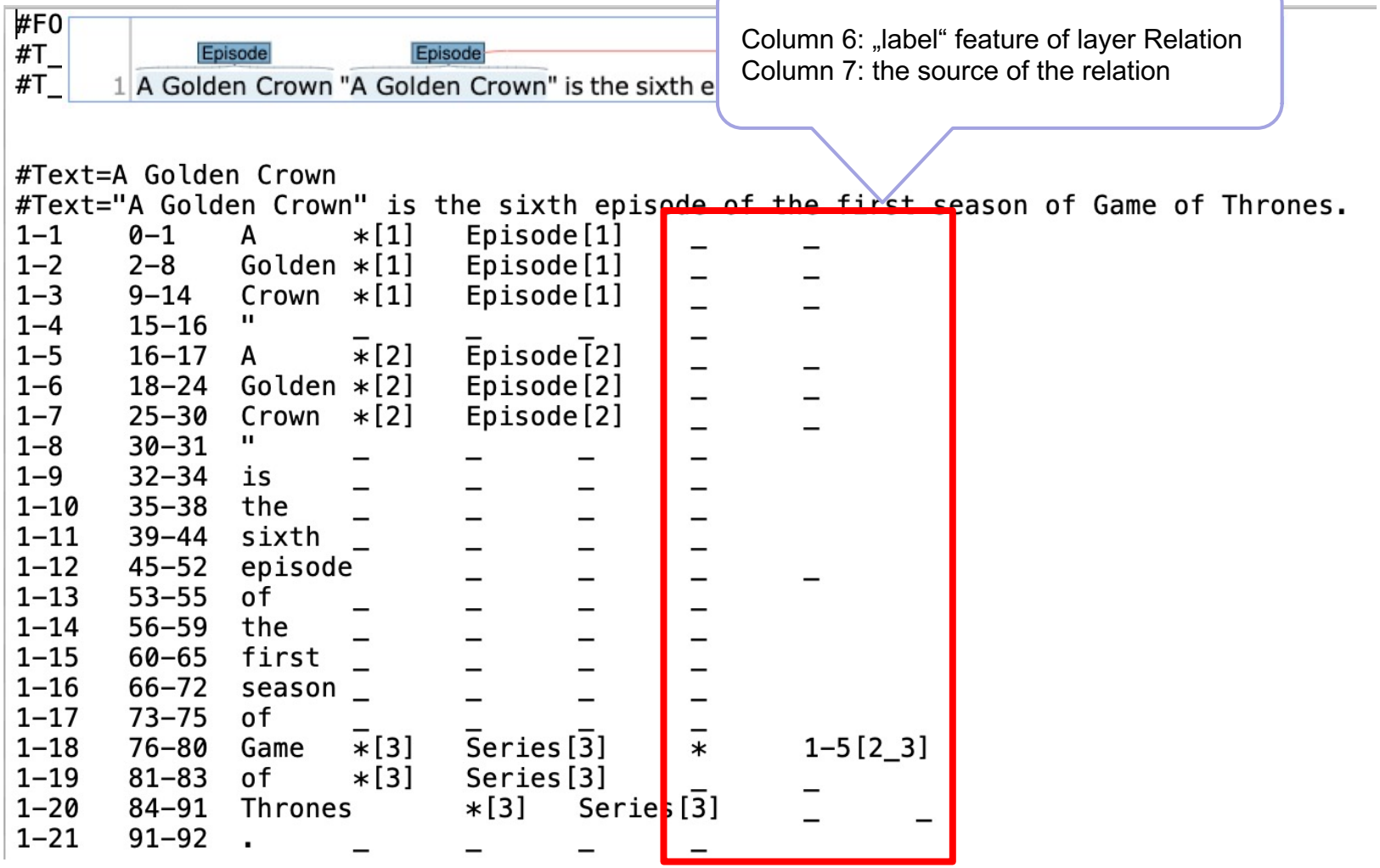

```
#Te   A Golden Crown
#Text="A Golden Crown" is the sixth episode of the first season of Game of Thrones.
1-1     0-1     A       *[1]    Episode[1]      _       _
1-2     2-8     Golden  *[1]    Episode[1]      _       _
1-3     9-14    Crown   *[1]    Episode[1]      _       _
1-4     15-16   "       _       _       _       _
1-5     16-17   A       *[2]    Episode[2]      _       _
1-6     18-24   Golden  *[2]    Episode[2]      _       _
1-7     25-30   Crown   *[2]    Episode[2]      _       _
1-8     30-31   "       _       _       _       _
1-9     32-34   is      _       _       _       _
1-10    35-38   the     _       _       _       _
1-11    39-44   sixth   _       _       _       _
1-12    45-52   episode         _       _       _       _
1-13    53-55   of      _       _       _       _
1-14    56-59   the     _       _       _       _
1-15    60-65   first   _       _       _       _
1-16    66-72   season  _       _       _       _
1-17    73-75   of      _       _       _       _
1-18    76-80   Game    *[3]    Series[3]       *       1-5[2_3]
1-19    81-83   of      *[3]    Series[3]       _       _
1-20    84-91   Thrones         *[3]    Series[3]       _       _
1-21    91-92   .       _       _       _       _
```

# WebAnno TSV format



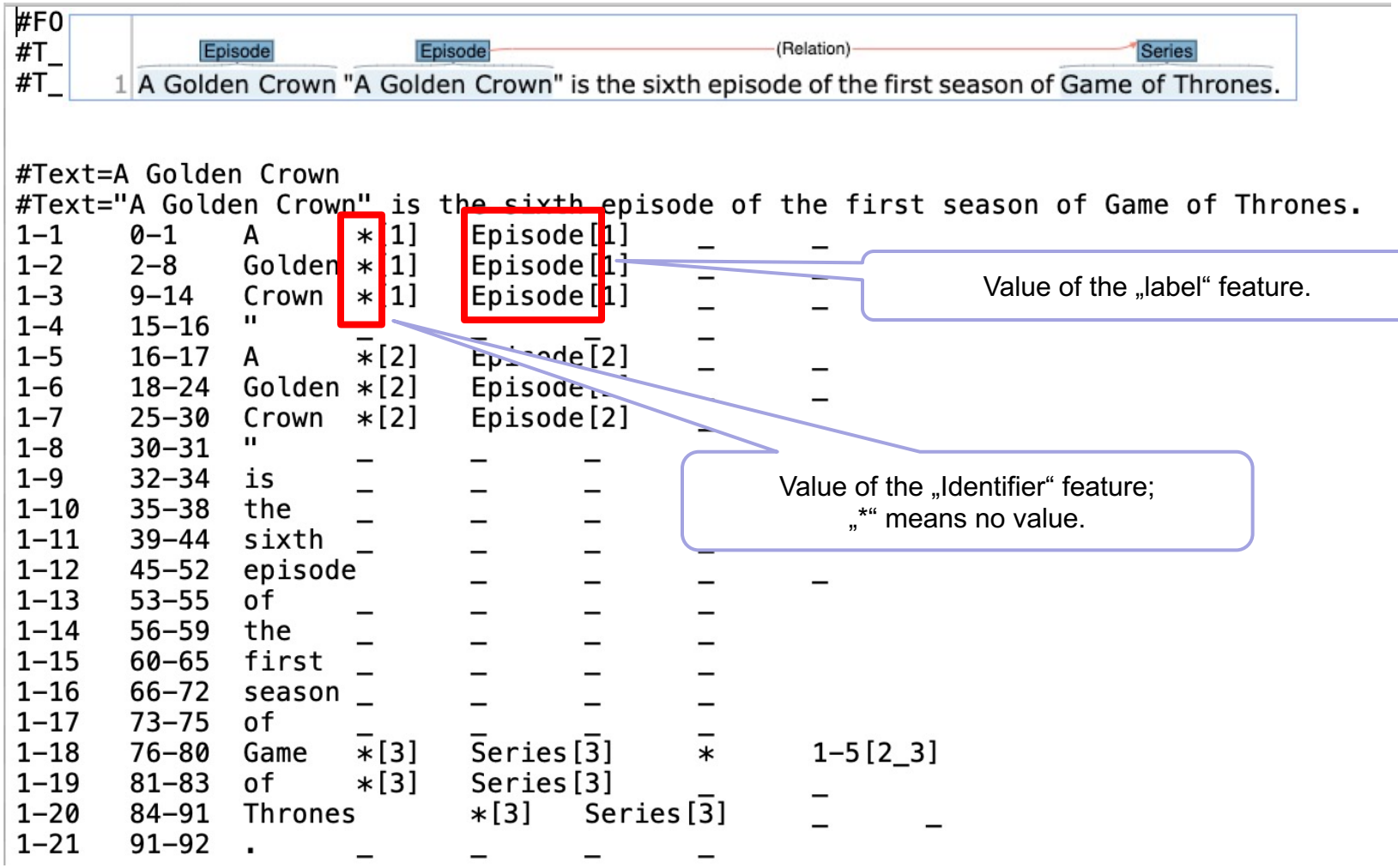

Column 4: „Identity“ feature of layer Span
Column 5: „Label feature of layer Span

# WebAnno TSV format

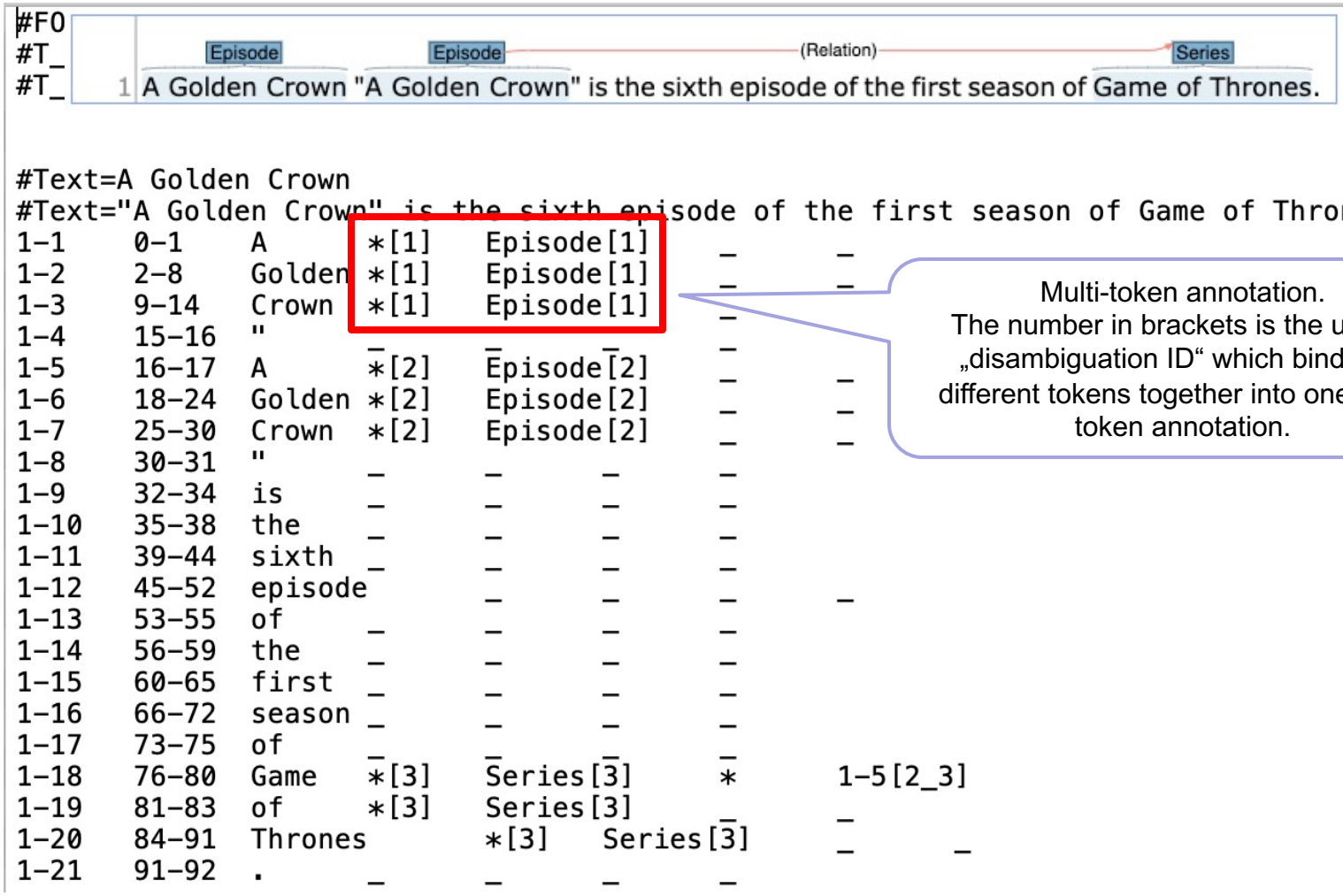



Column 6: „label“ feature of layer Relation
Column 7: the source of the relation

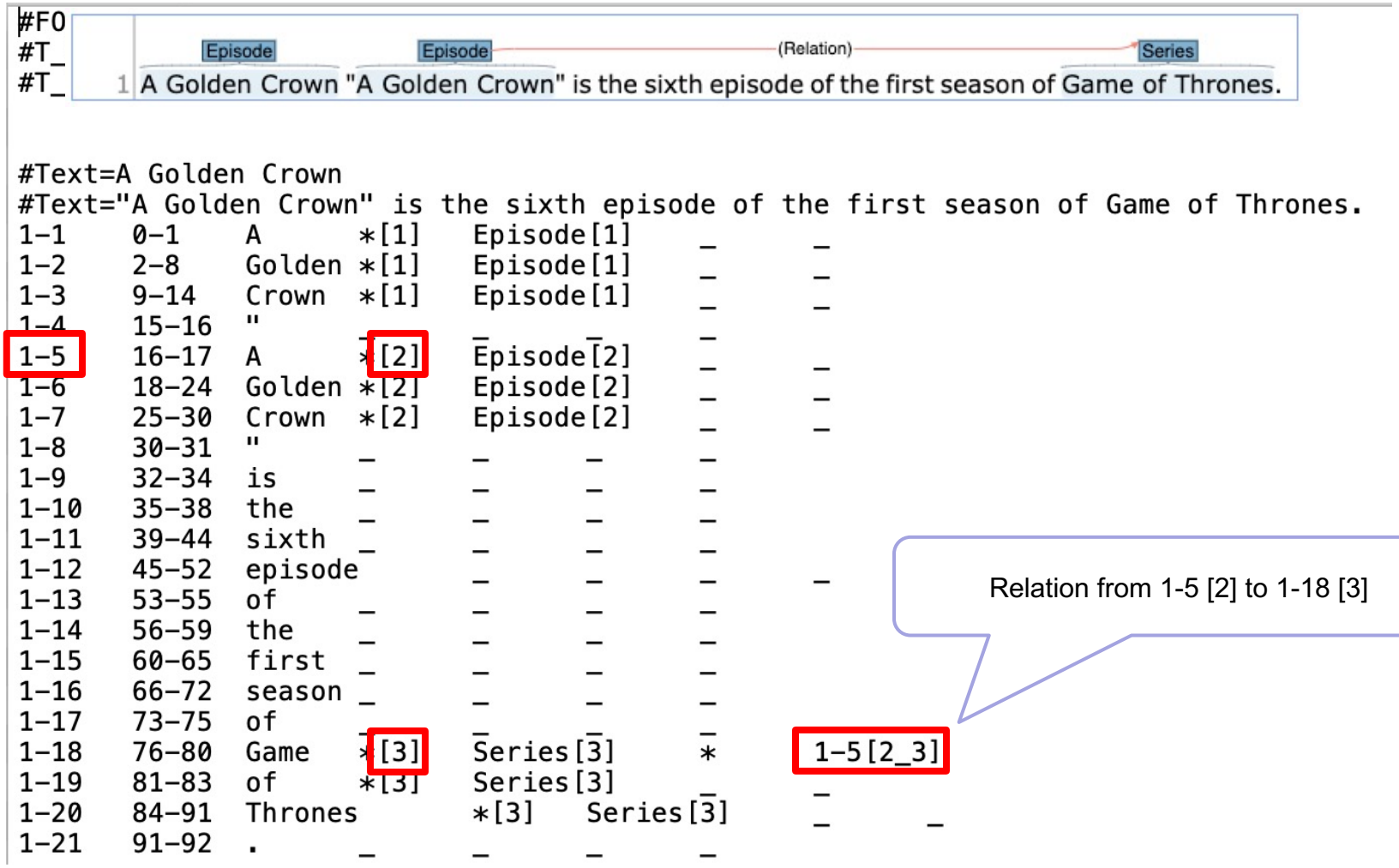
# WebAnno TSV format



# WebAnno TSV format



# WebAnno TSV format



# WebAnno TSV format

TECHNISCHE UNIVERSITÄT DARMSTADT

- Simple and human-readable as long as the annotations are simple
- Annotations are encoded close to the text they annotate

- Becomes complicated when there are complex annotations
  Full spec: https://inception-project.github.io/releases/0.19.7/docs/user-guide.html#sect_webannotsv

- Supports custom annotation layers with exceptions
  - E.g. Document-level annotations

- In principle a nice idea, but problematic to maintain as new things are added to INCEpTION

- Supported by some third-party tools
  - Pepper (https://github.com/korpling/pepper)
    -> ANNIS (https://corpus-tools.org/annis/)
  - https://pypi.org/project/web-anno-tsv/

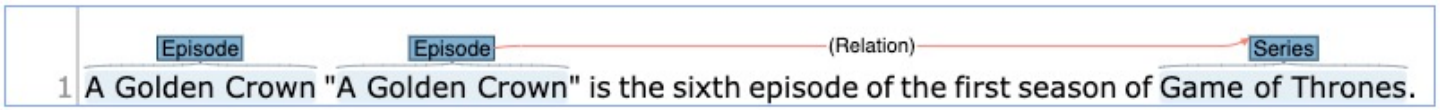
# UIMA CAS XMI

TECHNISCHE UNIVERSITÄT DARMSTADT

```
<?xml version="1.0" encoding="UTF-8"?>
<xmi:XMI ... xmi:version="2.0">
    <cas:NULL xmi:id="0"/>
    <type2:DocumentMetaData xmi:id="8" sofa="1" begin="0" end="93" .../>
    <type4:Sentence xmi:id="19" sofa="1" begin="0" end="92"/>
    <type4:Token xmi:id="24" sofa="1" begin="0" end="1" order="0"/>
    <type4:Token xmi:id="43" sofa="1" begin="2" end="8" order="0"/>
    <type4:Token xmi:id="56" sofa="1" begin="9" end="14" order="0"/>
    <type4:Token xmi:id="69" sofa="1" begin="15" end="16" order="0"/>
    <type4:Token xmi:id="82" sofa="1" begin="16" end="17" order="0"/>
    <type4:Token xmi:id="101" sofa="1" begin="18" end="24" order="0"/>
    <type4:Token xmi:id="114" sofa="1" begin="25" end="30" order="0"/>
    <type4:Token xmi:id="127" sofa="1" begin="30" end="31" order="0"/>
    <type4:Token xmi:id="140" sofa="1" begin="32" end="34" order="0"/>
    <type4:Token xmi:id="153" sofa="1" begin="35" end="38" order="0"/>
    <type4:Token xmi:id="166" sofa="1" begin="39" end="44" order="0"/>
    <type4:Token xmi:id="179" sofa="1" begin="45" end="52" order="0"/>
    <type4:Token xmi:id="192" sofa="1" begin="53" end="55" order="0"/>
    <type4:Token xmi:id="205" sofa="1" begin="56" end="59" order="0"/>
    <type4:Token xmi:id="218" sofa="1" begin="60" end="65" order="0"/>
    <type4:Token xmi:id="231" sofa="1" begin="66" end="72" order="0"/>
    <type4:Token xmi:id="244" sofa="1" begin="73" end="75" order="0"/>
    <type4:Token xmi:id="257" sofa="1" begin="76" end="80" order="0"/>
    <type4:Token xmi:id="283" sofa="1" begin="81" end="83" order="0"/>
    <type4:Token xmi:id="296" sofa="1" begin="84" end="91" order="0"/>
    <type4:Token xmi:id="309" sofa="1" begin="91" end="92" order="0"/>
    <custom:Span xmi:id="37" sofa="1" begin="0" end="14" label="Episode"/>
    <custom:Span xmi:id="95" sofa="1" begin="16" end="30" label="Episode"/>
    <custom:Span xmi:id="270" sofa="1" begin="76" end="91" label="Series"/>
    <custom:Relation xmi:id="276" sofa="1" begin="76" end="80" Dependent="270" Governor="95"/>
    <type2:TagsetDescription xmi:id="326" sofa="1" begin="0" end="0" layer="custom.Relation"
name="Relation labels" input="false"/>
    <type2:TagsetDescription xmi:id="339" sofa="1" begin="0" end="0" layer="custom.Span" name="Span
labels" input="false"/>
    <cas:Sofa xmi:id="1" sofaNum="1" sofaID="_InitialView" mimeType="text" sofaString="A Golden
Crown&#10;&quot;A Golden Crown&quot; is the sixth episode of the first season of Game of Thrones.&#10;"/>
    <cas:View sofa="1" members="8 19 24 43 56 69 82 101 114 127 140 153 166 179 192 205 218 231 244 257
283 296 309 37 95 270 276 326 339"/>
</xmi:XMI>
```

Segmentation annotations (tokens and sentences) are modelled explicitly.

# UIMA CAS XMI

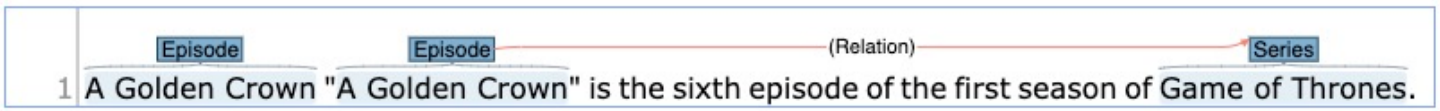



```
    <type4:Token xmi:id="24" sofa="1" begin="0" end="1" order="0"/>
    <type4:Token xmi:id="43" sofa="1" begin="2" end="8" order="0"/>
    <type4:Token xmi:id="56" sofa="1" begin="9" end="14" order="0"/>
    <type4:Token xmi:id="69" sofa="1" begin="15" end="16" order="0"/>
    <type4:Token xmi:id="82" sofa="1" begin="16" end="17" order="0"/>
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    <type4:Token xmi:id="153" sofa="1" begin="35" end="38" order="0"/>
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    <type4:Token xmi:id="179" sofa="1" begin="45" end="52" order="0"/>
    <type4:Token xmi:id="192" sofa="1" begin="53" end="55" order="0"/>
    <type4:Token xmi:id="205" sofa="1" begin="56" end="59" order="0"/>
    <type4:Token xmi:id="218" sofa="1" begin="60" end="65" order="0"/>
    <type4:Token xmi:id="231" sofa="1" begin="66" end="72" order="0"/>
    <type4:Token xmi:id="244" sofa="1" begin="73" end="75" order="0"/>
    <type4:Token xmi:id="257" sofa="1" begin="76" end="80" order="0"/>
    <type4:Token xmi:id="283" sofa="1" begin="81" end="83" order="0"/>
    <type4:Token xmi:id="296" sofa="1" begin="84" end="91" order="0"/>
    <type4:Token xmi:id="309" sofa="1" begin="91" end="92" order="0"/>
    <custom:Span xmi:id="37" sofa="1" begin="0" end="14" label="Episode"/>
    <custom:Span xmi:id="95" sofa="1" begin="16" end="30" label="Episode"/>
    <custom:Span xmi:id="270" sofa="1" begin="76" end="91" label="Series"/>
    <custom:Relation xmi:id="276" sofa="1" begin="76" end="80" Dependent="270" Governor="95"/>
    <type2:TagsetDescription xmi:id="326" sofa="1" begin="0" end="0" layer="custom.Relation"
name="Relation labels" input="false"/>
    <type2:TagsetDescription xmi:id="339" sofa="1" begin="0" end="0" layer="custom.Span" name="Span
labels" input="false"/>
    <cas:Sofa xmi:id="1" sofaNum="1" sofaID="_InitialView" mimeType="text" sofaString="A Golden
Crown&#10;&quot;A Golden Crown&quot; is the sixth episode of the first season of Game of Thrones.&#10;"/>
    <cas:View sofa="1" members="8 19 24 43 56 69 82 101 114 127 140 153 166 179 192 205 218 231 244 257
283 296 309 37 95 270 276 326 339"/>
</xmi:XMI>
```

Every annotation is an XML element. Labels are in the attributes.

The position of the annotation is encoded in the begin/end attributes.

# UIMA CAS XMI




```
    <type4:Token xmi:id="24" sofa="1" begin="0" end="1" order="0"/>
    <type4:Token xmi:id="43" sofa="1" begin="2" end="8" order="0"/>
    <type4:Token xmi:id="56" sofa="1" begin="9" end="14" order="0"/>
    <type4:Token xmi:id="69" sofa="1" begin="15" end="16" order="0"/>
    <type4:Token xmi:id="82" sofa="1" begin="16" end="17" order="0"/>
    <type4:Token xmi:id="101" sofa="1" begin="18" end="24" order="0"/>
    <type4:Token xmi:id="114" sofa="1" begin="25" end="30" order="0"/>
    <type4:Token xmi:id="127" sofa="1" begin="30" end="31" order="0"/>
    <type4:Token xmi:id="140" sofa="1" begin="32" end="34" order="0"/>
    <type4:Token xmi:id="153" sofa="1" begin="35" end="38" order="0"/>
    <type4:Token xmi:id="166" sofa="1" begin="39" end="44" order="0"/>
    <type4:Token xmi:id="179" sofa="1" begin="45" end="52" order="0"/>
    <type4:Token xmi:id="192" sofa="1" begin="53" end="55" order="0"/>
    <type4:Token xmi:id="205" sofa="1" begin="56" end="59" order="0"/>
    <type4:Token xmi:id="218" sofa="1" begin="60" end="65" order="0"/>
    <type4:Token xmi:id="231" sofa="1" begin="66" end="72" order="0"/>
    <type4:Token xmi:id="244" sofa="1" begin="73" end="75" order="0"/>
    <type4:Token xmi:id="257" sofa="1" begin="76" end="80" order="0"/>
    <type4:Token xmi:id="283" sofa="1" begin="81" end="83" order="0"/>
    <type4:Token xmi:id="296" sofa="1" begin="84" end="91" order="0"/>
    <type4:Token xmi:id="309" sofa="1" begin="91" end="92" order="0"/>
    <custom:Span xmi:id="37" sofa="1" begin="0" end="14" label="Episode"/>
    <custom:Span xmi:id="95" sofa="1" begin="16" end="30" label="Episode"/>
    <custom:Span xmi:id="270" sofa="1" begin="76" end="91" label="Series"/>
    <custom:Relation xmi:id="276" sofa="1" begin="76" end="80" Dependent="270" Governor="95"/>
    <type2:TagsetDescription xmi:id="326" sofa="1" begin="0" end="0" layer="custom.Relation"
name="Relation labels" input="false"/>
    <type2:TagsetDescription xmi:id="339" sofa="1" begin="0" end="0" layer="custom.Span" name="Span
labels" input="false"/>
    <cas:Sofa xmi:id="1" sofaNum="1" sofaID="_InitialView" mimeType="text" sofaString="A Golden
Crown&#10;&quot;A Golden Crown&quot; is the sixth episode of the first season of Game of Thrones.&#10;"/>
    <cas:View sofa="1" members="8 19 24 43 56 69 82 101 114 127 140 153 166 179 192 205 218 231 244 257
283 296 309 37 95 270 276 326 339"/>
</xmi:XMI>
```

The begin/end attributes point into the text which is encoded in yet another XML element/attribute.

# UIMA CAS XMI

TECHNISCHE UNIVERSITÄT DARMSTADT

- Data-oriented stand-off format – no locality of information
- Easy to process automatically
- Only one ID-IDREF mechanism instead of multiple
- No redundancy for multi-token annotations
- Very close to the actual internal annotation representation
- Remains stable even when new functionalities are added to INCEpTION
- Supports all custom layers including document-level annotations

- How to best work with it?
  - Java: Apache UIMA framework https://github.com/apache/uima-uimaj
  - Python: DKPro Cassis https://pypi.org/project/dkpro-cassis/

# So what if there is more than one annotator?



TECHNISCHE UNIVERSITÄT DARMSTADT

- Annotators cannot see each others annotations
- Annotators mark completed documents as finished
- Curators can compare annotations and adjudicate

# So what if there is more than one annotator?



TECHNISCHE UNIVERSITÄT DARMSTADT

- Annotators cannot see each others annotations
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**Static assignment**

- Small, fixed team
- Every annotator works on every document

# So what if there is more than one annotator?

TECHNISCHE UNIVERSITÄT DARMSTADT

- Annotators cannot see each others annotations
- Annotators mark completed documents as finished
- Curators can compare annotations and adjudicate

## Static assignment

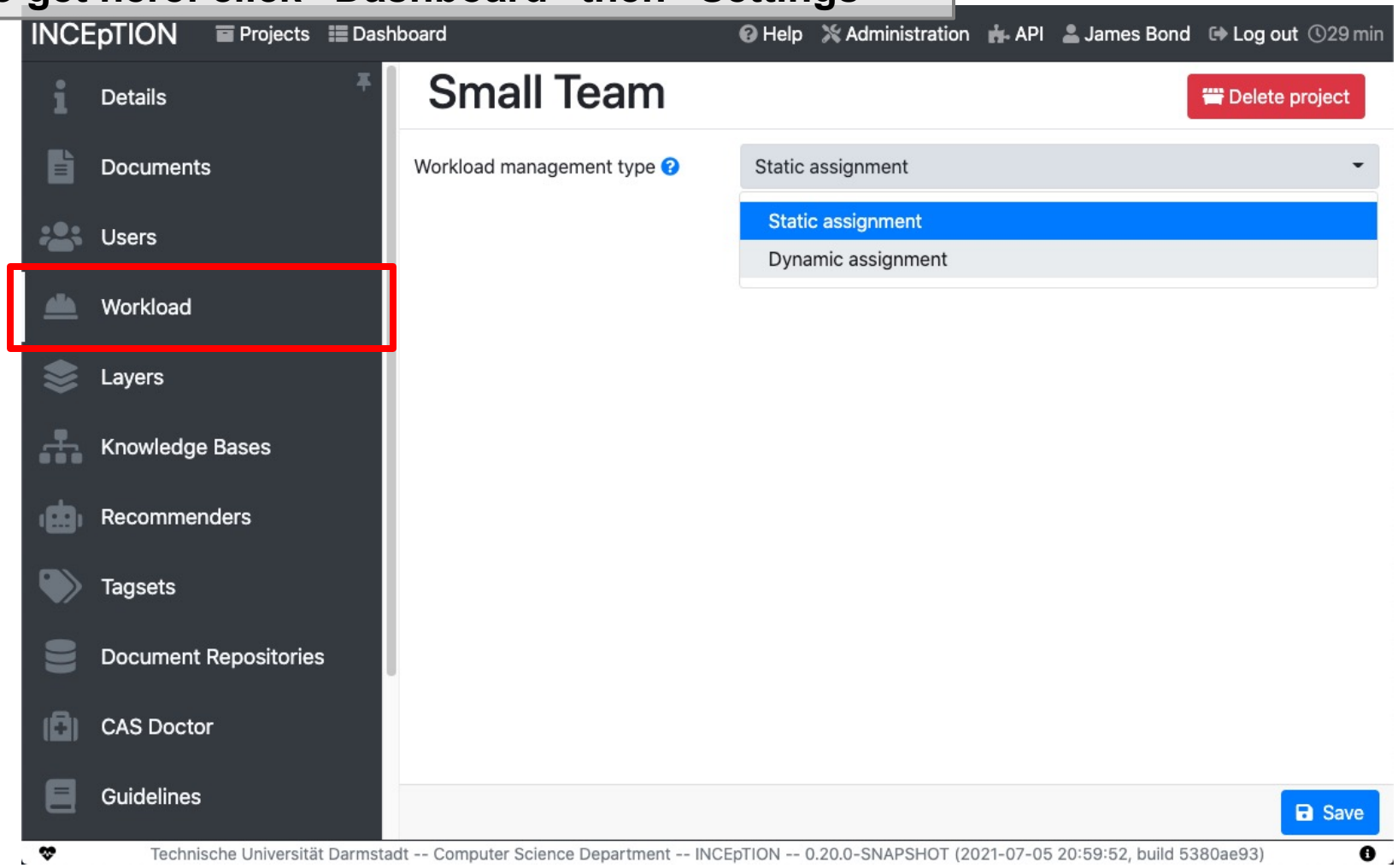
- Small, fixed team
- Every annotator works on every document

## Dynamic assignment

- Large, changing team
- Every document should be annotated by a certiain number of annotators

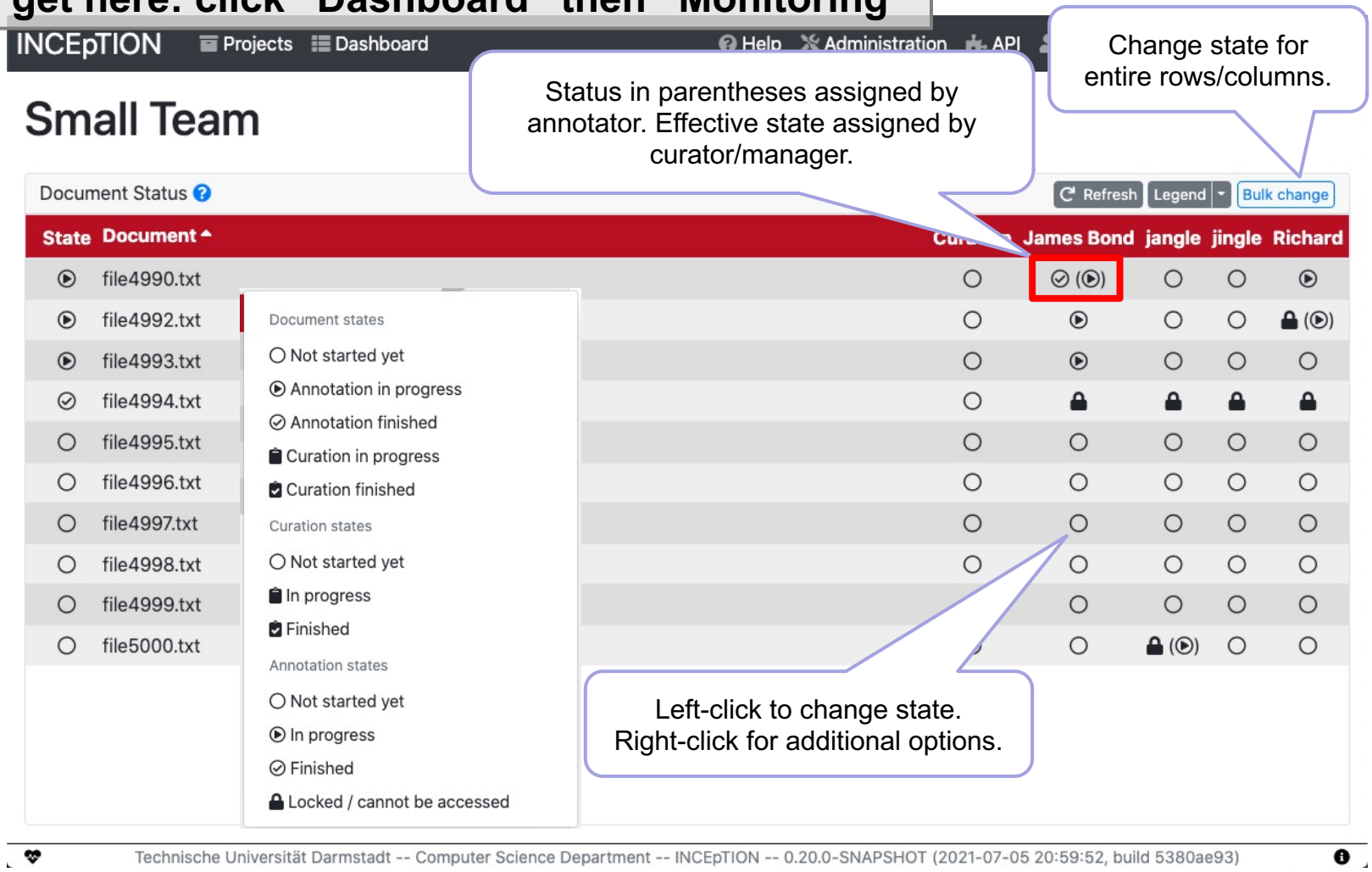
# Workload management configuration

**To get here: click “Dashboard” then “Settings”**



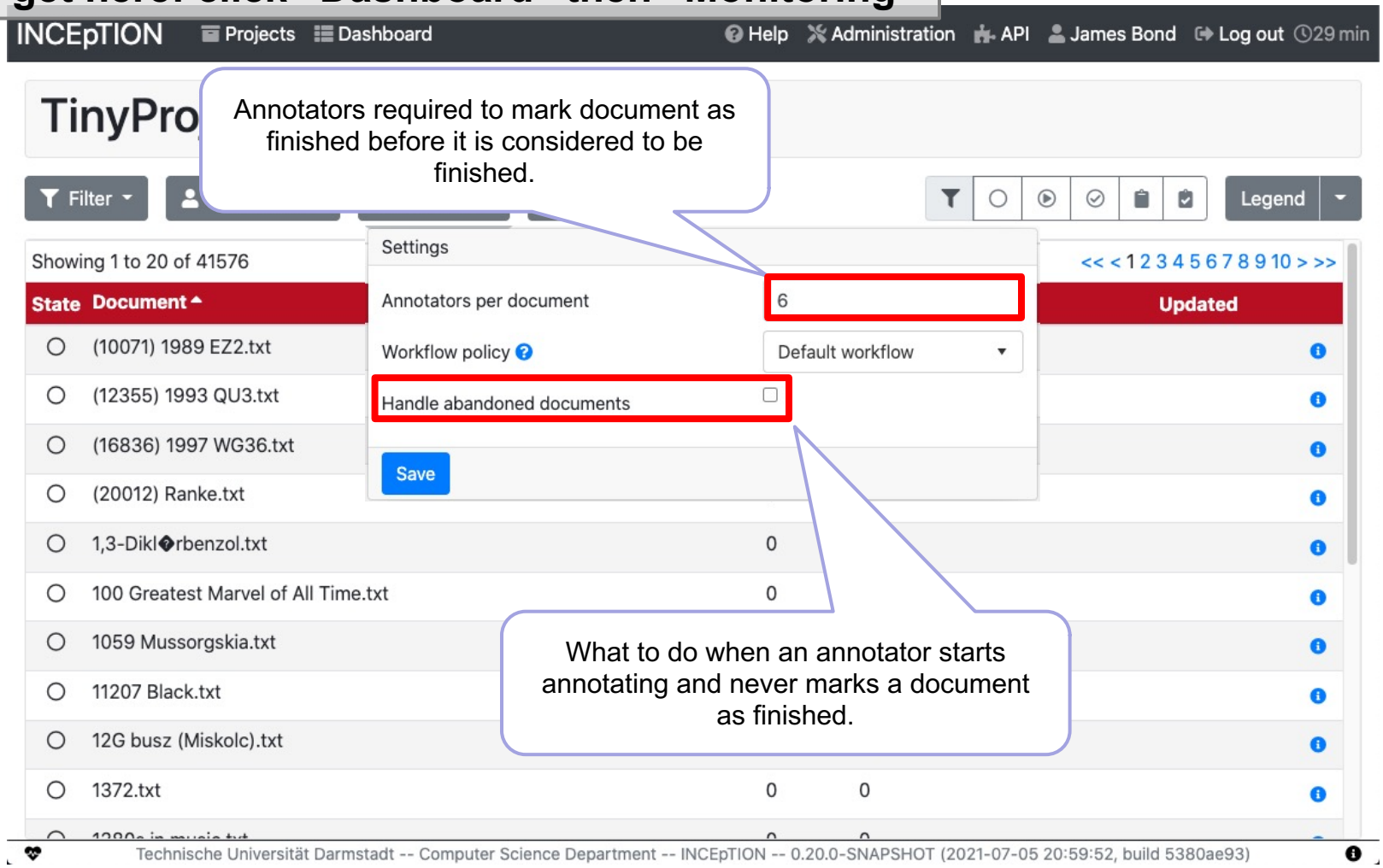
# Static assignment

**To get here: click “Dashboard” then “Monitoring”**



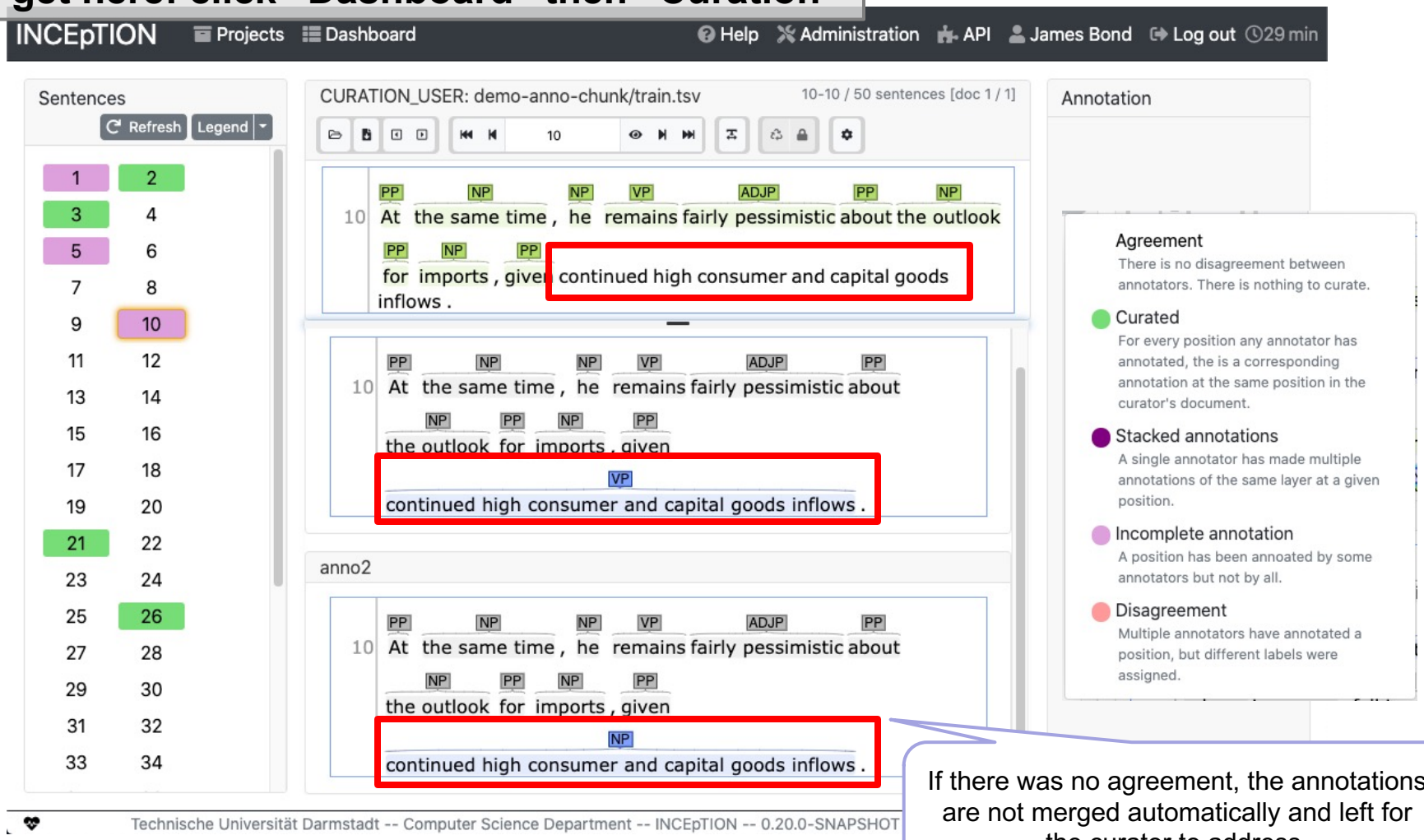
# Dynamic assignment

**To get here: click “Dashboard” then “Monitoring”**



# Curation

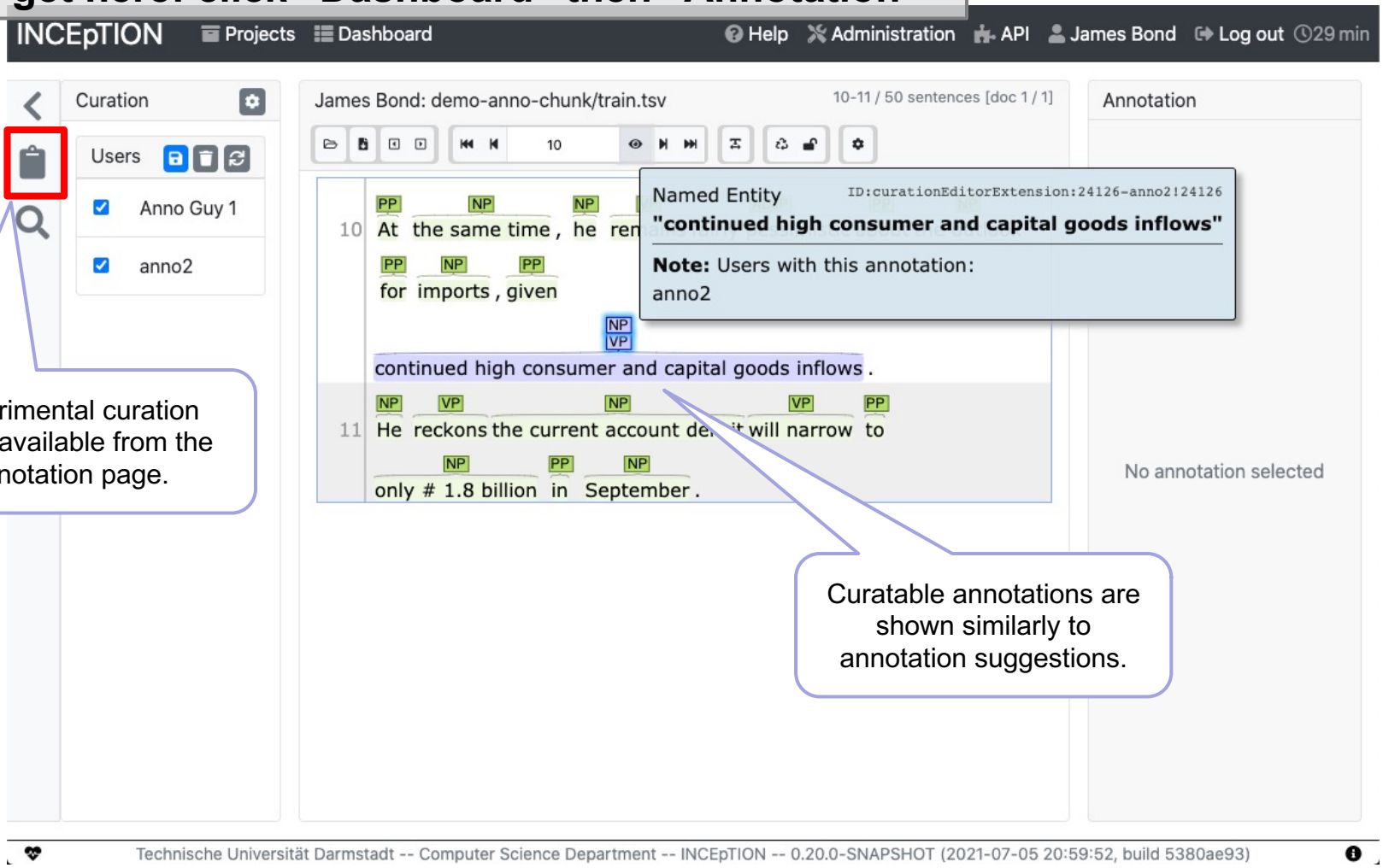
**To get here: click “Dashboard” then “Curation”**




If there was no agreement, the annotations are not merged automatically and left for the curator to address.

# Alternative curation (experimental)

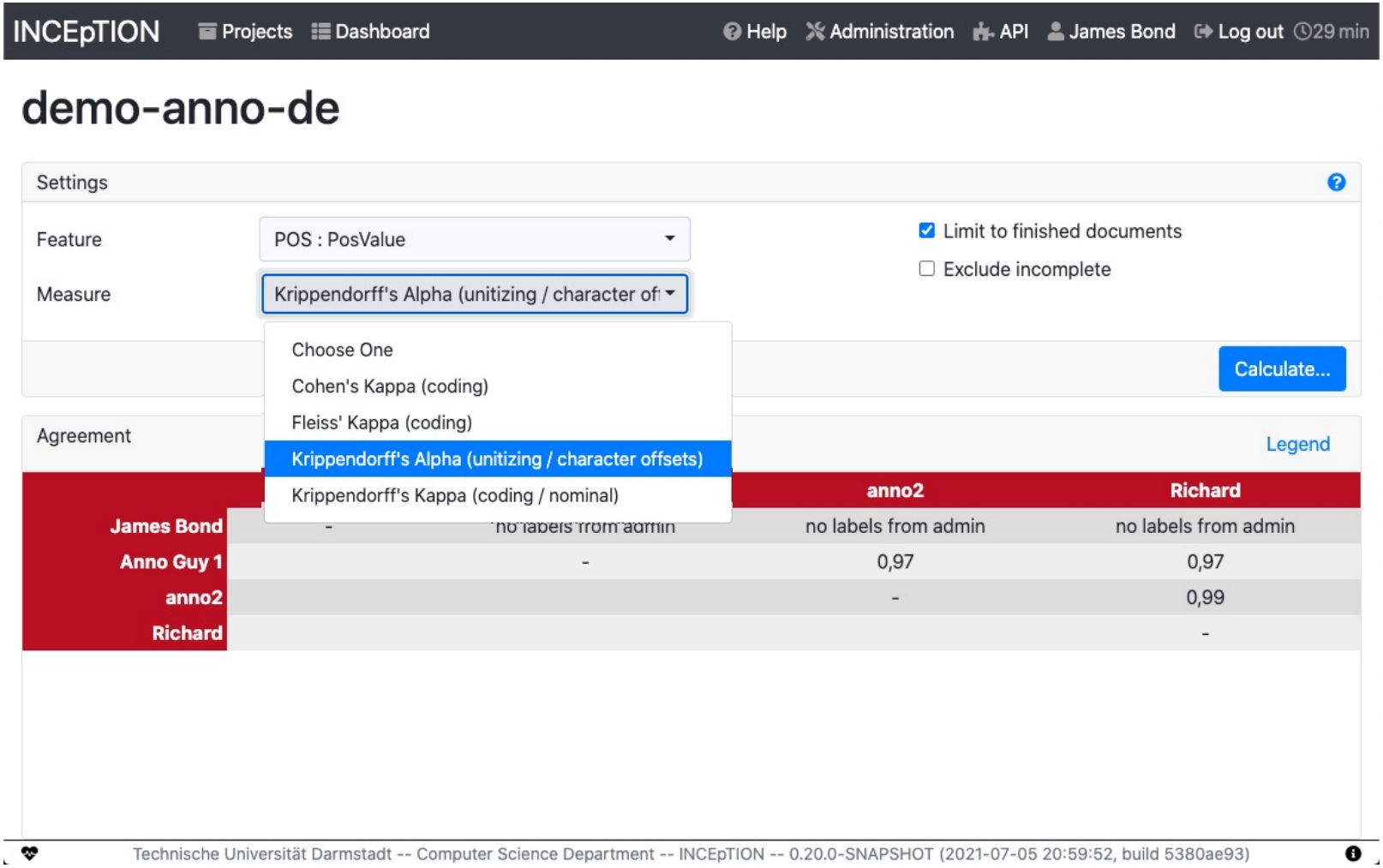
**To get here: click “Dashboard” then “Annotation”**



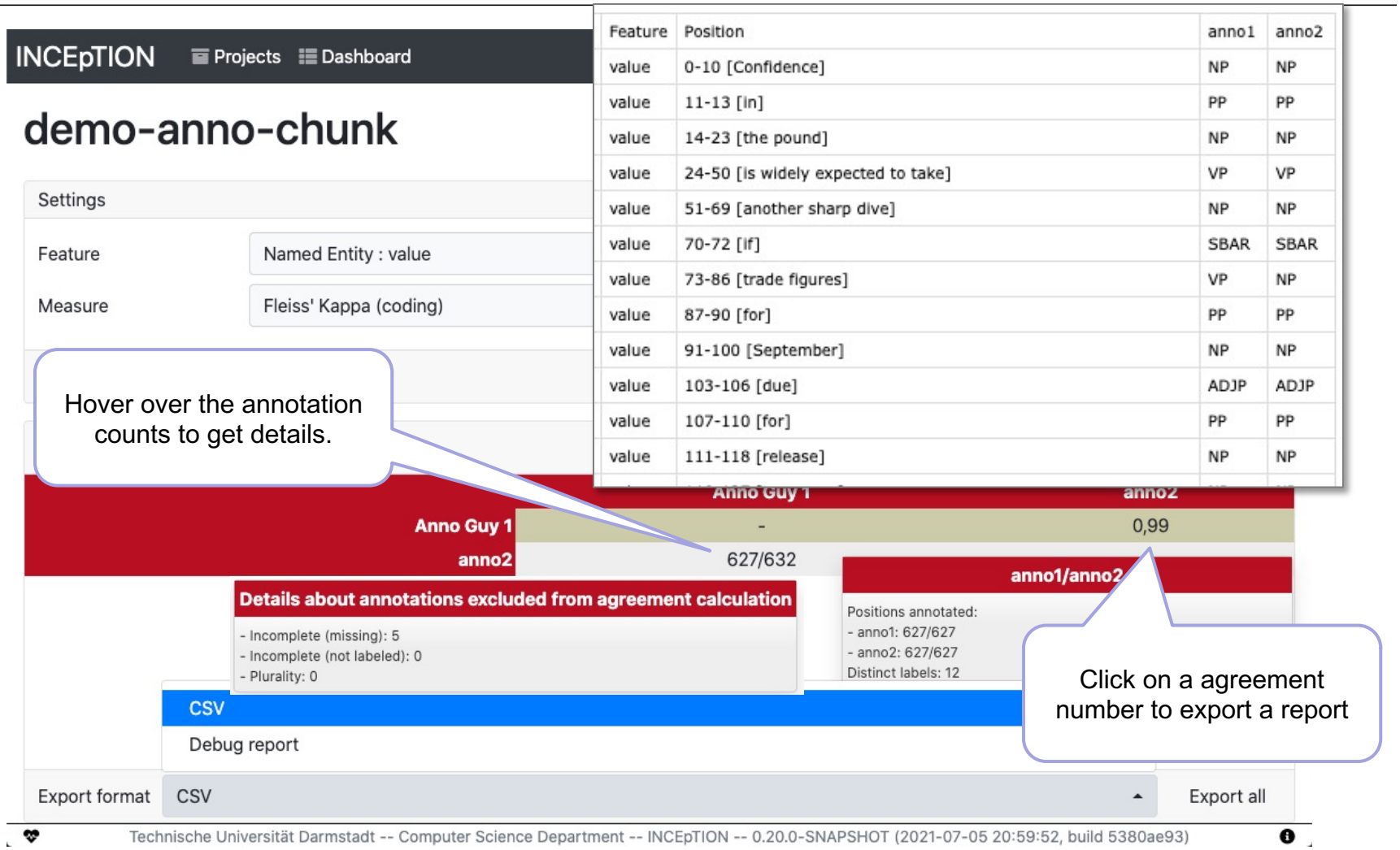

Experimental curation mode available from the annotation page.

Curatable annotations are shown similarly to annotation suggestions.

# Agreement


INCEpTION
Projects
Dashboard
Help
Administration
API
James Bond
Log out
29 min
demo-anno-de
Settings
Feature
POS : PosValue
Measure
Krippendorff's Alpha (unitizing / character of
Limit to finished documents
Exclude incomplete
Choose One
Cohen's Kappa (coding)
Fleiss' Kappa (coding)
Krippendorff's Alpha (unitizing / character offsets)
Krippendorff's Kappa (coding / nominal)
Calculate...
Agreement
Legend
anno2
Richard
James Bond
Anno Guy 1
anno2
Richard
no labels from admin
no labels from admin
0,97
0,97
0,99
Technische Universität Darmstadt -- Computer Science Department -- INCEpTION -- 0.20.0-SNAPSHOT (2021-07-05 20:59:52, build 5380ae93)

# Details about agreement



# What we did NOT talk about today

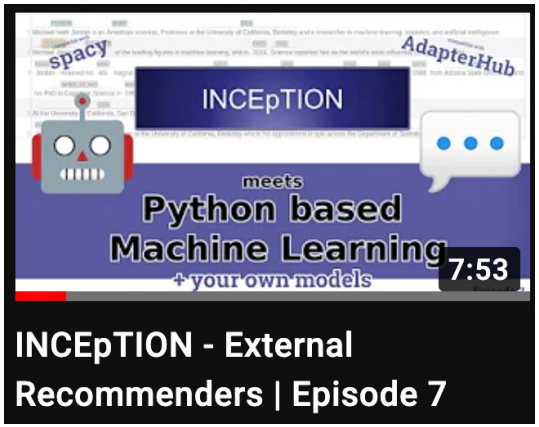
TECHNISCHE UNIVERSITÄT DARMSTADT

- Search within external document repositories / selective import
- Search within projects (regular and semantic)
- Image sidebar
- Link features (for frame-like annotations, events, predicat-argument)
- Constraints rules
- Conditional features
- Keyboard shortcuts
- Coloring rules
- Guidelines
- Recommender evaluation simulation
- External recommenders
- Guest annotators and invite links
- Remote API
- External authentication
- Event logging
- Versioning
- Alternative annotation editor modes (HTML, PDF, etc.)
- …

# What to look at next?

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- Try the „Entity linking (Wikidata)“ quick-project template
- External Recommenders
  https://github.com/inception-project/inception-external-recommender
- Real world use-cases
  https://inception-project.github.io/use-cases/
- Example projects
  https://inception-project.github.io/example-projects/
- Python example code (data conversion)
  https://inception-project.github.io/example-projects/python/



INCEpTION - External Recommenders | Episode 7



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https://github.com/inception-project/inception



Thank you!

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Questions or commetns?

