DATA ANNOTATION APP

FOR DUNGEONS AND DRAGONS ENTITIES

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We will cover…

Introduction

Rationale

Background

Annotation App

INTRODUCTION

- Data annotation
  - Manually label data
  - By experts/ non-experts
- FRW dataset
- Entity classification

RATIONALE

- First links

  “ Tiamat was the [lawful evil] [dragon] goddess of greed, queen of [evil dragons] and, for a time, reluctant servant of the [greater gods] [Bane] and later [Asmodeus]. Before entering the [Faerûnian pantheon], she was a member of the [Draconic pantheon], and for some time she was also a member of the [Untheric pantheon]. “

- Which is it?
  - Dragon, diety
- First link?
  - Lawful evil

RATIONALE

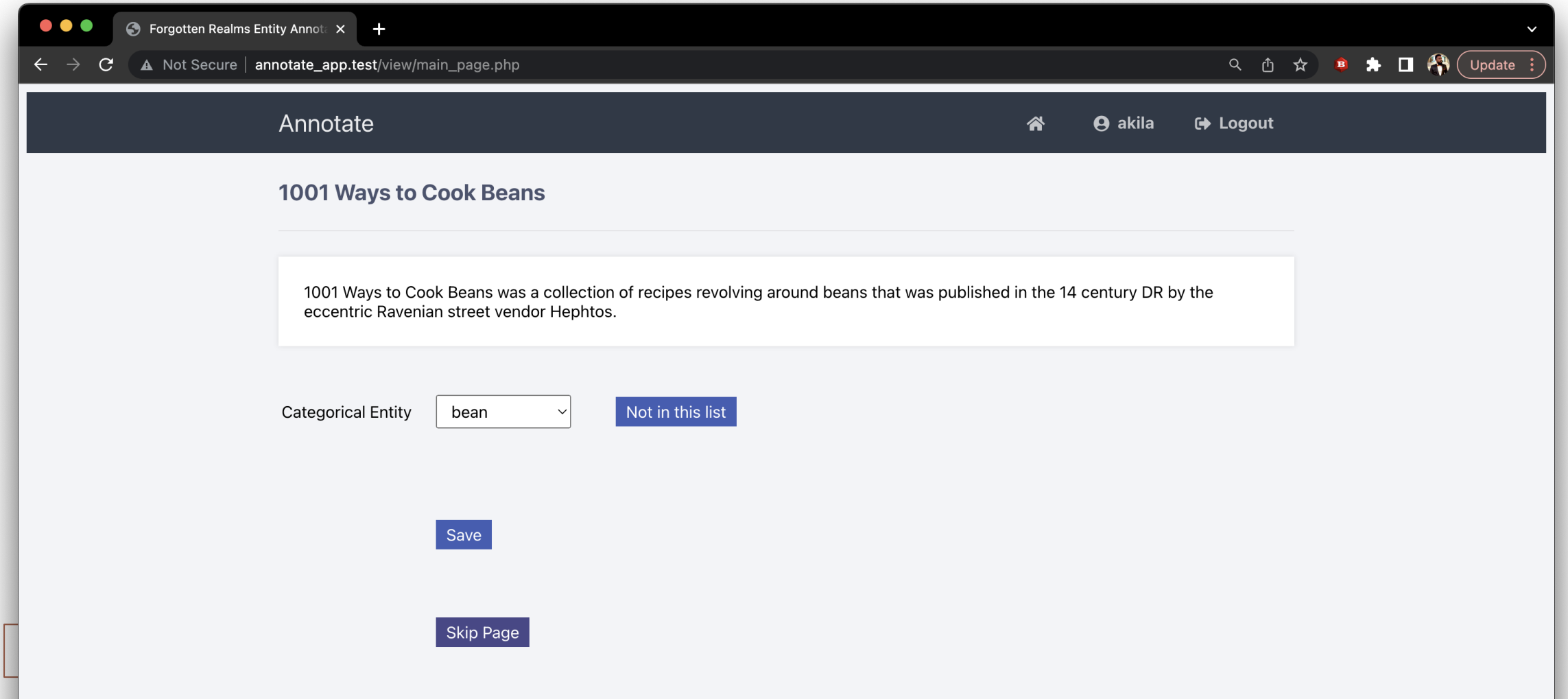
- Why an app?
  - Why not excel?
- Consistency of annotations
  - Different annotators, different paterns
- Control the annotation options
  - Non-paged entity categories
- Reduce human error
  - Faerûnian vs. Faerunian
  - Outright wrong spellings leading to different label
- All of the above can be enforced via a task specific app

BACKGROUND

- Crowdsourcing annotations [1][2]
  - Efficiency and scalability
  - 4 non-expert annotations per item ≈ expert level annotation
- Inter-annotator agreement (IAA) [3][4]
  - Consistency of annotations produced by different annotators
  - Annotator expertise
  - Annotation guidelines
  - Annotation complexity
- Active learning techniques to reduce the amount of annotation required[5]
  - Human input for complex cases

[1] R. Snow, B. O'Connor, D. Jurafsky, and A. Ng, "Cheap and fast - but is it good? evaluating non-expert annotations for natural language tasks," in Proceedings of the 2008 Conference on Empirical Methods in Natural Language Processing. Honolulu, Hawaii: Association for Computational Linguistics, Oct. 2008, pp. 254–263. [Online].
[2] A. Dumitrache, L. Aroyo, and C. Welty, "Achieving expert-level annotation quality with crowdtruth," in Proc. of BDM2I Workshop, ISWC, 2015.
[3] R. Artstein and M. Poesio, "Inter-coder agreement for computational linguistics," Computational linguistics, vol. 34, no. 4, pp. 555–596, 2008
[4] E. Ouyang, Y. Li, L. Jin, Z. Li, and X. Zhang, "Exploring n-gram character presentation in bidirectional rnn-crf for chinese clinical named entity recognition," in CEUR workshop proceedings, vol. 1976, 2017, pp. 37–42.
[5] F. Olsson, "A literature survey of active machine learning in the context of natural language processing," 2009

ANNOTATOR APP



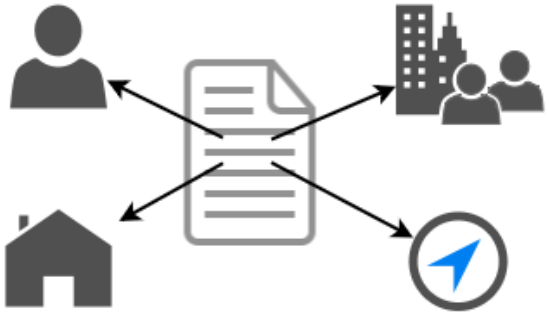
ANNOTATOR APP

PROCESS FLOW

Select from a list of links

No suitable match in list

Select from a list of named entities



No suitable match in list

Tye in the category

Enter the category

Dragon God

ANNOTATOR APP

LINK LIST

- Forgotten Realms Wiki*
- XML and Markdown text
- Links [[Linked_page_name|Display_text]]
- Cannot use parsers
  - Parsers remove links
- First link
- Remove infobox
  - When count(“[[“) == count(“]]”)
  - And next few characters do not contain “[[“

* https://forgottenrealms.fandom.com/

ANNOTATOR APP

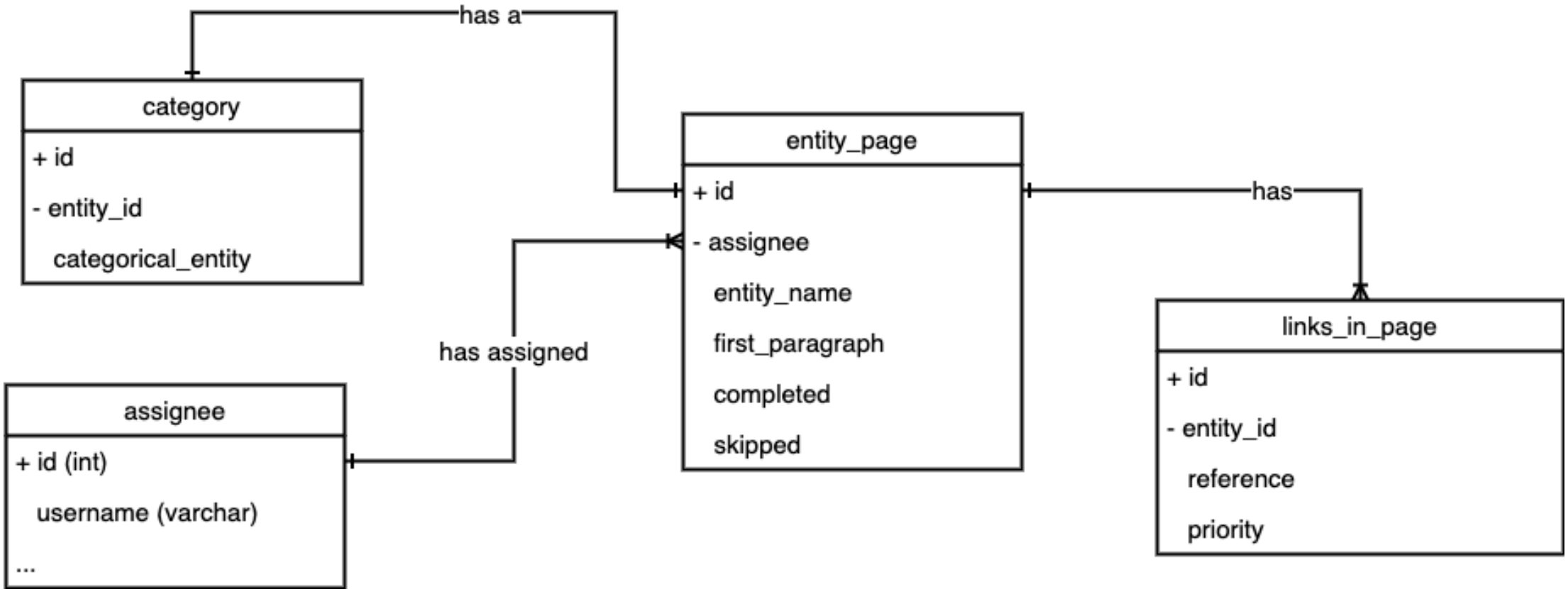
NOUN LIST AND TEXT INPUT

- When “Not in this list”
- First paragraph
- Clean text
- Extract nouns and phrases

- When “Not in this list either”
- Enter manually

ANNOTATOR APP

ER DIAGRAM



REFERENCES

[1] R. Snow, B. O'Connor, D. Jurafsky, and A. Ng, "Cheap and fast - but is it good? evaluating non-expert annotations for natural language tasks," in Proceedings of the 2008 Conference on Empirical Methods in Natural Language Processing. Honolulu, Hawaii: Association for Computational Linguistics, Oct. 2008, pp. 254–263. [Online].
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[5] F. Olsson, "A literature survey of active machine learning in the context of natural language processing," 2009.

THANK YOU