



Games with a Purpose (GWAPs)

Karën Fort

karen.fort@sorbonne-universite.fr

Feb. 11th, 2021



Games with a purpose I participated in creating



ZOMBILINGO

RIGORMORTIS

BISAME

KRIK!

AYO!



Language games portal and recurring workshop:

L I N G O B O I N G O

Games4NLP

GWAPs types

ZombiLingo

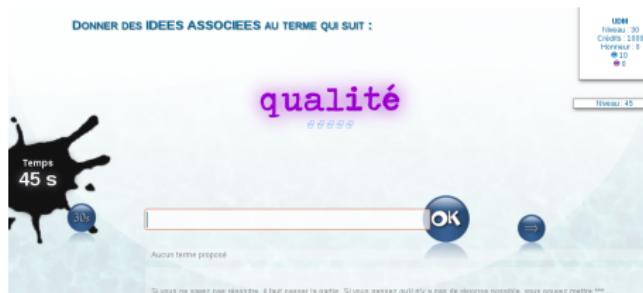
Motivating players

JeuxDeMots: playing associating ideas . . .

... to create a lexical network [Lafourcade and Joubert, 2008]

More than 360 million relations (created by approx. 6,000 players),
constantly updated

- ▶ play by pairs
- ▶ more and more complex,
then typed relations
- ▶ challenges
- ▶ trials
- ▶ etc



Phrase Detectives: playing detectives...

...to annotate coreference [Chamberlain et al., 2008]

3.5 million decisions from 45,000 players (2016)

- ▶ pre-annotated corpus
- ▶ detailed instructions
- ▶ training
- ▶ 2 modes:
 - ▶ annotation
 - ▶ validation (correcting annotations)

The screenshot shows the Phrase Detectives game interface. At the top, there are two user profiles:

- Kaa**:
 - 22 this week
 - 1 accuser
 - 21 agreements
 - 0 extras
- Knitta (Wikipedia)**:
 - 22 this month
 - 82 all time
 - Level: Apprentice
 - Your rating: 80%
 - CASE OPEN: 30 tasks remaining
 - 1 completed case
 - EDIT PROFILE | LOGOUT

Below the profiles is a challenge titled "NAME THE CULPRIT". It asks: "Has this phrase shown in orange been mentioned before in this text or is it a property? Use your mouse to select the closest phrase(s) if it has been mentioned before." The challenge text is:

PolyCoffi and Knittik come up with their own names, then invented names for other members in a brainstorming session they considered "one of the more hilarious meetings". Some former member names include Knottorious N.I.T., Scratchesitch and P.Koty.

As of January 2008, the group has two female members and one male, ages 30 to 72, who wish to remain anonymous. Current members are PolyCoffi, Maccuinity, and Gravy SQ. An estimated five to twelve copycat groups exist around the world.

Usually tagging on Friday nights and Sunday evenings, Knitta tags leave a paper tag on each work, bearing the slogan "I'm here to tag you!" They tag trees, long posts, railings, fire hydrants, instruments and other urban targets, and even get a little "hardcore" with ideas like hanging balled-up sneakers over aerial telephone cables. The crew marks holidays by doing themed work, using, for example, pink yarn for their Valentine's Day pieces and sparkly yarn for New Years. When Knitta is not working with it there, they work on projects, tagging specific targets or specific areas.

The group and their followers consider their graffiti "a method of beautifying public space".

Feedback buttons include "Not mentioned before", "This is a property", and "Done".

On the right side, there are sections for "SEARCHCLUES" and "PHRASE DETECTIVES".

SEARCHCLUES section:

- Wants like they, her, her and are they to refer to something in the text. Try to find the closest instance of this phrase.
- Means like than or see things in the text so select those if necessary.
- Always tag in blue and the previous mention of the phrase to score maximum agreement points.

PHRASE DETECTIVES section:

- Starts with a, an or the beginning with a, an and can have two different purposes.
- An an object: wants to identify an object in the text, for example "The postman" always refers to "John" or "John owns a laptop".
- An an property: They can also refer to say the property of an object. For example "Yield" the postman always refers to "John" or "John owns a laptop".

If you think the phrase describes a property, try to select the closest phrase it refers to.

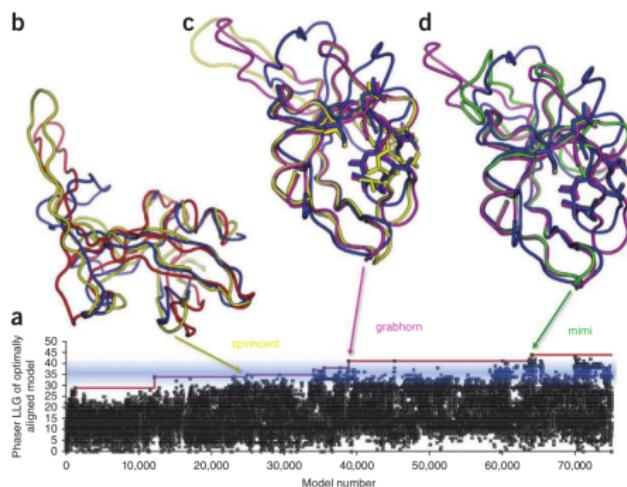
FoldIt: playing proteins folding...

...to solve crystal structure issues [Khatib et al., 2011]

"Decipher the crystal structure of a retroviral protease from [...] a monkey virus which causes HIV/AIDS-like symptoms" (Wikipedia)

Solution to a scientific problem
that had been unsolved for 15
years

- ▶ found in a few weeks
- ▶ by a team of players



FoldIt : playing proteins folding...

...with no prior knowledge in biochemistry [Cooper et al., 2010]



Training by steps

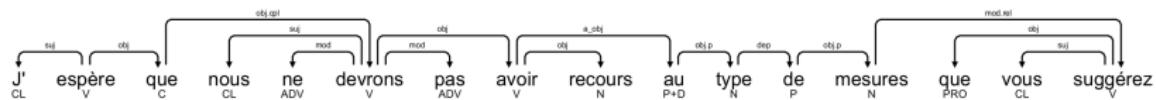
- ▶ tutorial by concepts
- ▶ puzzles for each concept
- ▶ access to the next puzzles is allowed only if the player's level is good enough

GWAPs types

ZombiLingo

Motivating players

A complex task

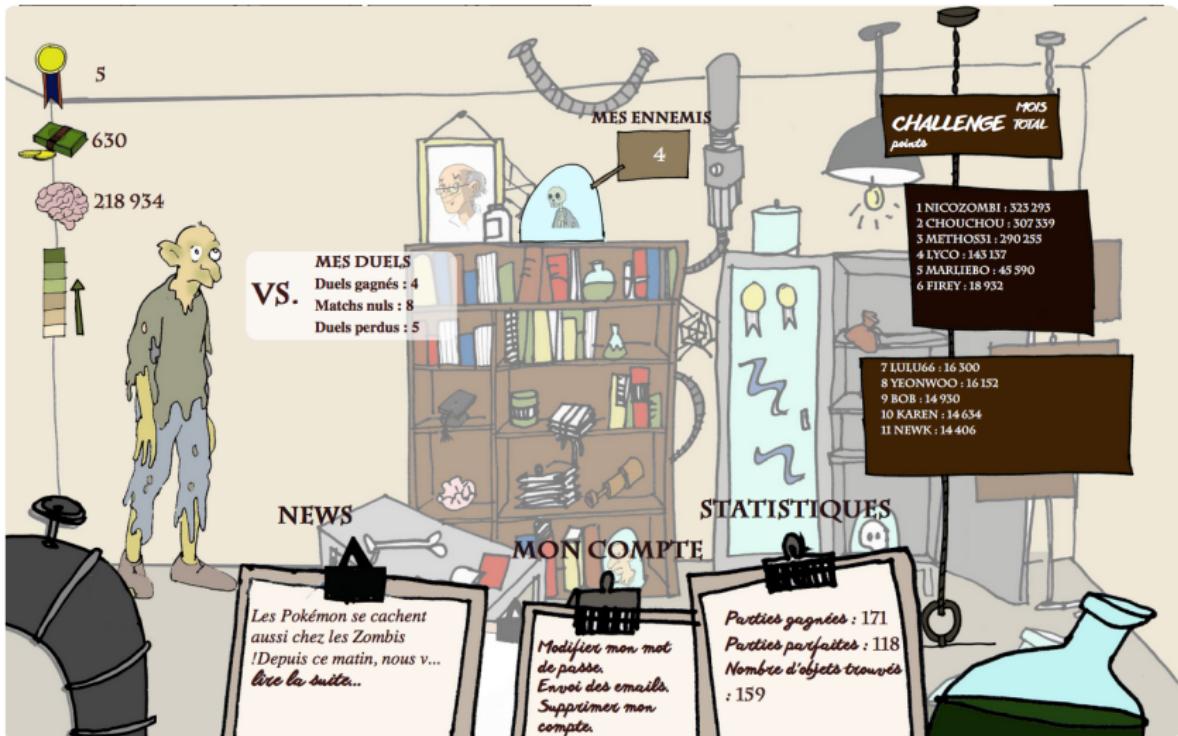


- ▶ annotation guidelines
 - ▶ 29 types of relations
 - ▶ approx. 50 pages
- ▶ counter-intuitive decisions (**not** school grammar, linguistics):
 $aobj = au$
[...] avoir recours au type de mesures [...]
i.e. the head of the relation is a preposition
- **decomposing** the complexity of the task [Fort et al., 2012],
not simplifying it!

ZOMBI LINGO

BIENVENUE à TOI, JEUNE ZOMBIE !









Niveau
maximum:
 165

Trouve le complément (objet indirect introduit par "à") du verbe
indiqué !

10%

Besoin
d'aide?



Très jeune, il a fait preuve d'initiative et de courage pour
PARTICIPER à un sauvetage lors d'inondations.



 57
 150

Acheter

 1
 15

Acheter

 3
 300

Acheter

 74

 0
 15

Acheter



GWAPs types

ZombiLingo

Motivating players

General features

Bring the fun through:

- ▶ zombie design
- ▶ use of (crazy) objects
- ▶ regular challenges (specific corpus and design) on a trendy topic:
 - ▶ Star Wars (when the movie was playing)
 - ▶ soccer (during the Euro)
 - ▶ Pokemon (well...)

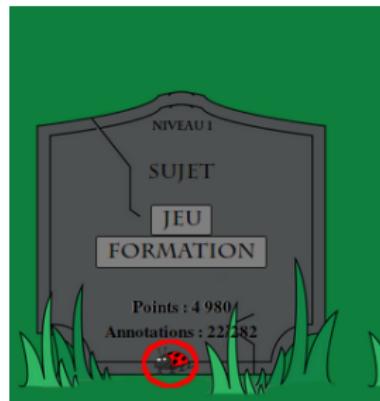
LeaderboardS (for achievers)



Criteria:

- ▶ number of annotations or points
- ▶ in total, during the month, during the challenge

Hidden features (for explorers)



- ▶ appearing randomly
- ▶ with different effects: objects, other game, etc.

Duels (for socializers (and killers?))

The screenshot shows a game interface with a green header bar. At the top left are five menu items: JOUER, BOUTIQUE, DUELS, FORUM, and ADMIN. At the top right is a user icon labeled 'JOUEURS'. Below the header, the word 'Duels' is highlighted in blue, and there is a button 'Nouveau duel'.

Below the header, there are three tabs: 'DUELS LIBRES' (with 1 notification), 'MES DUELS EN COURS' (with 2 notifications), and 'MES DUELS TERMINÉS' (selected, with 0 notifications).

The main content area displays three completed duels:

	Karen	vs.	JYA	
1️⃣	1420		1558	JYA gagne 5956 points Complément en << de >> duel en 20 en tours
	Karen	vs.	bruno	Karen gagne 660 points bruno gagne 660 points Auxiliaire causatif duel en 20 en tours
2️⃣	660		660	
	Karen	vs.	JYA	Karen gagne 3424 points Complément en << de >> duel en 20 en tours
3️⃣	1754		1670	

On the right side of the interface, there are statistics: 'Duels gagnés : 1', 'Duels perdus : 1', and 'Matchs nuls : 1'.

- ▶ select an enemy
- ▶ challenge them on a specific type of relation

Badges (?) (for collectors)



- ▶ play all the sentences for a relation type, for a corpus
- ▶ play all the sentences from a corpus



<https://github.com/zombilingo>



<http://zombilingo.org/export>

-  Chamberlain, J., Poesio, M., and Kruschwitz, U. (2008). Phrase Detectives: a web-based collaborative annotation game.
In Proceedings of the International Conference on Semantic Systems (I-Semantics'08), Graz, Austria.
-  Cooper, S., Treuille, A., Barbero, J., Leaver-Fay, A., Tuite, K., Khatib, F., Snyder, A. C., Beenan, M., Salesin, D., Baker, D., and Popović, Z. (2010).
The challenge of designing scientific discovery games.
In Proceedings of the Fifth International Conference on the Foundations of Digital Games, FDG '10, pages 40–47, New York, NY, USA. ACM.
-  Fort, K., Nazarenko, A., and Rosset, S. (2012).
Modeling the complexity of manual annotation tasks: a grid of analysis.
In International Conference on Computational Linguistics (COLING), pages 895–910, Mumbai, India.

 Khatib, F., DiMaio, F., Cooper, S., Kazmierczyk, M., Gilski, M., Krzywda, S., Zabranska, H., Pichova, I., Thompson, J., Popović, Z., et al. (2011).
Crystal structure of a monomeric retroviral protease solved by protein folding game players.
Nature structural & molecular biology, 18(10):1175–1177.

 Lafourcade, M. and Joubert, A. (2008).
JeuxDeMots : un prototype ludique pour l'émergence de relations entre termes.
In Proceedings of the Journées internationales d'Analyse statistique des Données Textuelles (JADT), Lyon, France.