Navigating Stories

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netherlands UNIVERSITY Science center OF TWENTE.

Resources





"What drives me the most is helping others in finding solutions to complex problems."

Hey, I'm Dafne! This is my story



A bit about us

We're an independent foundation with 80+ passionate people working together in the Netherlands' national centre for academic research software.

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CENTRE FOR EHEALTH & WELLBEING RESEARCH

< Story Lab

Story Lab

- Post-Corona Futures

Post-Corona Futures

Who we are

+ Letters

Contact

- + Societal impact
- + Scientific impact

POST-CORONA FUTURES

POST-CORONA FUTURES PROJECT

This project groups three studies on the way we deal with the future in corona times.

Project leaders: Anneke Sools (Psychology, Health and Technology Section; Story

Lab) and Yashar Saghai (Philosophy Section; the Millennium Project: Global Futures Studies and Research)

Study 1: "Will the Future Never be the Same? Letters from a Post-Corona Future"

The current corona virus outbreak has affected our health systems, daily routines, social relationships, livelihoods, the global economic system in ways we never imagined possible. This shows that far-reaching changes, whether negative or positive, are possible. How do we imagine in these circumstances a *desirable* future after the corona outbreak, rather than the most likely or dreadful future? Our study investigates how a global, disruptive event can impact our perception of what is possible and what is desirable, and the way we make sense of the world (community, society, humanity, the planet) and ourselves.

We do this by inviting participants to write a letter from a future after the corona crisis





Navigating Stories in Time of Transition











Gerben Westerhof (University of Twente, PI)
Anneke Sools (University of Twente)
Kevin Pijpers (University of Twente, postdoc)
Stefan Bastholm Andrade (Vive, Copenhagen)
Erik Tjong Kim Sang (eScience Center, Amsterdam)
+ 10 other people



Goal: advance field of story analysis

Develop and integrate digital tools for:

- Storing and selecting relevant stories (related to the pandemic)
- Preprocessing stories and performing natural language processing
- Automatically determining story structures
- Providing visual analysis, of single stories and of story collections

The project builds on the results obtained by our previous eScience project What Works When for Whom? (2015-2020)



Previous work: Digital Story Grammar

Stefan Bastholm Andrade developed Digital Story Grammar, a computer-assisted method for analyzing English texts

Example story: Well I got all my exams. I had to retake one, English, and I got it the second time.

Base analysis:

Phrase	Subject	Verb group	Object
1	I	get	exam
2	I	have to retake	one
3	Ī	get	it

This analysis is similar to semantic role labeling



Risk of using semantic role labeling

We use Stroll, a semantic role labeling library for Dutch, which has an accuracy of 77%: https://github.com/Filter-Bubble/stroll

Having software with such a low performance in an analysis tool has the risk of the users refusing to use it

Additional to automatically analyzing texts, we will need to give users the opportunity to correct obvious mistakes of the system



Computer-Assisted Qualitative Data Analysis Software

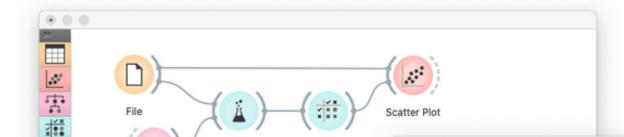
Software for qualitative analysis of text collections including annotation. We evaluated 44 different packages, according to 18 requirements:

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	1	2	3	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	score
Atlas.ti (A.4)	+	+	+	+	-	-	+	-	+	+		+		+	+		+	+	12
NVivo (A.27)	+	+	+	+	+	-	-	-	+	+		+	+		+		+	+	12
QualCoder (A.34)				+	+	+		+		+	-	+	-	+	+	+	+	+	11
GATE (A.18)				+	+	+	-	+	+	-	-	+	+	-	+	+	-	+	10
Aquad (A.2)	.			+	-	+	-	-	+	+	-	+	-	+	+	+	-	+	9
ASReview (A.3)				+	+	-	-	+	+	+	+	-	-	-	+	-	+	+	9
Dovetail (A.14)				+	-	-		-	+	+		+		+	+	+	+	+	9
HyperRESEARCH (A.19)				+	-	-		-	+	+	-	+	+	+	+		+	+	9
KH Coder (A.21)	-	-	-	+	+	+		+			+		+		+		+	+	9
MAXQDA (A.25)				+	-	-		-	+	+	-	+	-	+	+	+	+	+	9
QDA Miner (A.31)				+	-	-		_	+	+	-	+	-	+	+	+	+	+	9
Dedoose (A.10)				+	-	-		_	+	+	-	+	-	+	+		+	+	8
DiscoverText (A.12)				+	-	-		-	+			+		+	+	+	+	+	8
Ouirkos (A.36)	<u> </u>		_	+		_		_		+	_	+	_	+	+	+	+	+	8



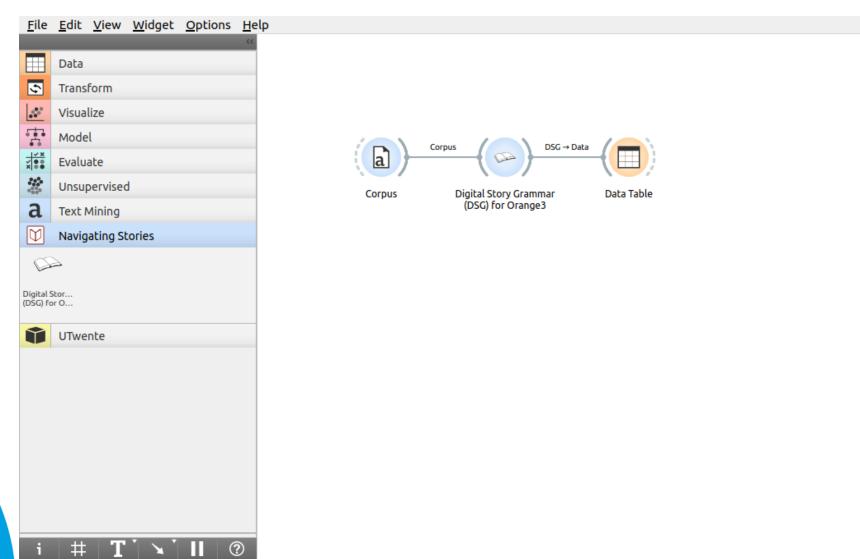
Orange Data Mining

Orange is a data mining and visualization toolbox for novice and expert alike. To explore data with Orange, one requires **no programming or in-depth mathematical knowledge**. We believe that workflow-based data science tools democratize data science by hiding complex underlying mechanics and exposing intuitive concepts. Anyone who owns data, or is motivated to peek into data, should have the means to do so.



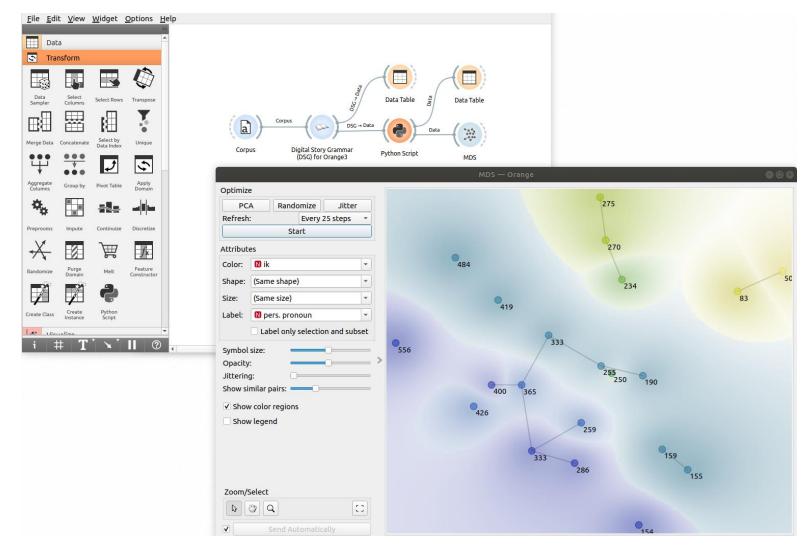


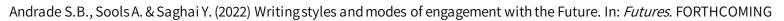
Example Orange pipeline





Example Orange story analysis







Concluding remarks

We are building a tool for analyzing the narrative structure of stories using Digital Story Grammar, among others with semantic role labeling

The tool is available as a part of Orange, an extensible open source data mining environment with a nice graphical interface



Future work

- Collect feedback on the tool from users (researchers and students)
- Create an Orange module for manual correction of data labels
- Create an Orange module for story-level analysis
- Adapt the new Orange modules for insertion in other CAQDAS packages (Atlas.ti/NVivo/MAXQDA)





More information

- Home page of the project: https://navigating-stories.github.io/
- Code: https://github.com/navigating-stories/test-orange-widget
- Email: e.tjongkimsang@esciencecenter.nl

- Post-Corona Futures: https://www.utwente.nl/toekomstbrieven
- Email: <u>a.m.sools@utwente.nl</u>

Dutch SRL code: https://github.com/Filter-Bubble/stroll