

comRAT-C

Group A

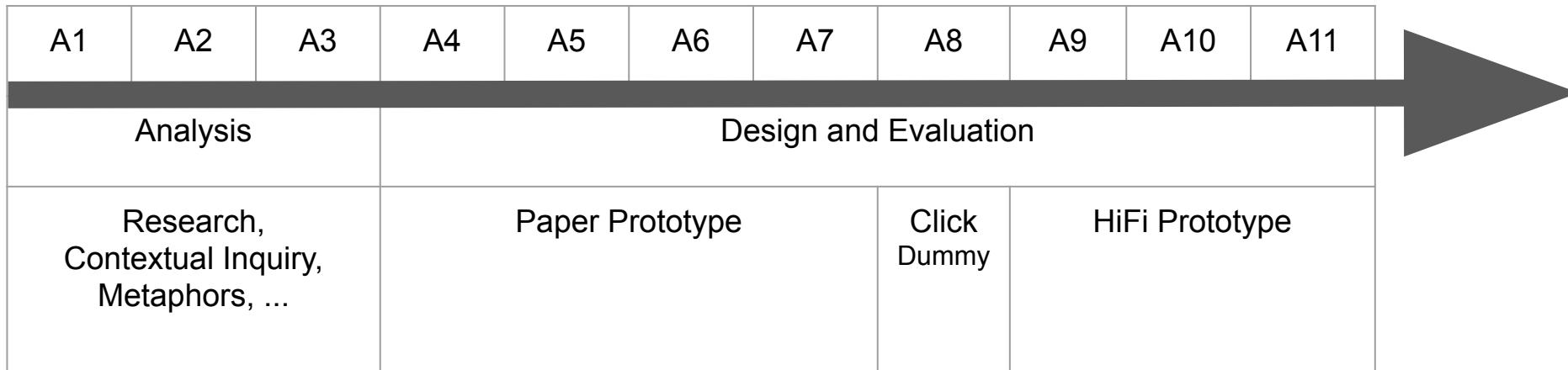
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Stephanie Hohenberg
Timo Saddig

Design Challenges

1. size of knowledge base over 200.000 words
2. interactive visualization without overwhelming the user
3. efficient, usable navigation

[CHALLENGE
ACCEPTED]

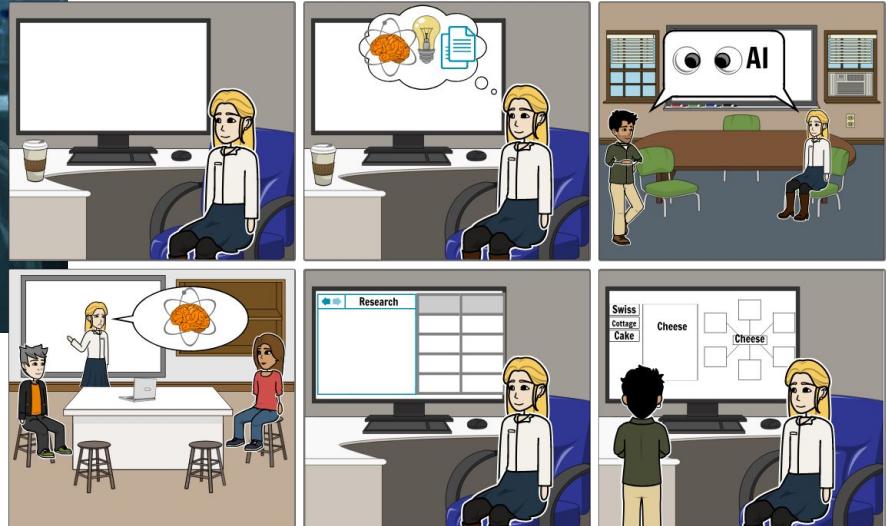
Timeline



User Group



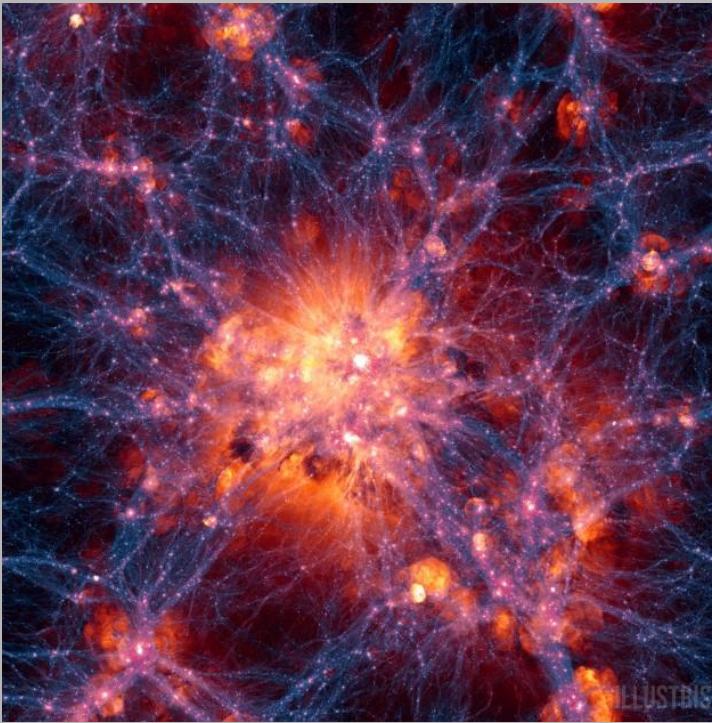
Researchers of any kind (cs/non cs)



<https://www.berliner-zeitung.de/image/30985978/2x1/940/470/11e7cb1ffa19d1343dee4c49030a1bf0/rC/71-135422619--null--19-07-2018-17-23-16-900-.jpg>

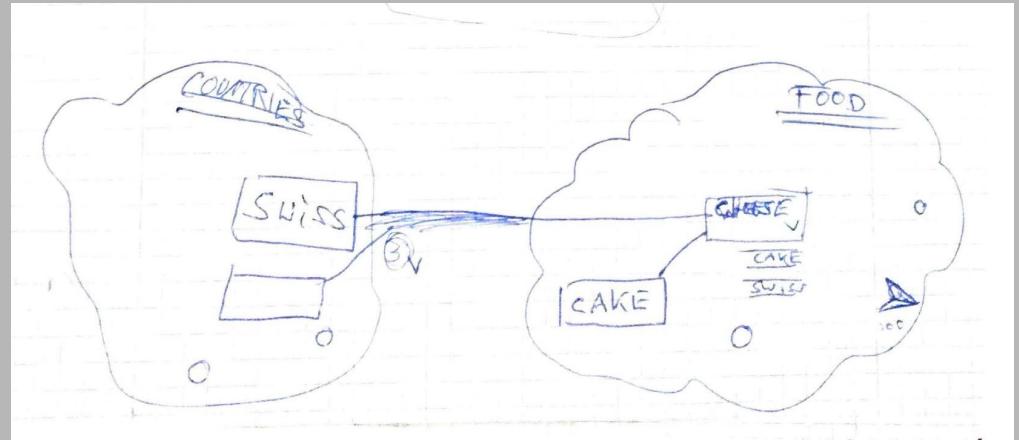
Create your own at Storyboard That

Metaphors



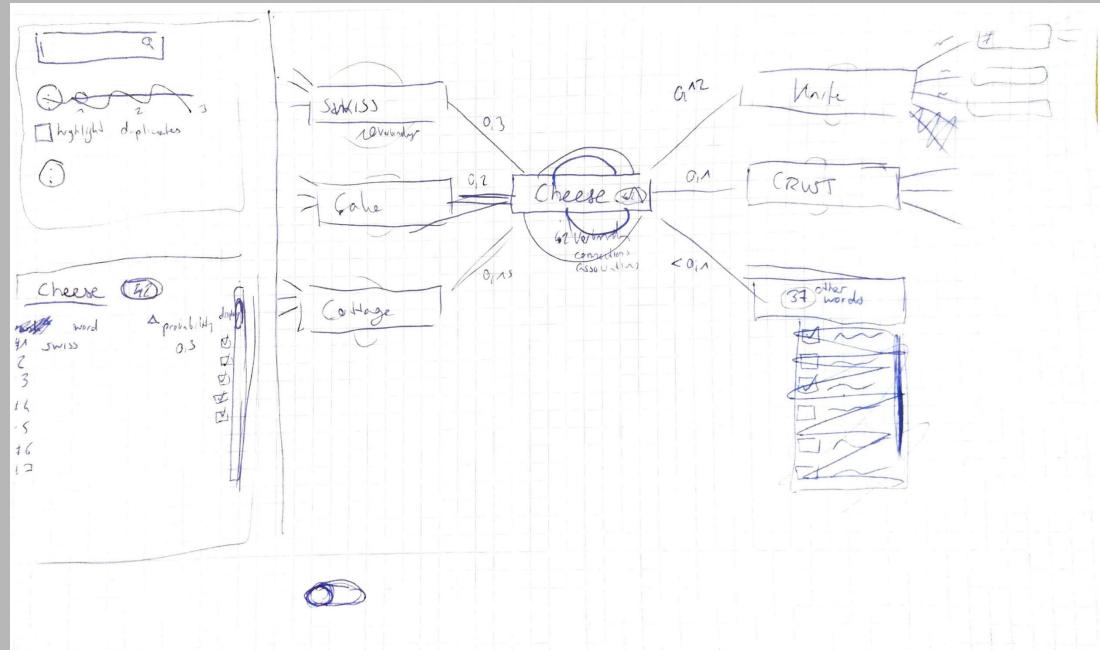
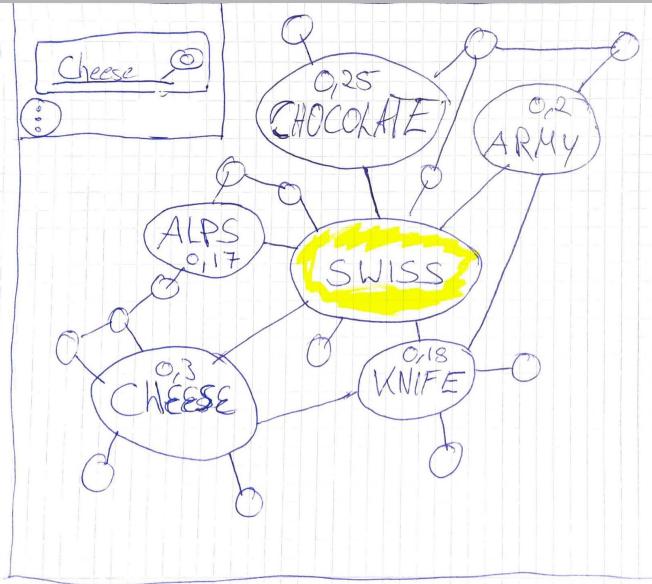
The universe

- Clusters of similar objects
- Connections between clusters

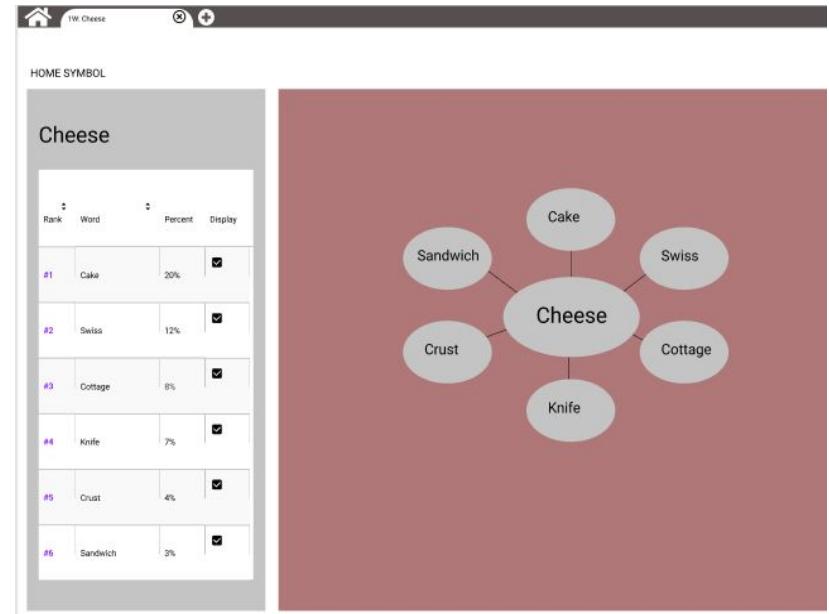
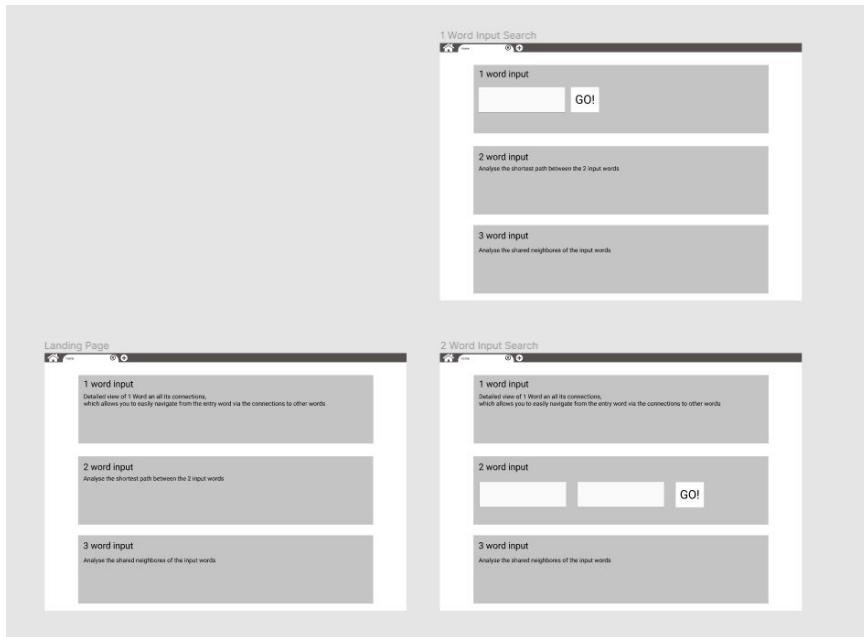


<https://insider.si.edu/wp-content/uploads/2014/05/hires-630x630.jpg>

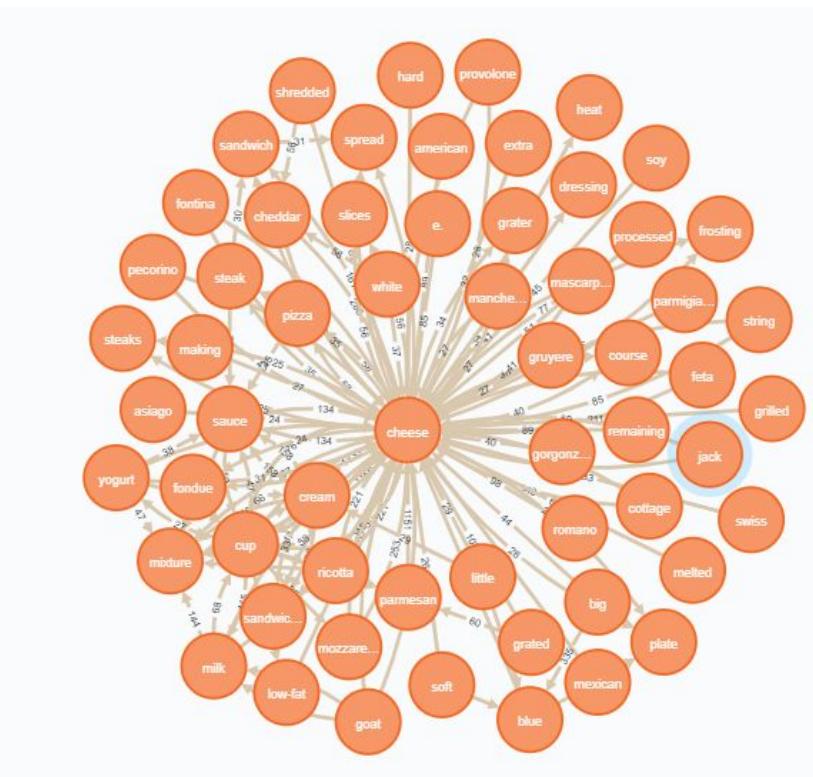
Paper Prototype



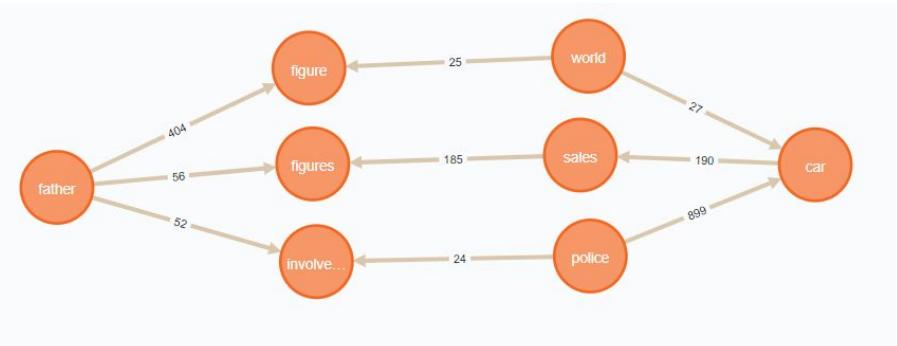
Click Dummy



Neo4j to Cytoscape



Neo4j



Pros

- Can handle a massive amount of data
- Strong query language Cypher
- Easy import of data via CSV

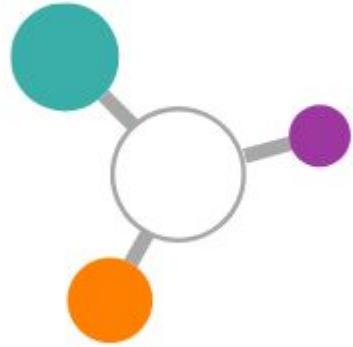
Cons

- No coloring of unique nodes
- Requires Neo4j server running

HiFi Prototype



<https://github.com/StephanieHohenberg/comRAT-C>



Demo

Welcome to comRAT-C !

ComRAT-C tests your **creativity** by the ability of finding an associated compound word on 3 given words. Our creative AI is storing **383 links between 350 words** and you can explore it. Go to the dashboard and discover interesting links in the exploration mode or just input the words, you are interested in.

Happy researching.



Dashboard in exploration mode

inputView

exploration mode

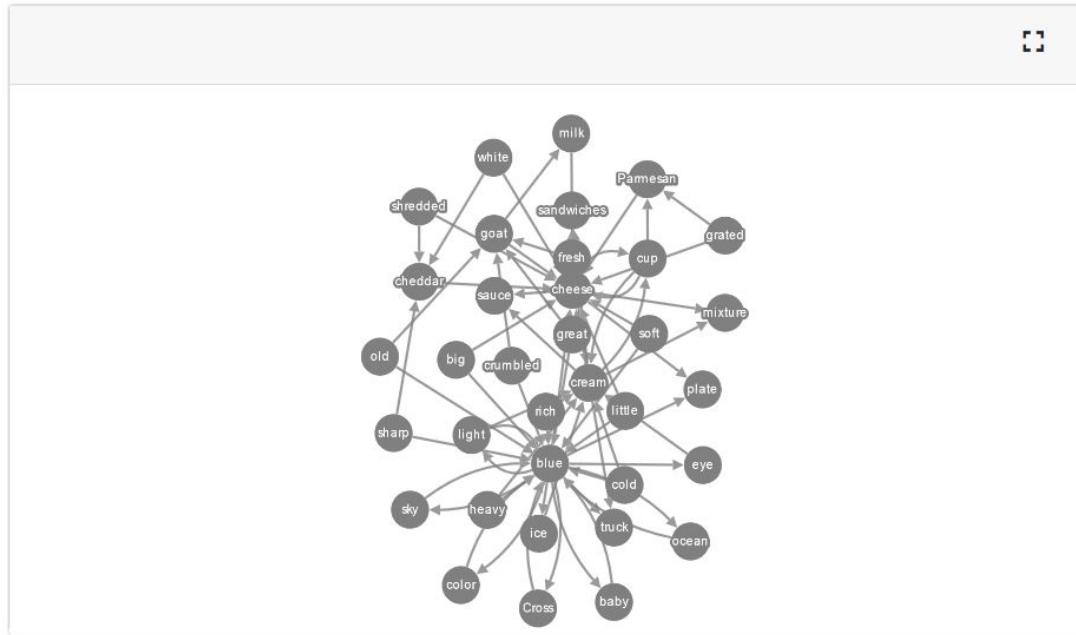
select words to explore ...



listView
graphView

filter table ...

#	word	#links
1	blue	261
2	cheese	60
3	cream	51
4	goat	9
5	cup	5



The graph view displays a network of words centered around the word "blue". Nodes are represented by circles, and edges by arrows indicating connections. The network includes words like cheese, cream, goat, cup, milk, sandwiches, Parmesan, shredded, cheddar, old, big, crumbled, sharp, light, rich, great, soft, little, plate, mixture, eye, cold, ocean, truck, baby, ice, color, heavy, sky, Cross, and Cross. The size of the nodes varies, suggesting a hierarchy or weight of connections.

error prevention during input

The screenshot shows a digital interface for a memory test. At the top right are two icons: a circular arrow and a PDF icon. On the left, there is a text input field containing the word "cream". To the right of the input field is a green button labeled "cream" with a small "X" icon. Below the input field, a message reads: "Check an other word! You already input this word." On the far right, a button labeled "exploration mode" is visible.

The screenshot shows a digital interface for a memory test. At the top right are two icons: a circular arrow and a PDF icon. On the left, there is a text input field containing the word "adsfasd". To the right of the input field is a green button labeled "cream" with a small "X" icon. Below the input field, a message reads: "Check an other word! This word does not exist in comRAT-C." On the far right, a button labeled "exploration mode" is visible.

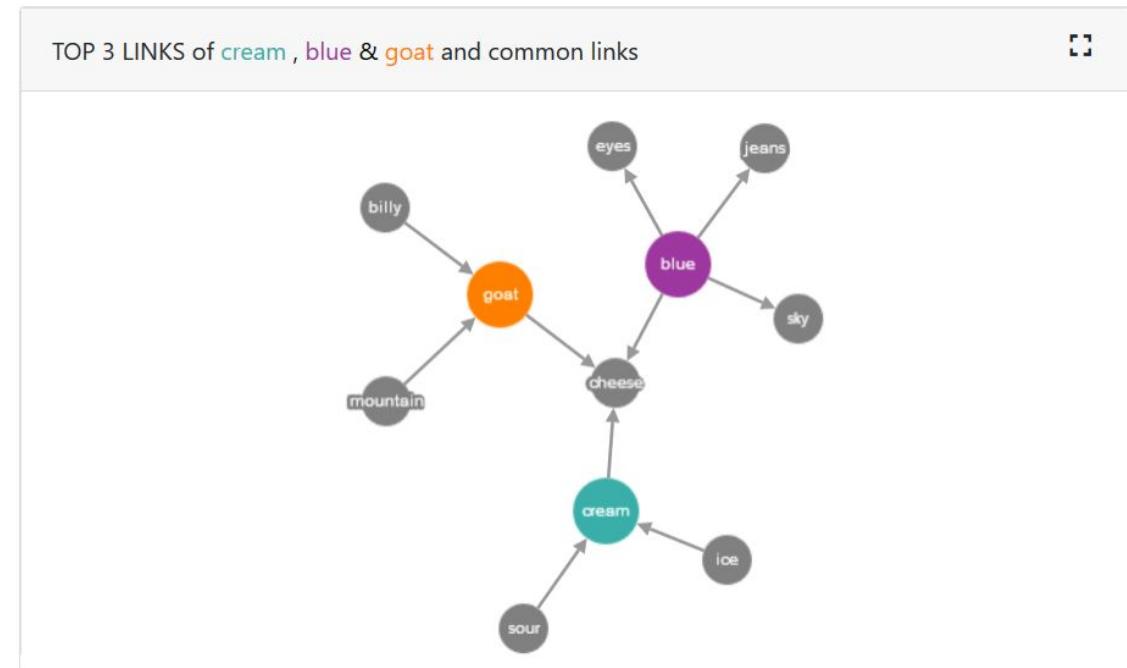
The screenshot shows a digital interface for a memory test. At the top right are two icons: a circular arrow and a PDF icon. On the left, there is a text input field containing the prefix "che|". A dropdown menu below the input field lists four options: "cheddar", "cheese", "manchego", and "sandwiches". To the right of the input field are three colored buttons: a teal button labeled "cream" with a small "X" icon, a purple button labeled "blue" with a small "X" icon, and an orange button labeled "goat" with a small "X" icon. Below these buttons, a message states: "The comRAT-C test is limited to 3 words." On the far right, a button labeled "exploration mode" is visible.

Dashboard with 3 input words

refresh PDF

select words to explore ... cream blue goat exploration mode

cream	blue	goat
#	word	strength
1	cheese	1333 507 963



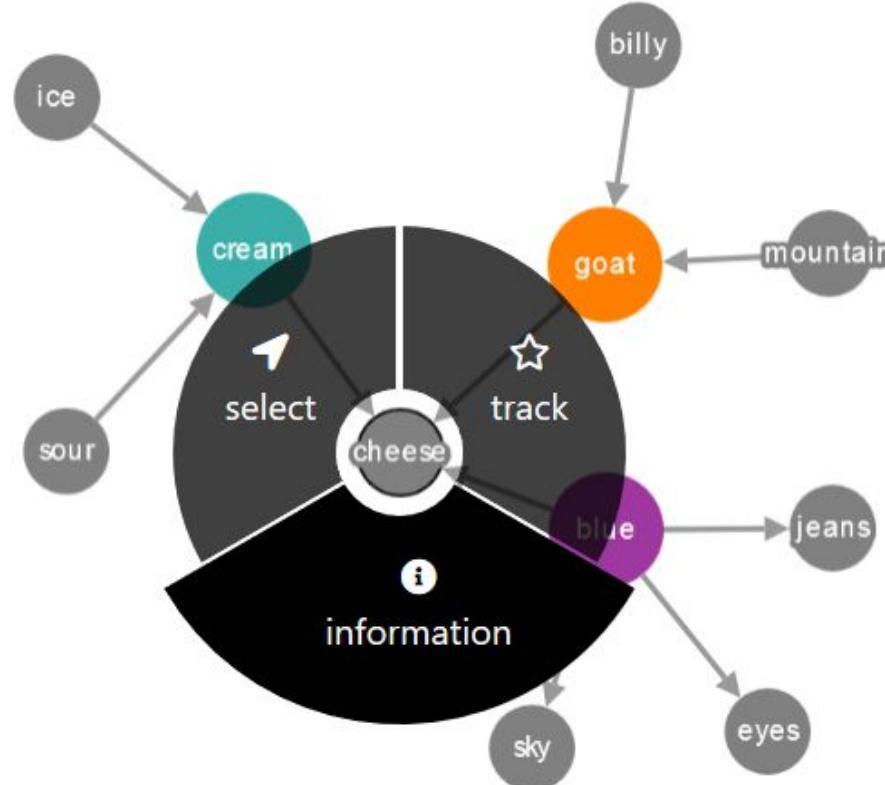
ListView

cream	blue	goat
<input type="button"/> filter table ...		
#	word	strength
1	cheese	507 963
2	old	119 49
3	crumbled	28 27

cream	blue	goat
<input type="button"/> filter table ...		
#	word	strength
1	blue eyes	3370
2	blue sky	1387
3	blue jeans	891
4	dark blue	840
5	pale blue	779

"Hidden" functionalities

TOP 3 LINKS of cream , blue & goat and common links



“Hidden” functionalities - InformationView

select words to explore ...

cheese goat exploration mode

filter table ...

#	word	strength
1	cream cheese	1333
2	parmesan cheese	1151
3	goat cheese	963
4	cheddar cheese	567
5	blue cheese	507

billy
mountain
goat
blue
jeans
sky
eyes

links

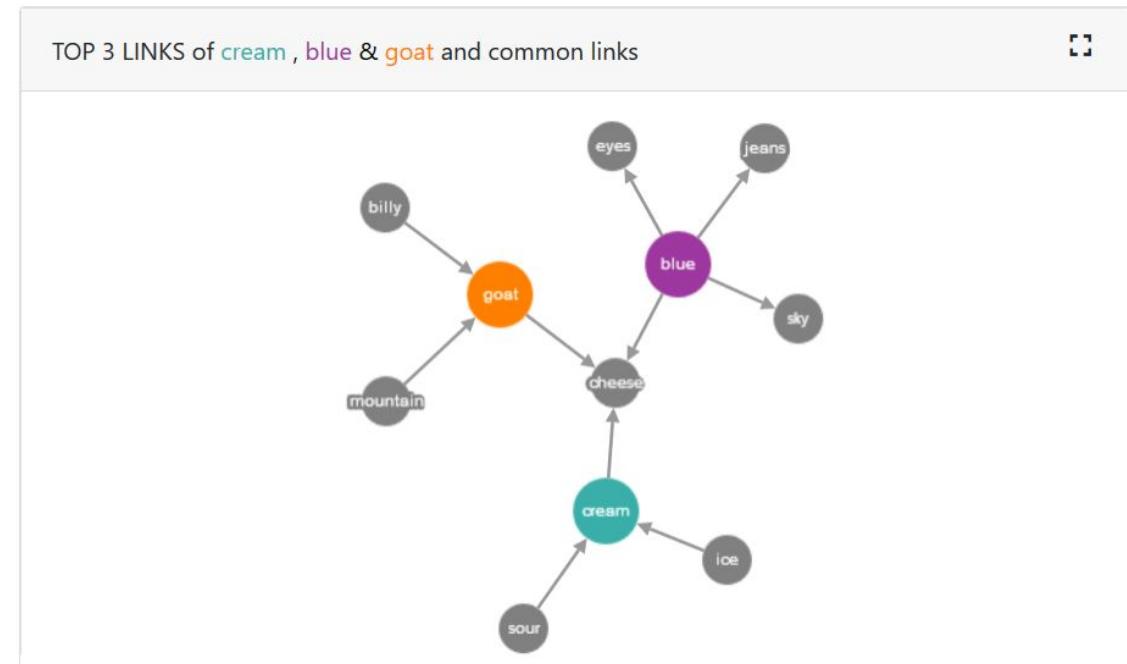
The screenshot displays a user interface for exploring words. On the left, a sidebar shows a search bar with 'cheese' and a button 'goat'. Below it is another search bar with 'filter table ...' and a table listing words by strength. The table has columns for #, word, and strength, with rows 1 through 5. Rows 1-4 are in light blue, and row 5 is in light gray. On the right, a search bar shows 'cheese' and a button 'goat'. Below it is a 'filter table ...' button. A central search results table shows the same data as the sidebar table. To the right of the table is a network graph where nodes represent words and edges represent links between them. Nodes include 'billy', 'mountain', 'goat' (highlighted in orange), 'blue' (highlighted in purple), 'jeans', 'sky', and 'eyes'. Edges connect 'goat' to 'mountain', 'goat' to 'blue', 'blue' to 'jeans', 'blue' to 'sky', and 'blue' to 'eyes'.

Dashboard with 3 input words

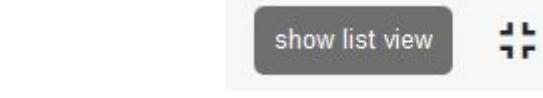
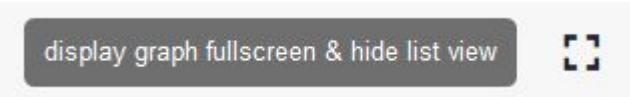
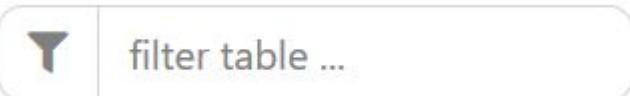
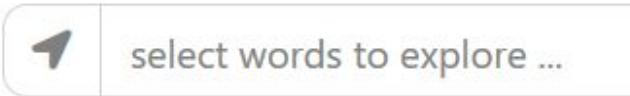
refresh PDF

select words to explore ... cream blue goat exploration mode

cream	blue	goat
#	word	strength
1	cheese	1333 507 963



Icons & Tooltips



Search query history

backtracking
by url

localhost:4200/words?w1=cheese&w2=cream&w3=grilled

... 🌐 ⭐️

Search

⌚ PDF

select words to explore ...

cheese cream grilled

Your search query history

filter table ...

timestamp	search query	select
5:41 PM	cheese cream grilled	select
5:41 PM	cheese cream grilled	select
5:40 PM	cheese cream	select
5:39 PM	cream blue goat	select

Sorry!
There are no linked words
between cheese, cream & grilled
Toogle the words to get more
insights.

on links

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