Team D

Alex Bouamama, Tarek El Noury, Guillermo Germade, Alain Grullón, Roberto Picón, Rebecca Rosser

Tech manual: How does Icanhelp use NLP to bring value to the user?

Agenda

- Problem
- Solution
- Competitive Advantage
- Algorithm
- Go-to market strategy

Uncertainty in Generation Z

The world is rapidly changing, and Gen Z cannot count on their experiences or their parents' to inform their decision-making.

- Discomfort with uncertainty causes mental health problems, such as eating disorders, anxiety and depression

- Youngsters just hear, "It's part of growing up; they have to get through it like we have all done"

- Gen Z know that they come across as irritable, self-isolated, disagreeable and different

- Only 47% of Gen Z say their mental-health is good (11% less than millennials)

- Covid-19 has accentuated uncertainty and its negative collateral effects

Building a community of "Helpers" and "Helpees"

Thanks to a recommendation system built with NLP techniques, Icanhelp connects users who can help each other better navigate through uncertain times.

You can:

- Post a "call for help" to receive help by videoconference

- Be notified when someone needs your help

- Connect with people outside your network who either need your or understand what you're going through

- Receive a Social Score that validates your positive impact and improves future interactions

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Reporting quality of help and degree of everyone's positive impact

Social Score:

Acknowledges your commitment to help others, your interpersonal skills and your ability to generate change.

It is based on a Helpee's feedback, which addresses:

- Your conduct (i.e. manners) throughout the call

- Your ability to listen

- Your ability to help the other person feel more comfortable with uncertainty

What can you do with the Social Score?

- Distinguish yourself from other volunteers

- Strengthen your job and university applications

- Share on social media (Linkedin, Instagram, Fb...)

How will I be matched to a Helpee or a Helper?

Cold-start solution

To match you with a Helper who can *really* assist you, Icanhelp has built an algorithm.

First part: Topic modelling with Latent Dirichlet Allocation

- Trained a model using a dataset from Quora that resembles Icanhelp's future data

- Conducted preprocessing (removal of stop words & data noise, stemming, lemmatization, etc)

- Deployed LDA using Bag of Words (BOW) and Terms Frequency-Inverse Document Frequency (TF-IDF)

- Named topics according to market research
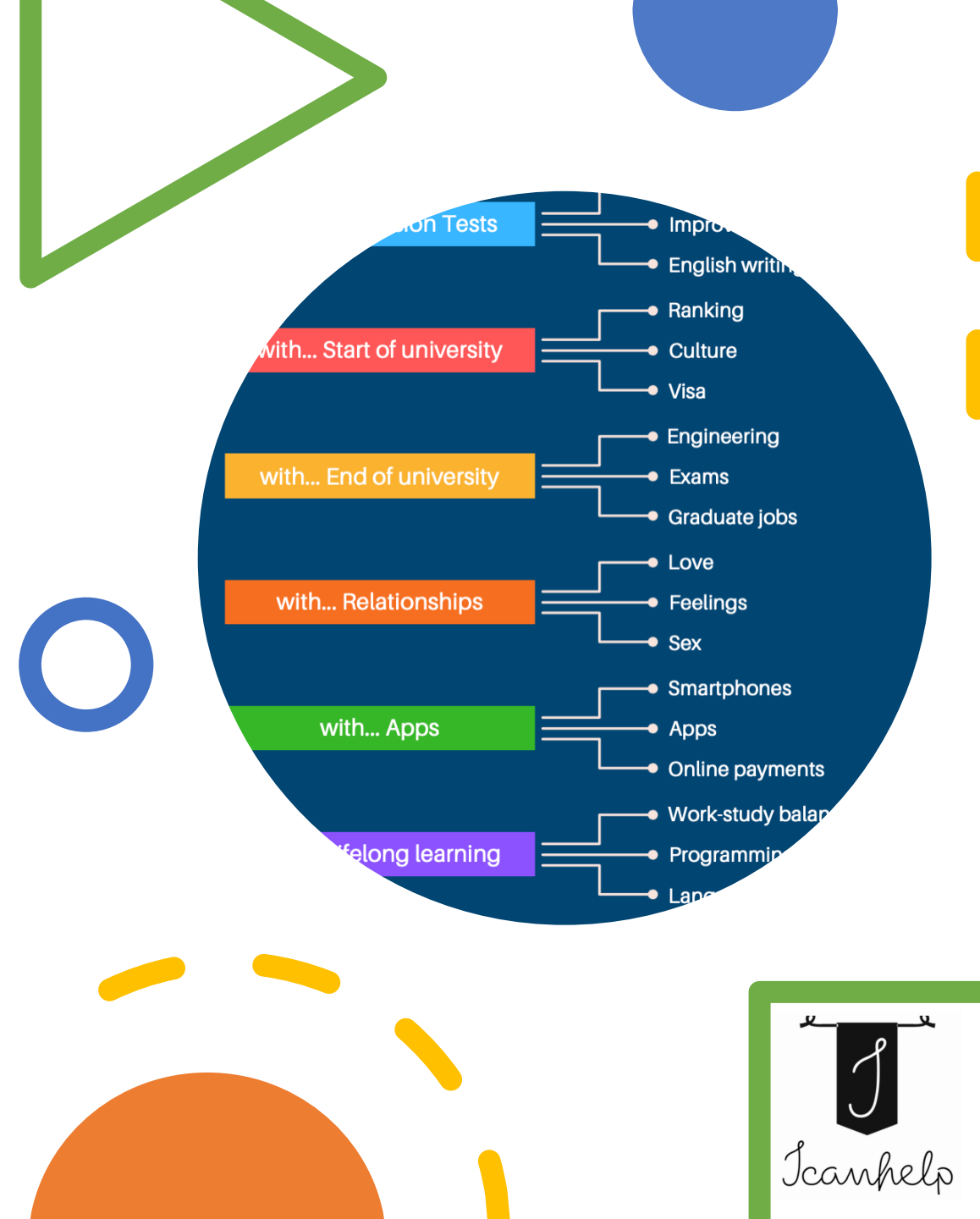
How will I be matched with a Helpee or a Helper?

Cold-start solution

Second part: Leveraging topic modelling to match "calls for help" with users

• Used the Young People Survey as "fake" dataset to train the model

• Users' preferences for different topics were ranked (1-5) and normalized

• Developed a recommendation function to allocate "calls for help" to users and vice versa

• Matched maximum topic belonginess of a "call for help" to users with the highest level of preference for that topic

• Ensured that each user receives several "calls for help"

	Topic 0	Topic 1	
	3	1	
	3	1	
abeth	2	1	
Annie	1	1	
Margaret	3	2	
Ida	3	2	
Alice	4	3	1
Bertha	1	2	3
Sarah	2	3	
Annie	1	5	
ara	3	1	
	3	1	
e	2	1	
	3	3	
	3		

How will I be matched with a Helpee or a Helper?

Next steps: Collect more data to improve recommendation system

- Content-based filtering
  - LDA
  - Which "calls for help" do notified Helpers decide to address *and* ignore
  - Social Score (feedback on quality of the discussion and user)

- Collaborative filtering
  - Leverage content-based filtering to establish similarities: Similar users will respond to similar "calls for help"

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Why are you based in UK?

Entry-market: UK

Added value to Gen Z students in UK due to:
- Competitive access to university and higher education
- Established tradition of student volunteering in public and private schools
- Social Score provides a competitive advantage to a British entry-level job/university applicant

Other business advantages:
- Solid ecosystem of nonprofits and social enterprises
- Wide offer of grants
- Strong value proposition to potential partners (e.g. umbrella organisations for higher education, universities and employers)

Stay tuned to learn more about how Icanhelp continues to use other NLP techniques to help Gen Z better cope with uncertainty!

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