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News personalisation: Problem or solution?

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With an increasing number of news items being published every day, news organisations are fighting for online readers' attention. At the same time, the overload of news items and channels can make online readers feel lost. News personalisation can be a solution, both for news organisations and consumers. However, news personalisation also raises concerns with regards to filter bubbles, the fear of missing out on relevant news items, and privacy. These concerns can make consumers hesitant to embrace news personalisation. But how do you match millions of items to the people out there? And how do we determine what the right content is for the news consumer? The European H2020 project CPN (Content Personalisation Network) aims to tackle these challenges by keeping a strong focus on the ethical implications of personalisation and takes into account the needs of media organisations as well as of news consumers. In this project, SMIT, together with several media companies, aims to offer 'the right content' at 'the right time', while still preserving sufficient news diversity. To this end, a news personalisation recommender is being developed. We are testing the recommender in three different countries. Read on to learn about the results!

A European approach to tackle news content personalisation

The pilot countries in which the recommender system is being tested are Belgium (coordinated by VRT), Germany (coordinated by Deutsche Welle) and Cyprus (coordinated by DIAS). Based on our learnings, and as part of our iterative living lab approach, we continuously add a larger number of users as the developed proof of concept becomes more mature. In November 2018, the first pilot round was completed.

What did we do in the first pilot?

In October and November 2018, we engaged a first test-group of around 100 end-users in three countries to test our news personalisation prototype for 10 days. Specifically, the users tested the web interface of the recommender. The recommender contained news content from the local media partner (VRT, DW and DIAS). The CPN webpage consisted of three news sections, presented in separate tabs:

- **Personalised** – the most relevant content for the user, based on the personalisation algorithm. The algorithm takes into account the diversity of news topics, opposing opinions and serendipity.
- **Most popular** – the most-read content among the users of the particular news outlet.
- **Latest news** – all articles in chronological order, with the latest on top.

All end-users were free to use the recommender and read the three tabs as much as they wanted during the test period.
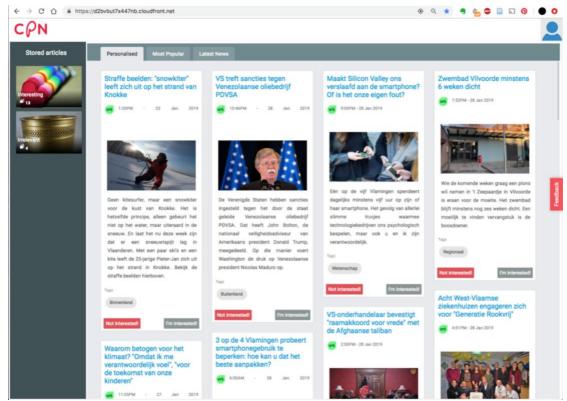
Figure 1: Screenshot of the recommender's web interface in Belgium.

During the pilot, we tested the personalisation algorithm and evaluated the technical components. Furthermore, in a qualitative research track, we evaluated the user experience of the web application and assessed the users' expectations about news personalisation and FOMO (Fear Of Missing Out). 56 end-users tested the prototype in Belgium, 21 in Cyprus and 20 in Germany. Feedback was gathered during and after the pilot test using online questionnaires, focus groups, interviews and ad hoc interactions with the research participants.

Figure 2: Setting of a focus group interview in Belgium.

Do news readers want news personalisation?

The *Personalised* tab was the most read stream in all three pilot countries. But while news personalisation itself is evaluated as positive and valuable to deal with the information overload, there still is a big fear of missing out when receiving personalised news articles. The participants are afraid that through personalisation, they might only get news content based on their interests, which could cause them to miss out on other important news. They also fear the filter bubble and are afraid that through personalisation they would only read news within their interests.

"Once it works like it should be working, why not? I don't have much time, so in my daily life it could come in handy" (Dennis, 30)

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"News personalisation happens a lot on social media, but I find that it falls short. It's not your preferences that should decide what you have to read. You also have to read things that are 'out of the box' or are new to you" (Eline, 24)"

How does CPN try to tackle these fears?

The CPN recommender tries to address the FOMO and filter bubble in multiple ways:

- By providing a *Most Popular* and *Latest News* tabs in combination with the *Personalised tab*, we give end-users the possibility to also read non-personalised news, giving them control over which tab they read first.

  "It was useful because, with a personalised tab, you can get a tunnel vision, so I liked it to have a more general tab as well" (Sally, 37)

  "I liked that is started at personalised news, your own homepage, but after that, I always went to the other tabs just to be sure that I didn't miss anything" (Bram, 22)

- By taking into account the diversity of news topics, opposing opinions and serendipity in the CPN technology. The personalisation algorithm will try to integrate some level of discovery. As such, the technology tries to reduce the filter bubble effect.
- By giving end-users transparent insight and control over how their personalised news offer is created. Existing personalised services are usually not transparent about how the personalised news, video or music offer is created, nor do they allow consumers to modify their preferences. By putting a great effort into transparency and control, CPN will try to overcome the mistrust. Based on the read articles, the personalisation algorithm defines 'interests' for every individual reader. Readers can always consult the 'interests' defined by the algorithm and enable or disable these.
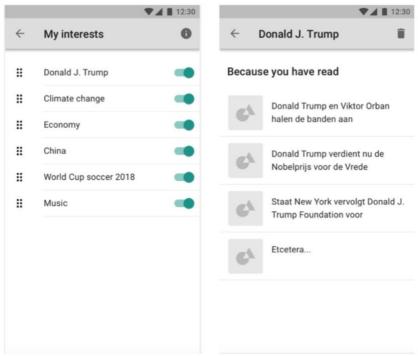

Figure 3: The CPN news profile settings.

- Another suggested way to deal with the fear of missing out is to display an important or breaking news item in the personalised tab, e.g. by means of a notification, or a bar at the bottom of the page. If a breaking news item is integrated into the personalised stream, it can only be a very important news item, and there should be a clear visual difference between the breaking news item and the personalised articles. The integration of breaking news items into the personalised feed will be further explored and integrated into the second pilot.

It is essential to try to find the right balance between discovery and personalisation, and to find the right balance between what newsrooms want and what news users want, which is not always the same thing. There we apply the iterative development and testing approach within CPN. Iteratively involving both end-users and media partners is essential here to define and validate the correct building blocks for news personalisation.

What's next?

In 2019, two more pilots will be set up. Currently, we're launching second pilot. For pilot 2, we developed a mobile application of the recommender. Specific focus will be placed on the following research questions: 'Does personalisation lead to better-informed citizens?', 'can breaking news overrule personalisation?' and 'are readers interested in a personalised short content overview at specific moments throughout the day?' While the first pilot was a controlled (small) testing phase, for pilot 2 we will move to semi-controlled testing, and a higher number of selected external participants will be able to try the platform at this point. Finally, the third and last pilot will be fully open, so anyone interested in CPN can participate in the last pilot phase.

Do you want to try our mobile application? Subscribe here!

Are you a media company and would you like to test the CPN platform in your organisation? Fill in this form to become a pilot partner!

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The Smart Media unit of SMIT, a research group at imec and the VUB, consists of forty junior and senior researchers. The researchers are specialists in various policy, market, and user research methods. Their work spans the fields of national and European media and competition policy, cultural diversity, public broadcasting, the sustainability of creative industries, immersive media, data and valorisation, privacy, media literacy, and digital inclusion. The unit is headed by Prof. Dr. Karen Donders.