





DE PERSGROEP.

ECHTE MEDIA . ECHTE MENSEN . ECHTE RESULTATEN



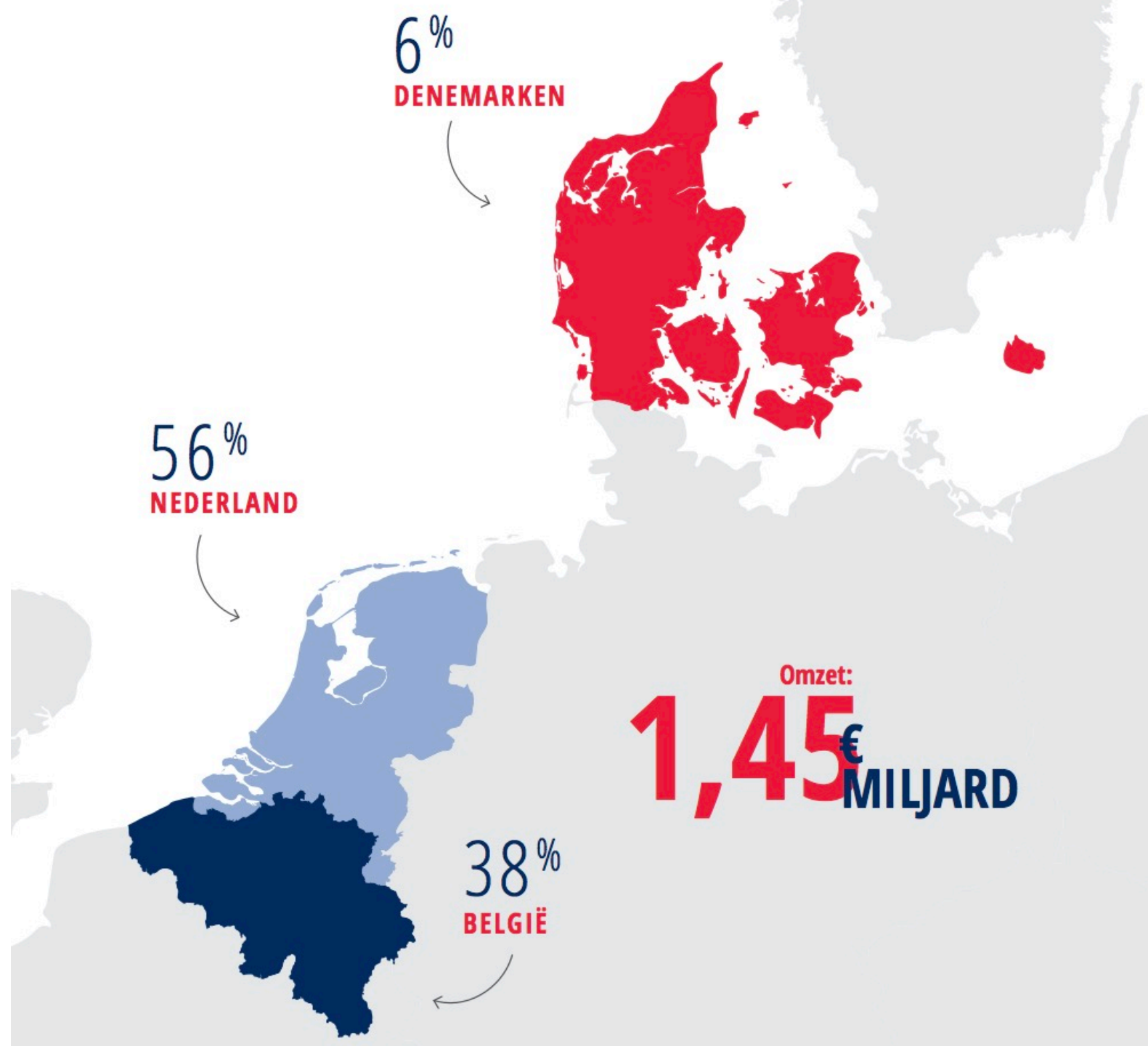
PERSONALIZED REGIONAL PUSH NOTIFICATIONS

Anne Schuth

SEA - Algorithms and the News

October 19, 2018

DE PERSGROEP



OUR BRANDS

- News media
- Online services
- Video platforms





PRINT IS BIG (STILL!)

DIGITAL IS GROWING



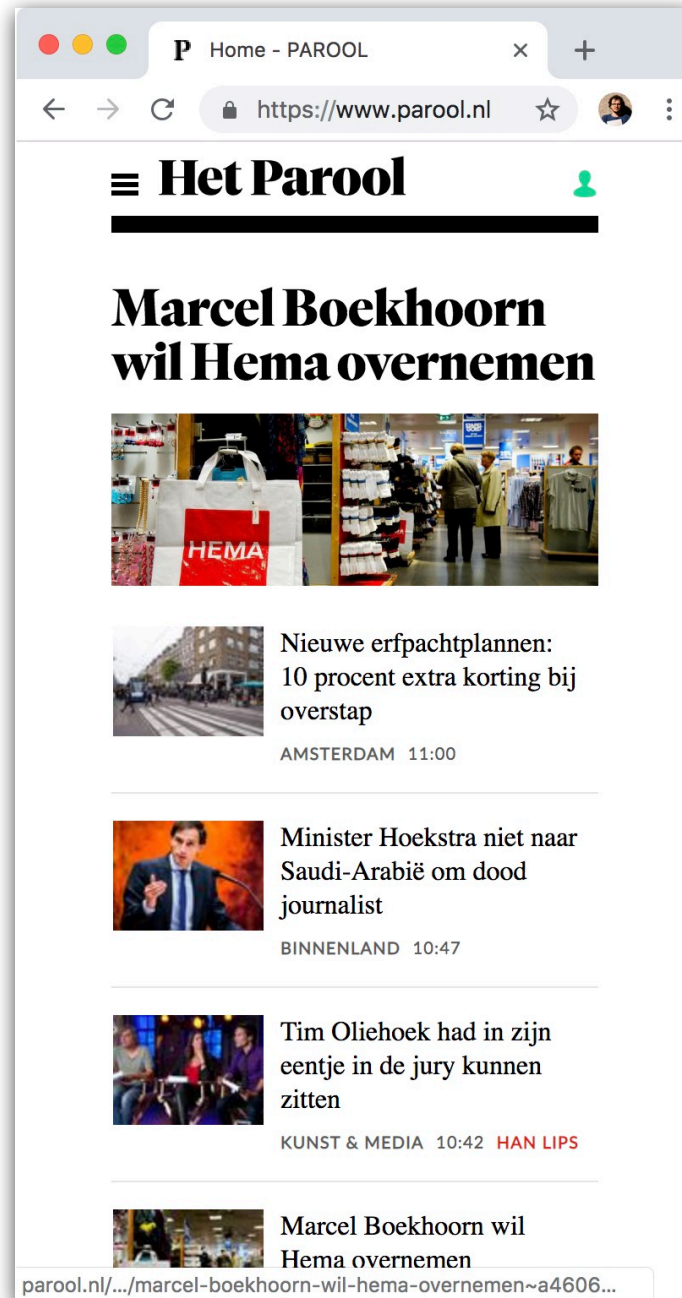
PRINT IS BIG (STILL!)

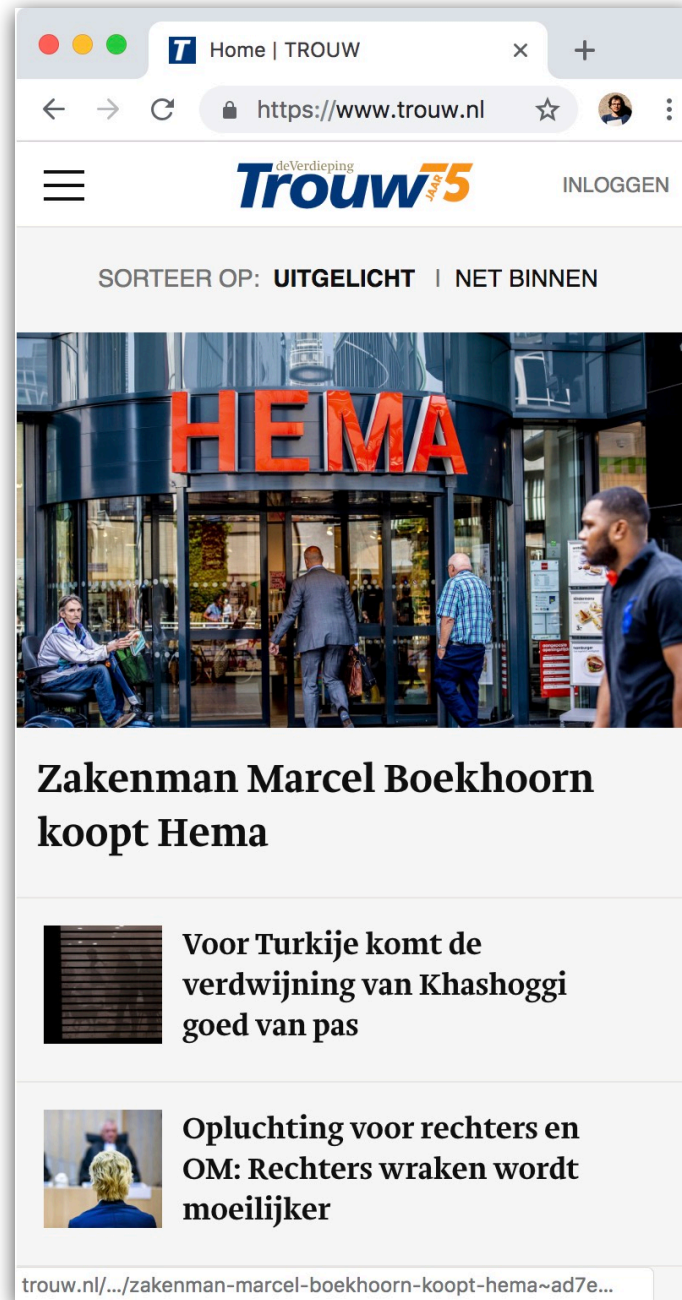
DIGITAL IS GROWING

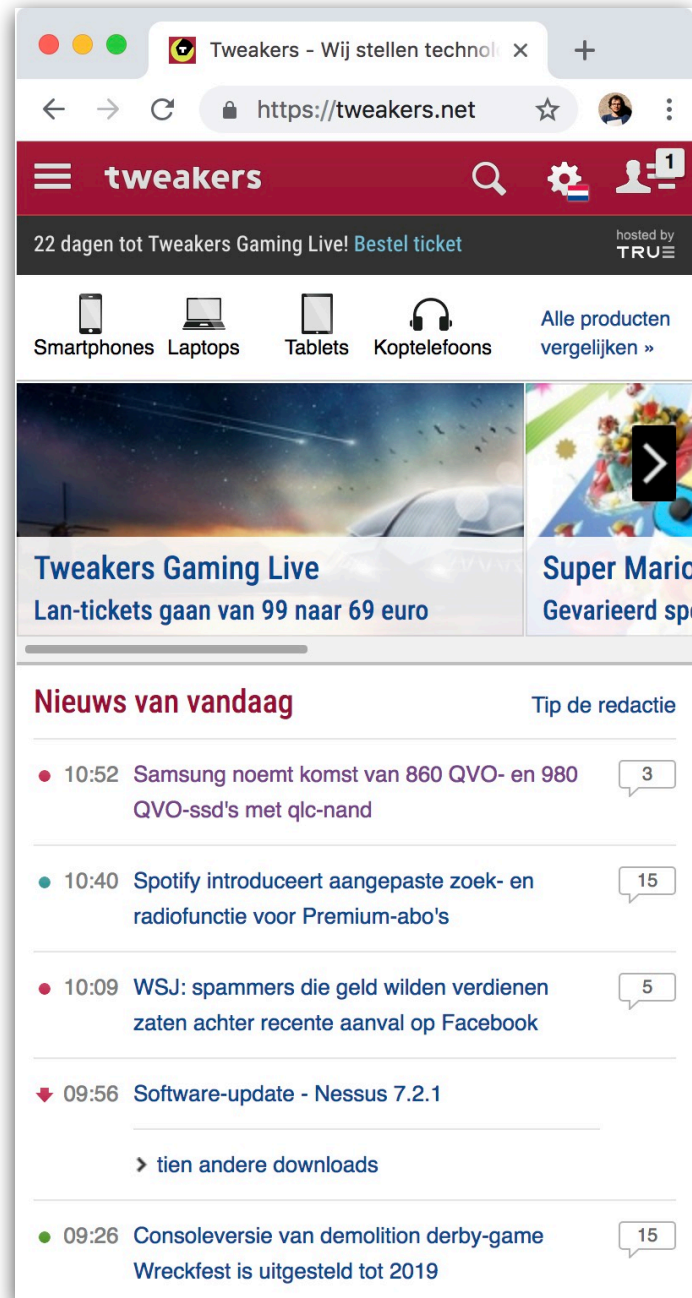
DE PERSGROEP.











CheckCheck | AutoTrack

https://www.autotrac...

AutoTrack

Zoek in 189.346 auto's

✓ Occasions ✓ Nieuwe auto's

Merken

Modellen

Prijs van Prijs tot

Bouwjaar van Bouwjaar tot

Km.stand van Km.stand tot

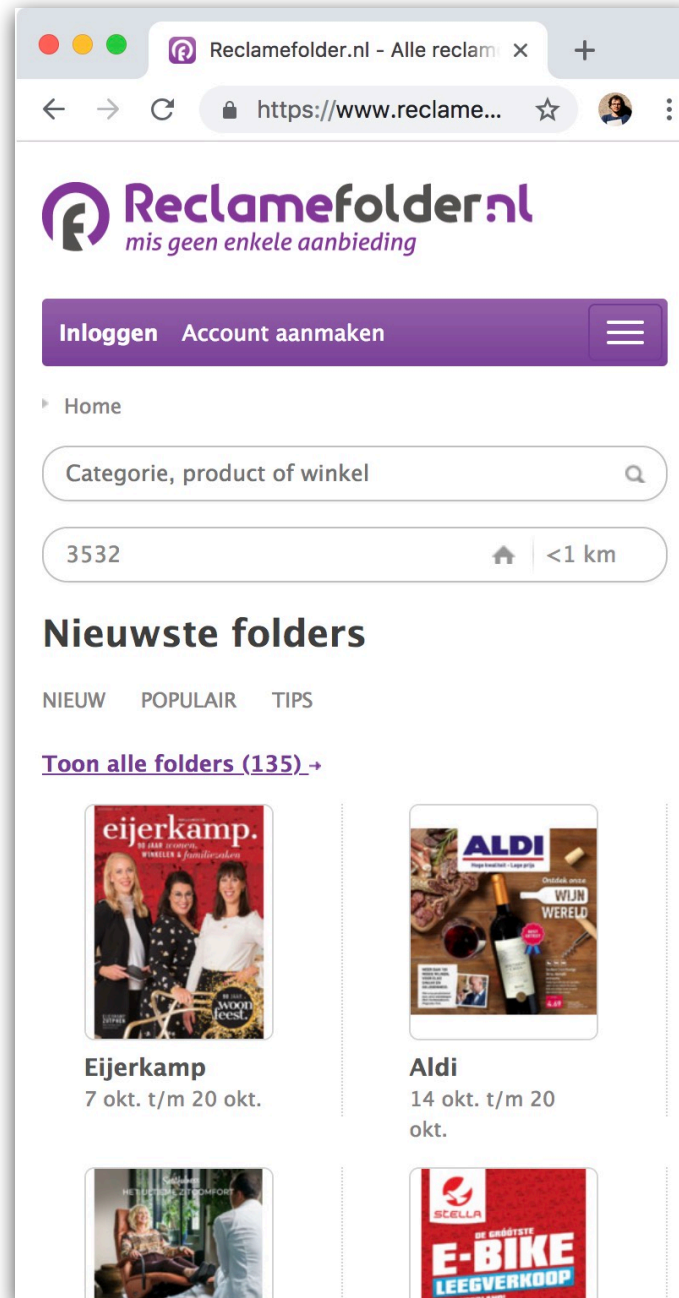
Brandstof

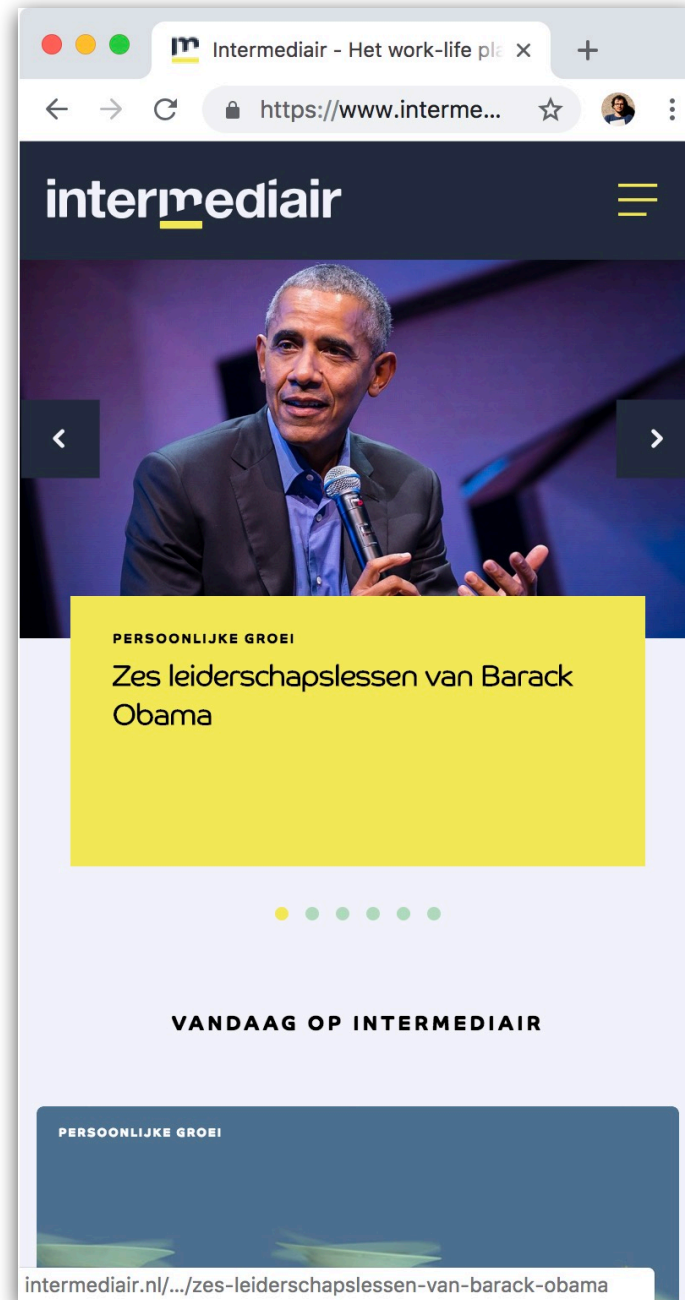
Carrosserievorm

Transmissie

Toon resultaten (189.345)

Postcode Afstand





• • • and more

AI / ML / ... AT THE PERSGROEP

CURRENTLY

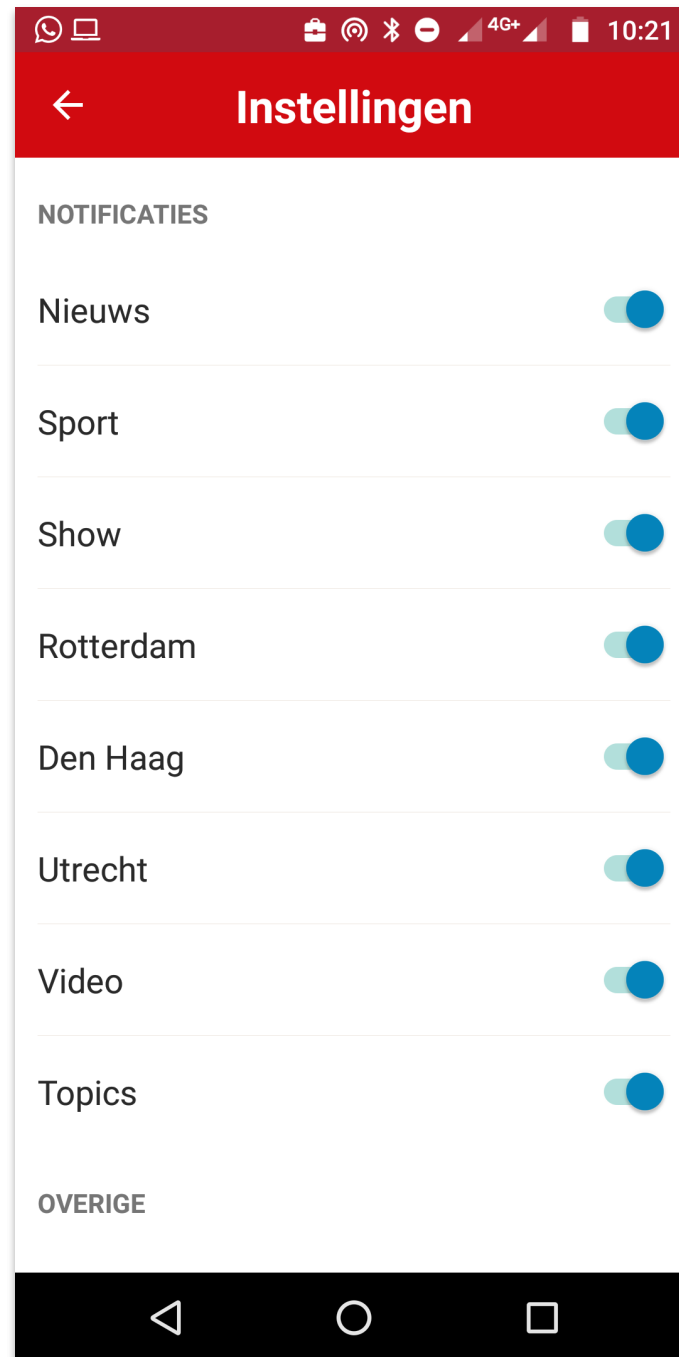
- Video recommendation
 - MyChannels
 - Stievie
- News recommendation
 - Proof of concept at vk.nl
 - Proof of concept at m.hln.be
- Subscription recommendation

PLENTY OF OPPORTUNITIES

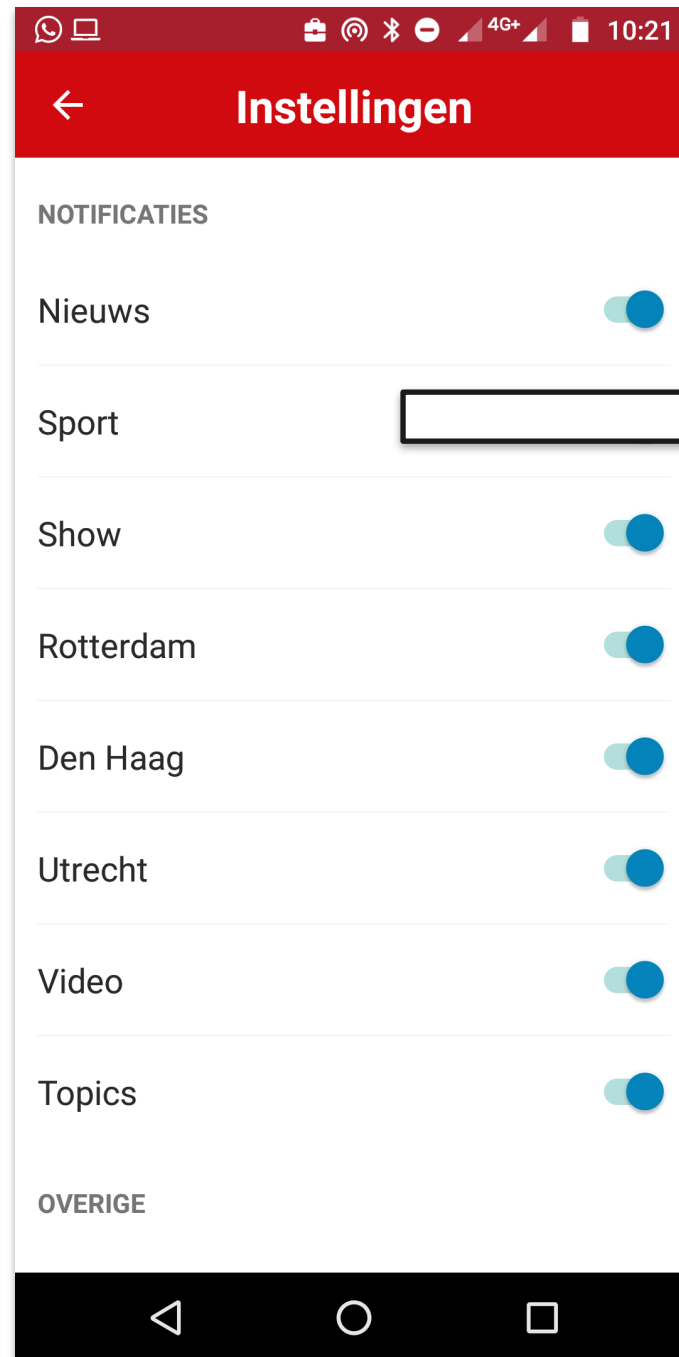
- Personalised newsletters
- “For you”
- “While you were away”
- Helping journalists
 - Finding photographs
 - Writing news that would not be written
 - Formatting newspapers
- Personalised push
- ...

CURRENT STATE OF PUSH

CURRENT STATE OF PUSH

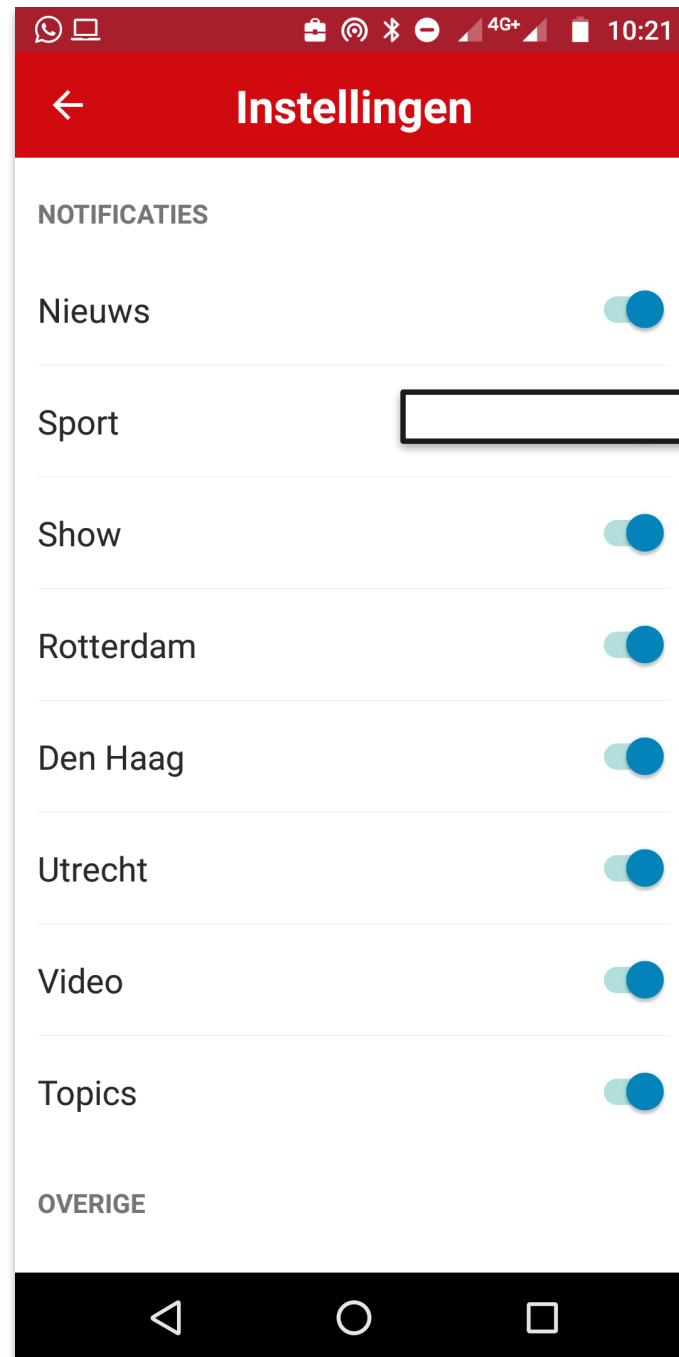


CURRENT STATE OF PUSH



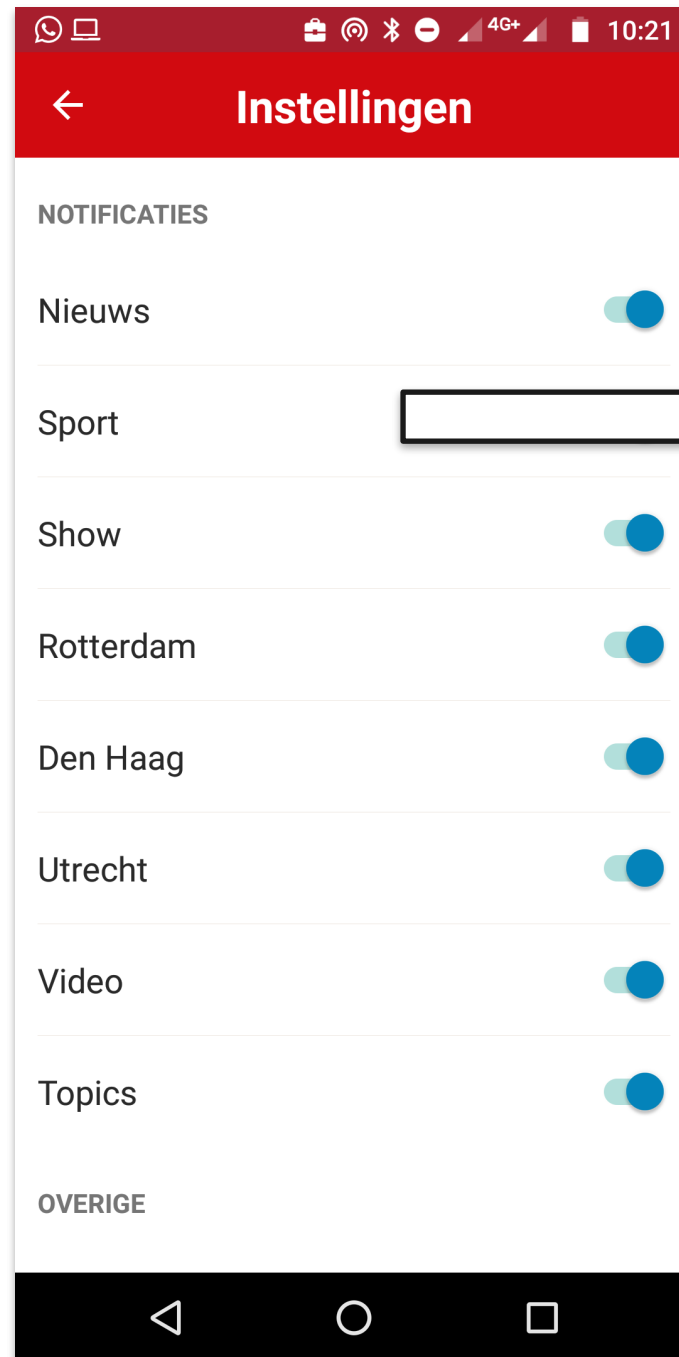
• WK 2018

CURRENT STATE OF PUSH



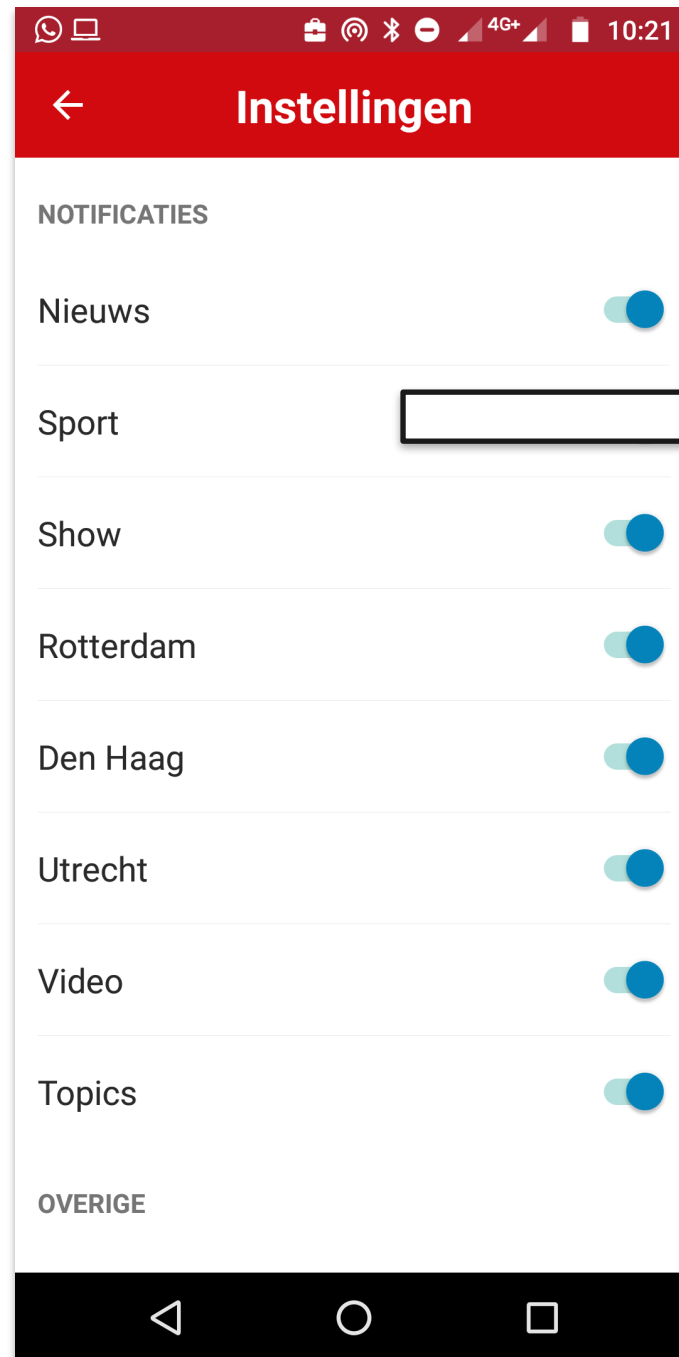
- WK 2018
- Soccer

CURRENT STATE OF PUSH



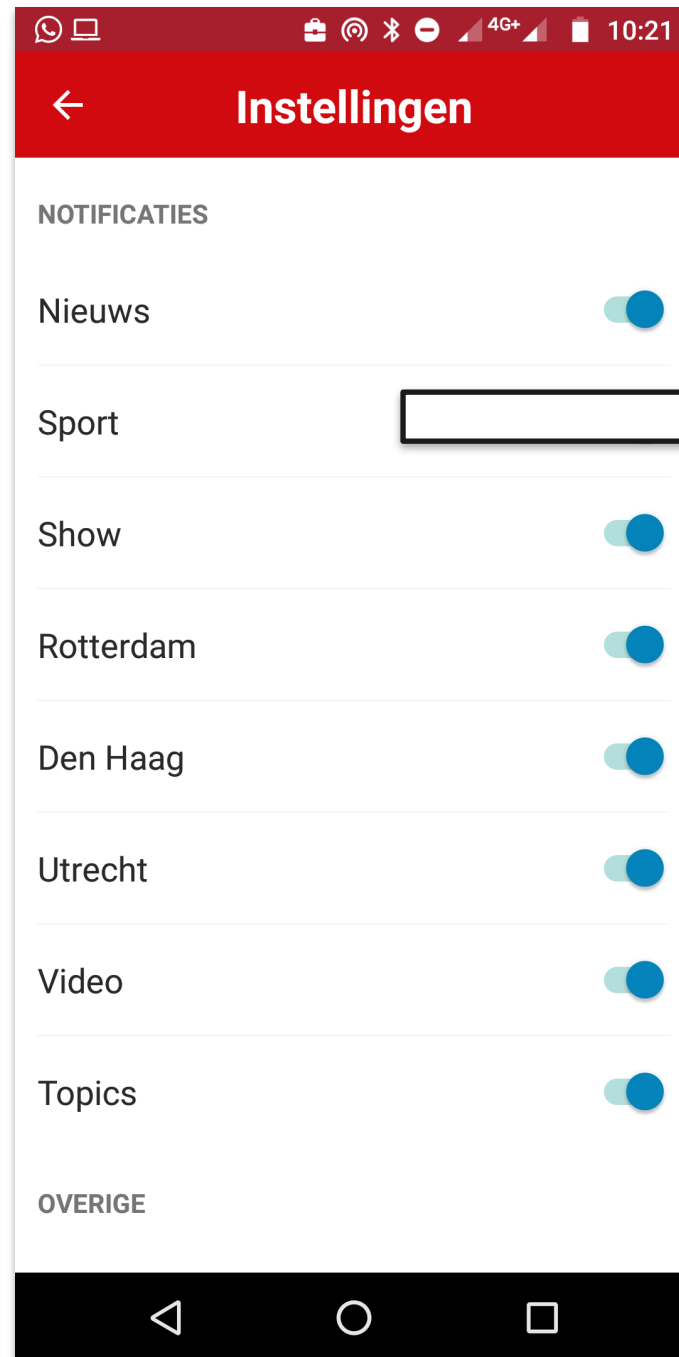
- WK 2018
- Soccer
- Ajax

CURRENT STATE OF PUSH



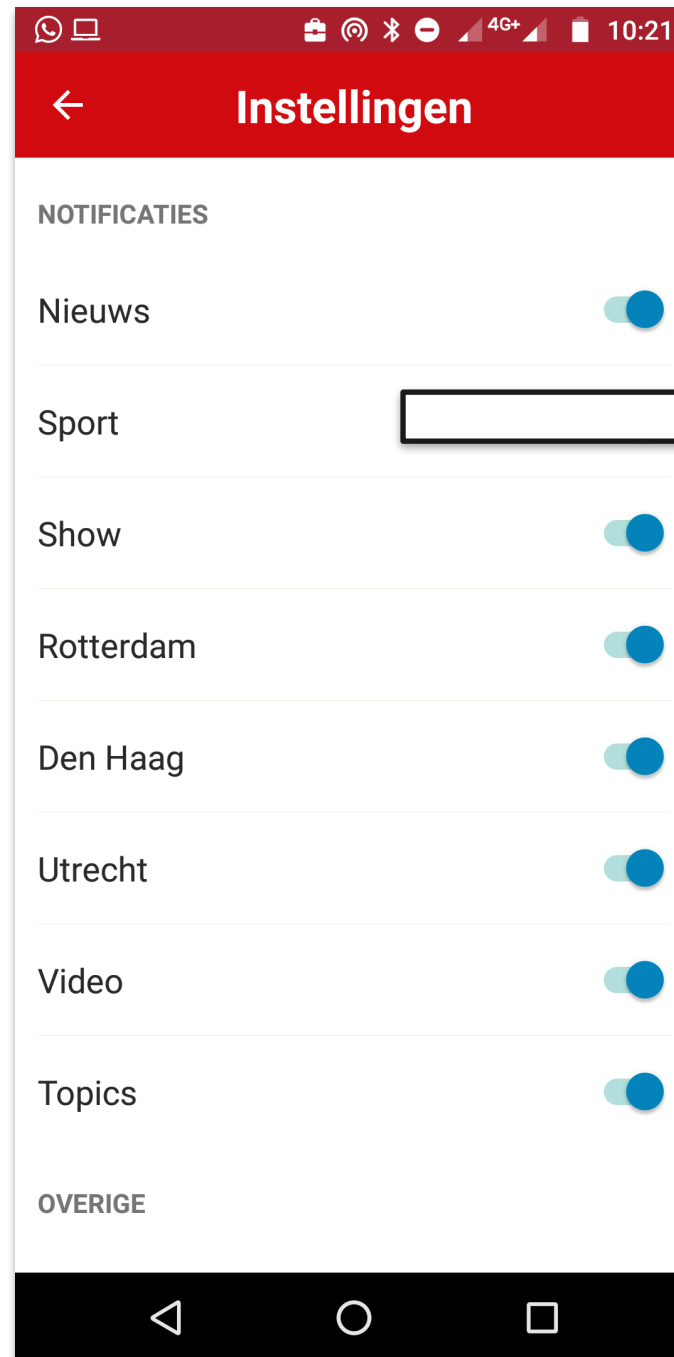
- WK 2018
- Soccer
- Ajax
- Feyenoord

CURRENT STATE OF PUSH



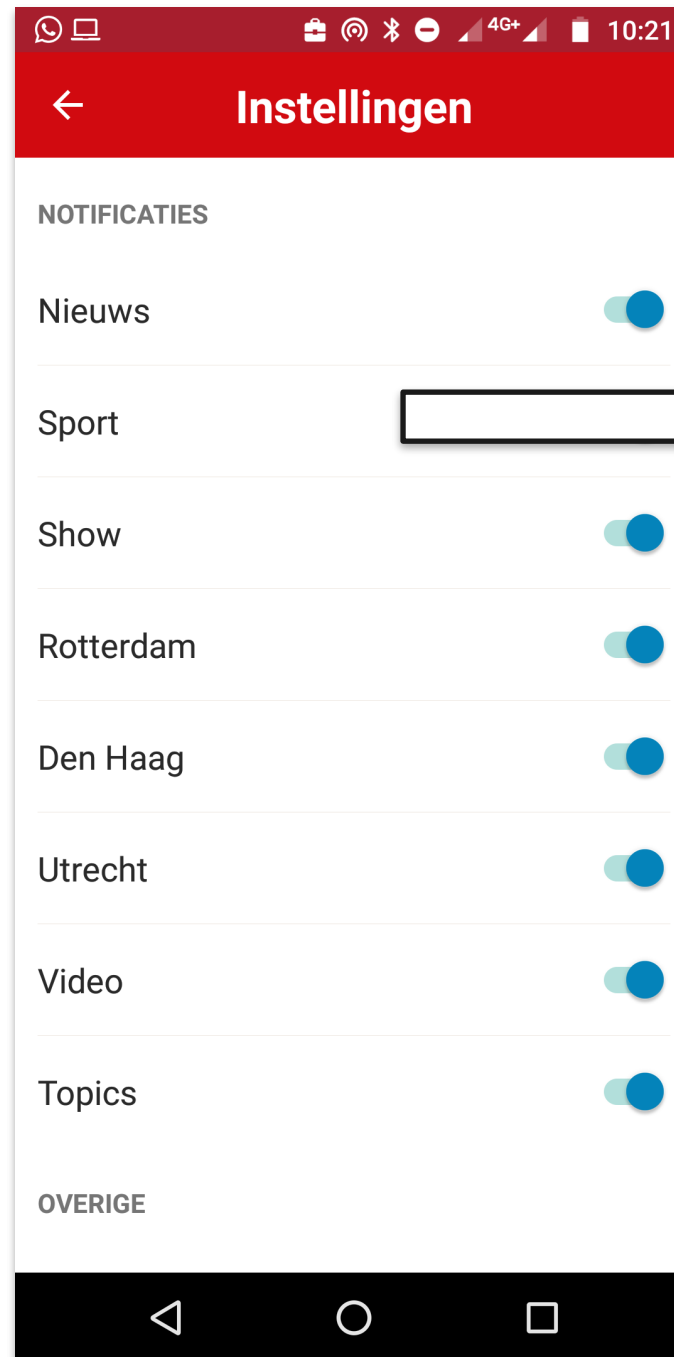
- WK 2018
- Soccer
- Ajax
- Feyenoord
- Cycling

CURRENT STATE OF PUSH



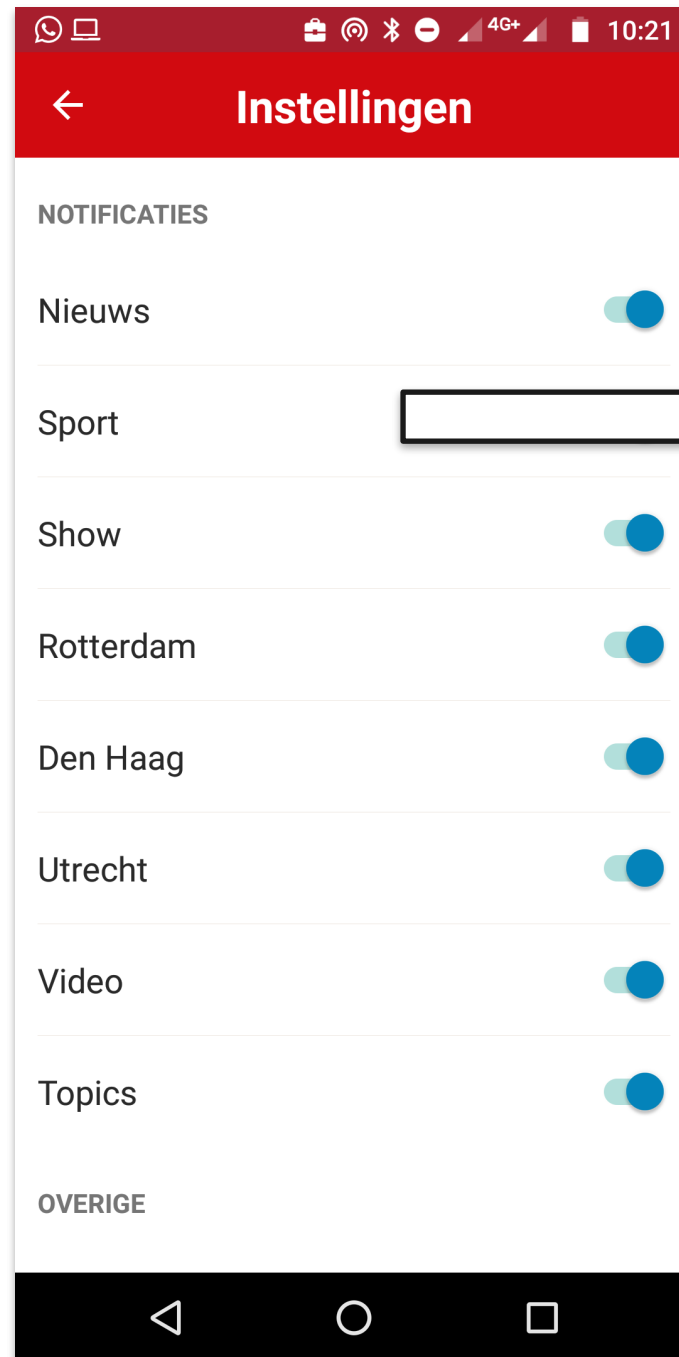
- WK 2018
- Soccer
- Ajax
- Feyenoord
- Cycling
- Formula 1

CURRENT STATE OF PUSH



- WK 2018
- Soccer
- Ajax
- Feyenoord
- Cycling
- Formula 1
- Darts

CURRENT STATE OF PUSH



- WK 2018
- Soccer
- Ajax
- Feyenoord
- Cycling
- Formula 1
- Darts
- ...

CURRENT STATE OF PUSH

CURRENT STATE OF PUSH

- Fixed, small, number of categories

CURRENT STATE OF PUSH

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- Human decisions

CURRENT STATE OF PUSH

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- Max ~10 push notifications per day

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publish ~500 articles per day

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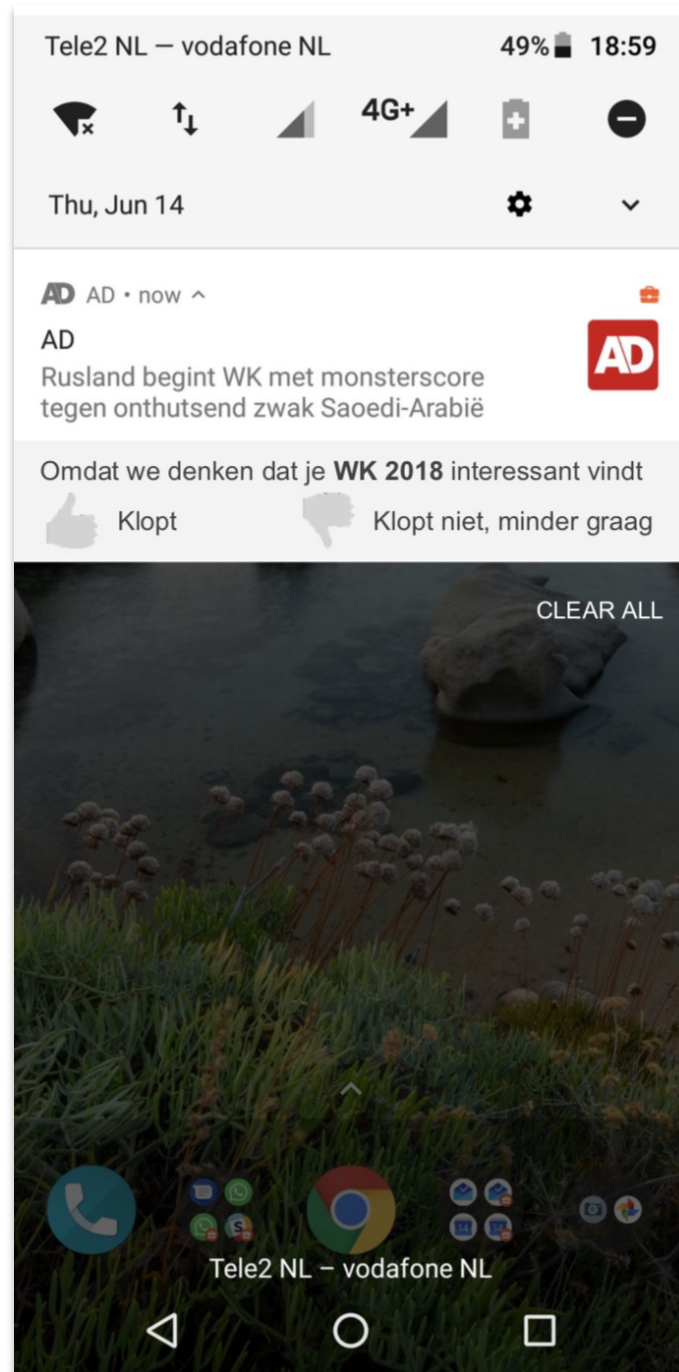
CURRENT STATE OF PUSH

- Fixed, small, number of categories
- Human decisions
- Max ~10 push notifications per d
- AD + regional newspapers publish ~500 articles per day
- **GOAL: push all 500 articles**

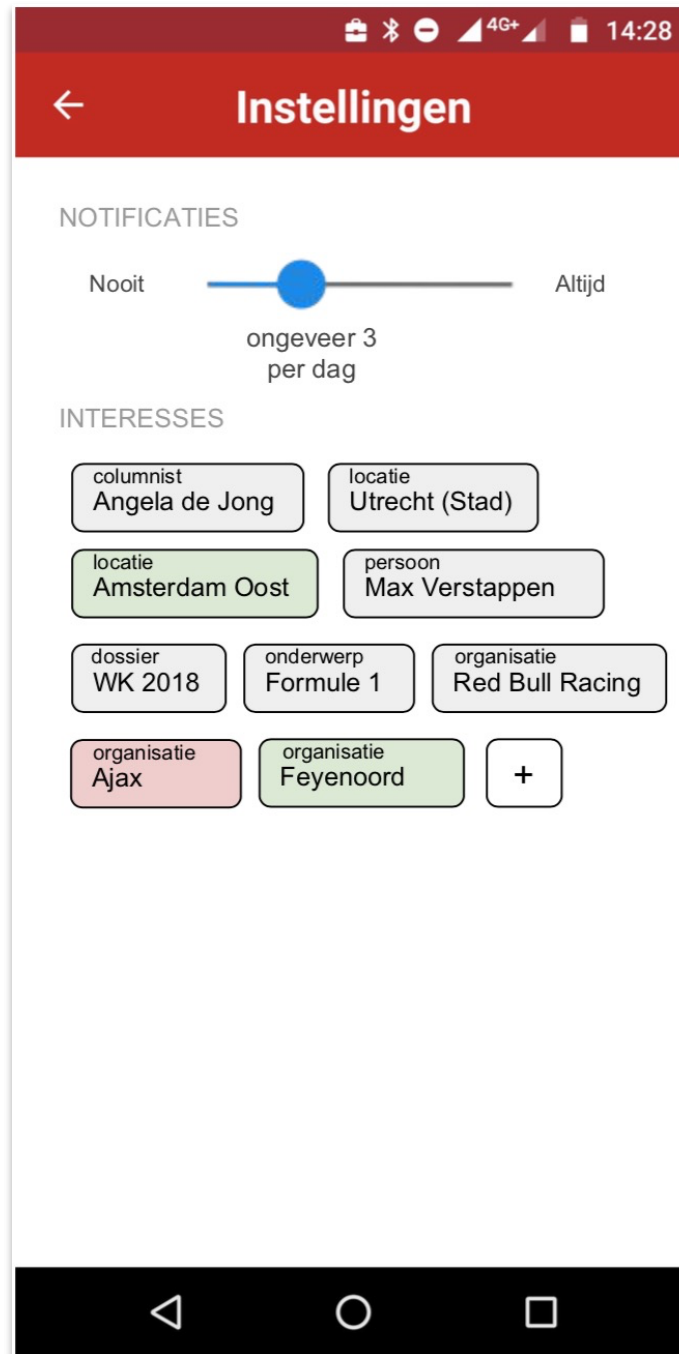


(NEAR) FUTURE STATE OF PUSH

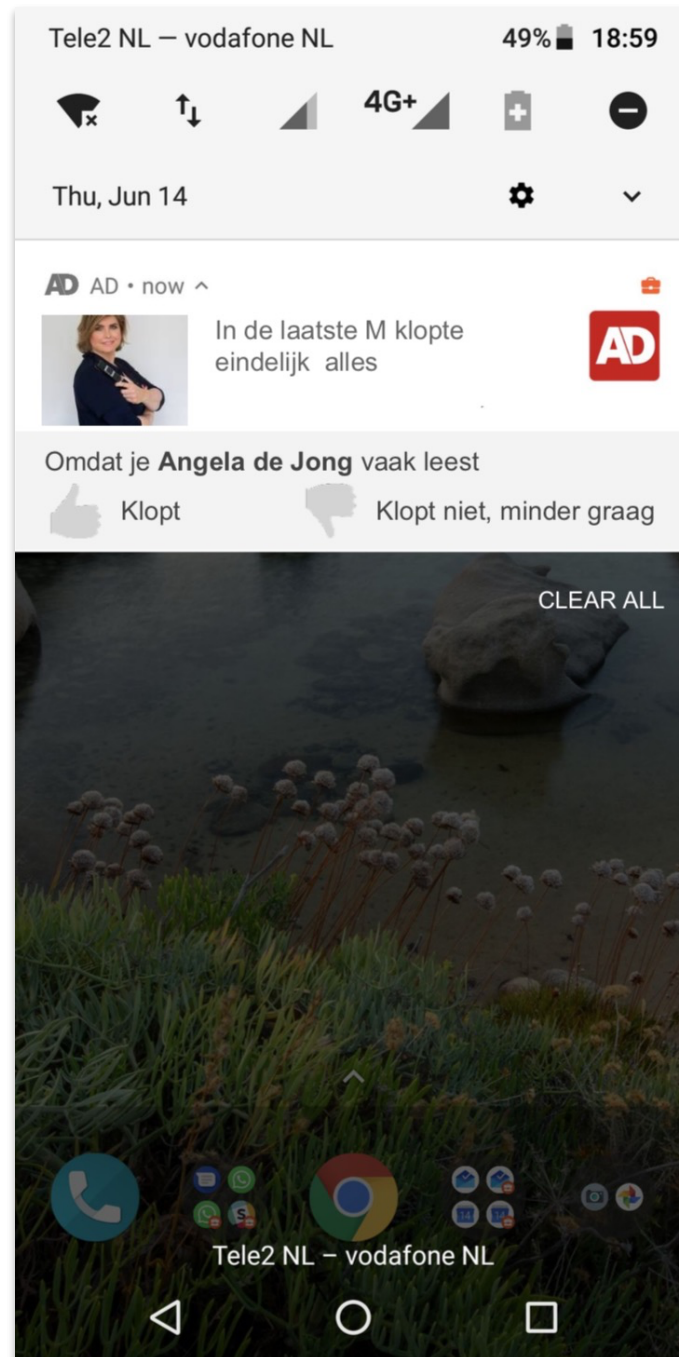
PERSONALISED PUSH



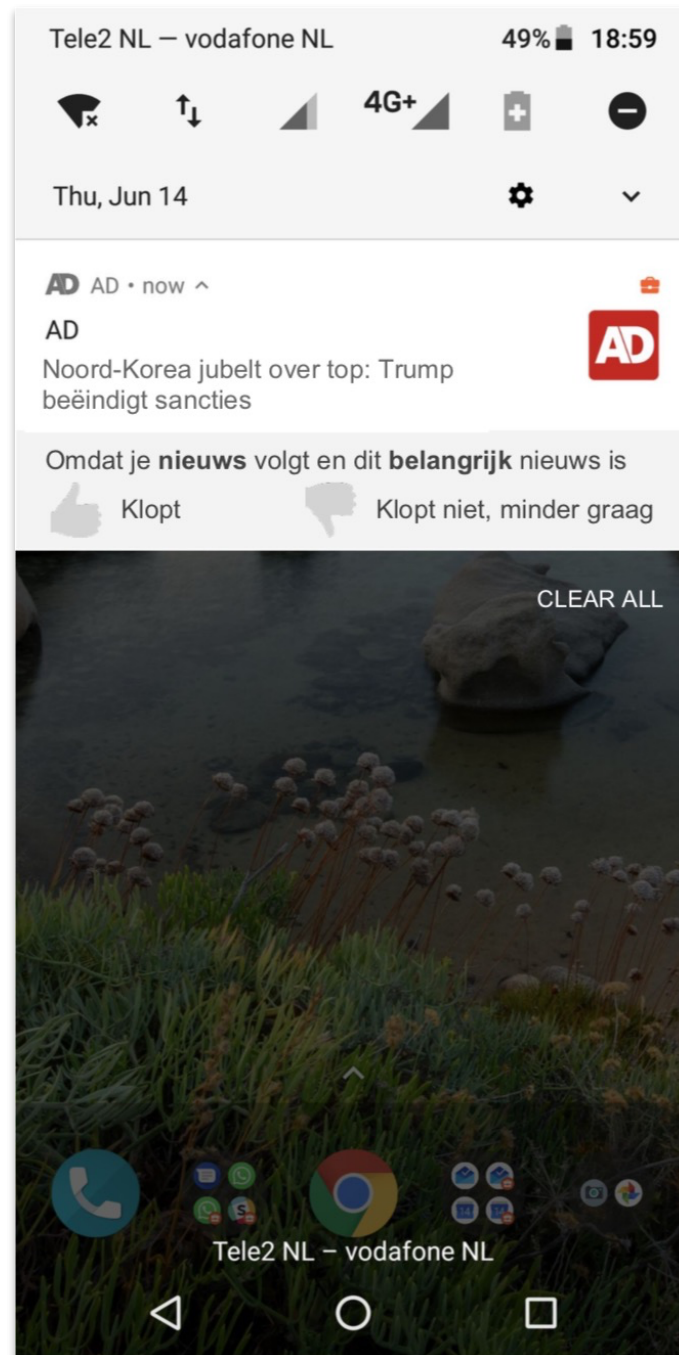
USER PROFILES



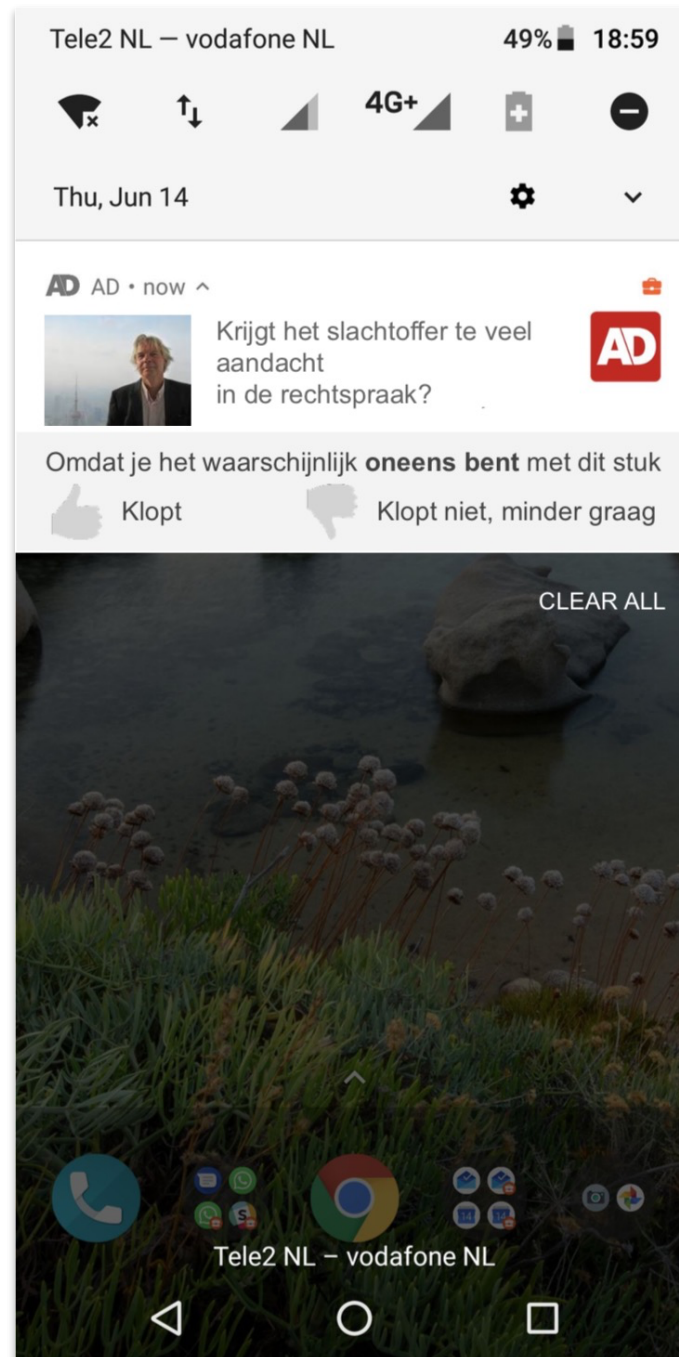
EXPLAINING RECOMMENDATIONS



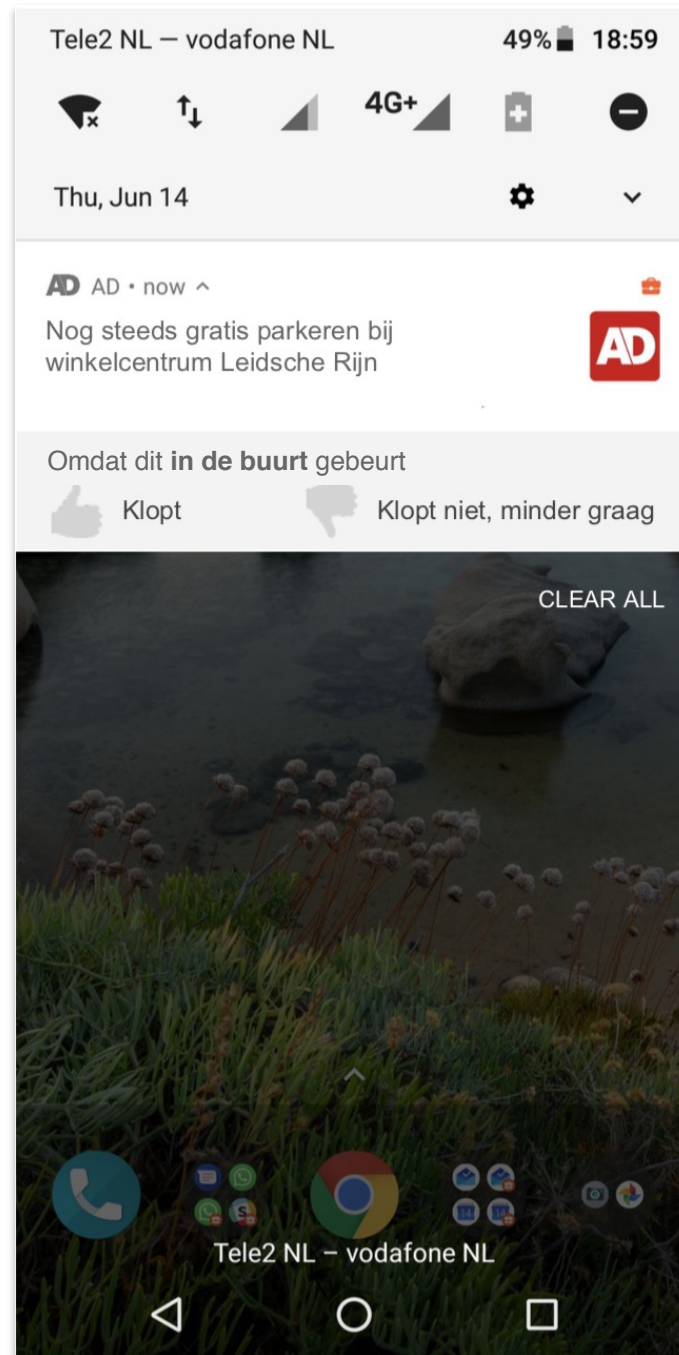
MUST READS



OPPOSING OPINIONS



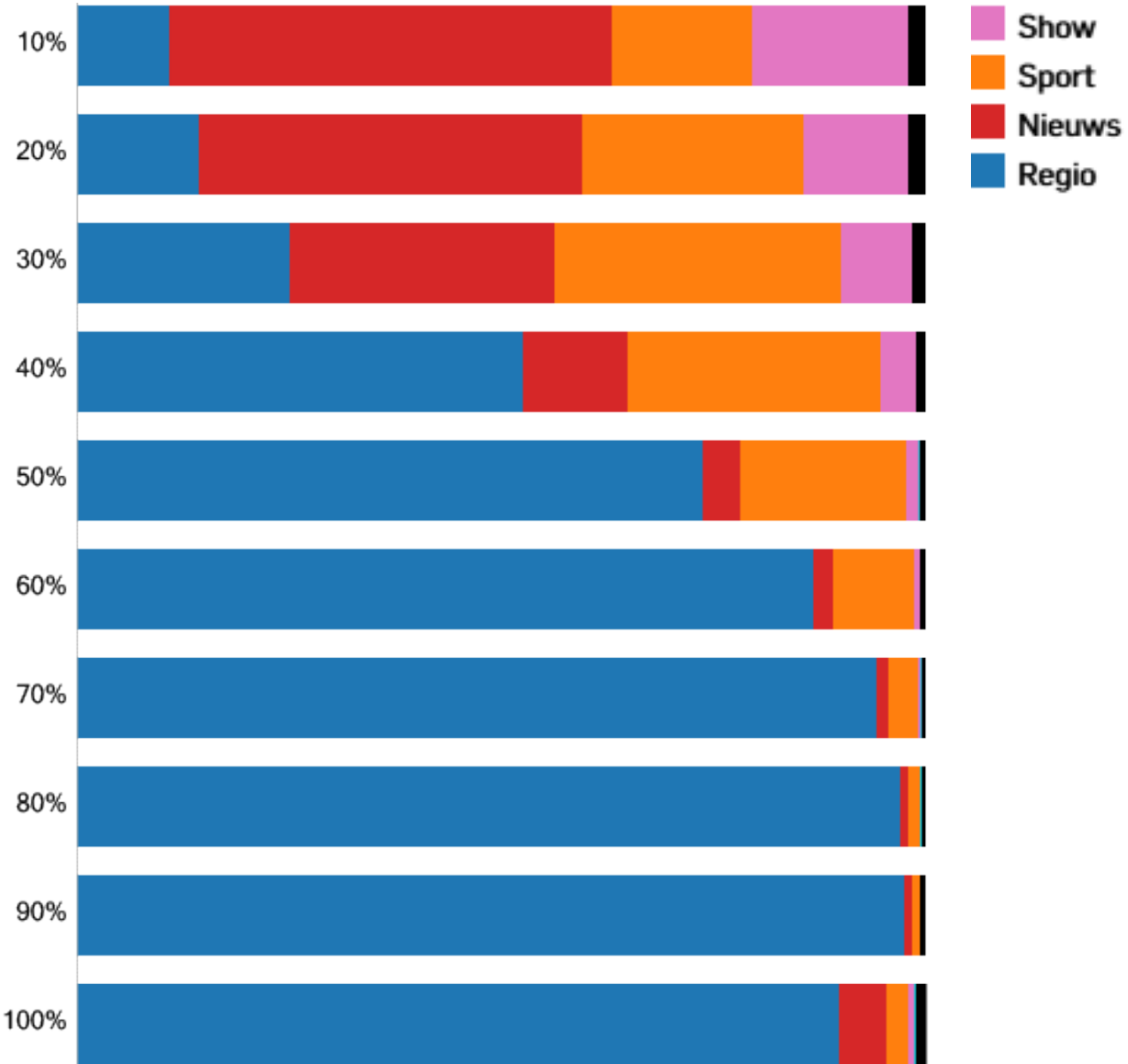
LOCAL NEWS



Most read



Most read



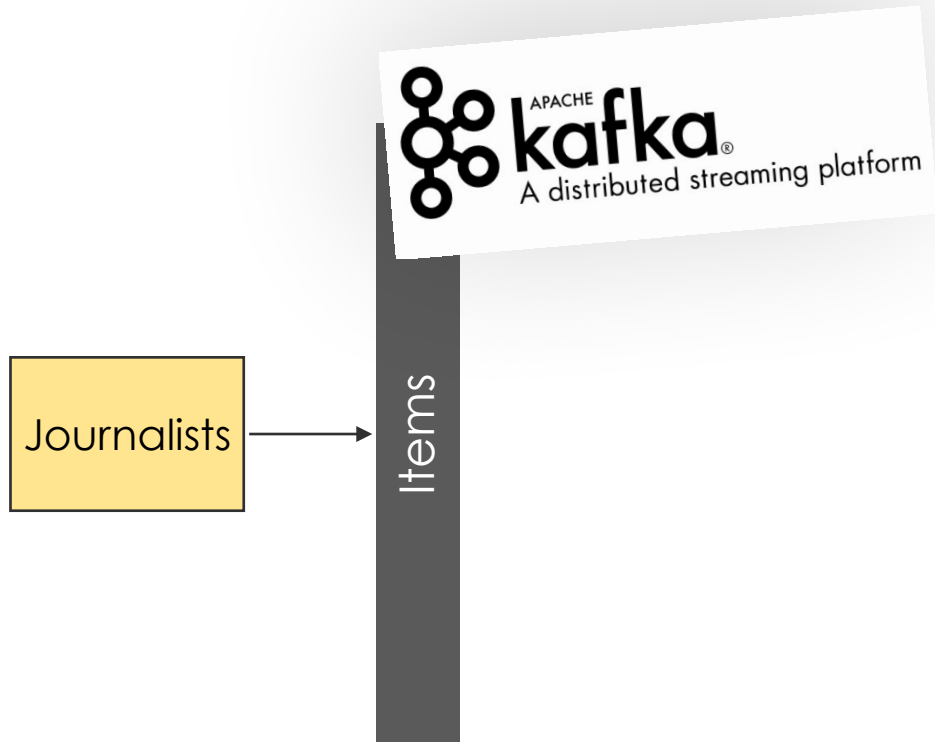
Least read

HOW WE PERSONALISE PUSH

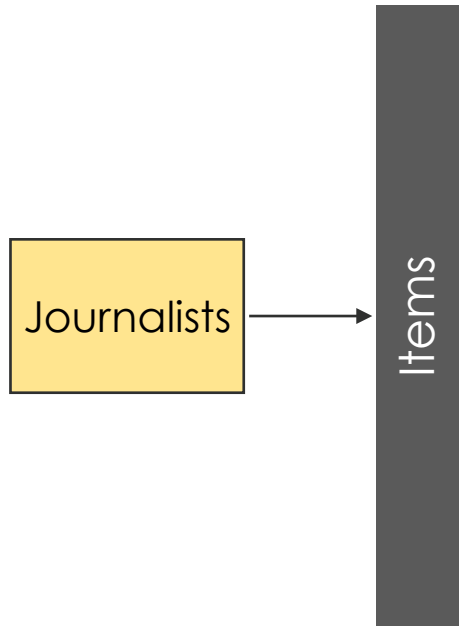
OUR ARCHITECTURE

Journalists

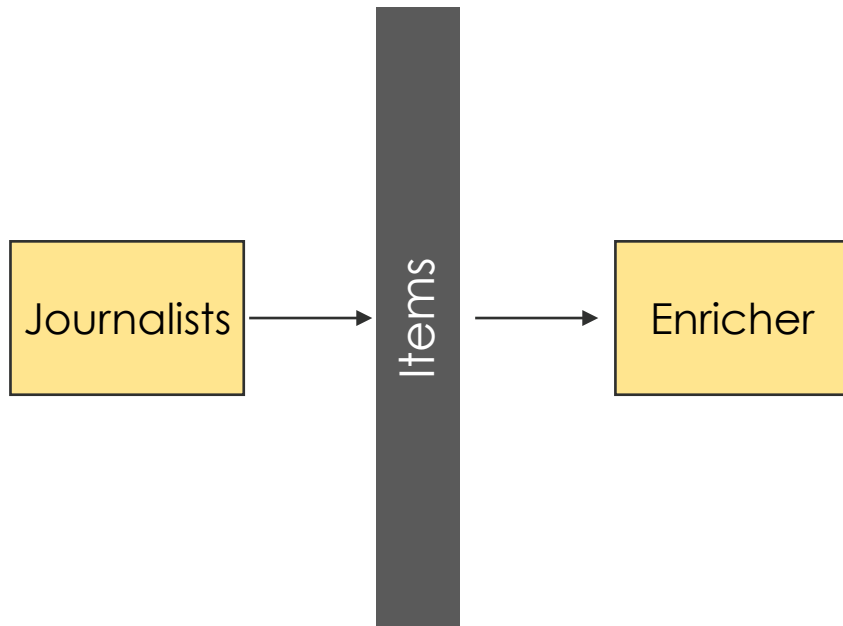
OUR ARCHITECTURE



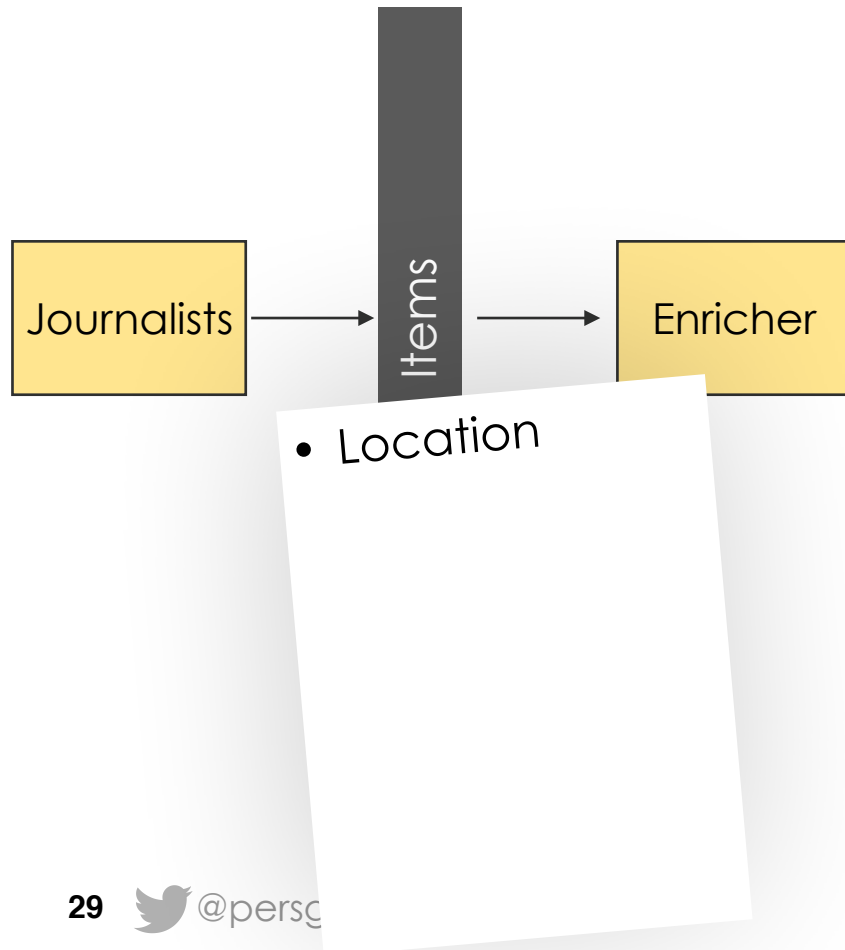
OUR ARCHITECTURE



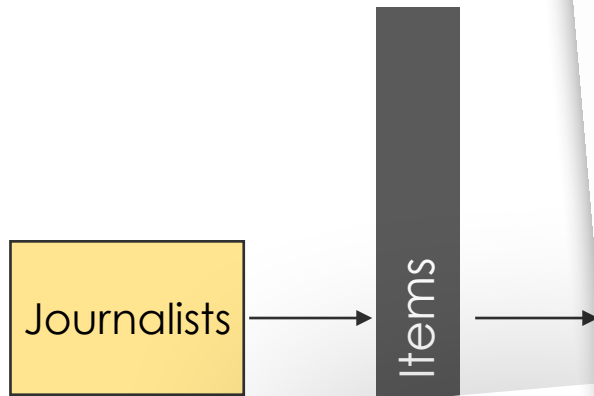
OUR ARCHITECTURE



OUR ARCHITECTURE



OUR ARCHITE



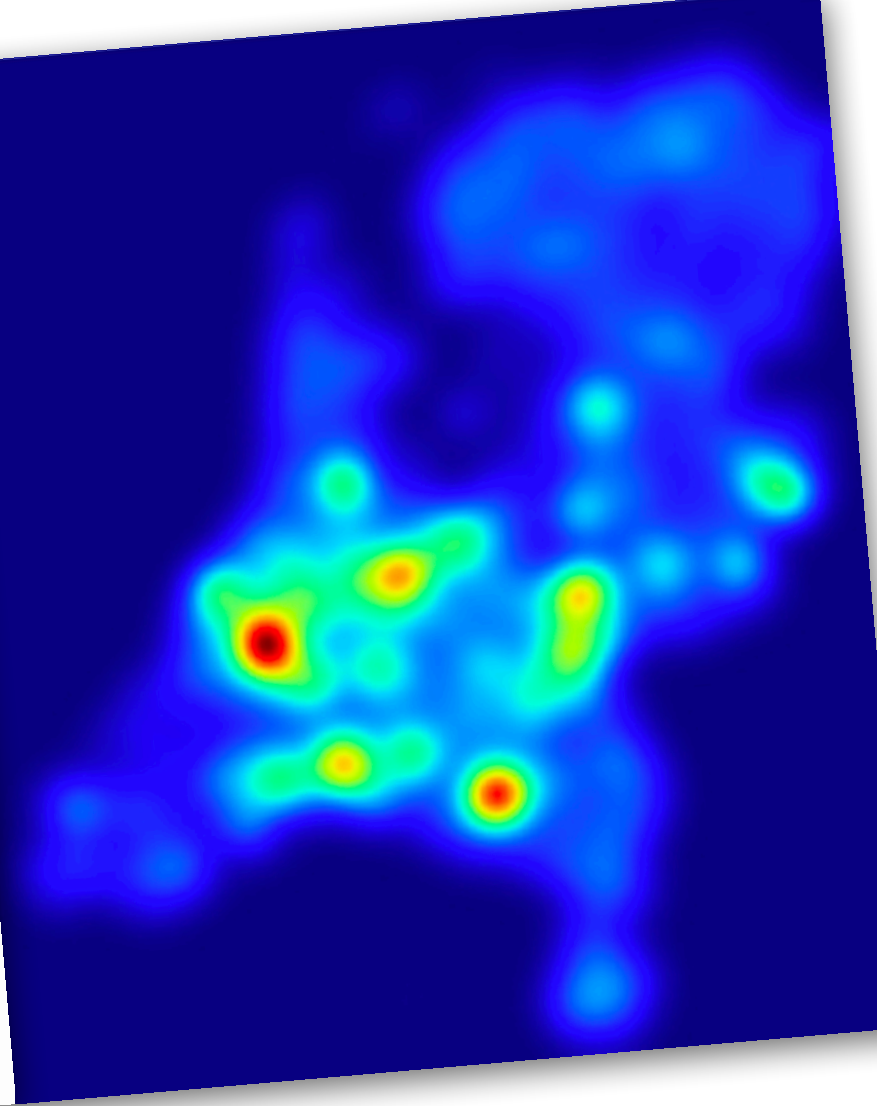
- Location

Analysis of Regional Bias in Newspaper Articles using Numerical Statistics

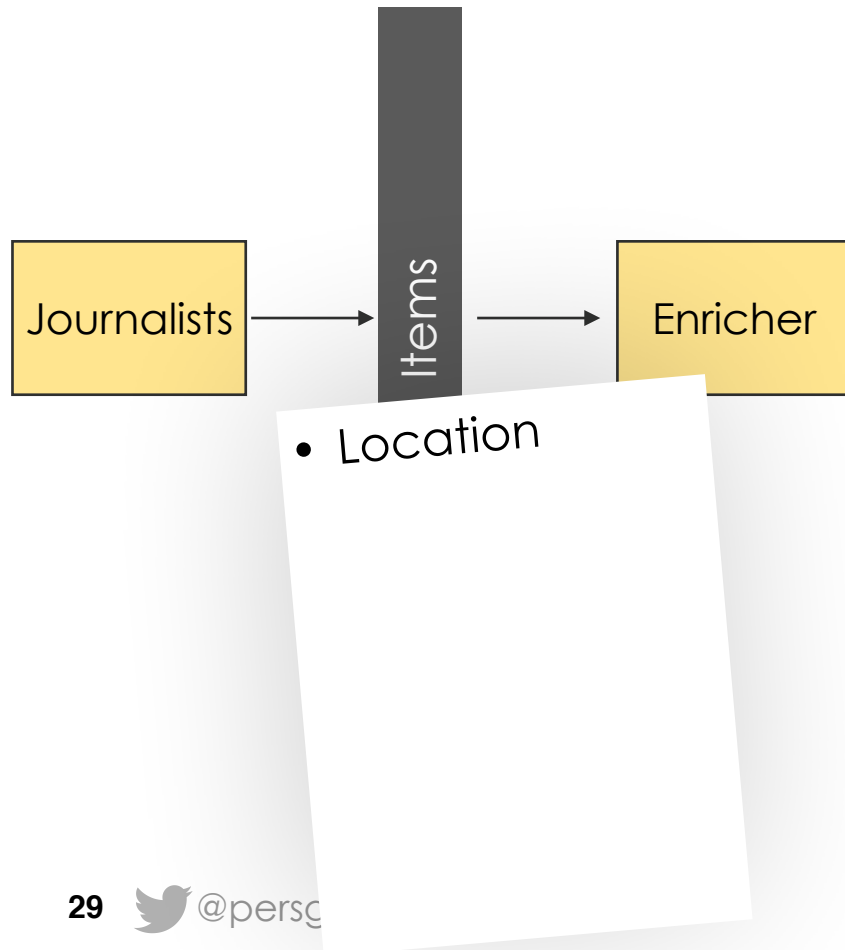
A research project conducted as part of THE SECOND YEAR PROJECT for DE VOLKSKRANT

Joris Bakker,
Rico Bakker,
Thomas Bellucci,
Hidde Lekanne Deprez,
Mitchell Verhaar,
Jorrit Ypenga

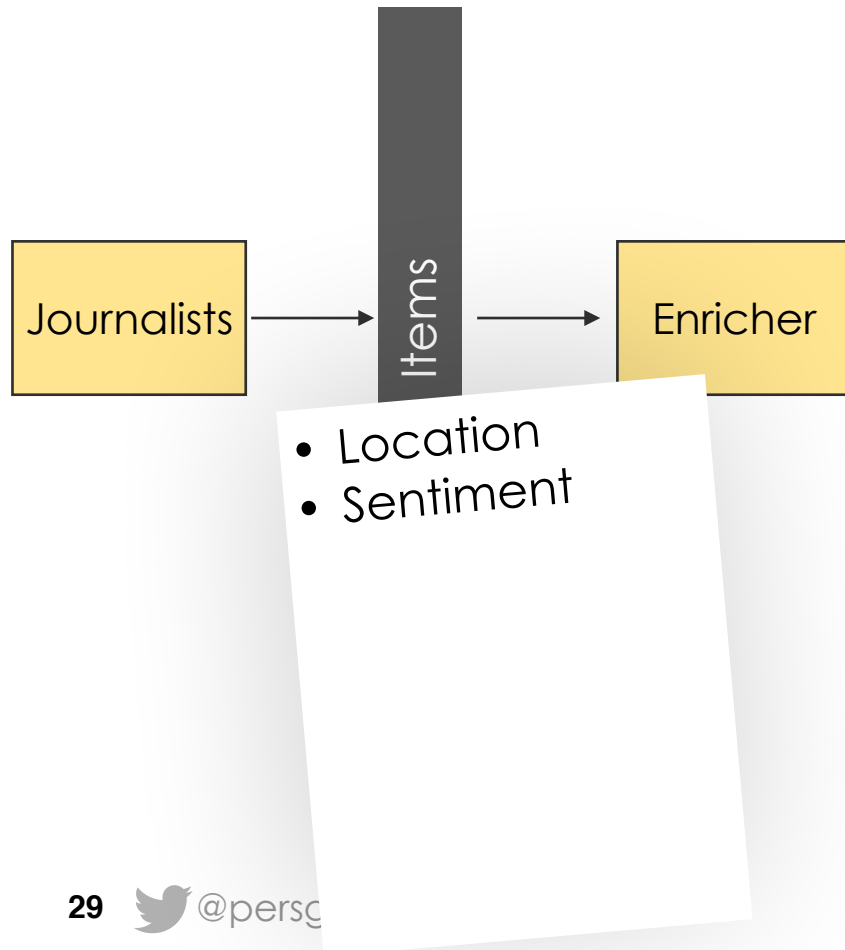
Date of Submission:
July 1, 2018



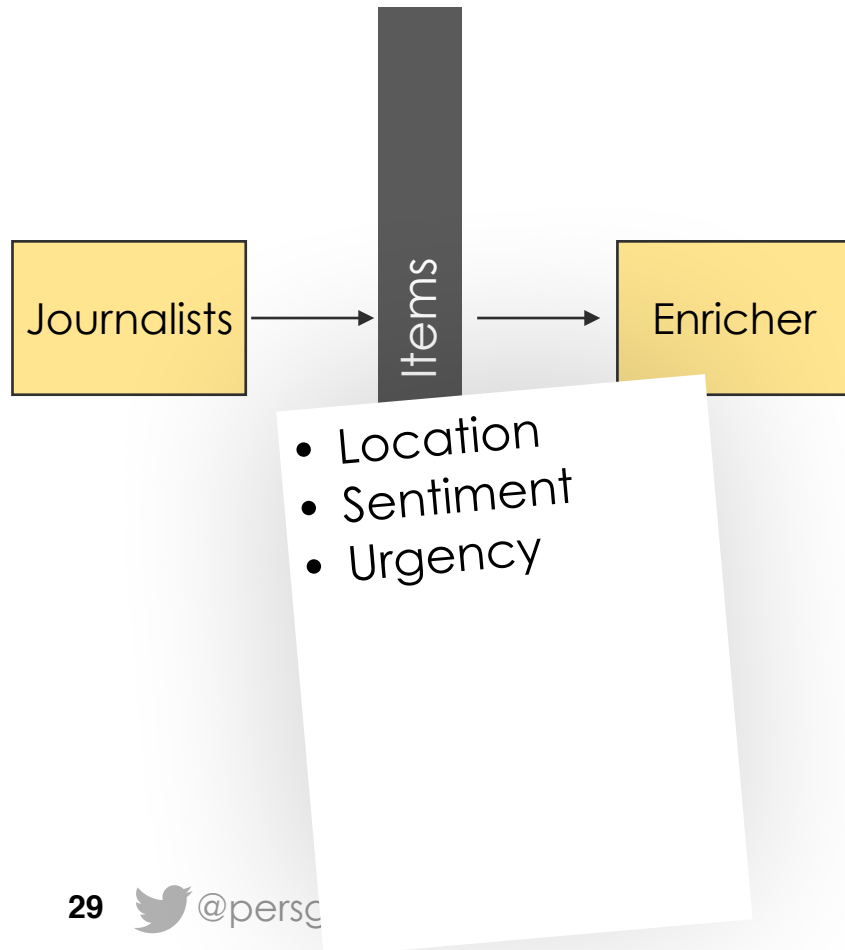
OUR ARCHITECTURE



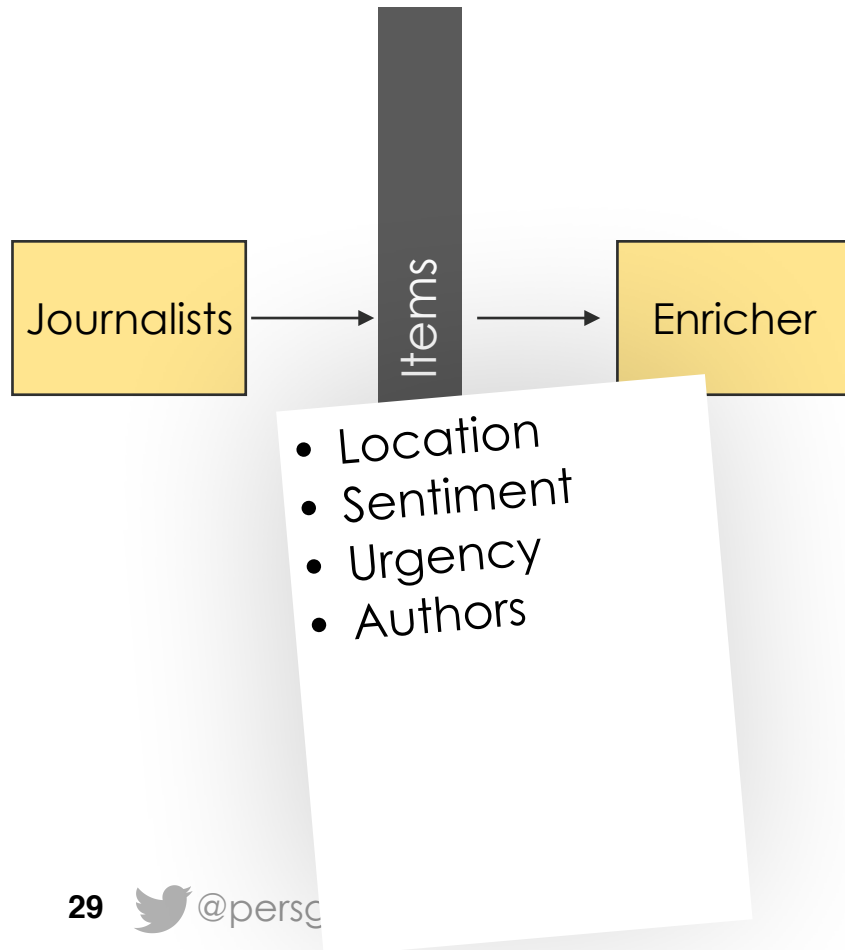
OUR ARCHITECTURE



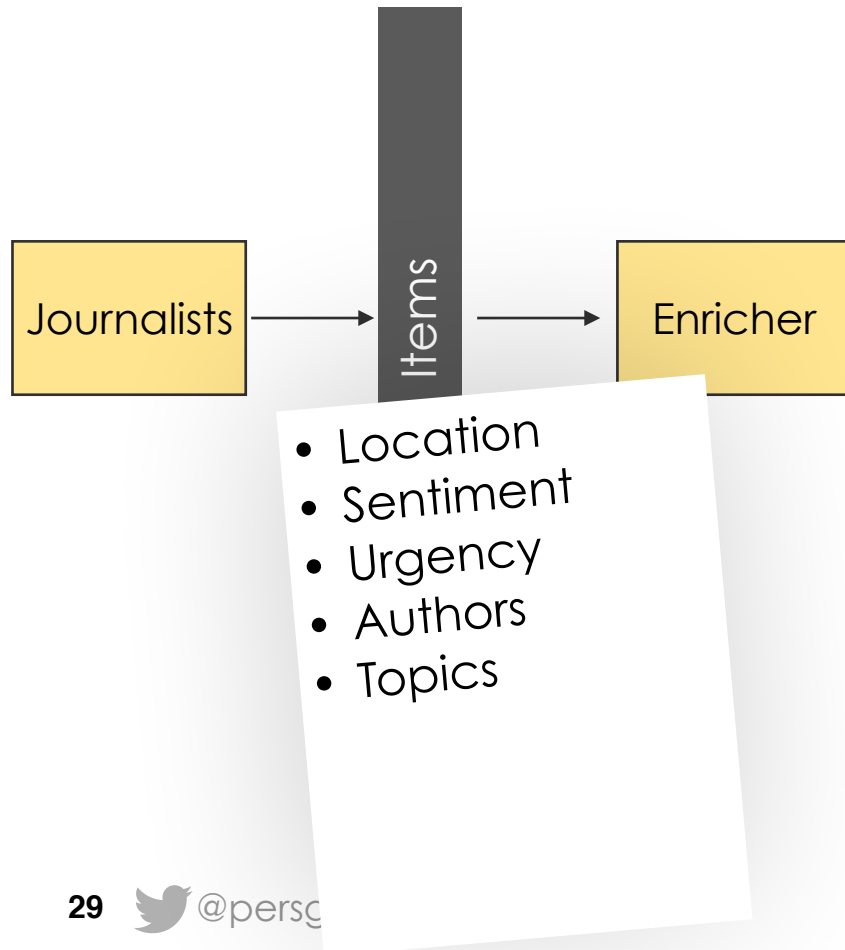
OUR ARCHITECTURE



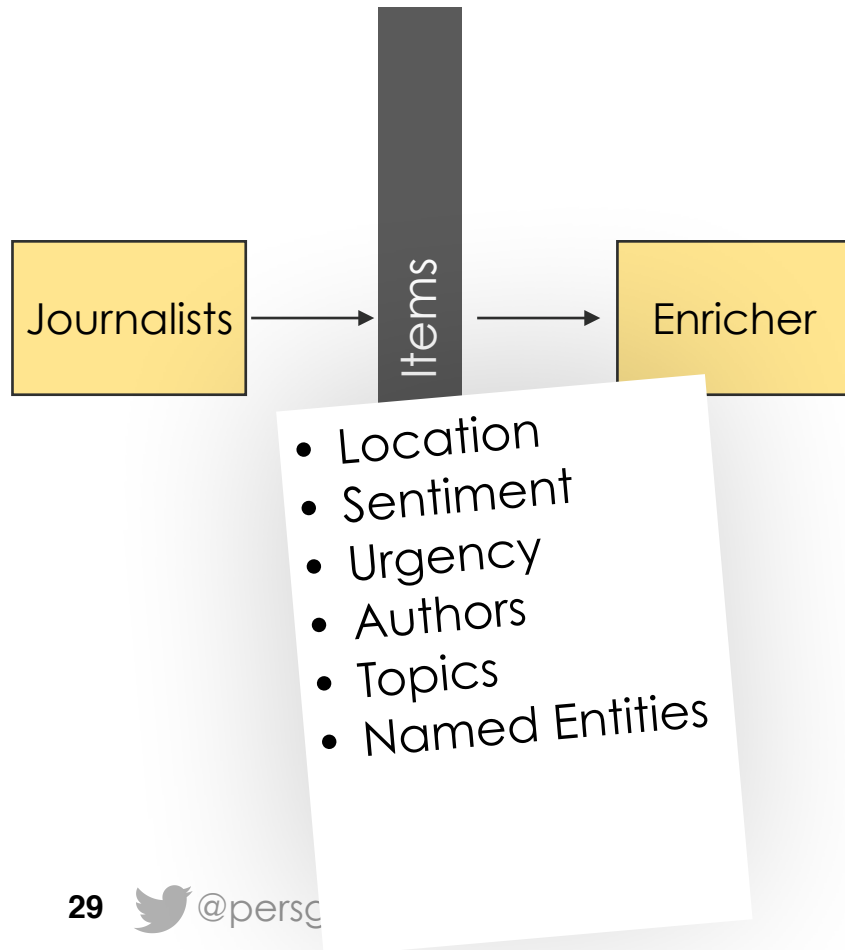
OUR ARCHITECTURE



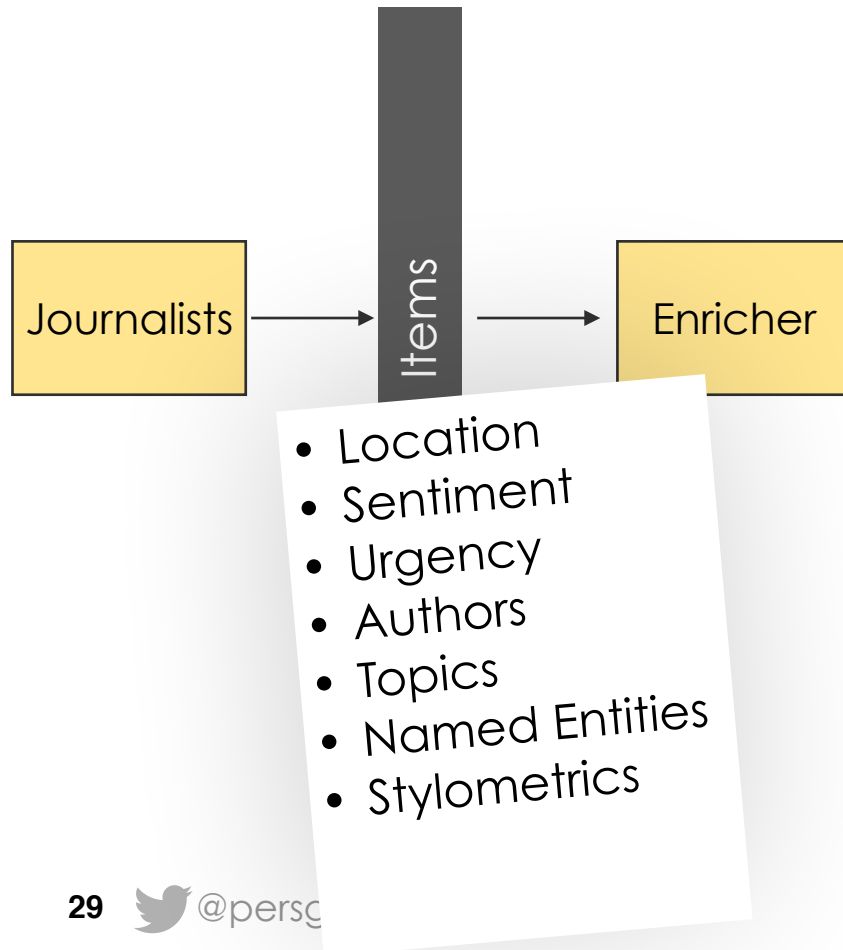
OUR ARCHITECTURE



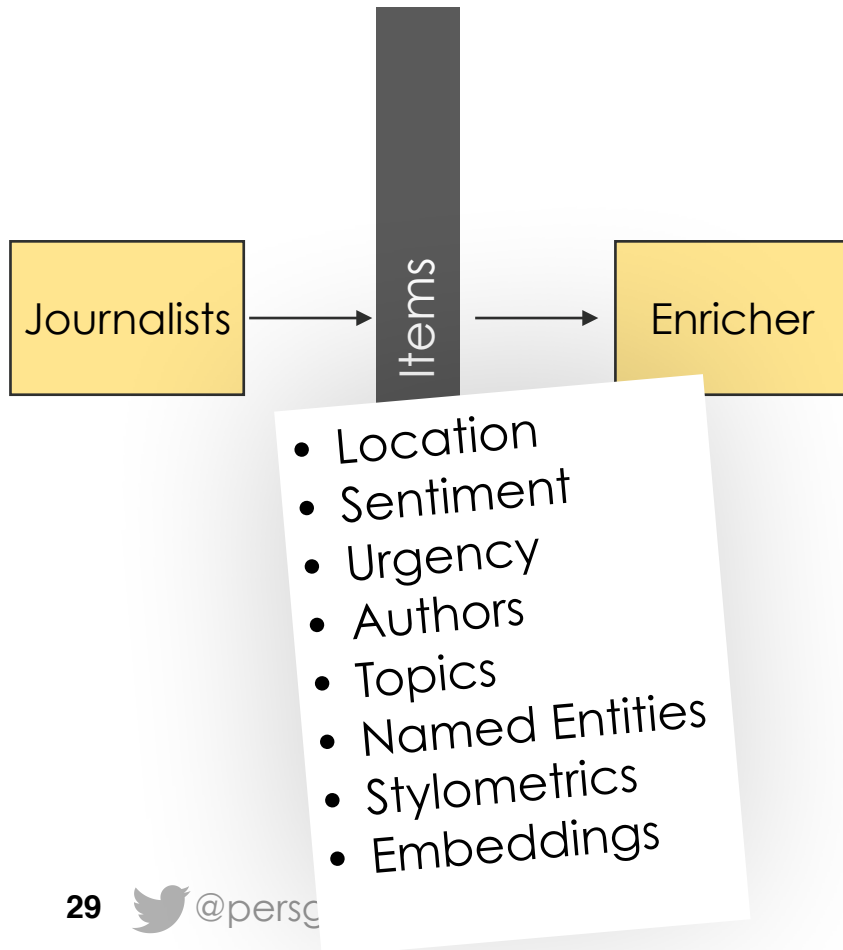
OUR ARCHITECTURE



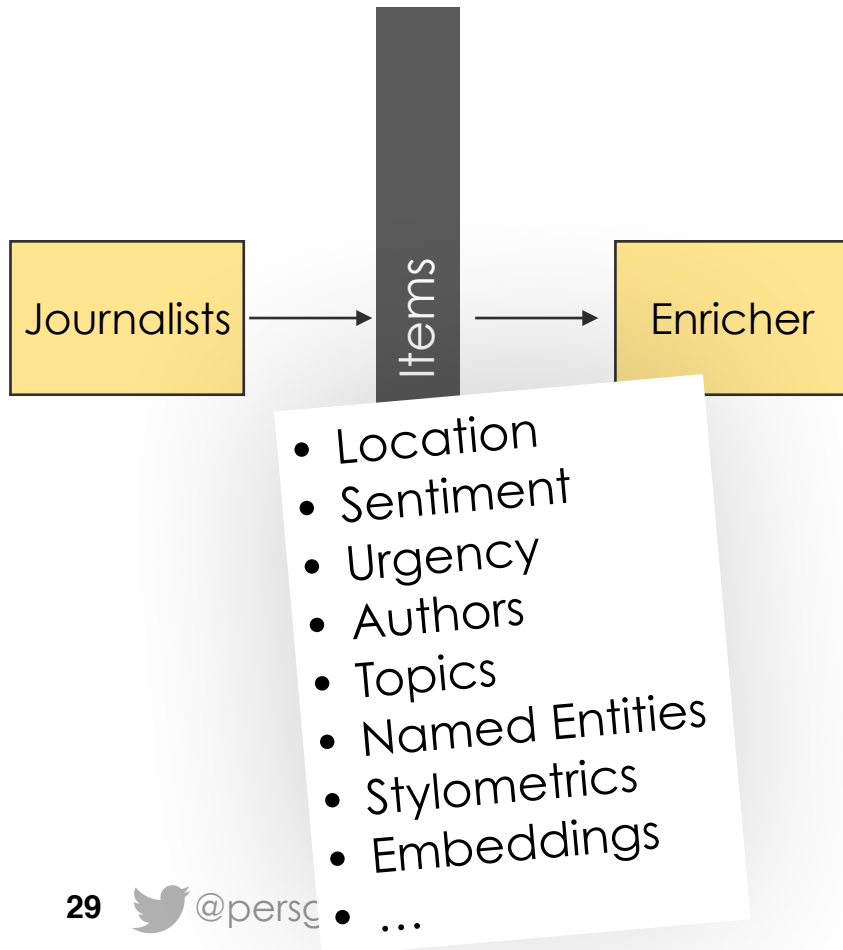
OUR ARCHITECTURE



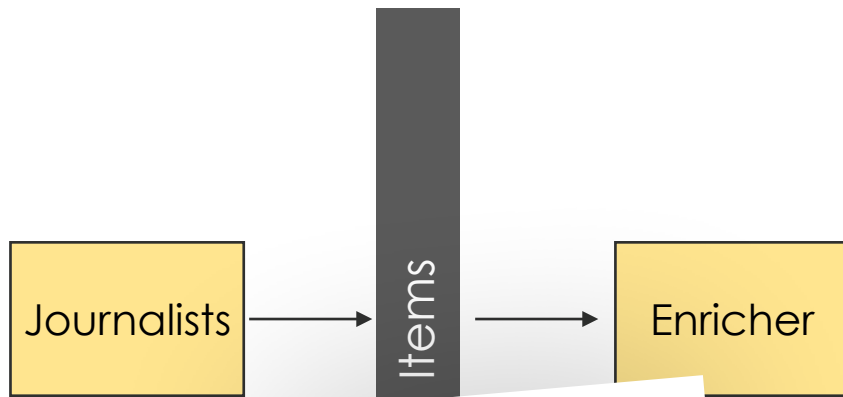
OUR ARCHITECTURE



OUR ARCHITECTURE



OUR ARCHITECTURE



- Location
- Sentiment
- Urgency
- Authors
- Topics
- Named Entities
- Stylometrics
- Embeddings



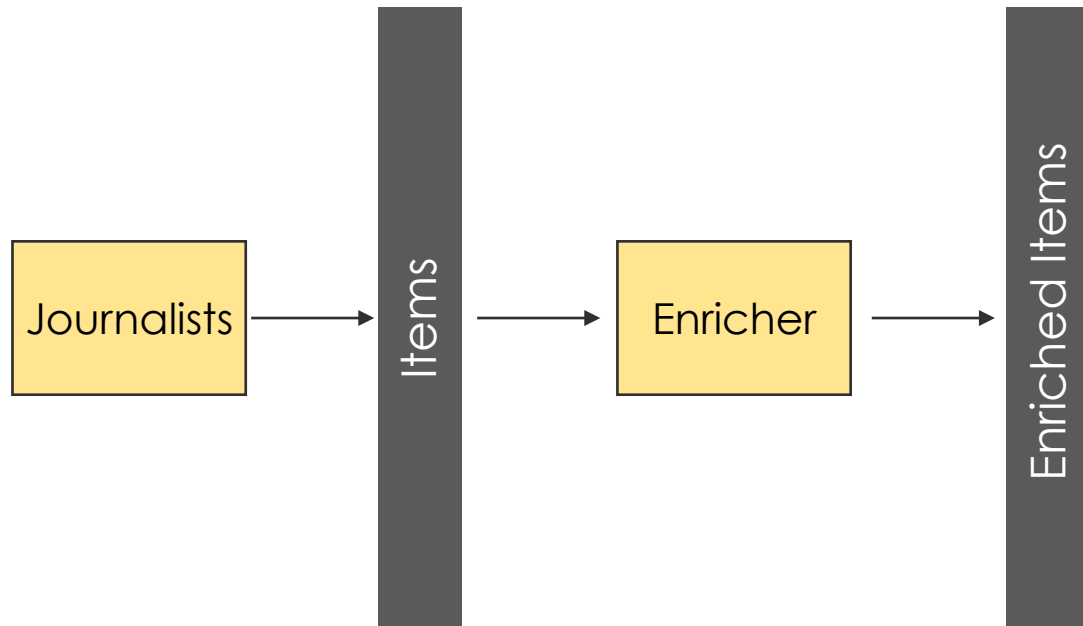
<https://github.com/textpipe>



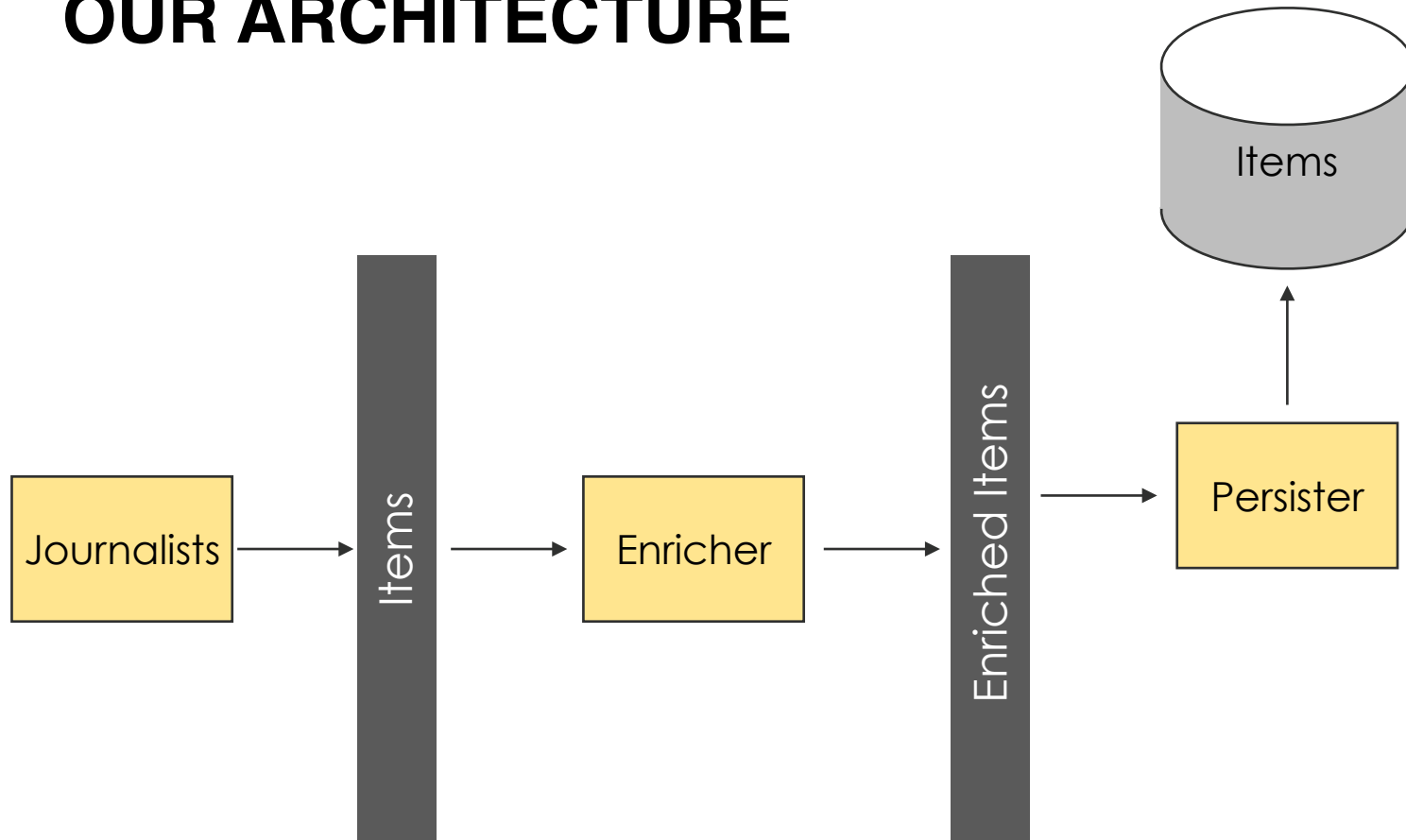
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DE PERSGROEP.

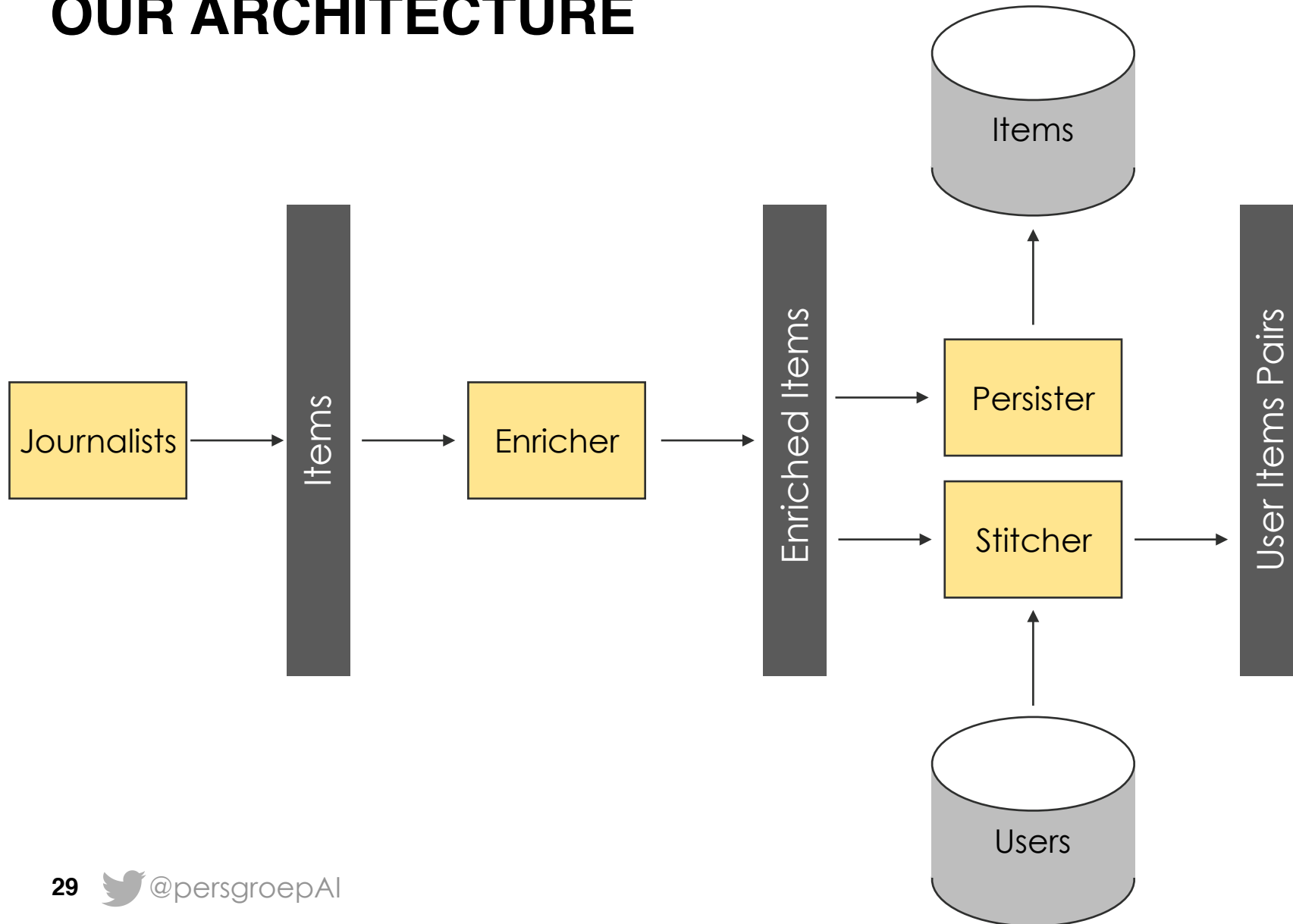
OUR ARCHITECTURE



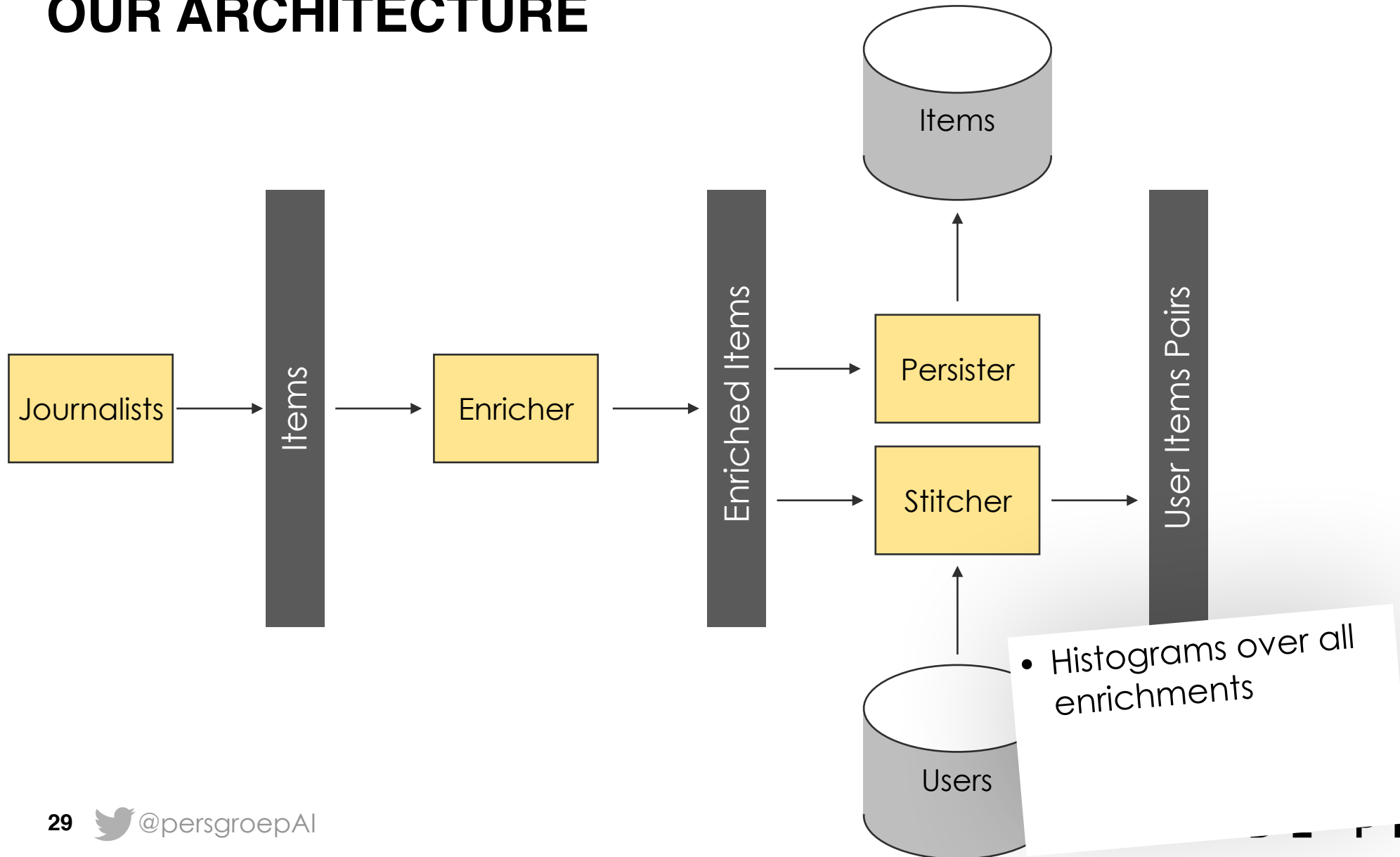
OUR ARCHITECTURE



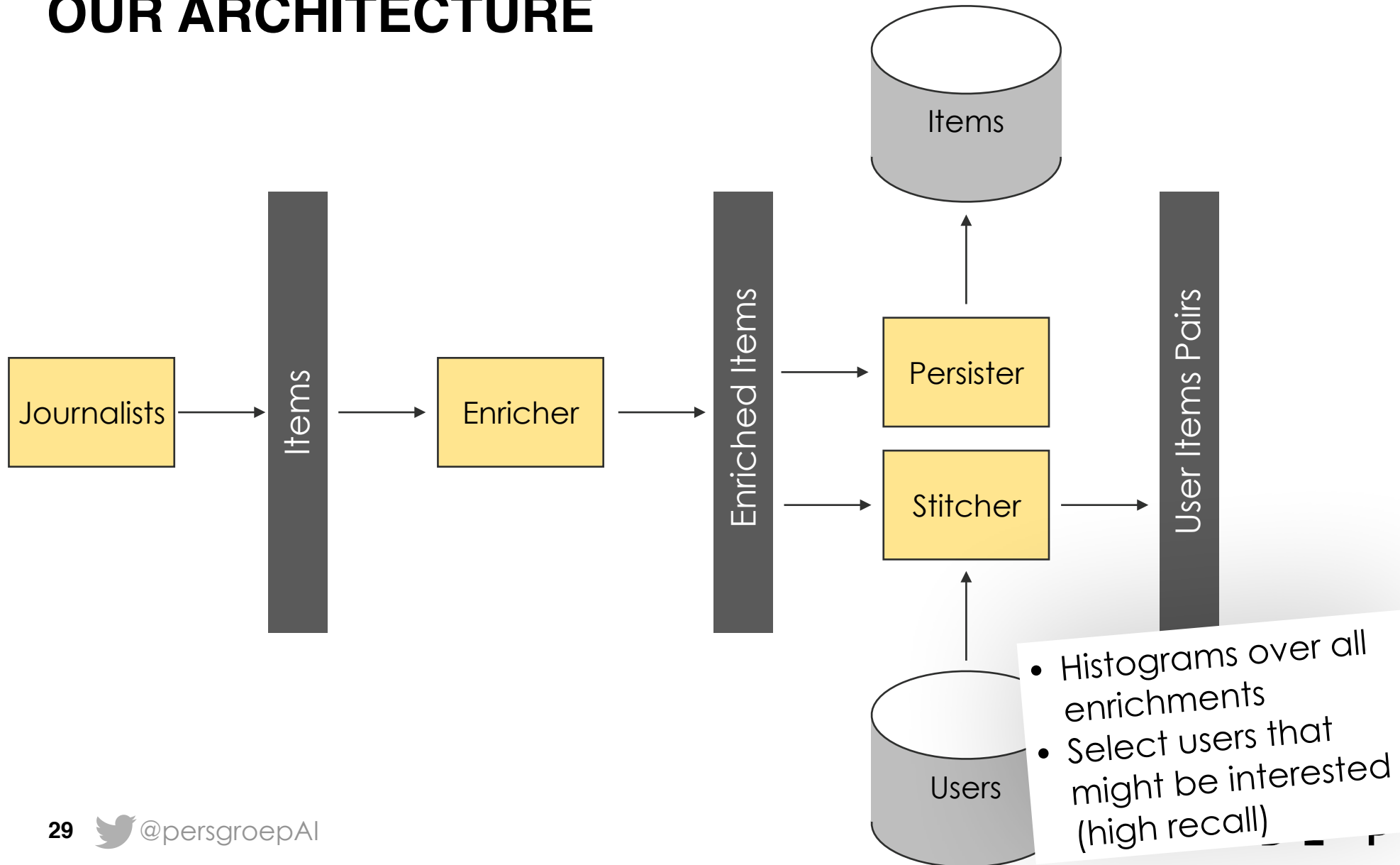
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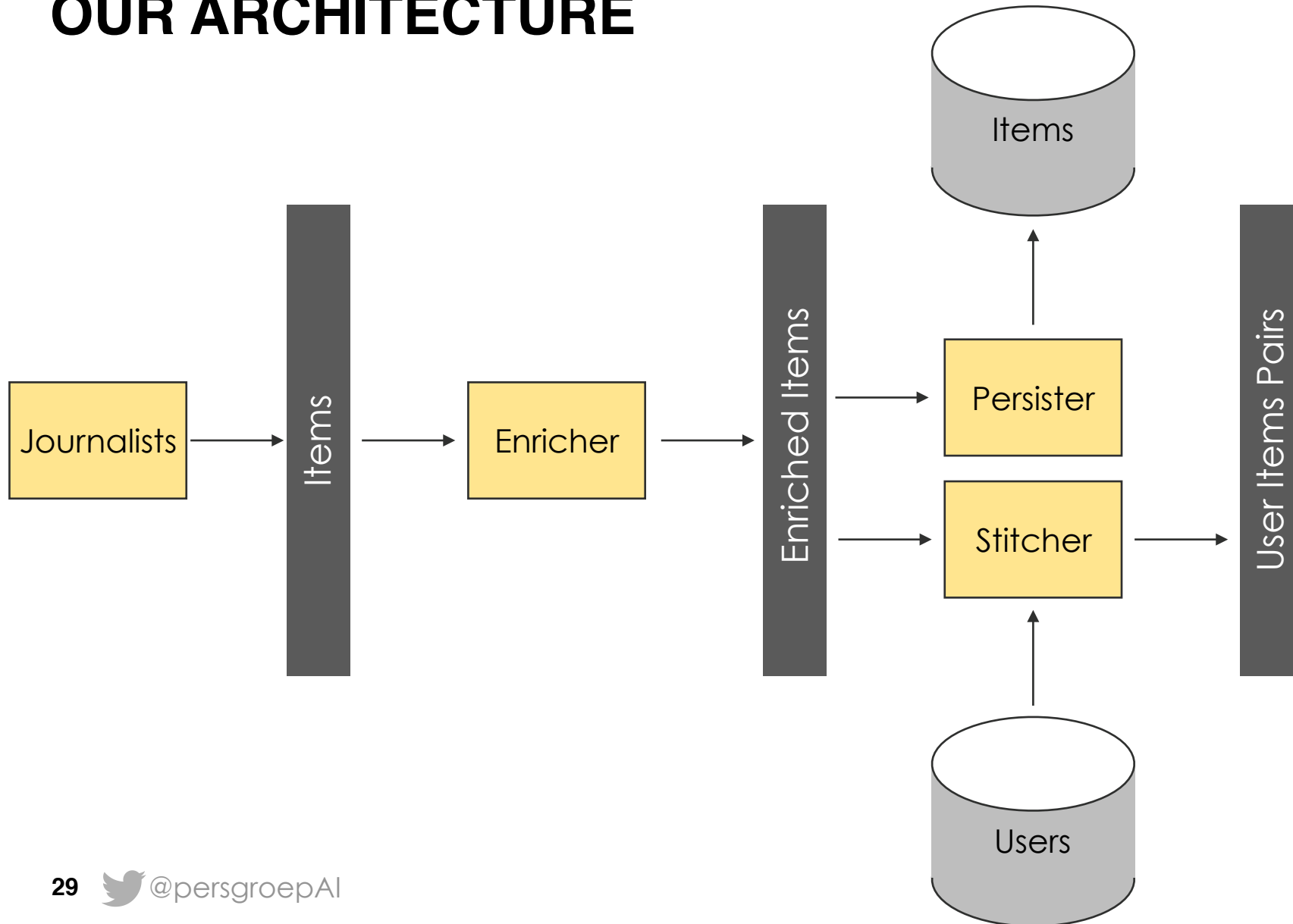
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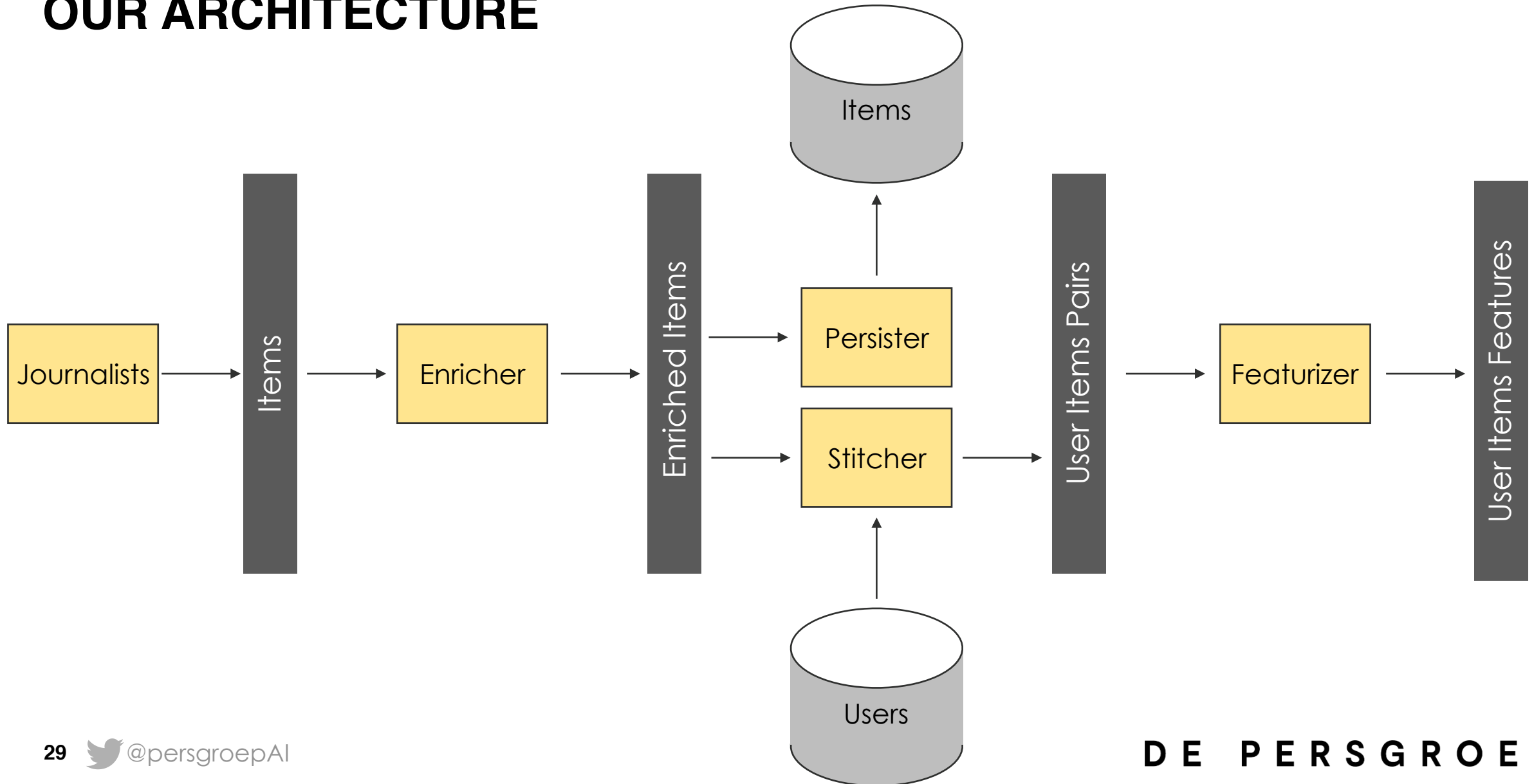
OUR ARCHITECTURE



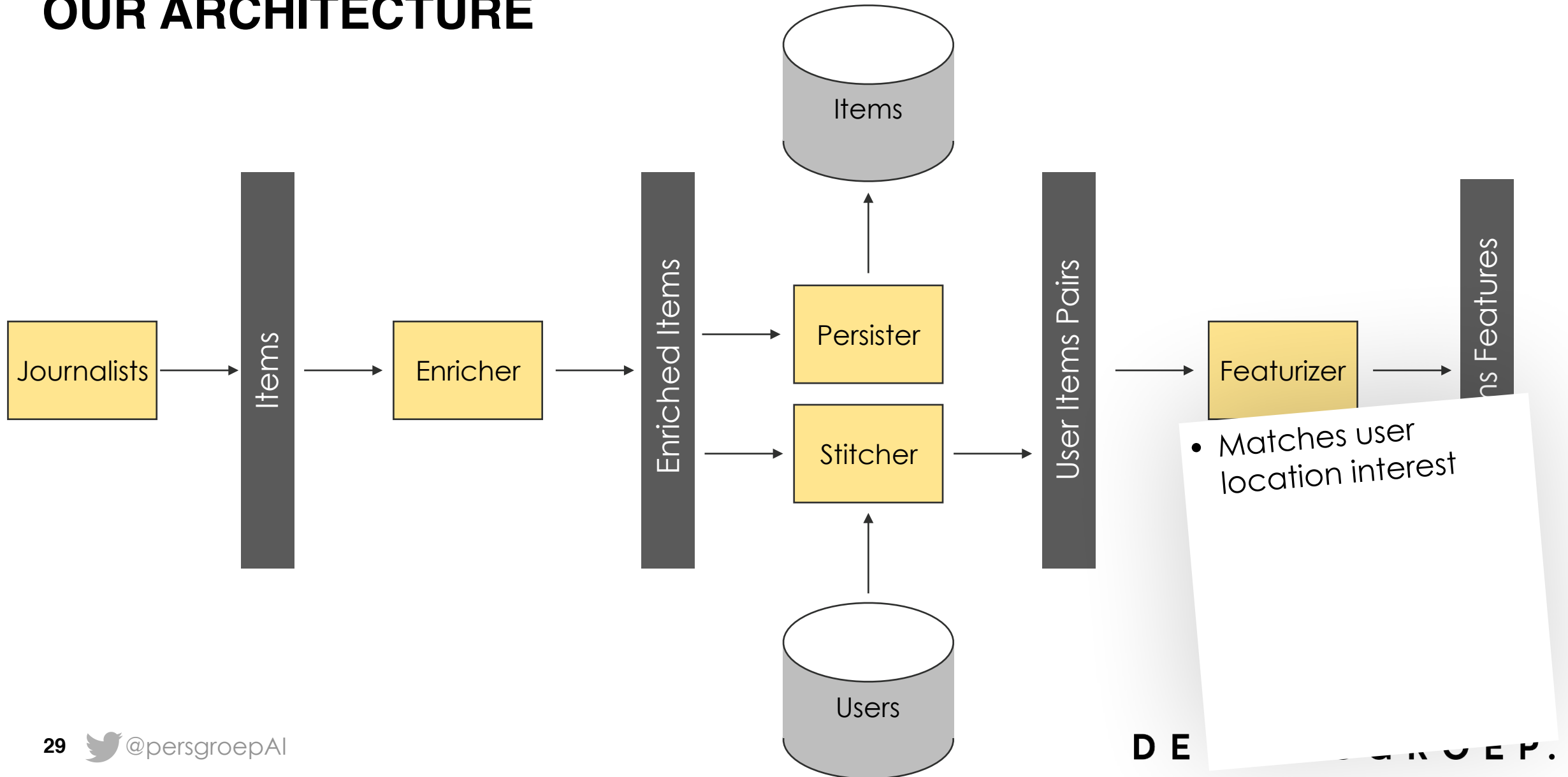
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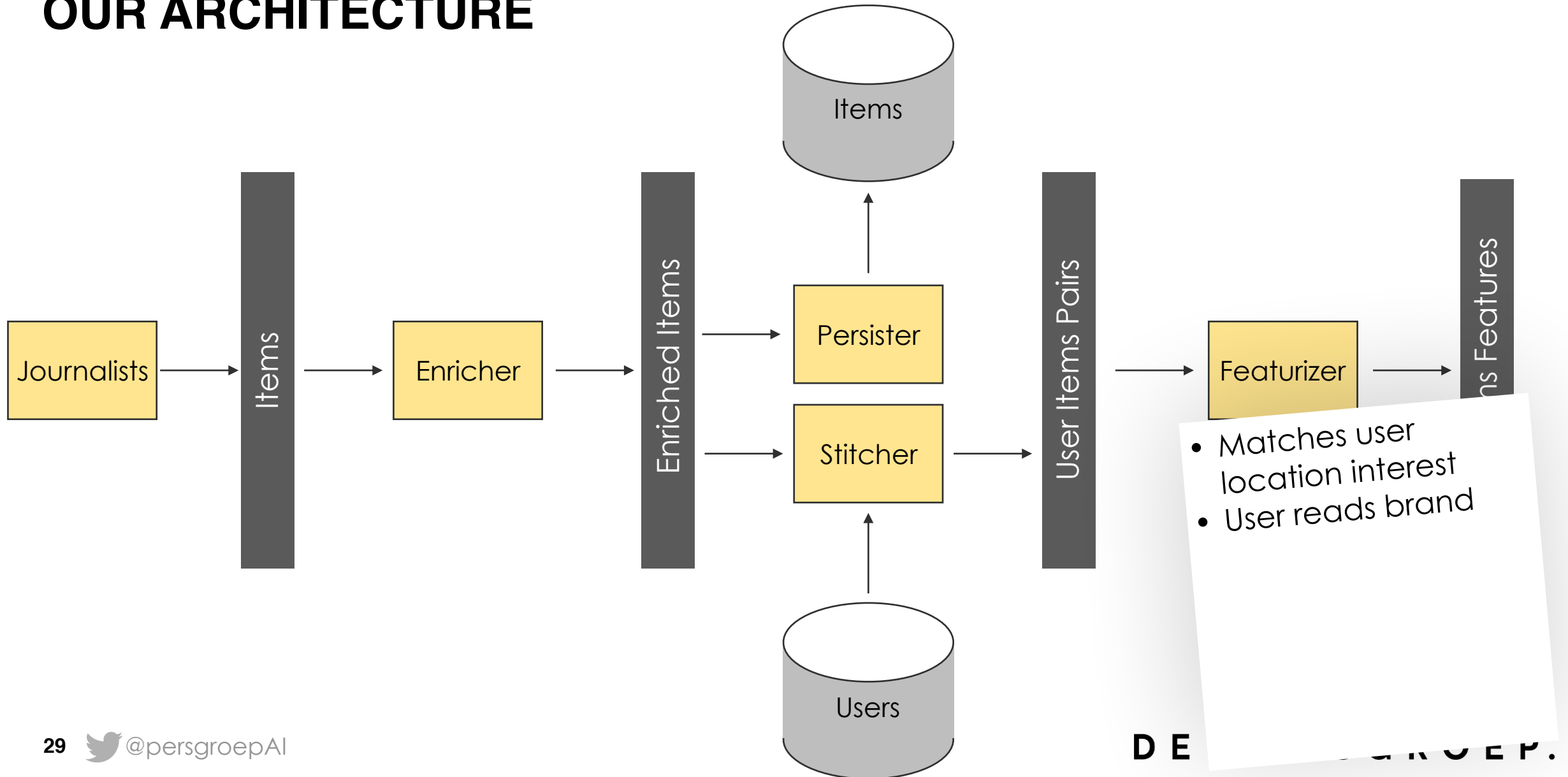
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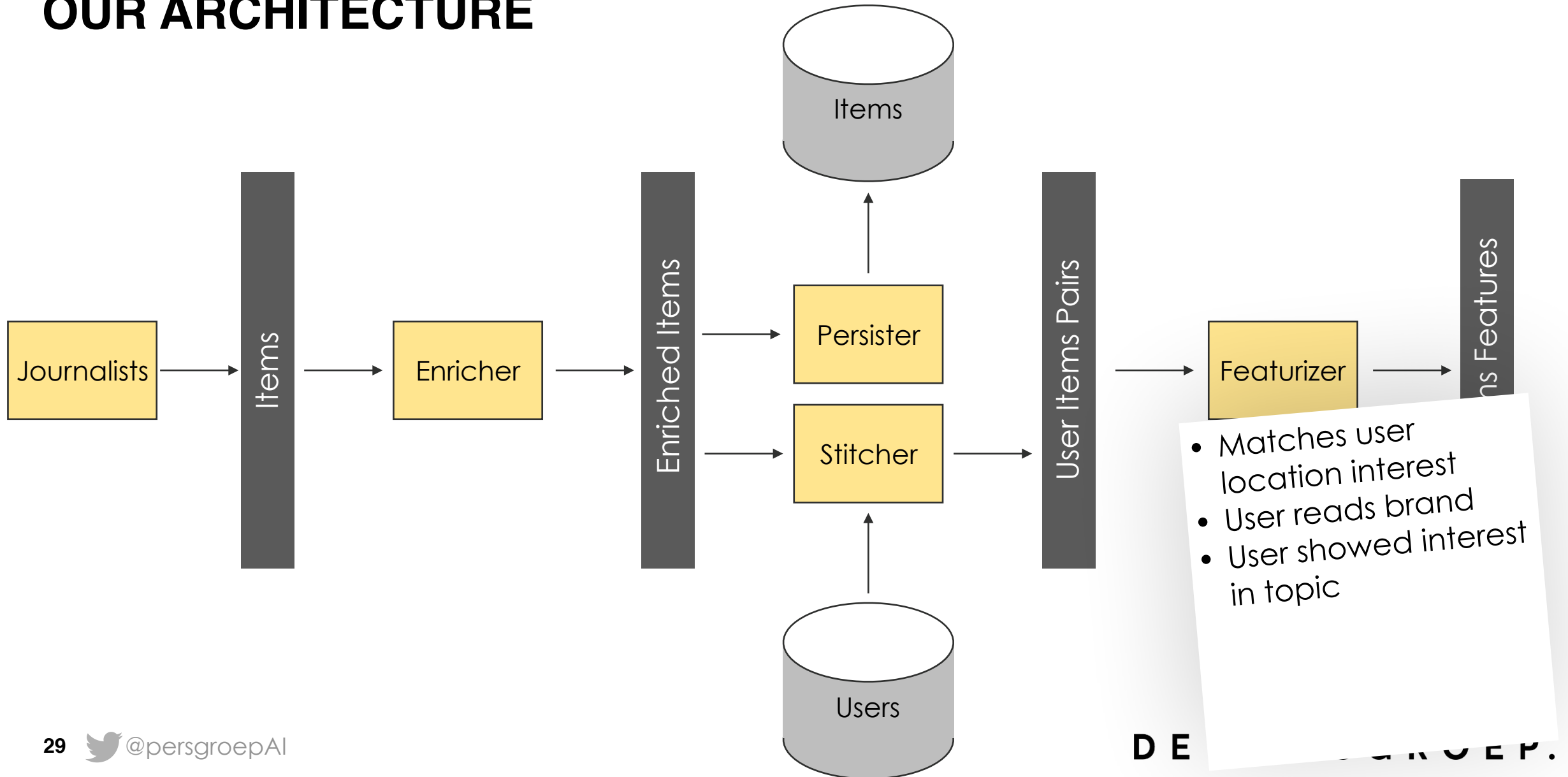
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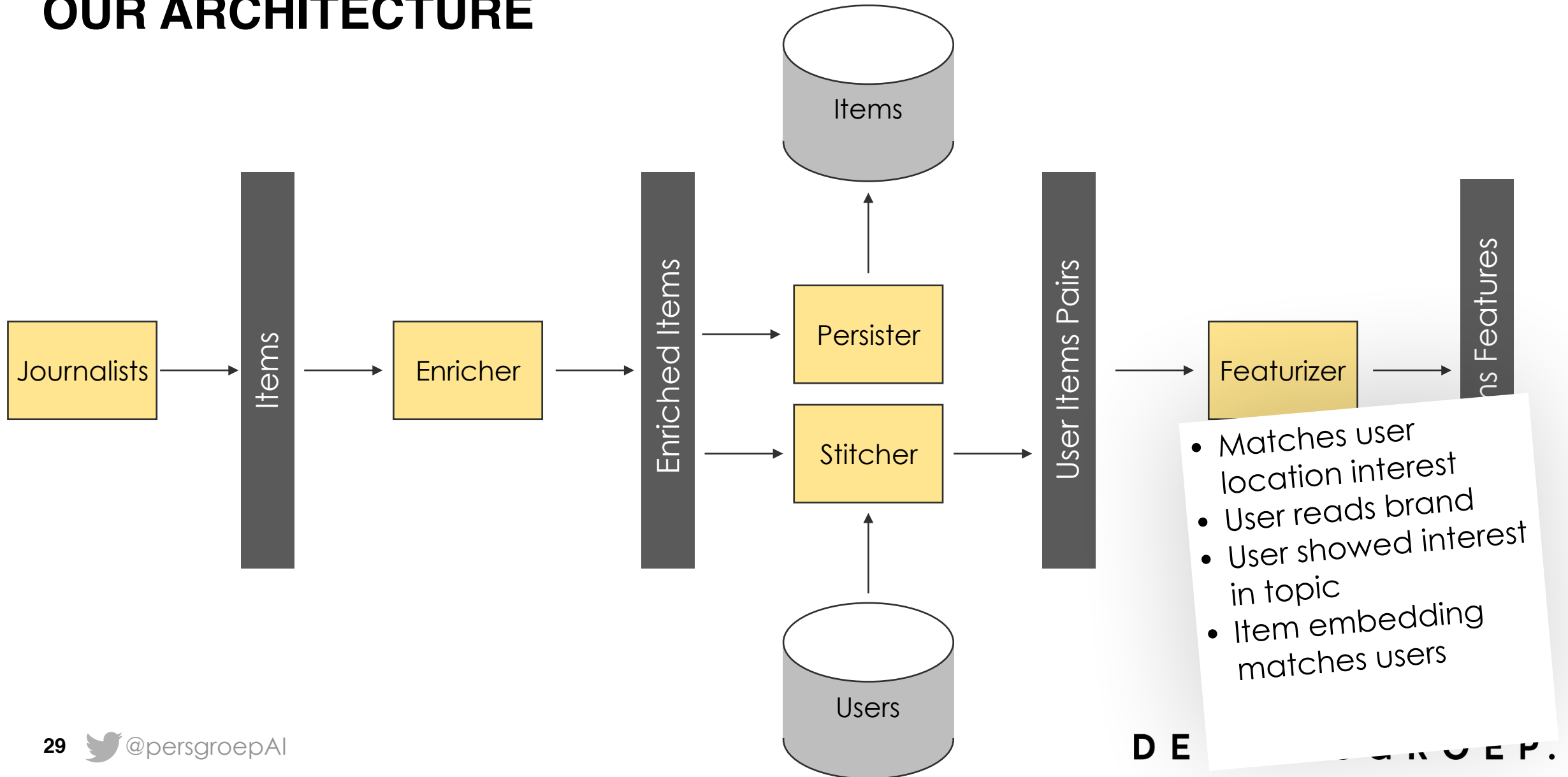
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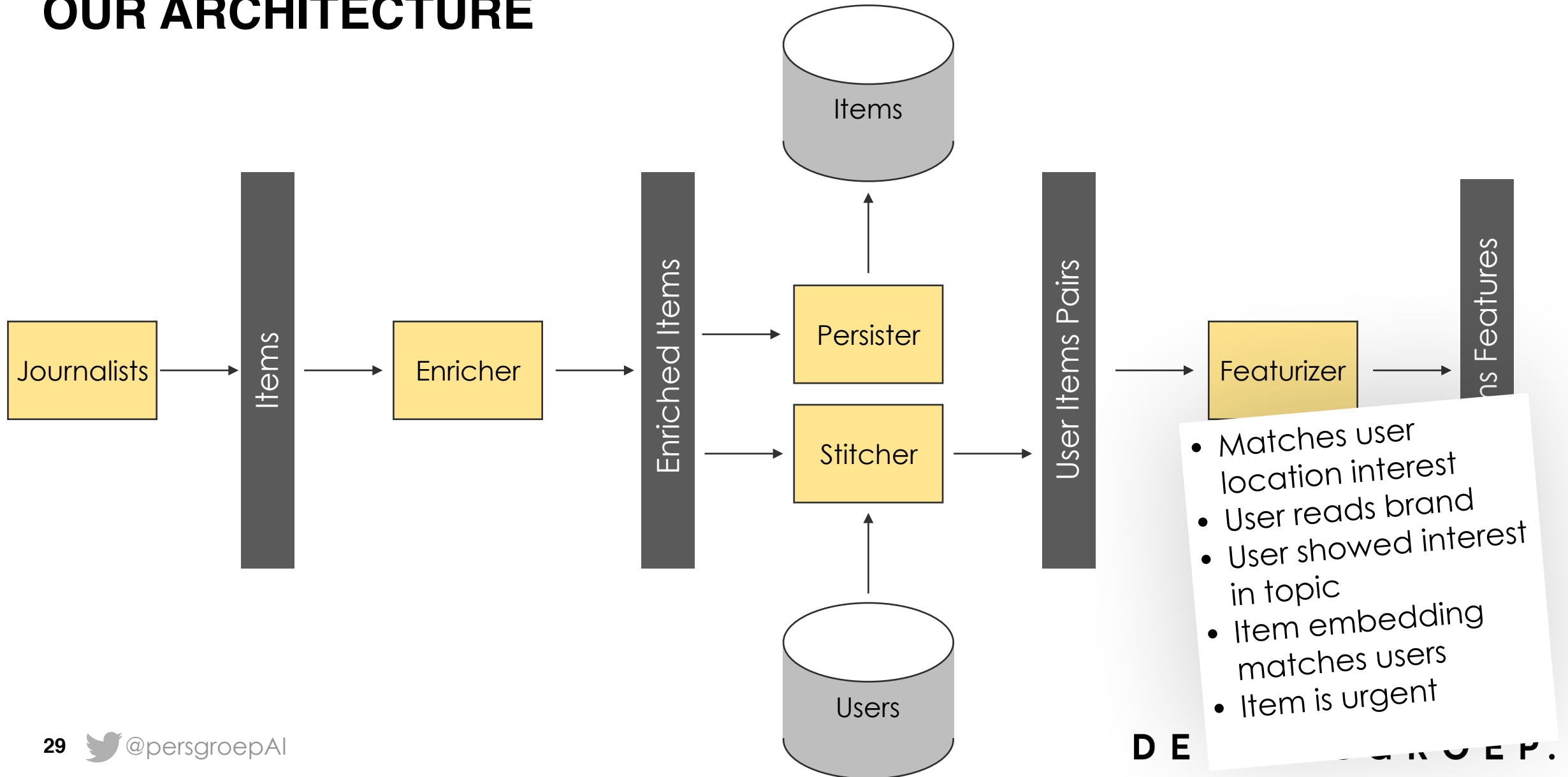
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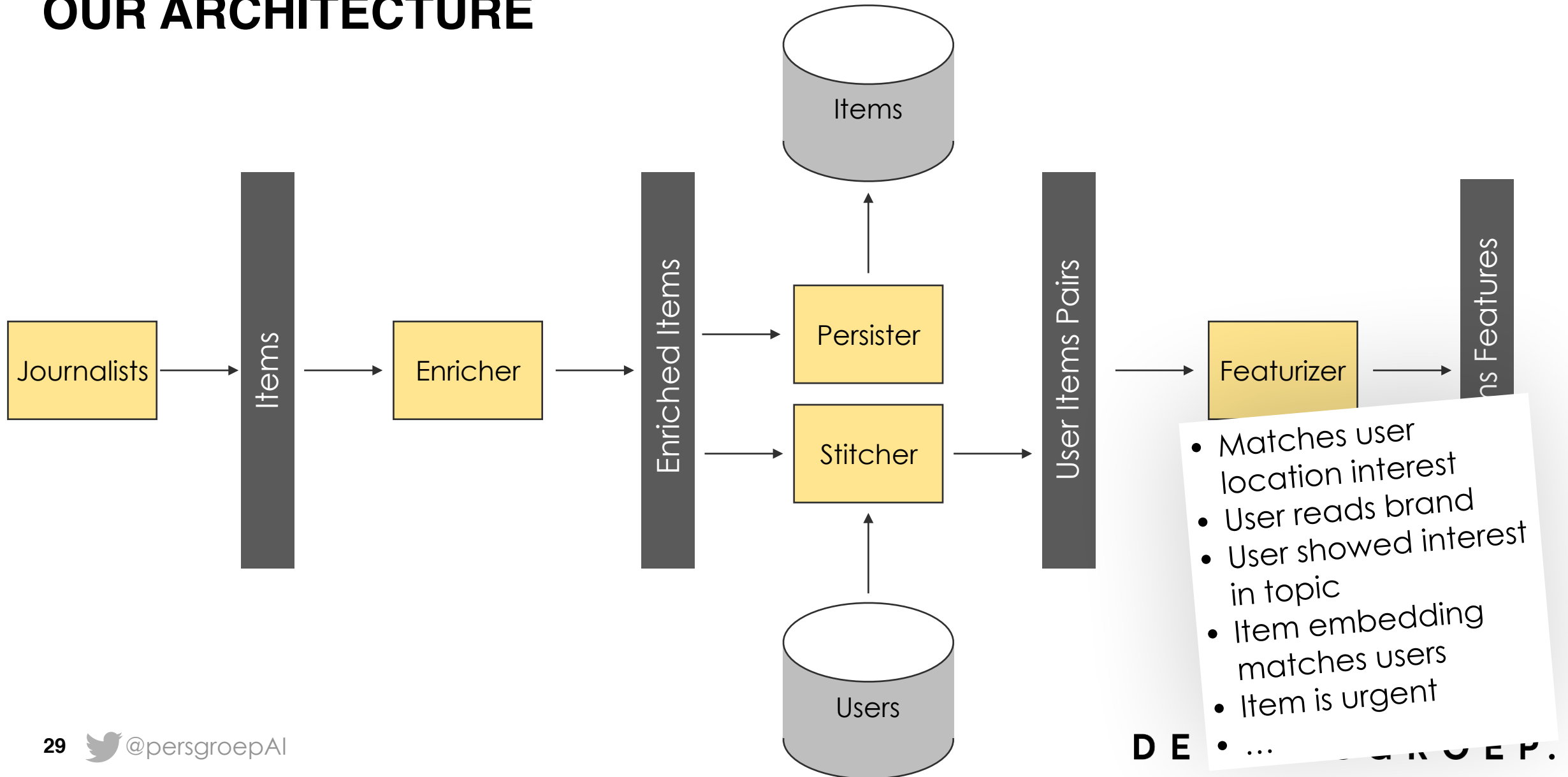
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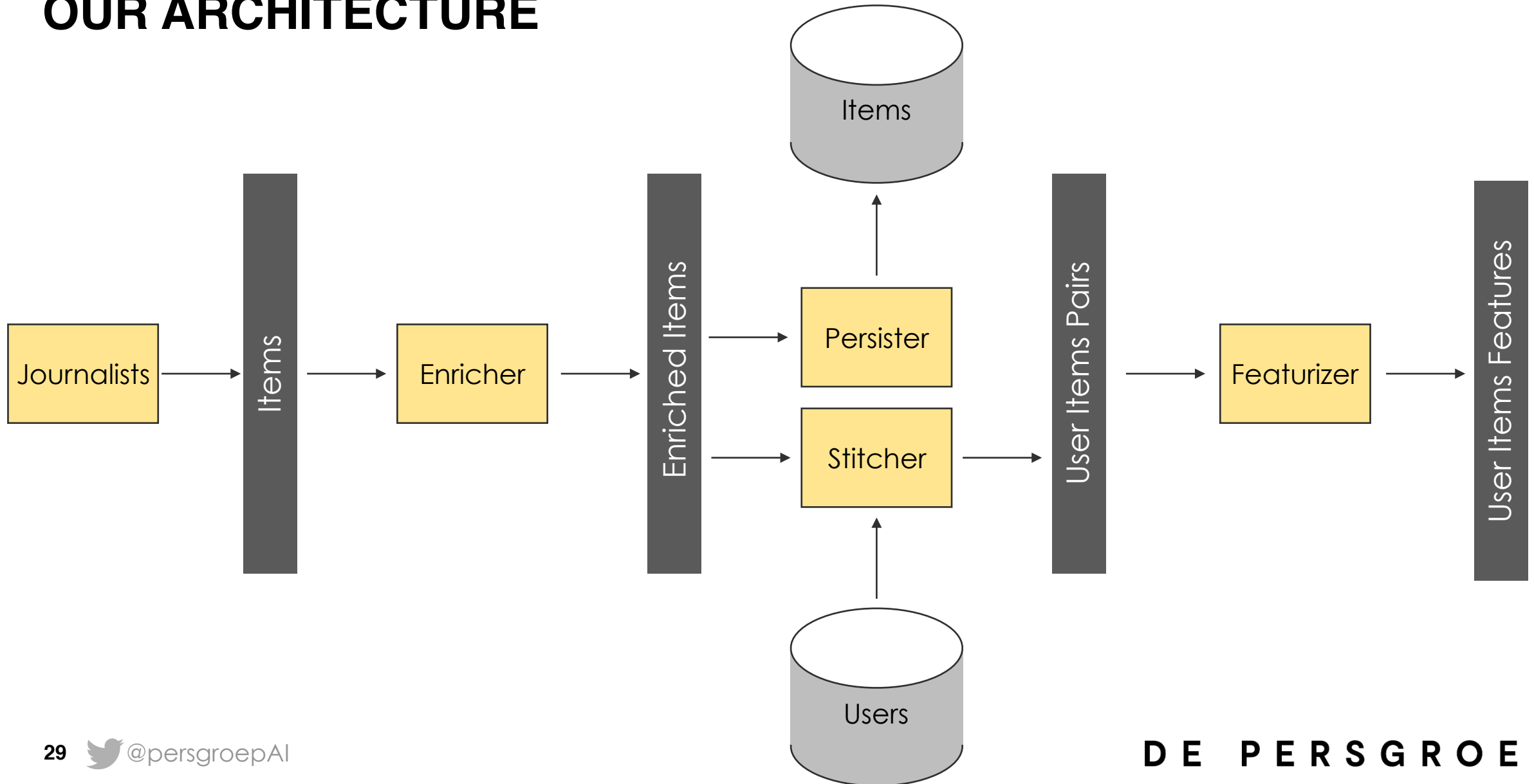
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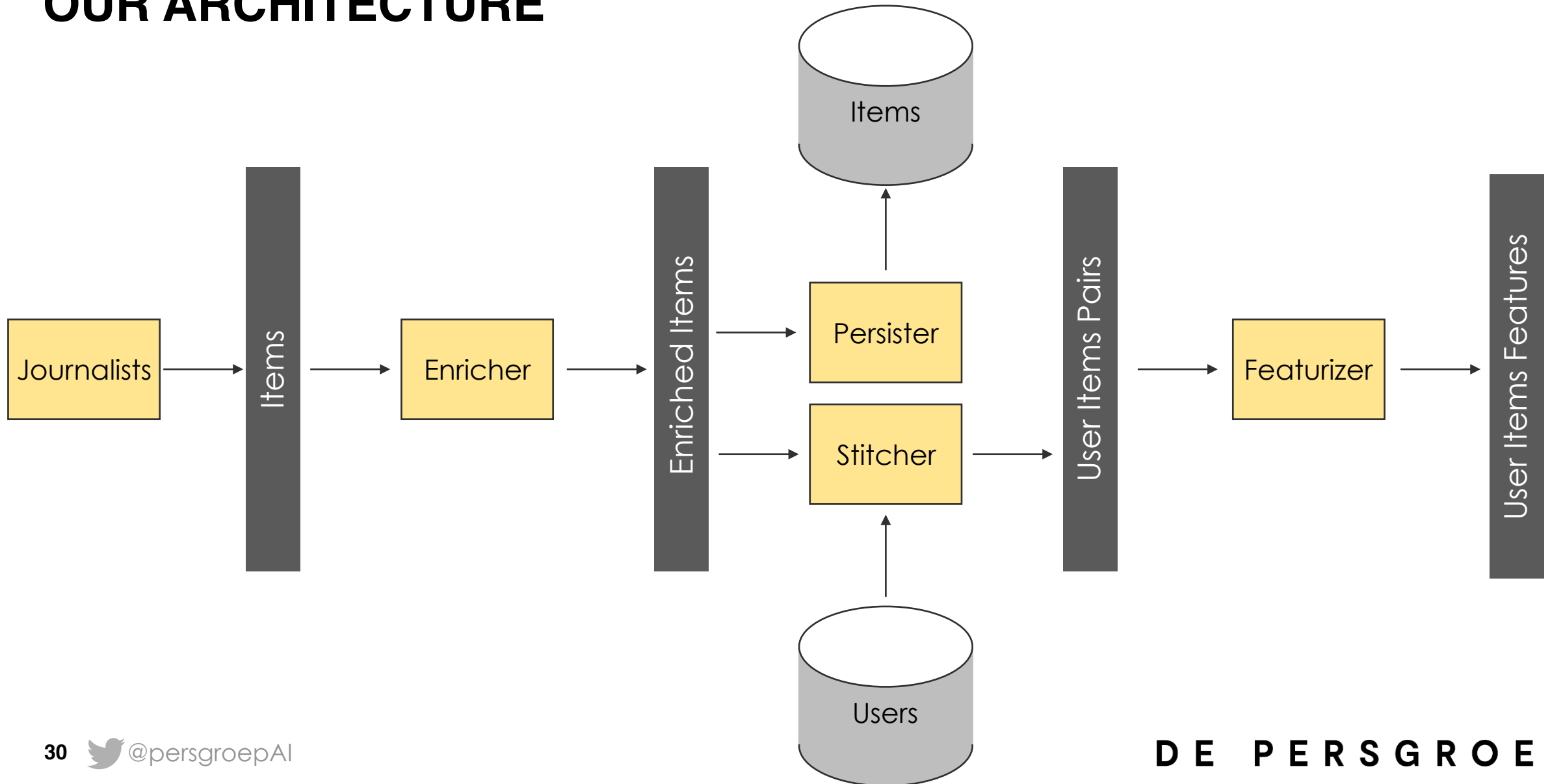
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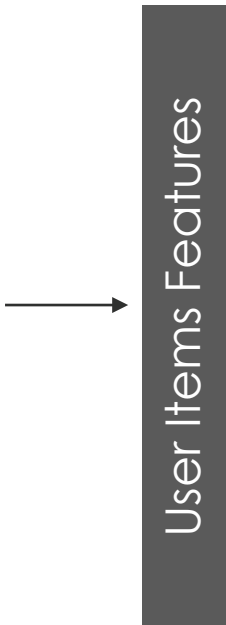
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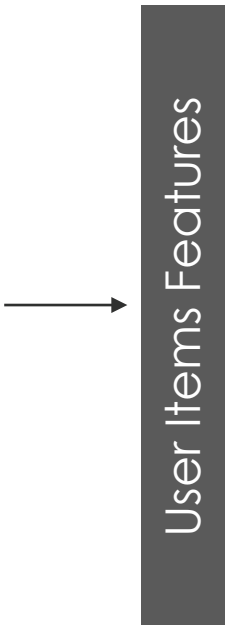
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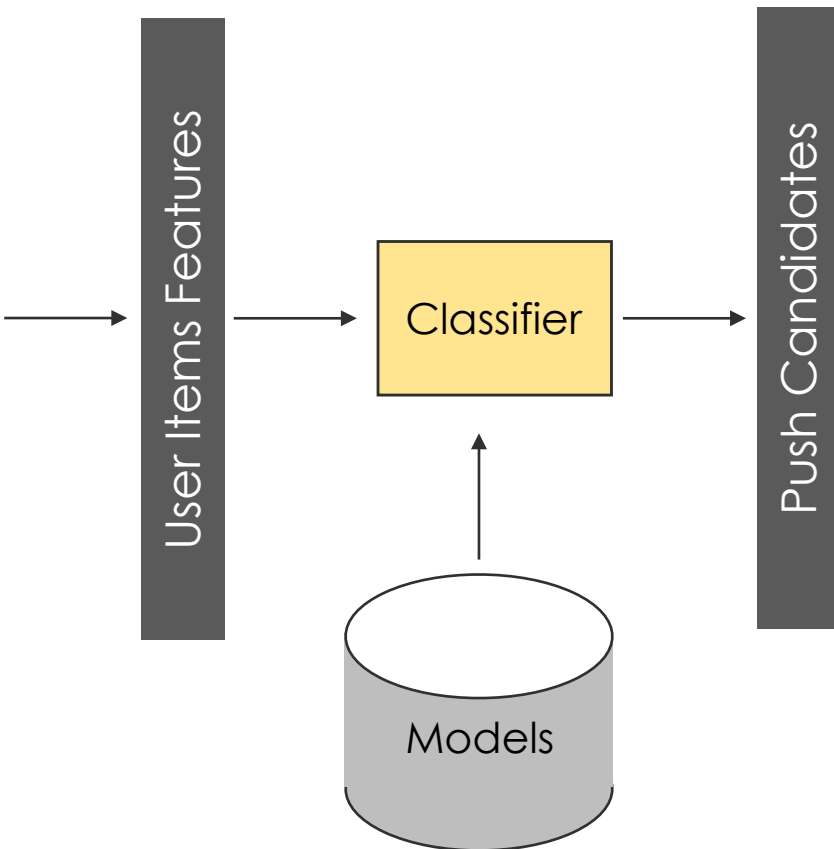
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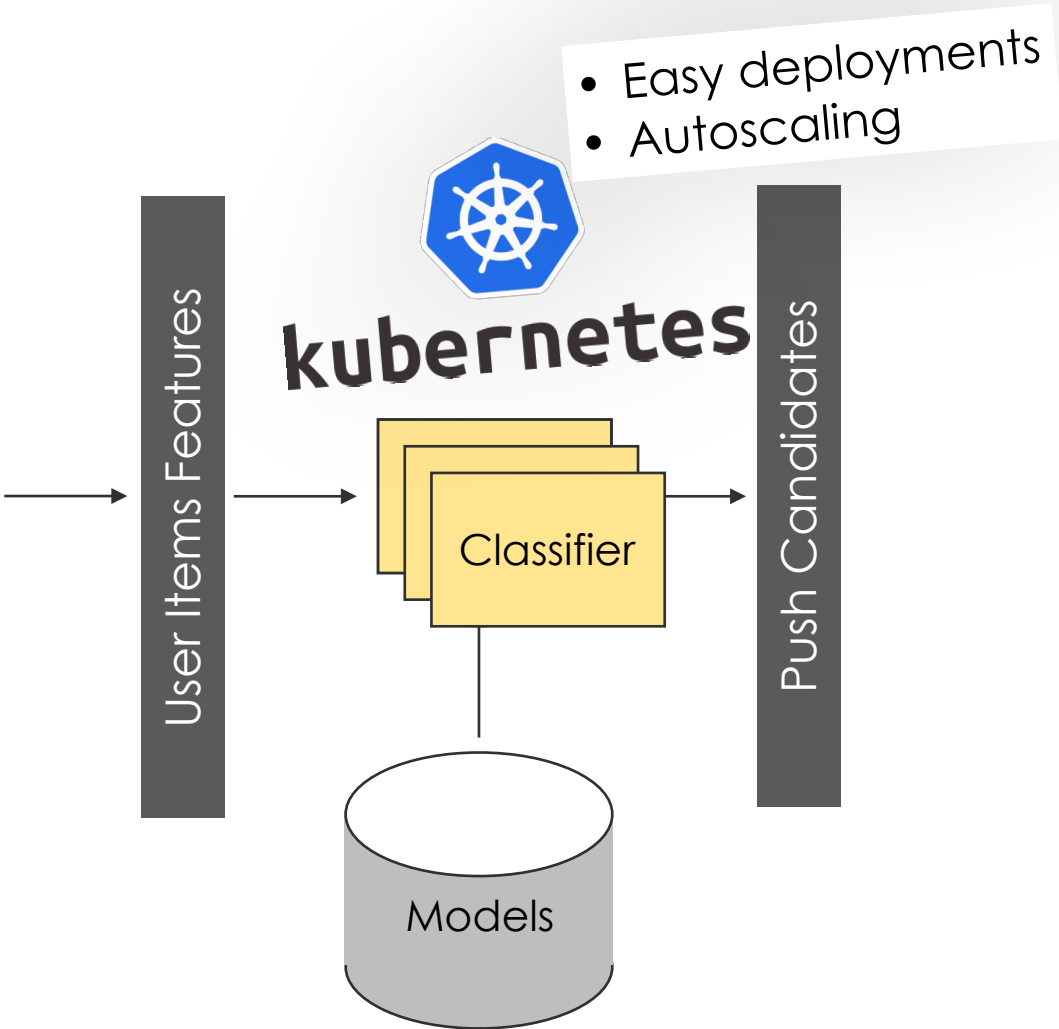
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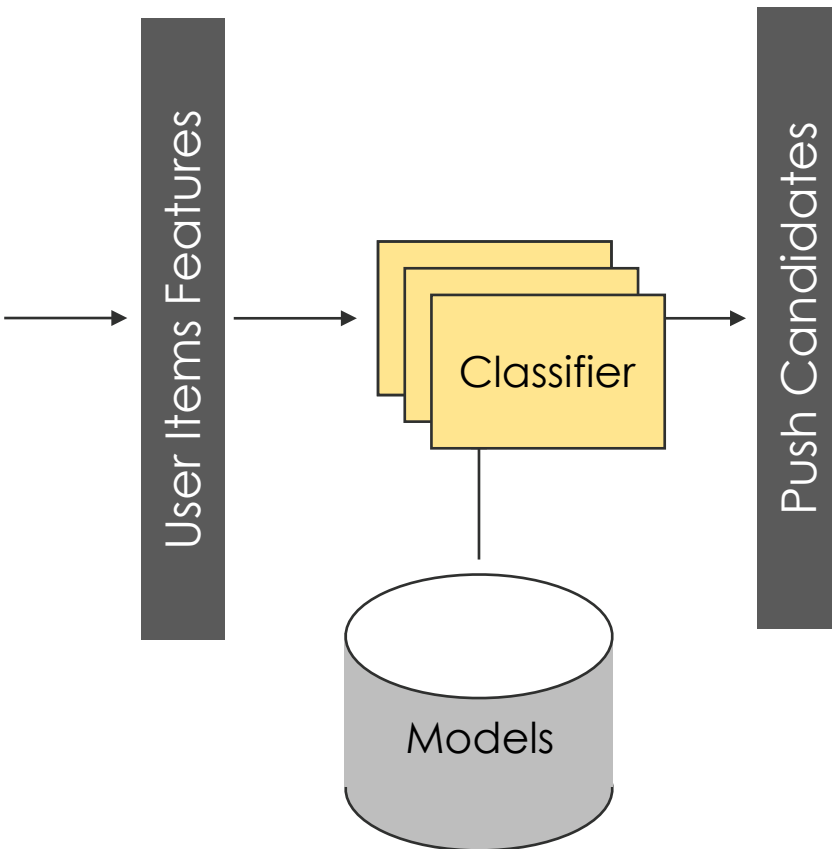
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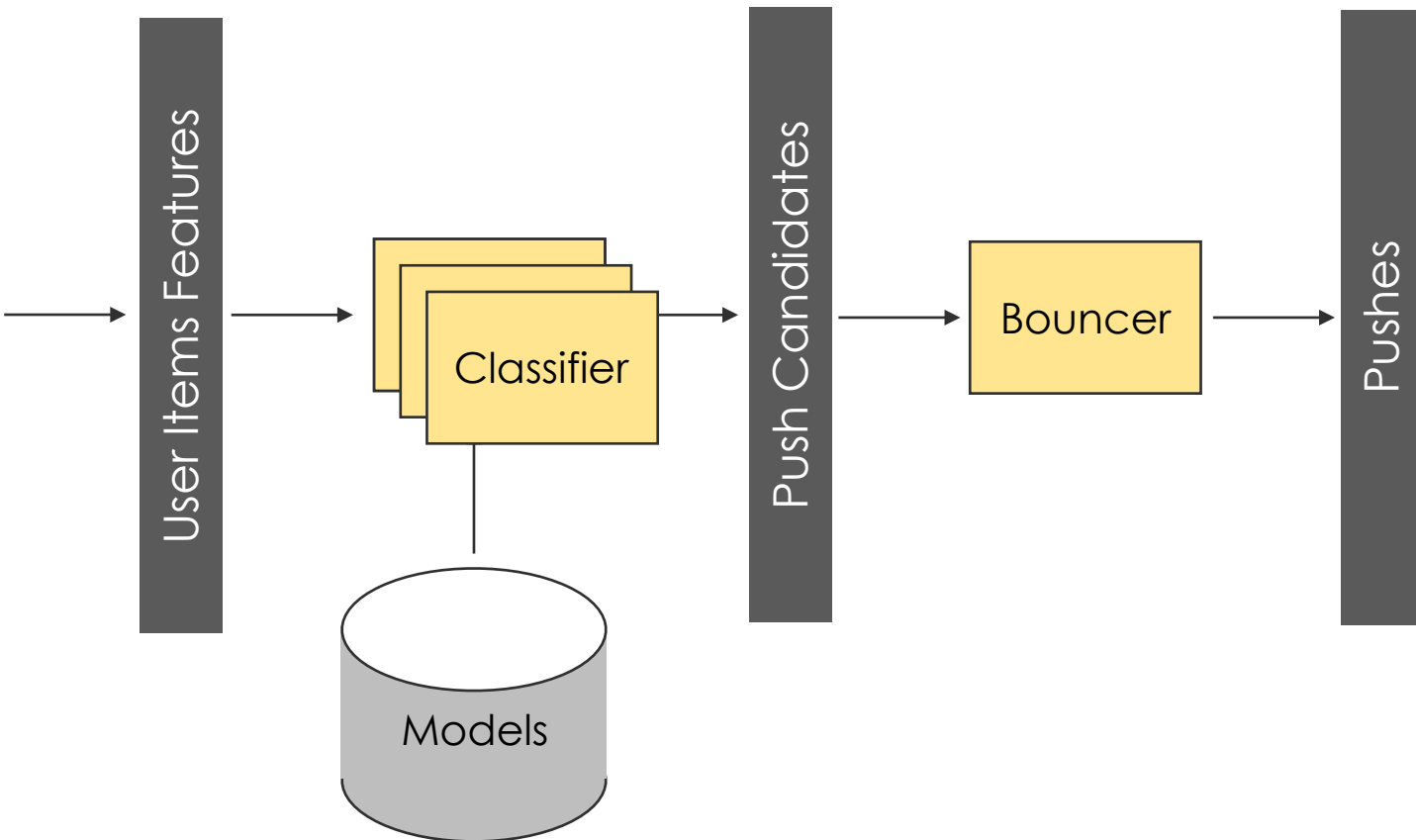
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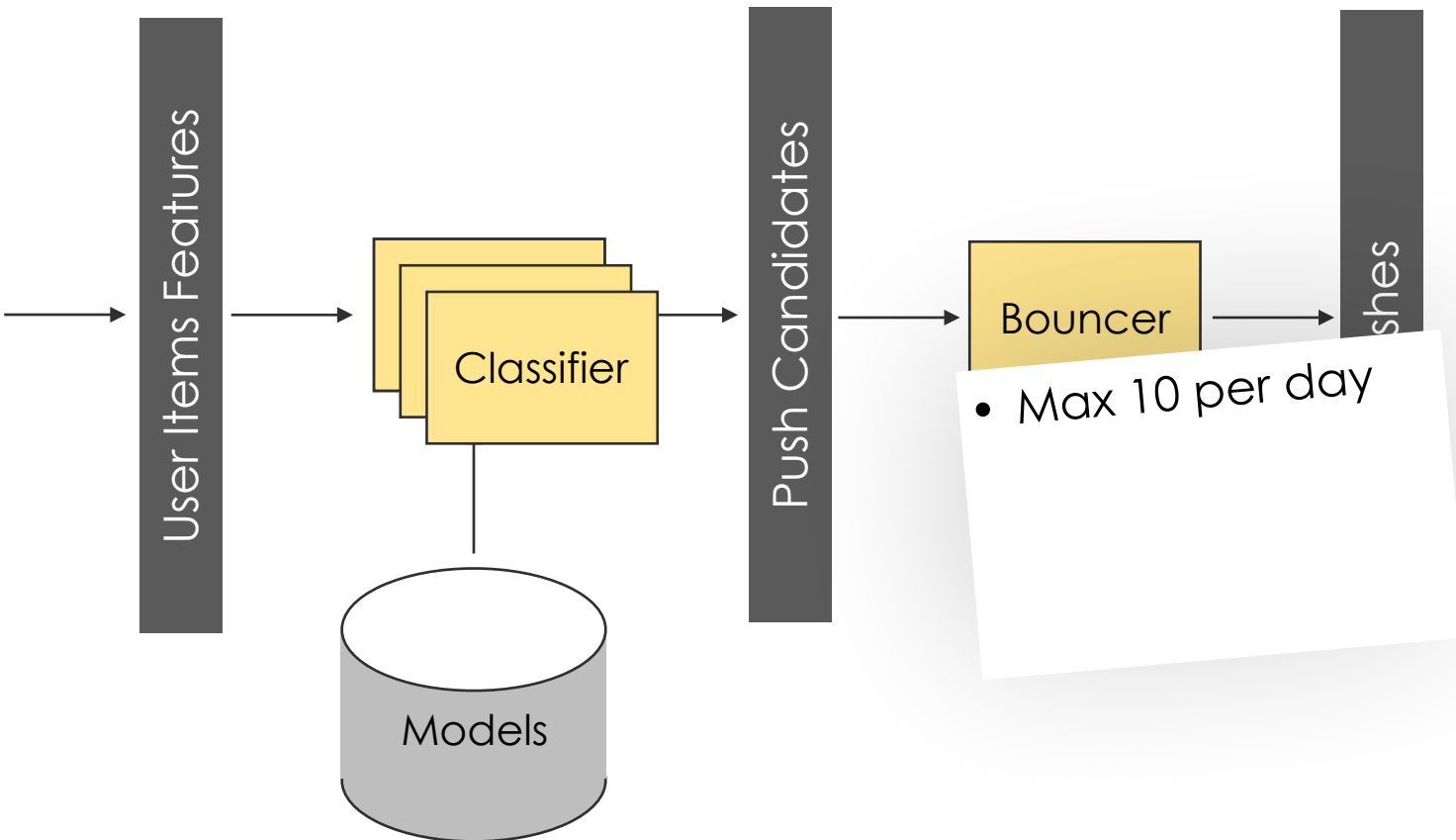
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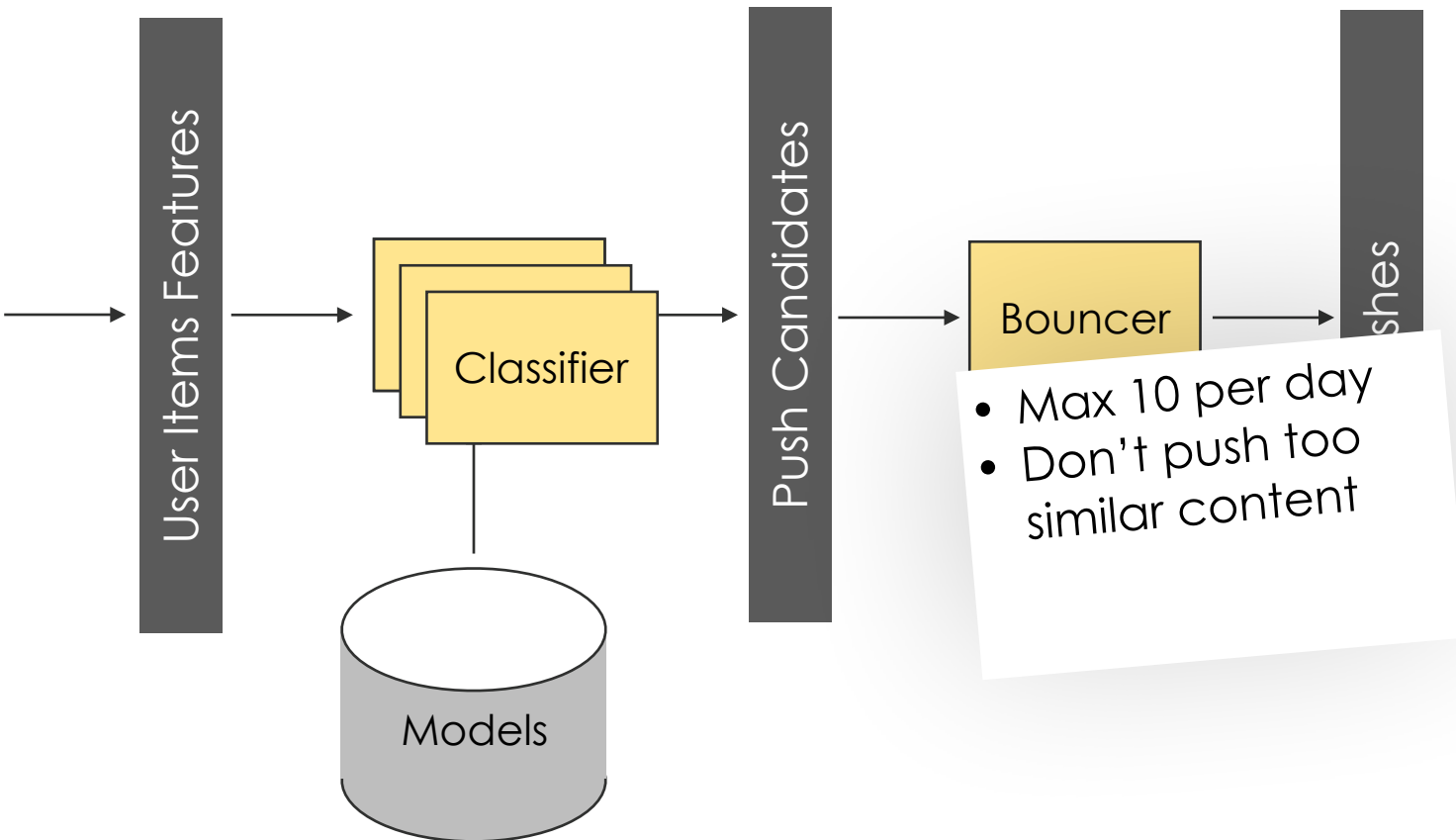
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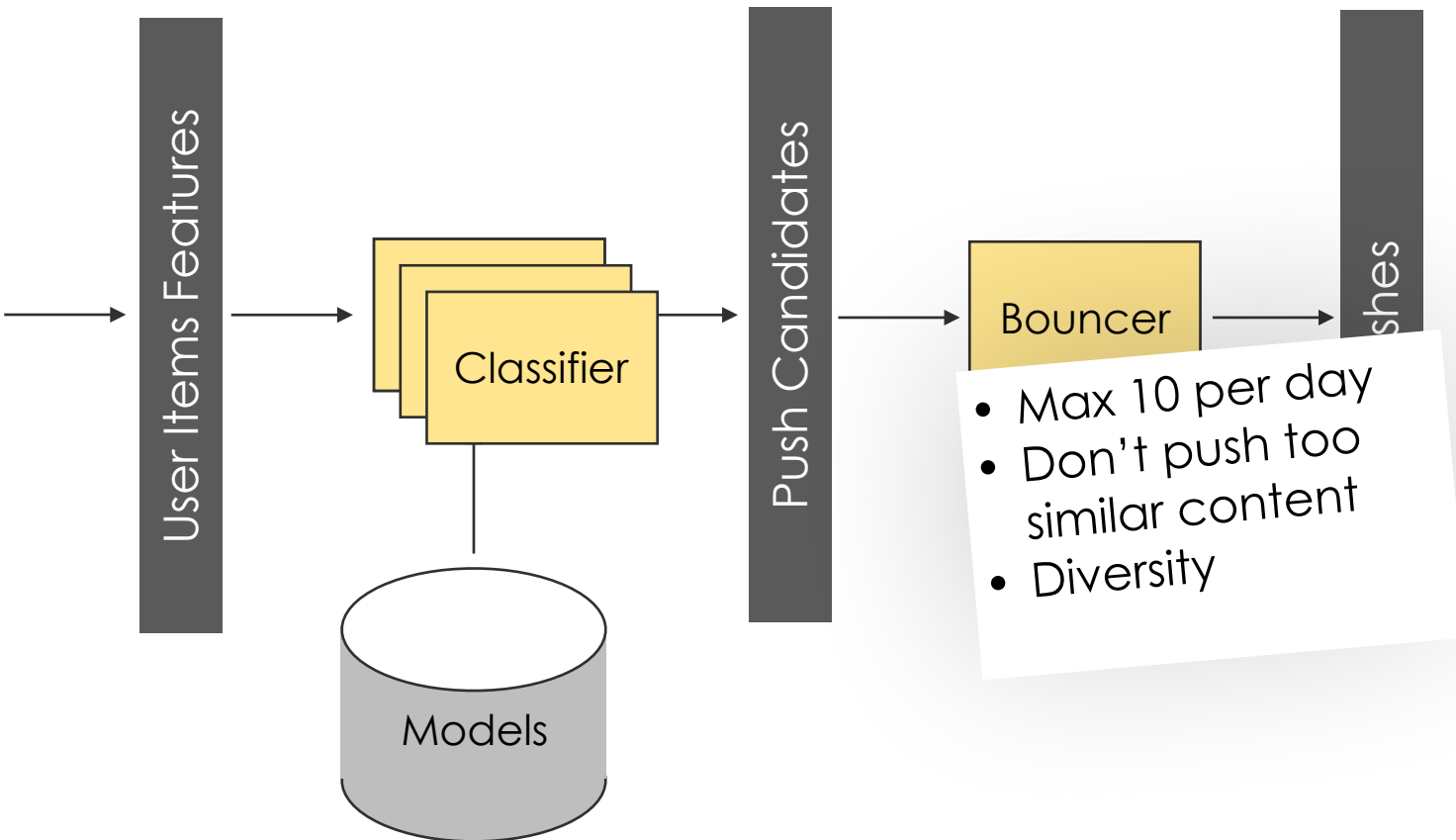
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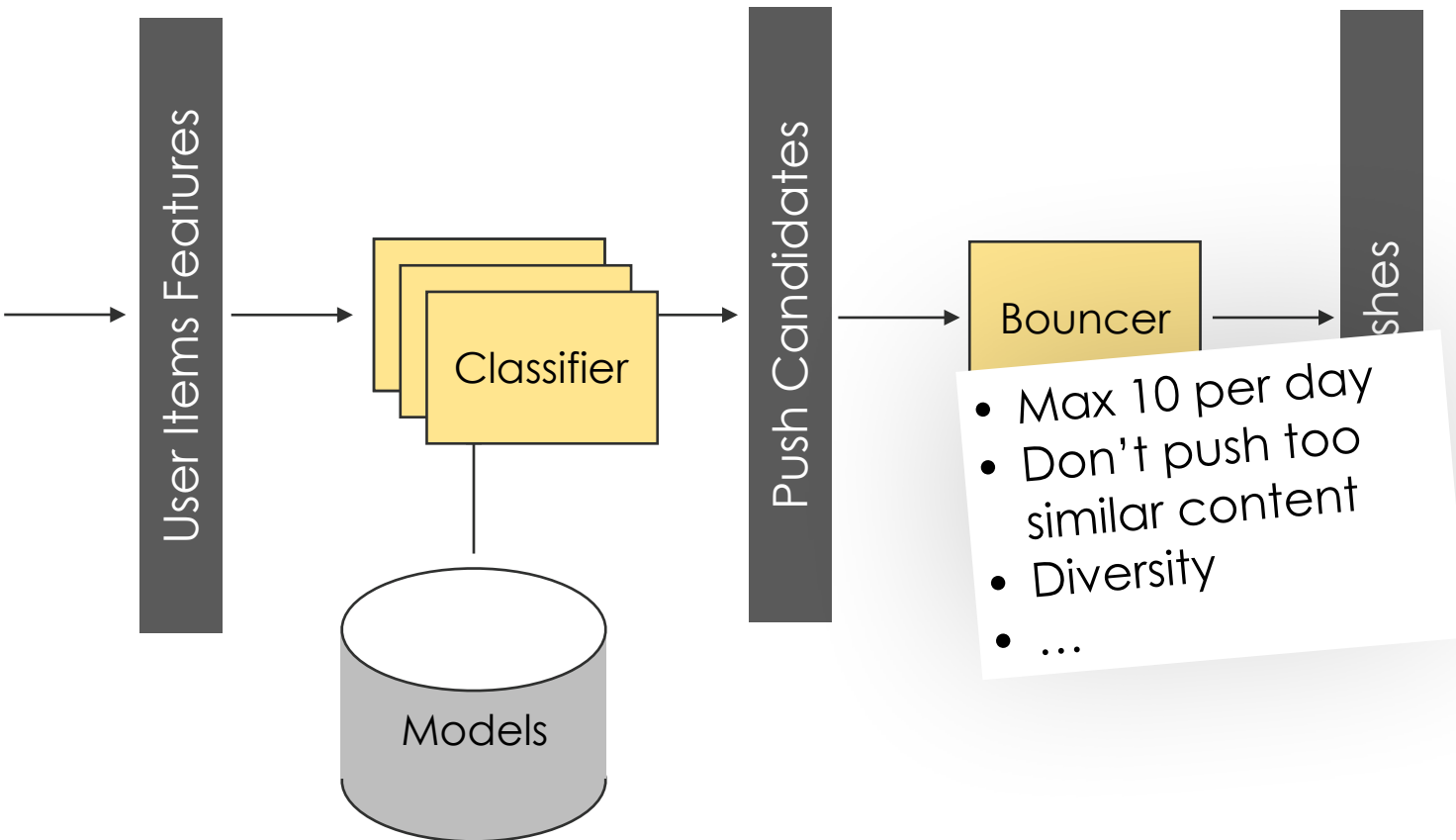
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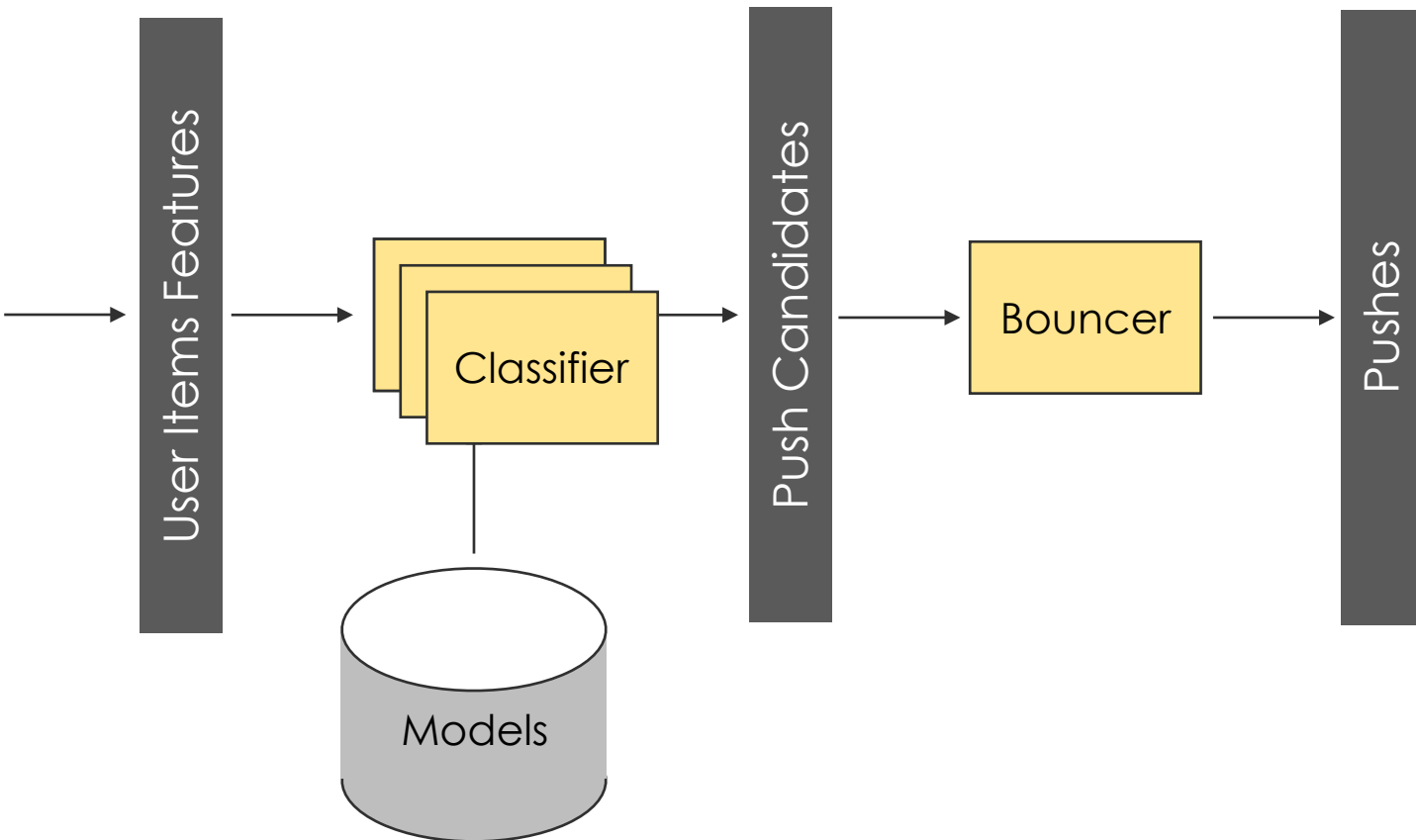
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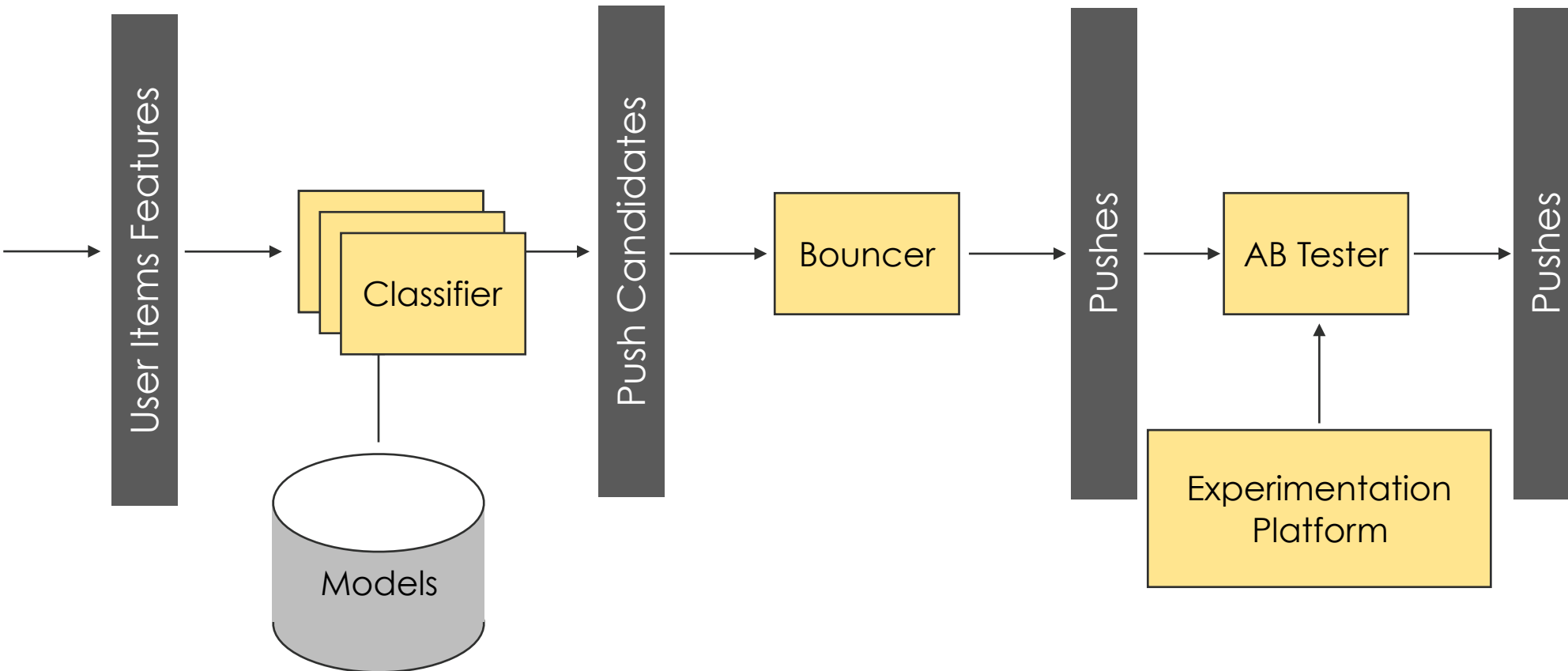
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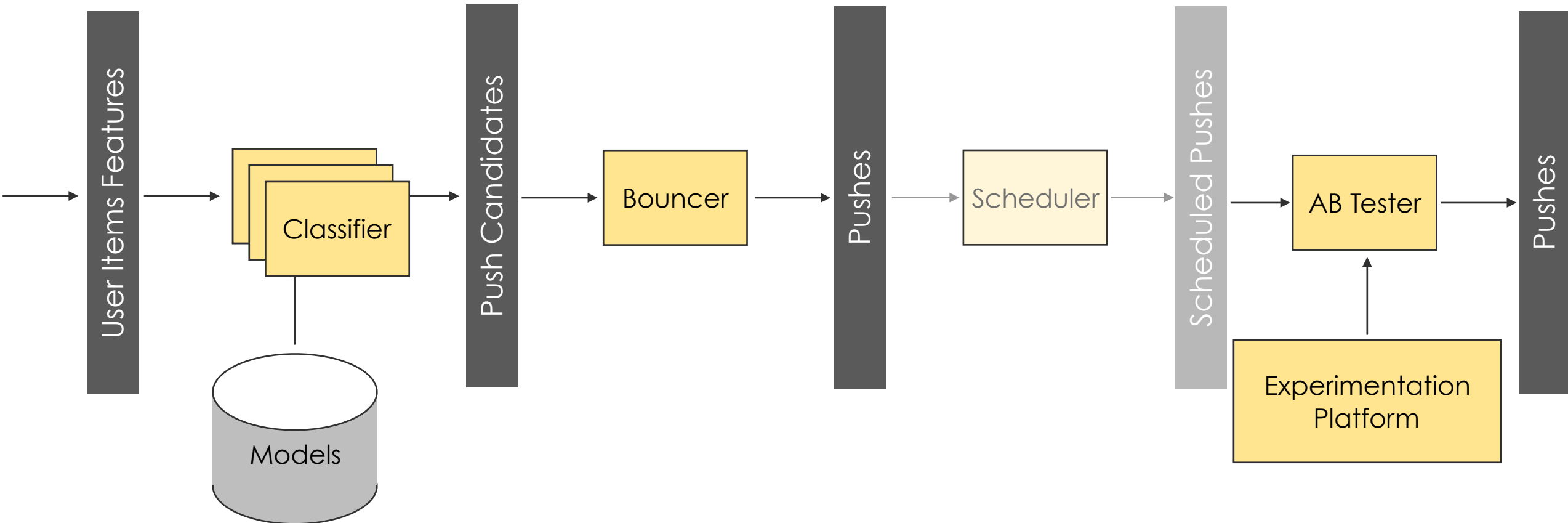
OUR ARCHITECTURE



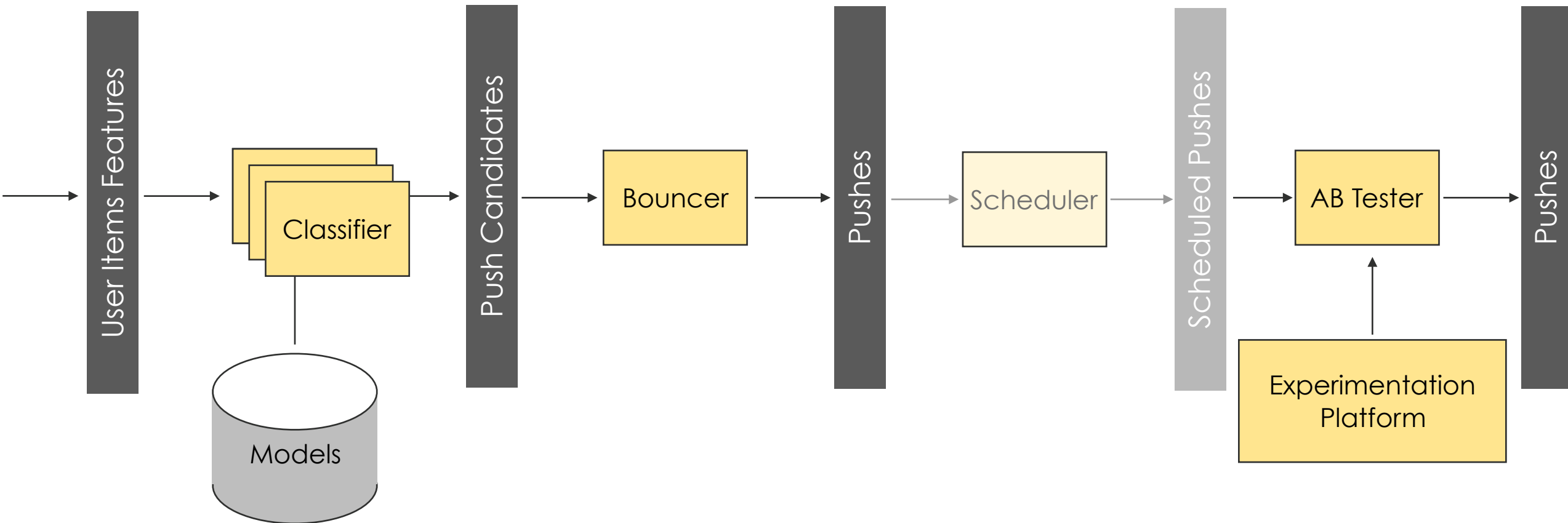
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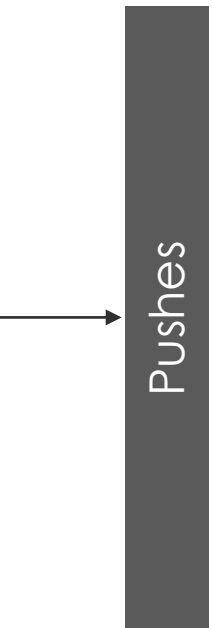
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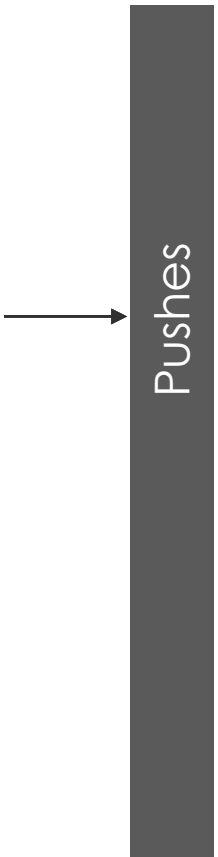
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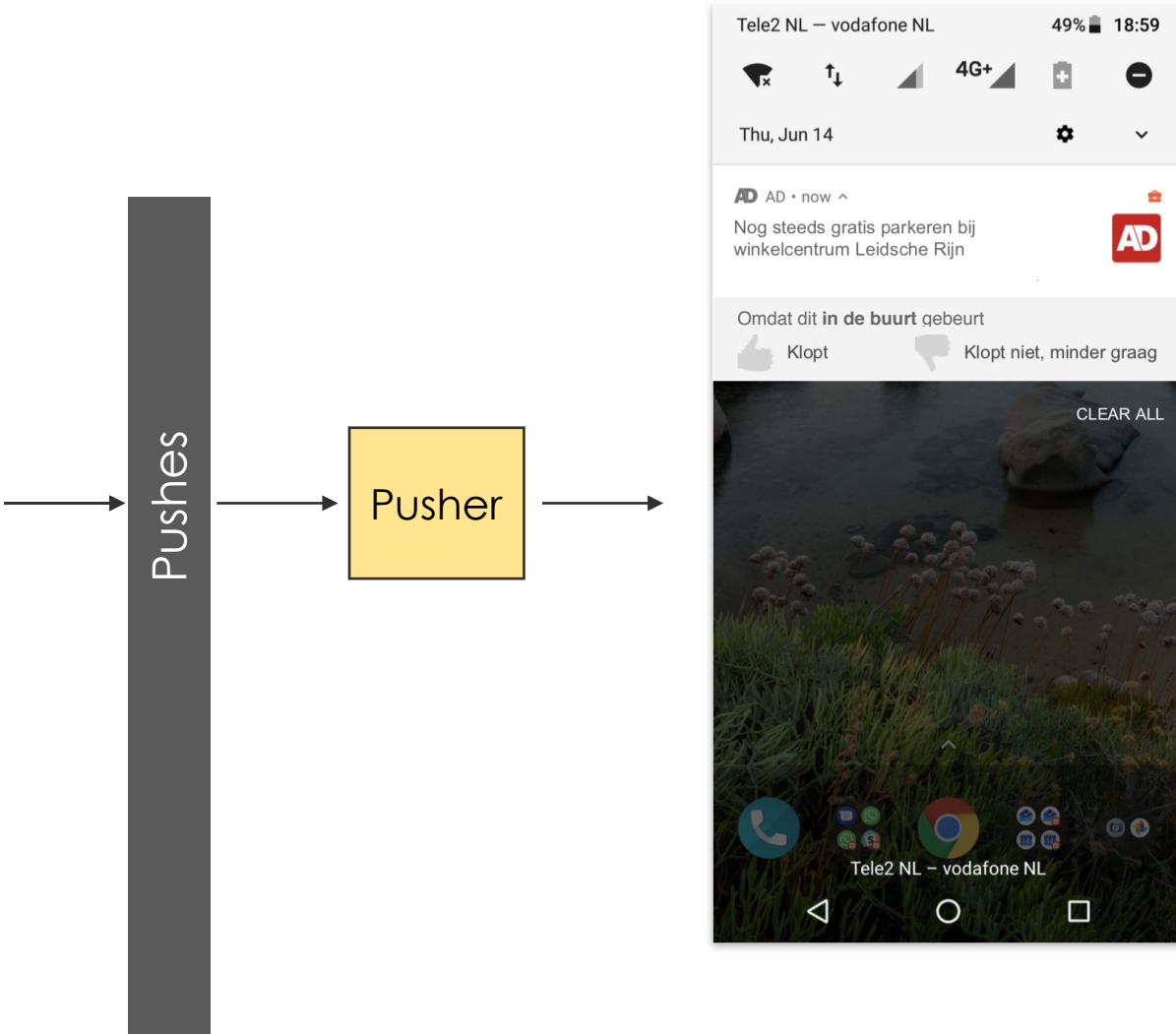
OUR ARCHITECTURE



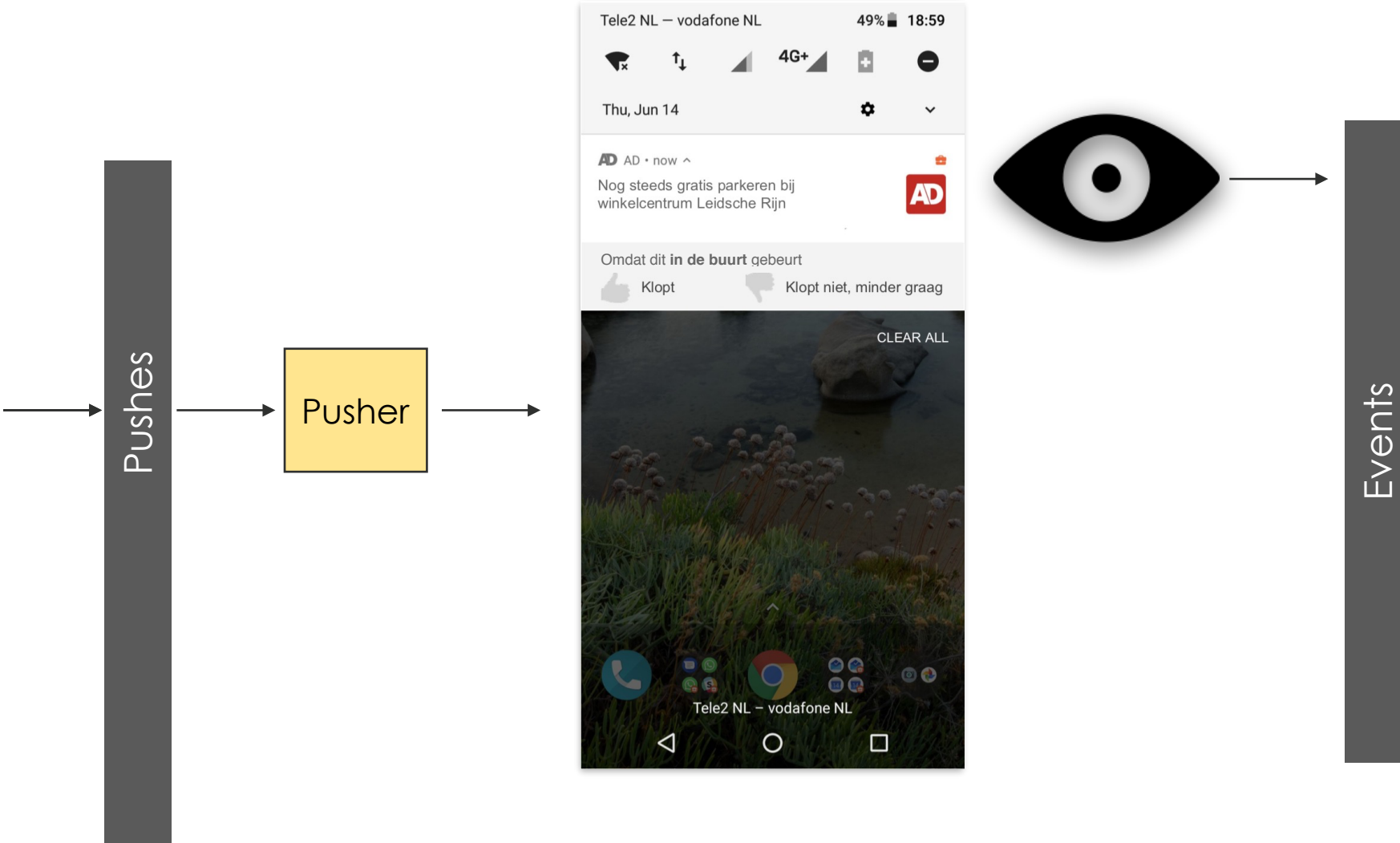
OUR ARCHITECTURE



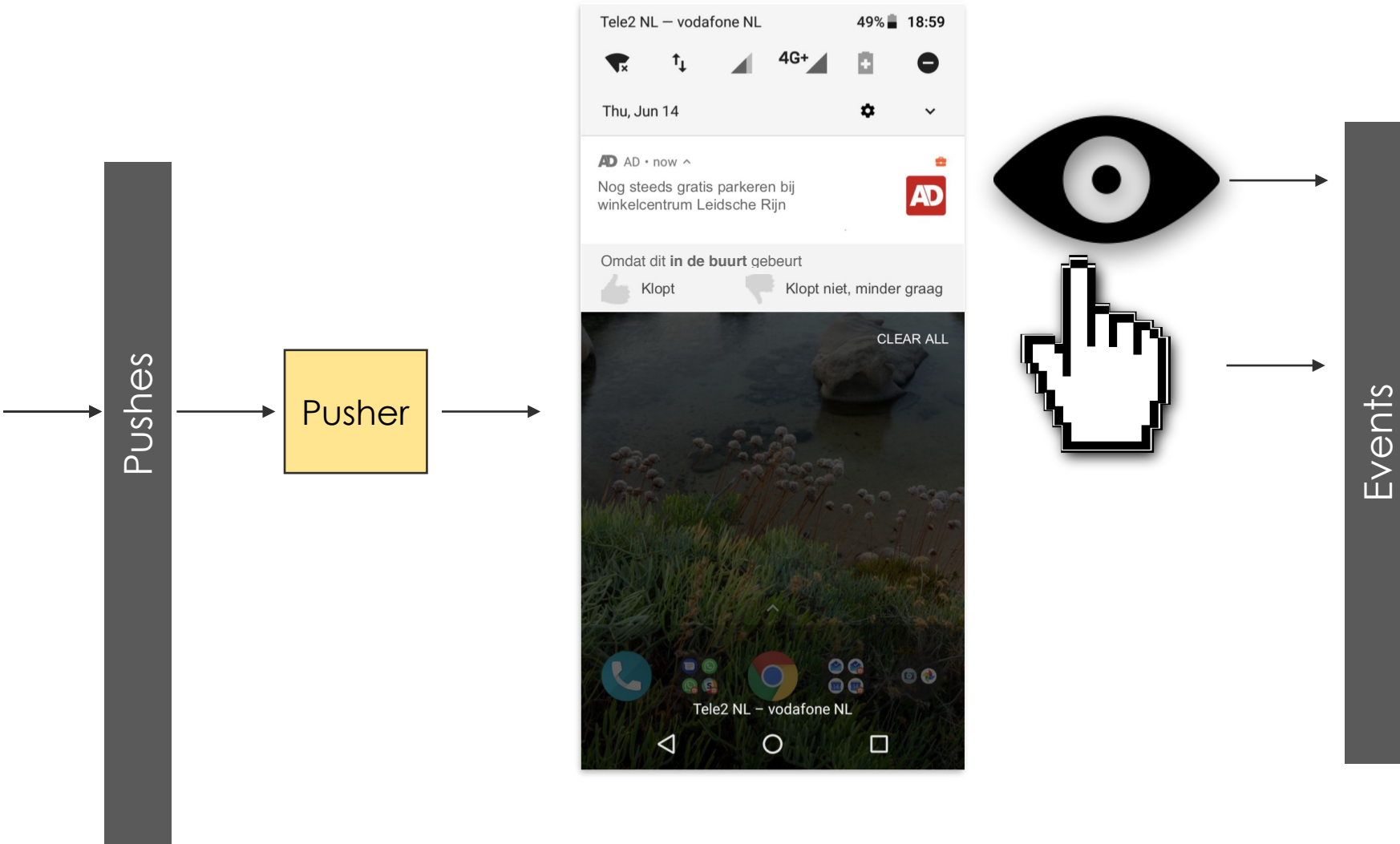
OUR ARCHITECTURE



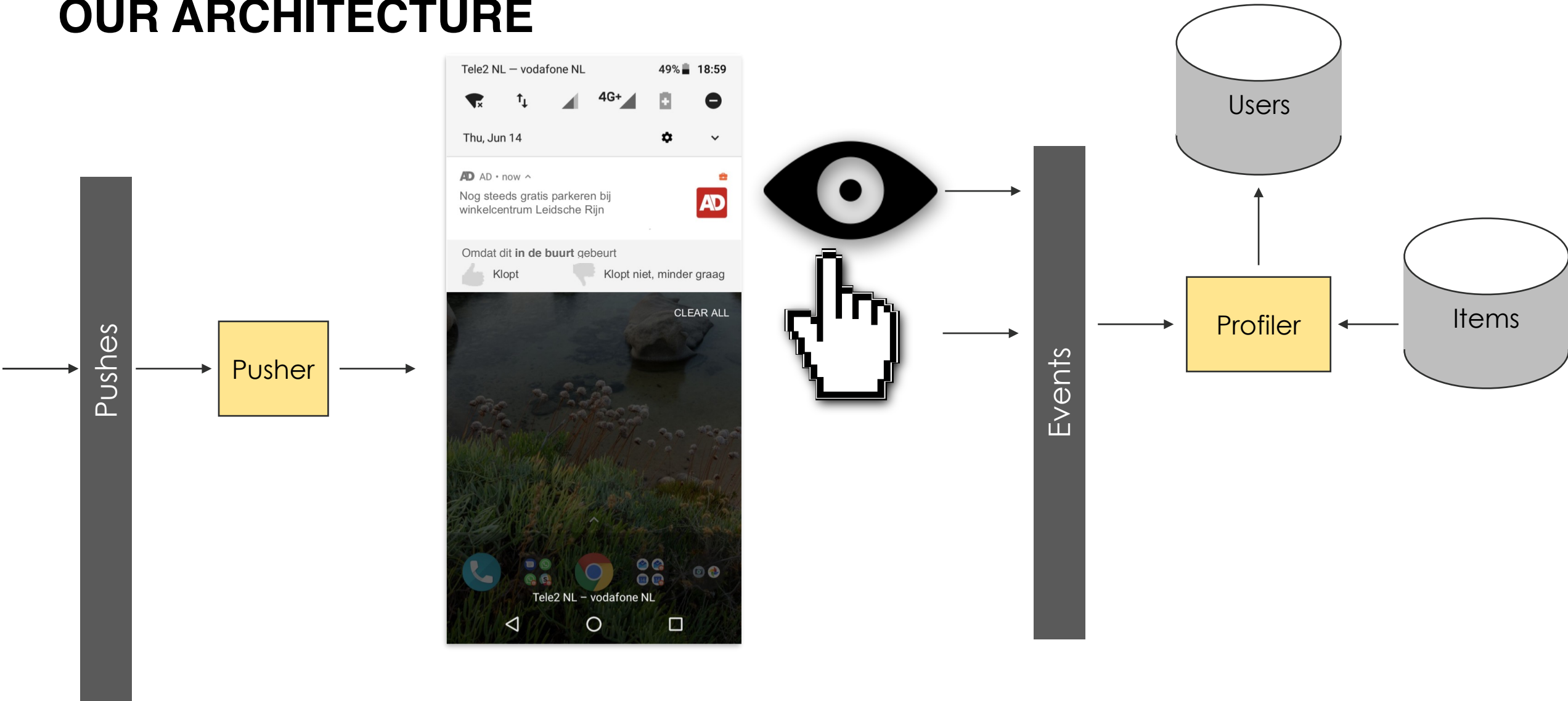
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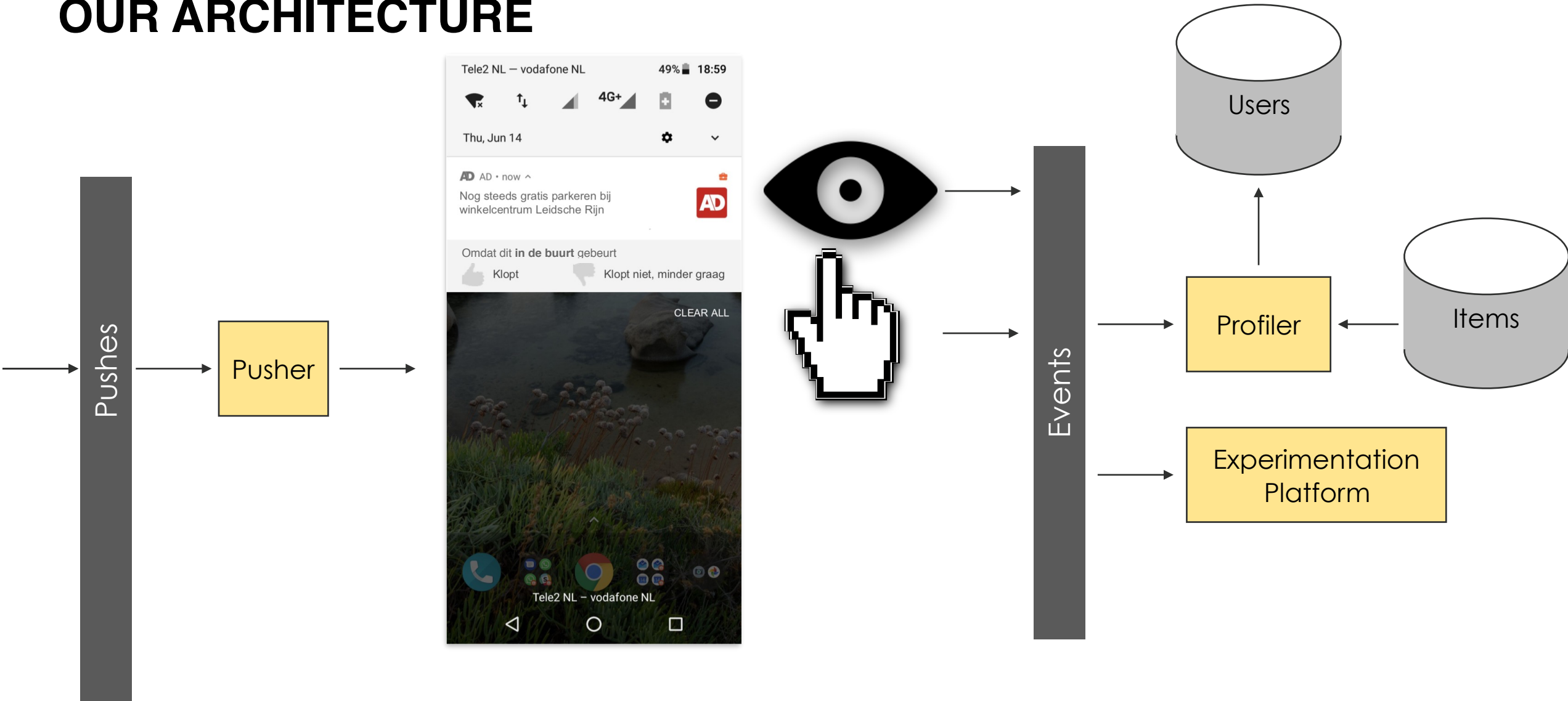
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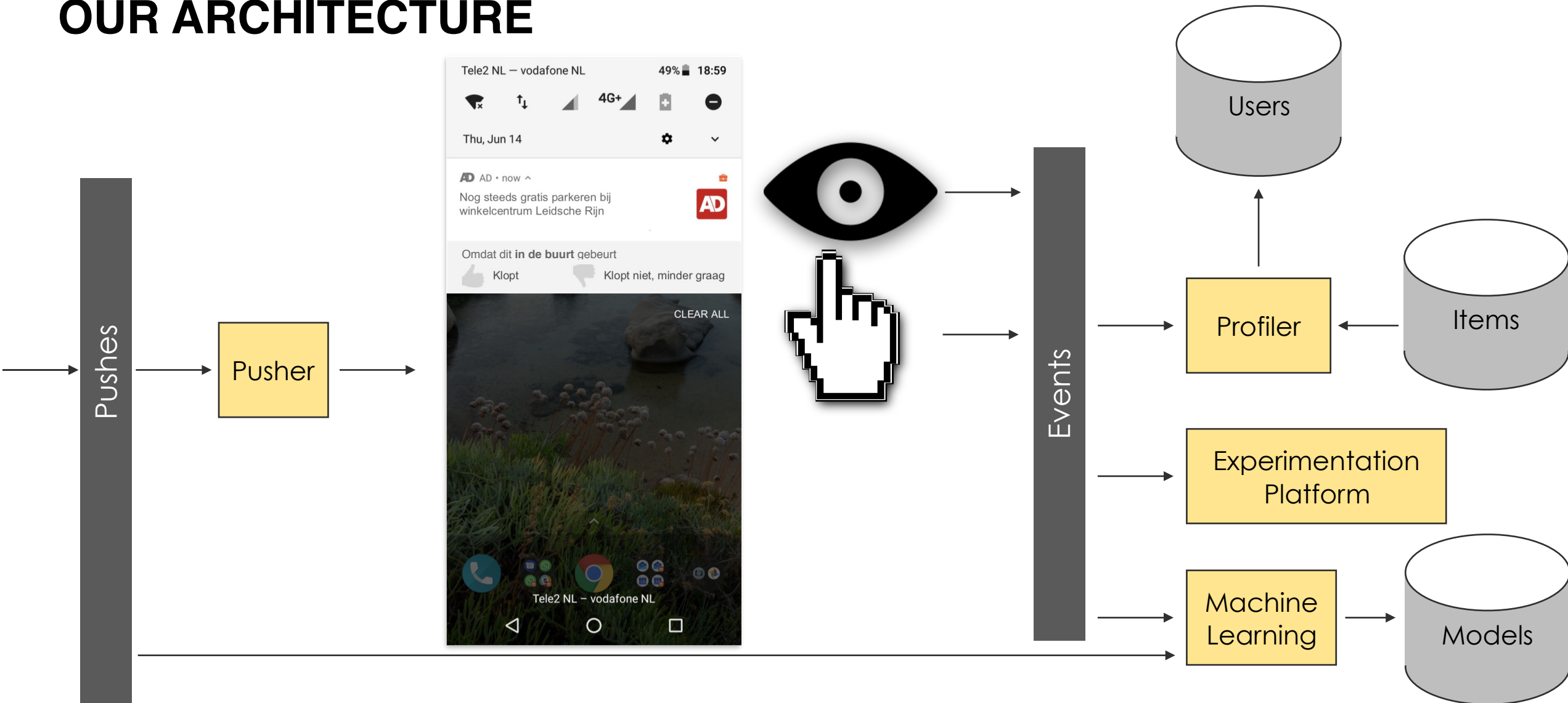
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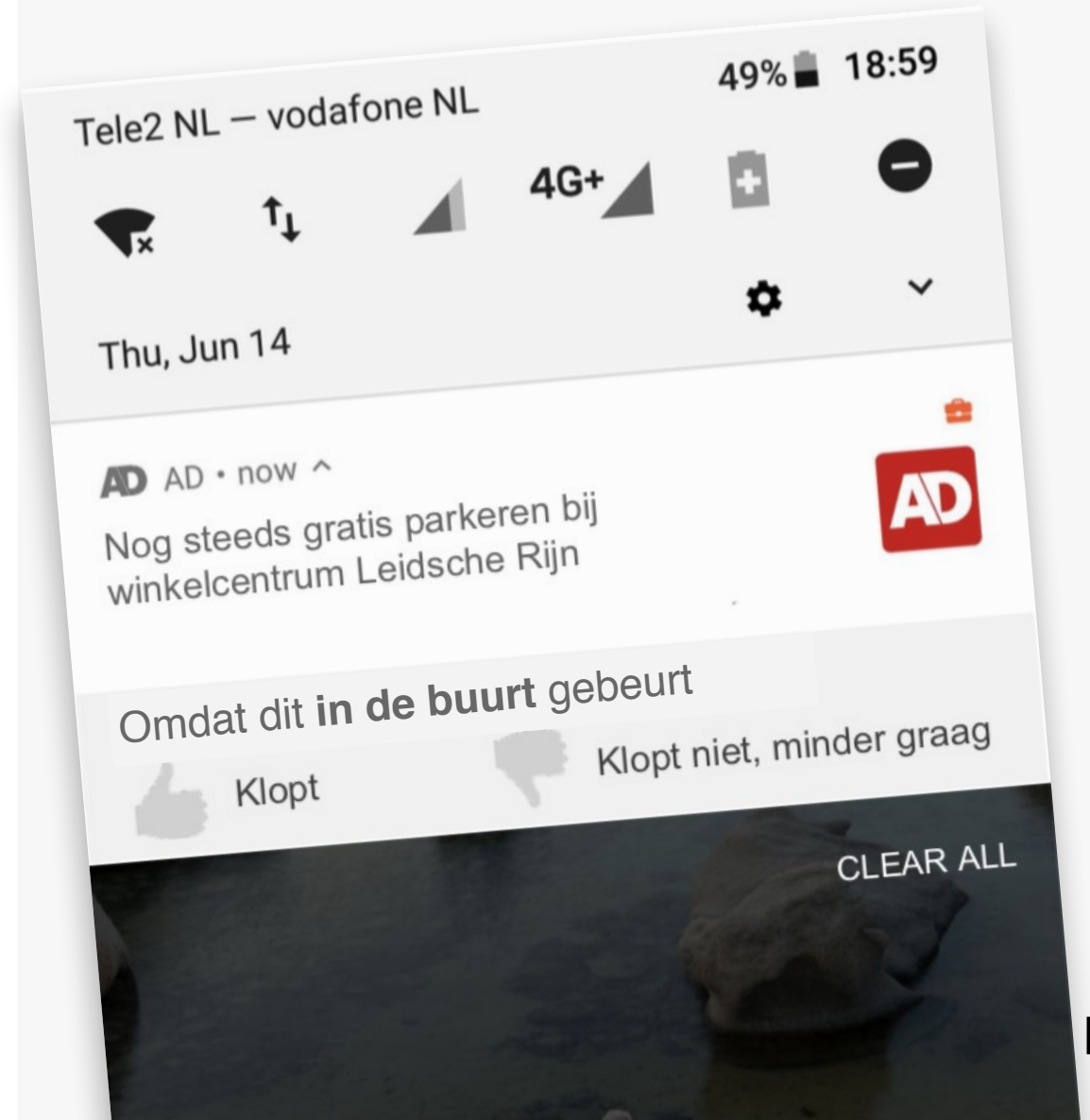
OUR ARCHITECTURE



OUR ARCHITECTURE

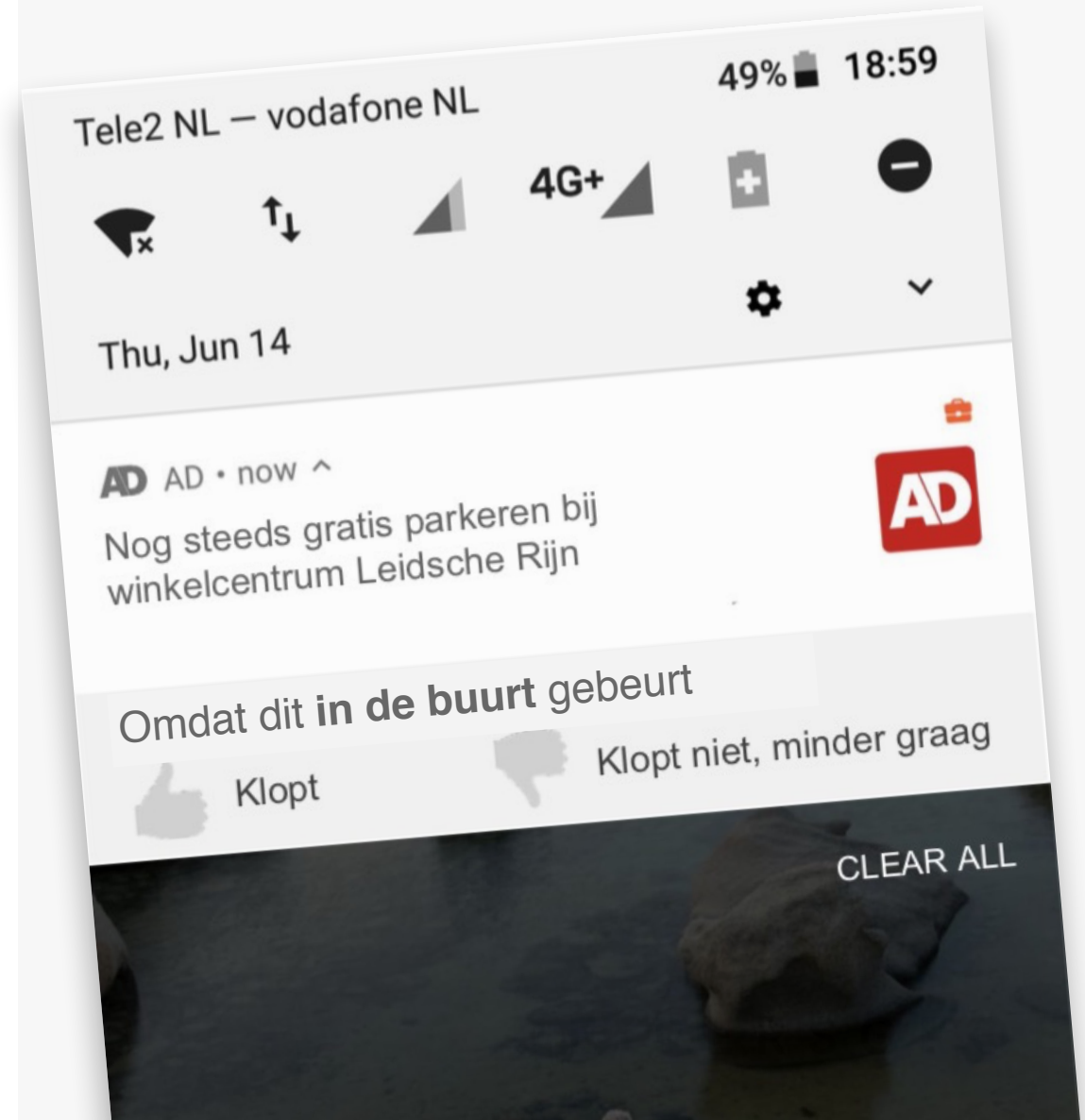


SUMMARY: PERSONALISED LOCALISED PUSH NOTIFICATIONS



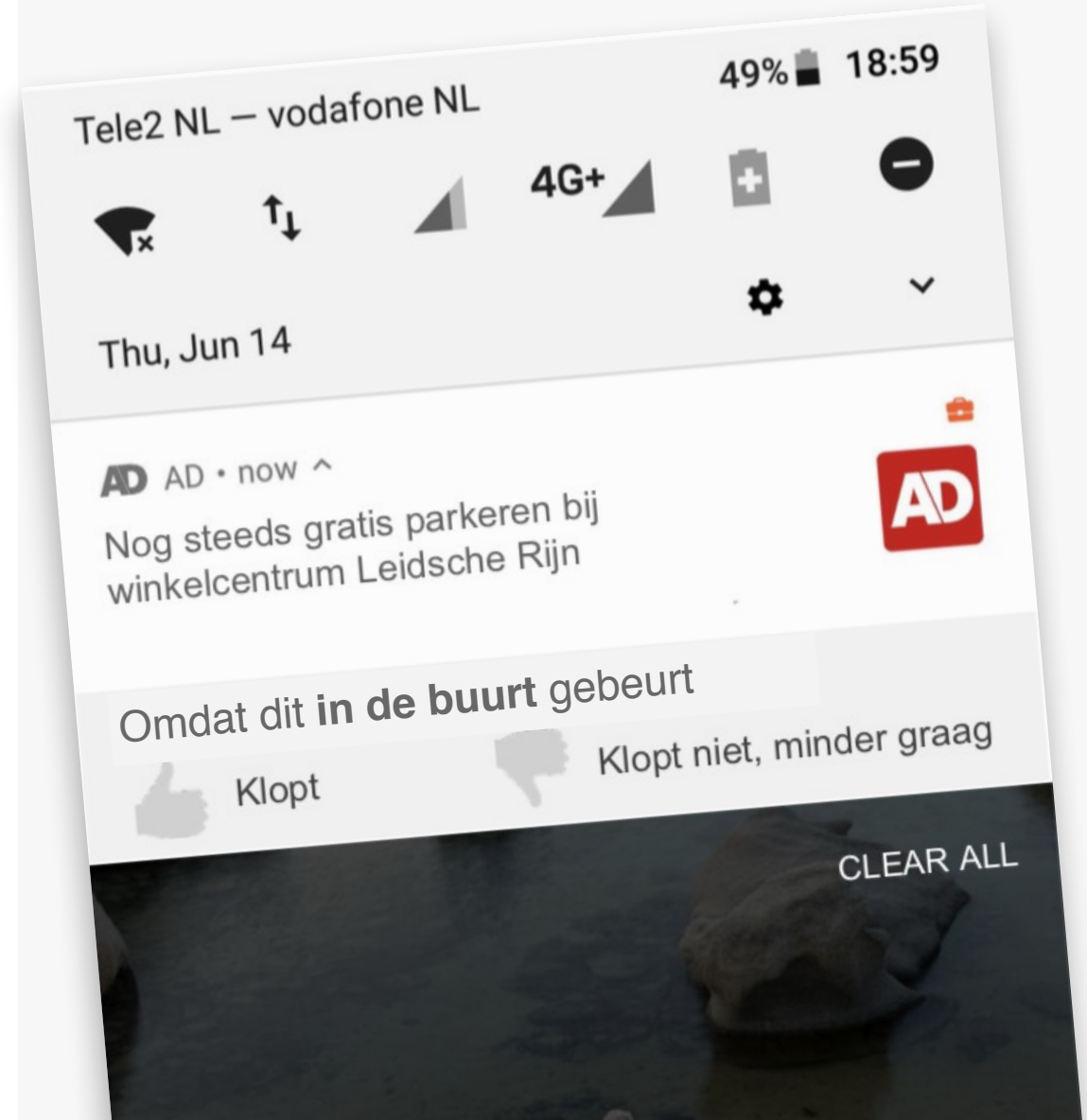
SUMMARY: PERSONALISED LOCALISED PUSH NOTIFICATIONS

- Streaming pipeline



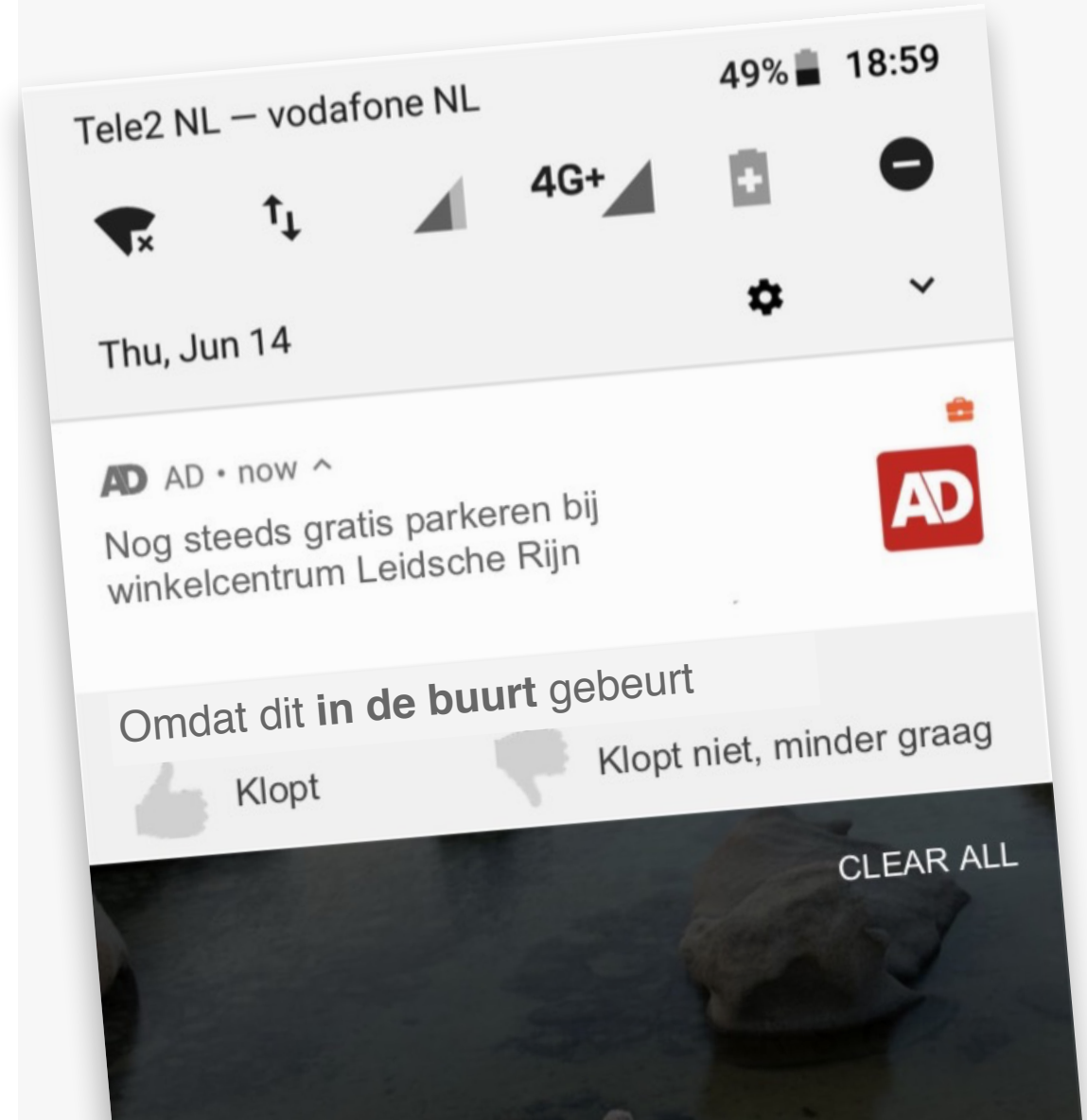
SUMMARY: PERSONALISED LOCALISED PUSH NOTIFICATIONS

- Streaming pipeline
- Sent seconds after publication



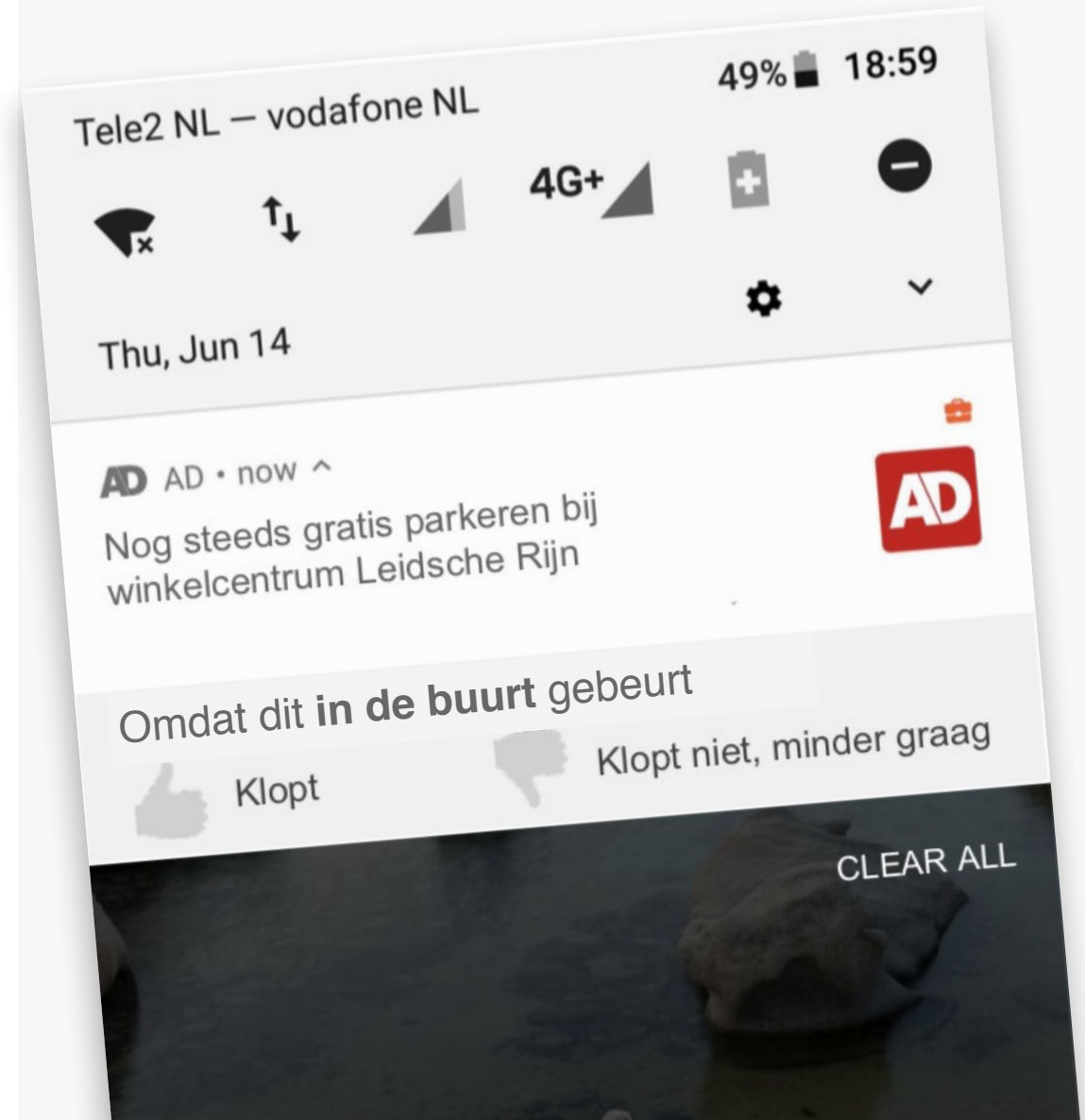
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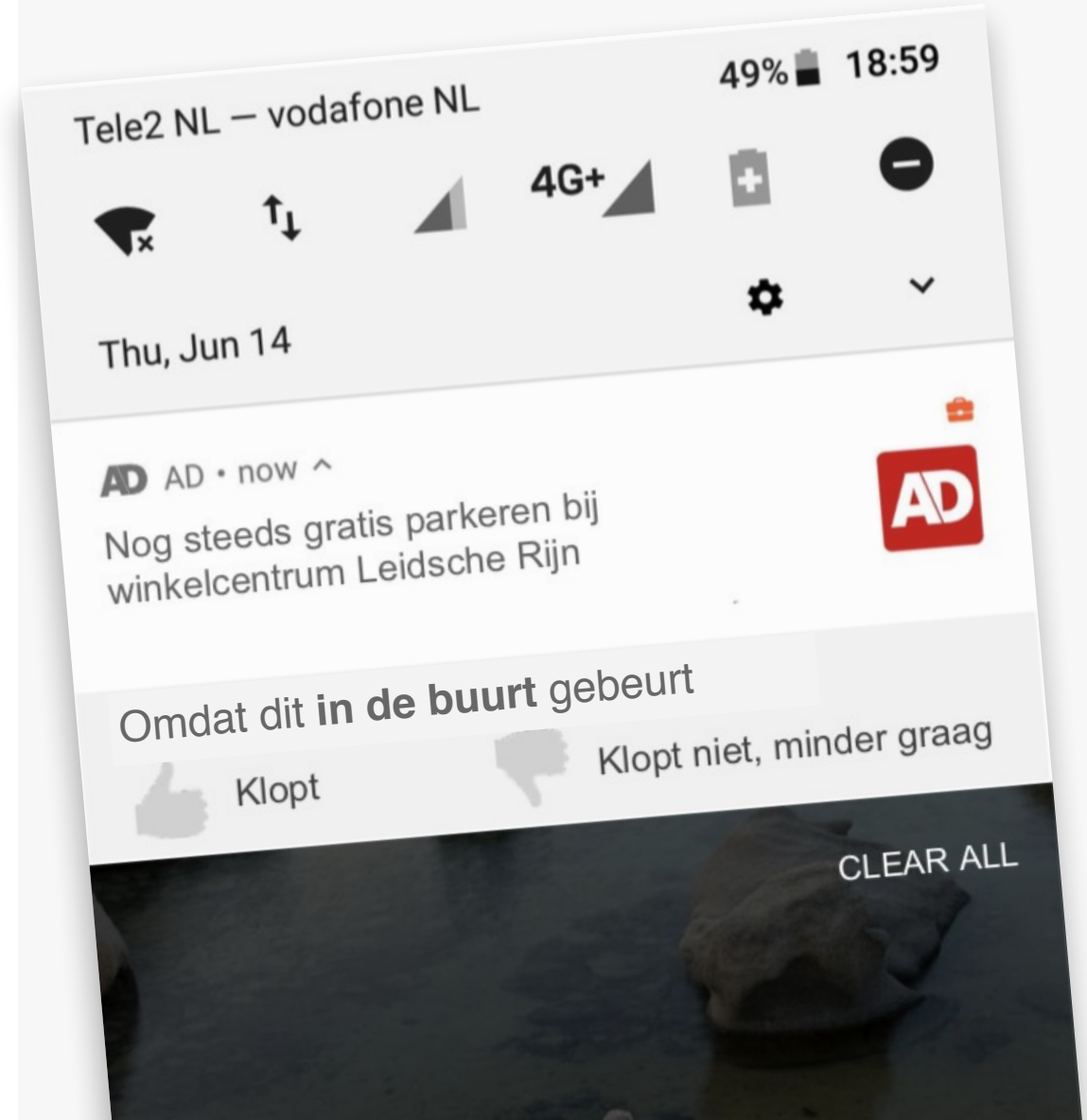
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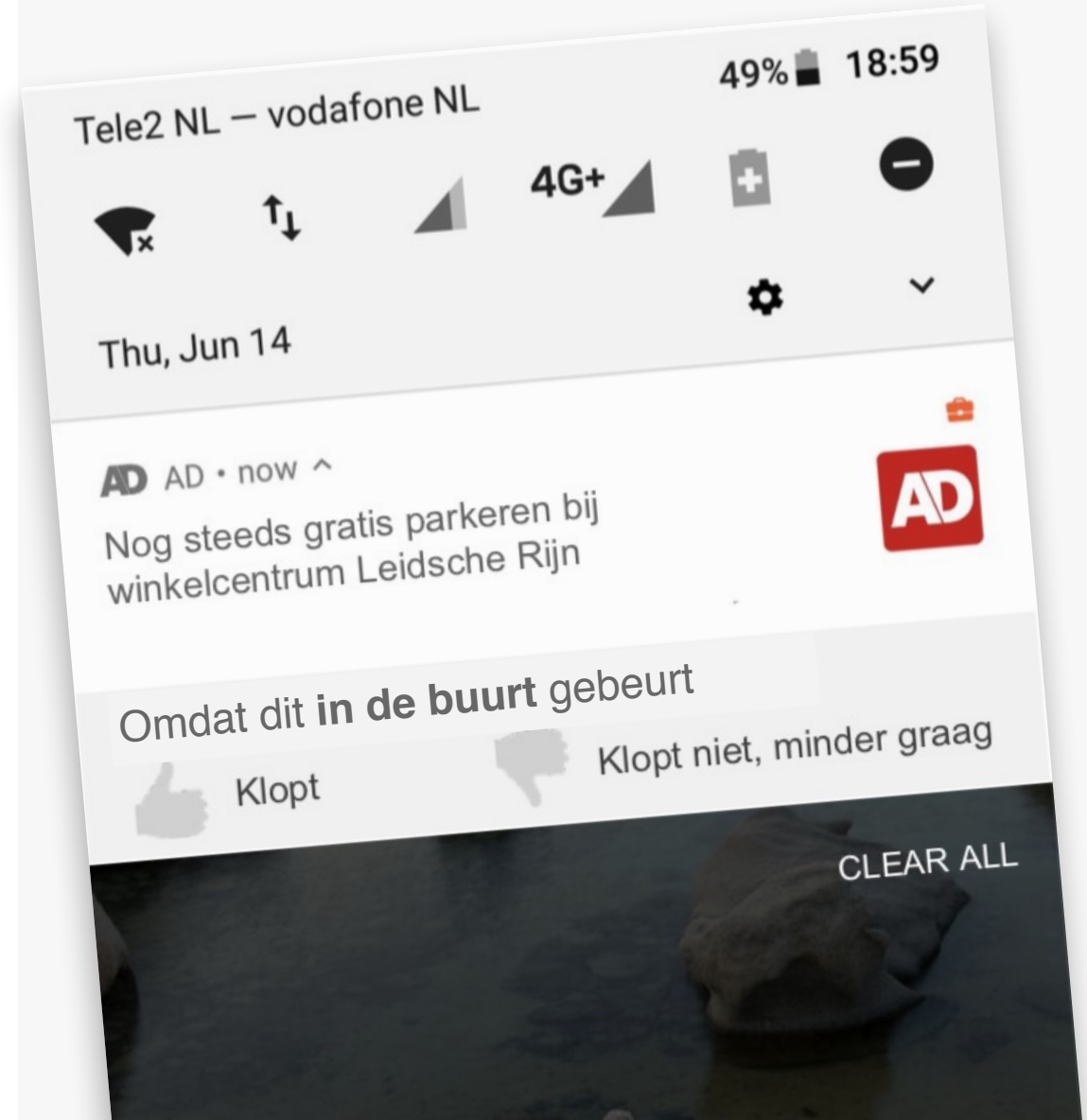
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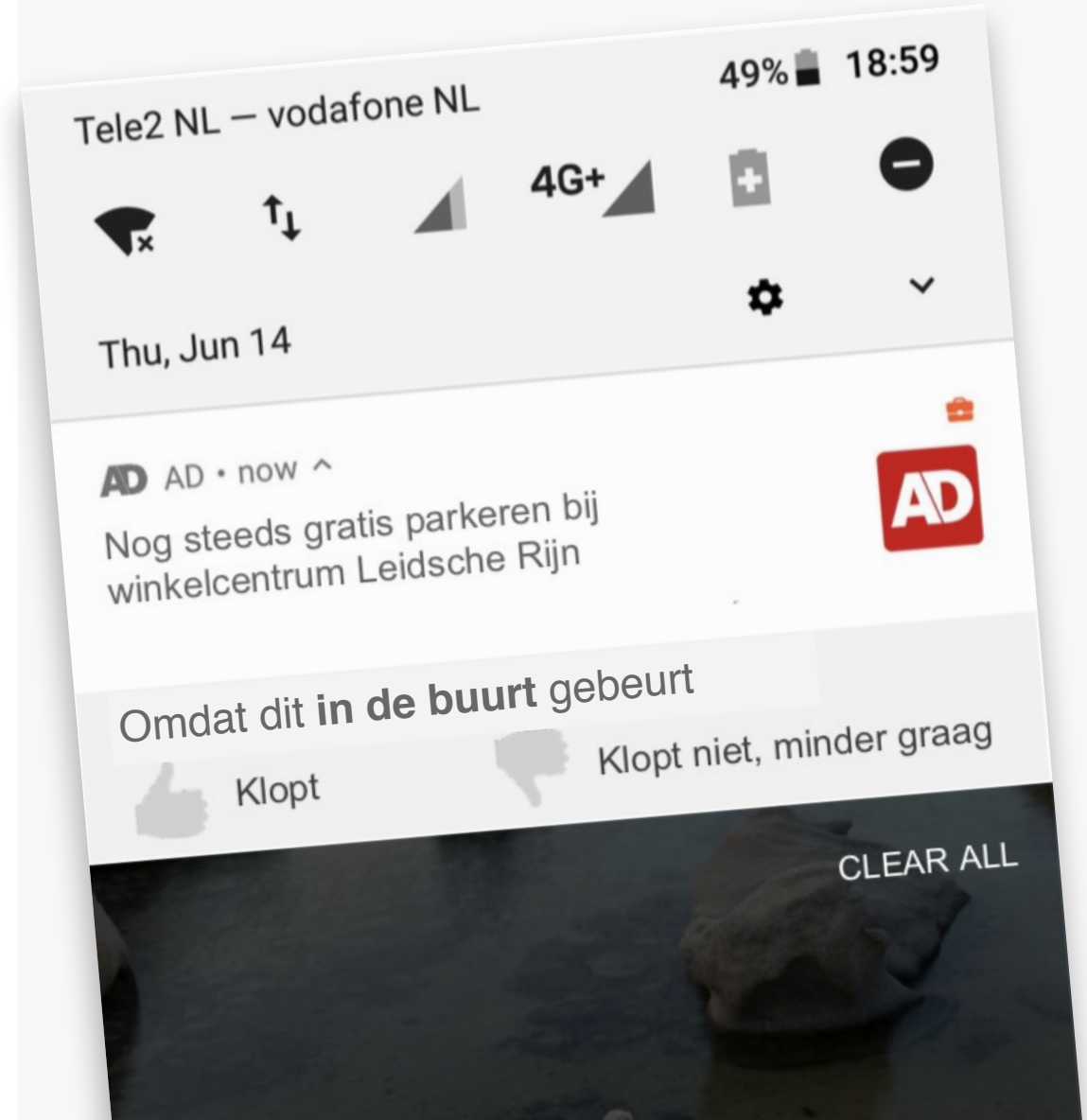
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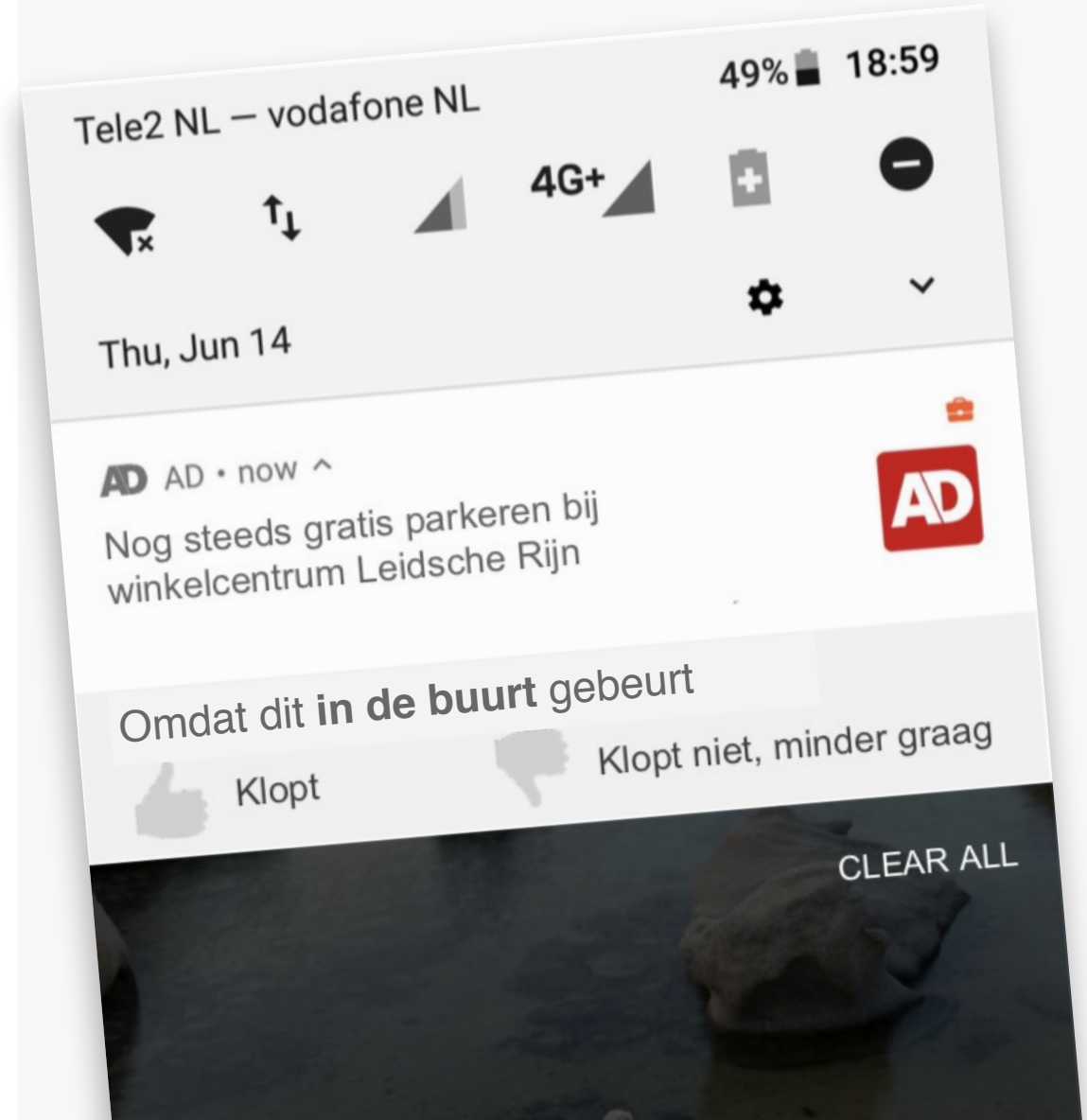
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 - Our system does not compete and will run *alongside* editorial push





DE VOLKSKRANT GUIDE TO LIFE

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OUR TEAM



Lucas de Haas
ML Engineer



Jeroen Jansze
ML Engineer



Vasco Visser
ML Engineer



Babak Loni
ML Engineer



TBA
ML Engineer - De Volkskrant Guide to Life



Chia-Lun Yeh
Intern - Delft University of Technology



Two Vacancies
Interns



Anne Schuth
ML Engineer, Team Lead

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THANK YOU