

Yandex

Practice of Efficient Data Collection via Crowdsourcing: Aggregation, Incremental Relabelling, and Pricing

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Part IX

Discussion of the projects' results

Conclusion

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Yandex.Toloka is a service of Swiss company Yandex Services AG

Tutorial outline

Introduction: 20 min

Part I: 40 min
Main Components

Coffee break:
30 min

Part II: 25 min
Brainstorming
pipeline

Part III: 10 min
Introduction to
Crowd Platform

Part IV: 85 min
Set & Run Projects

Lunch break:
90 min

Part V: 35 min
Interface & Quality
control

Part VI: 25 min
Theory on
Aggregation

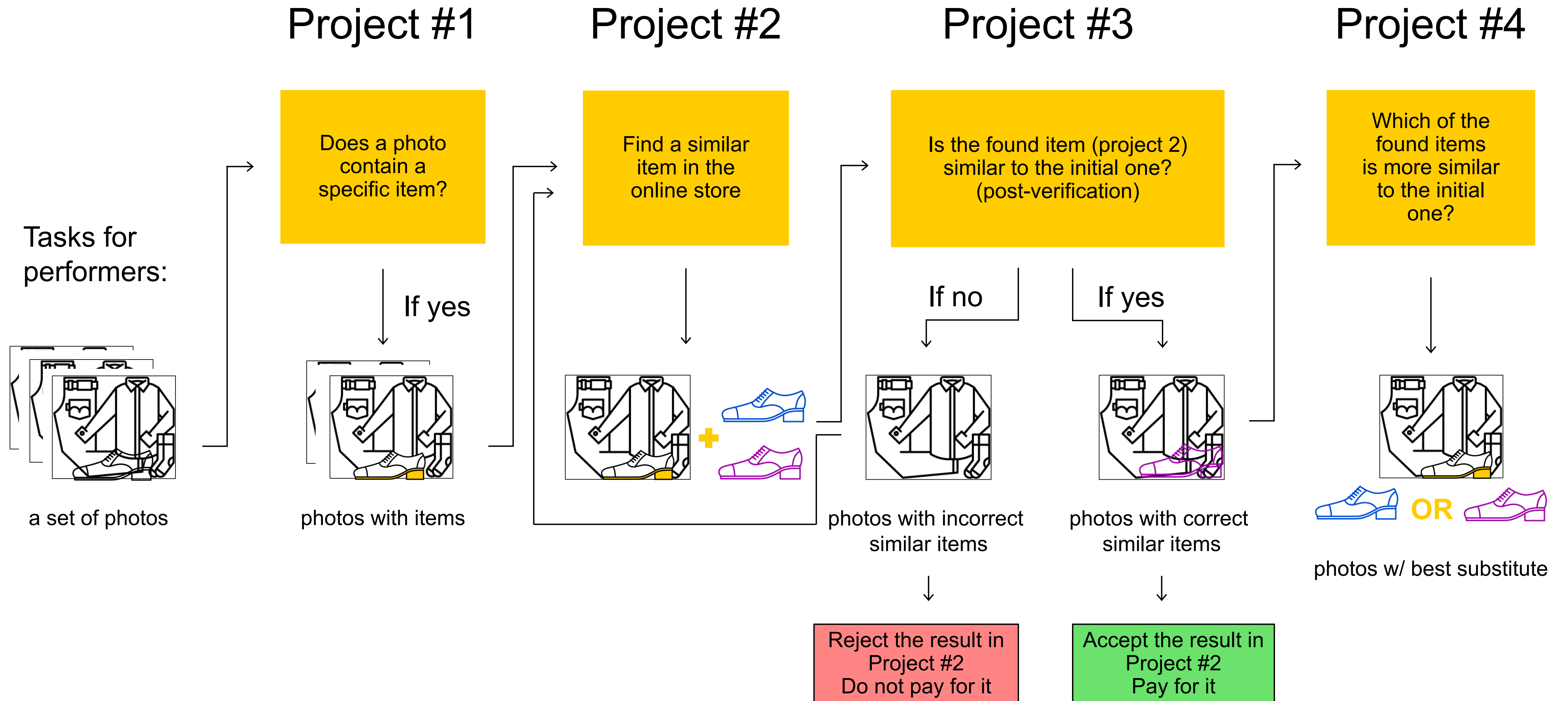
Coffee break:
30 min

Part VI: 60 min
Set & Run Projects
cont.

Part VII: 20 min
Incremental
relabeling and pricing

Part VIII: 10 min
Results &
Conclusions

Reminder: we implemented this pipeline



Project #1: Filter out photos without objects

Task

- › Does a photo contain an item of desired type?

Our results

- › Amount: 30 photos
- › Overlap: 3
- › Time: 5 min
- › Cost: \$0.09 + Toloka fee



Are there **shoes** in the picture?

☐ Yes ☐ No ☐ Picture not found

Project #2: Searching for similar items on the online store

Task

- › Find a similar item on the internet

Our results

- › Amount: 25 photos
- › Overlap: 3
- › Time: 25 min
- › Cost: \$1.74 + Toloka fee



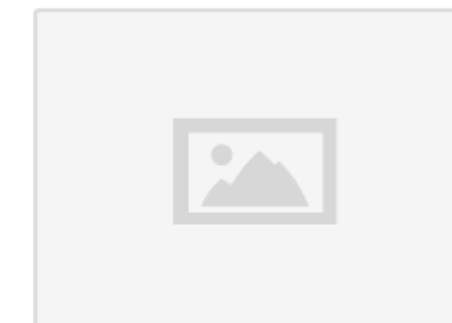
Find the same **shoes** on ASOS

ASOS

Shoes must be the same color and the same style.

Paste the link here

Upload the image here. The image should show the shoes you found.



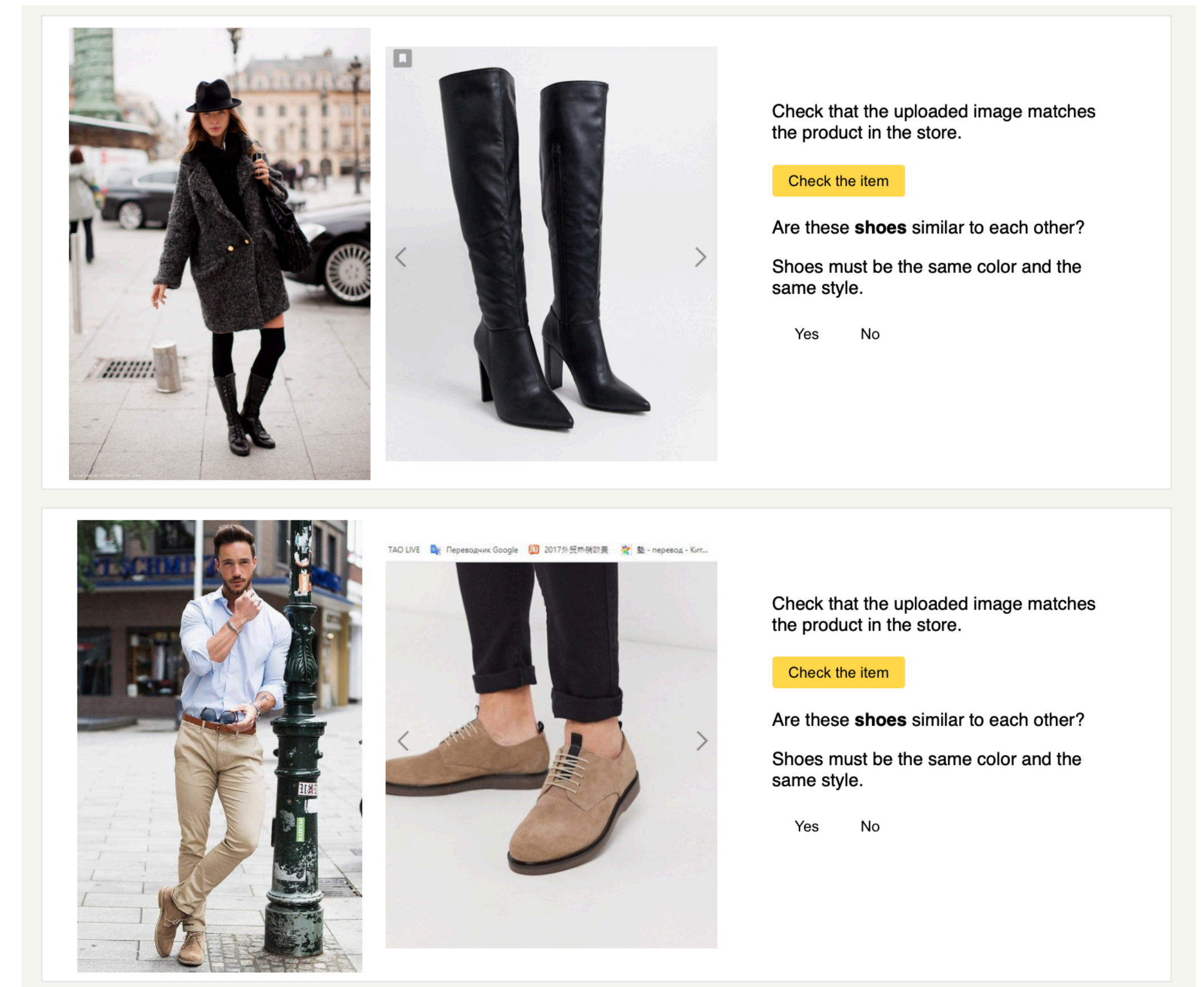
Project #3: Accept correctness of items found

Task

- › Is the found item (project 2) similar to the initial one?

Our results

- › Amount: 75 photos
- › Overlap: 3
- › Time: 3 min
- › Cost: \$0.20 + Toloka fee



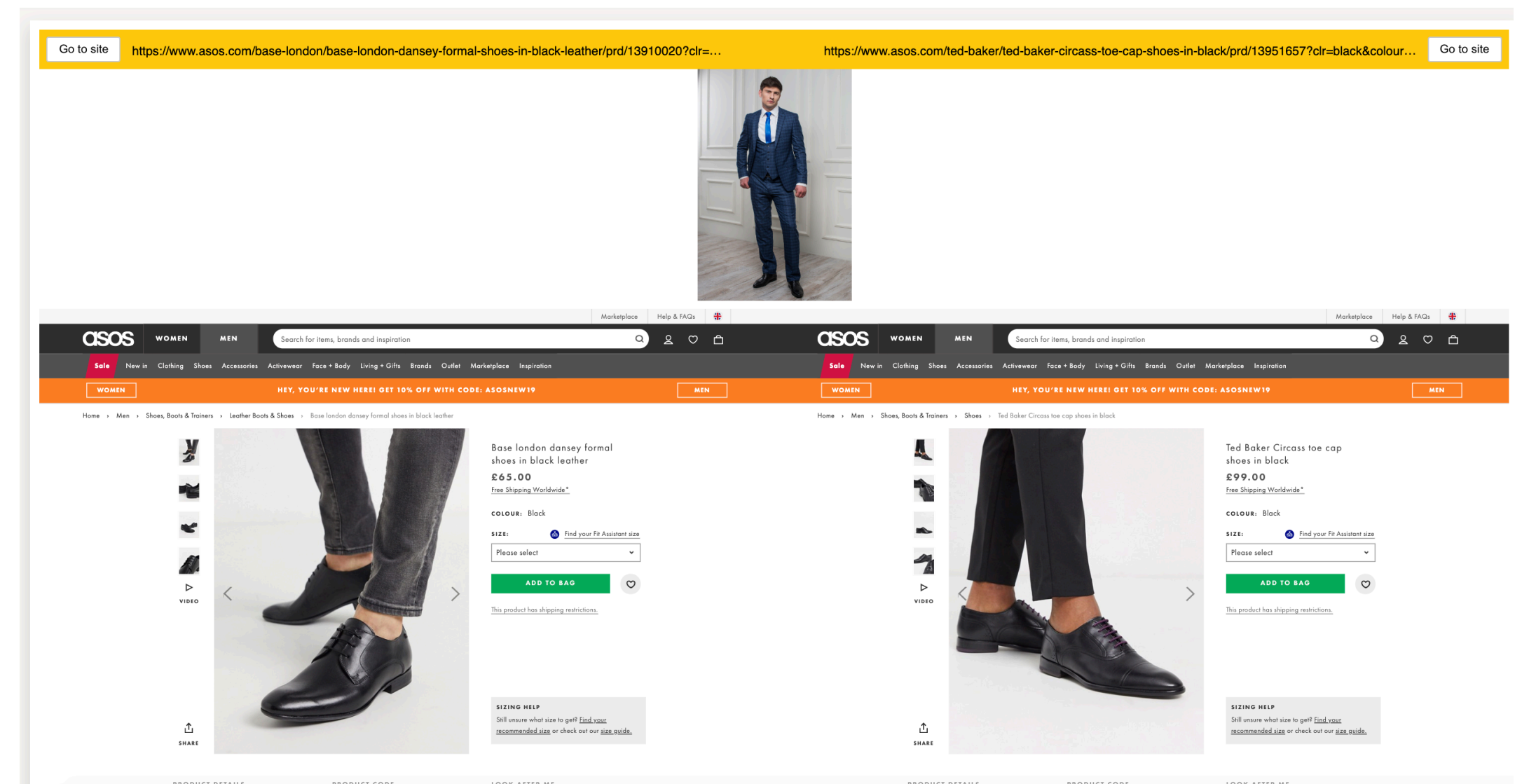
Project #4: Decide which substitute works best

Task

- › Which of the items is similar to the initial one?

Our results

- › Amount: 62 photos
- › Overlap: 3
- › Time: 10 min
- › Cost: \$0.10 + Toloka fee



Statistics over the whole pipeline

30 photos processed to find the substitute items and evaluate their similarity

within 45 min on real performers

total cost: \$2.15 + Toloka fee

Afterparty: upgrade your pipeline

To obtain more comprehensive data

- › Use more item types at the same time

To reduce costs

- › Use incremental relabeling aka Dynamic overlap

To improve quality

- › Use dynamic pricing
- › Add more Golden Sets and hints
- › Experiment with aggregation methods
- › Add training for performers

API of Yandex.Toloka

| Allows you to automate all steps of our pipeline

Discover at: <https://yandex.ru/dev/toloka/>

Crowdsource all types of data

Search Relevance

Moderation

Generation of content

Computer vision

Speech Technologies

References: Aggregation

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Thank you!
Questions?

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<https://research.yandex.com/tutorials/crowd/wsdm-2020>