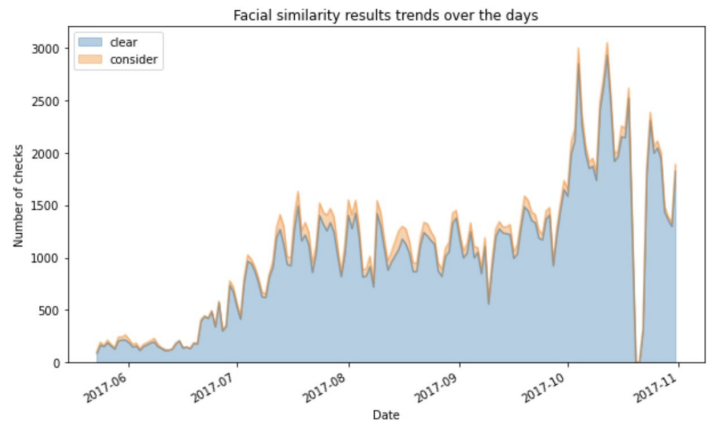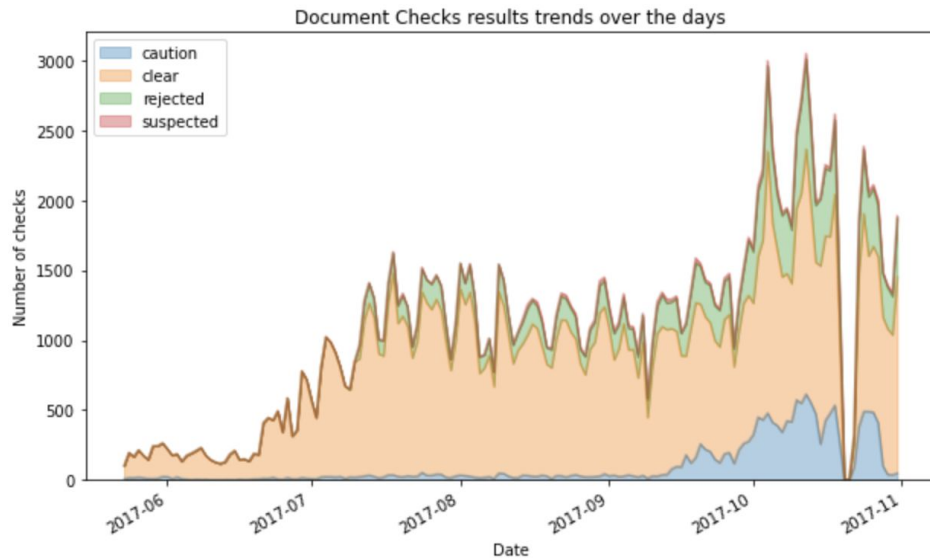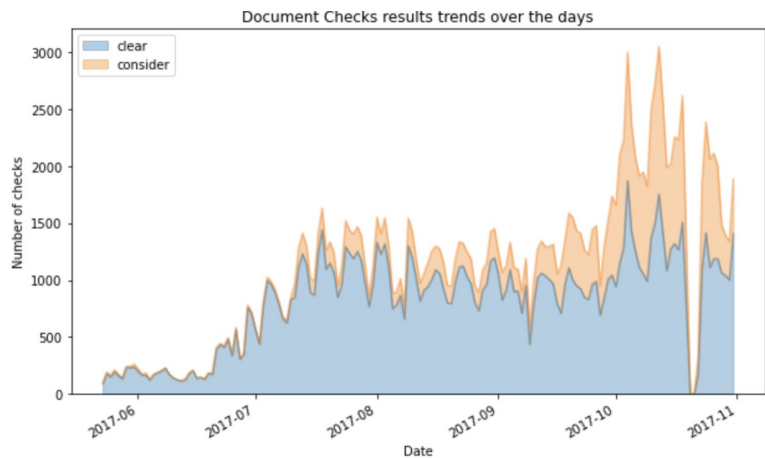# Revolut Analytical Challenge

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This presentation can be completed with the following python notebook.

The analysis of results distribution shows Document check process is responsible for the decrease of pass rate. From july 10th "Rejected" in the main cause. From Sept 10 we start having a huge increase of "Caution" sub results

Document Checks results trends over the days

Document Checks results trends over the days

Facial similarity results trends over the days

- Document check is responsible for the decrease in pass percentage
- The most common sub-Results are Rejected and Caution
- Caution issue seems to come back to its normal level by the end of October.

In the next slide we will deepdive into each features to detect if there is one responsible for low pass rate

Main reason for failed in rejected cases is due to image quality (94% of the cases)
Main reason for failed in caution cases is due to incomplete image

REJECTED CASES

Feature	Events	Event pass rate	Number of clear results
image_integrity_result	26090.0	0.000000	0.0
data_validation_result	3.0	0.666667	2.0
compromised_document_result	3.0	1.000000	3.0
visual_authenticity_result	0.0	NaN	NaN
data_consistency_result	0.0	NaN	NaN
data_comparison_result	0.0	NaN	NaN
police_record_result	0.0	NaN	NaN

Feature pass rate

Feature	Events	Event pass rate	Number of clear results
image_quality_result	26090.0	0.064661	1687.0
supported_document_result	25589.0	0.934073	23902.0
conclusive_document_quality_result	0.0	NaN	NaN
colour_picture_result	0.0	NaN	NaN

Sub Feature pass rate

94% of rejection is due to image quality

CAUTION CASES

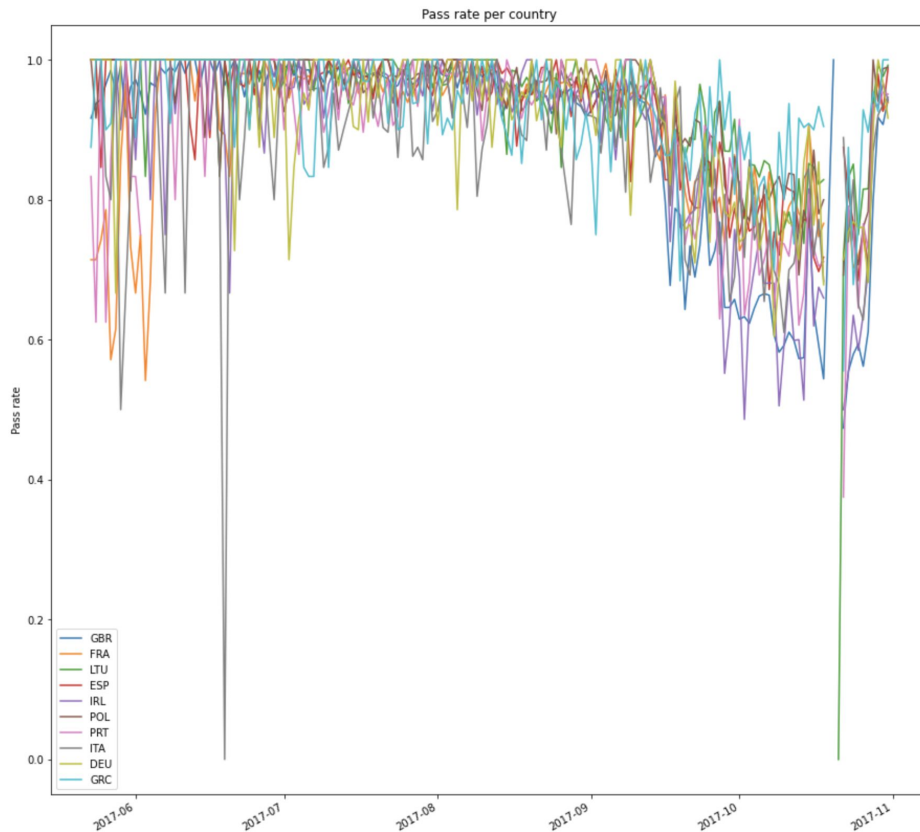| Feature	Events	Event pass rate	Number of clear results
image_integrity_result	15992.0	0.159705	2554.0
data_comparison_result	196.0	0.173469	34.0
visual_authenticity_result	15970.0	0.909956	14532.0
data_validation_result	15584.0	0.922164	14371.0
data_consistency_result	9858.0	1.000000	9858.0
police_record_result	15589.0	1.000000	15589.0
compromised_document_result	10462.0	1.000000	10462.0

Feature pass rate

Feature	Events	Event pass rate	Number of clear results
conclusive_document_quality_result	14509.0	0.07740	1123.0
colour_picture_result	14509.0	0.99552	14444.0
image_quality_result	15992.0	1.00000	15992.0
supported_document_result	15992.0	1.00000	15992.0

Sub Feature pass rate (image integrity only)

Main rejection is due to conclusive document quality failed followed by face detection and data validation. We are missing details for data validation

Both issues are related to images. For qualities issues it could come from the integration of a new country with people with phone of a lowest quality for instance. That's what we will look at on the next slide

The analysis of trends pass rate per document and per country shows that the decreased is generalized across the globe and document type. It seems there is not properties pattern

Pass rate per document

Pass rate per country

Conclusion

- Users properties don't impact in trends. The only relation that we see is that as the user base is growing pass percentage is decreasing.

- Rejected cases due to low quality images increase a lot with the growth of the company. It could be explained by more non used-to users, users with low quality phones etc.

  - Add a proper quality check before sending to Veritas in order to give user direct feedback and avoid double processes
  - Give more details on how to take a good picture of the document

- Caution cases increase a lot during highest peak of new customers and then seems to go back to normal rate.

  - Explore any API connection from our side our services could be impact by highest peak of traffic
  - Same thing for Veritas. Organize a meeting with their engineers to detect if their API can support such flow
  - Consider other verification organization in case Veritas can't improve their capacity, to have a automatic second check for Caution issues