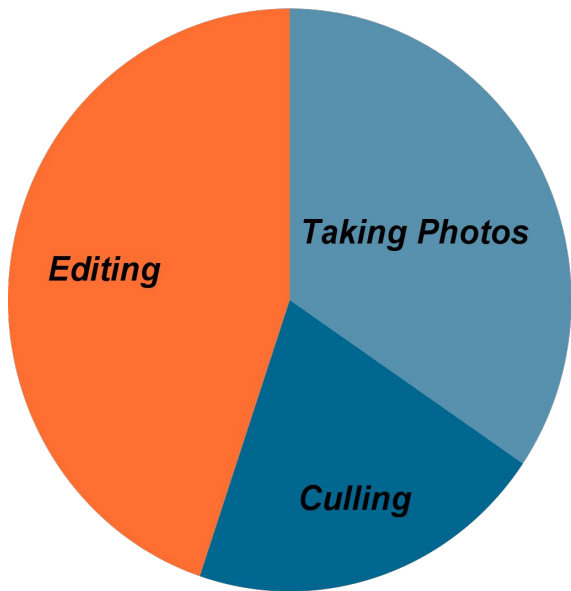


# A-Shot

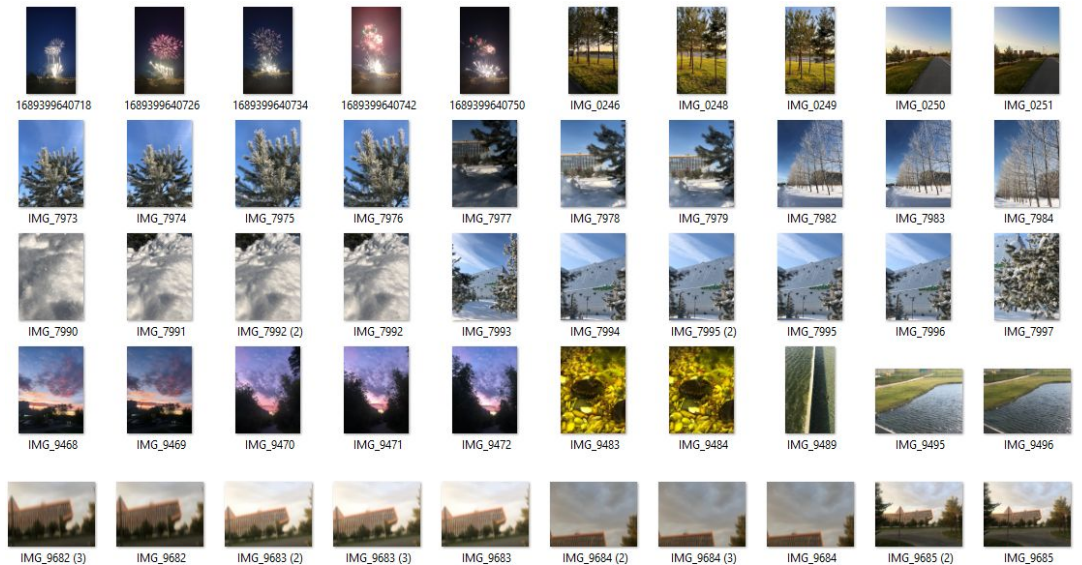
Innopolis University  
2024

# Problem

Photographers have a multiple responsibilities, from capturing the perfect moment to selecting the best shots and editing them.



- Taking Photos
- Culling
- Editing



Selection of good pictures (culling) can be time-consuming task, as photographers may take thousands of shots in a day.

# Existing solutions

## PictureEcho

## Capture One

The screenshot shows the PictureEcho website with a dark background featuring bokeh light effects. A white promotional box is centered on the page. The text inside the box reads: 'Apply Instant Discount', '60% OFF On', 'Single Solution (1 PC)', 'For Just \$15.99 / 1 Year'. Below this, there is a checkbox for 'Upgrade to Lifetime License 40% Off (+22.99)' and a green 'Buy Now' button. The website header includes the PictureEcho logo and navigation links for 'FAQs', 'Video Tutorials', and 'Register'.

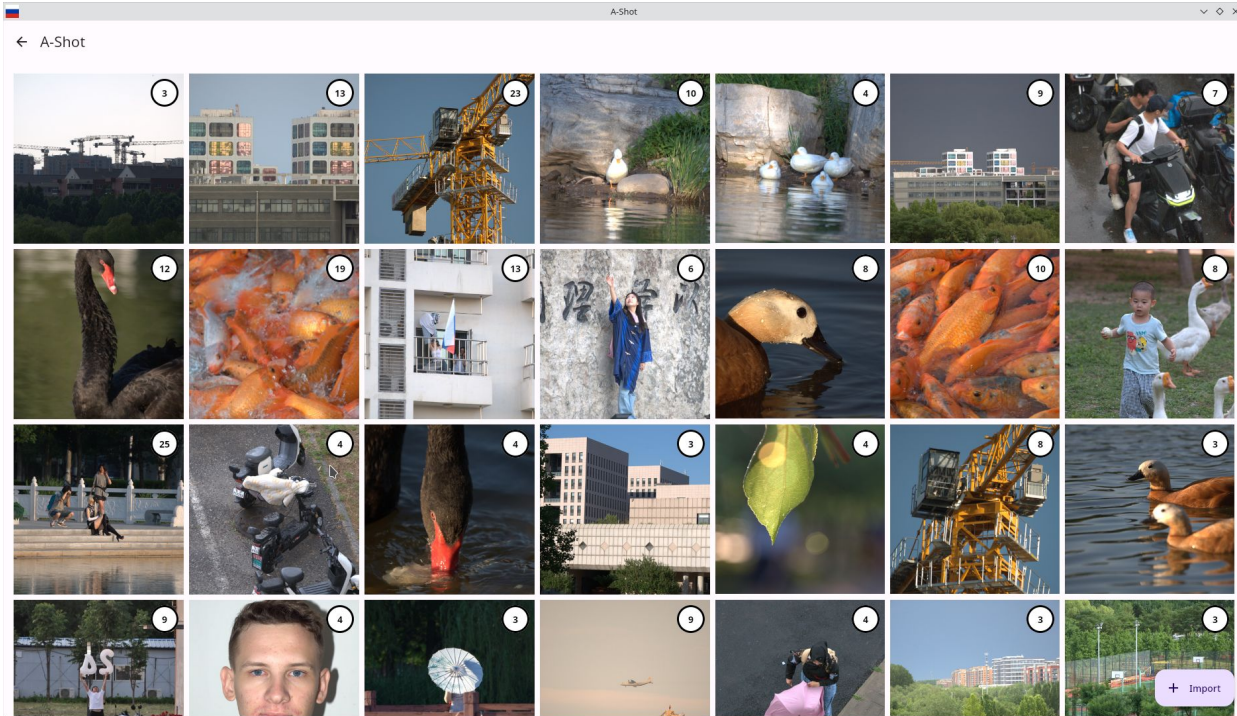
- ✗ free with optional subscriptions
- ✗ no blur detection
- ✗ partial multiplatform

The screenshot shows the Capture One pricing page with a dark background. At the top, there are tabs for 'For individuals' and 'For companies'. Below the tabs, there are four pricing cards: 'PRO License', 'PRO Subscription', 'ALL IN ONE Subscription', and 'STUDIO Subscription'. Each card displays a price, a description, a billing cycle selector (monthly or yearly), an 'Add to cart' button, and a list of features. The 'ALL IN ONE' card is highlighted with a 'Best Value' badge. The prices are: PRO License (€ 349.00), PRO Subscription (€ 18.25/month), ALL IN ONE Subscription (€ 24.92/month), and STUDIO Subscription (€ 49.92/month). The features listed for each card include Desktop, AI-assisted Tethering, Advanced Editing, Essential Collaboration, AI tools, and Future desktop updates (for PRO and ALL IN ONE).

- ✗ only 30-days free trial
- ✗ no blur detection
- ✗ partial multiplatform

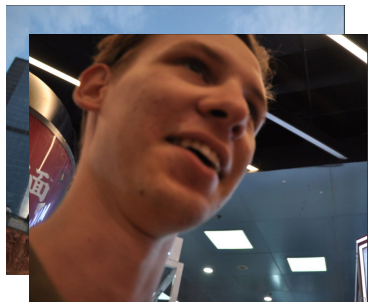
# A-Shot

A-Shot is a free, local, and multiplatform desktop solution that speeds up culling. It helps detecting blurry photos, grouping duplicates and nearly identical images, without need of internet connection or subscription.

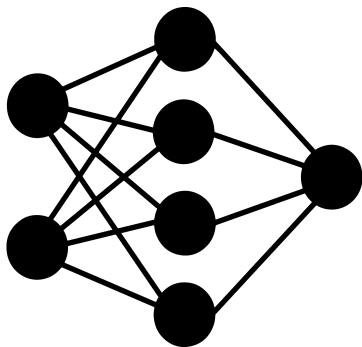


# Image grouping flow

Picture selection



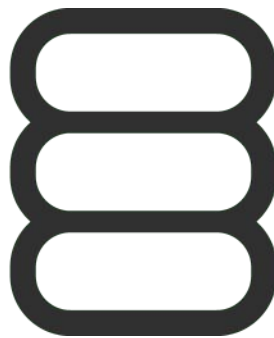
Neural Network  
(SuperGlobal)



Pretrained Neural Network  
based on ResNet  
architecture for embeddings  
extraction



Embedding  
representation

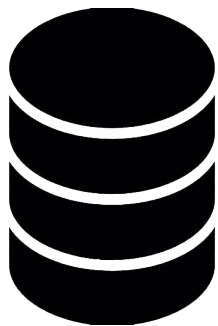


Database insertion

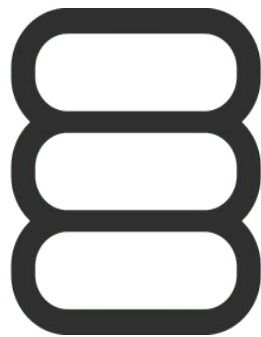


# Image grouping flow

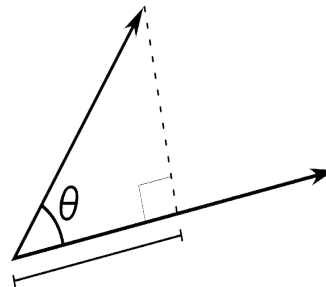
Database



Collection of embeddings



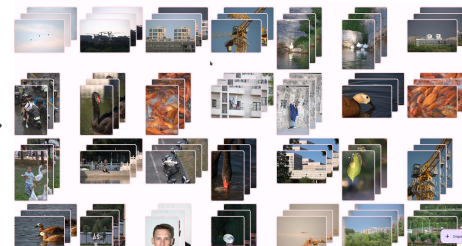
DBSCAN  
(cosine similarity)



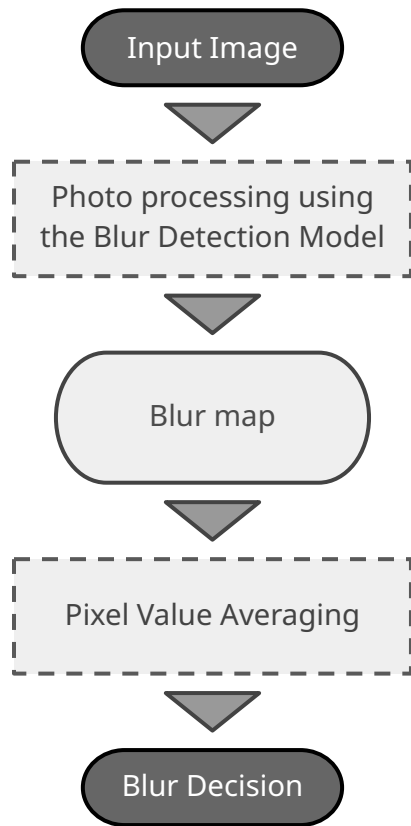
DBSCAN is used to cluster images by received embeddings through cosine similarity



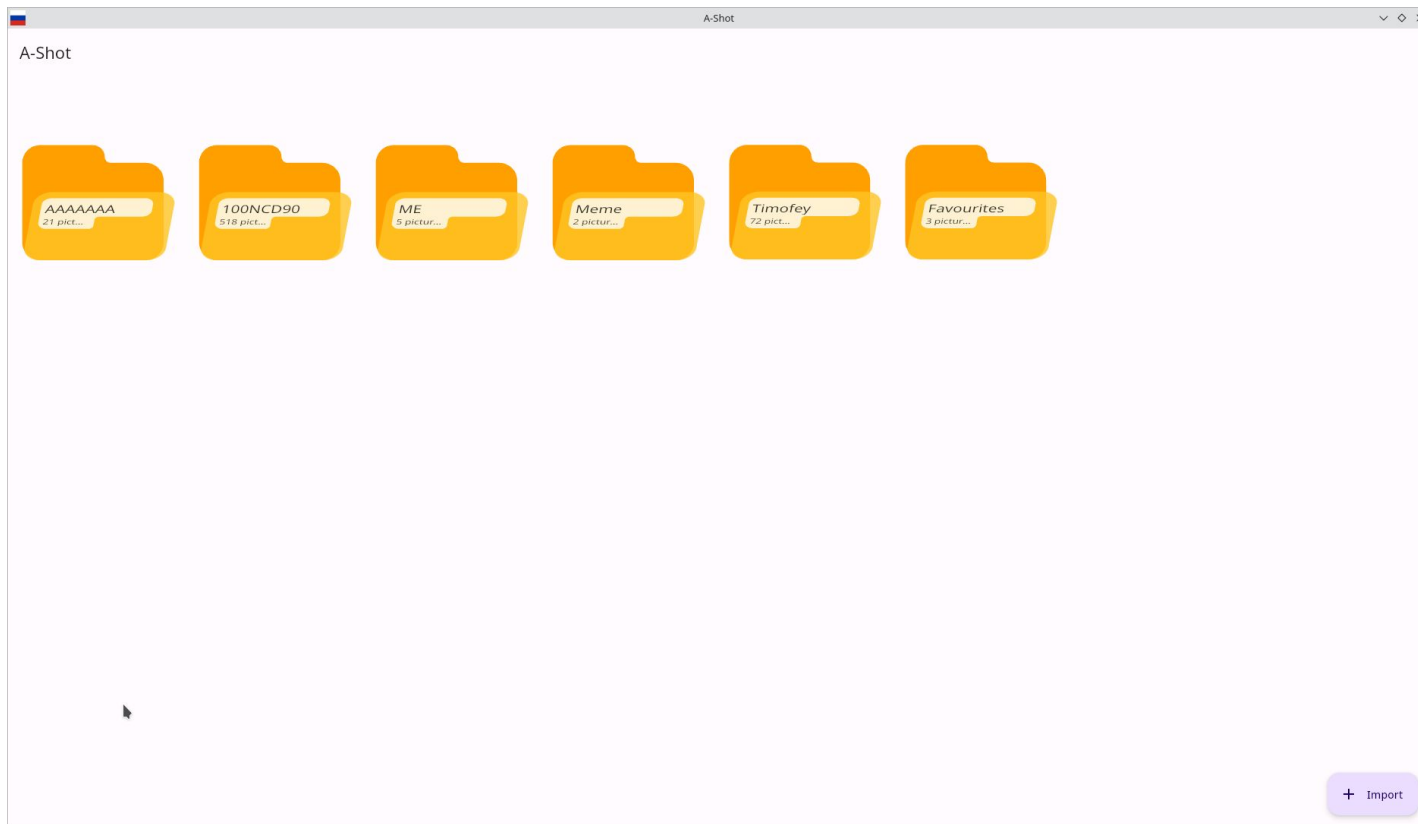
Grouped images



# Blur detection

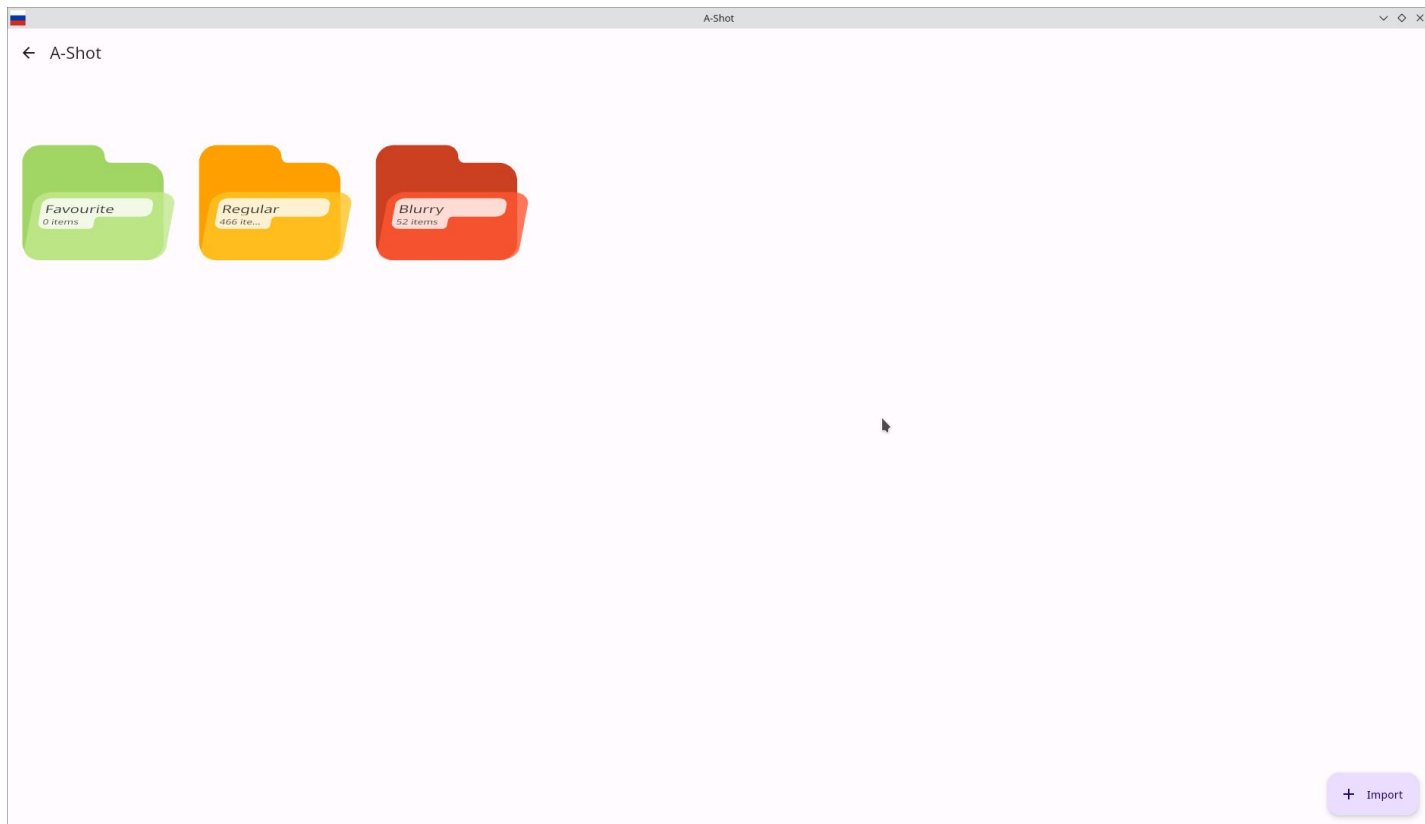


# System UI

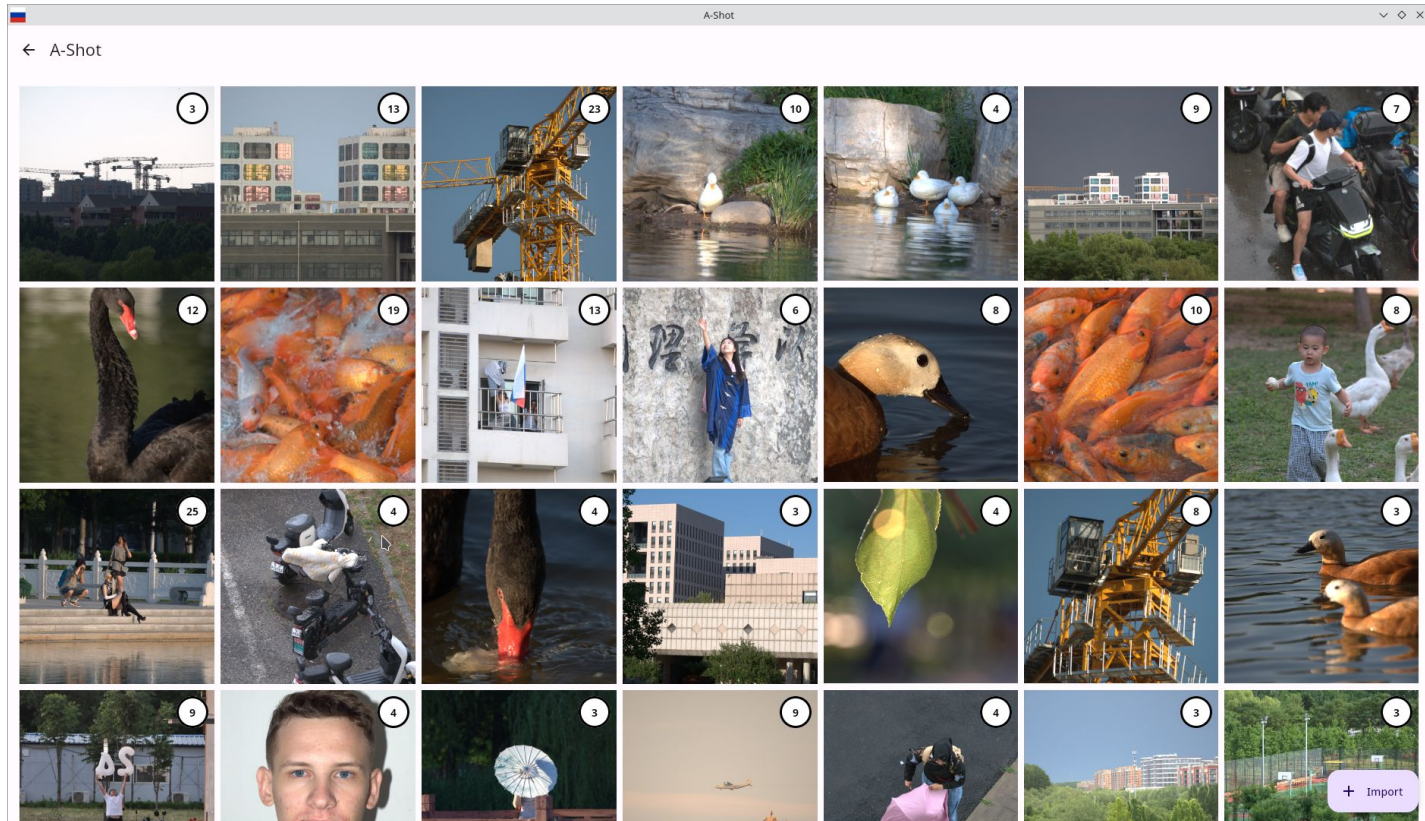




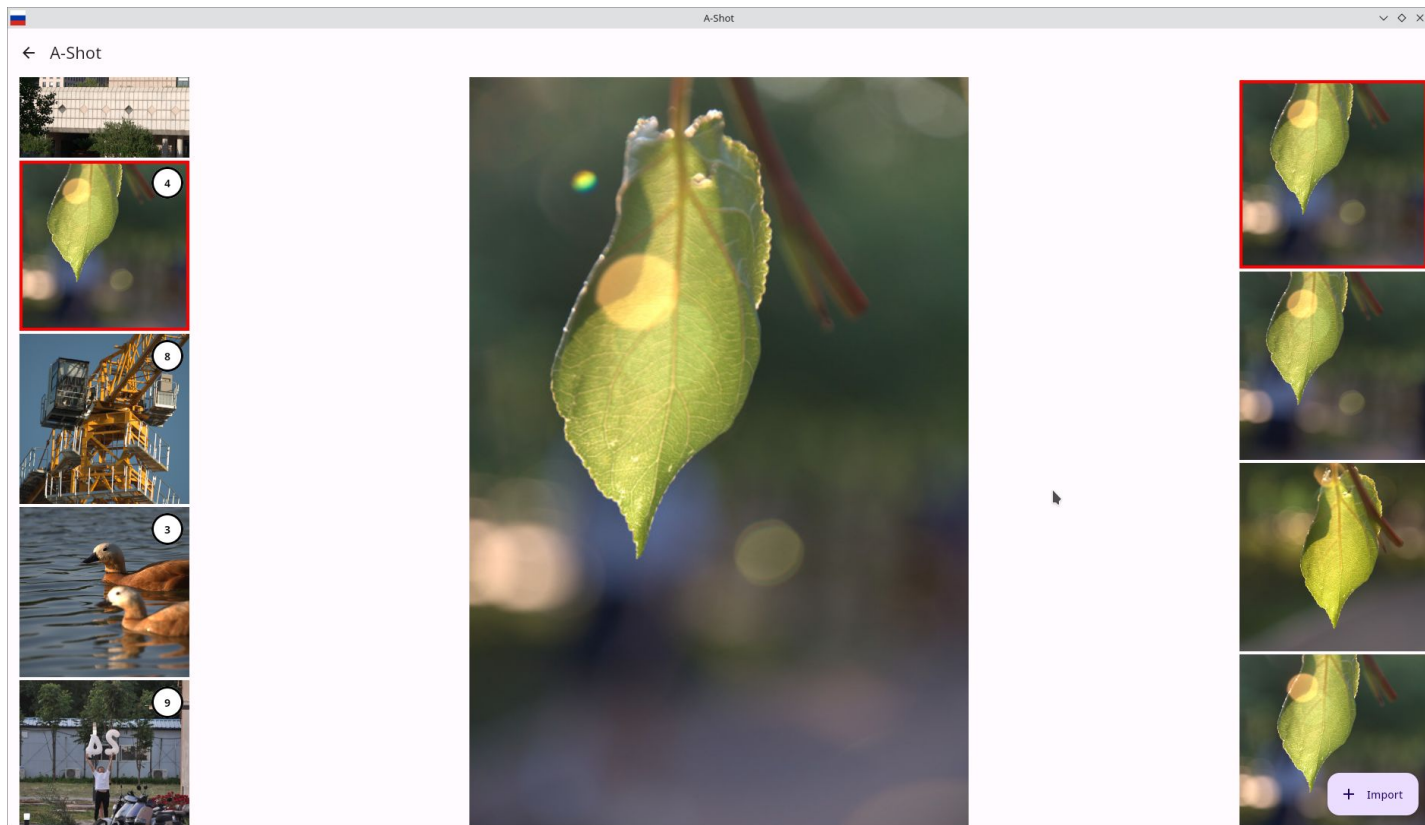
# System UI



# System UI



# System UI



**Solutions we applied (will be updated)**

# Our Team

**Nikita**

Full-stack  
developer



**Matthew**

Product  
Manager, UX/UI,  
Frontend dev.



**Timofey**

ML Developer



**Egor**

Frontend  
developer



**Artemii**

Team Lead,  
ML, Full-stack  
developer,  
DevOps



**Artur**

ML developer



**Mikhaail**

ML developer,  
Toaster