Photo picker

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Agenda

What problem do we address?

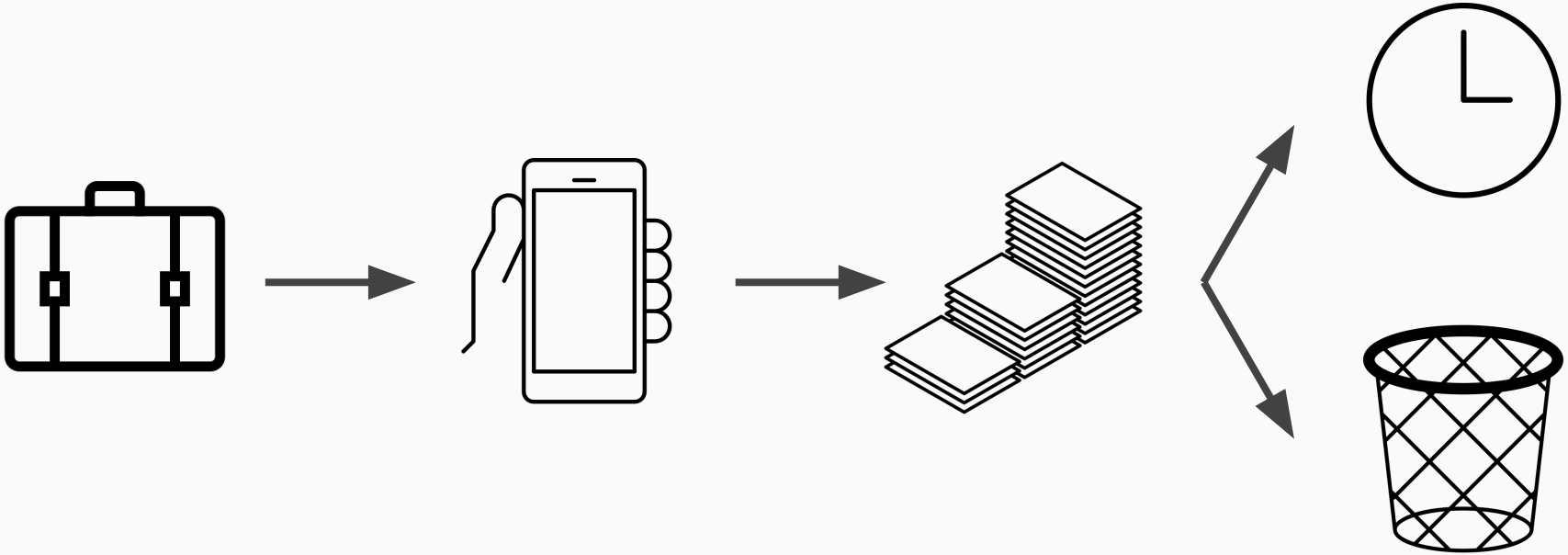
How do we address it?

Timeline overview

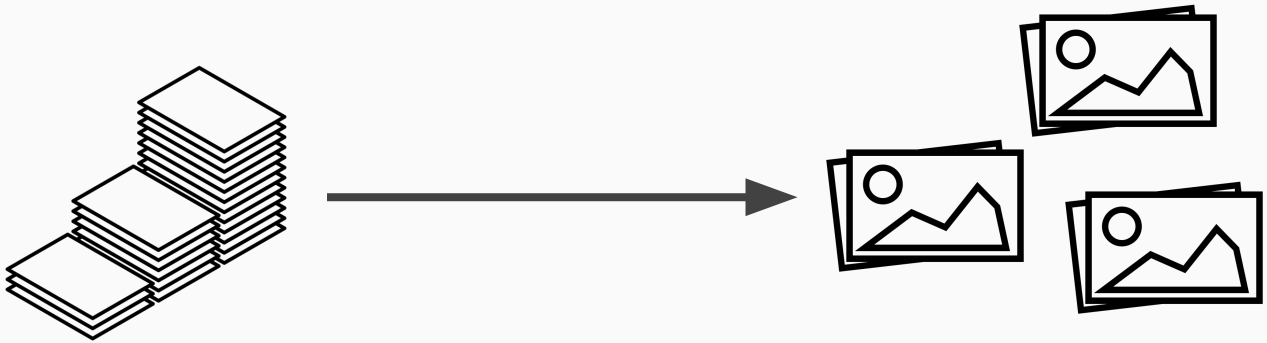
Screenshots from the app

Software architecture

When going on vacation...



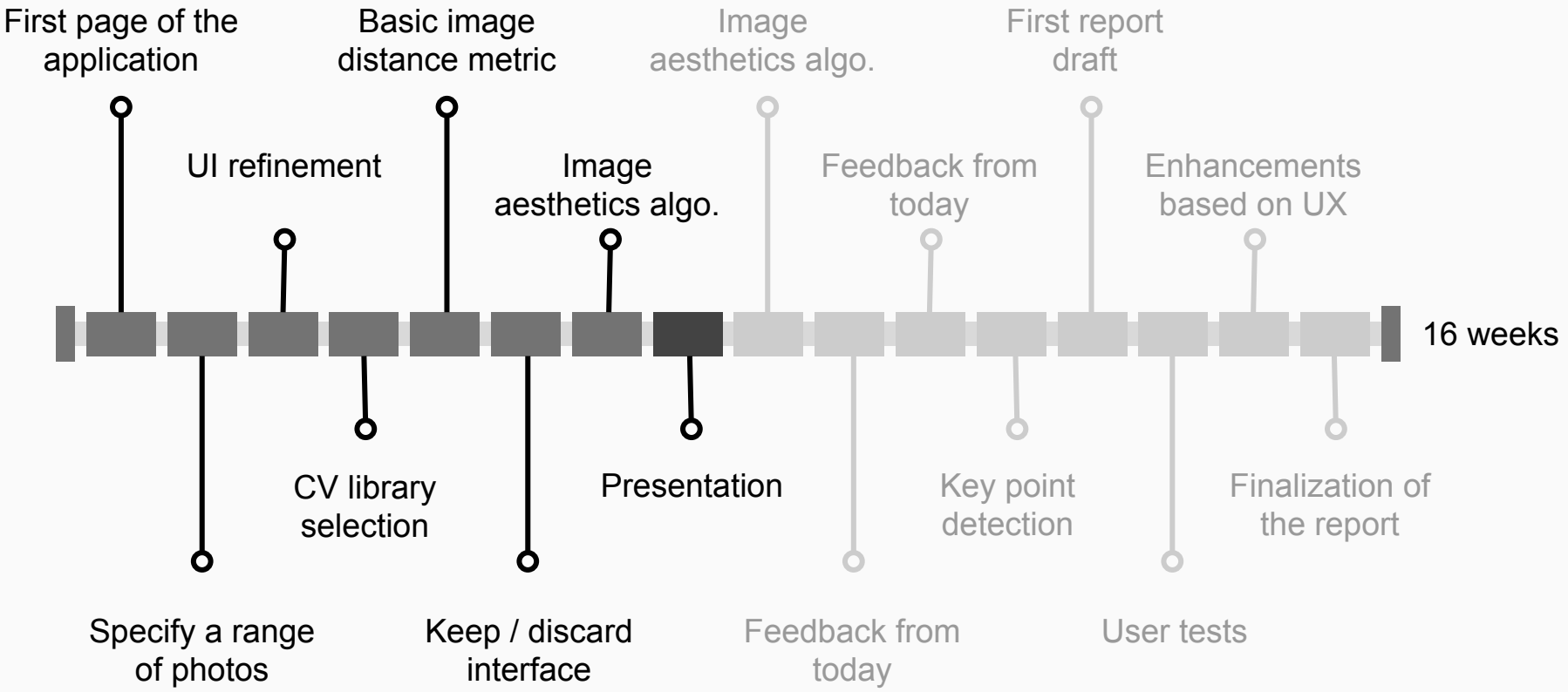
What is the photo picker?



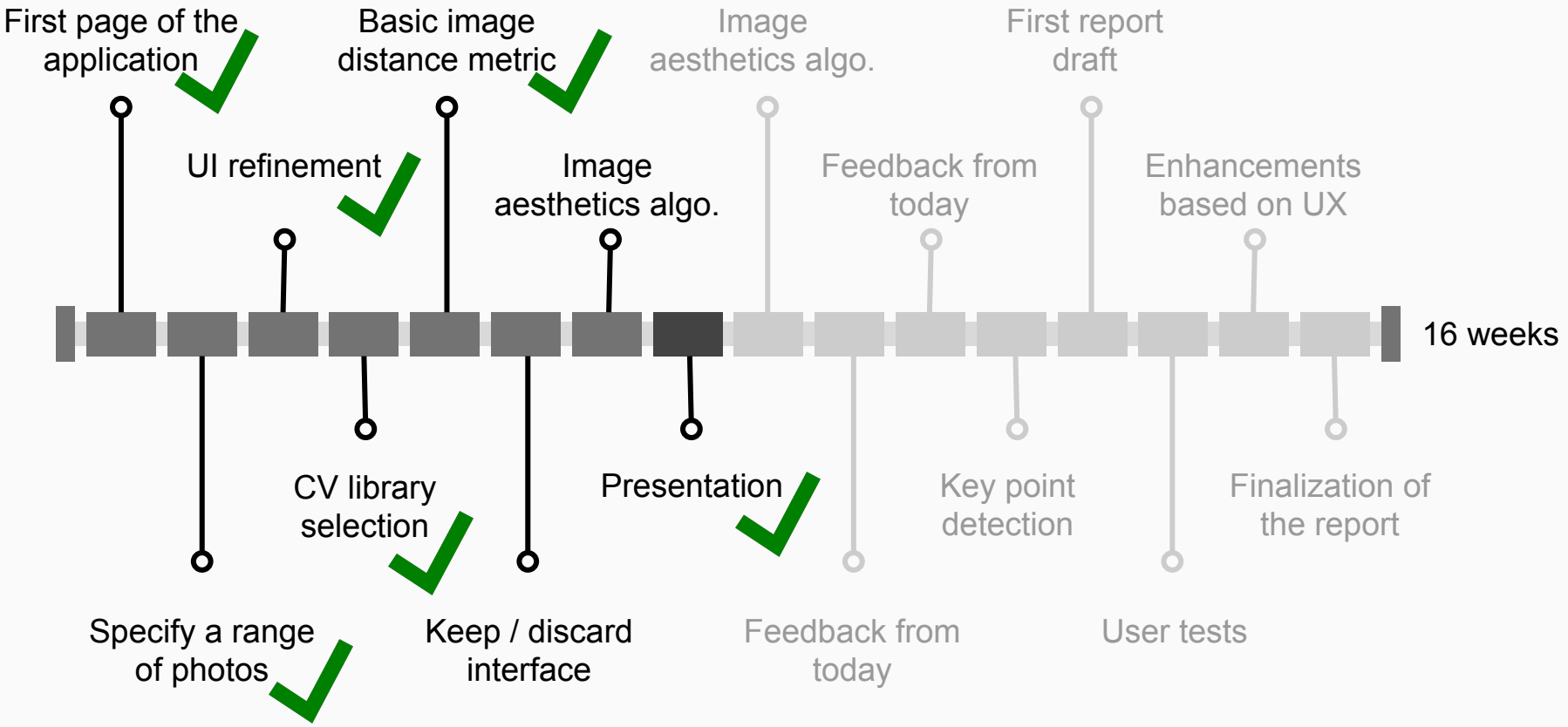
How to do this?

1. Get all the pictures of the vacation
2. Apply a distance metric to all the pictures
3. Cluster them in different scenes
4. Detect for each scene which pictures are the best ones (optional)
5. Ask the user to keep or discard pictures from each scenes
6. Delete unwanted pictures or store them on another device

Timeline


First page of the application
Basic image distance metric
Image aesthetics algo.
First report draft
UI refinement
Image aesthetics algo.
Feedback from today
Enhancements based on UX
16 weeks
CV library selection
Presentation
Key point detection
Finalization of the report
Specify a range of photos
Keep / discard interface
Feedback from today
User tests

Timeline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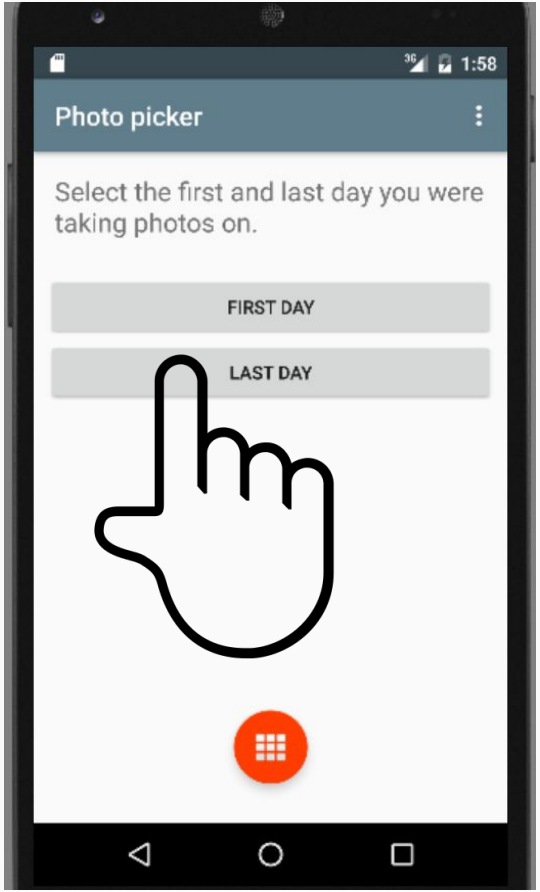
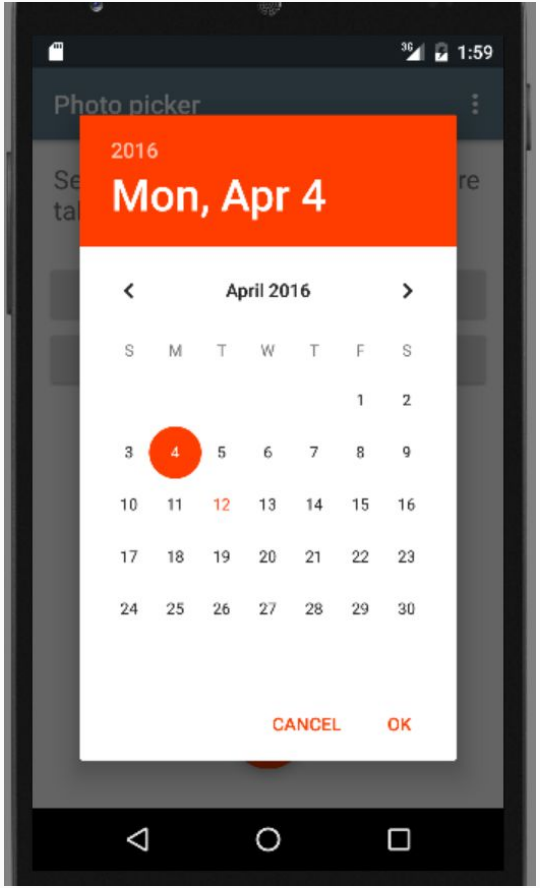
Some images from the app

The welcome screen of the app

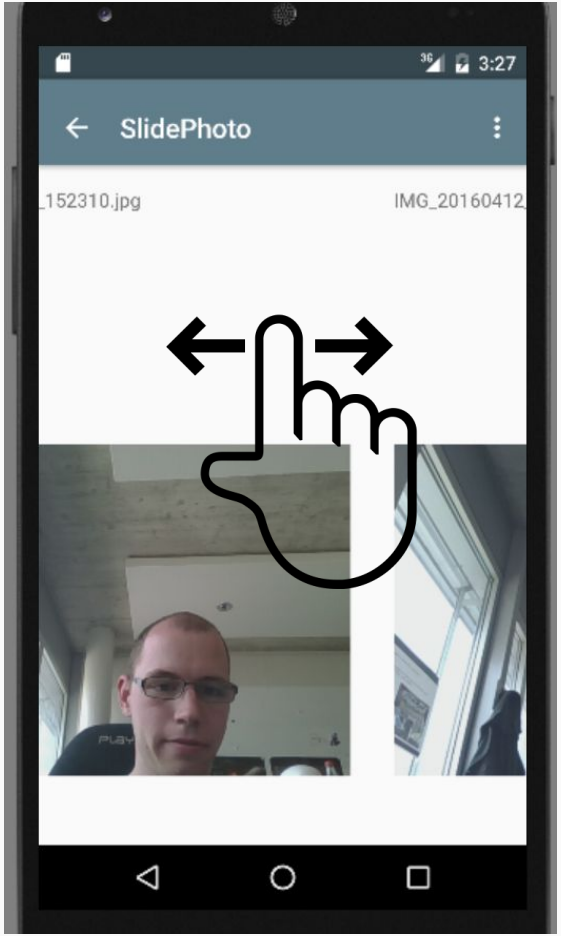
The date picker dialog



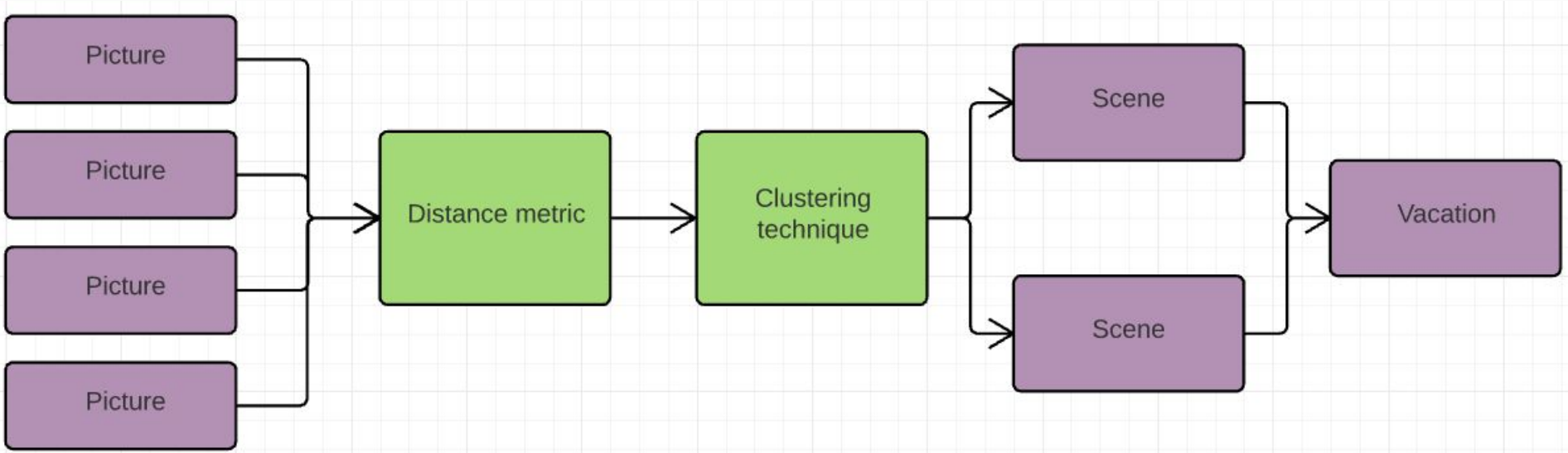


Images display

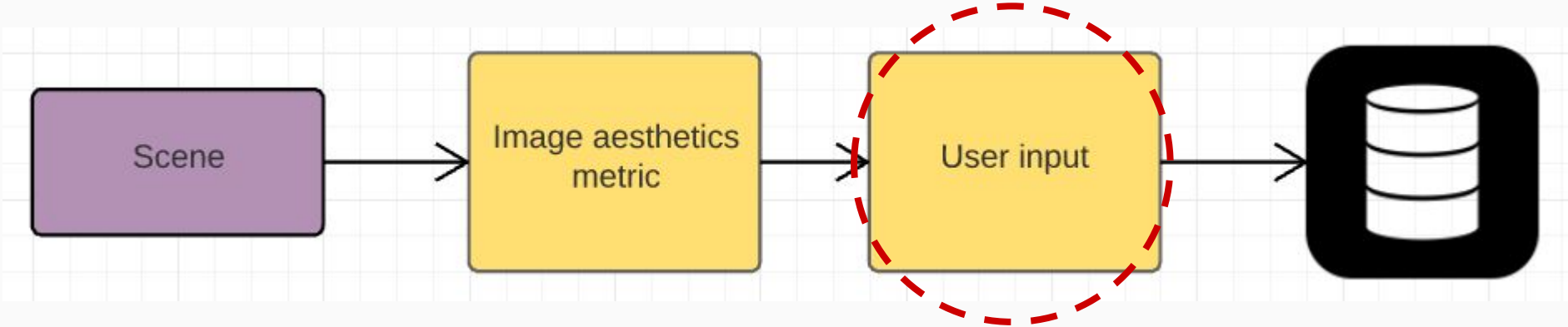
Swipe left and right to see all the photos in the defined range



Software architecture

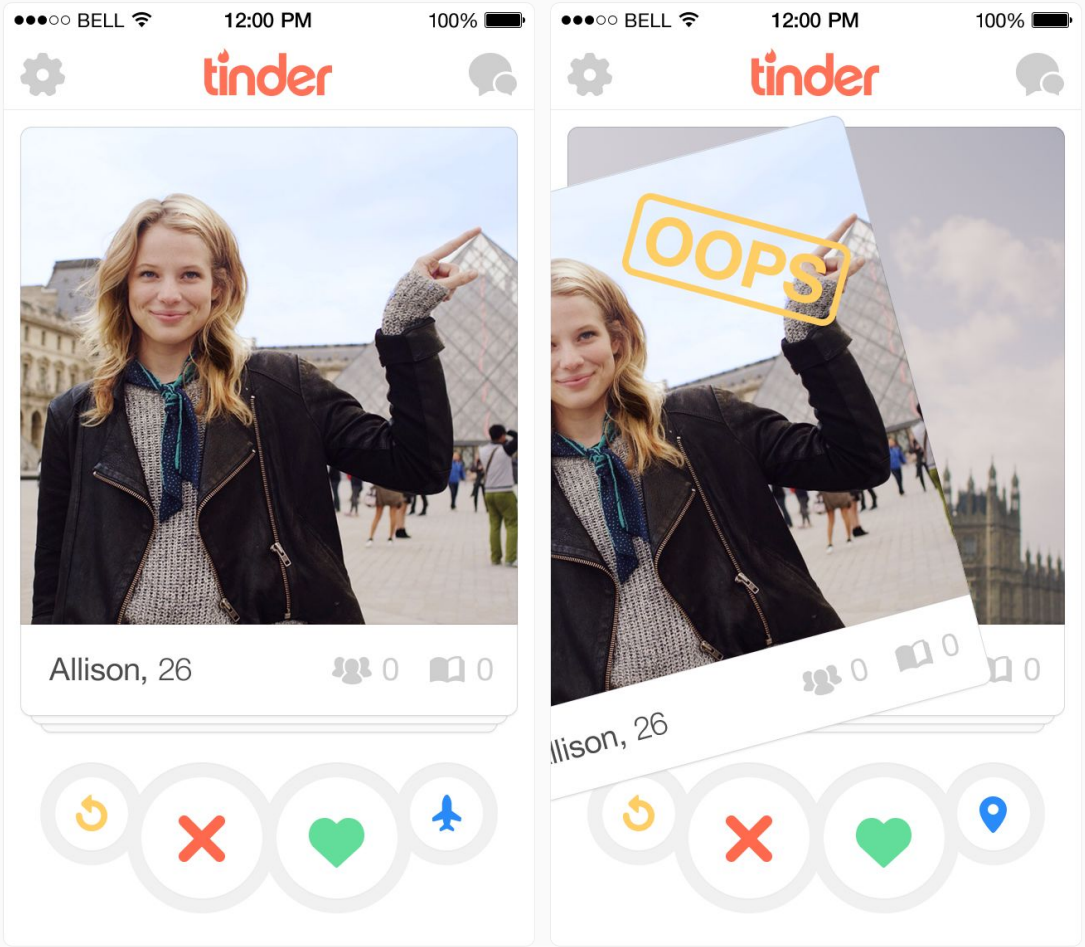


Software architecture



Keep / Discard interface

A Tinder-like interface where one swipes left or right to indicate that the picture is bad or good to her.



Thank you!

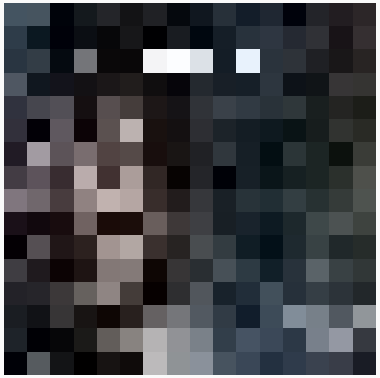
Icons credits:

Vacation - BraveBros
Phone - Jaap Knevel
Papers - Tony Michiels
Rubbish bin - Shirley Wu
Clock - misirlou
Gallery - João Paulo
Swipe L/R - Lloyd Humphreys
from Noun Project

Questions?

Image distance

- Downsample the images to 16x16 pixels (768D vector)
- Use key point detection algorithms and align the images



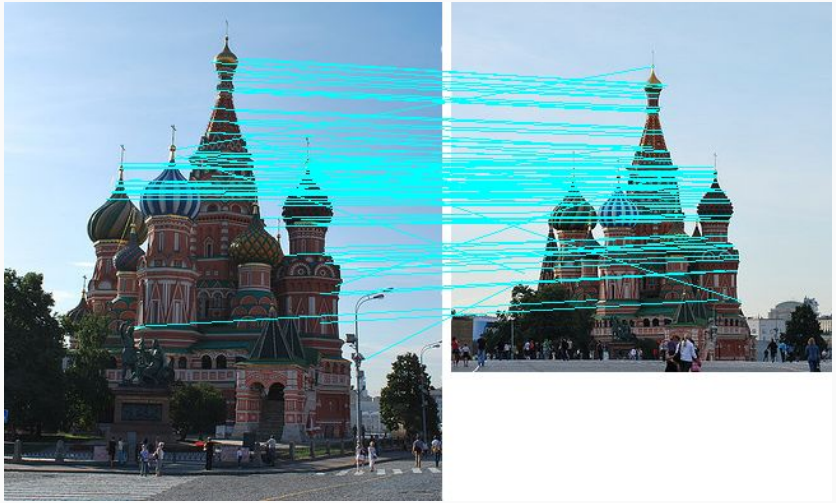
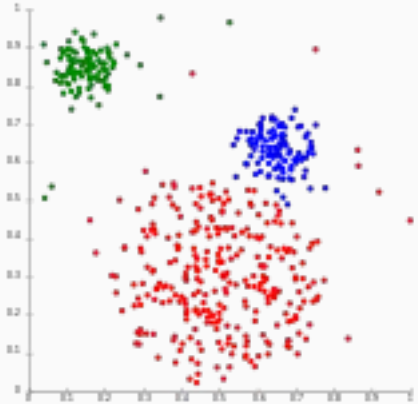


Image clustering

- Hierarchical clustering
- Density-based clustering



Machine Learning?

+ Can greatly improve user-based aesthetics understanding
+ Provides more reliable estimates of an image quality
- Requires a lot of data
- Heavy CPU usage