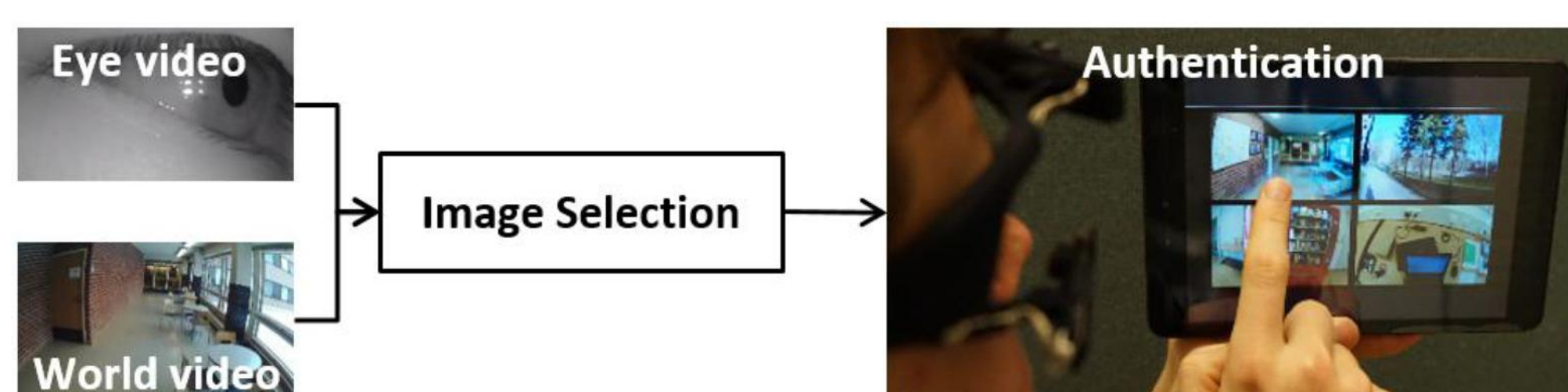


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PassFrame: Generating Image-based Passwords from Egocentric Videos

Introduction

We propose an approach to generate **always-fresh**, **temporal** and **personalized** passwords from images captured by a wearable camera (w/o eye tracking data).



PassFrame: Generating Image-based Passwords from Egocentric Videos

Using scene segmentation and clustering, we implement two password formats: **image-arrangement** and **image-selection**.

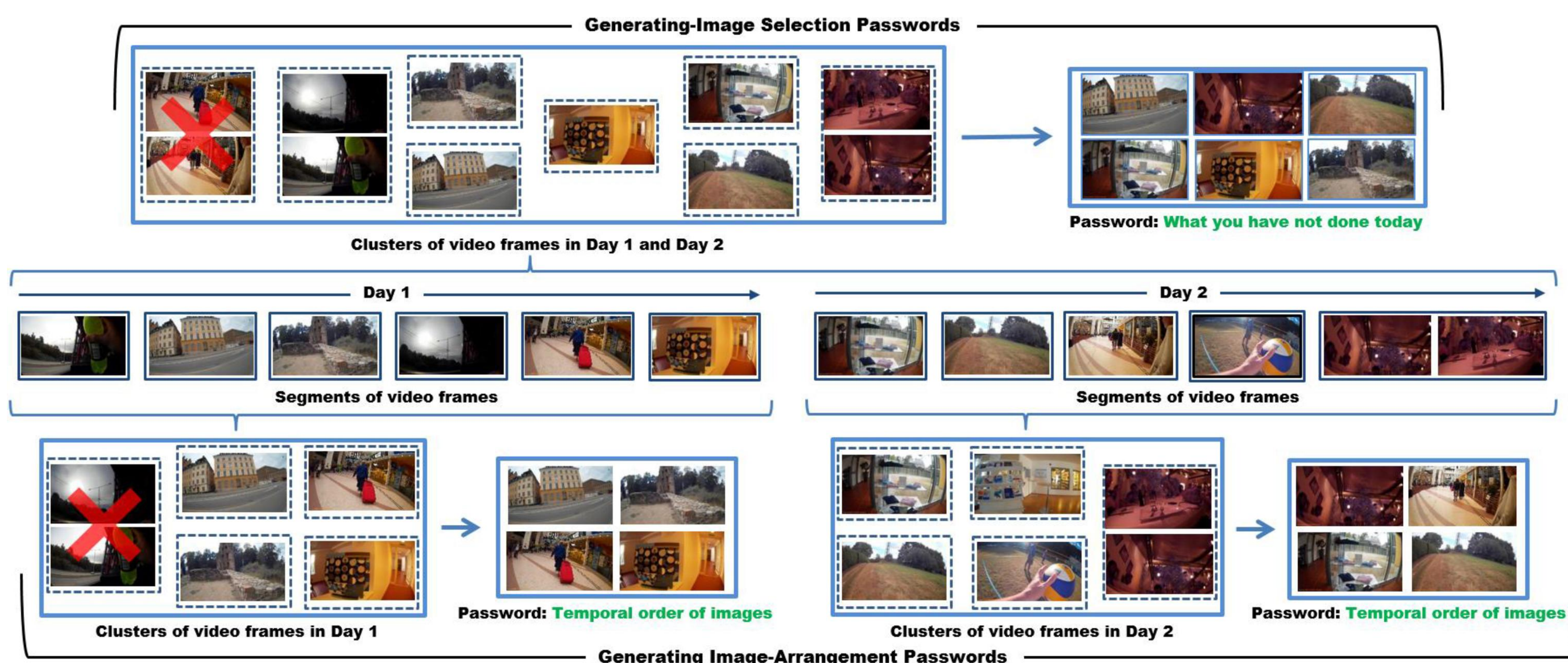


Image-arrangement

- Head-mounted camera was used.
- Users interact with objects in an office, then arrange 4 images in the right order.
- A new password appears if a wrong arrangement is submitted.
- Attackers know the layout of the office but not the activity order
→ Attackers' effort is higher than that of the legitimate users.

	User	Attacker
Entry time (s)	9.77 (5.00)	54.91 (67.04)
# attempts	1.21 (0.66)	10.72 (10.91)

Image-selection

- Chest-mounted camera was used.
- Users wear the camera daily, then select images satisfying a condition.
- We randomize the number of images and the ratio of valid images.

