

Resolving Suggestive Problems

TEXAM : AI Driven Online Exams Platform.

The problem

Multiface/Photo

*What would happen when multiple faces will appear?

*What will happen when photo will be hanged behind?

FPS Vs System

*Will System performance will affected by Hardware capabilities?

Few Frame Data lose

For Validation few Frames are sent to teacher/server , but how will you overcome that Data loss created?

Solution

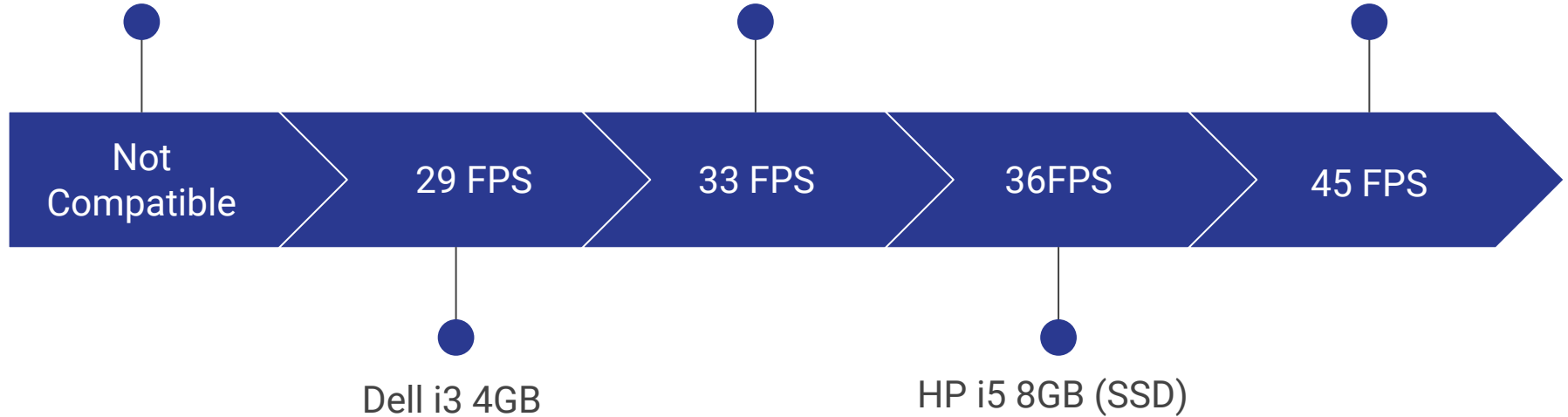
FPS - SYSTEM Dependency

Over the Mid-Night, we sent our application to multiple People. And Collected Multiple Data about different system & their FPS.

Windows XP, 512 Mb
Ram , intel platinum

HP 4GB i5

MacBook
pro M1

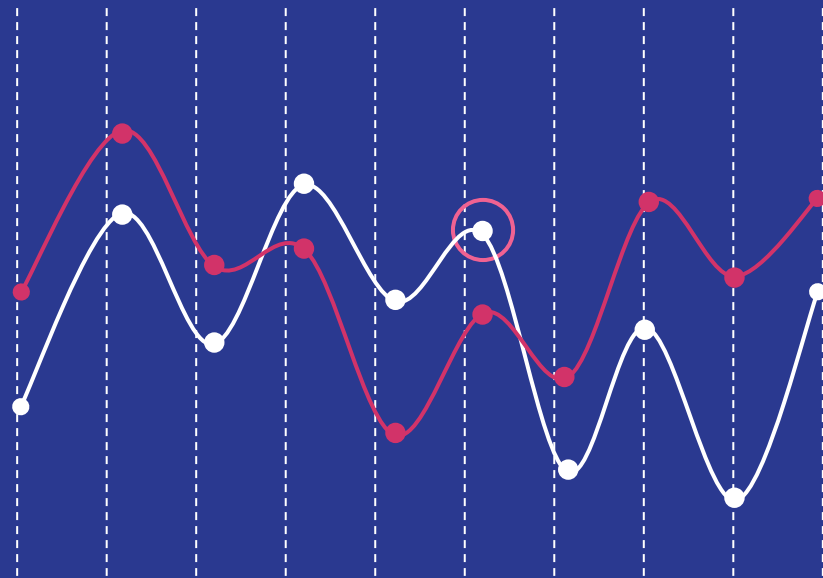


So We Can Conclude that Average FPS: 30 FPS,. And at Extreme Ends There isn't drastic Difference.
And We are Working on reducing Time complexity of Code. FPS > 30 for Devices.

Solution

Few-Frame Data Loss

“Increasing Frequency of
Sampling & Also Collecting Key
Decision Frames”



Solution

Multiface / Photo
Distinguisher

- **Multiface Detection:**

Initially the face of Person is set as reference, And for Any other Real face Detected, Test will be Terminated or penalties would be added.

- **Photo Distinguisher:**

Real Face & photo/image face ,
Would be distinguished using Eye
blink.

N=eye_blink_count

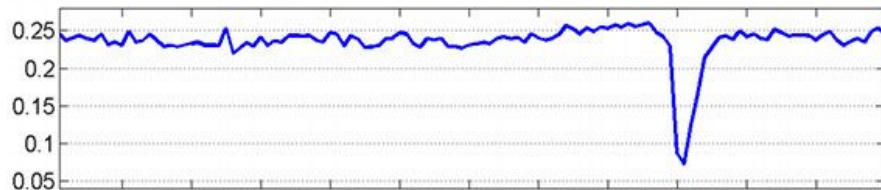
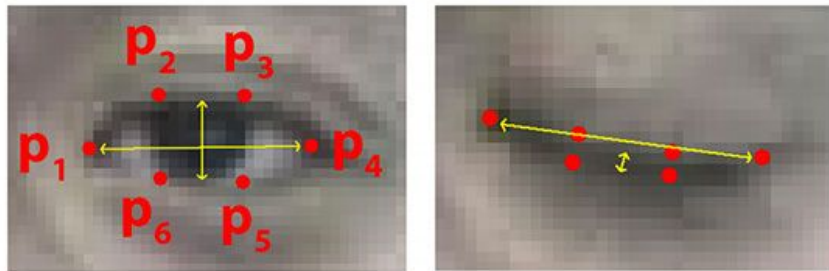
If (N==0): FAKE FACE

Else : REAL FACE

Implementation

Eye Aspect Ratio (EAR):

$$\text{EAR} = \frac{\|p_2 - p_6\| + \|p_3 - p_5\|}{2\|p_1 - p_4\|}$$



Based on the work by Soukupová and Čech in their 2016 paper, [*Real-Time Eye Blink Detection using Facial Landmarks*](#)

Web Deployments :

- **Admin Portal**
- **Leaderboard**