

eNTERFACE'13



KINterestTV

Julien Leroy, Matei Mancaș, François Rocca, Radhwan Ben Madhkour, Tomas Kliegr, Jaroslav Kuchar, Jakub Vit, Ivan Pirner, Petr Zimmermann and Fabien Grisard



KINterestTV

In this project we used depth sensors to build explicit and implicit interactions with a “LinkedTV” player

- Explicit interaction
 - Linked web player
 - Gesture control
- Implicit interaction
 - Interest tracking based on head movement analysis

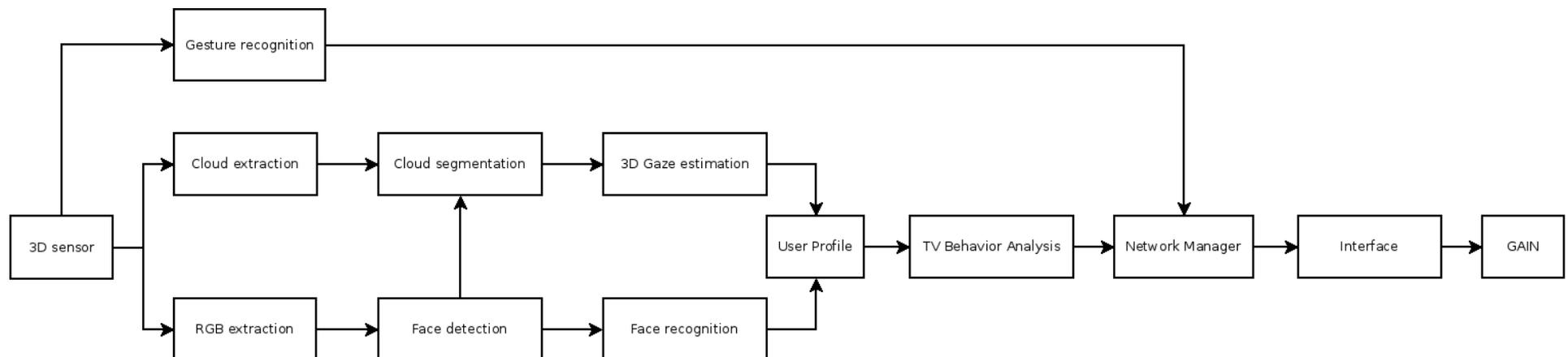


Evolution of KINterestTV

Before eINTERFACE'13



End of eINTERFACE'13



« LinkedTV » Player

Our web player analyses in real time video subtitles to provide content information

Real time communication using Websocket with external interfaces:

1. Gesture control
2. Attention tracking

« LinkedTV » Player

eINTERFACE13 Demo

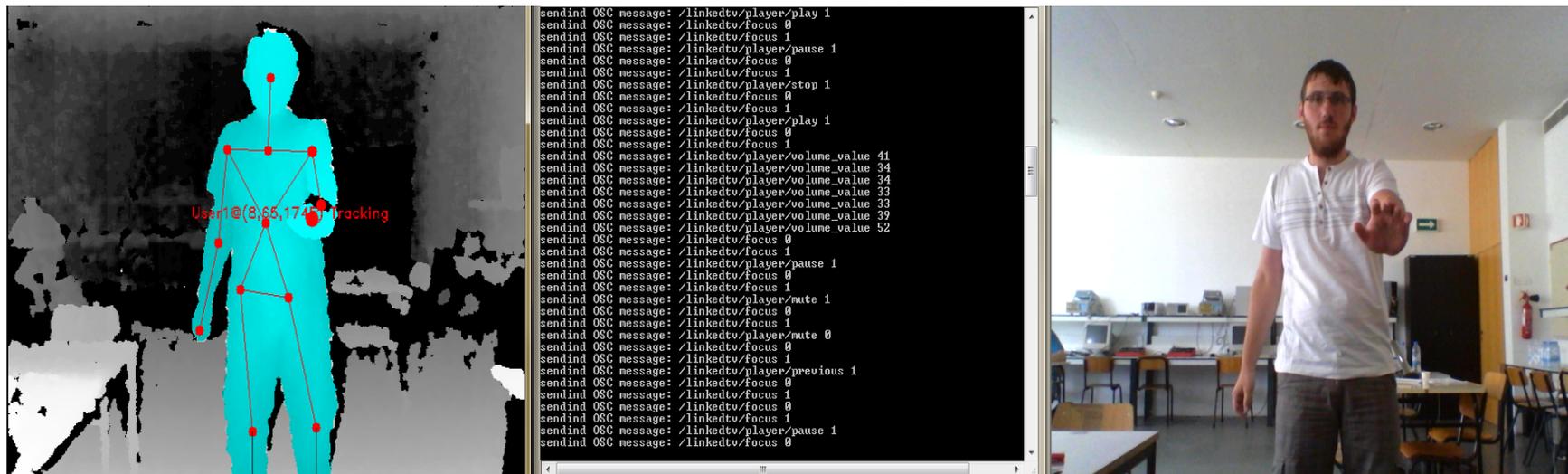
room eINTERFACE13  Menu



Gesture control

RGBD sensor-based explicit interaction

Full Body Interaction Framework (FUBI) is a framework for recognizing full body gestures and postures in real time



Gesture control

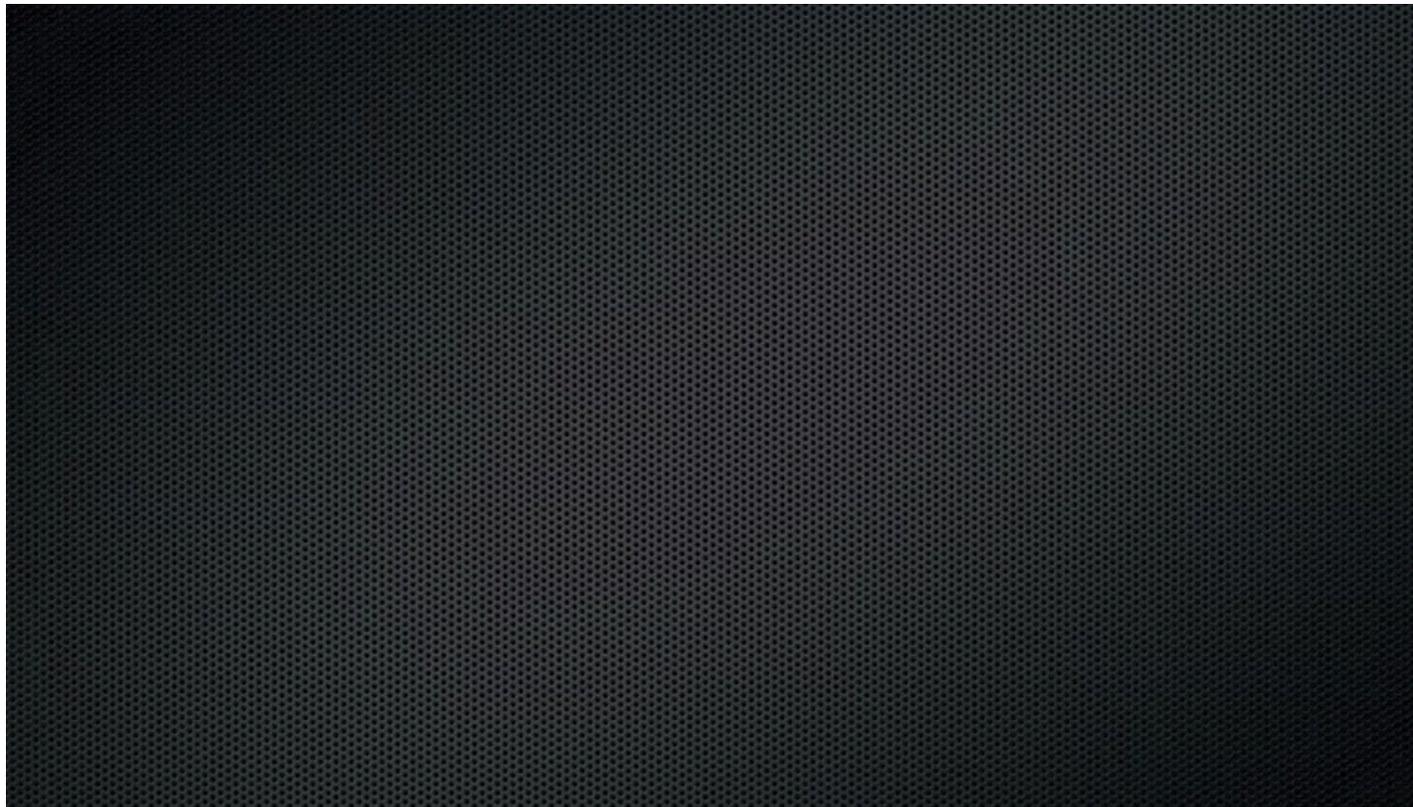
RGBD sensor-based explicit interaction

9 gestures are implemented and recognized to control our web player:

Play / Pause	Stop	Lock / Unlock
Next	Previous	Volume
Mute / Unmute	Bookmark / Unbookmark	Help

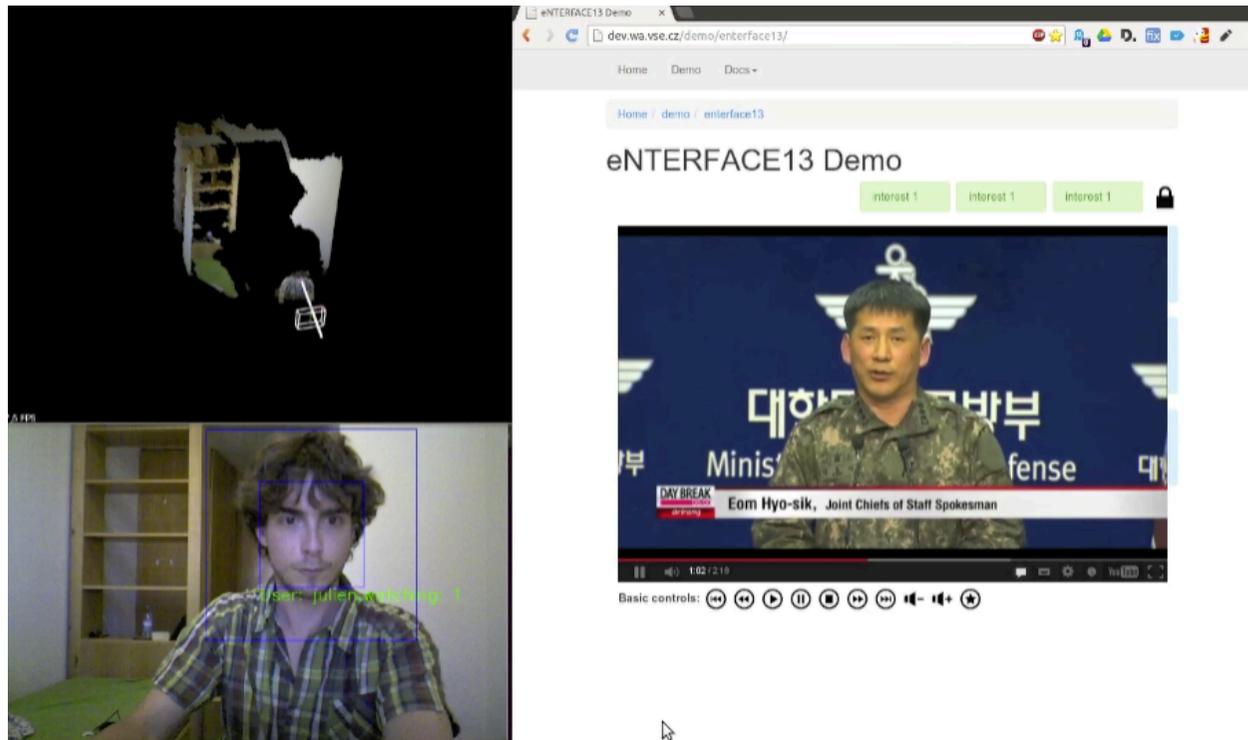
Gesture control

RGBD sensor-based explicit interaction

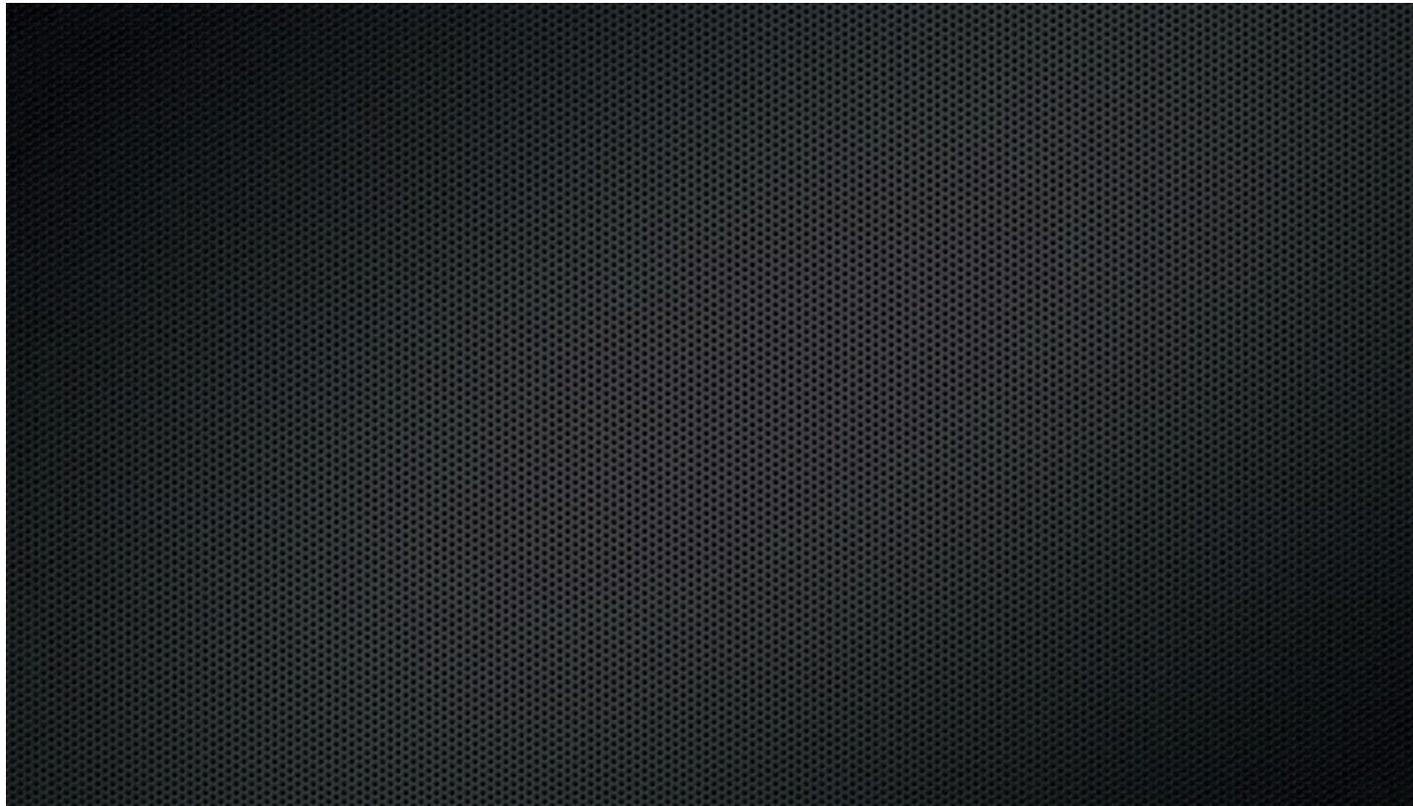


Attention tracker

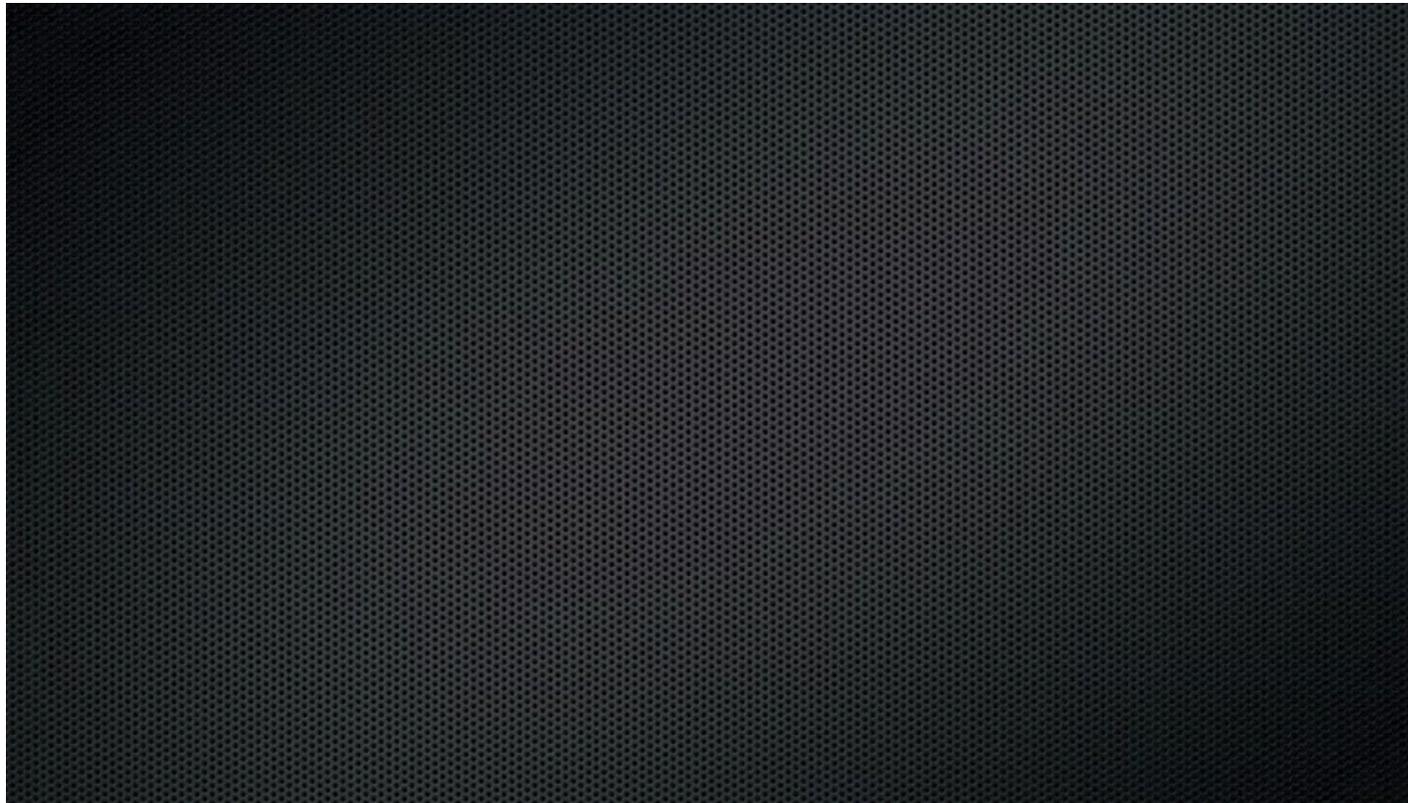
Tracking the user's focus and attention switch using a 3D sensor



Attention tracker



Integration of all components



Experiment

Goals:

- Test all the workflow
- Detect the user's interest for some video shots

How:

- Ask a user to solve multiple tasks (game+questionnaire) while watching 4 Youtube videos with our « Linked player »
- Questions are made to create a focus of attention at specific instants

Experiment

Setup:

- 4 Youtube videos with augmented content
- 2 tablets to play a simple game and to answer questions
- 1 depth sensor

Course of the experiment:

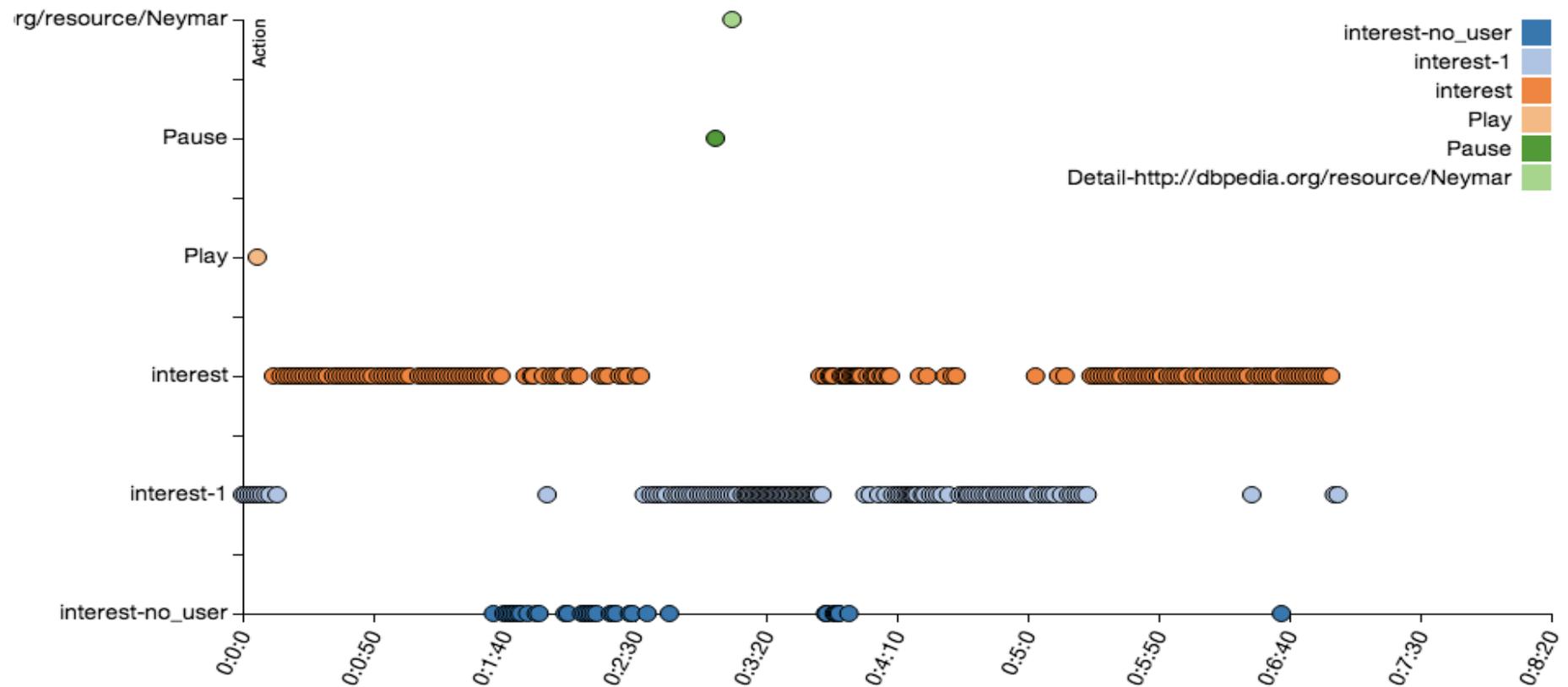
- 4min of training
- 7min to watch the videos, play a game and answers questions simultaneously

Experiment



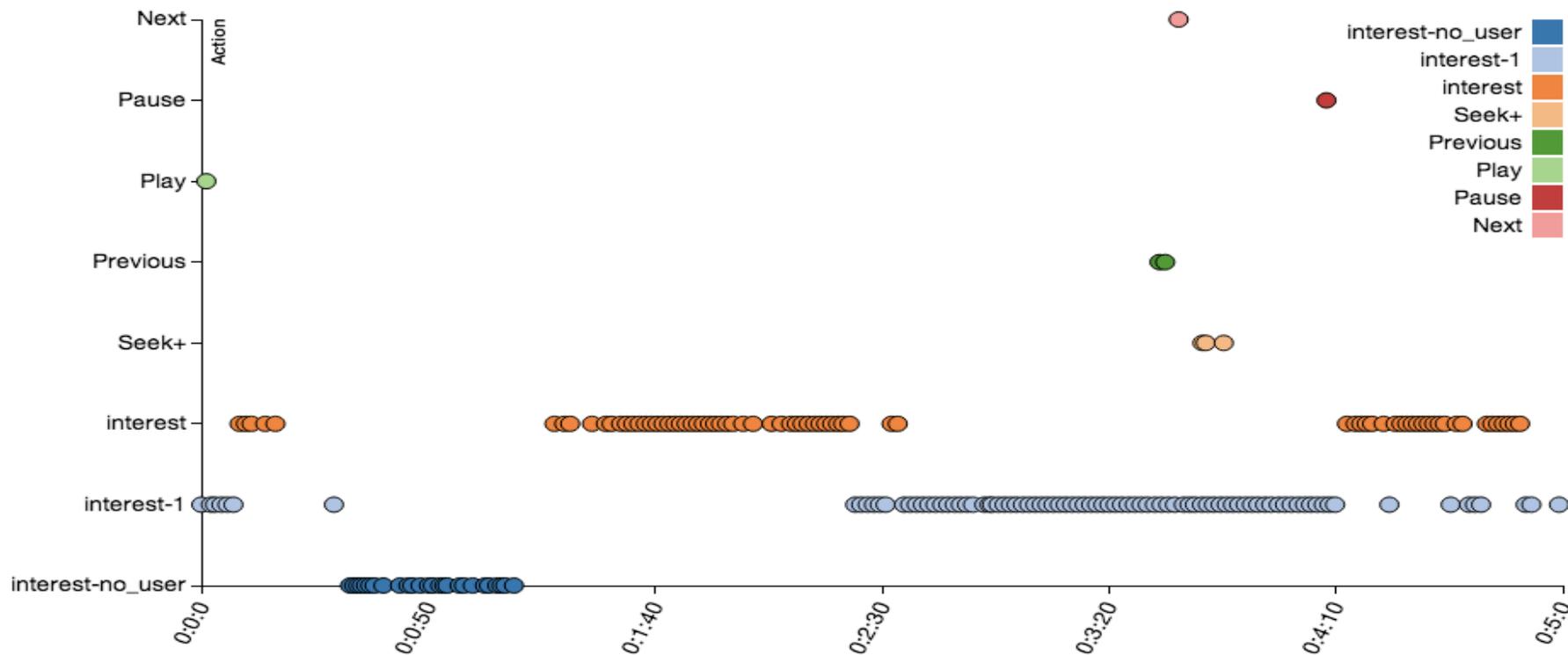
« Interest beat »

Timeline



« Interest beat »

Timeline



Thanks for your *sustained* attention
&
your participation