First Review Meeting

sewa

Automatic Sentiment Analysis in the Wild

Imperial College London

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real eyes

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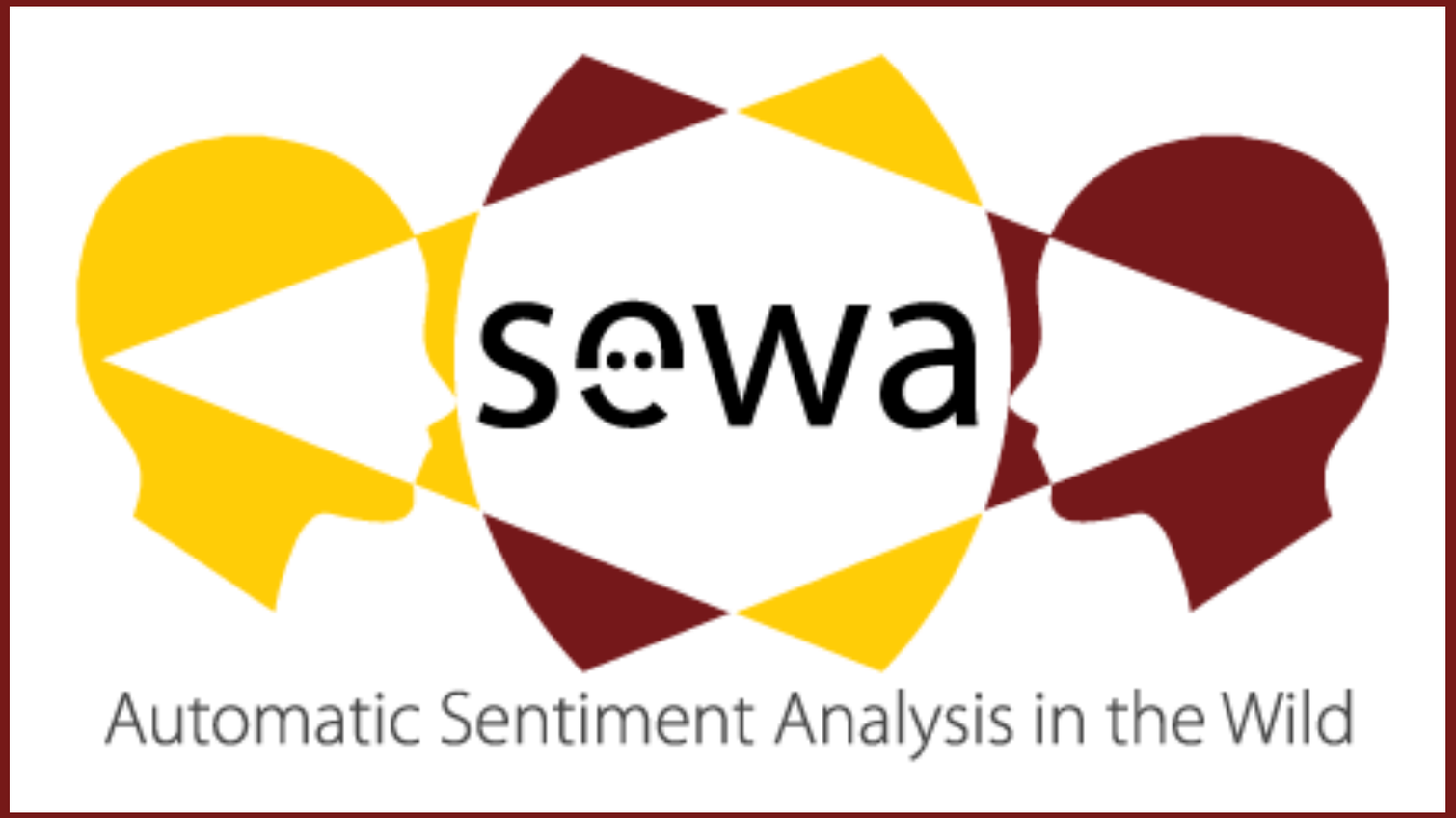
Agenda:

09.30 -- 10.00 gathering
10.00 -- 10.10 brief introduction of all present
10.10 -- 11.00 general presentation (includes 5' for urgent questions)
11.00 -- 11.30 WP1 (presentation 20', questions 10')
11.30 -- 12.00 WP2 (presentation 20', questions 10')
12.00 -- 12.30 WP3 (presentation 20', questions 10')
12.30 -- 13.00 WP7 -- Recommender System (presentation 20', questions 10')
13.00 -- 14.00 lunch
14.00 -- 14.30 WP7 -- Social Chat Game (presentation 20', questions 10')
14.30 -- 15.10 WP8 (presentation up to 30', questions 10')
15.10 -- 15.30 WP9 (presentation up to 15', questions 5')
15.30 -- 16.30 reviewers separate meeting
16.30 -- 17.00 PO oral feedback to consortium

Overview



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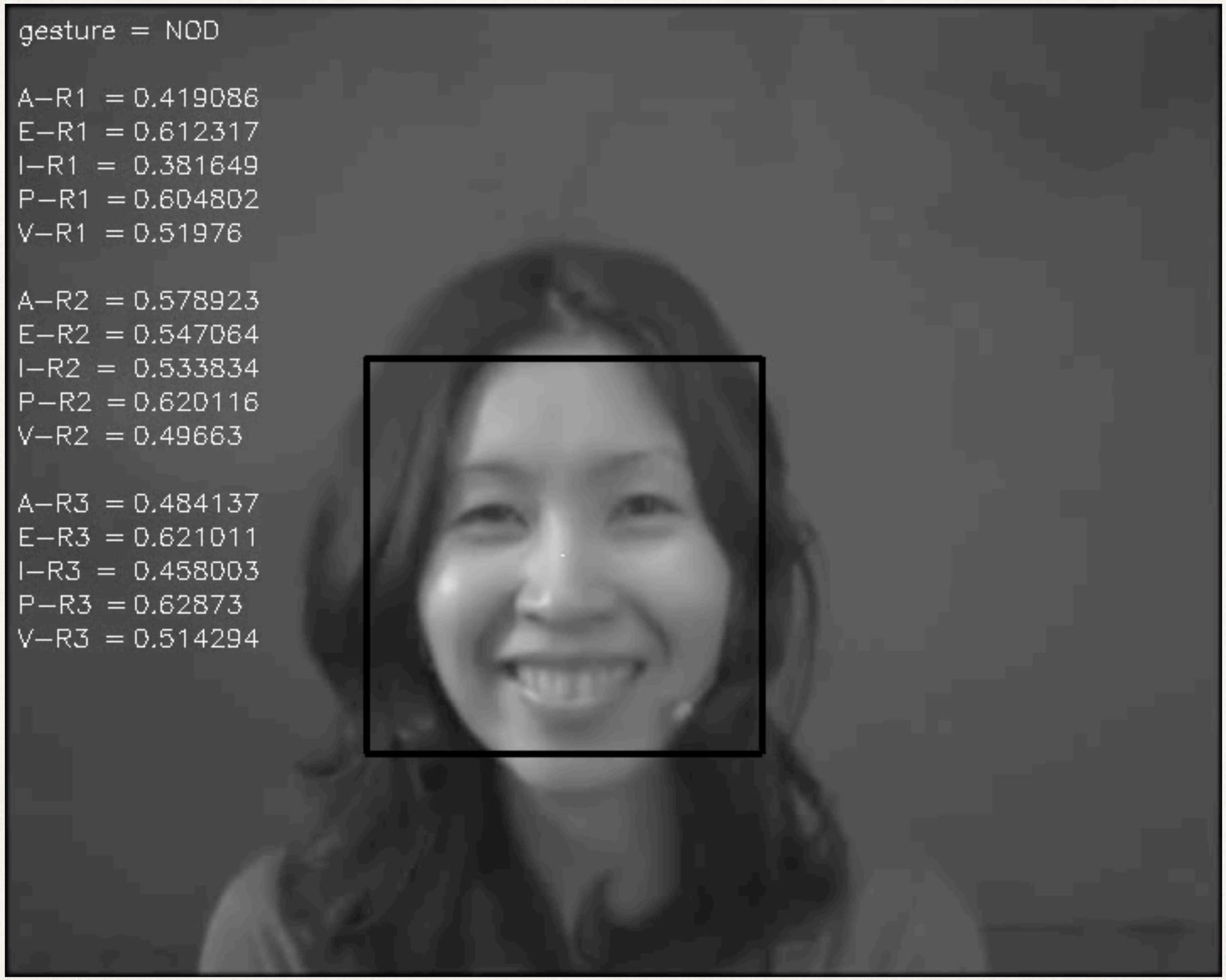

Aim: Automatic analysis of audio-visual human behaviour in the wild

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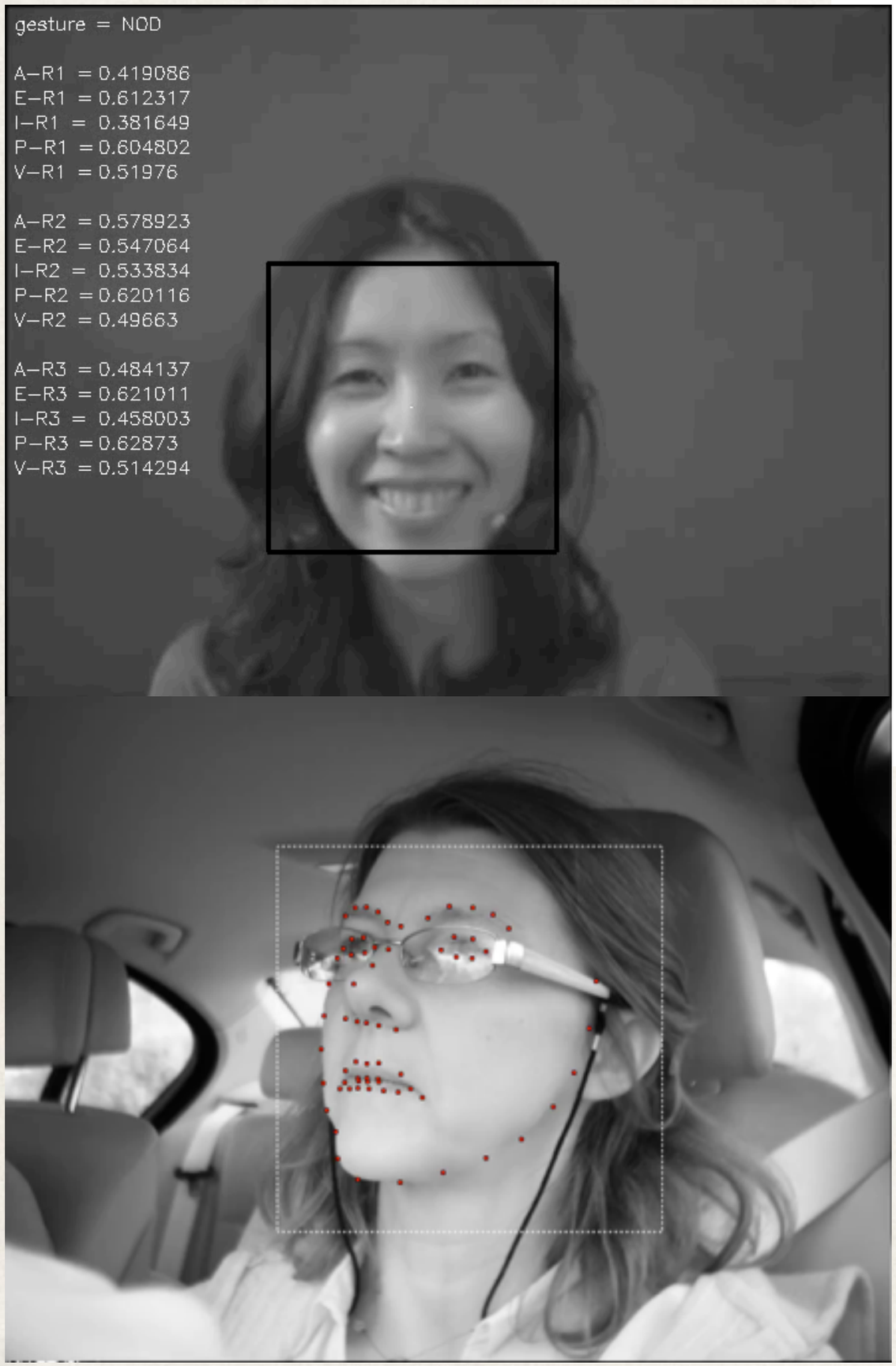
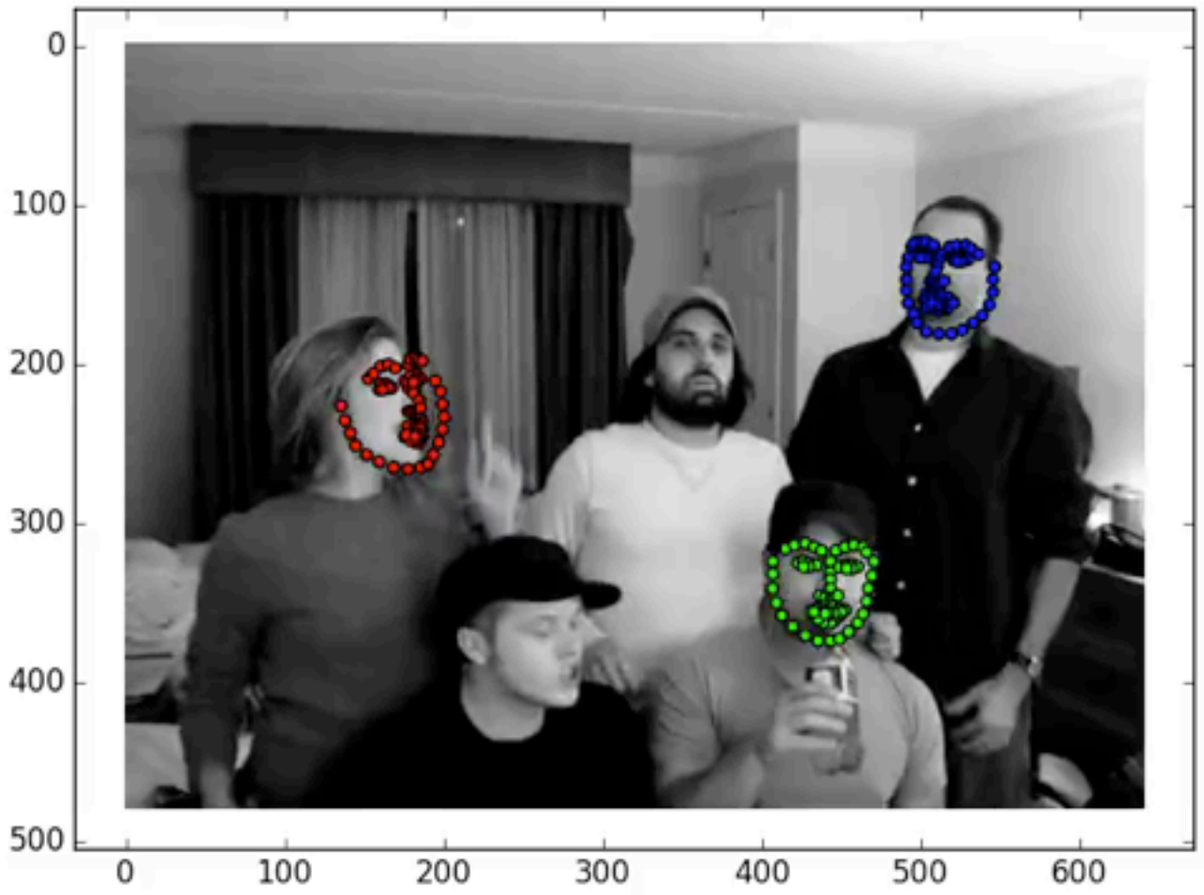


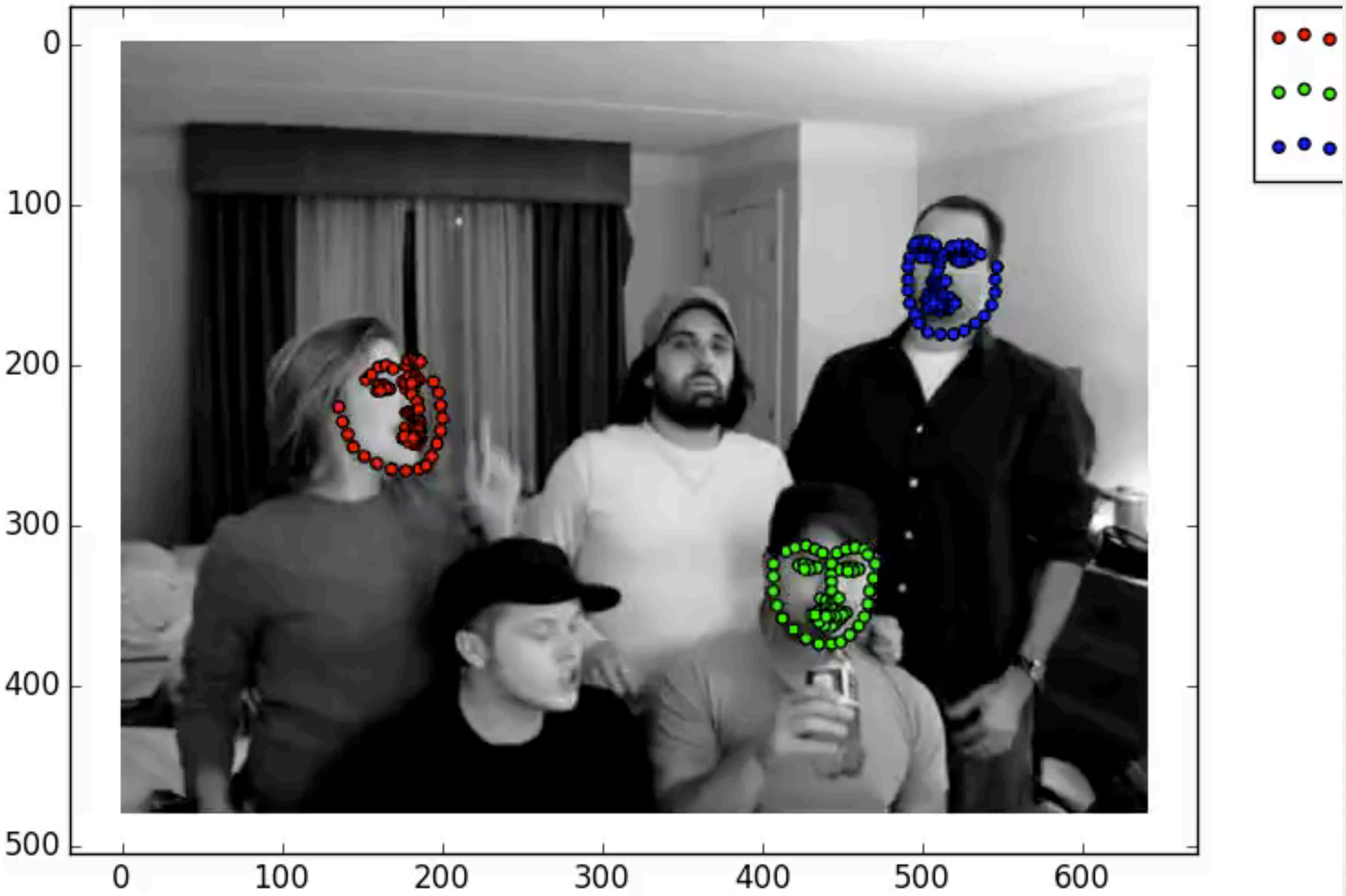


Motivation:

People emote and react on external stimuli all the time

&

This information could be used in many applications



Motivation: current Tech cannot handle accurately in-the-wild recordings

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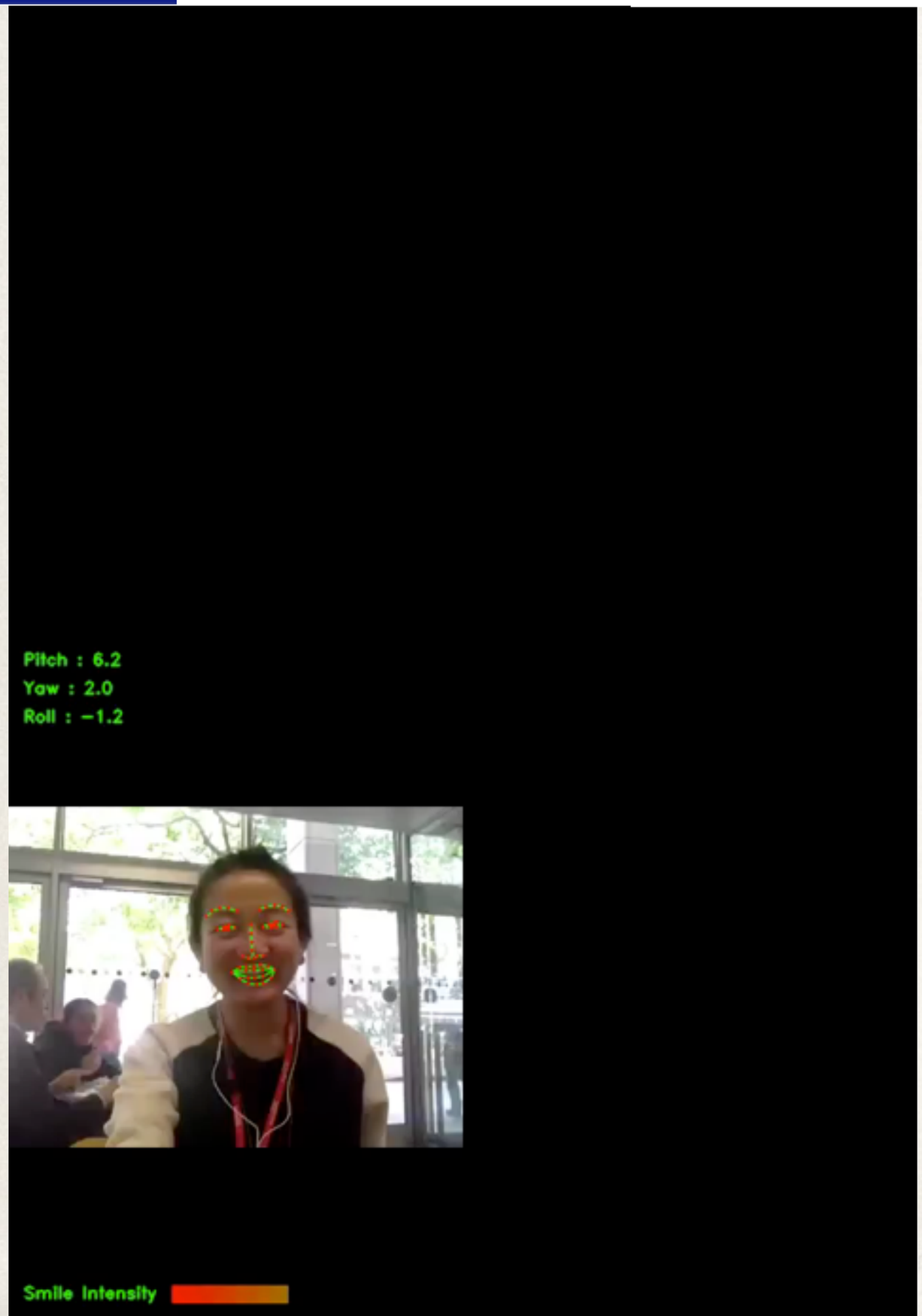
Aim: robust automatic analysis of audio-visual human behaviour in the wild

- robust facial expression analysis in the wild
- robust analysis of what has been said and how it has been said
- robust sentiment (liking/ disliking) analysis in the wild
- robust valance and arousal analysis in the wild
- build two real applications: ad recommendation system & Social chat game



Step 1: collection of relevant in-the-wild recordings (WP1)

Data:

- 6 cultures (UK, D, H, RS, CN, GR)
- 400+ subjects
- 18-84 years old
- unconstrained conditions
- two scenarios: adverts watching and adverts discussion
- metadata: personality, like/ dislike

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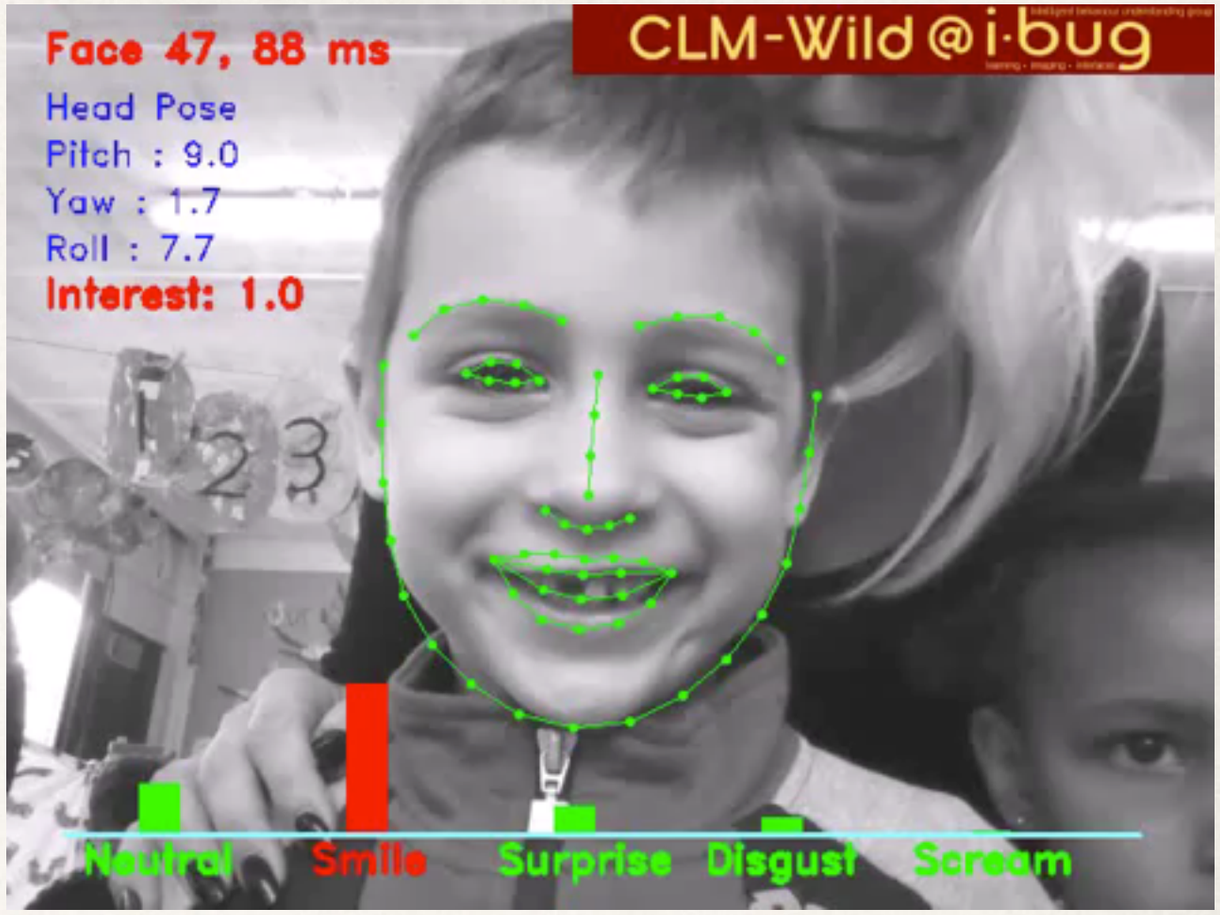
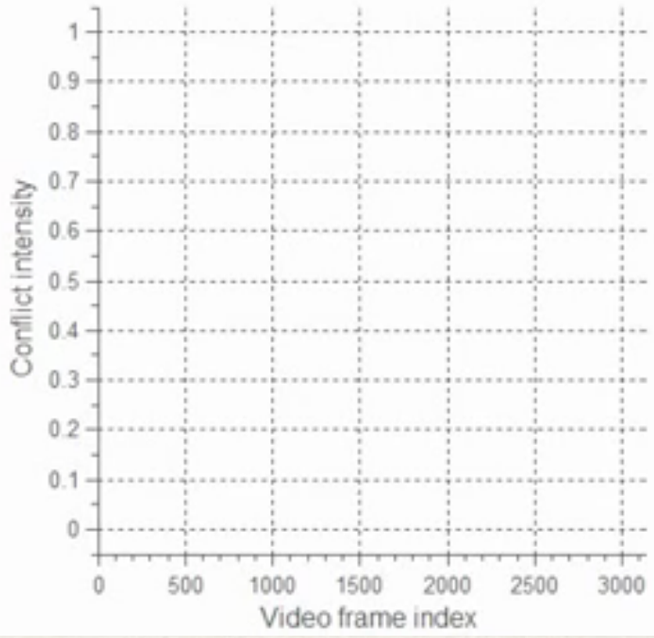
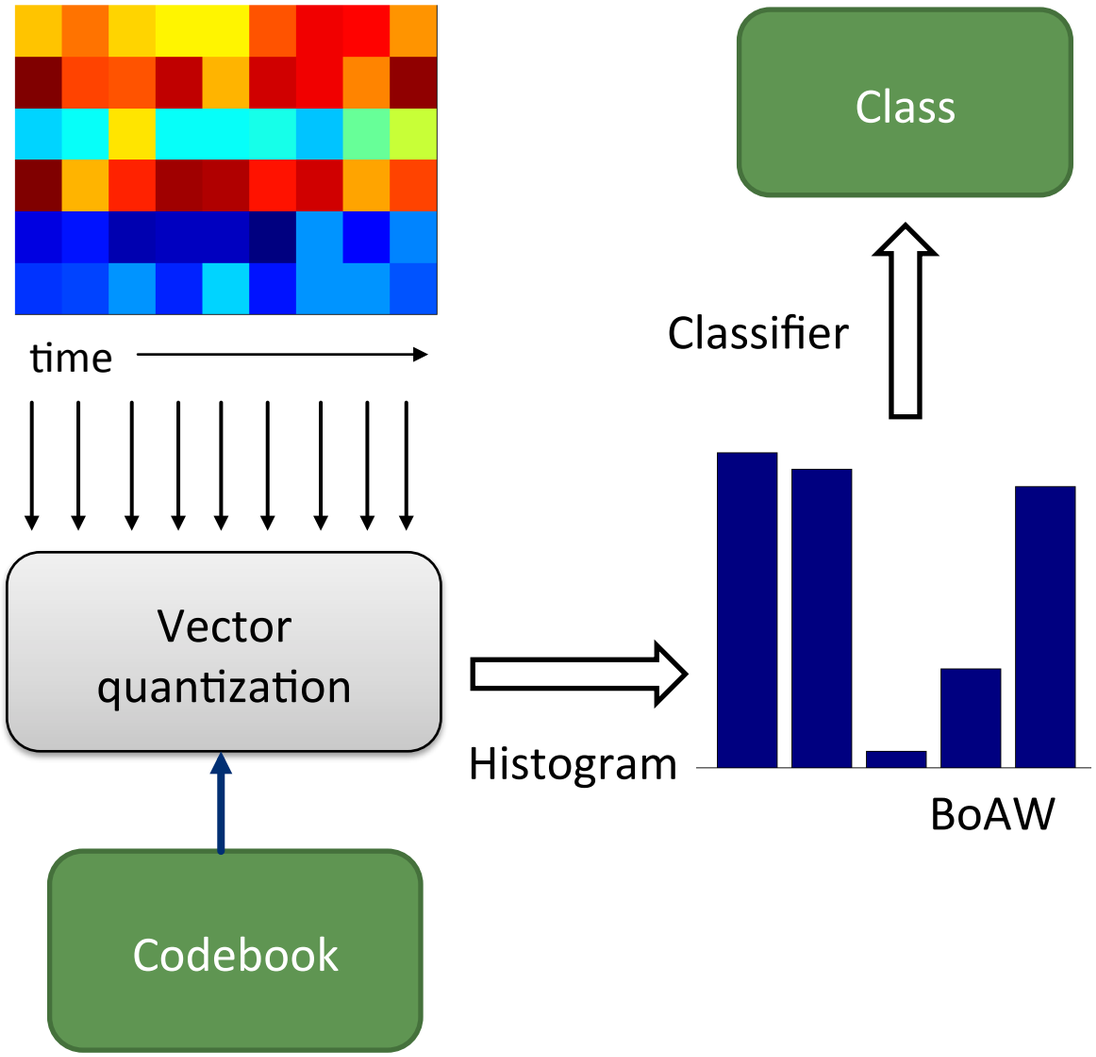




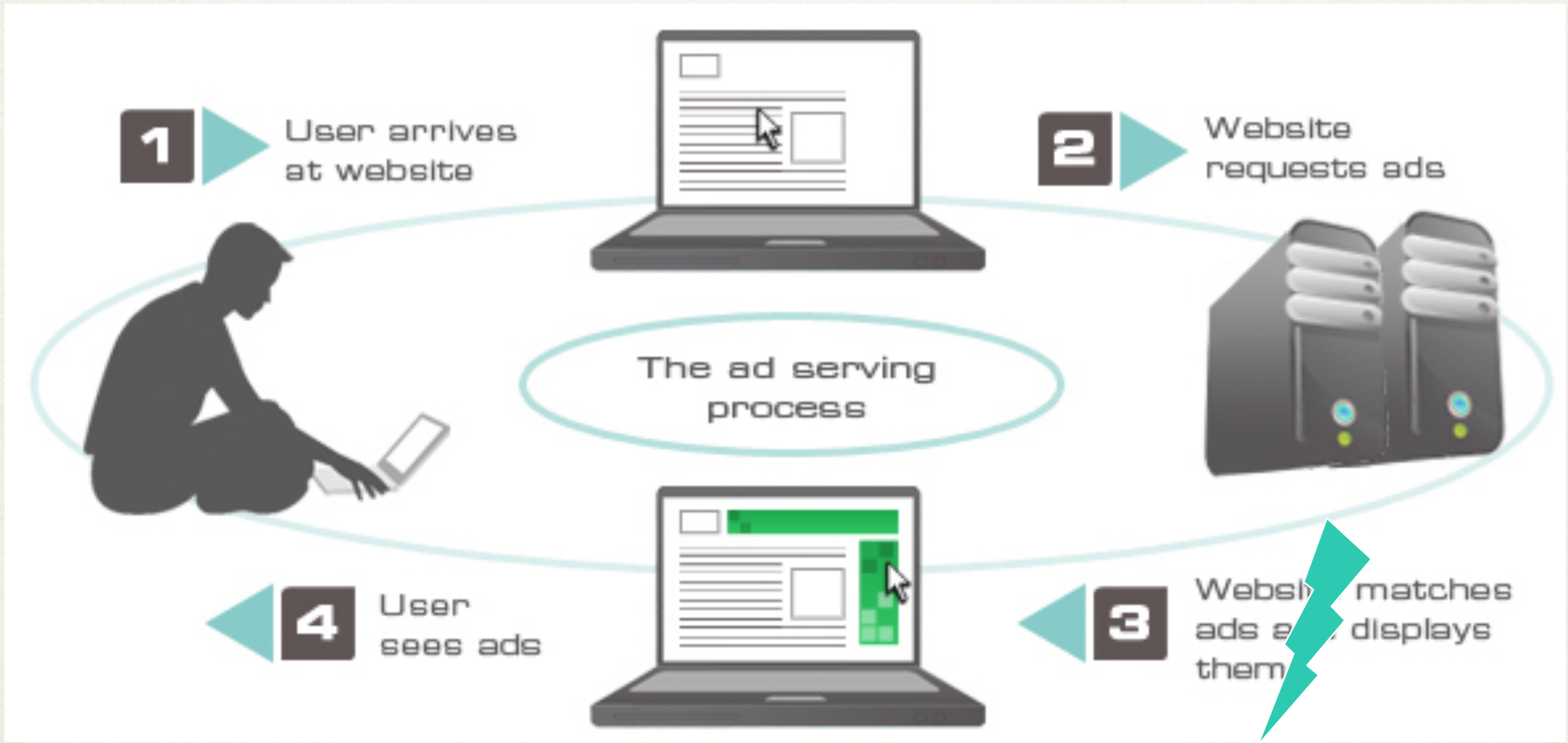
Step 2: build robust and accurate facial expression analysers (WP2-WP6)



Method	CC [%] (clean)	CC [%] (noise + reverb)
Baseline	32.2 / 14.4	
BoAW	62.0 / 30.1	61.7 / 21.6

		# Classes	%UA/*AUC/⁺CC
2015	Nativeness	[0,1]	74.3⁺
	Parkinson's	[0,100]	65.0⁺
	Eating	7	83.7
2014	Cognitive Load	3	61.6
	Physical Load	2	71.9
2013	Social Signals	2x2	92.7*
	Conflict	2	85.9
	Emotion	12	46.1
	Autism	4	69.4
2012	Personality	5x2	70.4
	Likability	2	68.7
	Intelligibility	2	76.8
2011	Intoxication	2	72.2
	Sleepiness	2	72.5
2010	Age	4	53.6
	Gender	3	85.7
	Interest	[-1,1]	42.8⁺
2009	Emotion	5	44.0
	Negativity	2	71.2

Step 3: build robust and accurate vocal expression analysers (WP2-WP6)



Step 4: build application 1 - Ad Recommendation System (WP7)

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Step 4: build application 1 - Ad Recommendation System (WP7)

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Objective

Improve communication skills by getting feedback on short interactions with people in your social network (e.g. Twitter)

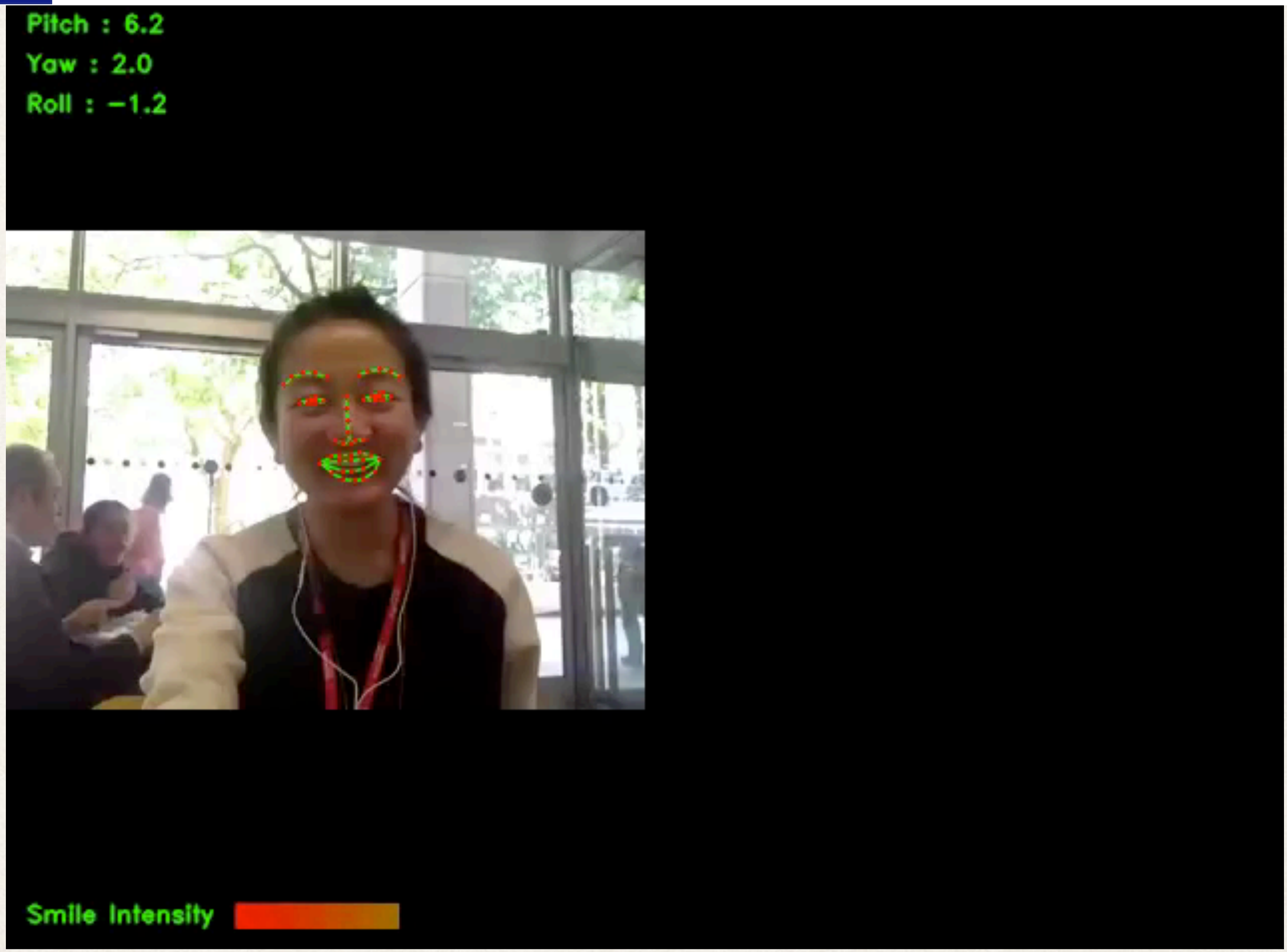
User group

Students aged 18+ in education institutions

Rationale

- ✓Explores how to add value to basic videochat
- ✓Target group use videochat/social games
- ✓High potential for user testing
- ✓Potential application to other areas

Step 5: build application 2 - Social chat Game (WP7)



Step 5: build application 2 - Social chat Game (WP7)

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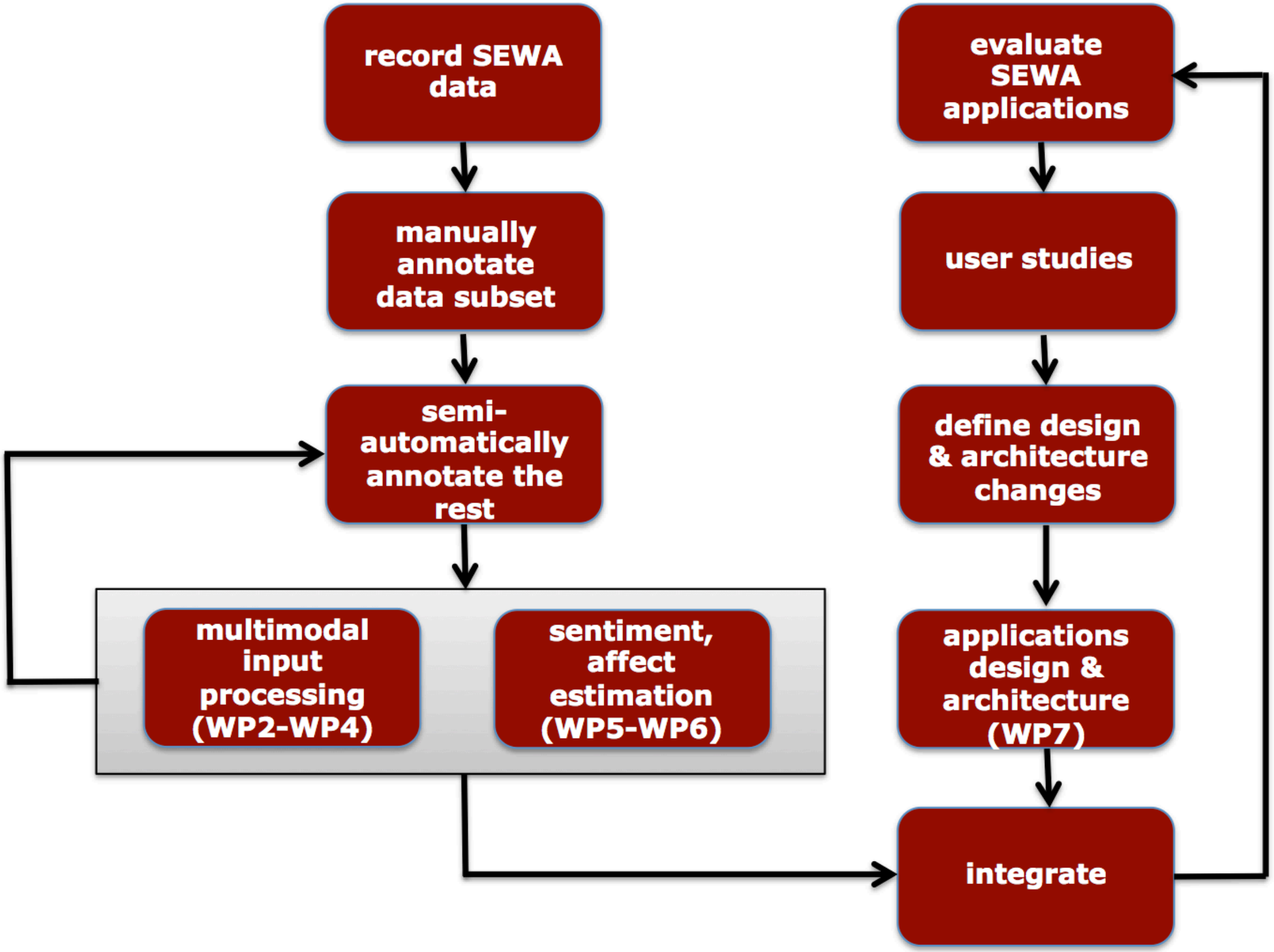

Automatic Sentiment Analysis in the Wild

data release

face & audio features

behaviour analysis

applications

Milestones	M1					M2						M3						M4					
Month	*1*	*3*	*5*	*7*	*9*	*11*	*13*	*15*	*17*	*19*	*21*	*23*	*25*	*27*	*29*	*31*	*33*	*35*	*37*	*39*	*42*		
WP1	Data acquisition and annotation						SEWA DB design and release																
WP2	Development of robust and cross-language audio-visual features																						
WP3	Development of behavioural feature extraction (body language, FAU, vocalisations, etc.)																						
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WP5										Development of behaviour similarity measures													
WP6										Development of mimicry, rapport, and empathy recognition													
WP7										Iterative requirements engineering and application development													
WP8	Dissemination and communication activities; ethical review																						
WP9	Coordination and management																						

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www.sewaproject.eu

Automatic Sentiment Analysis in the Wild

Home | Description | Publications | Dissemination | Resources | Deliverables | Participants | Contact Us

SEWA Project

The Automatic Sentiment Analysis in the Wild (SEWA) is a EC H2020 funded project. The main aim of SEWA is to deploy and capitalise on existing state-of-the-art methodologies, models and algorithms for machine analysis of facial, vocal and verbal behaviour, and then adjust and combine them to realise naturalistic human-centric human-computer interaction (HCI) and computer-mediated face-to-face interaction (FF-HCI).

This will involve development of computer vision, speech processing and machine learning tools for automated understanding of human interactive behaviour in naturalistic contexts. The envisioned technology will be based on findings in cognitive sciences and it will represent a set of audio and visual spatiotemporal methods for automatic analysis of human spontaneous (as opposed to posed and exaggerated) patterns of behavioural cues including continuous and discrete analysis of sentiment, liking and empathy.

SEWA will draw on expertise from several disciplines as illustrated in the table below:

Expertise	ICL	UP	RealEyes	PlayGen
Image processing	✓		✓	
Speech recognition		✓		

Latest news

SEWA Coordinator speaking in The Royal Society on How Computers Got Smart
12/04/2016
SEWA Coordinator speaking in The Royal Society on How Computers Got Smart

SEWA coordinator interview for France24
09/02/2016
SEWA coordinator spoke of Emotional Robots and Future of AI in an interview for France24 (video minutes 06:23 to 09:30).

SEWA coordinator speaking at Nature Magazine's Ideas Lab
15/02/2016
SEWA coordinator speaking at Nature Magazine's Ideas Lab, Davos, January 2016

Workshops & Special Issues

Dissemination & communication Activities - website (WP8)

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INTERSPEECH 2015
September 6 - 10
Dresden, Germany

WELCOME TO Fabulous CVPR 2016 LAS VEGAS

Shanghai, China
ICASSP · 2016

11th IEEE International Conference on Automatic Face and Gesture Recognition
FG2015

ACMMULTIMEDIA 2015

SANTIAGO, CHILE DECEMBER 11-18, 2015

ICCV15
International Conference on Computer Vision

ACII 2015
September 21-24, Xi'an, China

CVPR 2015
BOSTON
JUNE 7-12

Dissemination & communication Activities - publications (WP8)

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Ipsos

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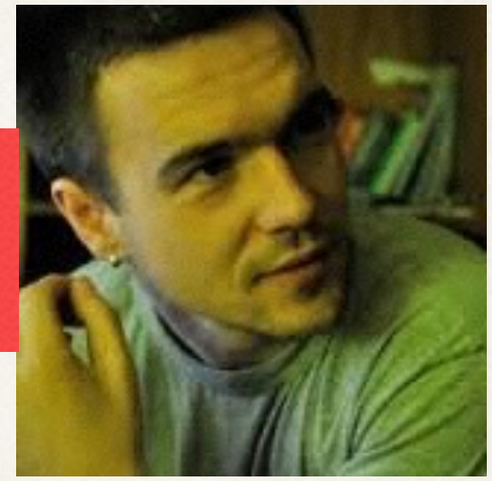

Jobatar

audEERING™
intelligent Audio Engineering

VisualDNA™

FT FINANCIAL TIMES

Dissemination & communication Activities - Valorisation Board (WP8)

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RA Royal Academy of Arts

EXCELLENCE IN SCIENCE

THE ROYAL SOCIETY

nordwest radio

UKW 88,3 | 95,4

Ein Programm von Radio Bremen

FRANCE 24

РТС

Радио-телевизија Србије

Dissemination & communication Activities - public engagement (WP8)

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Questions?

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