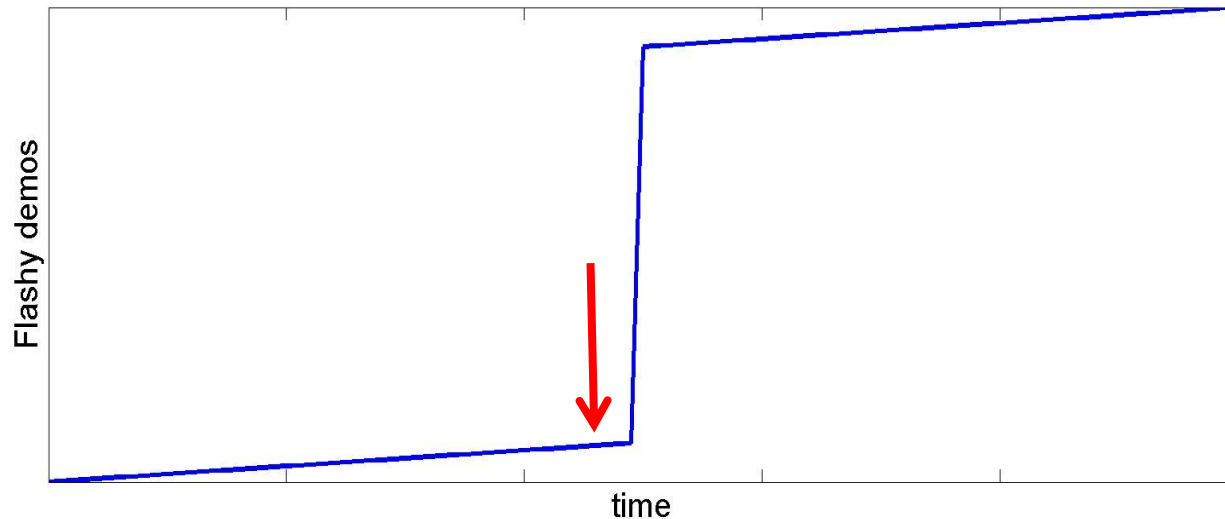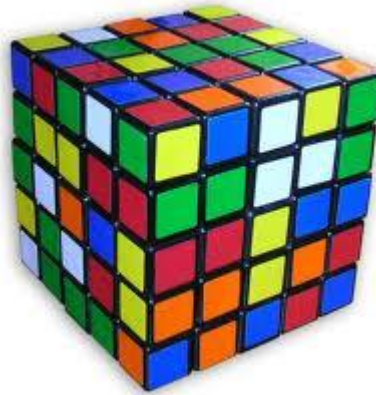# Laugh when you're winning

Harry Griffin
for the
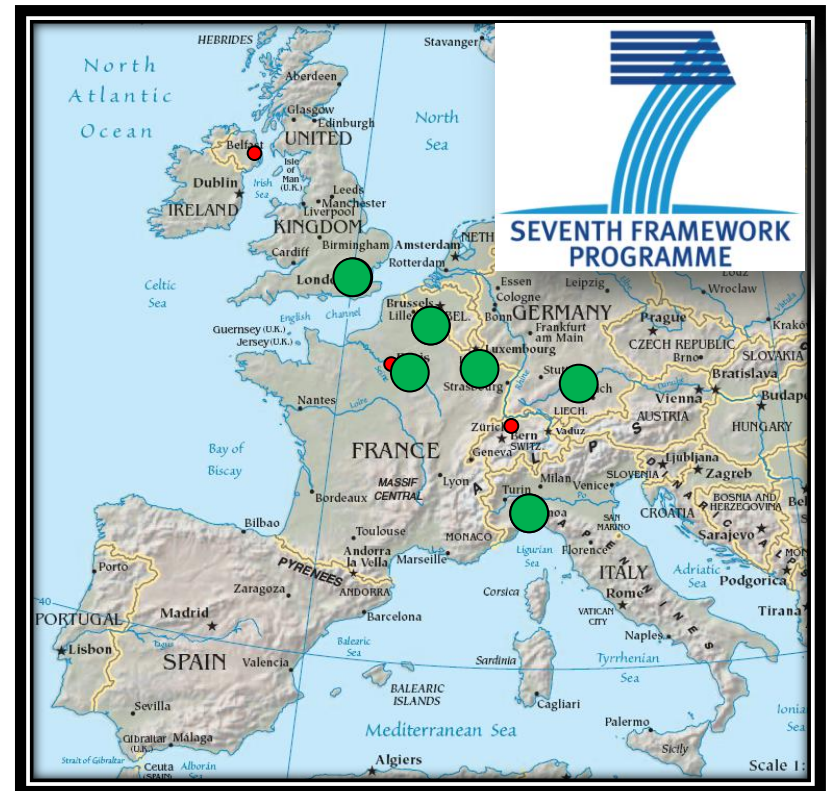## ILHAIRE Consortium

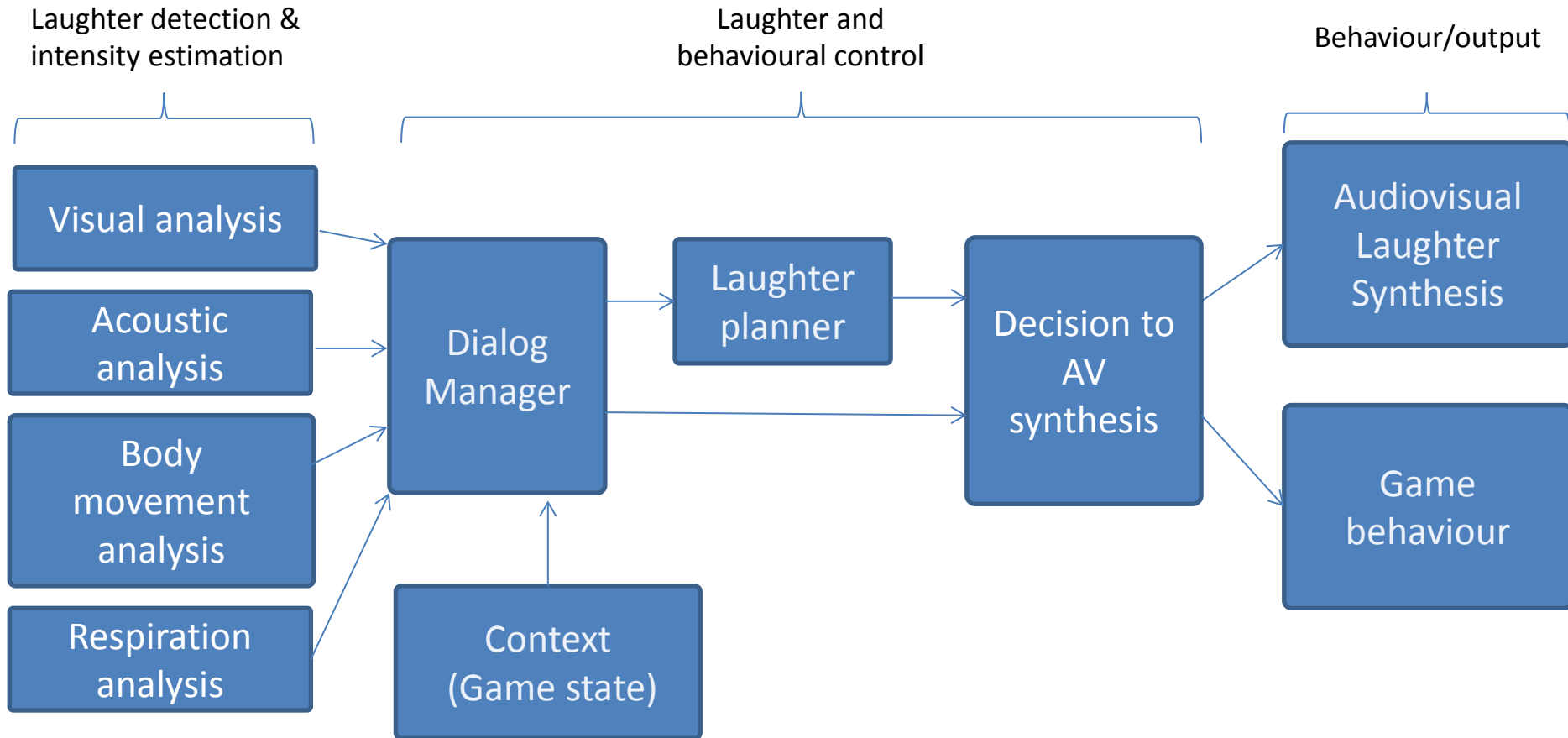# Midterm presentation

LWYW objectives

- Build an agent/system that can
  - Play a convincing part in simple games
  - Laugh naturally during game interactions

- Integrate new developments from ILHAIRE consortium from last 12 months

LWYW initial tasks

- Integrate existing modules for laughter detection, control and synthesis

- Develop game playing capabilities of avatar

- Yes/no game

System architecture - plan

Laughter detection &
intensity estimation

Laughter and
behavioural control

Behaviour/output

Visual analysis

Acoustic analysis

Body movement analysis

Respiration analysis

Dialog Manager

Laughter planner

Decision to AV synthesis

Context (Game state)

Audiovisual Laughter Synthesis

Game behaviour

System architecture - integration

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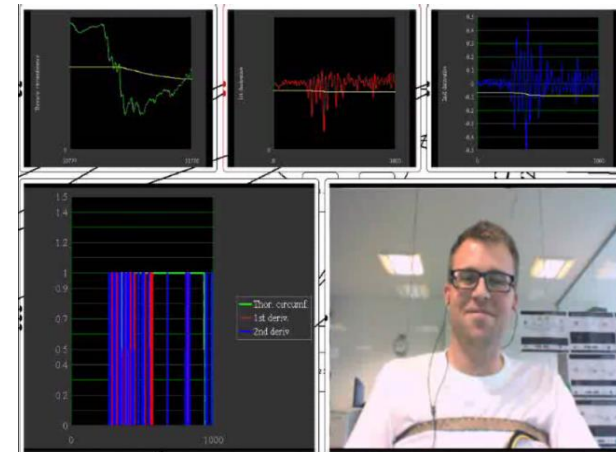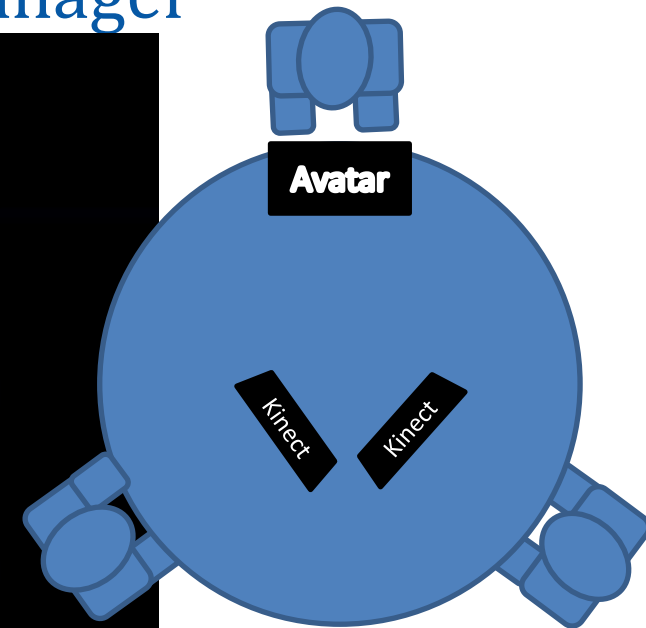
Game behaviour

Multimodal laughter detection and intensity analysis

- Audio detection – ok within hardware constraints

- Smile detection (Kinect) – ok

- Body movement and respiration analysis – ok, fusion with other modalities yet to be finalised

Setup and scenario

- System and sensors integrated to test scenario
- Also for training data for dialog manager

Audiovisual laughter synthesis

- Phoneme-driven synthesis of facial movements e.g., lips, and some body movements

- Partially integrated into GRETA, Living Actor implementation in the next week

- Laughter planner to control decisions according to context e.g., ongoing speech
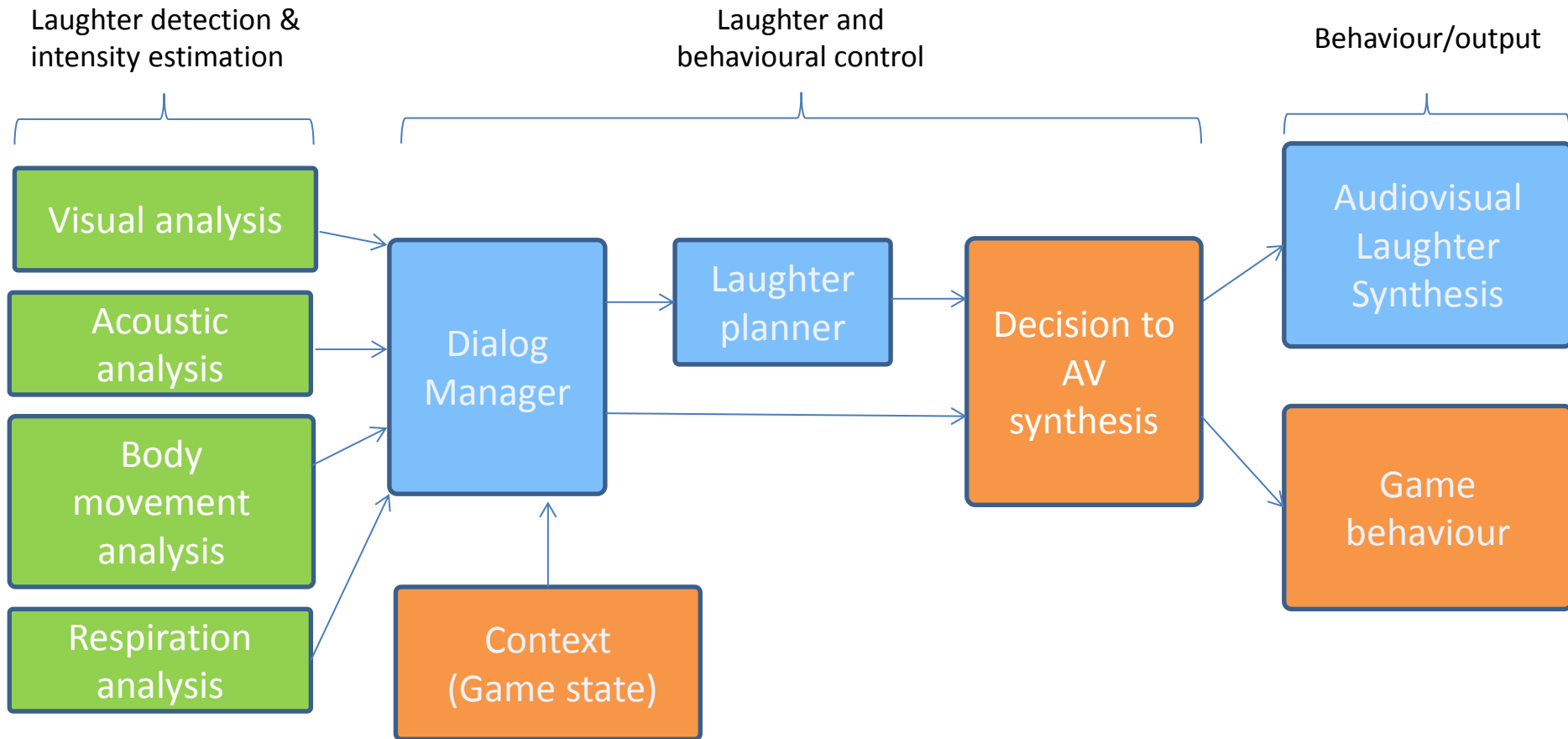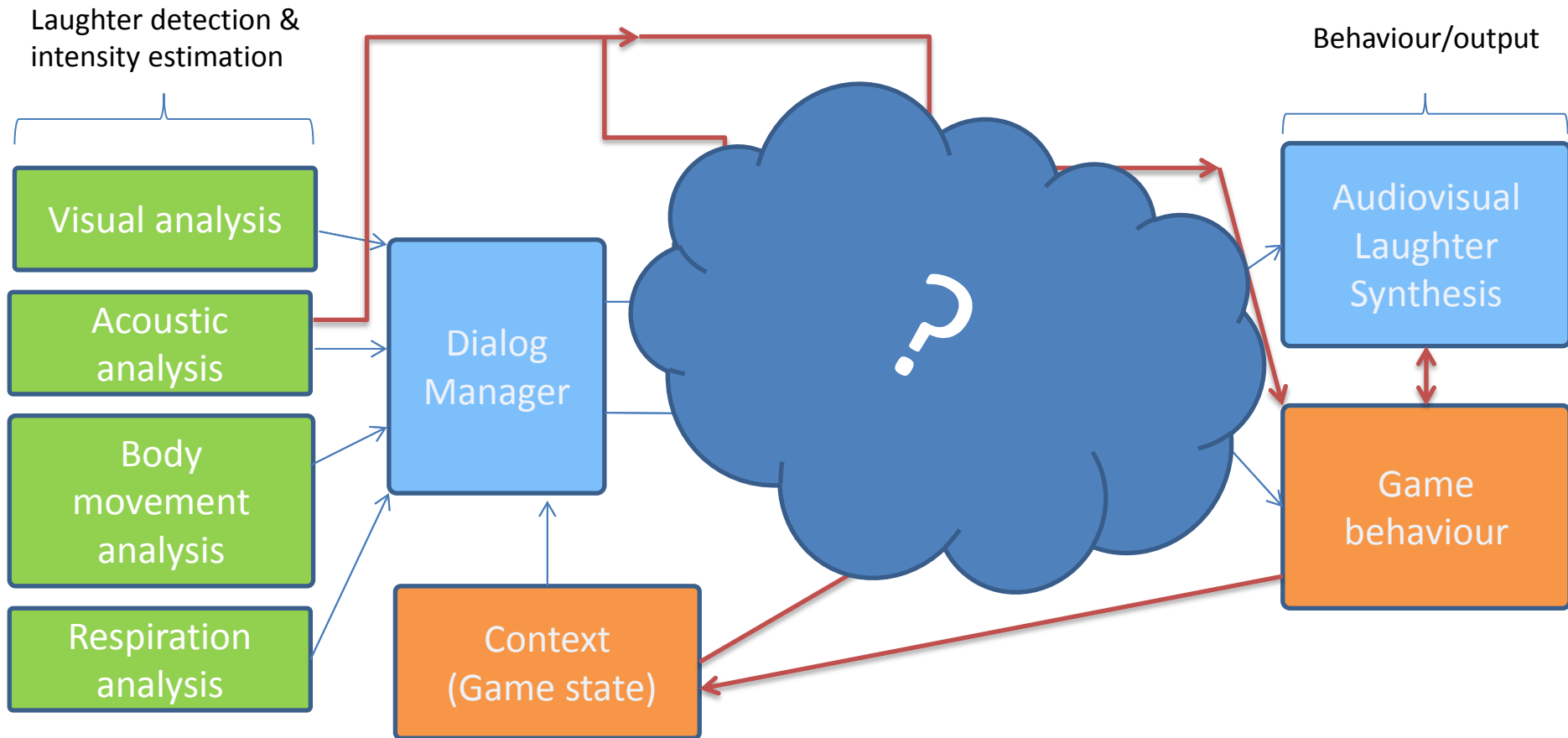
Game behaviour

- No dedicated game control module yet

- Behavioural rules require several decisions on present and past states, even in a simple game

System architecture - integration

Laughter detection &
intensity estimation

Laughter and
behavioural control

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SEVENTH FRAMEWORK PROGRAMME

ILHAIRE
The science of laughter!

System architecture - integration

Laughter detection & intensity estimation

Behaviour/output

Visual analysis

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Body movement analysis

Respiration analysis

Dialog Manager

Context (Game state)

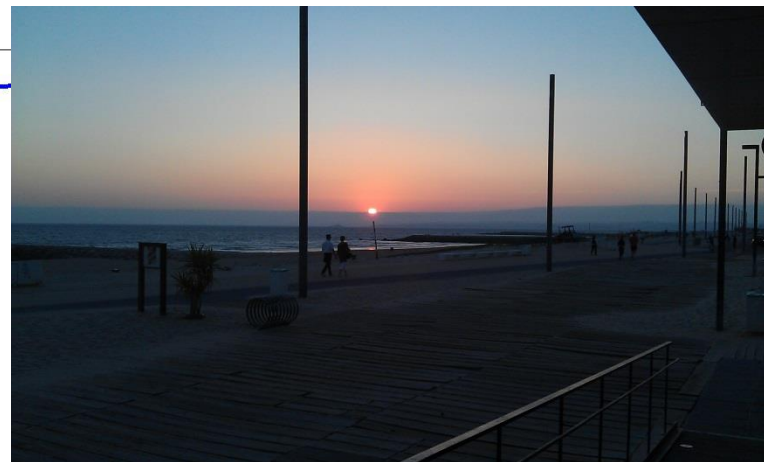Audiovisual Laughter Synthesis

Game behaviour

LWYW remaining tasks

- Implementing game logic and behaviour
- Evaluation

Thank you

time