CS/INFO 4154:
Analytics-driven Game Design

Class 14:

Playtesting

Mon	Wed	Fri
9/25 Playtesting	9/27 Alpha Testing 1	9/29 Alpha Testing 2
10/2 Alpha Postmortems	10/4 Logging	10/6 Data Visualization

Alpha Prototype

- Wednesday!
- Three playable levels: easy, medium, hard
- List of input methods/keys

Alpha Testing

- **Wednesday and Friday**: testing / feedback
- **Monday**: postmortem activity

Alpha Submission

- Submit through CMS ***before class*** (10:10am)
- Whatever we need to run the game
  - Can ZIP it up or just submit the compiled file

Playtesting: is the game good?

Today

- Traditional techniques
- Newer techniques
- Group activity: *playtesting planning*

Resources

- “Successful instrumentation: tracking attitudes and behaviors to improve games”
  - Ramon Romero, GDC 2008
- “Valve’s approach to playtesting: the application of empiricism”
  - Mike Ambinder, GDC 2009
- “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”
  - Mike Ambinder, GDC 2011

Today

- Traditional techniques
- Newer techniques
- Group activity: *playtesting planning*

Traditional playtesting methods

- Q&A

Questions and Answers

Pros and Cons

Targeted information

Players may not be able to articulate feelings

Biased: ***everybody lies***

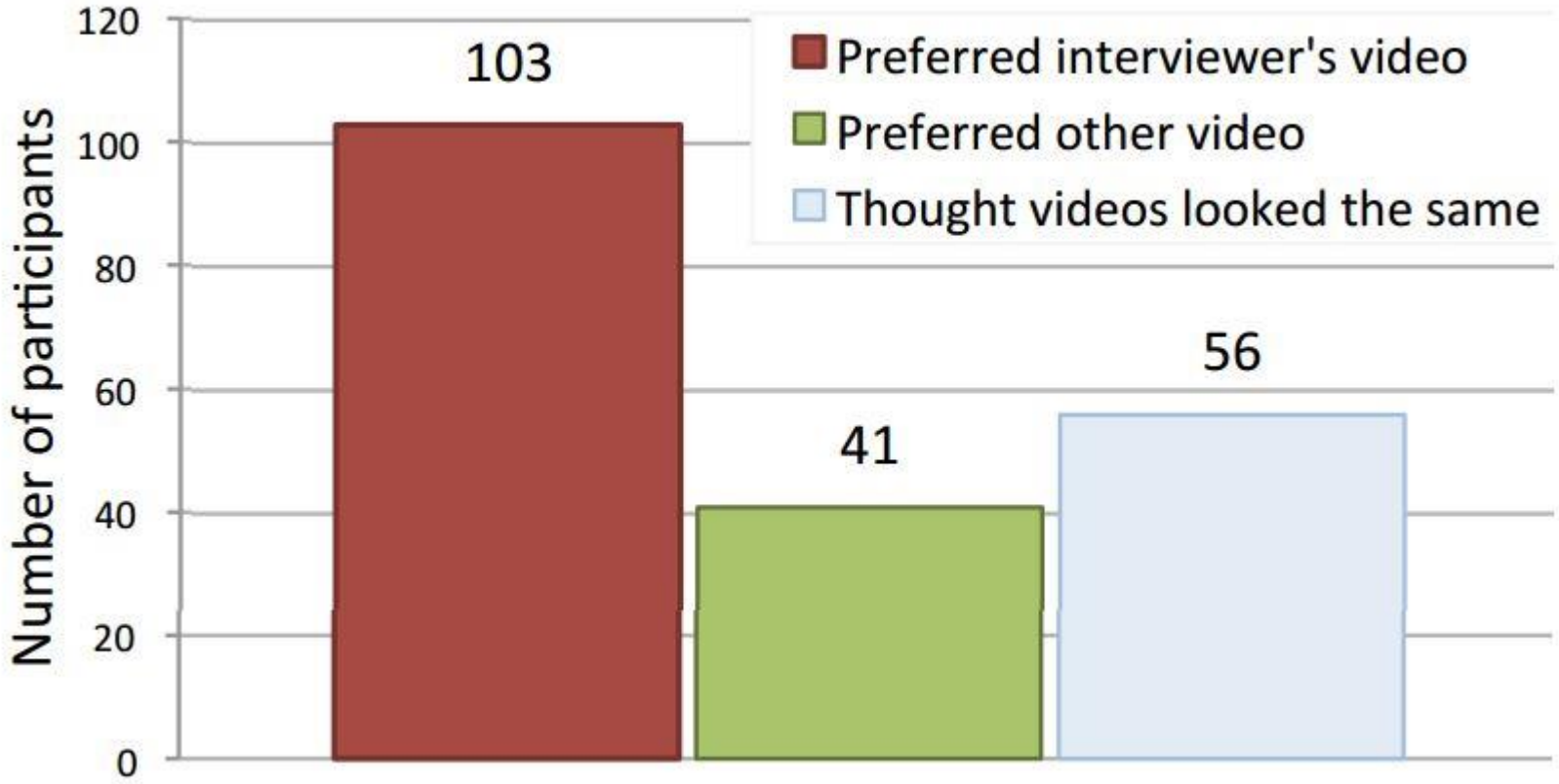
The impact of bias

Dell et al. CHI 2012

Interviewer's video

Competitor video

Dell et al. CHI 2012

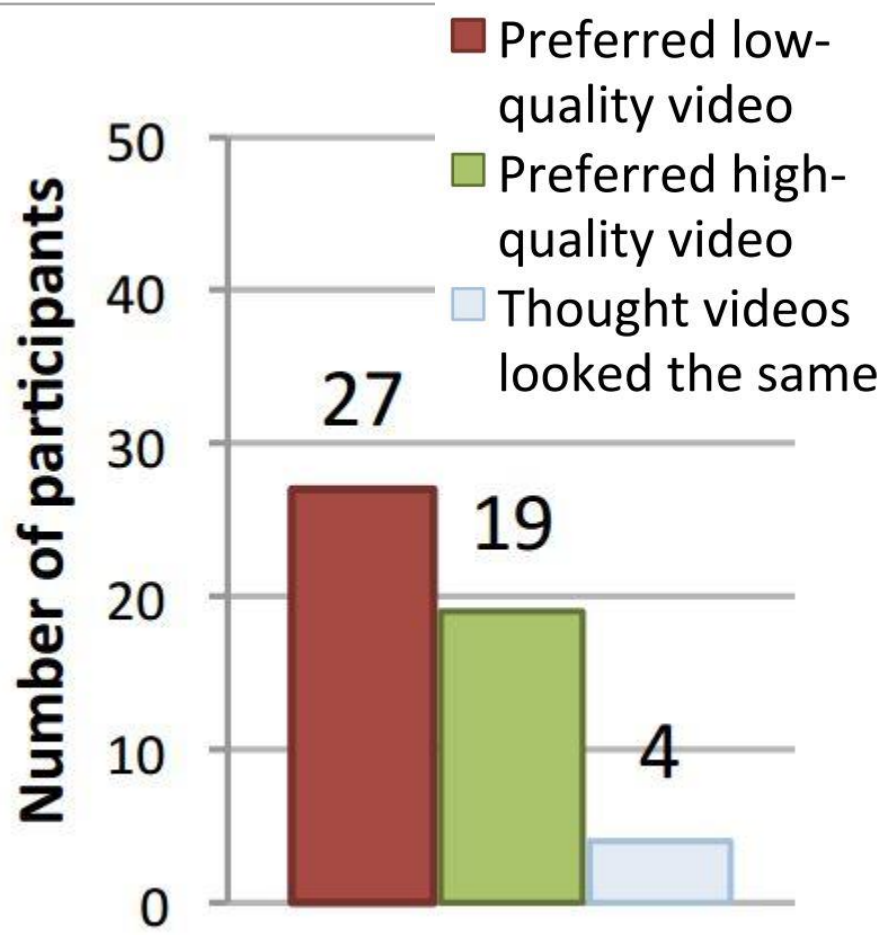


Dell et al. CHI 2012

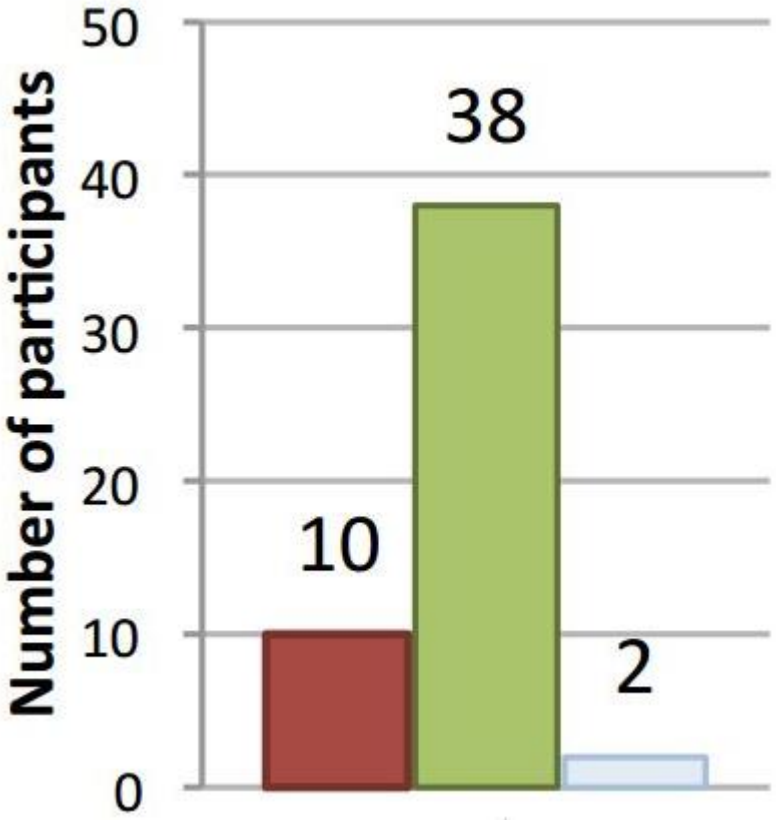
Interviewer's video

Competitor video

Dell et al. CHI 2012



Without claiming ownership



Dell et al. CHI 2012

Traditional playtesting methods

- Q&A
- Direct Observation

Direct Observation

Key: reading emotions

M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Key: reading emotions

M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Key: reading emotions

M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Key: reading emotions

M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Key: reading emotions

M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

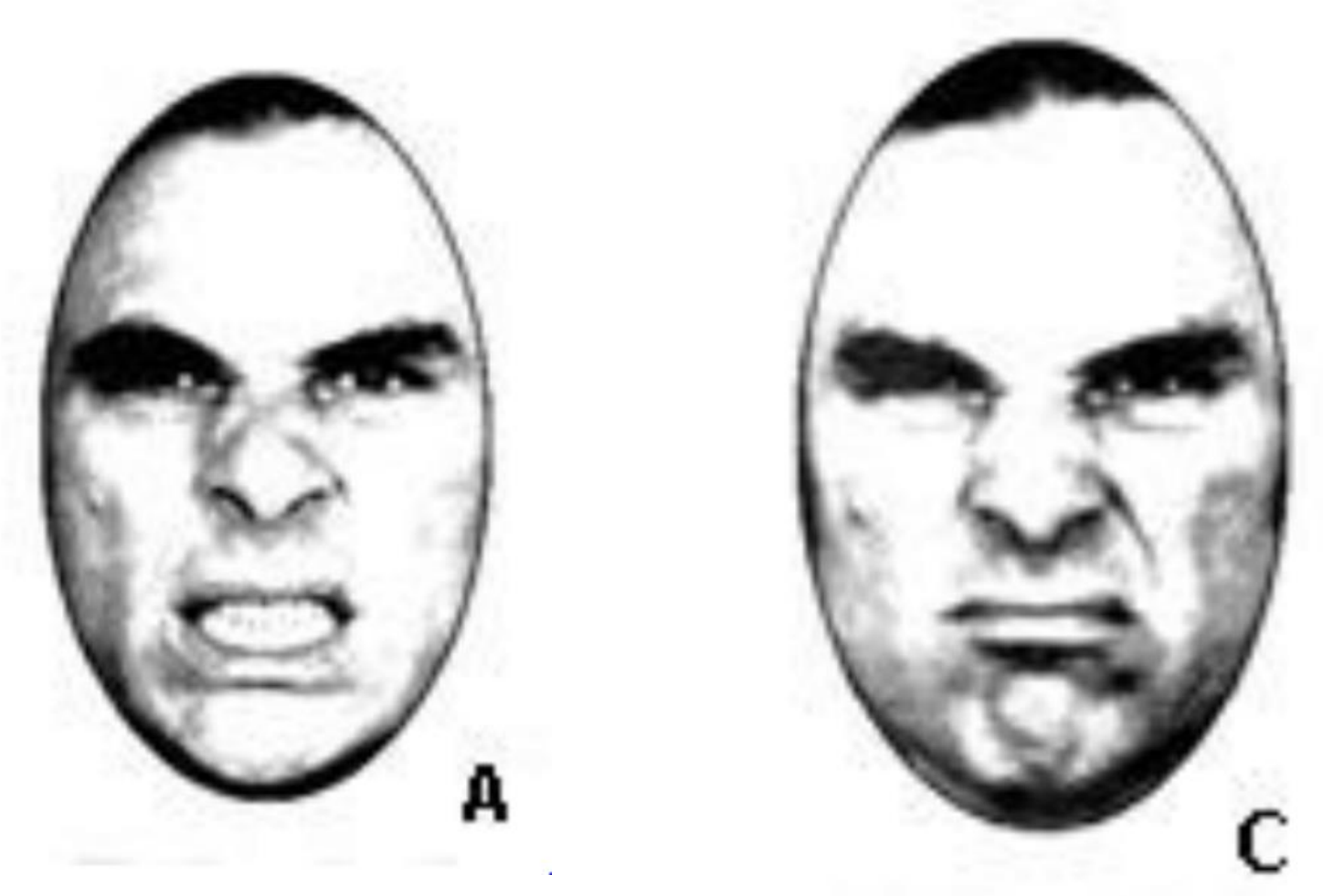
Key: reading emotions

M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Comparisons

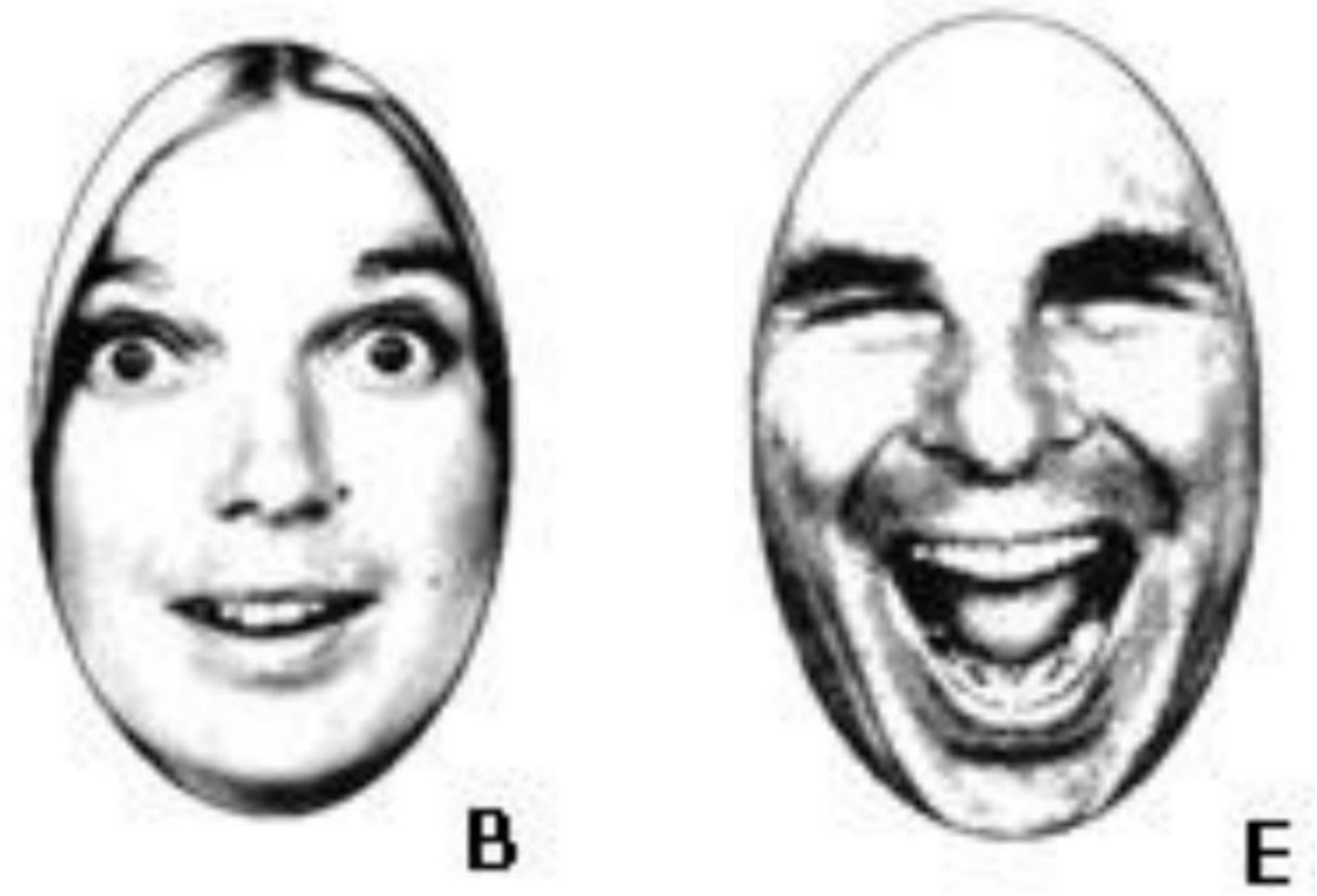
M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Comparisons



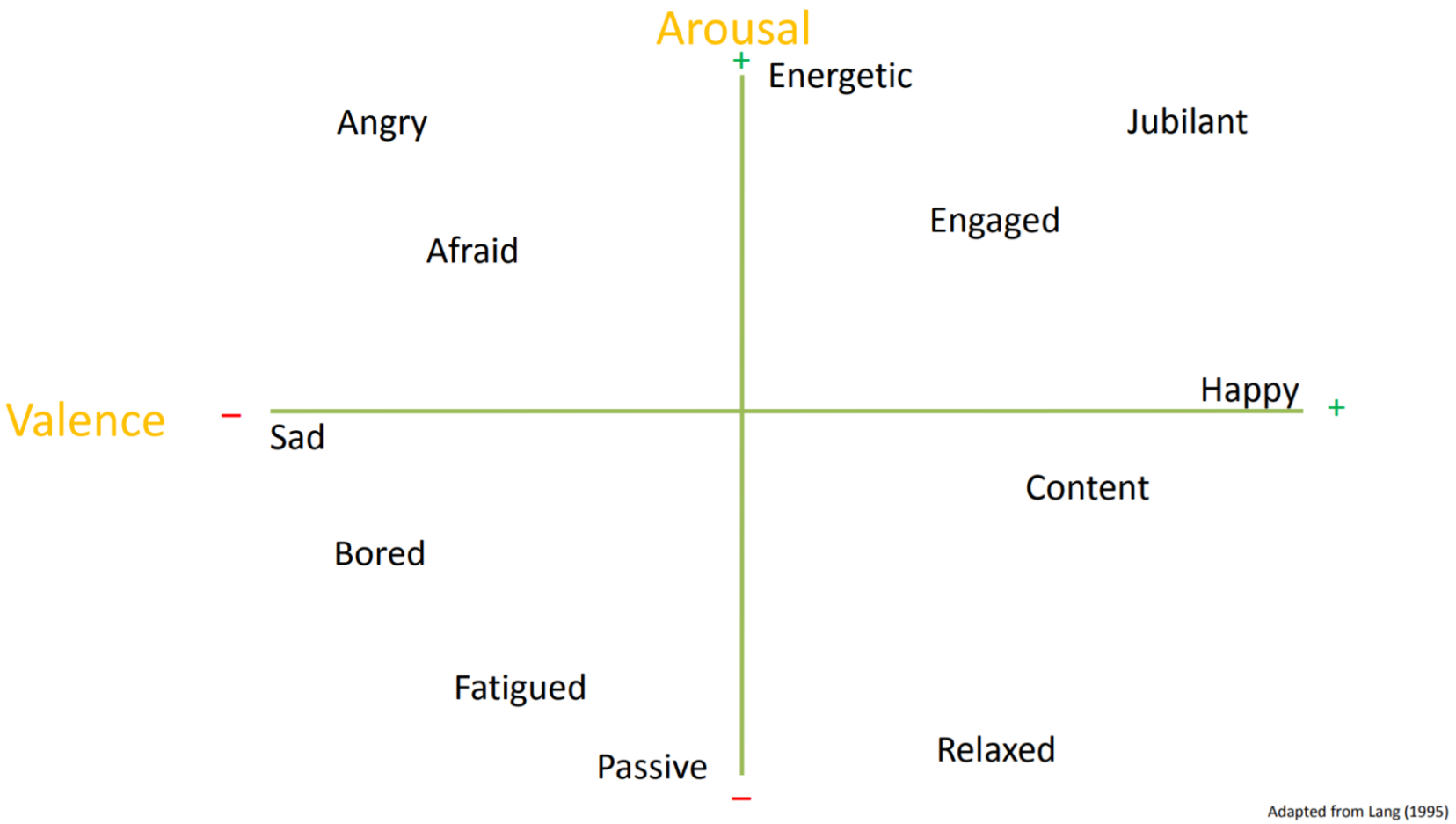
M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Comparisons



M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Arousal vs. Valence



M. Ambinder, "Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience", GDC 2011

Pros and Cons

- Can see what players do
- Less biased
- Hard to interpret behavior
- Player might not do what you want

Traditional playtesting methods

- Q&A
- Direct Observation
- Think-alouds

Think-alouds

Pros and Cons

Know what player is thinking

Hard to talk and play at the same time

Player may ramble

Traditional playtesting methods

- Q&A
- Direct Observation
- Think-alouds

Today

- Traditional techniques
- Newer techniques
- Group activity: *playtesting planning*

Newer playtesting methods

- Surveys

Halo 3 Balance Interface

Halo 3 Balance Interface

Halo 3 Balance Interface

Halo 3 Balance Interface

Survey

Did you like the game?	**1**	**2**	**3**	**4**	**5**

(1 = not much, 5 = a lot)

Survey

How stressful were each of the following?
(1 = not much, 5 = a lot)

Deciding where to go	**1**	**2**	**3**	**4**	**5**
Jumping on platforms	**1**	**2**	**3**	**4**	**5**
Defeating enemies	**1**	**2**	**3**	**4**	**5**
Solving puzzles	**1**	**2**	**3**	**4**	**5**
Using the controls	**1**	**2**	**3**	**4**	**5**

More specific survey

How useful was each ability?
(1 = not much, 5 = a lot)

Freezing	**1**	**2**	**3**	**4**	**5**
Heating	**1**	**2**	**3**	**4**	**5**
Flash Freezing	**1**	**2**	**3**	**4**	**5**
Flash Heating	**1**	**2**	**3**	**4**	**5**

Pros and Cons

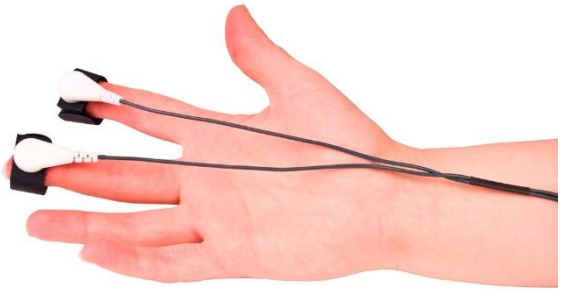
- Less biased
- More precision
- Loss of nuance
- Time-consuming

Newer playtesting methods

- Surveys
- Physiological measurements

Physiological measurements

Heart rate



Skin conductance

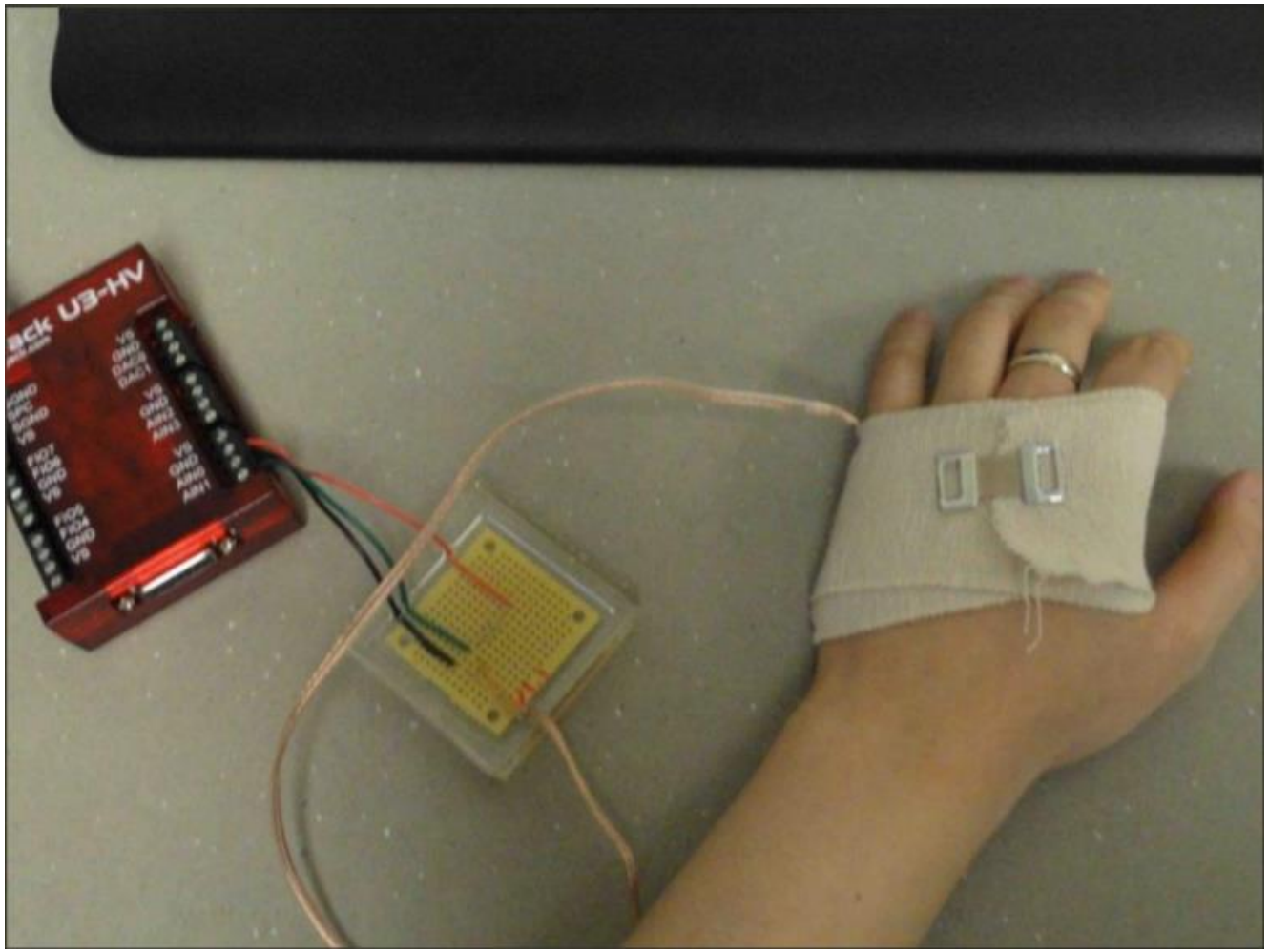
EEG

Eye tracking

Left 4 Dead 2

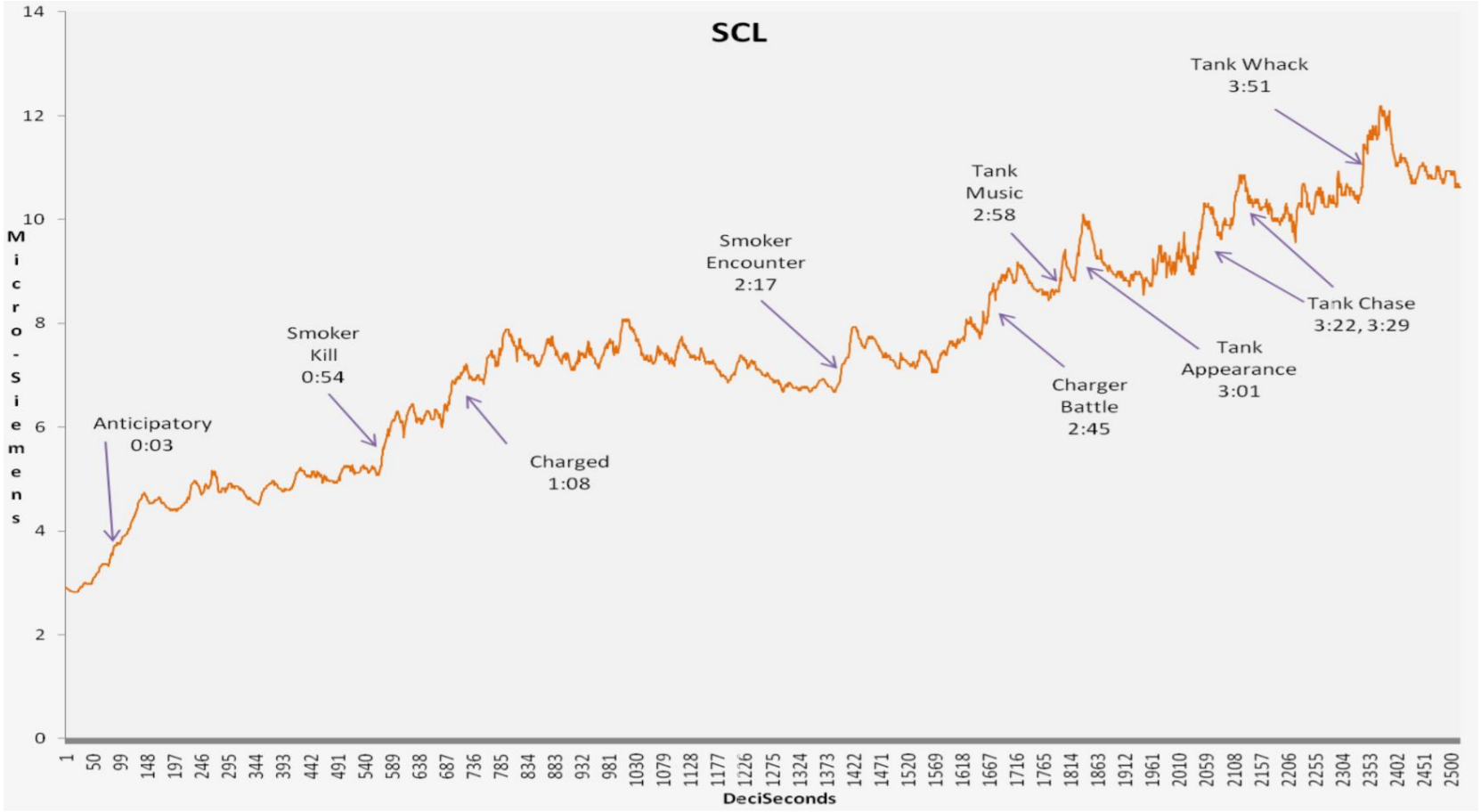
M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Skin Conductance: *Left 4 Dead 2*



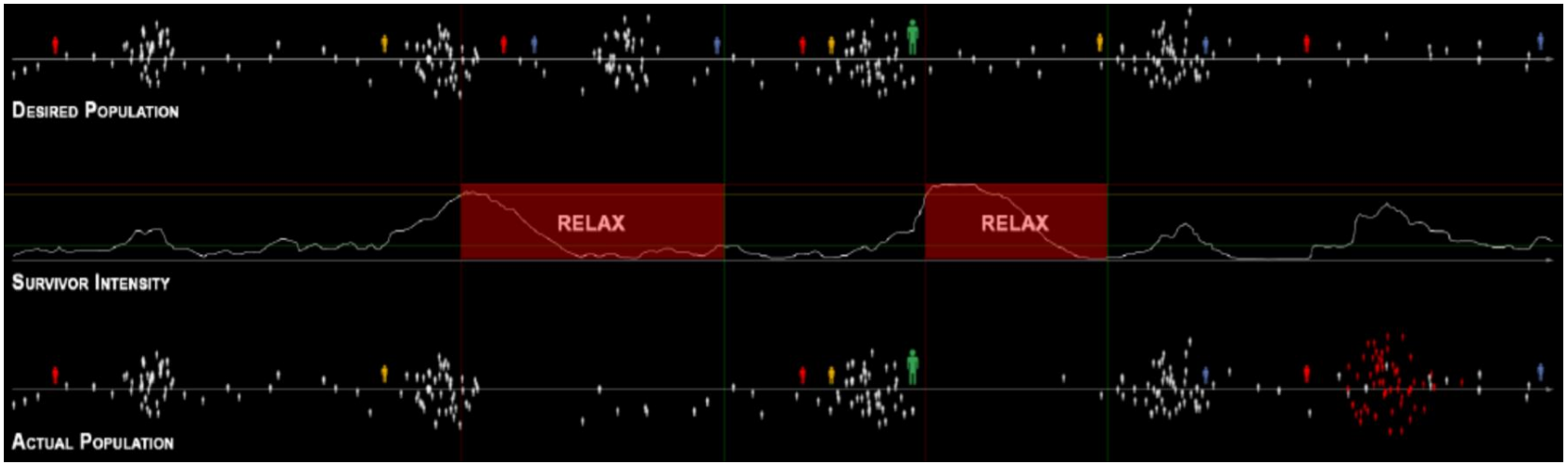
M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Skin Conductance: *Left 4 Dead 2*



M. Ambinder, "Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience", GDC 2011

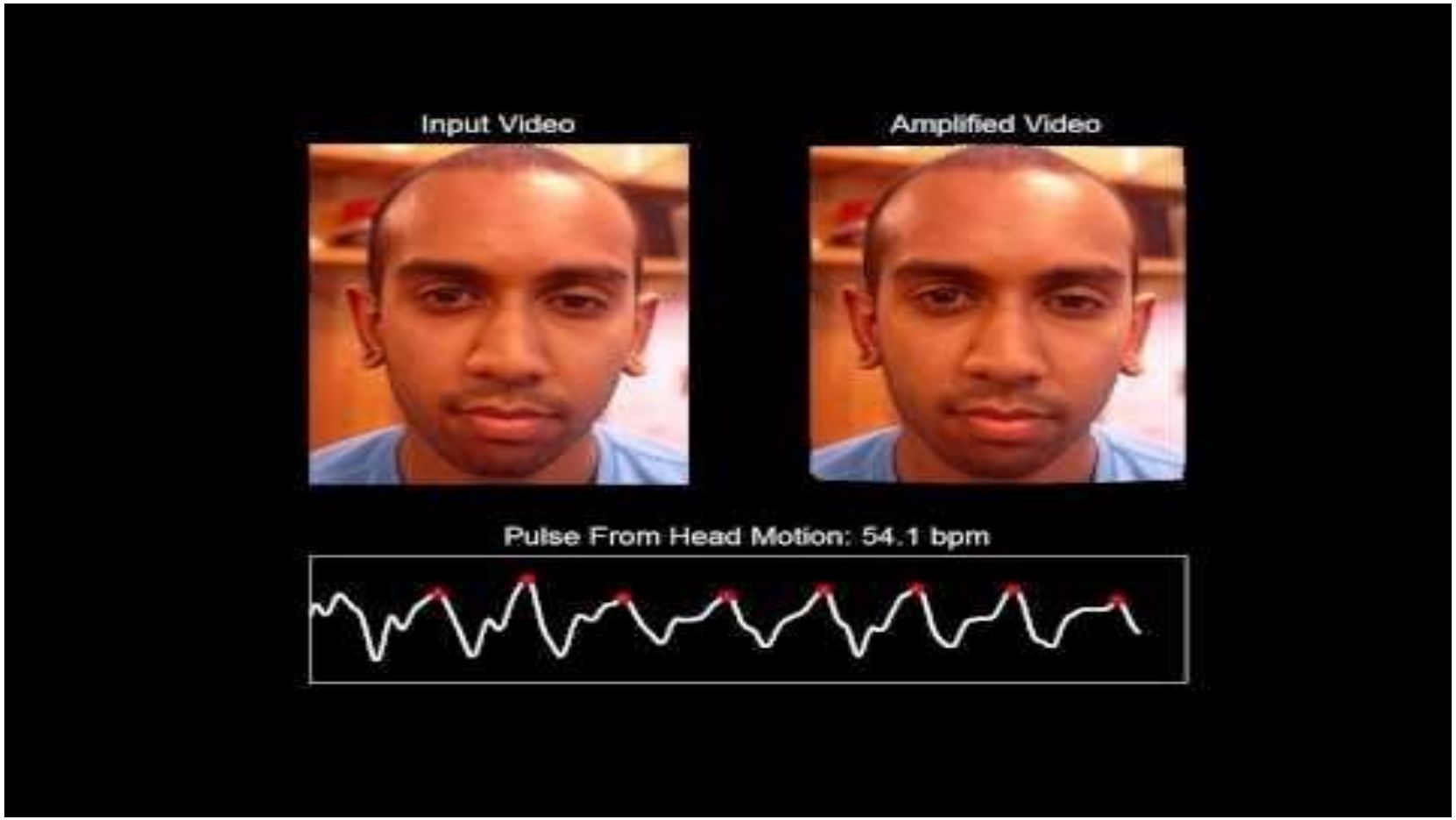
Skin Conductance: *Left 4 Dead 2*



M. Ambinder, “Biofeedback in Gameplay: How Valve Measures Physiology to Enhance Gaming Experience”, GDC 2011

Heart rate

Heart rate



- Direct, quantitative measures of engagement
- Much less biased
- Expensive
- Nonscalable
- Often invasive

Today

- Traditional techniques
- Newer techniques
- Group activity: *playtesting planning*

Monday Postmortem Activity

- Goal: summarize the results of your playtest
- Discuss two design challenges and what you learned from the playtest
- Report results from your survey
- **No slides**

Group Activity: Playtesting plan

- Plan for ~8 players
  - What will you do with each of them?
- Revisit three (or more) playtesting questions
  - How, ***exactly***, will you answer each of them?
- Come up with a survey
  - ~5 questions
  - Likert scale