LUDIFICATION & JEUX SÉRIEUX : QUELLES DIFFÉRENCES ?

RELATIONS AVEC LES « NIVEAUX DE PARADIGMES D’UTILISATION »
AINSI QUE QUELQUES EXEMPLES « PRATICO-PRATIQUES »

Stéphane Gobron
and Maria Sisto during both workshops
Image processing & computer graphics group, HE-Arc, HES-SO
CONTENT

1. Methodology vs. medium
2. Rhythm & 4th power
3. Vocabulary, work & tech.

Paradigm media

Mixed realities
Virtual reality

Issues

Augmented reality

Processes & actions

Who & talk aims

Examples

Educational / methods
Social / Soft skills
Industry / MSD
Gamification
Means
Serious Games

IMAGE PROCESSING & COMPUTER GRAPHICS GROUP
HE-ARC, HES-SO

• Image processing
• Computer graphics
• Gamification & serious games
CONTEXTUAL ISSUES

• Vocabulary, limitations & wrong believes
• 4th power
• Needs for strong update

ISSUES & CONTEXT
VOCABULARY, LIMITATION & WRONG BELIEVES

1. 1985~ Simulation!
2. 1995~ e-Learning!
3. 2005~ Serious Games!
4. 2015~ Gamification!
CONCEPTUAL ISSUES
VOCABULARY, LIMITATION & WRONG BELIEVES

1. Possibilities are limited proportionally to your imagination
2. Wrong believes
   - Games are not serious
   - Work has to be painful to be valid and effective
   - Graphics quality gives application quality

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3. Graphics quality gives application quality
1. How to deal with information?

- Data mining
- Machine learning
- Globalization
1. Paradigm media
   « Reality »
   « AR »
   « VR »
   and « MR »

2. Means
   Serious game
   Gamification

CONTEXTUAL ISSUES
NEEDS FOR STRONG UPDATE

• Between ignorance, technological drift, and false beliefs
2.2 HOW executing this action?

- Process methodology
- Meta paradigm shift

2.1 WHAT and WHERE doing an ACTION?

- Object interaction
- Immersive environment

Physical or Digital

⇒ Paradigms shift

2.1 PARADIGM MEDIA

EVOLVING IN THE PHYSICAL WORLD

Senses allows believing in a caricature of the physical world

A sum of illusions to create my reality

What about roleplaying?

Where am I if I read a book?

Or if I take some time for meditation?
Consequences

• Increase physical world with digital information

• Interact with holograms and/or digital environment

«Increasing» physical reality with digital information
To live a consistent immersion in a digital world
⇒ Sens have to make me believe in this digital world

Interacting with
• holograms in the physical world
• physical objects in a virtual environment
# Observations

#1 To carry out an action, a job, can be done in a thousand ways.

#2 Actor enthusiasm and motivation improve results.

- Motivation stimulates efficiency.

- How and what?
  - Individual valorization
  - Rewards
  - Recognition
    - Of progress/accomplishment
    - Of strengths and weaknesses
2.2 MEANS

SERIOUS GAMES

- Promote
- Train
- Search

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>To know</th>
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<tbody>
<tr>
<td>Skills</td>
<td>To know how</td>
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<tr>
<td>Behavior</td>
<td>To know how to be</td>
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[Wunderli et al. GSGS'18]

GAMIFICATION

- Using game mechanics in other areas
- Stimulate and motivate based on the valuation

Unitary fraction: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$

Calculation and simplification on an ideal case:
$\frac{1}{4} + \frac{3}{4} = \frac{4}{4} = 1$

Fraction: $\frac{3}{4}$

Generalization:
$\frac{1}{4} + \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$
## Process & Actions

### 2.2 Means

### SUMMARY

<table>
<thead>
<tr>
<th></th>
<th>Simulation</th>
<th>Serious Games</th>
<th>Gamification</th>
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<td>Rules</td>
<td>~/.</td>
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### 3. Examples
- Social / Soft skills
- Educational / methods
- Industrial / MSD
3. SOCIAL / SOFT SKILLS

- End of life
- How behave?
  ⇒ Multiple choice book
- Soft skills tool

3.3 EDUCATIONAL / METHODS

- Meta process
- Gamification on eTablet
3.4 INDUSTRIAL / MSD

- SG + RV

See workshop

DISCUSSION
- Take-home messages
- GSGS
- A small game: which reality?
- Questions
TAKE-HOME MESSAGES

• Need to rapidly master such powerful tools
  • Understand \{context \Leftrightarrow consistent deployment\}
  • “Paradigm shift of level of paradigms”

• Advice steps if convinced
  • Getting immerge ASAP
  • Meeting & brainstorming

GAMIFICATION & SERIOUS GAME SYMPOSIUM
GSGS’19

This Summer!
A SMALL GAME: WHICH REALITY?

1. Tron – 1982

MANY THANKS!

QUESTIONS?

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PARADIGM PALETTES

MOTIVATION PALETTES

REALITY PALETTES

MIXED REALITIES

INTERACTION WITH NUMERICAL OBJECTS

INTERACTION WITH PHYSICAL OBJECTS

INTERACTION WITH NUMERICAL OBJECTS

PHYSICAL ENV.

COMPOSITE ENVIRONMENTS

NUMERICAL ENV.

DIGITAL REALITY

AUGMENTED REALITY

BIOLOGY WORLD

COMPOSITE ENVIRONMENTS

MIXED REALITIES

AL WORLDS

3900 million y.

FROM 21ST CENTURY

VISUALISATION OF VIRTUAL TAGS AND OBJECTS

...IN A PHYSICAL ENV.

...IN A MIXED ENV.

...IN A NUMERICAL ENV.

AI WORLDS

36
Stress based environment

Gamification

End user centered environment

Serious Games

Composite environments, e.g. roleplay

Effectiveness ← user needs & objectives constrains

Game world

From 21st century

FORMALISM

GAMIFICATION/LUDIFICATION VS. SERIOUS GAMES

FROM {REALITY TO VIRTUALITY} | | {DIGITAL TO PHYSICAL}

Sens consistency

Physical

Emotions

Immersion & presence

Digital

Experience

Context

Reality

virtuality