Specification and Use of a Persuasive Serious-Game to Rehabilitate Patients with Dysexecutive Syndrome

Julie Golliot, Alexandre Abellard, Michèle Timsit, Michel Durampart

To cite this version:

Julie Golliot, Alexandre Abellard, Michèle Timsit, Michel Durampart. Specification and Use of a Persuasive Serious-Game to Rehabilitate Patients with Dysexecutive Syndrome. 8th International Digital Health Conference, Apr 2018, Lyon, France. 2018, 10.13140/RG.2.2.17091.71208. sic_01797488

HAL Id: sic_01797488
https://archivesic.ccsd.cnrs.fr/sic_01797488
Submitted on 4 Jul 2018

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
Specification and Use of a Persuasive Serious-Game to Rehabilitate Patients with Dysexecutive Syndrome

Julie GOLLIOT¹,², Alexandre ABEillard³, Dr Michèle TIMSIT², Michel DURAMPART²

¹ Clinique Ramsay Générale de Santé Provence Bourbonne
² Laboratoire IMSIC Toulon

Context

Dysexecutive Syndrome

How to reinvent the care offer?
Transferring patients at the heart of their rehabilitation

A multidisciplinary Research

Medical Specialists
Rehabilitation doctors Occupational Therapists Neuropsychologists

Labortoire IMSIC Toulon
Specialists in Information and Communication Science

Multimedia Specialists
Video-game Developer
Engineer in Cognitiks

Device

We chose to specify the persuasive Serious-Game S’TIM and to display it on an easy-to-use mobile touchscreen.

S’TIM Characteristics

Persuasive Dimension
Challenge
Engaging Communication Feedbacks & Simulation Narrative and Scripting

Operant Learning
Avatar
Immersive (3D)
Affective mediation by Flow
Graphics & Personalization

S’TIM Effects

Progressive cognitive mobilization
Learning Theory (guidance, mediation)
Auto-determination Theory (Motivation)
Ryan & Gauv

Theory of Mind
Reward System (medals)

Data and Statistics

Data Acquisition
Quantitative and Qualitative Analysis
Data Visualisation

Clinical Study

Pre-inclusion Tests (T0)
6 weeks rehabilitation
Post tests
Latest tests (+ 3 months)

TESTS
Cognitive (GREFEX)
Thymic (HAD) Behavior (IDSC)

Conclusion

This new, innovating and multidisciplinary study presents high stakes for the future of patients with dysexecutive syndrome.
With therapists’ implication, the SG S’TIM will increase patients autonomy, transfer them at the heart of their rehabilitation and give them a chance to go back to their former daily life.

Therapists Support

Interactions with therapists
Immediate positive reinforcement
Debriefings about used strategies

Consequences for Patients

Global Cognitive Stimulation (Virel & Radillo 2010)
Exercises Progression

Better attention and use of the working memory
Metacognition, strategies acquisition
Self respect, self confidence, self efficacy
Socio-affective and Socio-cognitive impact
Transfer of knowledge in non numeric environments

Improved Autonomy

References


Acknowledgements
The authors want to thank the Ramsay Générale de Santé and European Union for their financial support, as well as the Provence Boucheron Clinic, IMSIC Toulon lab and the UFR INERGIE MEDIA for their implication.

The authors want to thank the Ramsay Générale de Santé and European Union for their financial support, as well as the Provence Boucheron Clinic, IMSIC Toulon lab and the UFR INERGIE MEDIA for their implication.