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Editors

Psychology-Based Technologies, Second Symposium

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Preface

The need for technological product to support psychological demands is increasing this has become even more evident due to the COVID-19 pandemic. Communication, training, shared work together with entertainment have become more and more mediated by these tools. This revolution leads to reflect on how to design, develop and use technological tools to meet psychological needs in order to assure an adequate impact at various level. One year ago, PSYCHOBIT started to offer to people involved in designing, evaluating and analyzing these tools and products, psychologists, sociologists, educators, economists, in brief experts in human studies that work with technologies a place where to discuss the issues raising from the intertwining of psychology and technology, both in their designing and use. The first edition was very successful, and we have moved and consolidated further in this direction with PSYCHOBIT2020.

The second Symposium on Psychology Based Technologies (PSYCHOBIT2020) organized jointly by Natural and Artificial Cognition Lab, University of Naples Federico II and Anthropos-Techne Association keeps its mission to be a place where researchers and professionals can present and discuss technological production projects, also at the first steps. Due to COVID-19 pandemic, it was held as a virtual event, but the constructive and warm atmosphere of the first edition was kept.

It also keeps the original organizational of PSYCHOBIT that was meant to be a friendly meeting, but we are happy to ascertain that the call for paper has attracted some interest and **thirty-eight** articles have been submitted, even more than in the previous edition. Moreover, a consortium of a research project funded by the European Union, Aleas, asked us, with our great pleasure, to organize the dissemination during the Symposium. In short, it seems that a community has set in motion and we hope that this great effort of passion and work can be maintained and developed in the years to come.

This volume contains the **38** papers presented during the Second Symposium on Psychology-Based Technologies (PSYCHOBIT2020). Each submission was reviewed by at least two international Program Committee members. To reach a final decision there was a Program Committee discussion period. The program also includes one invited talk. We would like to thank all members of the Program Committee for providing the reviews.

This edition is dedicated to the memory of Antonio Cerrato, researcher and precious member of the Natural and Artificial Cognition Lab (NAC-LAB) of University of Naples Federico in the Department of Humanities. Antonio focused its scientific interests on the topics of the PSYCHOBIT2020 conference: he recently got a PhD in Psychology in University of Naples Federico II working on the methodological and technological development of an innovative prototype using Tangible User Interfaces. The prototype is in the field of the cognitive neuroscience and Technology Enhanced Assessment. Driven by the passion for the cross-links between psychology and technology, he extensively worked on the born of the first edition of this conference.

"To Antonio, essential and bright presence of our lab,
to the invisible traces and to tangible ones that you left on our memory"

Committee Members

Chairs

- Onofrio Gigliotta – University of Naples Federico II
- Michela Ponticorvo – University of Naples Federico II

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- Elena Tanti Burlo – University of Malta
- Anna Trifonova – CreaTIC
- Paul Walsh – Cork Institute of Technology

Invited Speakers

The signal and the noise:
some lessons from the replicability crisis in psychology

Prof. Marco Perugini

University of Milano-Bicocca
Department of Psychology

Research Projects and Labs Showcase

DoCENT (Digital Creativity ENhanced in Teacher Education) [www.docent-project.eu] – Erasmus Plus KA2 – Grant Agreement n° 2017-1-IT02-KA203-036807
DoCENT project's main goal is to make teacher educators adopt pedagogical strategies that foster creativity and innovation. DoCENT model will use the following approaches: manipulative technologies, robotics, digital making and digital games, developing a teacher educator competence framework, a MOOC on digital creativity and a serious game.

ACCORD (Attain Cultural integration through COnflict Resolution skill Development) [www.accord-project.eu] – Erasmus Plus KA3 - Grant Agreement n° 580362-EPP-1-2016-1-IT-EPPKA3-IPI-SCO-IN
ACCORD aims support teachers in handling conflict and dealing with cultural diversity by creating, assessing and upscaling an integrated online pedagogical practice that combines conceptual material through MOOC delivery and Serious Games for practical, experiential and hands-on learning.

ALEAS (Adaptive LEArning in Statistics) [www.aleas-project.eu] – Erasmus Plus KA2 – Grant Agreement n° 2018-1-IT02-KA203-048519
The core of the ALEAS project is the development and implementation of an adaptive learning system (ALEAS) that will be realized exploiting the most innovative and digital technologies embedded in an open access framework (MOOC), by developing an APP for statistics exercises based on the Adaptive Tutoring Systems.

STOP (STop Obesity Platform) [stopproject.eu/] – H2020 MSCA-RISE project no 823978
The STOP project brings together an interdisciplinary and intersectoral group of subject matter experts from industry and academia under one umbrella, to address the health societal challenge of obesity with the specific objectives of mitigating the enormous and growing Health Care costs of obesity and related health issues (like heart disease, diabetes, arthritis, liver disease, gallstones, cancer, dementia) that burden European citizens. The STOP project addresses this need through the foundation of an innovative platform to support persons with obesity with a better nutrition under supervision of healthcare professionals.

CODINC (Coding for Inclusion) [https://codinc.fun] – ERASMUS Plus KA3 592121-EPP-1-2017-1-BE-EPPKA3-IPI-SOC-IN
The "Coding for Inclusion" aims at fostering STEM education of disadvantaged youth through an inclusive educational approach based on a peer-learning pedagogical method for formal and non-formal educational contexts in Europe. The "Coding for Inclusion" project will adapt the Capital Digital methodology and training programme to different contexts and will apply them in 5 European countries, namely Belgium, Cyprus, Germany, Italy and Spain.

EULALIA (Enhancing University Language courses with an App powered by game-based Learning and tangible user Interfaces Activities) [https://eulaliaproject.eu/it/] – Erasmus Plus KA2 – Grant Agreement n° 2019-1-IT02-KA203-063228

The EULALIA aims are to develop a methodology for the language teaching/learning for Erasmus Students by using inclusive and multisensorial methodologies based on Tangible User Interfaces and Mobile Learning by producing the authoring tool for the mobile context. At the same time the project will enable teachers and lecturers in each University Language Centre, and as well Erasmus students to develop OERs under the supervision of the teachers, e.g. to create hybrid games in foreign language.

EMOTION.EXE (Emotional Mediated Online Training for Introspection, Observation, Novelization and Expression) – Research Project funded by Regione Lazio (Law: L.R. 13/08) CUP B56C18000590002
The project aims to develop and implement an "Emotional Gym" where the users with an high risk of social exclusion could acquire new emotional competences. The Emotional Gym of EMOTION.EXE project is an application where the user, guided by an artificial tutor, will be able to explore new interests and motivations.

MERGO (Mooc in Enology aimed at Reinforcing competences applying Game-based approach and Olfactive learning for the wine tasting) – E+ KA2 – 2020-1-IT02-KA203-080040
MERGO aims to bridge a MOOC developed by a strategic partnership of HEI and organization in the wine business sector bringing the procedural learning for the recognition of sensory features by using new ICT paradigms: the Tangible User Interfaces (TUIs) and the gamification approach. The project will draft a pedagogical validated framework aimed at the development ICT innovative tools that will allow an autonomous and distance training for students with some olfactory stimuli recognized by a digital interface and orchestrated by artificial intelligence modules (adaptive artificial tutors).

KnIghtS oF thE EuroPean Grail – creating a game-based approach for learning Italian, Spanish, French, English, Portuguese and German – E+ KA2 – GA 2020-1-DE03-KA201-077210
Motivation can easily be hightened when relying on the "fun factor", thus adding the incentive of voluntarily and by one's own choice taking up the vocabulary and grammar of a foreign language needed to also get along in real life (intrinsic motivation). Combining the "fun factor" and the younger generations' love of playing digital games with language learning, the project therefore aims at developing, testing and implementing an application for learning English, German, French, Spanish, Italian and Portuguese, on levels A1 and A2, as the underlying concept of an adventure game to be played on mobile digital devices.