

Administering Psychometric Scales in an Online Environment. Developing Project Eolas.

Vasileios Lyritzis, MSc. Engineering, MSc. Cyberpsychology - Michael Lavdas, MSc. Public Mental Health, General Sec. in the Board of EPAPSY NGO

Online Environment Structure

- Talking Avatar A.P.I
- Questionnaire Emulation System
- Speech Recognition Module
- Verbal Response Intelligence Module
- Subject's Responses Database Storage System
- Facial Recognition SHORE™
- Psychometrics Analysis Module
- Action Items Generator

All the modules have been implemented from the Engineering Project team in Dublin (ROH) Describe the Facial Recognition SHORE which have been designed from IS Fraunhofer DGD Institute

Talking Avatar



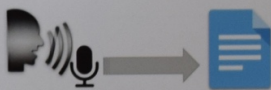
- 3D Characters Design
- Facial Movement
- Lip-Sync
- Facial Animation
- Muscle Control
- Expression Templates
- Camera function keep avatar's eyes and head following the audience

Questionnaire Emulation System

- Questionnaires
- Psychometrics Tests
- Multiple Choice Tests
- Multiple Answers Tests
- Emulation process
- doesn't change the test's structure

Speech Recognition Module

- Vocabulary size and confusability
- Speaker dependence versus independence
- Isolated, discontinuous or continuous speech
- Task and language constraints
- Read versus spontaneous speech
- Adverse conditions



The Speech Recognition module has been designed according to the National Institute of Standards and Technology, US Department of Commerce

Verbal Response Intelligence Module

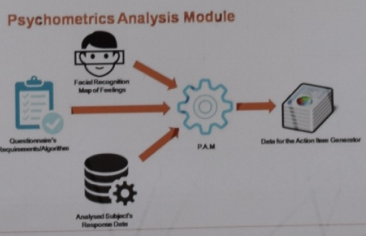
Each Question is associated with specific keywords

Each keyword activates potential responses from the Avatar

Decision-Maker algorithm constructs the Avatar's Response

Subject's Responses Database Storage System

- All Subject's Responses are stored as text data
- Each session creates an Individual Table in the Database system
- Each Subject has each own Database Scheme
- The Psychologist has quick and easy access to the data
- The Database System follows security policies standards to ensure the confidentiality of the data



Facial Recognition SHORE™

- The software library SHORE™ allows for the quick detection of faces in image sequences and videos. It can estimate gender, age and facial expressions.
- Recognition of faces and facial parts in real-time
- Gender and age estimation
- The software runs on standard platforms as well as mobile devices
- The tool generates the Map of Feelings in correlation with the Subject's Responses

The tool that is developed can have multiple applications to several fields:

- Human Resource Management (Burn out prevention, Regular administration of psychometric scales to better promote mental health in workplace)
- Promotion of health and mental health (Liaison between local municipality, regional and national healthcare units, Promote and enhance research methods of quantitative or qualitative nature integrating the algorithm for the corresponding analysis.