vrrs

virtual reality rehabilitation system

**THE MOST COMPLETE AND CLINICALLY TESTED
VIRTUAL REALITY MEDICAL ECOSYSTEM FOR REHABILITATION**

VRRS IS A PATENT OWNED BY KHYMEIA GROUP

Khymeia
e-health innovation

SCIENTIFIC PARADIGMS

The scientific paradigms underlying the system are in particular those of the augmented feedback and the motor imagination, principles upon which it is based the established experience of motor learning promotion by the central nervous system.

EFFECTIVENESS

The VRRS method has been inquired by many important studies published by the International most prestigious journals, including the Cochrane Review, which have certified both the clinical effectiveness of the method and the excellent compliance by the patients.

TECHNOLOGY

VRRS is equipped with the most advanced wearable sensors, including the exclusive 3D sensors with 6 degrees of freedom on 3 axes which gives an incomparable motion tracking accuracy. Moreover, our sensors avoid blind areas and allow to prepare the patient withour time wastes, as they do not need any kind of preparation.

SCORING SYSTEM

VRRS generates an automatic score for each exercise, that is aimed to motivate the patient in each rehabilitation session. The improvements in the rehabilitation process are recorded in patient's profile. The scoring system is fully synchronized with the VSM (VRRS Server Manager), the VRRS web network system.

The screen shows: VRRS — CARDIORESPIRATORY DISEASES, COGNITIVE DISORDERS, NEUROLOGICAL DISORDERS, ORTHOPEDIC DISEASES, VESTIBULAR DISORDERS, THER..., EVAL...

ONE UNIT, MANY PATHOLOGIES

VRRS is extraordinarily easy to use. It is equipped with more than 700 exercises, all of them clinically used on daily bases. Nevertheless, the VRRS has a special section where the therapist can devise on his own brand-new exercises. VRRS is a central unit with which it is possible to provide 20 different modules, just logging in the proper peripherical devices.

MOTOR SKILLS:

The Motor Skills Module includes many rehabilitation exercises with a wide range of scenarios for different diseases; the exercises vary from the simplest and non-distracting activities to the most complex ecological reconstructions, in order to adapt to the different abilities of patients.

COGNITIVE:

The Cognitive Module allows to perform the activities related to the treatment of neurological diseases afferent the cognitive sphere.

All exercises are organized by cognitive domain:

Memory
Attention

Praxial and special orientation
Logic and Mathematics

SPEECH THERAPY AND PHONATION:

The Speech Therapy Module allows to deal with all the issues of language related to the written denomination. The Phonation Module implements assessment tests and biofeedback exercises characterized by:

Amplitude	**Duration**
Frequency	

POSTURAL

The Postural Module, through the use of its associated devices, allows to perform a wide range of exercises related to balance:

Posturographic assessments

Reaching exercises

Chasing exercises

Weight shifting exercises

Weight balancing exercises

ORTHOPAEDIC

The Orthopedic Module provides a rich gallery of exercises aimed at the motor functions injured by traumatic events or chronic diseases, including:
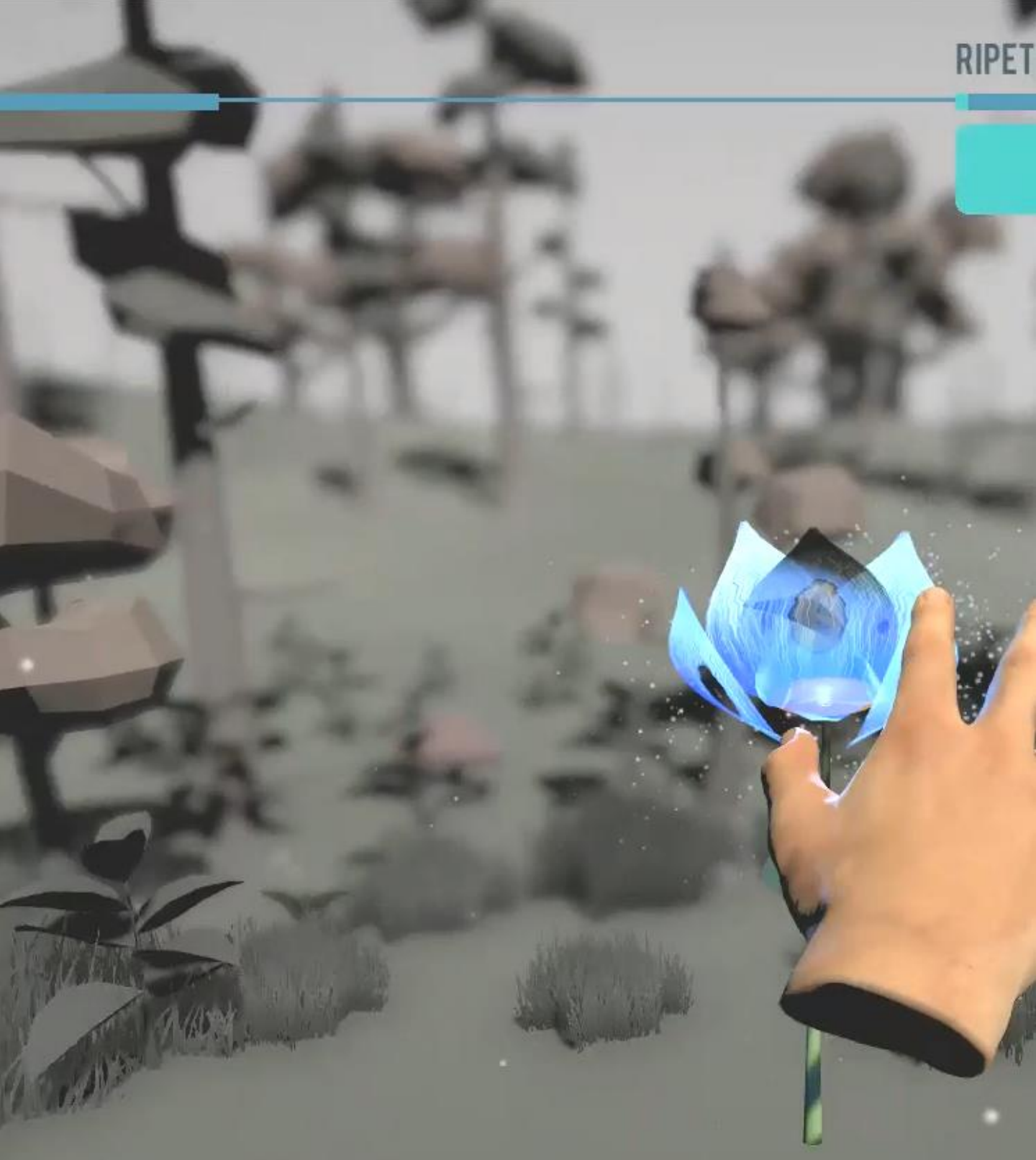
Wrist	**Knee**
Elbow	**Hip**
Shoulder	**Cervical spine mobility**

FACIAL RECOGNITION

The Facial Module allows, through a facial recognition algorithm, to perform Biofeedback exercises to treat the following diseases:

- peripheral and central facial paresis;

- malocclusion;

- facial pains with muscular joint origin or neuropathy.

HAND AND WRIST

The Hand and Wrist Module, through the associated device, allows to perform a wide range of exercises including:

- wrist rehabilitation;
- single fingers and coordinated fingers rehabilitation;
- coordinated activation of grasp and pinch.