



ESPE
UNIVERSIDAD DE LAS FUERZAS ARMADAS
INNOVACIÓN PARA LA EXCELENCIA



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Grupo de Investigación
Automatización
Robótica
Sistemas Inteligentes

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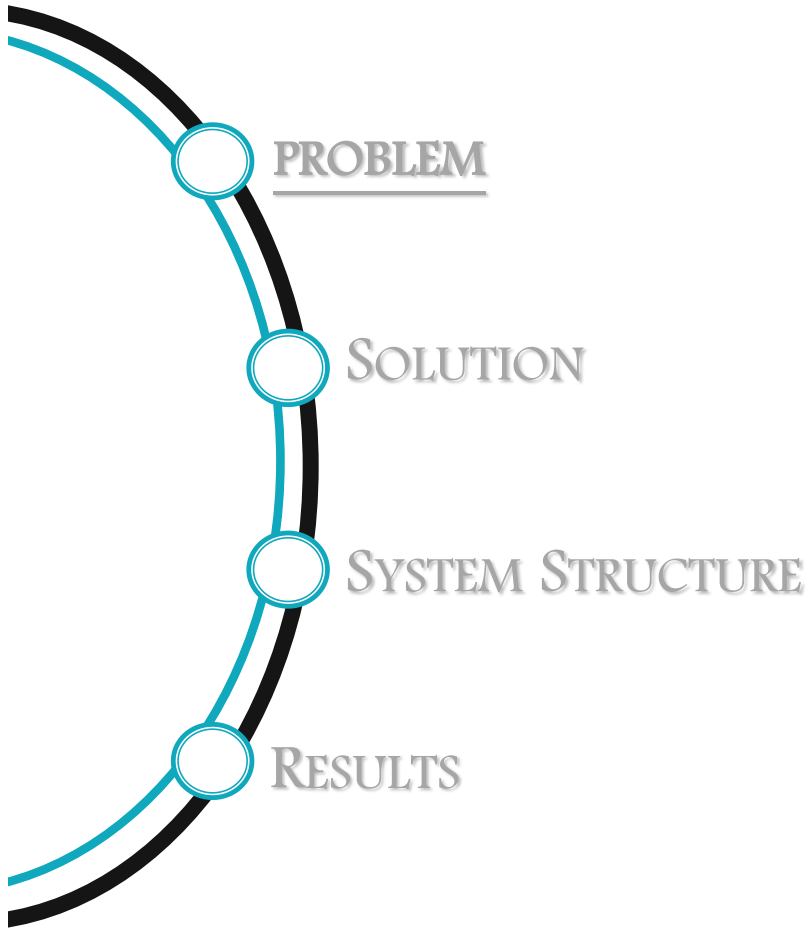
Alternative Treatment of Psychological Disorders Such as Spider Phobia Through Virtual Reality Environments

Joseph Armas and Víctor H. Andaluz

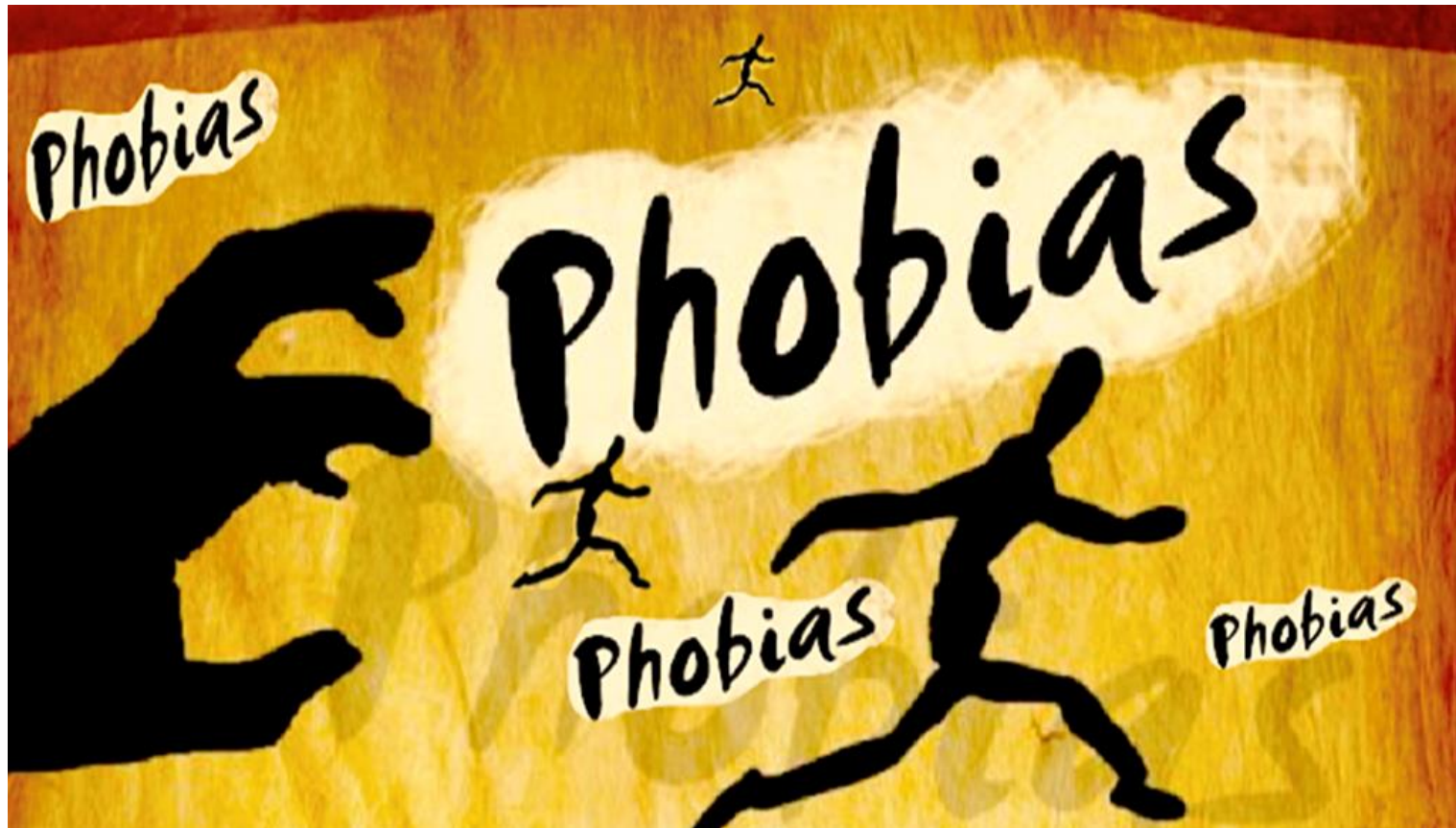
Univeridad de las Fuerzas Armadas ESPE, Sangolquí-Ecuador
{jearmas, vhandaluz1}@espe.edu.ec



AGENDA



Problem





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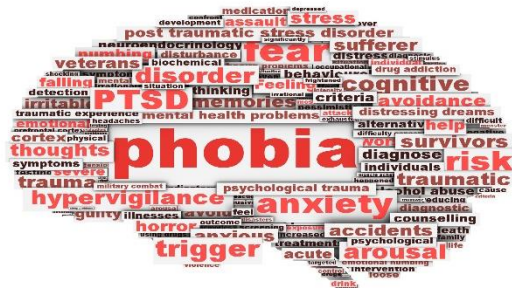
Problem



Boissier



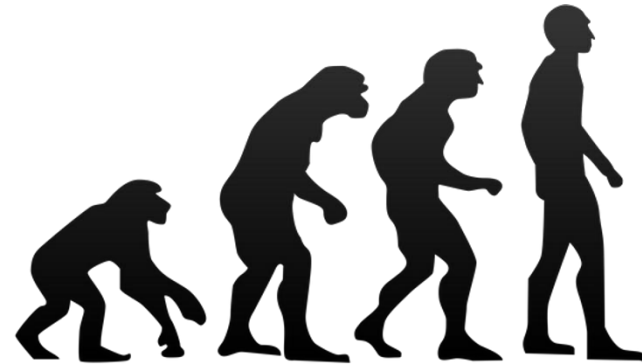
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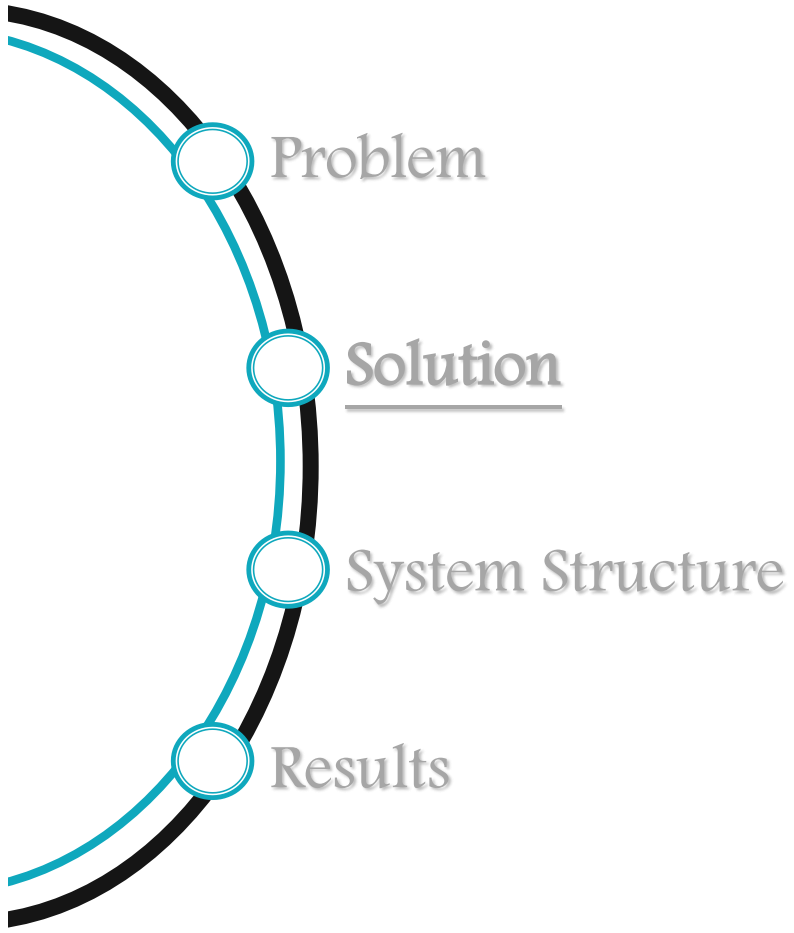
Problem



9.7 years average



AGENDA



Solution



Solution



Pros

- Expensive Visual Stimuli
- Control to the therapist

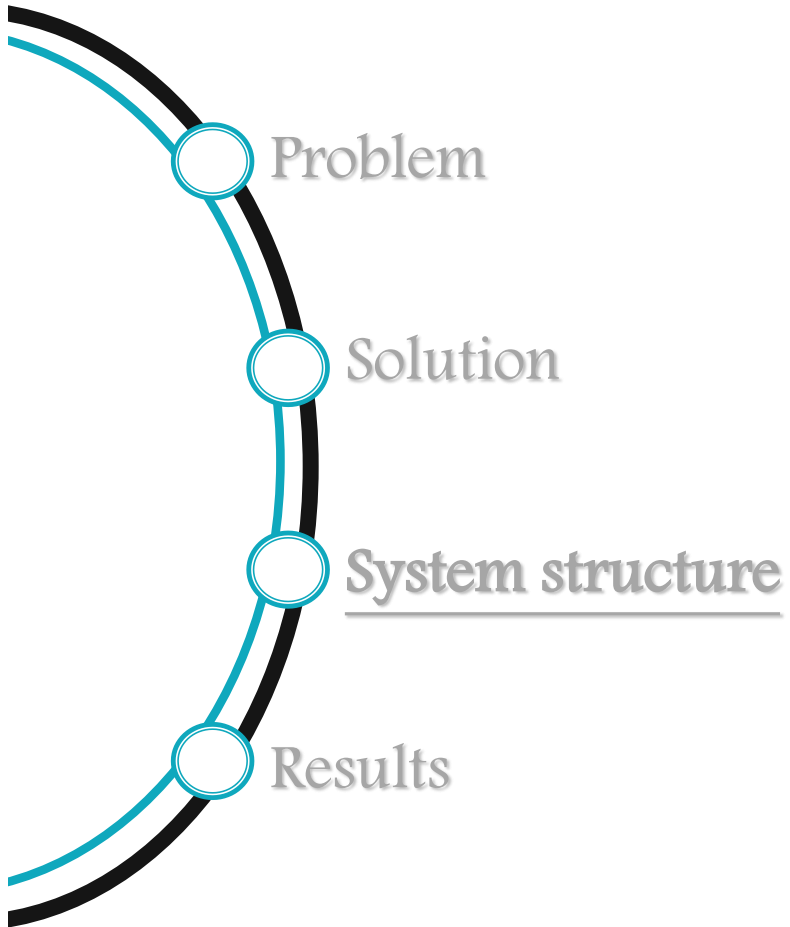
Cons

- Don't replace reality
- Certain patients can't immerse

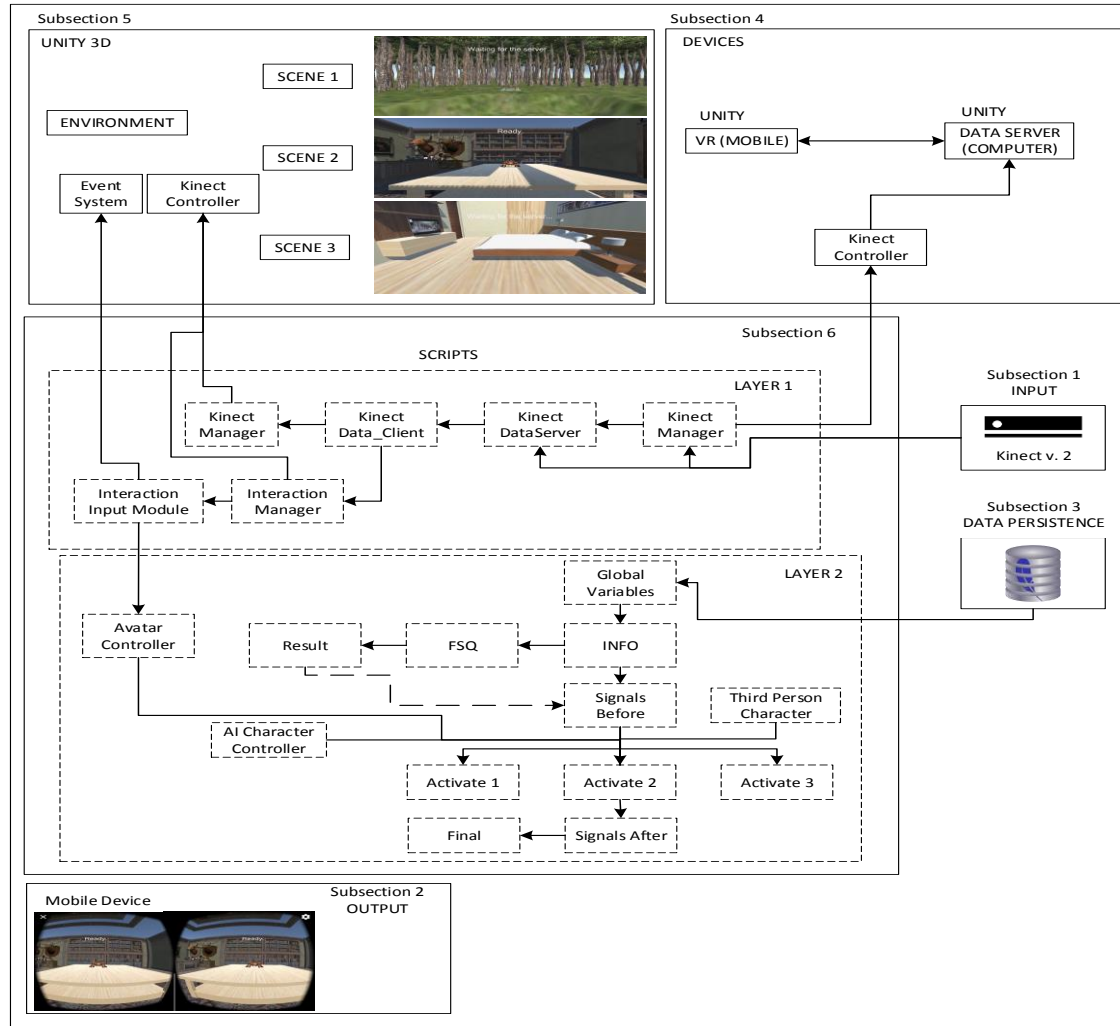
Solution



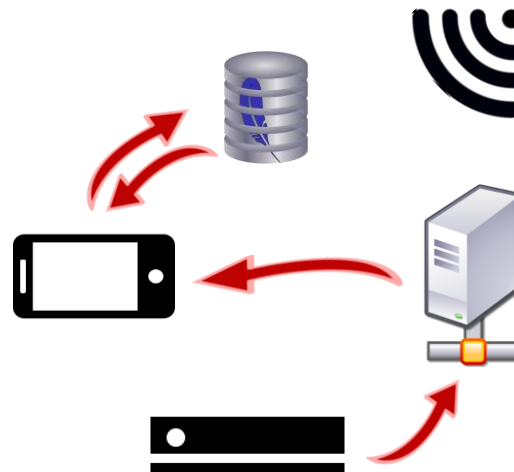
AGENDA



System Structure



Comunication



System structure

8. If I saw a spider now I would probably break out in a sweat and my heart would beat faster. **FSO**

0	1	2	3
4	5	6	7

Waiting for Users...

VITAL SIGNS

Date:

Heart rate:

Waiting for the server...

VITAL SIGNS

Level of Fear:

Level of Presence:

Heart rate:

Waiting for the server...

System structure



(a) Basic intensity scene, where the patient began



(b) Medium intensity scene

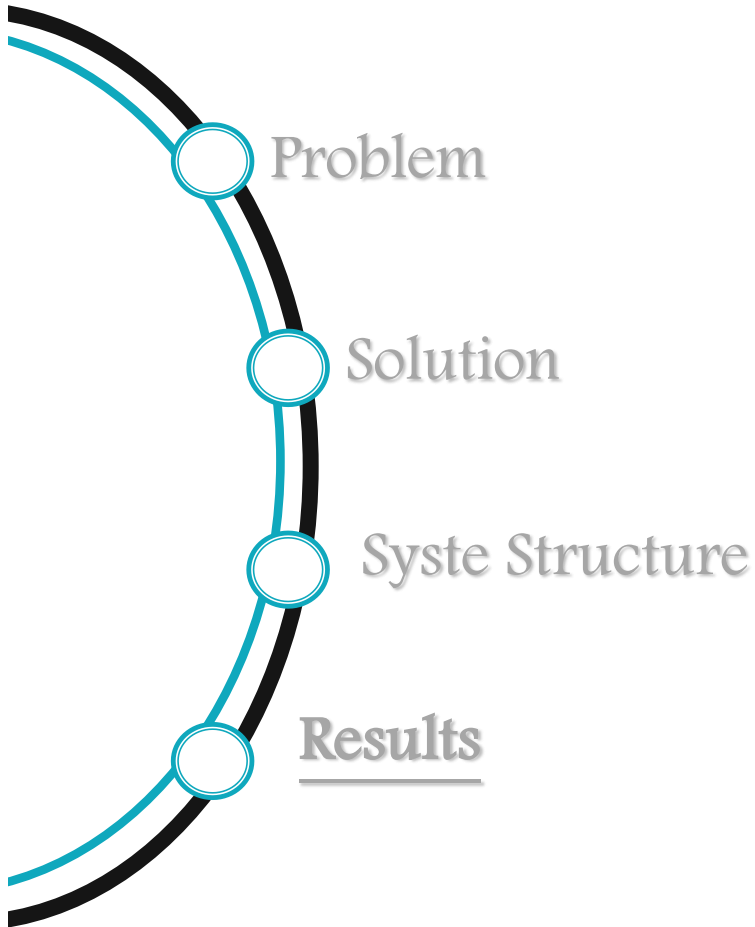


(c) High intensity scene

System structure



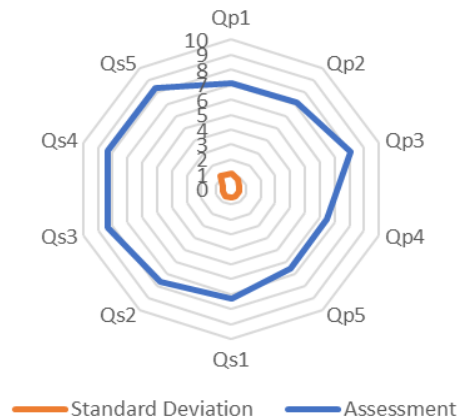
AGENDA



System structure

Questions

- Qp1** I am familiar with the handling of devices that facilitate the immersion in virtual environments.
- Qp2** Handling virtual environments is relatively easy.
- Qp3** The execution of the interface is simple and intuitive.
- Qp4** The limitations given by external noise (light, depth) are imperceptible.
- Qp5** The equipment used does not cause any discomfort.
- Qs1** Patients are enthusiastic about these types of rehabilitation options.
- Qs2** The system facilitates obtaining information on the progress of the patient's treatment.
- Qs3** The increasing complexity of tasks accelerate the recovery of the patient.
- Qs4** The system is robust enough to determine slight missteps in the sequences.
- Qs5** The system can be easily implemented in institutions dealing with this phobia.





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