VIRION | Virtual Reality Applied to School Education

CHEMISTRY

A project funded by:

Erasmus+ sepie SERVICIO ESPAÑOL PARA LA INTERNACIONALIZACIÓN DE LA EDUCACIÓN

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With the participation of:

Universidad Rey Juan Carlos · PREMIUM VR · LUT University · hcu HafenCity Universität Hamburg

STARTING THE USE OF THE GLASSES

1.- Clear the Operating Area

2.- Put the wrist straps on

3.- Put your headset on and turn the power on

4.- Check the battery level of your Meta Quest and controlers

5.- Stablish a boundary

6.- Enter the Headset menu, go to where App is loaded and start the App.

7.- Before Starting the app, read the App instructions of use

CHEMISTRY VR EXPERIENCE – OBJECTIVES OF VIRION VR PROJECT

- ***"Periodic Table and Elements:*** Exploring the periodic table in virtual reality can help students visualize trends and patterns in elemental properties.

So, when designing this experience, we establish as the main objective that the students should be able to:

1.- Interact with the elements of the periodic table and its respective families of elements (each one of them represented both in the periodic table as well as in the galleries in the same colour)

2.- Manipulate the elements, in order to search its info and position in the periodic table, having the opportunity to practice with its elements ssymbols, mass, atomic numbers and its names, all under a **"game" format.**

CHEMISTRY VR EXPERIENCE CONTENT

The Chemistry Mine

The environment chosen for the chemistry experience –due to the nature of its metals, gases and mineral content- was a coal mine.
This mine is divided in 9 galleries, each representing a different family of elements of the Periodic Table:

1. NOBLE GASES
2. HALOGENS
3. NO METALS
4. METALLOIDS
5. OTHER METALS
6. TRANSITION METALS
7. ALKALINE EARTH
8. ALKALI METALS
9. LANTANIDES and ACTINIDES

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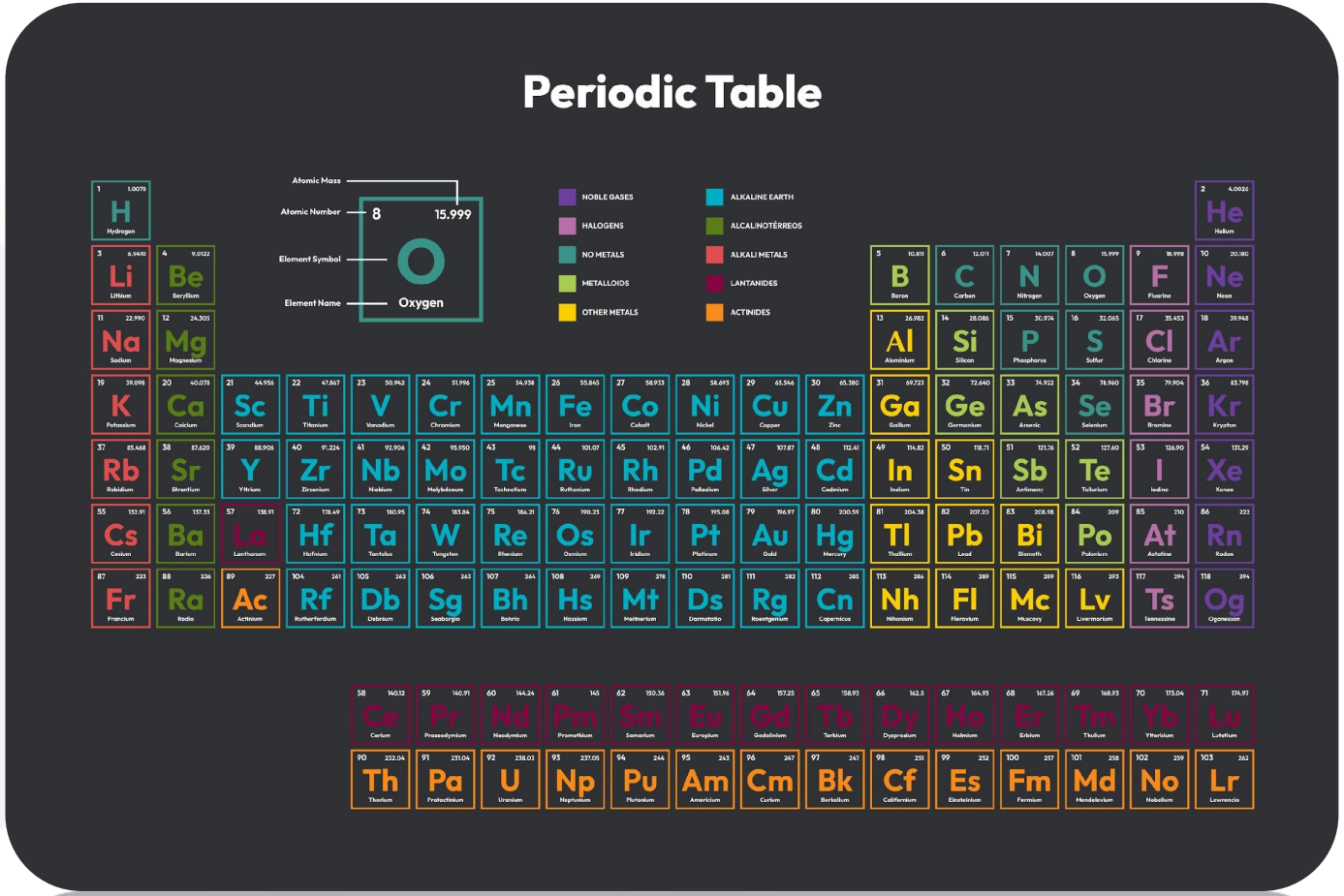
CHEMISTRY VR EXPERIENCE CONTENT

The Chemistry Mine

Each one of the 9 galleries is represented with its lights and decoration in
the same colour as the family of elements represented on the periodic table.



CHEMISTRY VR EXPERIENCE CONTENT

The configuration of the experience

(Left controller pushing “I” button will deploy instructions).

From the beginning of the experience, a Hologram representing the complete periodic table will appear on the side of the student (pushing “X” button on his left controller).

When the journey through the full mine starts, in each of the 9 galleries, student will find many boxes located in random places. Each of those boxes representing one elements of the periodic table, with its symbol an its main info printed in the outside walls of the box and with the colour of its own family.

* He can light them with the torch in his hand pushing the “B” button on his right controller.

Student will need to find at least 3 boxes belonging to each family of the gallery and introduce them one by one in its correct spot on the Periodic Table. If he don’t complete 3 elements in each of the families, he will not be able to advance and complete the experience...

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CHEMISTRY VR EXPERIENCE CONTENT

Interface design:

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The configuration of the experience

In the entrance of each gallery student will find a information panel providing information of this family of elements on the periodic table represented in the gallery that student is about to walk through.

Once completed the 9 galleries and inserted at least 3 elements on each of them on the periodic table, student will obtain his **certificate of accomplishment**

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Interface design: