EXAMPLES AND MOST CURRENT INFORMATION ABOUT THE USE OF WEB 4.0 TOOLS IN EDUCATION

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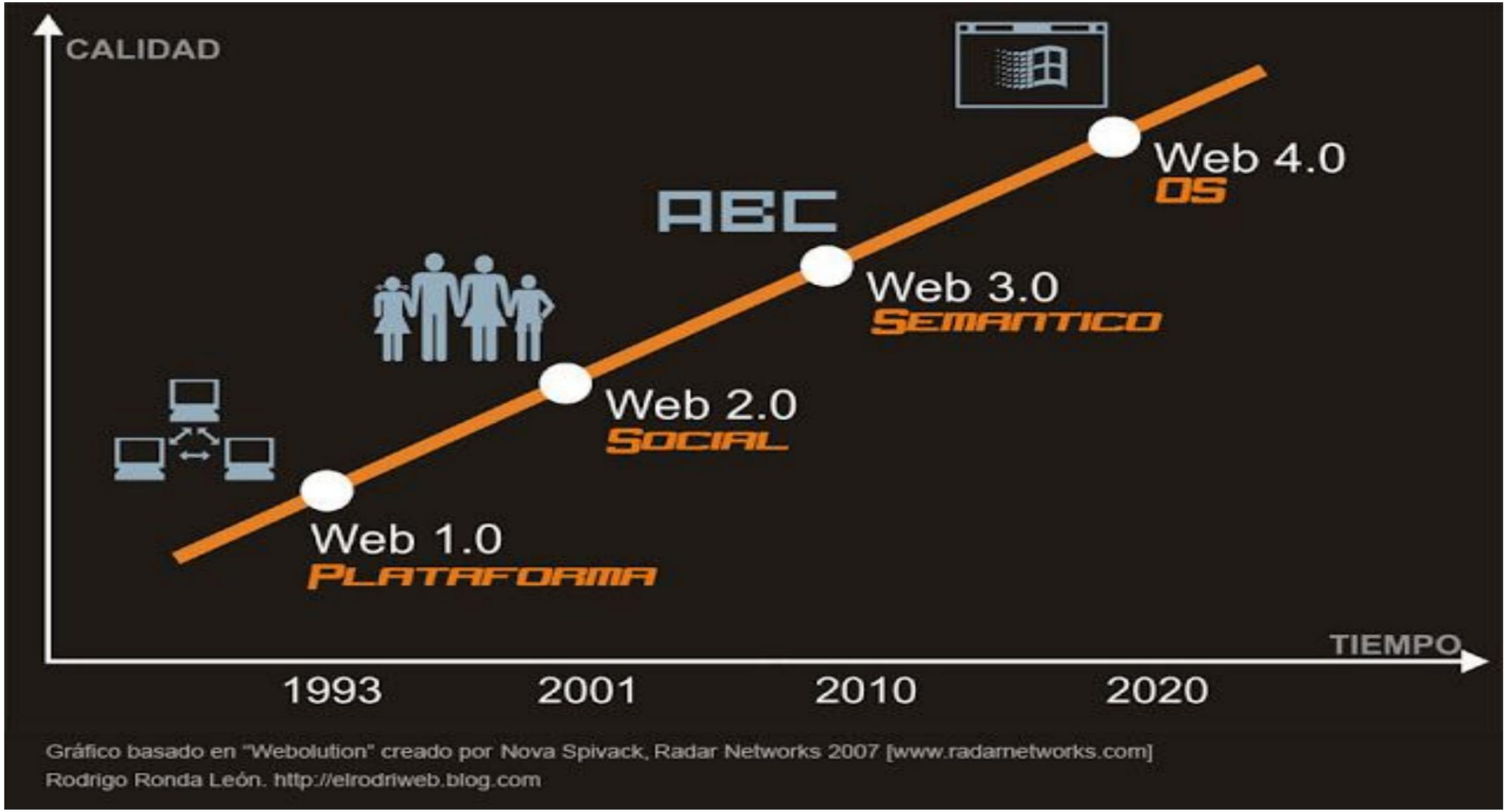
EXPLORATIONS IN THE DIGITAL WORLD
ERASMUS+

HOW DID WE REACH WEB 4.0?



WEB 1.0 (1993-2003)

STABLE WEB

- It is the first step of the Internet servers network (www).
- It consists of fixed websites created in **HTML** format.
- Update frequency has been reduced.
- Only web professionals had the necessary tools and skills to update websites.
- **Read-only:** web pages only offered a simple way to retrieve information.
- **One-Way Environment:** users could only enjoy content but could not create content.

WEB 2.0 (2003-2010)

SOCIAL WEB

- Internet approaches have changed from **passive** to **active .**
- Introduction to dynamic programming languages: **reading and writing activities**
- It is based on **interaction between users .**
- Rapid spread and creation of **online communities. Users** began to share their knowledge and experiences.
- It has become a social movement leading **the democratization of technology .**
- Birth of **Blogs, Wikis, Social Networks and Forums**

WEB 3.0 (2010-2020)

SEMANTIC WEB

• **Semantic Web:** Web **that can be adapted to different devices .**

•The internet network has turned into a huge database. Uses data effectively.

• Personalization (ads)

- Search by **artificial intelligence** data
- **cryptocurrency**

• **Decentralized internet cloud technology, remote access to the computer connecting**

• The age of **reading, writing and executing** the web

• The key words here are now **information and meaning.**

The difference here is no longer just the introduction of new technologies.

- **The enriched** web has **the ability to change society** thanks to social networks .

WEB 4.0 (2020-20??)

The ubiquitous WEB

- ***Siri listens to us to quickly respond to our Google Now commands at any time.***
- ***gps location information***
- ***Smart watches that count heart rhythm***

- ***Internet of things***
- ***We are moving from a web where we can find information to a web that produces solutions.***
- The user is transformed from passive **to the hero** of the process in the creation and management of online content, defined as **the collaborative web ,** creating new logics and new processes. becomes.

- **The characteristic** feature of Web 4.0 will be **Space and Big Data .**

The factors that will lead to this evolution will be the following.

- **Extended Reality**
- **Digital Alter Ego**
- **New Interfaces (Ex: Blockchain)**
- **More checking of information**

EXTENDED REALITY

Extended reality (XR) is a general term that refers to computer-generated environments that bring together both **the physical** and **virtual worlds ,** creating **a completely virtual experience** for users.

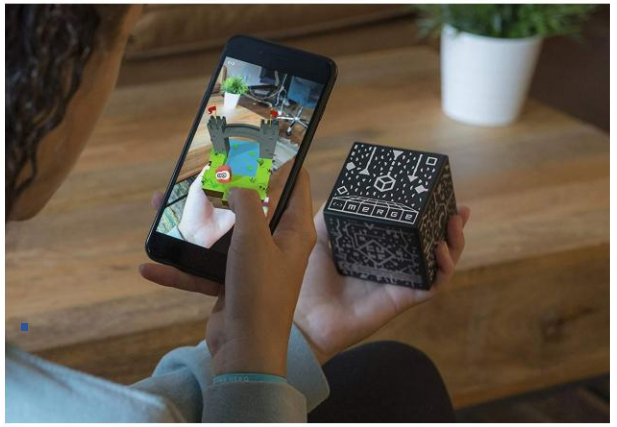
Includes: •

Virtual Reality(VR)

•Augmented Reality (AR)

VIRTUAL REALITY AND AUGMENTED REALITY

- **Augmented Reality (AR) compares the real world with the computer**
  It is an interactive experience that combines **content created by ,** enriching the space in which the user **is partially immersed** using a special headset or smartphone .



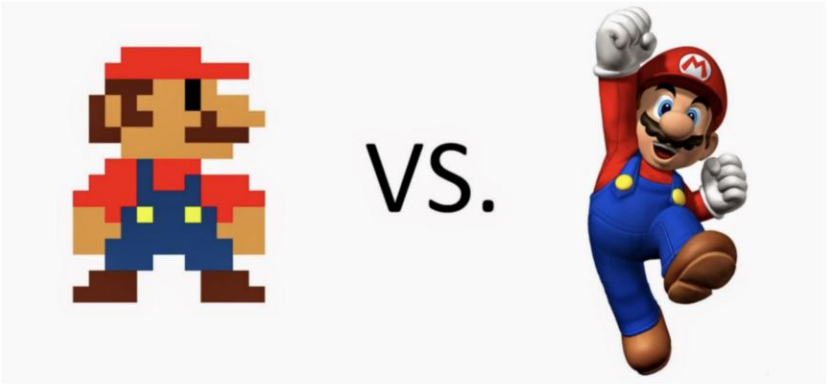
- **Virtual Reality (VR)** immerses users **completely**
  It is a simulated experience where **they are captured** and interact with **a completely artificial world ,** re-experiencing real life in a virtual space using special glasses and a controller.

VIRTUAL REALITY IN EDUCATION

DIGITAL ALTER EGO

Digital Alter Egos are avatars that represent users **in computer-generated environments .** Avatars can be:

- **2D (Static)**
- **3D (Dynamic)**
- **Avatars** are interactive and act as **a virtual extension of the user :** They talk, dance and can perform many tasks.



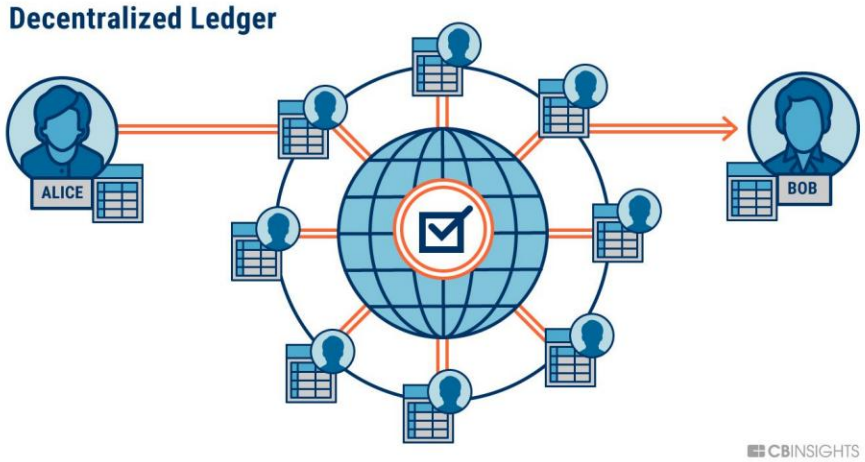
BLOCKCHAIN

- We can define blockchain as a type of registry or record list in which data is recorded and encrypted in a digital environment.

•It is a digital secure registry.

- Individuals or organizations cannot own the blockchain.

•In our country, e-government, e-pulse, e-school application is a blockchain application.



METAVERSE

(VIRTUAL UNIVERSE-BEYOND THE UNIVERSE)

- Metaverse is a **three-dimensional virtual** space in which individuals **can move, share and** interact .

- It can be thought of as a kind of virtual living space that overlaps **with the physical world of real life ,** allowing users to interact more directly compared to social networks, while also allowing them to participate **in many different activities in an interesting way .** • It is a virtual virtual world that reflects daily life but

eliminates the limitation of space .

METAVERSE TECHNOLOGY

The Metaverse is a mix of **high-level technologies** and infrastructures:

- **Augmented Reality (AR)**
- **Virtual Reality (VR)**
- **Blockchain**
- **Incalculable amounts of data and information**

Users are represented through avatars that reflect their human characteristics and can even speak with their own voices.

HOW TO LOG IN TO METAVERSE?

The elements required for entry into the Metaverse are:

• **A strong internet** connection to support access to the virtual world • A working **PC** or **Smartphone** •

Membership on any platform that offers the Metaverse experience. •Augmented Reality and Virtual Reality Glasses (if needed)

METAVERSE PLATFORMS

1. HORIZON WORLDS - META

2. DECENTRALAND

3. SANDBOX

1. HORIZON WORLDS - META

- Horizon Worlds – is a Virtual World released by Meta **Mark ZUCKERBERG** and accessible using your **Facebook** account and **Oculus** glasses.
- It is currently the platform with the most members ; **as of February 2022,** it has approximately **300,000 registered users** who benefit from the platform's features such as playing games, creating a mini world separate from the community and participating in virtual events .

2. DECENTRALAND

- Decentredland is an open source platform built on the Ethereum **Blockchain** and is an example of a decentralized Metaverse.
- Users can create their own Avatar by choosing their body type, clothes and accessories .
- After this step, some features are unlocked, and the sale of **land on which buildings can be built and events can be held** begins, using a currency called **'MANA',** which is also used to **purchase NFTs .**

3. SANDBOX

•Another example of **a decentralized Metaverse,** similar to Decentraland, is the **Sandbox** platform.

• It is a virtual world that you enter by creating an avatar according to your own style. • Users can purchase three-dimensional land on which they can organize events and have the opportunity to promote their own brands/products.

•There is also **a special currency** of this platform called **SAND .**

EDUCATION IN METAVERSE

THE FUTURE OF EDUCATION???

OTHER WEB 4.0 TOOLS THAT CAN BE USED IN EDUCATION

1. AirPano

2.Spacecraft

3. Kahoot!

4. Mozilla Hubs

1. AIRPANO

•**AirPano** (https://www.airpano.com/) is a virtual reality project created by a group of Russian photographers using **high-resolution 360° photographs and 360° videos taken from the air .**

• It is completely **free.**

• **Works on all devices** (PC, Smartphone and Tablet)

• **Available in all browsers** and from **the App Store .**

2. SPACECRAFT

- Spacecraft, a striking educational application created by **NASA's Jet Propulsion Laboratory,** is an educational and free application.
- Uses native mobile augmented reality to bring space explorers to your location from across the solar system.
- Find a flat surface and view **the interactive 3D models in front of you in desktop or real proportions .**
- **Take pictures of the spacecraft** in your favorite environments and **learn in detail about its fascinating missions.**

2. SPACECRAFT

3. KAHOOT!

- Kahoot! It is **a game-based learning** platform used **for educational purposes** in schools or educational institutions .
- **Learning games** 'Kahoot!' **are multiple-choice exams that can be prepared by users** and are available via browser or Kahoot! It can be accessed from

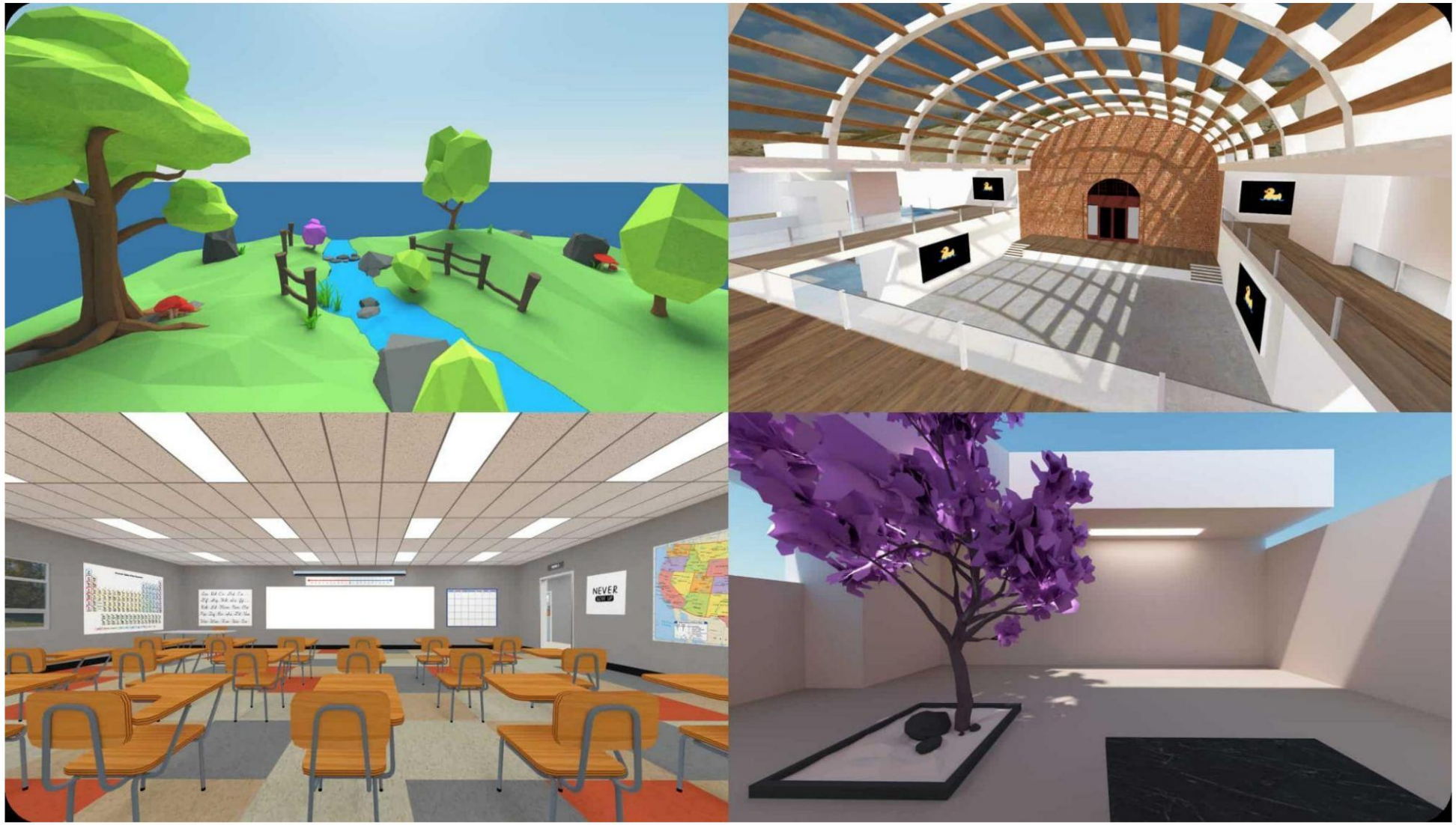
the application. • Kahoot! Used to measure student knowledge for formative assessment or as a break from traditional classroom activities

- Kahoot! Also includes Trivia questions.

3. KAHOOT!


with Game PIN:
5866
Kahoot! tutorials
How to play a game of Kahoot!
Kahoot!

4. MOZILLA HUBS



ARTIFICIAL INTELLIGENCE SUPPORTED APPLICATIONS AND WEBSITES