Welcome to the VRinSight Training Programme

Step-by-Step guide to good VR practice

(Module E)

Welcome to the VRinSight Training Programme

Disclaimer: The following slides have been made available for informational and educational purposes only. VRinSight project does not make any representation or warranties with respect to the accuracy, applicability, fitness, or completeness of included/linked media material. VRinSight project also does not warrant the performance, effectiveness or applicability of any sites listed or linked to external media content. **Any Commercial use strictly forbidden**

Common Rights

VRinSight Training Programme & Curriculum

The following lecture is just one in a series of lectures as part of the *VRinSight Curriculum*

The aim of this training programme for **HEIs** is

- to help you get aquainted with the technology of Virtual Reality

- demonstrate how VR technology can enhance Higher Business Management Education

- enable you to integrate VR technology into your own coursework and lectures

- enable you to introduce VR technology to your colleagues and demonstrate how VR technology can enhance coursework and lectures

Each learning session is complimented by practical work in the *VRinSight Interactive Classroom*

VRinSight Training Programme & Curriculum

The following learning session is just one building block in a whole range of learning sessions as part of the *VRinSight Curriculum*

The aim of this training programme for **SMEs** is

- to help you get acquainted with the technology of Virtual Reality

- demonstrate how VR technology can enhance business management

- enable you to integrate VR technology into your business operations

- enable you to introduce VR technology to your colleagues and demonstrate how it can enhance their business operations

Each learning session is complimented by practical work in the *VRinSight Interactive Classroom*

Co-funded by the
Erasmus+ Programme
of the European Union

VRinSight Training Programme & Curriculum

- Module A: Outcomes of European survey of SME and Higher Education institutes

- Module B: Virtual Reality for Business and SMEs

- Module C: A comparison of VR developments around the globe

- Module D: Pedagogical considerations in Virtual Reality Learning

- Module E : Step by Step Guideline to good VR practice

- Module F : Introduction to the 25 VR applications of the *VRinSight Showcase*

All Curriculum Modules and the European Survey report are available in their entirety at the project homepage www.vrinsight.org

All 25 VR applications are accessible via the *VRinSight Interactive Classroom*

Module E : Step-by-Step guide to good VR practice

Module Objective

- Basic knowledge in virtual reality hardware

- Unboxing your VR headset

- First steps of using VR hardware

- Basic knowledge in VR software

- Presenting VR demonstrations

- Troubleshootings & Challenges

Module E : Step-by-Step guide to good VR practice

Who is this training course for ???

- target group of this Module is primarily educators at higher level,

- target group of this Module is primarily

- i) educators at higher level in business management

- ii) educators at higher level of all subjects

- iii) Management and staff of SMEs

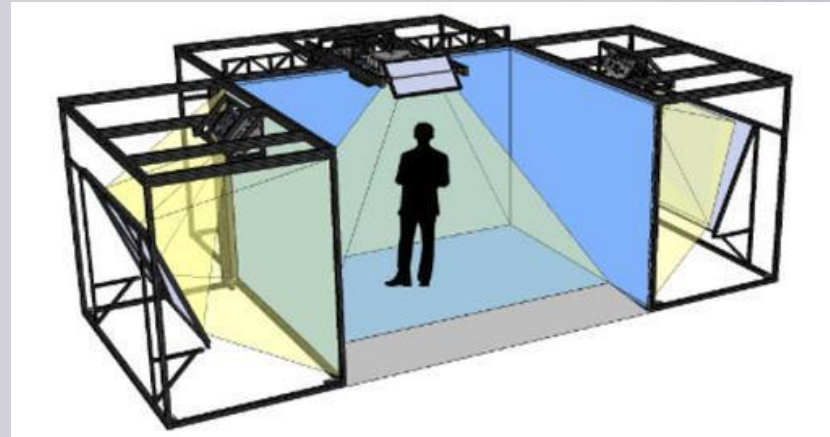- iv) HEI students of business management and other faculaties

- v) HEI management

Module E : Step-by-Step guide to good VR practice

Technology types

CAVE

CAVE

HMD

Source: photos, ???, own source

Technology types in a HEI setting

Oculus Quest HMD

HTC Vive Headset

Source: photos, ??? own source

Module E : Step-by-Step guide to good VR practice

Unboxing Guideline

Module E : Step-by-Step guide to good VR practice

Unboxing Guideline

Source: photos, own source

Module E : Step-by-Step guide to good VR practice

Unboxing Guideline

Positioning:

Source: photos, own source

Module E : Step-by-Step guide to good VR practice

Unboxing Guideline

Positioning:

Source: photos, own source

Module E : Step-by-Step guide to good VR practice

Unboxing Guideline

Power Supply:

Module E : Step-by-Step guide to good VR practice

Unboxing Guideline

Other Accessories:

Module E : Step-by-Step guide to good VR practice

Unboxing Guideline

Other Accessories:

Module E : Step-by-Step guide to good VR practice

Batteries in,

Headset Charged,

TIME TO GO LIVE !!!!!!!!!!!!!!!!

Module E : Step-by-Step guide to good VR practice

Oculus Register:

- Download app to an iPhone or Android phone, or tablet

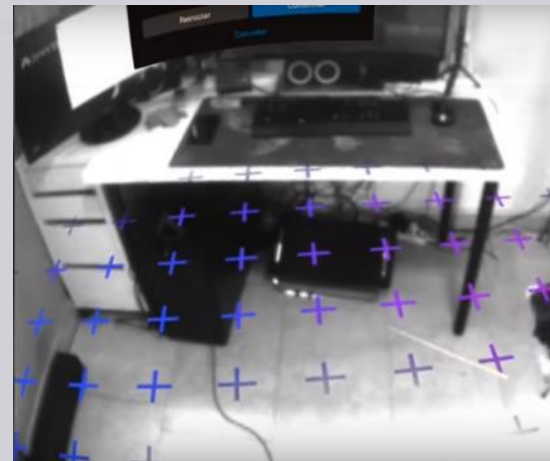- register the device

- connect with your Wi-Fi network.

Module E : Step-by-Step guide to good VR practice

- Find an open space, away from furniture and obstruction (2m X 2m)
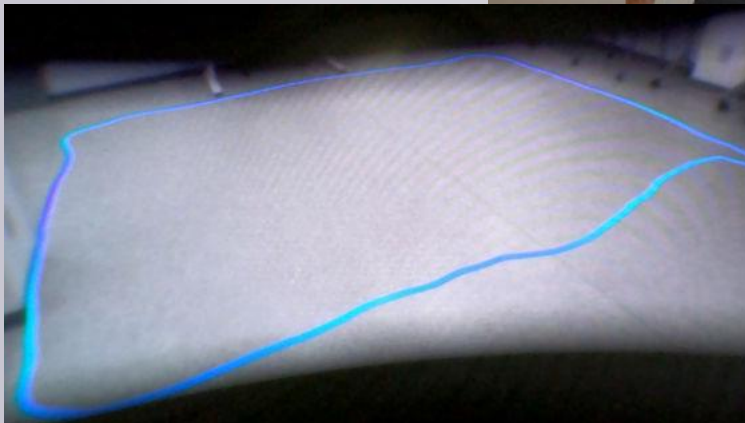
- Get into position

- Power On:

Source: photos, own source

Module E : Step-by-Step guide to good VR practice

Powering On:

Module E : Step-by-Step guide to good VR practice

Play Area & Calibration:

Source: photos, own source

Module E : Step-by-Step guide to good VR practice

Guardian Setup: Oculus basics

Module E : Step-by-Step guide to good VR practice

- Six degrees of freedom (6DoF) enables free movement in three-dimensional space (e.g. HTC Vive, Oculus Rift, Oculus Quest).

- Three degrees of freedom (e.g. Oculus Go) enable only movement in three dimensions (pitch, yaw, and roll movement, but not leaning forward in 3D space, etc.).

 - These degrees of freedom include the freedom of both the headset and controllers
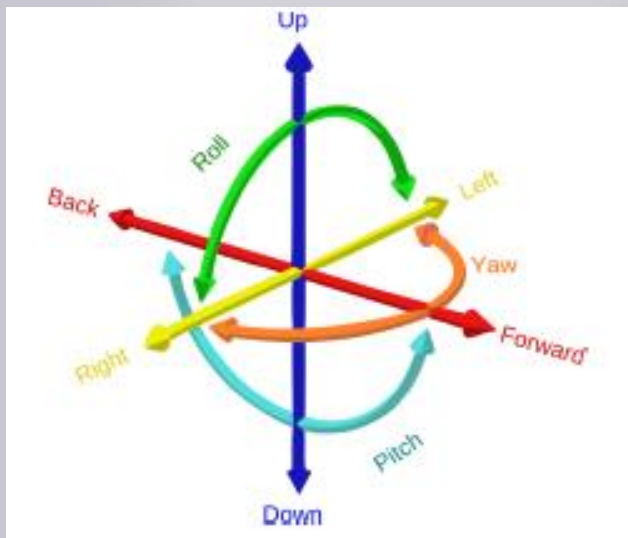
(Wikipedia, 2019)

Positioning

Source: photos, own source

Basic Control:

To make **selection** in menus: hover the pointer

Return to main menu: press home button and hold

Source: photos, own source

VRinSight

Co-funded by the
Erasmus+ Programme
of the European Union

Module E : Step-by-Step guide to good VR practice

Basic Control:

Use pointing finger to **push virtual buttons**

To make a fist Squeeze the grip button (middle finger)

Source: photos, own source

Module E : Step-by-Step guide to good VR practice

Basic Control:

to point squeeze the grip button (middle finger) and lift index finger

Source: photos, own source

VRinSight

Co-funded by the
Erasmus+ Programme
of the European Union

Module E : Step-by-Step guide to good VR practice

Basic Control:
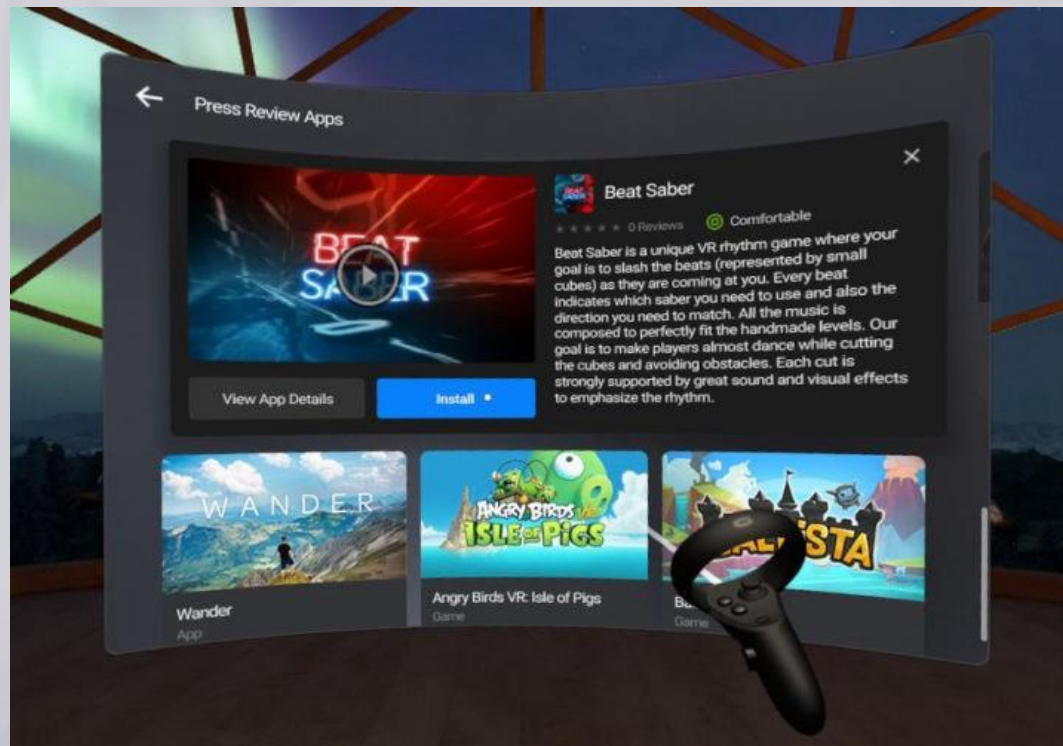

To pick up an object squeeze and hold grip button

To drop objects release the grip button (middle finger)

Source: photos, own source and

Module E : Step-by-Step guide to good VR practice

Applications & Software:

Oculus Store:

Applications & Software:

[VRinSight Showcase](#)

25 best practice

VR applications for

Higher Education

& Business

Hosting a demonstration to a group of learners:

- Good preparation will avoid any unforeseen technical difficulties that will delay the learning session resulting in lack of interest and impatience on the part of the learners.

- For optimal learning effect, it is suggested to host the group sessions with two tutors. One tutor can assist the participants whilst wearing the Headset, and the second tutor can continue to teach the rest of the group and host the event.

Hosting a demonstration to a group of learners:

Review the workflow of this..............

i) Ensure that all software is updated and functioning.

ii) Ensure all cables are functioning correctly.

iii) Ensure that all headsets are fully charged.

Hosting a demonstration to a group of learners:

Review the workflow of this…………..

iv) Standalone HMDs such as Oculus Quest battery life 2 to 2 $^1/_2$ hours

- Fully charged

- Level of usage intensity

- Software is use

v) The battery life can also be effected by the device overheating. Prior to a learning session, make sure the device is stored away from direct sunlight or storage areas with an above average room temperature.

vi) Ensure that the handheld controllers have sufficient battery life and replacement AA batteries are at hand.

Hosting a demonstration to a group of learners:

Review the workflow of this............

vii) Ensure all devices have a suitable power supply:

- USB (Thunderbolt/C) cable for VR headset

- USB cable for Mobile device or tablet for Casting

- Monitors and PCs

viii) Ensure there are the necessary amounts of electrical sockets to supply all electrical devices.

ix) Ensure all cables and power supplies for each electronic devices have the necessary length to facilitate movement of users, learners and educators.

Hosting a demonstration to a group of learners:

Review the workflow of this...

x) Ensure all devices (VR headset, tablet mobile device, Chromecast/Firestick, etc.) have a strong Wi-Fi connection

xi) It is advisable to open and load all applications and software that you intend to use during the demonstration prior to beginning the learning session. This allows time for loading and logins, which can be time consuming during a learning session and can lead to learner disinterest.

xii) Ensure a steady station (table or stand) is available for the tablet or mobile device being used to cast the VR content (see Streaming section), and that it is viewable for the learning group.

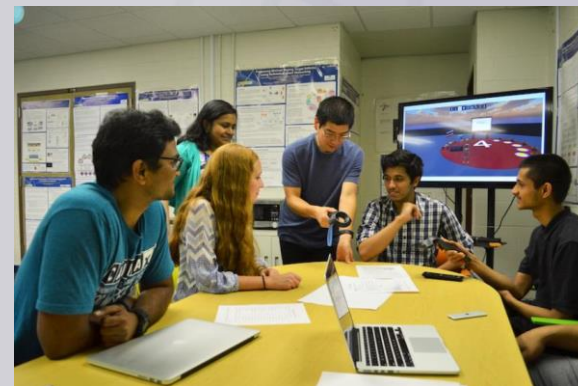Hosting a demonstration to a group of learners:

Streaming allows a shared group experience

Streaming Options

- Direct connection to PC

Stand- alone

- Oculus LINK (increases Capacity)

- Oculus Casting via Oculus App

    - No Audio (No atmosphere)

    - Not all VR apps supported

    - Mobile device

    - Chrome Cast, Firestick, Smart TV

    - How to

Source: photos ???

Hosting a demonstration to a group of learners:

Hosting:

- One tutor can host the event, the second tutor can put on the headset and stream to group (avoid isolation from the group)

- Ease the path for volunteers from the group to try out the headset

Hosting a demonstration to a group of learners:

Content for Group sessions

- By group sessions an interactive video or animation cast to a monitor will capture the attention of all learners in the group and act as a colorful introduction to the possibilities of VR.

- free videos content available on the Oculus Quest :

  - Oculus TV App

  - Samsung VR Videos

  - Next VR

Hosting a demonstration to a group of learners:

First Volunteer:

- Tutor 1 can assist the Voluteer with headset, Tutor 2 can explain to group

- Use VR application that incudes Avatar

- software loaded and logged in advance, to give full immersion effect

- basics of the handheld controllers and basic movements of the avatars,

- Suitable applications in the VRinSight showcase. include:

- Altspace VR App

- ENGAGE learning Platform

- WAKEONE XR Platform
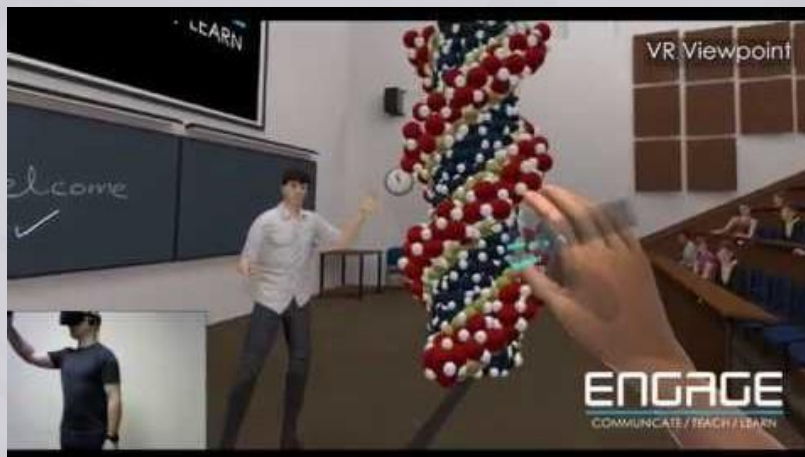
Source: photos, ???

Hosting a demonstration to a group of learners:

First Volunteer Avatar Instructions:

- Menu selection – In order to navigate in VR you must use the handheld controllers how to operate the Menu selection and basic navigation is illustrated in the following video: <u>Oculus Quest Basics Tutorial Part 04: Navigating in VR.</u>
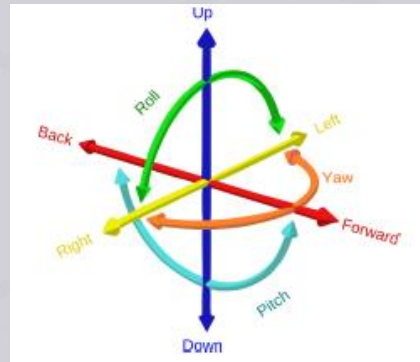
Hosting a demonstration to a group of learners:

First Volunteer Avatar Customization:

- There is the option in Oculus Quest to customize your avatar as it appears in VR. The following video illustrates how the customization process is completed: Oculus Quest Basics Tutorial – How to Create an Avatar

Source: Microsoft ClipArt & https://www.roadtovr.com/oculus-avatars-are-finally-going-cross-platform/

Hosting a demonstration to a group of learners:

First Volunteer Avatar Instructions:

- Communication between avatars

- In many applications, using avatars there is the possibility to communicate between avatars. This can also be setup centrally through the Oculus Quest menu.

Hosting a demonstration to a group of learners:

Multiple volunteers, Multi User:

- Once first volunteer is comfortable in VR setting, a second volunteer can be introduced to the VR setting

- multiple headsets availalbe

- Encourage Interaction between avatars

- Suitable VR apps, ENGAE; Altspace, WAKEONE XR Platform

Hosting a demonstration to a group of learners:

Troubleshooting in Group Sessions:

- New VR Hardware has many of the technical challenges expected fromnew technologies, such as Overheating, Stalling, Connectvity etc

- After first warning signal Headset will automatically switch off after 1 minute

- Cooling down can be up to 30 minutes (or longer)

- Recharging is recommended in this time

- more frequent in the less sophisticated VR headsets (Oculus Go)

Source. Picture MS Office ClipArts
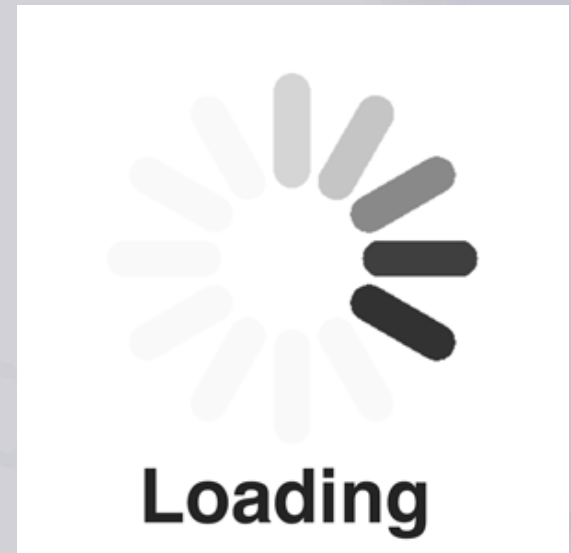
Hosting a demonstration to a group of learners:

Troubleshooting in Group Sessions:

Stalling occurs:

- Opening app or using applications with high functionality rate,

- Automatically returned to the main menu.

- Automaticcally powered off altogether

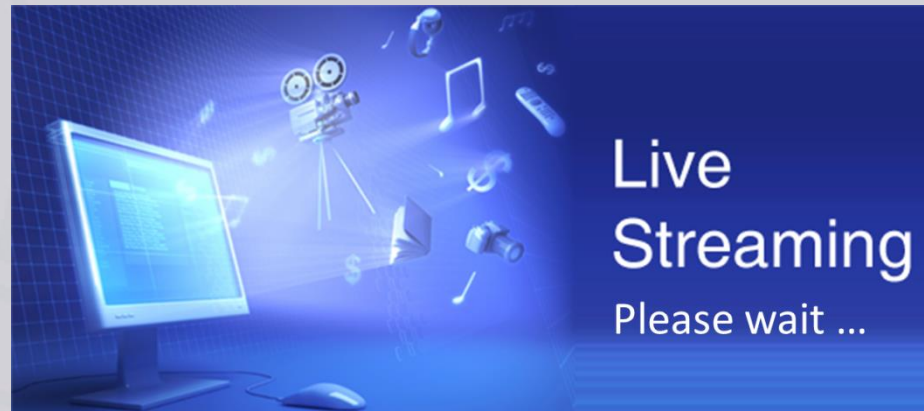Soultion:

- restart the headset and chosen applications

Loading

Source: Picture MS Office ClipArts

Hosting a demonstration to a group of learners:

Troubleshooting in Group Sessions:

Casting Failure:

- Oculus APP casting to mobile device

- No Audio

- High performance applications

- User experience not effected

Source: Picture MS Office ClipArts

Hosting a demonstration to a group of learners:

Assessment in Group Sessions:

VRinSight VR Classroom

A set of tasks to perform ranging in difficulty to complete independently, that include:

i) Avatar teleporting from one VR space to another specific location

ii) Importing a specific list of 3D objects from an objects library and arranging them in a particular pattern.

iii) Customizing a user avatar and/or customizing a virtual space

iv) Importing documents or video material for presentation

Hosting a demonstration to a group of learners:

Assessment in Group Sessions:

VRinSight VR Classroom

Assessing technical competence
– scenarios of common troubleshooting and their solutions,

    i)   Uploading/installation of new apps

    ii)   Battery power failure

    iii) Failure in VR headset casting to Monitor

VR Technology for Business & SMEs

(Module B)

www.vrinsight.org

© 2019