VIRAL SKILLS
E-THEK

A COLLECTION OF 25 VIRTUAL REALITY APPS SUITABLE FOR ADULT EDCUTATION TRAININGS WITH LOW-SKILLED AND LOW-QUALIFIED ADULTS

VIRAL SKILLS

*Fostering **V**irtual **R**eality applications*
*within **A**dult **L**earning*
to improve low skills and qualification

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ViRAL Skills E-Thek

VR Application Profile	
Name of VR Application	Creator AVR
Category	Various Content
Date of processing:	10/10/2019

Technical Framework & Key Data

Software-Provider: Google Commerce Ltd
Software-Developer: EON Reality R&D Team
Version of app: 7.8

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ **Google Daydream View**
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☐ Oculus Rift
- ☐ Oculus Quest
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☒ iOS Version: 12.0 or later
- ☒ Android Version: 7.0 and up

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian
- ☒ Other: Chinese

Learning Content

Aeronautical Engineering, Medical, Chemistry, Engineering, Food and Nutrition, Humanities, Animal Life on Earth, Astrophysics & Astronomy, Automotive Engineering, Biology, Botany, Culture and the Arts, Earth Science, Food and Nutrition, General Science, Geography, History, Human Anatomy, Industrial Engineering, Mathematics, Monuments & Landmarks, Physics, Virtual Entertainment, etc.

Learning Outcomes

Knowledge

The adult learners will be able to:

- …recall detailed information about various key subjects in a variety of fields beginning from aeronautical engineering over biology to culture and arts

Skills

The adult learners will be able to:

- …locate and identify the constitutive parts of a variety of objects like artefacts, organs, machines, etc. thematised in the app
- …create their own VR learning lessons and courses about a variety of learning subjects using the Creator AVR app

Competences

The adult learners will be able to:

- …demonstrate the ability to learn about a key subject using a number of different sources of information including VR- and AR-experiences, audio recordings, videos, etc.

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Activities provided	Users can choose the learning content they are interested in from a library. Depending on the content mostly a short informational audio and video to the specific content is provided as well as exercises and quizzes. Learners can explore the content on their mobile phone, changing perspectives and illustrations with the touch function, explore the content with AR or Virtual Reality. In the VR mode learners can see the learning content in 360 degree, changing their perspective on the content with their head movements and gaze. For some contents additional 360-Tours are provided. Creator AVR offers single and multi-user mode and enables trainers to create and share educational experiences on the mobile device, with no programming experience needed.
Added value for low-skilled/-qualified adults	The app "Creator AVR" is beneficial when working with low-skilled/-qualified adult learners, especially school drop-outs, since it provides 360 degree visualizations of complex learning contents which make it easier to understand them. Further it includes quizzes which allow a more playful approach. Additionally, trainers can add their own target-group orientated contents and tasks.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ☐	4■
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ☐	3 ■	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• …provides different learning approaches (e.g. videos, 360 graphics, quizzes, etc.) to contents • …learning contents are well structured and easy to find in library • …provides information and 360 experiences for a variety of learning contents	• …not all learning contents can be explored in VR mode • …little interaction with learning content possible in VR mode • …quality of lessons provided varies
OPPORTUNITIES	**THREATS**
• …allows in-depth understanding of various contents • …allows to create lessons on one's own • …allows a multi-user mode	• …the understanding of all functions of the app might require some time • …VR experiences might be a little bit boring • …exploring the learning content only in VR mode might have little learning effect

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Ideal application /utilization	• ***Context of ideal application*** Ideal to enhance various thematic workshops and courses beginning from engineering, over chemistry to medical contents and beyond. • ***Instructions for preparation*** - Before using the app, make yourself familiar with the learning material provided by the app. - Then either choose the learning content which you want the learners to explore from the app's library or create a lesson/course on your own. - If you want to use content provided by the app, decide yourself whether you want the learners to explore the whole lessons provided or just parts of it e.g. the VR mode to visualize content. - Dependent on this previous decision make sure to embed the app adequately in your course schedule according to the course's learning objectives. - For some lessons provided by the app it might be necessary to clarify technical terms in advance. - Provide maybe chairs (ideally revolving chairs) for the learners since the most comfortable way to explore the App (also the VR mode) might be in a seated position. Creation of content: - In order to being able to create lessons and courses, create a free account on the mobile app. - To start the creation process, tap on the "+Create"-button in the right corner at the bottom of the mobile display and choose if you want to create a new lesson or a new course. Alternatively, you can also tap the plus button in the section "My Workspace".
	- The creation of a new course works quite intuitively. - In order to create a new lesson, have a look at the following videos. Although they refer not to the latest version of the app, they should help within the creation process: ▪ https://www.youtube.com/watch?v=yP2l_O6v9WQ *[Start at minute 2:12!]* ▪ https://www.youtube.com/watch?v=aSHoY0w9ezo *[Start at minute 3:09!]* - Before starting your class, add your learners to your created course or lesson in the section "My Workspace". - Irrespectively of whether you use courses/lessons provided by the app or created on your own, you can use a multi-user mode. In this context, make sure to invite all learners in advance by tapping at "Collaborate" for the lesson you want your learners to explore. • ***Instructions for mentoring*** - Explain the structure and functionalities of the app in advance and give the learners time to become familiar with the app. - Since a lot of information is provided by the app I might be useful to state specific learning outcomes which should be achieved after using the app or parts of it (the suggested learning outcomes by the app for each lesson might be helpful in this context). - In case you created your own course or lesson, you might refer to your own formulated learning outcomes in the app.

	- It might be useful to summarise the most important information about the learning content after the app was used and/or discuss the experiences made. • ***Do's and don'ts*** - When only using the VR mode of the app provide learners with further information to the content in class. - The app might also be a successful tool in context of blended learning formats.

VR Application Profile

Name of VR Application	**NYT VR**
Category	**Various Content**
Date of processing:	29/10/2019

Technical Framework & Key Data

Software-Provider: The New York Times Company
Software-Developer: The New York Times Company
Version of app: 3.5.9

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ Google Daydream View
- ☒ **Lenovo Mirage Solo**
- ☐ Lenovo Explorer
- ☒ HTC Vive Pro
- ☒ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☐ Oculus Rift
- ☐ Oculus Quest
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☐ iOS Version:.....
- ☒ Android Version: Minimum 7.0

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content

News & Documentaries

Learning Outcomes

Knowledge

The adult learners will be able to:

- Explain the backstory of conflicts, natural disasters or politics, e.g.
- Distinguish places in foreign countries and connect them to incidents reported in the NYT

Skills

The adult learners will be able to:

- Navigate through a VR environment with the use of sight and hand motion

Competences

The adult learners will be able to:

- Prioritize learning content through the choice of topics
- Understand the evolvement of opposing opinions and process behind current affairs
- Critically evaluate different opinions on current topics as perceived by the various documentaries
- Analyze future news by recognizing varying/opposing actors/parties and opinions

Activities provided

Choose a video from a gallery with the topics: Documentaries, Investigations, Science & Tech, US Politics, Travel, News, Opinion, Arts & Music. See a video with audio about the different topics or, especially in the Travel section, emerge into a virtual space.

Added value for low-skilled/-qualified adults

- Condensed collection of documentaries and news which help low-skilled adults to gain an overview over current affairs without having to process too much information at once
- Virtually travel to places which are otherwise inaccessible and emerging into the scene of war conflict or accompanying refugees on their way to safety which gives low-skilled adults the opportunity to become emotionally involved with a topic and foster interest
- Receive information with no necessity for high level reading skills which is otherwise typical for news outlets such as newspapers, etc.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ■	3 ☐	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ■	2 ☐	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Possibility to virtually emerge into the scene of the story • Different topics to choose from • Detailed background information in each video	• Low resolution especially in the 360° spaces • Very opinionated documentaries • Rough topics such as wars and genocide

OPPORTUNITIES	THREATS
• Get emotionally involved into the topic/scene displayed • Each user can find a topic which interests them • User might get captivated by a story	• Users might prefer to simply watch a video on a website • Especially low-skilled adults might not be able to comprehend that some videos display subjective opinions • It might be disturbing for some viewers to virtually emerge, for example, into a war scene

Ideal application /utilization

- ***Context of ideal application***

In a university, adult education classes or in a museum in the context of journalism, politics and current affairs.

- ***Instructions for preparation***

Be aware, that the app contains scenes and information which some users might find disturbing especially since the user might feel as if he/she is virtually in that scene, e.g. war or genocide.

- ***Instructions for mentoring***

Choose a topic to watch which the user feels comfortable with. Spend time after the use of the app to reflect and discuss the topics watched since there are sometimes subjective opinions displayed.

	• ***Do's and don'ts*** Give a short introduction to the use of the app. Do not let learners use the app on their own without time for reflection afterwards. Especially for low-skilled adults there is a need for reflection and discussion after using the apps. The app is not suitable for children.

VR Application Profile

Name of VR Application	YouTube VR
Category	Various Content

Date of processing: 30/10/2019

Technical Framework & Key Data

Software-Provider: Google LLC
Software-Developer: Google LLC
Version of app: 1.21.50

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ Google Daydream View
- ☒ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☒ Oculus Go
- ☐ Oculus Rift
- ☒ **Oculus Quest**
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☐ iOS Version:
- ☒ Android Version: 1.21.50

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content

YouTube VR:
Through this application, you can experience your favorite YouTube videos, channels and creators in virtual reality. The YouTube VR app basically can turn any video into a virtual reality experience and makes YouTube a 3D world you can explore from the inside.

Learning Outcomes

Knowledge

The adult learners will be able to:

- Follow the basic steps to set up and use the application for learning purposes
- List at least 3 possible ways they can use the application for teaching and learning

Skills

The adult learners will be able to:

- Set up and use the application in a practical way
- Download and upload content of their interest to be viewed through the application
- Follow required steps to debug if any problems show up during the use of the application with users
- Indicate and describe ideas to integrate this application in various education contexts
- Browse and select relevant content from different channels and videos

Competences

The adult learners will be able to:

- Demonstrate capability to use successfully all functionalities of the app

Activities provided

Users can select from a variety of different topics/context/channels/videos based on the learning content and they have the opportunity to further explore the content in 3D mode/virtual reality as an introductory, evaluation or as an exploration activity.

Added value for low-skilled/-qualified adults

The application is highly suitable for HEI as an introductory practical example because it is easy to get started as a user. Even users with very limited skills can easily get started since most of the users are already familiar with the ordinary YouTube application.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ☐	4■
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ☐	4■
• Applicability level	1 ☐	2 ☐	3 ☐	4■
• Gamification level	1 ☐	2 ☐	3 ■	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Supports most devices • Offers spatial audio, where depth and distance play a role depending on where you look • Easy navigation: you can switch between voice and keyboard controls to browse and search with ease	• Limited capabilities in terms of usability • Users can not interact with the material • Large size of application to be downloaded, so it might discourage some users to do so
OPPORTUNITIES	**THREATS**
• Supports 360-degree video enhancing the interactivity with users • Suitable for learners of all levels • Gives users independence to choose material according to the chosen topic	• Limitation to sustain interest of users • Might not always give an additional value to learners. • Might be addictive to users since it has videos to watch

Ideal application /utilization

- ***Context of ideal application***

The application can be used in almost all context, since it gives users the opportunity to select any domain/ sector and select relevant channels/videos for exploration in virtual reality. It is an application which gives the flexibility to users to watch a video in virtual reality instead in 2D mode, by making the content even more interesting.

This application can also be used in almost all contexts as an additional activity to gain better understanding of a topic during a learning activity.

- ***Instructions for preparation***

The application supports most VR devices and hardware and has a single/multi-user capability. The app can be downloaded conveniently from the VR device search engine and will require registration through the account of the device.

The users do not require to move around while using this application.

It is more convenient for users to have a chair.

A microphone is useful if you also want to search video content with your voice

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	• ***Instructions for mentoring*** Ideal application for the start of a training. It is advisable that the mentor has clear learning objectives of what he/she wants to achieve before using this application. It is advisable that tutors after the initial discussion, encourage learners to experience the application individually and then work in pairs and in groups on the content that they will experience. It is also advisable that the app will not be used for a long time so users don't lose interest. • ***Do's and don'ts*** Don't use this application, without having specific objectives to be achieved, as this might make users loose easily their confidence and mispresent the additional use of this application The following link might also help finding suitable content for adult education by leading to a collection of 360° videos in English and German: https://www.vhs.at/de/vrbrille

VR Application Profile

Name of VR Application	**ARTE360 VR**
Category	**Various Content**
Date of processing:	27/9/2019

Technical Framework & Key Data

Software-Provider: Microsoft Store
Software-Developer: ARTE G.E.I.E.
Version of app: APK 1.7.0

Compatible VR hardware systems:

- ☐ Google Cardboard
- ☐ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☐ Oculus Rift
- ☐ Oculus Quest
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor
- ☒ Other: **ACER OJO500**

Compatible operating systems

- ☐ iOS Version:.....
- ☐ Android Version:.....
- ☒ Other: WINDOWS Version: 10 version 16299.0 or higher

Languages available

- ☒ English
- ☒ Spanish
- ☒ German
- ☒ Italian

Learning Content

ARTE360 VR is the first broadcasting platform dedicated to distribute immersive, interactive, narrative cinema experiences in 360 degree and Mixed Reality.

Learning Outcomes

Knowledge

The adult learners will be able to:

- …list at least 3 possible ways they can use the application for teaching and learning

Skills

The adult learners will be able to:

- …indicate and describe ideas to integrate this application in various education contexts
- …browse and select relevant content about various topics

Competences

The adult learners will be able to:

- …demonstrate capability to use successfully all functionalities of the app
- …choose the right content to investigate a subject

Activities provided

ARTE360 provides immersive and interactive experiences in 360° video and mixed reality. It allows users to step inside a movie and to see the scenes unfold all around themselves as if they were there.

Added value for low-skilled/-qualified adults	Thanks to the VR ARTE360 app, low-skilled/-qualified learners will be able to explore a wide range of topics by immersing themselves in a film, being able to see the scenes unfold around themselves as if they were there and might therefore understand learning content much easier than with traditional methods.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4■
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ☐	4■
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ☐	3 ☐	4■

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• …improves learning • …content is regularly and continuously updated • …stimulates critical thinking	• …dependence on the hardware platform • …is part of the specific brand • …difficulty finding qualified teaching staff
OPPORTUNITIES	**THREATS**
• …software creation for many application fields • …links between different devices • …insert elements of AR	• …potential privacy problems • …any technical problems or delays in the application development phase • …failure to reach the required level of experience

Ideal application /utilization

- ***Context of ideal application***

Cultural education.

- ***Instructions for preparation***

It is very important for the positive outcome of the activity to prepare the virtual reality laboratory in advance. Each personal computer with the connected VR viewer must have all the management software (operating system, drivers) updated. The display must be perfectly calibrated.
The ARTE360 VR software will need to be installed as a system administrator and the launcher icon will be available on the desktop. The learner will not in any way be able to change all the system settings.

- ***Instructions for mentoring***

The instructor will explain how ARTE probes collective and individual memories, opening a personal gateway to contemporary history.
The adult educator will be able to intervene immediately where there are problems of a technical or learning nature.
The adult educator must have prepared a small guide to explain to the learner all the steps of the activity to be performed with the viewer and the ARTE360 VR software.
At the end of the activity a questionnaire will be given to assess the activity performed.

- ***Do's and don'ts***

Due to small delays (latencies) and small inaccuracies of the gyroscope it is good to move slowly and alternate the virtual immersion activity with pauses by removing the viewer.

VR Application Profile	
Name of VR Application	Unimersiv
Category	Platform - Various Content
Date of processing:	01/10/2019

Technical Framework & Key Data

Software-Provider: Unimersiv
Software-Developer: Unimersiv
Version of app: 4.05

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☒ HTC Vive
- ☐ Acer AH 101
- ☒ Oculus Go
- ☒ **Oculus Rift**
- ☐ Oculus Quest
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☐ iOS Version: ……
- ☒ Android 5.0 (with Google VR Services) or higher
- ☒ Other: Windows Version: 7 or higher

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian
- ☒ Other: French

Learning Content

Unimersiv claims to be the largest platform for VR educational experiences and applications available. The app itself provides access to a number of different learning experiences which include field trips (ISS, Acropolis of Athens etc.) which enable users to learn using VR technologies.

Currently available for free (on oculus devices only), the learning content includes VR experiences covering the following:

- Human Body / Human Brain
- International Space Station
- Historical places
- Dinosaurs
- Titanic

More elaborate learning content in respect of all of these topics are available through the paid version of the app. The platform provider, Unimersiv, also offers customised VR training solutions (e.g. VR forklift training), however, this is an additional paid service.

Learning Outcomes

Knowledge

The adult learners will be able to:

- Identify core concepts and process of learning through a VR experience
- Recall the anatomy of a human body and the functions of the brain
- Describe conditions on the International Space Station

	• Identify some of the most important historical civilisations and places in Europe, including the city of Ancient Rome and the Acropolis of Athens in Greece • Describe 12 different types of dinosaur and how they interacted with their environment • Describe both the interior and exterior of the famous Titanic cruise liner
	Skills
	The adult learners will be able to: • Complete simple steps and task required to use the application and complete the tasks assigned • Use the VR equipment effectively in order to complete assigned tasks • Control and navigate through the different environments using a number of physical movements and actions
	Competences
	The adult learners will be able to: • Demonstrate the ability to undertake and complete an engaging VR experience • Demonstrate the ability to follow instructions and complete tasks as required • Demonstrate the ability to interact with and learn from a number of different sources of information including visual and audio. • Learn independently using the resources provided as part of the app

Activities provided	Each app provides different activities for learners to undertake and these are tailored toward the content of each of the modules. These can be roughly summarised into the following: • Open world exploration • Guided, liner tours (interaction with menus) • Audio descriptions which learners listen to as they progress through the activity
Added value for low-skilled/-qualified adults	High potential for added value for low-skilled/qualified adults which include: • Fully guided experiences with good quality learning content throughout • Wide variety of learning experiences which motivate learners to continue with experiences • VR experiences, while immersive, are suitable for beginners • The content is learning oriented rather than focused on gaming, as such it affords learners the ability to proceed at their own pace rather than being pressured to completed set or defined tasks

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ☐	4■
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ■	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ■	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Wide variety of learning experiences suitable for all learners • Majority of content is free if using Oculus based equipment • Good quality of learning content, easy to use and navigate through different apps	• Some apps are better than others (i.e. The Human Brain vs Titanic) • Some learning content is very linear which lessens the immersive effect of learning through VR • Limited number of apps currently
OPPORTUNITIES	**THREATS**
• Scope to add many new learning apps within Unimersiv • No similar platform/app focused on providing learning experiences • Capacity to upgrade graphics/content on a regular basis as platform is well supported	• Content updates are stopped or become less regular • Liner nature of some apps provide for the possibility of limited engagement by learners • Best experienced with more expensive VR equipment which may limit its impact for individual learners without access to this equipment

Ideal application /utilization

- ***Context of ideal application***
  - Well suited as an effective tool for educating low-skilled and low-qualified persons about the topics such as: human body and brain, historical places, history – dinosaurs and Titanic, Space etc.
  - The platform offers development of customized training programmes (as a paid services), one of the existing training apps include Forklift training which could be useful for the learners as training supporting their future employability
  - Useful for use in classroom-based situations where groups of learners could be taken through the individual apps supported by the tutor
- ***Instructions for preparation***
  - The tutor should have a good working knowledge of the app and the learning content to be able to objectively set the learning outcomes for each learner and also to be able to support and advise learners throughout the experience
  - While not strictly necessary, the tutor should ensure that all learners have sufficient space to properly utilise the controls
- ***Instructions for tutoring***
  - The tutor should advise the learners about immersive VR experiences in general, although this app is suitable for beginners or less experienced learners
  - The tutor is advised to be available to the learner to offer support in case of any obstacles or to further explain the learning content / tasks

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	- The app can be viewed by all learners while it is running, it would be advisable to allow learners to observe the tutor undertaking the basics first. - The tutor should request feedback from learners in order to properly assess the benefits/impacts of the app in addition to what other VR resources would be the most suitable to support the learner's further learning. • ***Do's and don'ts*** - Highly advisable that learners are properly briefed on the use of the VR equipment in order to make the experience as comfortable as possible.

VR Application Profile

Name of VR Application	**Engage**
Category	**Platform - Various content**
Date of processing:	22/10/19

Technical Framework & Key Data

Software-Provider: immersivevreducation
Software-Develop: immersivevreducation
Version of app: 1.2

Compatible VR hardware systems:

- ☐ Google Cardboard
- ☐ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☒ HTC Vive Pro
- ☒ HTC Vive
- ☒ Acer AH 101
- ☐ Oculus Go
- ☒ **Oculus Rift**
- ☒ Oculus Quest
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☒ Dell Visor
- ☒ Other: Valve Index
  Dell Windows MR
  Asus Windows MR
  Acer Windows MR
  HP Windows MR

Compatible operating systems

- ☐ iOS Version:.....
- ☐ Android Version:.....
- ☒ Other: Windows Version : 8 and later

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content	Training and education platform
Learning Outcomes	**Knowledge**
	The adult learners will be able to: • Identify core concepts and process of learning in a VR environment
	Skills
	The adult learners will be able to: • …prepare meetings and events in VR • …design, build and upload recordings in a VR environment
	Competences
	The adult learners will be able to: • …prepare themselves successfully for various challenging situations in which presentation and soft skills are needed e.g. public speaking, training large groups, etc. • …express and present themselves or/and prepared content adequately and successfully within the frame of these mentioned situations.

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Activities provided	Engage allows a variety of activities: Users can… - …have live meetings, events and virtual reality training and collaborate live with people from all over the world as if they were there in the room. - …broadcast their presentations, videos and 360° videos. - …record everything within their sessions, including their own voice, the character's movement, as well as the rest of the meeting component and all the elements used. - …create simple tests, feedback forms and quizzes for others and deliver them in virtual reality during their live sessions, training and events. In this context, they can measure the learning success and learn from event attendees.
Added value for low-skilled/-qualified adults	Engage can help low-skilled/-qualified learners to improve their verbal communication, to facilitate their socialization with peers and can foster knowledge gain thanks to the existing videos and documents. Further, the app might encourage creativity through avatar and meeting costume design.

SWOT analysis

• User-friendliness	1 ☐	2 ■	3 ☐	4☐
• Pedagogic orientation and standards	1 ☐	2 ■	3 ☐	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ■	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Organization of meetings. Cooperation between educators and learners without meeting in the same place face to face. • Simple tests, comment forms and questionnaires can be created for others and delivered in virtual reality during the sessions. • Training and VR experiences are created in minutes: anyone can create training or VR experiences in minutes using the easy-to-use recording tools and content creation editor in ENGAGE	• It has yet to develop its full potential in terms of application content • Every time you enter a conference you have to create an avatar or character. • The creation environments are quite simple

	OPPORTUNITIES	THREATS
	• Its use as a platform to create documentation • The interactivity of the application supporting multiple participants at the same time on a conference • The development you can have thanks to the partners	• It has not yet been developed for mobile platforms. • It needs the input of developers and VR teachers to improve content • It takes a long time to connect to the environment

Ideal application /utilization

- ***Context of ideal application***

- Meetings and experimental classes
- For sessions with many adult learners
- Non-contact sessions
- Team Discussions
- Useful for use in classroom-based situations where groups of learners could be taken through the individual apps supported by the tutor

- ***Instructions for preparation***

- Choose the learning content which you want the learners to explore from the app's library and make yourself familiar with the learning material provided by the app.
- Provide and use ergonomic and suitable chairs if possible
- You can upload all kinds of documents, including videos, etc

- ***Instructions for mentoring***

- The mentor must have a good working knowledge of the VR application. As well as the content to work on in order to establish objectively the learning results for each learner and also to be able to support and advise the learners.

- ***Do's and don'ts***

- Do not use for a long period of time. It creates a feeling of instability or dizziness

- Special attention to people that have problems with dizziness, lightheadedness or hypersensitivity
- Leave a security space around each learner
- Give a margin for joining the session and then do not interrupt

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VR Application Profile

Name of VR Application	Within
Category	Platform - Various content
Date of processing:	23/10/19

Technical Framework & Key Data

Software-Provider: Within Unlimited, Inc
Software-Developer: Within Unlimited, **Inc.**
Version of app :5.6.824

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☒ HTC Vive Pro
- ☒ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☒ **Oculus Rift**
- ☐ Oculus Quest
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☒ PlayStation VR
- ☐ Dell Visor
- ☒ Other: Gear VR, Valve Index, Windows Mixed R

Compatible operating systems

- ☒ iOS Version: 9.0 and later
- ☒ Android Version: 4.4 and later
- ☒ Other: Windows 7 and later

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian
- ☒ Other: Some content in Russian and Spanish.

Learning Content

Award-winning VR documentaries, animation, music videos, horror, etc. Photo-real people & places: everything is captured with cameras or rendered CGI (=Computer Generated Imagery).

Learning Outcomes

As indicated above, you can choose from over a hundred high quality film experiences through which you can achieve various learning outcomes. One of them is the CNN documentary "Toro Bravo".

Knowledge

The adult learners will be able to:

- Explain what the running of the bulls is
- Explain what the fiestas of Pamplona are, with Toros Bravos (bulls) etc.
- Describe what happens in Pamplona

Skills

The adult learners will be able to:

- Identify the different participants or characters of the running of the bulls: lads, bulls, bullocks, the keepers…
- Identify a bullring, the bullfighters, the public, the horses,

Competences

The adult learners will be able to:

- To locate, identify and differentiate the different participants of Pamplona's fiesta and their relationship with the bull and the ceremony.

Activities provided	Users can choose from the various contents of the VR application at the moment, divided into New Releases, Horror, Documentaries, Animation, Experimental, Music, Archives…
Added value for low-skilled/-qualified adults	The VR application "Within" is beneficial when working with low-skilled adult learners as it provides VR displays of high-quality content that facilitate their understanding and learning by educating and informing them about current issues, as well as other historical, visual and artistic facts etc.
SWOT analysis	• User-friendliness 1 ☐ 2 ☐ 3 ☐ 4■ • Pedagogic orientation and standards 1 ☐ 2 ☐ 3 ■ 4☐ • Applicability level 1 ☐ 2 ☐ 3 ■ 4☐ • Gamification level 1 ■ 2 ☐ 3 ☐ 4☐ **1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• The contents are varied. • They are relatively short in viewing time and well-focused on the information. • Very good quality of all contents overall	• Can't interact too much with the application • Some of the contents are very short in duration • The quality of some content is lower than others

OPPORTUNITIES	THREATS
• It allows a quick understanding of some of the topics covered • It is very easy to use • Many of the contents serve to generate opinion and debate	• You may have just seen the content of some topics that are not very broad and have to resort to another VR to expand. • It has virtually no playful activity or game. • Some topics must be prepared in advance because of their difficulty in summarizing in so few minutes.

Ideal application /utilization

- ***Context of ideal application***

It is interesting to apply it to generate broad or specific knowledge of various current topics

- ***Instructions for preparation***
  - You have to choose a topic or content which you want to display.
  - Specific instructions and didactic materials shall be given on the content in advance.
  - Provide and use ergonomic and suitable chairs if possible

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	• ***Instructions for mentoring*** You must work on the contents beforehand to be able to deepen, guide and advise the learners. Many of the contents could generate later a work or debate or sharing after the VR application. • ***Do's and don'ts*** - The application can be an ideal complement to work on a specific topic. - Learners can be given the opportunity to propose a topic to be debated or discussed in greater depth after using the application. - Take into account learners with certain sensitivities.

VR Application Profile	
Name of VR Application	International Space Station Tour VR
Category	Space
Date of processing:	27/9/2019
Technical Framework & Key Data	**Software-Provider:** Microsoft Store **Software-Developer:** The House of Fables Robaszyński-Janiec sp.j. **Version of app:** v1.01 **Compatible VR hardware systems:** ☐ Google Cardboard ☐ Oculus Rift ☐ Google Daydream View ☒ Oculus Quest ☐ Lenovo Mirage Solo ☐ Samsung Gear VR ☐ Lenovo Explorer ☐ Samsung Odyssey ☐ HTC Vive Pro ☐ PlayStation VR ☐ HTC Vive ☐ Dell Visor ☐ Acer AH 101 ☒ Other: ACER OJO500 ☐ Oculus Go **Compatible operating systems** ☐ iOS Version:…… ☐ Android Version:…… ☒ Other: WINDOWS Version: Windows 10 version 10240.0 or higher **Languages available** ☒ English ☐ Italian ☐ Spanish ☐ German
Learning Content	Educational tour of the ISS space station. Incredible 360° technology allows you to feel like an astronaut.

Learning Outcomes	**Knowledge** *The adult learners will be able to:* • …recall the functions of Space Station • …recognize physical laws **Skills** *The adult learners will be able to:* • …navigate through a VR environment with the use of sight and hand motion **Competences** *The adult learners will be able to:* • …convince of the added value of the ISS as if they were personally there
Activities provided	Moving between 8 modules you will uncover 40 key areas of the space station that serve as the living quarters and science laboratory for an international crew of astronauts and cosmonauts. Gain an insider's view of what it is like to live and work onboard the longest, continually inhabited space station to orbit Earth.

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Added value for low-skilled/-qualified adults

The user of this app can virtually join the European Space Agency (ESA) astronaut Samantha Cristoforetti having the feeling of being on board the International Space Station. Guided by the record holder for the longest uninterrupted space flight for a European astronaut, the low-skilled/-qualified adult will learn, without having any specific notion, to know the internal mechanisms of the International Space Station. In this context, the app might provide a much more engaging and motivating way to learn than traditional methods ever could.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ☐	4■
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ☐	4■
• Applicability level	1 ☐	2 ☐	3 ☐	4■
• Gamification level	1 ☐	2 ☐	3 ☐	4■

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• …improves learning • …improves the spatial visualization capabilities of astronomical figures • …stimulates critical thinking	• …dependence on the hardware platform • …discontinuous updates • …difficulty finding qualified teaching staff

OPPORTUNITIES	THREATS
• …software creation for many application fields • …links between different devices • …insert elements of AR	• …potential privacy problems • …any technical problems or delays in the application development phase • …failure to reach the required level of experience

Ideal application /utilization

- ***Context of ideal application***

Astronomy and physical laws training.

- ***Instructions for preparation***

It is very important for the positive outcome of the activity to prepare the virtual reality laboratory in advance. Each personal computer with the connected VR viewer must have all the management software (operating system, drivers) updated. The display must be perfectly calibrated.
The International Space Station Tour VR software will need to be installed as a system administrator and the launcher icon will be available on the desktop. The learner will not in any way be able to change all the system settings.

- ***Instructions for mentoring***

The instructor should explain the astronomy and physical laws concept and give a graphic representation of it on the blackboard through a lecture. The instructor will explain how through virtual reality it will be possible to see in 3D what is shown on the blackboard.

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	The adult educator will be able to intervene immediately where there are problems of a technical or learning nature. The adult educator must have prepared a small guide to explain to the learner all the steps of the activity to be performed with the viewer and the International Space Station Tour VR software. At the end of the activity a questionnaire will be given to assess the activity performed. • ***Do's and don'ts*** Due to small delays (latencies) and small inaccuracies of the gyroscope it is good to move slowly and alternate the virtual immersion activity with pauses by removing the viewer.

VR Application Profile	
Name of VR Application	BBC Home – A VR Spacewalk
Category	Space
Date of processing:	27/09/2019

Technical Framework & Key Data

Software-Provider: BBC
Software-Developer: BBC Media Applications Technologies Limited
Version of app: 1.4

Compatible VR hardware systems:

- ☐ Google Cardboard
- ☐ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☒ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☒ **Oculus Rift**
- ☐ Oculus Quest
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor
- ☒ Other: Valve Index

Compatible operating systems

- ☐ iOS Version: .....
- ☐ Android Version: .....
- ☒ Other: Windows Version: 7 or higher

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content

Inspired by the NASA training programs, the Spacewalk enables learners to embark on a spacewalk 250 miles above the Earth's surface, something only 217 people have ever done for real. They are tasked with making a repair on the outside of the International Space Station, before being confronted with a terrifying emergency situation.[2]

In general, the learning content is minimal but does include:

- Basic knowledge of a spacewalk
- Understanding and following commands
- Independent thinking in time-sensitive / dangerous situations
- Critical thinking and situational analysis

Learning Outcomes

Knowledge

The adult learners will be able to:

- Identify some of the core concepts and process of learning through use of VR experiences
- Recall some basic activities implemented by NASA during a spacewalk
- Relate to the importance of science and technology in spaceflight
- Identify the physical and emotional requirements of an astronaut during a spacewalk
- Recognise the responsibility and pressure of completing a defined task within a short timeframe

[2] https://www.bbc.co.uk/mediacentre/latestnews/2017/vr-spacewalk

	Skills The adult learners will be able to: • Complete simple steps and task required to use the application and complete the spacewalk • Use the VR equipment effectively in order to complete assigned tasks • Analyse the situation and improvise solution to be taken in order to complete defined tasks, both expected and unexpected • Identify and implement effective strategies to complete the tasks under the pressures of both stress and time
	Competences *The adult learners will be able to:* • Demonstrate the ability to undertake and complete an intensive and immersive VR experience • Demonstrate the ability to follow simple instructions and complete tasks as directed • Demonstrate the ability to independently use the equipment required to complete the task • Demonstrate the ability to work under pressure and within time-restricted deadlines

Activities provided	The learners are tasked with making a repair on the outside of the International Space Station, before being confronted with a terrifying emergency situation.[3]
Added value for low-skilled/-qualified adults	Limited added value to low-skilled/qualified adults, however, the following do apply: • Clear explanation of the tasks to be completed with narrative supports throughout the learning process; this approach supports learners in the belief that they can succeed in the completion of tasks despite obstacles faced • The learning process is straight forward with a set of simple tasks to be accomplished, with the possibility to repeat these processes and practice the tasks until they are accomplished successfully • Short and interesting learning experience; ideal for those unfamiliar with VR experiences • The game gives learners space for independent learning and make them feel "responsible" for their own actions

[3] https://www.bbc.co.uk/mediacentre/latestnews/2017/vr-spacewalk

SWOT analysis

• User-friendliness	1 ☐	2 ■	3 ☐	4☐
• Pedagogic orientation and standards	1 ■	2 ☐	3 ☐	4☐
• Applicability level	1 ☐	2 ■	3 ☐	4☐
• Gamification level	1 ☐	2 ■	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Interesting and immersive insight into basic activities of an astronaut on the ISS, the voice guidance and narratives are of a high quality • Game is straightforward and controls are easy to master, even as a novice. • Suitable for all types of learners, even those unfamiliar with gaming	• Intense VR experience (even on basic settings) which can present challenges even to those familiar with VR. • Only available in one language • App is limited in scope and is very linear in nature, it doesn't include any specific/practical learning content that could be practically utilised by the learners
OPPORTUNITIES	**THREATS**
• Definite capacity to expand learning content • Graphics could be updated to increase engagement	• Idea is easy to replicate – other 'Spacewalk' apps already available through Oculus store. • App is no longer supported as such no further updates will be released.

Ideal application /utilization

- ***Context of ideal application***
  - Well suited as a basic introduction to learning through VR
  - Could be used as a taster/introduction to STEM subjects and as an introduction to space exploration
  - Can be used to introduce the importance of technology and science in a practical setting
  - Can be used as an assistive tool for users to overcome irrational fears (heights, claustrophobia etc.)
- ***Instructions for preparation***
  - Ensure that an adequate amount of space is available to move around
  - It may be advisable to create a dedicated learning space which allows learners to feel safe and to fully engage with an immersive VR experience
  - The option to play the game while seated could be offered to learners. While this may lessen the impact or the VR experience it can assist in overcoming some of the drawback of an intense VR experience.
- ***Instructions for tutoring***
  - The tutor should advise the learners about the 2 options of intensity and level of difficulty. It would be advisable that learners be warned that the experience can be uncomfortable regardless of what level of intensity is chosen.
  - The tutor should stay in the room and support the learner in case of there is any additional help required.

	- The app can be viewed by all learners while it is running, it would be advisable to allow learners to observe the tutor undertaking the basics first. - The tutor should request feedback from learners in order to properly assess the benefits/impacts of the app in addition to what other VR resources would be the most suitable to support the learner's further learning. • ***Do's and don'ts*** - Highly advisable that learners are properly briefed on the use of the VR equipment in order to make the experience as comfortable as possible. - Ensure that headset is fitted correctly and that the learners vision is not blurred/impaired as this can exacerbate the effects of motion sickness/nauseous and will lead to a poor outcome for the learner, particularly in the context of using VR again in the future.

VR Application Profile	
Name of VR Application	Virtual Vocab: Spanish in VR
Category	Language Learning
Date of processing:	29/10/2019

Technical Framework & Key Data

Software-Provider: Google
Software-Developer: dragonkoiVR
Version of app: 1.0

Compatible VR hardware systems:

☒ Google Cardboard	☐ Oculus Rift
☒ Google Daydream View	☐ Oculus Quest
☒ **Lenovo Mirage Solo**	☒ Samsung Gear VR
☒ Lenovo Explorer	☐ Samsung Odyssey
☒ HTC Vive Pro	☐ PlayStation VR
☐ HTC Vive	☐ Dell Visor
☐ Acer AH 101	
☐ Oculus Go	

Compatible operating systems

☐ iOS Version:.....
☒ Android Version: Minimum 4.4

Languages available

☒ English	☐ Italian
☒ Spanish	
☐ German	

Learning Content

Spanish Vocabulary

Learning Outcomes

Knowledge

The adult learners will be able to:

- Explain the meaning of around 15 basic Spanish words in the context of a school and a house

Skills

The adult learners will be able to:

- Pronounce those Spanish words since they can be listened to in the app in Spanish

Competences

The adult learners will be able to:

- Study independently and with initiative since the selection of different furniture is necessary in the app to learn about the meaning of the word in Spanish

Activities provided

Virtually go through a school and a house. By looking at certain objects such as a TV, a chair or a painting and clicking on them, one will hear the Spanish word and one will be able to read the Spanish and English word at the same time.

Added value for low-skilled/-qualified adults

Listening to new vocabulary and seeing the objects while hearing the words helps low-skilled adults to learn a new language more easily with the connection sight and hearing. The small number of new words to learn in Spanish in the app can also help the target group to focus and not be overwhelmed since the object can also be clicked on as often as needed.

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SWOT analysis

• User-friendliness	1 ■	2 ☐	3 ☐	4☐
• Pedagogic orientation and standards	1 ☐	2 ■	3 ☐	4☐
• Applicability level	1 ■	2 ☐	3 ☐	4☐
• Gamification level	1 ■	2 ☐	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Hearing the vocabulary • Seeing the object while getting to know the Spanish words for it • Interactive learning environment	• Very limited vocabulary offered (Only two settings (school and house) with a few with a few objects) • Very artificial set-up (rooms do not look real) • Voice has slight American accent while pronouncing the words
OPPORTUNITIES	**THREATS**
• Connecting visual and listening skills • Fun while learning new words	• No added value for people who want to get to know vocabulary from different settings • Missing the feeling of "virtual reality" might lead to less interest in the app • Learning vocabulary with a "wrong" pronunciation"

Ideal application /utilization

- ***Context of ideal application***

In a language learning environment for low-skilled individuals-

- ***Instructions for preparation***

One must look at the different object and click on it, to receive audio and written words.

- ***Instructions for mentoring***

After the use of the App, review which words were learned.

- ***Do's and don'ts***

Do not use the App for people who already know Spanish since there is no option to go to different levels and the amount of new words might be quite small. Highly qualified people might not get a benefit from the app.

VR Application Profile

Name of VR Application	**Google Expeditions**
Category	**World/Sites**
Date of processing:	26/09/2019

Technical Framework & Key Data

Software-Provider: Google LLC
Software-Developer: Google Commerce Ltd.
Version of app: 2.3.190826066

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ Google Daydream View
- ☒ **Lenovo Mirage Solo**
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☒ Oculus Rift
- ☐ Oculus Quest
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☒ iOS Version: 8.0 or later
- ☒ Android Version: Minimum 4.4

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content

Expeditions to real places in the world, historic events, space or the body.

Learning Outcomes

Knowledge

The adult learners will be able to:

- Recall information of animals, places, nature and processes

Skills

The adult learners will be able to:

- Navigate through a VR environment with the use of sight and hand motion
- Implement desk-research (for expeditions quiz) and self-learning (only in guide modus) independently

Competences

The adult learners will be able to:

- Prioritize learning content through the choice of an area to explore
- Learn more independently as the app fosters this in its setup with the need to self-explore an environment

Activities provided

Choose a place to explore, e.g. an underwater area. Explore different scenes and learn through an audio guide or written information about the place, flora, fauna, natural phenomenons, the body etc. by pointing on different elements in the space.

All tours can be managed and instructed by a tour guide by use of a tablet – ideal for teaching and learning in classes.

An Expeditions quiz can also be taken.

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Added value for low-skilled/-qualified adults	Explore places which are otherwise not physically reachable and gain a visual impression of them. Receive condensed information about the area also through an audio guide. Especially low-skilled adults can profit from the combination of exploration by sight and receiving information through audio.
SWOT analysis	• User-friendliness 1 ☐ 2 ☐ 3 ■ 4☐ • Pedagogic orientation and standards 1 ☐ 2 ☐ 3 ■ 4☐ • Applicability level 1 ☐ 2 ☐ 3 ■ 4☐ • Gamification level 1 ■ 2 ☐ 3 ☐ 4☐ **1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Exploration of places that are normally not reachable: e.g. space, underwater, the inside of the body • Detailed information on the place, things and persons • Possibility to look around and choose places of interest	• No movement possible in the explored space • No possibility to zoom in on points of interest • No moving object/people in the space • Expeditions-Quiz: Users need quite some knowledge as answers to some questions cannot necessarily be deduced from expeditions (picture) content

OPPORTUNITIES	THREATS
• Get a vision of places which cannot be explored physically • Gain knowledge of a specific place. • Explore places according to one's interest.	• Exploration is limited on a few defined areas • Points of interest cannot be explored in detail • Limit on the authenticity/feeling of reality of a place

Ideal application /utilization

- ***Context of ideal application***

Medical training; history, geography, biology, physics education contexts

- ***Instructions for preparation***

Introduction to the topic is beneficial. It might be beneficial to consider the learning setting and choose a few destinations to explore. Since there is wide variety of places, in a medical context, the exploration should possibly be limited to the human body, etc.

- ***Instructions for mentoring***

The educator can encourage to look around and find places of interest where additional information is provided.

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VR Application Profile

Name of VR Application	**Google Earth VR**
Category	**World/sites**
Date of processing:	28/10/19

Technical Framework & Key Data

Software-Provider: Google
Software-Developer: Google
Version of app: 1.5

Compatible VR hardware systems:

☐ Google Cardboard	☒ **Oculus Rift**
☐ Google Daydream View	☐ Oculus Quest
☐ Lenovo Mirage Solo	☐ Samsung Gear VR
☐ Lenovo Explorer	☐ Samsung Odyssey
☒ HTC Vive Pro	☐ PlayStation VR
☒ HTC Vive	☐ Dell Visor
☐ Acer AH 101	☒ Other: Valve Index
☐ Oculus Go	

Compatible operating systems

☐ iOS Version:.....
☐ Android Version:.....
☒ Other:... Windows 8.1 and later

Languages available

☒ English	☐ Italian
☐ Spanish	☐ German

Learning Content

Physical and Urban Geography Contents

Learning Outcomes

Knowledge

The adult learners will be able to:

- Explain what the physical geography of a particular place looks like
- List the different geographical features of a particular area
- Explain what the World Heritage Sites are

Skills

The adult learners will be able to:

- Locate various geographic accidents in a specific area of the Earth
- Identify the most outstanding monuments in each country
- Locate the most important rivers in the world

Competences

The adult learners will be able to:

- Determine the different existing landscapes on the earth or in a particular area and relate it to the climate in that same area

Activities provided

Google Earth allows users to explore the VR world from totally new perspectives in virtual reality. The app allows to stroll the streets of Tokyo, soar over the Grand Canyon, or walk around the Eiffel Tower. This virtual reality app lets users see the world's cities, landmarks, natural and wonders. Users can fly over a city, stand at the top of the highest peaks, and even soar into space. Cinematic Earth Comes with VR tours and hand-picked destinations that send users to the Amazon River, the Manhattan skyline, the Grand Canyon, the Swiss Alps, and more.

Added value for low-skilled/-qualified adults

The VR application "Google Earth" can be very interesting and beneficial when it comes to providing knowledge about Physical-Urban or Social Geography to low-skilled/qualified adult learners. Especially those who have difficulties with traditional learning methods, as the application provides an extraordinary perspective of concepts and content of Physical-Urban Geography. It allows learners to immerse themselves in the world by exploring it at their own pace and, consequently, can improve the understanding of Geography in general.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ☐	4■
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ☐	4■
• Applicability level	1 ☐	2 ☐	3 ☐	4■
• Gamification level	1 ■	2 ☐	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Very good quality and development of the application • It is very easy to use • It gives users an extraordinary perspective of the contents	• Information for some areas not updated • Users can see people and coordinates. Privacy can generate debate • It doesn't reach everywhere.

OPPORTUNITIES	THREATS
• It can help to know more about physical geography • It allows to see the cities as we have never seen them before. With great clarity • It allows a quick understanding of the topics covered.	• Not yet available on many VR glasses platforms • You have to have some previous knowledge of geography so you don't get lost • Lack of interactivity between user and application

Ideal application /utilization

- ***Context of ideal application***

The Google Earth VR application is ideal for teaching and learning Physical-Urban and Social Geography, providing learners with knowledge and data that will improve their understanding of the subject in general and other more specific issues.

- ***Instructions for preparation***

The teacher or instructor must previously select what to work on and visualize, in order to better adapt to the content.

Previously, didactic and pedagogical materials should be provided to initiate the subject.

The application is simple and intuitive and does not need much previous explanation.
Ergonomic and adequate chairs should be used, as well as enough space to visualize the application.

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	• ***Instructions for mentoring*** You must work on the contents beforehand to be able to deeper guide and advise the learners. A possible task for the learners could include choosing an ancient city and exploring it and seeing the different expansions it has undergone throughout its history, differentiating the typology and urban organization of it. Many Geographic contents can generate later a work or debate or discussion after using the VR application • ***Do's and don'ts*** The application can be an ideal complement to work on a specific topic. Thinking mainly in the Physical and Urban Geography Learners can be given the opportunity to propose other searches at a later session after using the application. After the session, they could solve a common problem, debate, ask questions, provide documentation, etc. Take into account learners with certain sensibilities because the application requires movement. As well as situations with a certain impact

VR Application Profile

Name of VR Application	**Wonders of the World**
Category	**World/Sites**
Date of processing:	02/10/2019

Technical Framework & Key Data

Software-Provider: MATTERVR LLC
Software-Developer: MATTERVR LLC
Version of app: 1.0.12

Compatible VR hardware systems:

☐ Google Cardboard	☐ Oculus Rift
☐ Google Daydream View	☐ Oculus Quest
☐ Lenovo Mirage Solo	☒ **Samsung Gear VR**
☐ Lenovo Explorer	☐ Samsung Odyssey
☐ HTC Vive Pro	☐ PlayStation VR
☐ HTC Vive	☐ Dell Visor
☐ Acer AH 101	
☒ Oculus Go	

Compatible operating systems

☐ iOS Version:
☒ Android Version: 5.0 (with Google VR Services) or higher

Languages available

☒ English	☐ Italian
☐ Spanish	
☐ German	

Learning Content

In Wonders of the world learners will visit a small number of the ancient wonders including the Colossus of Rhodes, Taj Mahal and Machu Picchu. At each of these sites they can learn about its history and its historical significance to the local area and the world through an immersive and interactive experience.

Learning Outcomes

Knowledge

The adult learners will be able to:

- Identify core concepts and process of learning through a VR experience
- Connect the significance of historical events/buildings to the present day
- Recognise of what day-to-day life was like for individuals living at the time

Skills

The adult learners will be able to:

- Complete simple steps and task required to use the application and complete the tasks assigned
- Use the VR equipment effectively in order to complete assigned tasks
- Solve simple puzzles/games to obtain information relevant to the completion of tasks
- Navigate in an open world environment
- Navigate through the app including working the controls and handling interactions with NPC's (non-player characters)

Competences

The adult learners will be able to:

- Demonstrate the ability to undertake and complete an engaging VR experience
- Demonstrate the ability to follow instructions and complete tasks as required
- Demonstrate the ability to extract and sort information relevant to the completing of tasks
- Demonstrate the capacity to think critically about a number of different situations and to apply information gain in the correct context

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Activities provided	The learning outcomes will be achieved by: • Visiting the historical locations‘ first hand’ • Interacting with historical individuals throughout the game • Completing puzzles/games/tasks • Taking on the role of an individual from each time period and immersing themselves in the world
Added value for low-skilled/-qualified adults	While there is limited added value for low-skilled/qualified adults, the following do assist in making the application easy to engage with for all users: • Clear instructions provided throughout • The application is particularly visual in nature, offering user friendly graphics which would benefit those not used to interactive experiences or gaming • Application is learning oriented but those so through gamification rather than through traditional learning techniques • The learning process can be implemented according to the learners’ skills and abilities, allowing for engagement with a wide audience

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ☐	4■
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ■	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ■	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• ‘Open World’ elements encourage exploration and independent learning • Not overly immersive which can alleviate any potential issues with VR/motion sickness • Learning provided for each site is interesting and encourages the user to learn	• Only available on limited number of devices • Limited scope in learning further about each civilization • Only available in one language
OPPORTUNITIES	**THREATS**
• Could be expanded significantly, taking in other wonders • Could be ported to other operating systems or devices • Learning experience could be easily broadened with more interactivity with the environment/NPC’s	• Limited in scope, may not be of much use for experienced learners • App is now two years old, unlikely to be supported/receive further updates • Better more interactive experiences offer by other apps including Google Earth VR

Ideal application /utilization	• ***Context of ideal application*** - The application can be utilised in education to further understanding about local history and the some of the most important historical places and civilizations - It can also be an effective way of introducing the learners to an interactive VR experience - Easy and user-friendly way of teaching about historical sites • ***Instructions for preparation*** - The tutor should have a good working knowledge of the app and the learning content to be able to objectively set the learning outcomes for each learner and also to be able to support and advise learners throughout the experience - While external movement will be limited it is still advisable to ensure that learners have an appropriate amount of space to move around the environment • ***Instructions for tutoring*** - The tutor should advise the learners about immersive VR experiences in general, although this app is suitable for beginners or less experienced learners - The tutor is advised to be available to the learner to offer support in case of any obstacles or to further explain the learning content / tasks - The app can be viewed by all learners while it is running, it would be advisable to allow learners to observe the tutor undertaking the basics first.
	- The tutor should request feedback from learners in order to properly assess the benefits/impacts of the app in addition to what other VR resources would be the most suitable to support the learner's further learning. • ***Do's and don'ts*** - Highly advisable that learners are properly briefed on the use of the VR equipment in order to make the experience as comfortable as possible.

VR Application Profile

Name of VR Application	**Nanome - The future of molecular design and exploration**
Category	**Chemistry**
Date of processing:	27/9/2019

Technical Framework & Key Data

Software-Provider: Nanome on STEAM
Software-Developer: Nanome, Inc.
Version of app: 1.13.

Compatible VR hardware systems:

- ☐ Google Cardboard
- ☐ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☐ Oculus Rift
- ☐ Oculus Quest
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor
- ☒ Other: ACER OJO500

Compatible operating systems

- ☐ iOS Version:.....
- ☐ Android Version:.....
- ☒ Other: WINDOWS Version: 7 and upper

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content

Chemistry and Nanotechnology (chemicals & proteins)

Learning Outcomes

Knowledge

The adult learners will be able to:

- …summarize the knowledge gained with the help of atomic, molecular and protein visualization

Skills

The adult learners will be able to:

- …create more engaging presentations
- …host more effective cross site design meetings
- …foster structural understanding across teams
- …customize the app's virtual workspace and save VR sessions for future presenting or collaboration
- …use the app to collaborate in real time from anywhere

Competences

The adult learners will be able to:

- …use the app successfully to go through rapid idea generation & validation within the fields of chemistry and nanotechnology
- …integrate the app successfully into current research workflows in these fields

Activities provided

Activities provided by the app include:

- Loading structures from RCSB Protein Databank
- Hosting public workspaces
- Joining public workspaces
- Basic molecular views
- Basic editing features
- Loading up to 2 molecules at a time

Added value for low-skilled/-qualified adults	With "Nanome" low-skilled/-qualified adult can learn how to manipulate chemicals and proteins with their hands, explore chemistry and nanotechnology from a completely new perspective, collaborate with others, learn and create like never before.
SWOT analysis	• User-friendliness 1 ☐ 2 ☐ 3 ■ 4☐ • Pedagogic orientation and standards 1 ☐ 2 ☐ 3 ■ 4☐ • Applicability level 1 ☐ 2 ☐ 3 ■ 4☐ • Gamification level 1 ☐ 2 ■ 3 ☐ 4☐ **1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• …improve learning • …improves the spatial visualization in Duplicate, Split, Color molecules • …stimulates critical thinking	• …dependence on the hardware platform • …discontinuous updates • …difficulty finding qualified teaching staff
OPPORTUNITIES	**THREATS**
• …software creation for many application fields • …links between different devices • …insert elements of AR	• …potential privacy problems • …any technical problems or delays in the application development phase • …failure to reach the required level of experience

Ideal application /utilization

- ***Context of ideal application***

Mathematical and geometry training.

- ***Instructions for preparation***

It is very important for the positive outcome of the activity to prepare the virtual reality laboratory in advance. Each personal computer with the connected VR viewer must have all the management software (operating system, drivers) updated. The display must be perfectly calibrated.
The Nanome software will need to be installed as a system administrator and the launcher icon will be available on the desktop. The learner will not in any way be able to change all the system settings.

- ***Instructions for mentoring***

The instructor should explain as import molecules from public databases, analyze and explore structures and give a graphic representation of it on the blackboard through a lecture. The instructor will explain how through virtual reality it will be possible to see in 3D what is shown on the blackboard.
The adult educator will be able to intervene immediately where there are problems of a technical or learning nature.
The adult educator must have prepared a small guide to explain to the learner all the steps of the activity to be performed with the viewer and the Nanome software.
At the end of the activity a questionnaire will be given to assess the activity performed.

	• ***Do's and don'ts*** Due to small delays (latencies) and small inaccuracies of the gyroscope it is good to move slowly and alternate the virtual immersion activity with pauses by removing the viewer.

VR Application Profile

Name of VR Application	**Google Arts & Culture**
Category	**Virtual museum**
Date of processing:	26/09/2019

Technical Framework & Key Data

Software-Provider: Google LLC
Software-Developer: Google Commerce Ltd.
Version of app: 7.2.16

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ Google Daydream View
- ☒ **Lenovo Mirage Solo**
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☒ Oculus Rift
- ☐ Oculus Quest
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☒ iOS Version: Minimum 10.0
- ☒ Android Version: Minimum 5.0

Languages available

- ☒ English
- ☐ Spanish
- ☒ German
- ☐ Italian

Learning Content

Arts & Culture (Paintings specifically)

Learning Outcomes

Knowledge

The adult learners will be able to:

- Know and be able to differentiate between at least 5 famous painters and their paintings
- Recall background information about the era, stories and motif of a painting and being able to differentiate between them

Skills

The adult learners will be able to:

- Navigate through a VR environment with the use of sight and hand motion

Competences

The adult learners will be able to:

- Prioritize interests through the choice of a gallery
- Demonstrate holistic thinking by connecting knowledge about paintings and related era and culture.
- Show more open-mindedness towards different cultures and backgrounds.

Activities provided

Choose from a set of art galleries with different topics. Pick a gallery and find various paintings to explore. For each painting there is an audio guide with information regarding the painter, description of the painting, era, pictorial motif and background story. One can also additionally find an informative text for each painting and there is the possibility to explore the painting visually.

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Added value for low-skilled/-qualified adults

- Collection of interesting paintings and focus on important background information such as eras and cultural characteristics. The pre-selection of the content and the assignment to different topics enables low-skilled adults to navigate through the information easily.
- The information is given through an audio guide so that there is no necessity for high level reading skills.
- Explore paintings visually without having to physically be at a museum, etc.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ■	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ■	2 ☐	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Paintings from all over the world • Clear arrangement through different topics • Background information of paintings	• Limited information for each painting • Not very many interactive elements • limited amount of paintings to explore

OPPORTUNITIES	THREATS
• Possibility to choose galleries of interest • Learn about famous paintings and their stories and thereby develop an understanding of cultures and eras • Explore paintings visually	• Individuals with background knowledge might not be provided with further information • Videos or guided tours might be more interesting • Further research must be done elsewhere

Ideal application /utilization

- ***Context of ideal application***

In art or history education contexts or museums (to provide a wider range of possible paintings to explore)

- ***Instructions for preparation***

No necessary instructions for preparation. The App is quite intuitive and simple in structure. You can choose a gallery topic and then painting in which you are interested.

- ***Instructions for mentoring***

Short introduction regarding the topics of the paintings and what to expect.
A possible task for the learner could include to choose one gallery and explore the topic, different paintings and backgrounds in detail to gain a thorough understanding instead of trying to gather information about every topic/gallery at once.

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	• ***Do's and don'ts*** Give a short introduction regarding the structure of the app in advance. Discuss the different exploration paths of the learner, e.g. which galleries were chosen, which paintings were explored, and which information was the most relevant and interesting?

VR Application Profile

Name of VR Application	Sketchfab VR
Category	Virtual Museum

Date of processing: 24/10/19

Technical Framework & Key Data

Software-Provider: sketchfab
Software-Developer: sketchfab
Version of app: 1.5

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☒ HTC Vive Pro
- ☒ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☒ **Oculus Rift**
- ☐ Oculus Quest
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor
- ☒ Other: Microsoft Mixed R.

Compatible operating systems

- ☒ iOS Version:9.0 and later
- ☒ Android Version: 4.4 and later
- ☒ Other: Windows 8 and later

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content

Platform to publish and explore in 3D and VR:
Visits to museums, nature, sites, science, animals, games

Learning Outcomes

This application is interesting for learning results related to the creation of 3D models and sharing them later. It is also very useful for learning about museums and works of art. We will focus on the 3D models "Vincent van Gogh 3D models":

Knowledge

The adult learners will be able to:

- Describe how Vincent van Gogh lived and where
- Name objects from his everyday life and his paintings

Skills

The adult learners will be able to:

- Locate the works of Vincent van Gogh
- Differentiate between the works of this author and others
- Identify Vincent Van Gogh's way of life, through his room

Competences

The adult learners will be able to:

- Determine the importance of Vincent van Gogh in the post-Impressionist art movement, the characteristics of the movement, and link both.

Activities provided	The application allows users to teleport to Rome, hold a beating heart or walk among dinosaurs. Sketchfab VR allows users to discover a showcase of explorations through remote places, fantastic creatures, game worlds, cultural heritage, science and other wonders. Sketchfab is the platform to publish and explore a million things in 3D and VR. With a community of over half a million creators, it is the largest library of VR content in the world generated by users.
Added value for low-skilled/-qualified adults	The "Skechfab" application can be beneficial for low-skilled and low-qualified adult learners. The creativity of learners will be encouraged through the use of 3D models, either by creating or analyzing them. Furthermore, through the virtual visits to the more than 600 museums contained in the application.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ■	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ☐	3 ■	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Sketchfab is a social platform that allows you to visualize 3D models quickly and easily. • It allows anyone to see, touch and feel the cultural heritage in a completely innovative way and and with all types of devices. • One of the key pillars of Sketchfab - beyond video games or engineering - is cultural heritage. In fact, over 600 institutions and museums around the world already have virtual collections on the platform	• The 'look down' menu is quite intrusive and makes it difficult to enjoy anything that has a floor or content underneath you. This has to go. I'd rather have a button pressed that would make the menu appear instead. • The music is very canned and has a hockey feel to it. It moves away from the content you're experiencing. • There has to be a way to freely rotate the model in front of you in addition to the pre-positioned views. No one is going to have enough space to walk around completely

	OPPORTUNITIES	THREATS
	• It can help to know more in depth concrete works of art • Can help foster creativity by making your own 3D models • The exchange and creation of 3D models is continuous and increases the content repository	• Some of the applications of 3D Models are paid • Learners who don't like art can be distracted • The excess of 3D models offered does not allow perhaps to concretize a topic and we will only visualize one after another

Ideal application /utilization

- ***Context of ideal application***

It is interesting especially for learning and getting knowledge of cultural heritage and it is recommended for the promotion of creative 3D models.

- ***Instructions for preparation***

The teacher or instructor must previously select what to work on and visualize, in order to better adapt to the content.

Previously, didactic and pedagogical materials should be provided to initiate the subject.

Ergonomic and adequate chairs should be used, as well as enough space because this application needs a lot of space for movement.

- ***Instructions for mentoring***

You must work on the contents beforehand to be able to deepen, guide and advise the learners.

Many of the contents, especially the cultural ones, could be the subject of a later work or debate or sharing after the VR application.

- ***Do's and don'ts***

The application can be the ideal complement to work on a specific topic. Thinking mainly in the area of Art and Culture

It can be facilitated to the learners and propose them to create some 3D model after using the application

Take into account learners with certain sensitivities since the application requires movement.

VR Application Profile

Name of VR Application	**Notes on Blindness**
Category	**Visual impairment**
Date of processing:	30/10/2019

Technical Framework & Key Data

Software-Provider: ARTE Experience
Software-Developer: ARTE Experience
Version of app: 4.5

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☐ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☒ Oculus Go
- ☒ Oculus Rift
- ☒ **Oculus Quest**
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☒ iOS Version: 1.1
- ☒ Android Version: 20

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian
- ☒ Other: French

Learning Content

A virtual reality journey into a world beyond sight.

Specifically, the protagonist, after decades of steady deterioration, he became totally blind.

To help him make sense of the upheaval in his life, he began documenting his experiences on audio cassette.

These original diary recordings form the basis of this six-part VR experience, an interactive non-fiction using new forms of storytelling and gameplay mechanics to explore his cognitive and emotional experience of blindness.

Learning Outcomes

Knowledge

The adult learners will be able to:

- recall the major differences of needs and perception of the world of a blind and a sighted person according to this app

Skills

The adult learners will be able to:

- Demonstrate empathy towards blind people

Competences

The adult learners will be able to:

- Raise awareness about disabled people and disabilities in general
- Demonstrate a positive attitude and respect towards people with disabilities
- Show respect for people with disabilities and especially for blind people

Activities provided

The application gives the opportunity to explore the protagonist‘s cognitive and emotional experience of blindness through diary recordings. Each chapter addresses a memory, a moment and a specific location from the protagonist’s audio diary. Through the application, you get a visual spectacle of sound and how it affects the environment around you for someone that is blind.

Added value for low-skilled/-qualified adults

This application has a low floor- meaning that it can be used by anyone without any difficulty. This application does not require any interaction with the hardware, so people with no-prior knowledge can use it without knowing anything specific about VR. Users can just watch animated chapters, experience them and reflect on what they are watching.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ■	4☐
• Applicability level	1 ☐	2 ■	3 ☐	4☐
• Gamification level	1 ☐	2 ■	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Ideal for beginners using VR hardware • Available in multiple VR platforms • Available for all ages (7+)	• Only single user game mode • No flexibility in content or in navigation in content to experience the app (No buttons in the application for easy navigation to the menu) • Large size of application to download it

OPPORTUNITIES	THREATS
• the VR components of this app (especially the directional sound) really help to picture yourself as the author	• Limit in sustaining interest of users if there is no structure of what the learner is required to do (purpose)

Ideal application /utilization

- ***Context of ideal application***

This application can be used in various adult educational contexts such as in Higher Education with students of specific programs of studies (psychology, education with special needs, etc.).

This application can also be used in other trainings for adult education, dependent to the interests and backgrounds of participants.

- ***Instructions for preparation***

Internet connection is not required and it is an application can be used almost in every place- it doesn't require any specific preparation in terms of space or location. Learners are prompted to experience this application in a quiet environment.

Notes on Blindness VR is viewable with or without virtual reality headset (cardboard mode or smartphone mode).

- ***Instructions for mentoring***

Trainers may start this activity by introducing users to the world of disability and start a discussion. The application then can be watched by users individually. At the end, users are encouraged in groups to express feelings, attitudes and opinion about what they watched.

	For full user experience, please encourage users to use headphones, raise the volume and increase the luminosity of your phone. • ***Do's and don'ts*** It would be useful to start a discussion to introduce the thematic of this application, before prompting users to use it.

VR Application Profile	
Name of VR Application	Calcflow
Category	Mathematics
Date of processing:	27/9/2019

Technical Framework & Key Data

Software-Provider: Nanome on STEAM
Software-Developer: Nanome, Inc.
Version of app: 5.6.2f1.

Compatible VR hardware systems:

☐ Google Cardboard	☐ Oculus Rift
☐ Google Daydream View	☐ Oculus Quest
☐ Lenovo Mirage Solo	☐ Samsung Gear VR
☐ Lenovo Explorer	☐ Samsung Odyssey
☐ HTC Vive Pro	☐ PlayStation VR
☒ HTC Vive	☐ Dell Visor
☐ Acer AH 101	☒ Other: **ACER OJO500**
☐ Oculus Go	

Compatible operating systems

- ☐ iOS Version:.....
- ☐ Android Version:.....
- ☒ Other: WINDOWS Version: 7 and upper

Languages available

☒ English	☐ Italian
☐ Spanish	
☐ German	

Learning Content

Foundations of vector calculus

Learning Outcomes

Knowledge

The adult learners will be able to:

- …recall the foundations of vector calculus
- …recall Parameterized Functions
- …recall Integral modeling functionality

Skills

The adult learners will be able to:

- …manipulate 3D Graphs in a VR environment
- …tinker with Mathematical Modeling in a VR environment
- …edit mathematical parameters in a VR environment

Competences

The adult learners will be able to:

- …apply mathematical principals and knowledge more intuitively and confidently

Activities provided

CalcFlow is built for everyone who wants to better understand the foundations of vector calculus. With the app learners can analyze, visualize, and design vector calculus in an interactive environment.
Further, it allows teams to collaboratively solve problems in real time.

Added value for low-skilled/-qualified adults

CalcFlow allows you to study and visualize vector calculus in an interactive and accessible environment even for those with minimal skills in the subject. Exploration is much more intuitive (just move your head!) and the perfect depth information that learners perceive feels almost like an additional input channel to the brain.

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

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ■	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ■	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• …improve learning, the app helps to grasp the biggest ideas in vector calculus • …improves the spatial visualization capabilities of geometric figures • …stimulates critical thinking	• …dependence on the hardware platform • …discontinuous updates • …the app requires qualified teaching staff in vector calculus to mentor the learning process
OPPORTUNITIES	**THREATS**
• …software creation for many application fields • …links between different devices • …insert elements of AR	• …potential privacy issues such as the collection of personal information • …possible malware insertions within the application update • …failure to achieve the required learning objectives

Ideal application /utilization

- ***Context of ideal application***

Mathematical and geometry training.

- ***Instructions for preparation***

It is very important for the positive outcome of the activity to prepare the virtual reality laboratory in advance. Each personal computer with the connected VR viewer must have all the management software (operating system, drivers) updated. The display must be perfectly calibrated.
The Calcflow software will need to be installed as a system administrator and the launcher icon will be available on the desktop. The learner will not in any way be able to change all the system settings.

- ***Instructions for mentoring***

The instructor should explain the mathematical concept and give a graphic representation of it on the blackboard through a lecture. The instructor will explain how through virtual reality it will be possible to see in 3D what is shown on the blackboard.
During the use of the viewer and the application it will constantly follow the learner in analyzing the mathematical concept.
The adult educator will be able to intervene immediately where there are problems of a technical or learning nature.
The adult educator must have prepared a small guide to explain to the learner all the steps of the activity to be performed with the viewer and the Calcflow software.
At the end of the activity a questionnaire might be useful to assess the activity performed.

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	• ***Do's and don'ts*** Due to small delays (latencies) and small inaccuracies of the gyroscope it is good to move slowly and alternate the virtual immersion activity with pauses by removing the viewer.

VR Application Profile	
Name of VR Application	Oculus Venues
Category	Sport-, Music-, Social-Events
Date of processing:	30/11/2019
Technical Framework & Key Data	**Software-Provider: Oculus** **Software-Developer: Oculus** **Version of app:** 1.12.8 **Compatible VR hardware systems:** ☐ Google Cardboard ☐ Oculus Rift ☐ Google Daydream View ☒ **Oculus Quest** ☐ Lenovo Mirage Solo ☒ Samsung Gear VR ☐ Lenovo Explorer ☐ Samsung Odyssey ☐ HTC Vive Pro ☐ PlayStation VR ☐ HTC Vive ☐ Dell Visor ☐ Acer AH 101 ☒ Oculus Go **Compatible operating systems** ☐ iOS Version:…… ☒ Android Version: 1.3.9 **Languages available** ☒ English ☐ Italian ☐ Spanish ☒ Other: Japanese ☐ German
Learning Content	Opportunity to be present in several different kind of events (such as comedy shows, concerts, sporting events, in an immersive way in VR).

Learning Outcomes	**Knowledge** *n/a* **Skills** *The adult learners will be able to:* • Demonstrate improved communication and networking skills • Navigate effectively through the app to access the different "uses" of the app: 'social sharing', 'people options', 'settings' etc. to get the most out of this application **Competences** *The adult learners will be able to:* • Show social competences and handle social interactions effectively
Activities provided	This social co-viewing application allows viewers to chat with their friends as they watch events around the worlds. The application also allows multiple user interaction, which means a tutor can accompany the learner in the VR space. The application allows group interaction, which highlights the capabilities of VR. The group interaction also demonstrates much of the communication dynamics, interaction and pedagogical considerations of VR environments.
Added value for low-skilled/-qualified adults	The application is essentially a social platform rather than a learning platform but is valuable as it allows users to learn the first basic skills needed within a VR environment including, communication, navigation and group interaction.

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

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ■	4☐
• Applicability level	1 ☐	2 ☐	3 ☐	4■
• Gamification level	1 ☐	2 ☐	3 ■	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Opportunity to experience different kind of live events (sports events, comedy shows, etc), from the comfort of your own space for free, even in front seats • Amazing graphics and sense of being 'there' • Available in multiple VR platforms	• It only allows you to connect via a Facebook account to have access in application's content • It always requires internet connection • Frequent interruptions in connections with events
OPPORTUNITIES	**THREATS**
• Multiplier game mode allowing group interaction • Social platform and interactions among users who get to participate in the same venue/event-it includes social features, so users can watch videos with headset-wearing friends • Users can create their avatar representing themselves • Participating in an event which might not be able to participate in real life	• Effect of dizziness due to interruptions in the streaming when internet connection is not stable • Not always available: Need to wait to use the application until there is an event available

Ideal application /utilization

- ***Context of ideal application***

Introduction to a specific settings, when not available to attend in person. Users get to live an experience in the comfort of the place they choose to be at the time of the event. Users with the same interest get to know each other and exchange information, interact in a safe environment and learn from others

- ***Instructions for preparation***

Internet connection is required. It also requires a connection with a Facebook account to let you use the application.

Check in advance when available events take place, because there is not always something you can do with this app. Events are advertised in the application approximately 1-2 months in advance.

- ***Do's and don'ts***

Do:

1) start planning in advance, so you have specific activities in mind to take advantage of this application

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	2) ensure your internet connection works properly and is stable Don't: 1) Don't plan activities with your trainees in case you do not know what the content will be about. Do research and know the content well in advance. *2)* Have a plan B in case the event does not load as expected. Sometimes, this application does not work properly if the internet connections is not very stable.

VR Application Profile

Name of VR Application	**Anne Frank House VR**
Category	**History - Second World War**
Date of processing:	30/11/2019

Technical Framework & Key Data

Software-Provider: Force Field
Software-Developer: Force Field
Version of app: 1.0

Compatible VR hardware systems:

- ☐ Google Cardboard
- ☐ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☒ Oculus Go
- ☐ Oculus Rift
- ☒ **Oculus Quest**
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☐ iOS Version:.....
- ☐ Android Version:.....
- ☒ Other: Oculus Version: 1.0

Languages available

- ☒ English
- ☒ Spanish
- ☒ German
- ☐ Italian
- ☒ Other: Dutch, Portuguese.

Learning Content

The history of Anne Frank House. The application gives the opportunity to travel back to the years of the Second World War and wander through the rooms of the Annex that housed the group of 8 Jewish people as they hid from the Nazis.

Learning Outcomes

Knowledge

The adult learners will be able to:

- Recall the story of Anne Frank and what happened to the brave inhabitants

Skills

The adult learners will be able to:

- Navigate in the virtual environment to grab things, solve clues
- Demonstrate critical thinking skills via the navigation to the virtual environment
- Gain control of their education and learn at their own pace

Competences

The adult learners will be able to:

- Tell the story of Anne Frank as if they were there personally

Activities provided	This application can really transform the way the educational content about this topic can be delivered. Users can interact in the interactive and immersive application to learn the history of Anne Frank in a safe, controlled way. The tutor can make breaks between the interaction of users with this application in order to deepen in specific aspects that is needed and then let the learner continue its experience in this award-winning experience.
Added value for low-skilled/-qualified adults	This application can stimulate the interest and motivation of low-skilled/qualified adults to be engaged in history and learn about the 2nd world war and the case of Anne Frank. The application is really engaging and has strong gamifications characteristics which will make enthusiastic all learners to be engaged in this environment and learn as much as they can. The application due to the power of VR can support learners to find out what happened to the Annex' brave inhabitants. Additionally, since this is a single mode application, learners can learn in their own pace.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ☐	3 ☐	4■
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ☐	3 ☐	4■

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Available in various languages • No internet connection is required to use the app • Strong game-based learning element	• Only single user game mode • Takes large space to be downloaded • Users cannot choose what to do and see: the application follows a specific flow
OPPORTUNITIES	**THREATS**
• Learn about the second world war and the history of Anne Frank in a really interactive way • Provides a greatly immersive environment and sense of 'being there' due to its realistic graphics	• The application might cause the effect of dizziness, because its required enough amount of time to explore it fully • Limited to be used probably only one or two times by each user max

Ideal application /utilization	• ***Context of ideal application*** Documentary & History and educational contexts with history element. • ***Instructions for preparation*** An introductory discussion would be good to be made. The application works in a single game mode, so equipment should be sufficient for all participants. The application required that participants are not so close to each other, so they can interact safely in the VR environment. • ***Instructions for mentoring*** Tutors can encourage some breaks between activities in the application to deepen in specific aspects and also so that they avoid learners to become dizzy from long interactions with the application. • ***Do's and don'ts*** Do: have enough VR devices for all participants since the experience takes time. Alternatively, you can create groups that will work with the VR in a row, while others interact with other relevant material. Don't: Don't let users be close to each other. The application needs some space for participants to move and grab or transfer things.

VR Application Profile

Name of VR Application	**Anatomyou**
Category	**Human body/anatomy**
Date of processing:	15/10/2019

Technical Framework & Key Data

Software-Provider: Google Commerce Ltd
Software-Developer: Healthware Canarias S.L
Version of app: 2.0.3

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ **Google Daydream View**
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☐ Oculus Go
- ☐ Oculus Rift
- ☐ Oculus Quest
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☒ iOS Version: 9.0 or later
- ☒ Android Version: 4.4 and up

Languages available

- ☒ English
- ☒ Spanish
- ☐ German
- ☐ Italian

Learning Content

Human anatomy

Learning Outcomes

As stated beneath in the section “Activities provided” with the app a variety of anatomical structures can be explored and therefore various learning outcomes achieved. The learning outcomes stated below can be achieved with the free version of the app:

Knowledge

The adult learners will be able to:

- …explain the functionality of various parts of the circulatory, digestive, lacrimal and female reproductive system such as the functionality of the heart valves or the esophagus, etc.
- …explain the exact location of various parts of the systems mentioned above such as the location of the aortic arch or fallopian tupe, etc.
- …explain the purpose of various parts of the systems mentioned above such as the purpose of the tongue, the tear duct or uterus, etc.

Skills

The adult learners will be able to:

- …locate and identify anatomical structures like the gastrointestinal, the female reproductive, the lacrimonasal and digestive tract as well as the arterial and venous system of the head.
- …recognise relevant parts of the anatomical structures mentioned above from the inside and locate them in the human body.

Competences

The adult learners will be able to:

- …locate, identify and differentiate between the most important parts of the circulatory, digestive, lacrimal and female reproductive system.

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Activities provided	Using "Anatomyou", the user becomes part of the anatomy in an immersive way, being able to navigate along anatomical structures like the digestive, lacrimal, female reproductive and circulatory system (arterial & venous) for free. Additional navigation routes to explore e.g. the respiratory or urinary system, etc. can be purchased. Anatomyou VR can be used in two different modes: Virtual Reality and Fullscreen. In VR mode users can interact with navigation controls and anatomical information elements by aiming them.
Added value for low-skilled/-qualified adults	The app "Anatomyou" might be beneficial when trying to impart knowledge about the human anatomy to low-skilled/-qualified adult learners, especially those having difficulties with traditional learning methods, since the app provides an extraordinary perspective of various anatomical structures. Anatomyou allows the learners to immerse into the human body, explore it at their own pace and consequently might improve the learners' understanding of the human anatomy.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ■	4☐
• Pedagogic orientation and standards	1 ☐	2 ■	3 ☐	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ■	2 ☐	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• …offers a navigations tutorial so that users understand the handling of the app • … provides an extraordinary perspective of various anatomical structures • …visualization of anatomical structures is quite realistic	• …not all navigation routes are for free • …navigation ends if learner stops too long e.g. for reading info boxes • …information provided about anatomical structures is limited
OPPORTUNITIES	**THREATS**
• …can help to gain an idea of the human body and anatomical structures • …allows an internal and an external view of the human body • …might arouse learners' interest about anatomical structures they see and encourage to learn more about them	• …understanding of content might require prior knowledge of technical terms used • …regulation of pace might cause difficulties (navigation might be too fast) • …if learners do not look regularly at overview-picture on the left, they might lose orientation

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Ideal application /utilization	• ***Context of ideal application*** Ideal to enhance medical training or courses about human anatomy. • ***Instructions for preparation*** - Choose the anatomical structure which you want the learners to explore and make yourself familiar with the learning material provided by the app. - Embed the application of the app in your course context and prepare further learning material about the learning subjects and/or opportunities for learners so that they can get additional information themselves. - Provide maybe chairs (ideally revolving chairs) for the learners since the most comfortable way to explore the App might be in a seated position. • ***Instructions for mentoring*** - Provide your learners with a short introduction to the app and its functionality in advance and give the learners enough time to become familiar with the handling. - For its application it might be useful to advise your learners to regularly look at the overview-picture on the left, so that they can identify their location in the human body during the navigation. - Make sure to clarify technical terms if needed. - After the application of the app it might be useful to discuss the experiences made by the learners.

	- ***Do's and don'ts*** - Do see and use the app as an additional tool that can support the understanding of the human body or/and increase the learners' interest in the subject, rather than as a replacement of your own lectureship. - Provide learners with enough time so that they can navigate in the human body at their own pace and repeat tours if needed.

VR Application Profile

Name of VR Application	**Virtual Speech - VR Course**
Category	**Training**
Date of processing:	21/10/2019

Technical Framework & Key Data

Software-Provider: Google Commerce Ltd
Software-Developer: VirtualSpeech Ltd.
Version of app:2.24

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ **Google Daydream View**
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☐ HTC Vive Pro
- ☐ HTC Vive
- ☐ Acer AH 101
- ☒ Oculus Go
- ☐ Oculus Rift
- ☐ Oculus Quest
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☒ iOS Version: 9.0 or later
- ☒ Android Version: 5.0 and up

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content

Soft Skills Training (Training of presentation skills, public speaking, networking, communication, etc.)

Learning Outcomes

As stated beneath in the section "Activities provided" the app provides a variety of scenarios to practice one's soft skills and therefore various learning outcomes can be achieved. The learning outcomes stated below can be achieved with the free version of the app:

Knowledge

The adult learners will be able to:

- …describe how different challenging scenarios like a job interview situation, presentation scenario in a conference or meeting room or a training delivery situation in class could look like.
- …recall at least 10 different questions which might be asked during a job interview for at least six different job interview situations.

Skills

The adult learners will be able to:

- …speak in front of people in challenging situations like in meetings, at conferences, in front of trainees in class or a jury within the frame of a job interview situation.
- …hold eye contact while speaking to people in the situations mentioned above.
- …better estimate the time needed for tasks like holding a presentation or answering an interview question, etc.
- …present themselves and answer at least ten different job interview questions in front of a jury within the frame of a job interview situation.

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	Competences *The adult learners will be able to:* • …prepare themselves successfully for various challenging situations in which presentation and soft skills are needed e.g. job interview situations, public speaking, etc. • …express and present themselves or/and prepared content adequately and successfully within the frame of these mentioned situations.
Activities provided	The App "VirtualSpeech" provides various scenarios where users can practice their soft skills. Training rooms include public speaking, sales pitching, networking, business storytelling, media training and more. In this context the "Interview Preparation"-, "Conference Room"-, "Meeting Room"- and "Training Delivery"-Scenario can be used for free. The user can enter and exit rooms by pointing the hand controller towards them and activating the trigger button or aiming the VR headset at them. The rooms provide realistic environments with realistic avatars where users can practice their own public speeches, presentations, train interview situations, etc. Depending on the room users might be able to use provided transcripts of famous speeches for practice or be confronted with prepared questions (e.g. in the interview preparation scenario). On the VirtualSpeech website (www.virtualspeech.com) users can also purchase a variety of VR courses which combine traditional online classes with practice in VR. When purchasing one of the courses further features are available such as speech analyses and real time feedback, the upload of one's own slides, eye contact rating, the opportunity to record and save speeches, sound and visual distractions that make the environment even more realistic, etc.

Added value for low-skilled/-qualified adults	The App "VirtualSpeech" might be also beneficial in terms of low-skilled and low-qualified adult learners, especially for those having difficulties to express themselves as it's often the case in terms of migrants and refugees. Embedded in a broader training setting the app might help the learner to become more confident in speaking while allowing learners to repeat training situations as often as needed. Especially the app environment "Interview preparation" might be a useful scenario for low-skilled/-qualified adults, particularly for those who have been long-term unemployed.
SWOT analysis	• User-friendliness 1 ☐ 2 ☐ 3 ☐ 4■ • Pedagogic orientation and standards 1 ☐ 2 ■ 3 ☐ 4☐ • Applicability level 1 ☐ 2 ☐ 3 ☐ 4■ • Gamification level 1 ■ 2 ☐ 3 ☐ 4☐ **1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• …offers a variety of scenarios and speaking situations • …scenarios and avatars are quite realistic so that adult learners are more likely to immerse in the training situation and learning outcomes can be more easily transferred to real life • …offers an app-guide so that users	• …app description promises a variety of features which in the end are mostly not for free (costs are between 50-450) • …app doesn't track hand gestures or other body movements than head movements • …app is only available in English, so are instructions and questions e.g. in the

	understand the handling of the app	"Interview Preparation" environment
	OPPORTUNITIES	**THREATS**
	• …can work as an efficient and safe form of exposure therapy when fearing public speaking (or any other kind of speaking) • …online courses combined with practice in VR might provide a comprehensive soft skill training • …training situation can be repeated as often as required without any real world consequences	• …free version of app for itself might have less learning/training effect since users to not get any feedback or instructions by the app to improve their speaking • …courses might be too expensive if adult learners only have a limited budget • …in order to being able to provide each learner with adequate feedback, using free version of app might require small or single training settings
Ideal application /utilization	• ***Context of ideal application*** Ideal to enhance any soft skills training beginning from presentation training over public speaking to job interview training and beyond. • ***Instructions for preparation*** - Choose the virtual environment which you want the learners to use for their soft skills training according to the course's learning objective and make yourself familiar with the simulation. - Embed the application of the app in your course context. Since the free version of the app does not provide any instructions make sure to prepare all necessary information and instructions the adult learners need for their soft skills training. You might also prepare some training material you will provide for the learners. - Make sure the audio of the smartphones used for the VR simulation is switched on since the app provides sound effects to make the simulation even more realistic. - Depending on the environment provide maybe chairs (ideally revolving chairs) for the learners. E.g. for the "Interview Preparation" environment a seated position might be the most realistic way for training. • ***Instructions for mentoring*** - The App is quite intuitive and simple in structure. Provide your learners just with a short introduction to the app and give them a few minutes to become familiar with it. - Guide your trainees through the training process! Provide them with all necessary information in advance, give them time to practice in the VR environment what they have learned theoretically and provide them with feedback so that they can improve their performance. - After the application of the app it might be useful to discuss the experiences made by the learners.

	• ***Do's and don'ts*** - Do see and use the free version of the app as a training and practice environment, rather than a comprehensive soft skills training course that can replace your own lectureship. - In order to being able to analyse the trainees' speeches and presentations when using the free version of the app, the Voice Memo feature of the smartphones could be useful. - Use small group or single training settings in order to provide trainees with adequate live feedback and coaching when using the free version of the app.

VR Application Profile	
Name of VR Application	Amazon Sumerian
Category	Training
Date of processing:	10/10/2019

Technical Framework & Key Data

Software-Provider: Amazon
Software-Developer: Amazon
Version of app: N/A

Compatible VR hardware systems:

- ☒ Google Cardboard
- ☒ Google Daydream View
- ☒ Lenovo Mirage Solo
- ☒ Lenovo Explorer
- ☒ HTC Vive Pro
- ☒ HTC Vive
- ☐ Acer AH 101
- ☒ Oculus Go
- ☒ Oculus Rift
- ☒ Oculus Quest
- ☒ **Samsung Gear VR**
- ☒ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor
- ☐ Other:……

As Sumerian is a developer platform, the apps created are compatible with most VR hardware systems.

Compatible operating systems

- ☐ iOS Version:……
- ☐ Android Version:……
- ☒Other: Windows Version: 7 or higher recommended

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content	No learning content per se. Tutorials are provided on how to use Sumerian for its various different applications. Essentially, Sumerian is a service that lets you create and run 3D, AR and VR applications. You can build immersive and interactive scenes that run on AR and VR, mobile devices, and web browsers.
Learning Outcomes	**Knowledge** *The adult learners will be able to:* • Identify basic concepts behind the creation of 3d 'scenes' and VR apps • Operate WebGL 2 and WebVR programming utilities **Skills** *The adult learners will be able to:* • Create their own 3D, VR and AR scenes and populate these with their own content include 3D 'hosts' • Undertake some basic programming **Competences** *The adult learners will be able to:* • Create easy to use VR interfaces • Upload own content to the Amazon Sumerian platform • Amend and update existing 'scenes' on the Amazon Sumerian platform, when needed
Activities provided	Tutorials are provided in respect of the creation or 3D web content, AR and VR application.

Added value for low-skilled/-qualified adults	Benefit to low-skilled/qualified adults may be minimal. While the platform is relatively easy to use, some degree of proficiency in utilizing IT/VR equipment is required. This platform is much better suited to being used by a tutor in the creation of content for use in a learning environment rather than being used by the end learner.
SWOT analysis	• User-friendliness 1 ☐ 2 ☐ 3 ■ 4☐ • Pedagogic orientation and standards 1 ☐ 2 ■ 3 ☐ 4☐ • Applicability level 1 ☐ 2 ■ 3 ☐ 4☐ • Gamification level 1 ■ 2 ☐ 3 ☐ 4☐ **1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Very useful resource for creation of VR content • Free for up to 12 months (Free Tier) • Fully supported by Amazon	• Not particularly suitable for the end learner • Ultimately this is a paid service • Free Tier only allows 50mb storage
OPPORTUNITIES	**THREATS**
• Wide range of applications in an educational setting • Easy to use so potential for involving learners in the process	• Services could become unsupported in the future • Subscriptions prices may be subject to change over time

Ideal application /utilization

- ***Context of ideal application***
  - Used in teaching of the creation of own VR content
- ***Instructions for preparation***
  - Amazon AWS account must be created
  - A credit card or payment option must be chosen (even for free tier)
  - Access to internet and desktop/laptop
- ***Instructions for tutoring***
  - As much of the content creation can be taught through the use of tool tips or tutorials there is limited requirement for tutoring
  - Any tutor should be well versed in the use of Sumerian and should have a good understanding of the tools used for content creation
- ***Do's and don'ts***
  - Sumerian would not be recommended for use with learners but instead should be used for content creation by the tutor organisation(s) or the tutor themselves.

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VR Application Profile

Name of VR Application	ALTSPACE VR
Category	Platform / Meeting
Date of processing:	10/11/2019

Technical Framework & Key Data

Software-Provider: Microsoft
Software-Developer: Microsoft
Version of app: N/A

Compatible VR hardware systems:

- ☐ Google Cardboard
- ☐ Google Daydream View
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☒ HTC Vive Pro
- ☒ HTC Vive
- ☐ Acer AH 101
- ☒ Oculus Go
- ☒ Oculus Rift
- ☒ Oculus Quest
- ☐ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor
- ☐ Other: PC, Windows MR

Compatible operating systems

- ☐ iOS Version:……
- ☐ Android Version:……
- ☒ Other: Windows Version: 7 or higher recommended

Languages available

- ☒ English
- ☐ Spanish
- ☐ German
- ☐ Italian

Learning Content	This software allows users from all over the world to come together in a virtual space. The content of the virtual meeting can be anything: from a seminar, an online language exchange, groups to various topics or an online conference – anything is possible. Altspace VR organizes events where anybody can join and discuss together.
Learning Outcomes	**Knowledge** *The adult learners will be able to:* • Learn about a variety of topics, cultures and people **Skills** *The adult learners will be able to:* • Plan their own virtual meetings • Engage with other users all over the world **Competences** *The adult learners will be able to:* • Create own individual worlds and meetings for their specific needs
Activities provided	Active or passive participation in virtual events Planning of own individual events

Added value for low-skilled/-qualified adults	While VR hardware is recommended, it is not needed to join in on an Altspace VR event. This means the participation is low-threshold and anybody can benefit from the contents at any given time.

SWOT analysis

• User-friendliness	1 ☐	2 ☐	3 ☐	4■
• Pedagogic orientation and standards	1 ☐	2 ■	3 ☐	4☐
• Applicability level	1 ☐	2 ☐	3 ■	4☐
• Gamification level	1 ☐	2 ■	3 ☐	4☐

**1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• Easy usability • Low-threshold accessibilty	• No concrete, specific topic • Content depends on what user plans or what is officially planned by Altspace VR
OPPORTUNITIES	**THREATS**
• High flexibility • Options for individualization • Variety of topics available – always something new	• Getting lost, when there is no specific topic planned

Ideal application /utilization

- ***Context of ideal application***
  - Used in online meetings or events
  - Used to trained public speaking and to get in touch with other people from around the globe
- ***Instructions for preparation***
  - Get informed about pre-planned events
  - Create own world
- ***Instructions for tutoring***
  - Be aware that a tutor must be well informed before offering this to learners.
  - Users to not need much preparation as they can quite simply join

Additional Recommendations:

VR Application Profile	
Name of VR Application	Mondly: Learn Languages VR
Category	Language Learning
Date of processing:	20/11/2019

Technical Framework & Key Data

Software-Provider: Google Commerce Ltd
Software-Developer: ATi Studios
Version of app: 3.0.2

Compatible VR hardware systems:

- ☐ Google Cardboard
- ☒ **Google Daydream View**
- ☐ Lenovo Mirage Solo
- ☐ Lenovo Explorer
- ☒ HTC Vive Pro
- ☒ HTC Vive
- ☐ Acer AH 101
- ☒ Oculus Go
- ☒ Oculus Rift
- ☐ Oculus Quest
- ☒ Samsung Gear VR
- ☐ Samsung Odyssey
- ☐ PlayStation VR
- ☐ Dell Visor

Compatible operating systems

- ☐ iOS Version:.....
- ☒ Android Version: 7.0 and up

Languages available

- ☒ English
- ☒ Spanish
- ☒ German
- ☒ Italian
- ☒ Other: a lot more

Costs: ~3,79€ - 7,99€

Learning Content

Language Learning (American English, British English, German, Italian, Spanish, French, Portuguese, Chinese, Japanese, Korean, Arabic, Hindi, Vietnamese, Indonesian, Dutch, Russian, Norwegian, Danish, Swedish, Hebrew, Greek, Rumanian, Croatian, Ukrainian, Polish, Czech, Finnish, Hungarian, Thai and Turkish)

Learning Outcomes

As stated above the app supports language learning for nearly all world languages. Independent of the language chosen, the following learning outcomes can be achieved:

Knowledge

The adult learners will be able to:

- …list at least five relevant vocabulary and phrases for each of the following topics: animals, space, vegetables and fruits
- …list relevant phrases for various scenarios (e.g. in a train, at the hotel reception, at a restaurant, etc.) which can be used to lead a conversation

Skills

The adult learners will be able to:

- …translate at least five relevant vocabulary and phrases for each of the following topics: animals, space, vegetables and fruits
- …pronounce at least three relevant vocabulary and phrases for each of the following topics correctly: animals, space, vegetables and fruits
- …translate and pronounce relevant phrases for various scenarios (e.g. in a train, at the hotel reception, at a restaurant, etc.) correctly

	Competences *The adult learners will be able to:* • …lead a conversation and express oneself adequately in various scenarios (e.g. in a train, at the hotel reception, at a restaurant, etc.)
Activities provided	In the App "Mondly: Learn Languages VR" users can choose either between six different settings to learn vocabulary beginning from fruits over vegetables to animals or decide to enter one of the eight conversation-scenarios by pointing the hand controller towards them and activating the trigger button. • In all vocabulary learning settings, an avatar introduces the learners to relevant vocabulary and phrases by referring to the provided environment in the app and invites the learners to repeat words and phrases aloud. • Regarding the conversation-scenarios users are provided with authentic situations beginning from a dialog in a train to Berlin over a taxi ride in Hong Kong to check-in situation in a Hotel in Paris. In all scenarios, users can get to talk to avatars while adequate phrases as well as its translations are suggested for help. In the conversation scenarios as well as in the vocabulary settings immediate feedback ensures that words and phrases spoken by the learners are pronounced correctly.

Added value for low-skilled/-qualified adults	The App "Mondly: Learn Languages VR" might be also beneficial in terms of low-skilled and low-qualified adult learners, especially for refugees and migrants who are often challenged to become familiar with a completely new language and culture. Unlike traditional language learning the VR app allows to learn the new language in an interactive way, to practice speaking in realistic scenarios and consequently prepares the learners for everyday situations.
SWOT analysis	• User-friendliness 1 ☐ 2 ☐ 3 ☐ 4■ • Pedagogic orientation and standards 1 ☐ 2 ☐ 3 ■ 4☐ • Applicability level 1 ☐ 2 ☐ 3 ☐ 4■ • Gamification level 1 ■ 2 ☐ 3 ☐ 4☐ **1…very poor/low; 2…poor/low; 3…OK/medium; 4…good/high; 5…very good/high*

STRENGTHS	WEAKNESSES
• …offers language learning for nearly all world languages • …provides learners with immediate feedback on their pronunciation • …allows to learn languages in interactive and realistic scenarios	• …provides only limited vocabulary settings and vocabulary • …when using the App with Daydream smartphone gets really hot after some time • …is not for free (depending on VR hardware may cost up to ~8 Euros)

	OPPORTUNITIES	THREATS
	• …can be ideal to learn the most important phrases and vocabulary for certain scenarios e.g. scenario "Hotel: Reception" • …might arouse learners' interest for language learning • …allows learners to practice their pronunciation	• …vocabulary settings might get a little bit boring after a while since the avatar is speaking really slowly • …some vocabulary settings might be not that relevant for everyday situations e.g. setting "space" • …in order to learn the language properly an additional language course might be needed since the app imparts no further knowledge about grammar, etc.

Ideal application /utilization

- ***Context of ideal application***

Ideal to enhance a language learning course

- ***Instructions for preparation***

- Choose one or more scenarios and/or vocabulary learning settings which you want the learners to explore and make yourself familiar with the content.
- Embed the application of the app in your course context.
- Make sure that the audio as well as the microphones of the smartphones used for the VR simulation are switched on so that learners can practice their pronunciation and hear the guidance of the avatars.
- Provide maybe chairs (ideally revolving chairs) for the learners since the most comfortable way to explore the App might be in a seated position.

- ***Instructions for mentoring***

- The app is quite simple in structure. Provide your learners with a short introduction to the app and give them some time to watch the tutorials of the app so that they can become familiar with the handling.
- It might be useful to write down the most important phrases or vocabulary of each scenario/vocabulary learning setting. Alternatively, you could also ask the learners to write them down after the VR lesson.
- After the application of the app it might be useful to discuss the experiences made by the learners and/or to let them summarize what they've learned.

- ***Do's and don'ts***

- Do see the app as an additional learning and teaching tool which can help to learn important phrases in a language, rather than an app which can replace a comprehensive language learning course.
- In order to embed the app in a more comprehensive learning context, it might an idea e.g. to explain grammar rules based on the phrases learned in the app or to provide learners with further possibilities to enrich their vocabulary about contents addressed.

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	- If the course content fits with the vocabulary learning settings provided by the app the exploration of these might be an interesting way to introduce the new topic. - The app might be also a successful tool in context of blended learning formats. In this context, learners could e.g. be provided with certain tasks or be encouraged to use the app as a practice tool.