







### Future of Learning

Webinar Series - Session 3





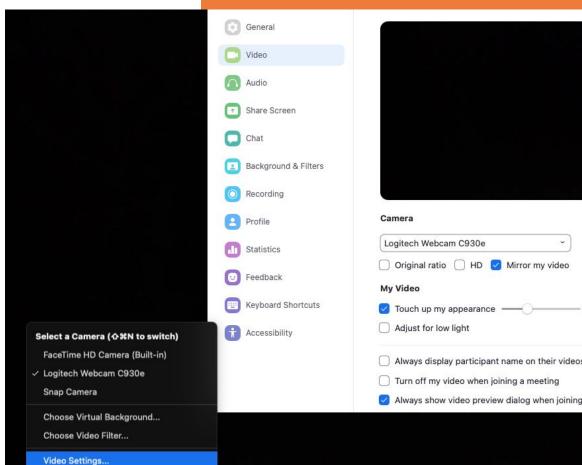
# Introduction and objective of the Development Account (DA) eLearning Webinar Series

- <u>Target audience</u>: DA Project Officers and Focal Points
- Goal: Enhance capacity to implement and deliver 11th-14th tranche DA projects during and after the COVID-19 pandemic
- <u>Time schedule</u>: 60-90 minute webinars every other week
- <u>Topics and feedback</u>: A questionnaire has been circulated to identify the most relevant topics for the webinars. You can also channel feedback to us through DA Focal Points in your respective entities.

#### Low bandwidth?

- Turn off HD video (see below)
- Try switching off your video
- Recordings will be made available
- Ask the IT team at your office!







### **Agenda**

- Future of learning examples and case studies (Gamoteca)
  - Broader education trends
  - Chatbots
  - Game-based learning and VR in humanitarian contexts
  - Localising innovation
- Immersive learning for UN agencies (ITCILO)
- Panel Q&A





### Poll

In Mentimeter share:

(scan QR code on right with phone camera)

How do you imagine the future of learning?



## For panel Q&A

- Use Mentimeter on your phone, so you can keep Zoom on desktop
- Use Open Q&A button
- Check existing questions and up vote before you add a question
- You can keep adding questions through the presentations



Panel Q&A

Click the button to participate!

Open Q&A









Game-based learning and virtual reality (humanitarian case studies)

**Atish Gonsalves, Founder - Gamoteca** atish@gamoteca.com

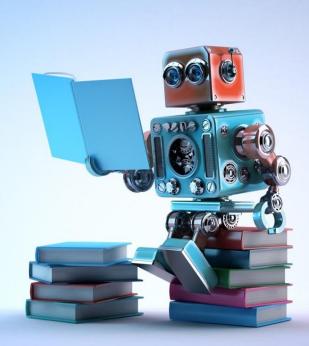






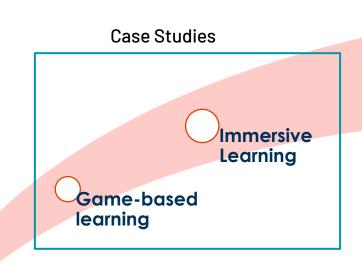
## **Education Trends**

- Modular, personalised, continuous
- Nano-degrees, micro-credentials
- Al-in-Ed
- Use of AR/VR
- Game-based Learning



## A spectrum of edtech innovation

- Continuously scan educational technologies externally, test and scale successful innovations
- Focus on edtech that have **proven effectiveness** in other sectors
- **Start small** and incrementally develop innovations, prioritise low-cost, low-tech



Chatbots



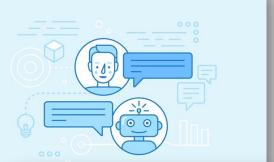


# Chatbots

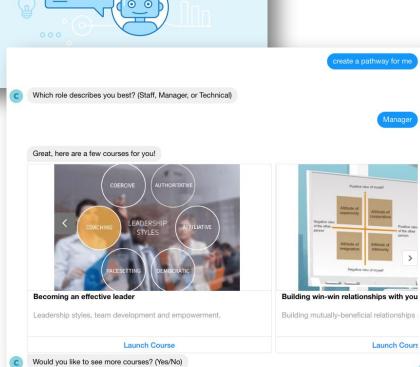


#### **Chatbots**

- Help users discover courses and build out interactive learning journeys on social media.
- Activate social media followers for more learner engagement.
- Chatbots on coaching & mentoring, wellness & resilience, innovation essentials, volunteer essentials
- Google Dialog Flow engine prototype to build out personalised learning journeys









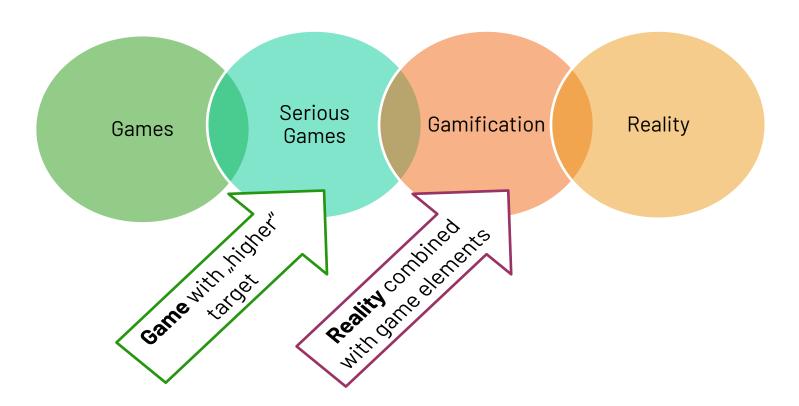


# Game-based learning





## **Gamification spectrum**





## Case Study: Coaching in the humanitarian sector



The need for Coaching & Mentoring in the humanitarian sector:

- Supports individuals & teams in conflict settings and helps navigate change
- Repeatedly identified as a top need
- Vital capacity strengthening tool, is not easy to scale and not everyone can afford it



#### **Online Module:**

- Simple models and scenarios
- Videos to demonstrate good & bad practice
- Scenario at the end
- + Webinar
- + Game







#### Live game play:

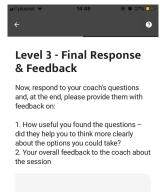
- Complementary extension of the eLearning module & webinar, focusses on contracting process
- Practice the coaching skills you're learning
- Give & receive live feedback in a safe environment

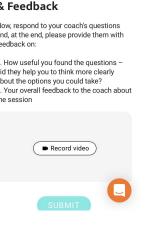


#### Level 2 - Feedback Part I

Well done, your questions helped your coachee understand their issue better!













Learners today need collaborative, human-connected online learning experiences with practice, sharing and feedback.

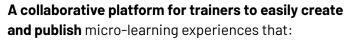
How do we empower creators to design and publish those experiences easily?



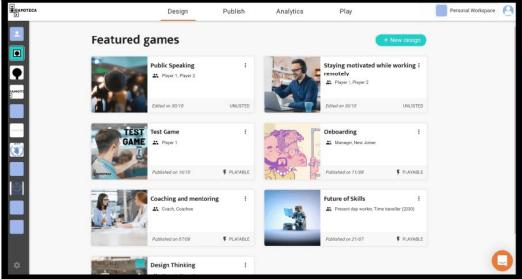








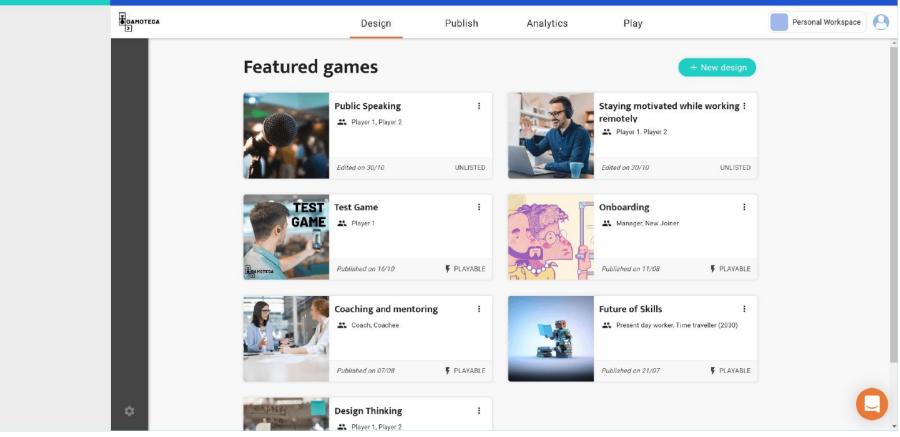
- Is simple to use
- Uses real time learner-to-learner and facilitator-to-learner interactions, e.g. coaching & feedback
- Merges real and virtual activities
- Enables easy publishing





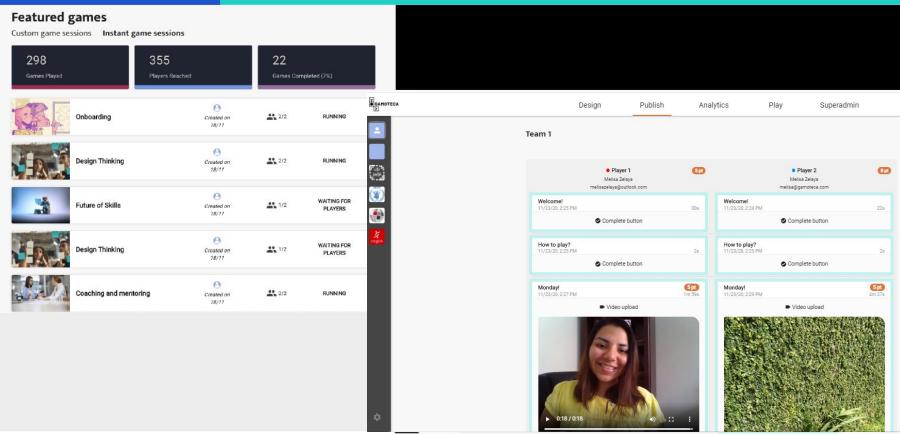






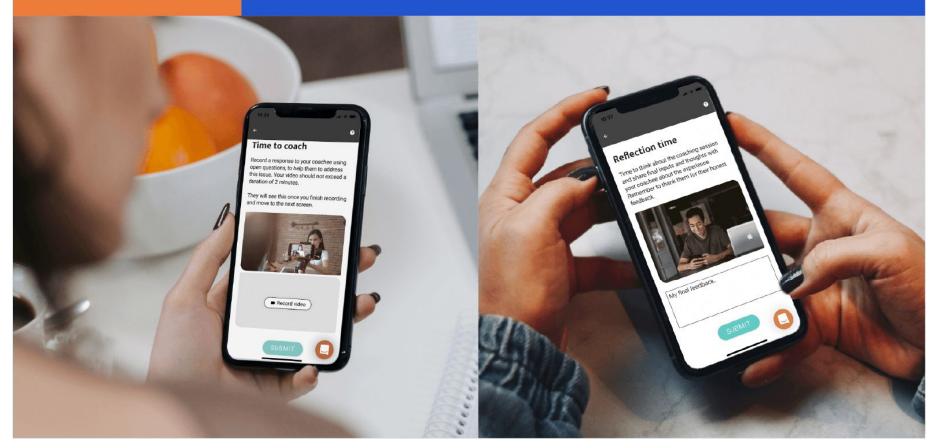


#### 2. PUBLISH

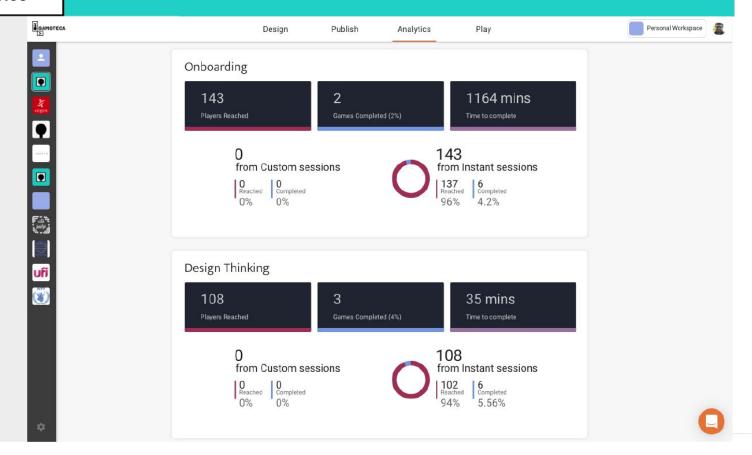




#### 3. PLAY



#### 4. LIVE FEED & ANALYTICS





## How it was created

- Worked with local design partner and humanitarian coaching experts
- Rapid prototyping on Gamoteca
- Collected qualitative and quantitative feedback from real users iteratively through the design process
- Kept costs low
  - Simple design (storyboard, illustrations)
  - LMS (Moodle) Integration useful for other games as well
- Sustainable
  - Enable others to easily adapt, modify, improve the game













## Other humanitarian games

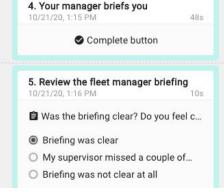
- Increase human engagement in online learning through role playing, scenarios, peer-to-peer learning, simulations
- Human-centred design to co-create and test locally
- Developed locally and scaled globally through Kaya, including - Volunteer training & onboarding, Design thinking, Challenging gender biases



## Other examples

- Simulations for fleet management training with Fleet Forum
- Adapted board games to work in an online facilitated format using Gamoteca
- Focus on serious game format for quick response times under pressure









# Immersive learning



# What's Immersive Learning?





## Immersive Learning (VR)

- Non-interactive short 360 films for immersive, empathy building that integrate with existing learning pathways easily – You Cannot Argue (Philippines) with a Flood and Gender in Conflict (Syria & Lebanon)
- Interactive VR experiences For crisis immersion e.g. Safeguarding VR (reporting) "bodyswapping" leverages embodied VR scenarios as a way to elicit empathy and self-awareness in order to affect real-life behaviour



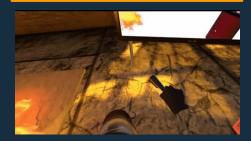




## 3 value propositions for immersive learning

#### **Hard Skills**

Practice with your hands



FLAIM - Fire-fighting Training

#### **Spatial Knowledge**

Understand and learn



Virtual Medicine - Human Anatomy VR

#### **Soft Skills**

Act out and change behavior



BODYSWAPS - Psychiatric Patient Care Simulation

## **Objectives**

Innovate & test a new way to deliver impactful safeguarding training at scale

#### **Learning Design:**

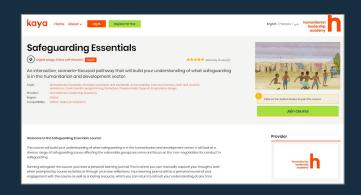
- Create a safe space
- Engage emotionally
- Create self-awareness
- Give tools & build confidence

#### **Deployment:**

- Demonstrable performance
- Consistent yet flexible
- Scalable



## **Blended Approach**





**KNOWLEDGE** 



**PRACTICE** 

## **Learner Feedback**













# Localising innovation





## **Create Spaces for Innovation**

- Combine user-centred design with edtech to co-create innovative learning locally
- Scale successful innovations through digital platforms
- Co-creation spaces "Learning Hackathons" can be in-person or virtual







Create spaces to capture local learning through design thinking



Identify, test and incubate ed-tech and learning-tech solutions



#### **Scale** through

- Learning Platforms
- Other learning platforms
  - Social media







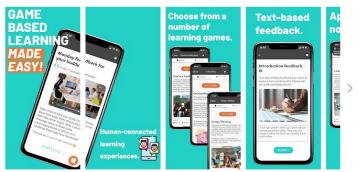




### Try them out yourself..

















# THANK YOU!

atish@gamoteca.com www.gamoteca.com



## Immersive learning for UN agencies



**Tom Wambeke** 

Chief of Learning Innovation, ITCILO









#### **IMMERSIVE LEARNING FOR UN AGENCIES**

#### MEET THE **MODERN LEARNER**

As training moves to more digital formats, it's colliding with new realities in learner's jobs, behaviours.

habits, and preferences.

Today's employees are overwhelmed, distracted, and impatient. Flexibility in where and how they learn is increasingly important. They want to learn from their peers and managers as much as from experts. And they're taking more control over their own development.

Number of times online every day early days of the internet toda

#### **OVERWHELMED...**

41% that offer litt satisfaction

of time workers spend on things that offer little personal and do not help them get work

of typical workweek is all that employees have to focus on training and development

DISTRACTED...

apps, and video clips.

People unlock their smartphones up to

Knowledge workers are constantly

distracted with millions of websites.

Most learners won't watch videos longer than

IMPATIENT... 2/3

of knowledge workers actually complain that they don0t have time to do their iobs

Online, designers now have between

to grab someone's attention before they frequently as every 5 g ironically, often by work applications

Workers now get interrupted as and collaboration tools

#### UNTETHERED

Today's employees find themselves working from several locations and structuring their work in non-traditional ways to accommodate their lifestyles. Companies are finding it difficult to reach these people and even harder to develop them efficiently.

37%

of the global workforce is expected to be 'mobile' by the end of 2015

30%

of full-time employees do most of their work somewhere other than the employer's location

20%

of the workforce is comprises of temps. contractors and freelancers

#### **ON DEMAND**

Employees are accessing information - and learning - differently than they did just a few years ago. Most are looking for answers outside of traditional training and development channels. For example:

to learn what they need for their jobs, employees access:

online courses search engines

50-60% 70%+

people are increasingly turning to their smartphones to find just-in-time answers to unexpected problems

#### **COLLABORATIVE**

Learners are also developing and accessing personal and professional networks to obtain information about their industries and professions.



of workforce learning happens via on-the-job interactions with peers, teammates, and managers



Learners are: asking other people



Learners are: sharing what they at google, 55%

of training courses are delivered by an ecosystem of

2000+ peer learners

#### **EMPOWERED**

Rapid change in business and organisations means everyone needs to constantly be learning. More and more people are looking for options on their own because they aren't getting what they need from employers.



vears is the half-life of

many professional skills

of workers say they have opportunities for learning and growth at their workplace

62%

of IT professional report having paid for training out of their own pockets

Bersin by Deloltte

## LEARNING MODELS BECOME HYBRID JOURNEYS

**E-LEARNING** 

Basic Theory / Content Refresh VIRTUAL CLASSROOM (i.e. Zoom)

Guided Exploration & Discussion

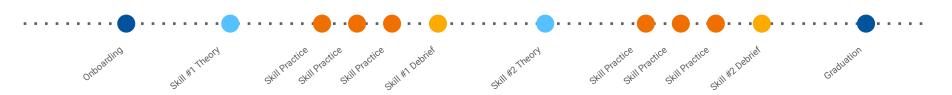
**FACE-TO-FACE** 

Collective Practice & Communitity Feel

IMMERSIVE LEARNING (i.e. VR simulations)

Applied Autonomous Skills Practice







#### THE SAMR MODEL

R

#### **REDEFINITION**

Technology allows for the creation of new tasks, previously inconceivable

M

#### **MODIFICATION**

Technology allows for significant task redesign

A

#### **AUGMENTATION**

Technology acts as a direct substitute, with no functional improvement

SUBS

#### **SUBSTITUTION**

Technology acts as a direct substitute, with no functional change

## DEPTHS OF VIRTUAL REALITY AND INTEGRATION IN THE CLASSROOM

**Virtual Reality** offers students a wealth of rich, experiential learning opportunities. In order to ensure that the potential od **VR** is maximised, educators need to harness it carefully and maintain a focus on pedagogy rather than the technology itself.



PERCEPTIO N The user is able to look around a simple 360° panorama. The experience is short and the user is passive.

SIMULATIO

The VR experience is multi-sensory-augm ented through video or audio. The user is still relatively passive and is guided rather than directing the experience.

INTERACTIO N The user is able to interact with the virtual world at a basic level e.g. highlighting a new space to move to. The experience is less passive though the user has limited choices for directing the flow of content.

IMMERSIO N

The user has a higher degree of autonomy within the virtual world and is able to direct the experience, make decisions and engage with a variety of elements within it The experience is active and user-led. The virtual world begins to feel real and can evoke both the sensation of being elsewhere and an emotional reaction to virtue location

As the **Perception** level, the learner is relatively passive and as such the activity needs more support and direction from the educator. As the VR experience moves closer towards **Immersion**, it becomes more student-led, increasing the potential for deeper learning.

#### VIRTUAL REALITY AND LEARNING: HERE IS THE PEDAGOGY!

Bloom	VR Pedagogy	SAMR
Remember	VR is not the best solution for your learning goal	Substitution
Understand	Far or distant places Past Impossible (inside body, through eyes of so else, in machine, other perspective) Practice safely: no damage to machines, no harm to others Practice safely: no 'confrontation' (soft skills) Practice safely: unlimited: shortage of classrooms, machines, persons or materials Practices safely: unlimited opportunities Practice unlimited: repeat, pause, accelerate, slow down, dangerous Feedback: immediate, always present Feedback: visual, haptic	Augmentation
Apply		Modification
Analyze		Modification
Evaluate		Redefinition
Create		Redefinition

Copyright: Carl Boel

#### **REAL ENVIRONMENT**

#### MIXED REALITY (MR)

#### VIRTUAL **ENVIRONMENT**

#### Tangible User **Interfaces (TUI)**

A TUI uses real physical objects to both represent and interact with computer-generated information (Ishii & Ullmer, 2001)

> Projection Augmented models (PA model) are a type of Spatial AR display, and are closely related to TUIs

Using physical objects to create a virtual model (Ichida, Itoh, & Kitamur, 2004). As a user adds a physical 'ActiveCube' to the construction, the equivalent virtual model is automatically updated.

#### **Augmented Reality (AR)**

AR 'adds' computer-generated information to the real world (Azuma, et al. 2001)



#### 'See-through' AR (either optical or video)

A user wears a head-mounted display. through which they can see the real world with computer-generated information superimposed on top (Cakmakci, Ha & Rolland, 2005:



See-through AR: the butterfly is computer-generated, and everything else is real (Fisher, Bartz & Straßer, 2006; Kolsch, Bane, Hollerer, & Turk, 2006).

#### **Augmented** Virtuality (AV)

AV 'adds' real information to a computer-generated environment (Regenbrecht, et al. 2004)

#### Semi-immersive VR

A semi-immersive VR display fills a limited area of a user's field-of-view





Semi-immersive VR using the Barco Baron workbench (Drettakis, Roussou, Tsingos, Reche & Gallo, 2004).

#### **Virtual Reality (VR)**

VR refers to completely computer-generated environments (Ni. Schmidt. Staadt, Livingston, Ball, & May, 2006: Burdea & Coffet 2003)





#### **Immersive AR**

Immersive VR, which uses either a head-mounted-display or a projection-based system, completely fills the user's field-of-view





Projection-based immersive VR. The users are fully immersed in the 'CAVE' (FakeSpace, 2006; Cruz-Neira, Sandin & DeFanti, 1993).



The 'Bubble Cosmos' - 'Emerging Technology' at SIGGRAPH'06. The paths of the smoke-filled bubbles are tracked, and an image is projected into them as they rise.

**Spatial AR** 

Spatial AR displays project

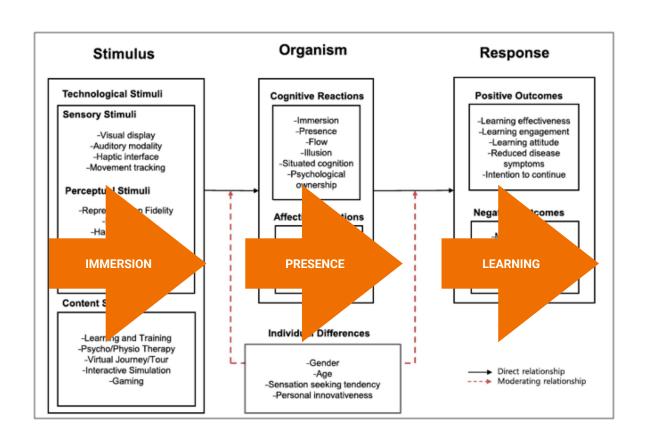
computer-generated information

directly into a user's environment

(Bimber & Raskar, 2005)

# Billinghurst, Grasset & Looser, 2005).

#### **IMMERSIVE LEARNING**



#### **LEARNING AFFORDANCES**

#### 3D VIRTUAL LEARNING ENVIRONMENTS

#### Representational fidelity

Realistic display of environment

Smooth display of view changesand object motion

Consistency of object behaviour

User representation

Spatial audio

Kinaesthetic and tactile force feedback

#### Learner interaction

**Embodied actions** 

Embodied verbal and non-verbal communication

Control of environment attributes and behaviour

Construction/scripting of objects and behaviours

Construction of identity

Sense of presence

Co-presenc

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#### **AFFORDED LEARNING TASKES**

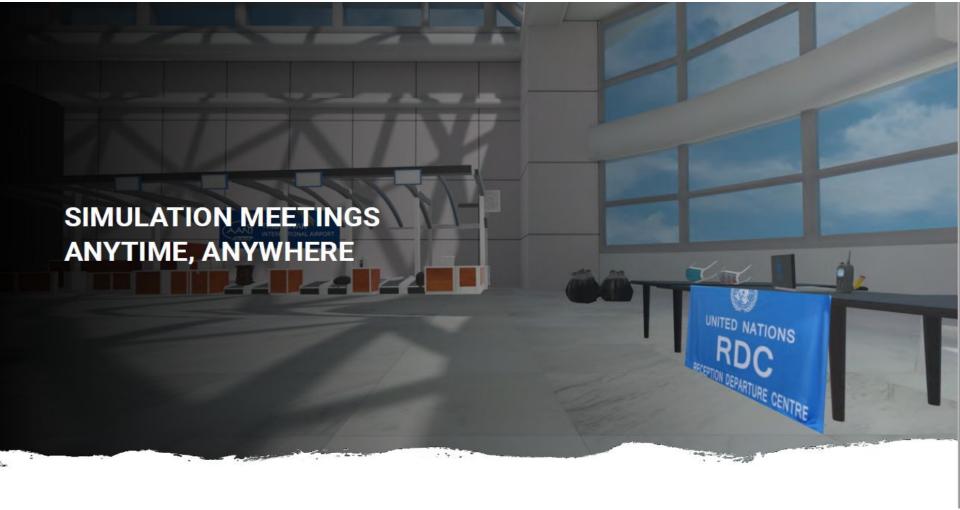
Spatial knowledge representation

Experienti al learning

Engagemen t Contextua I learning Collaborativ e learning

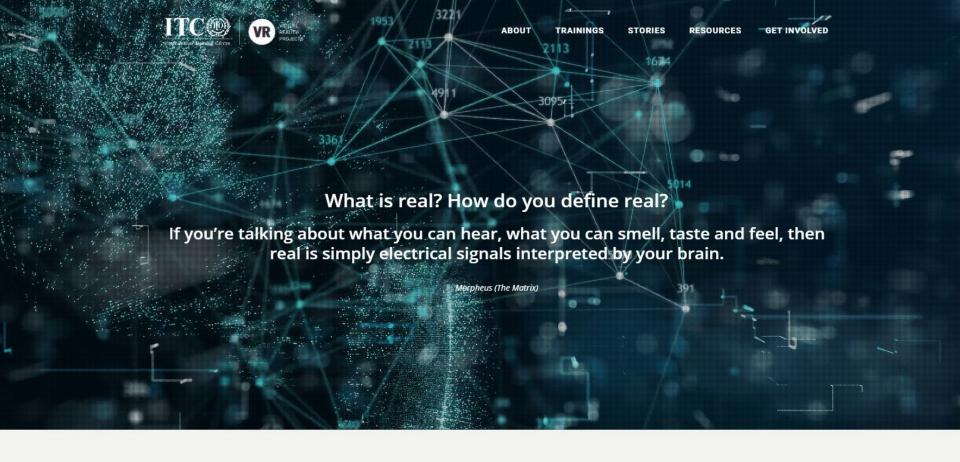
**LEARNING BENEFITS** 











#### **REALITY CHECK**

The future of virtual reality has already arrived. But is the future of work ready?



#### **Next Steps**

- Upcoming webinars (multiple time zones)
  - Tips for making self-guided eLearning content more interactive and engaging with UN Habitat (31 March)

- Small focus sessions (hands-on design sessions)
  - Tools for effectively delivering online training and methods to make blended learning more social and closer to engaging workshop experiences (TBD)



#### For panel Q&A

- Use Mentimeter on your phone, so you can keep Zoom on desktop
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Panel Q&A

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