

Stay Safe VR

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Project name: Stay Safe VR

Project owner: International Federation of Red Cross and Red Crescent Societies (IFRC)

Release date: 2018

Locale: Geneva / Nairobi

Languages: English

URL: https://www.oculus.com/experiences/go/1732706276770632/?locale=en_GB

XR medium: VR with smartphone

Hazards: N/A

Activity: Training

Age group: 3+

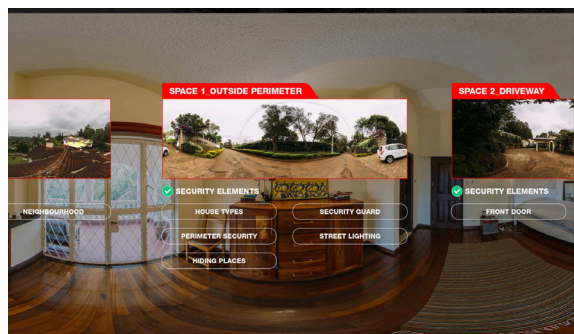
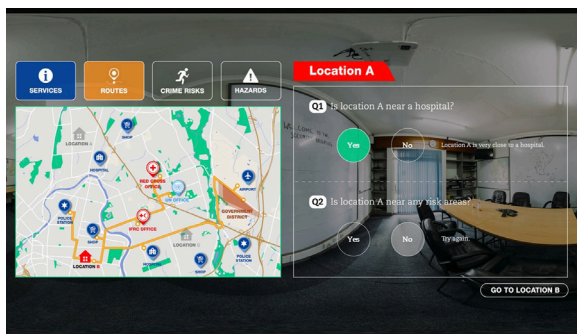


Table of Contents

#1 PROJECT BACKGROUND	P3
#2 AIMS & RATIONALE	P4
Aim	
Rationale	
#3 AUDIENCE	P5
#4 EXPERIENCE	P6
Content description	
Integration into training module	
#5 TECHNOLOGY	P9
#6 PRODUCTION & DISTRIBUTION	P10
Production	
Distribution	
Challenges	
#7 OUTCOMES AND FUTURE PLANNING	P11
Key learnings	
User feedback online	
Future plans	
#8 INTERNAL EVALUATION AND LEARNINGS	P12
Process	
Product and features	
Content	
Scalability	
Effectiveness	
Key Learnings	

#1

Project Background

Stay Safe VR is a 360 Virtual Reality (VR) training application on a Residential Security Assessment (RSA) that can be purchased through Oculus¹ and Samsung Gear. The app forms part of the International Federation of Red Cross and Red Crescent Societies's (IFRC) global security training programme and is delivered by IFRC as part of a one hour security training package with a classroom component. The training module focuses on a location safety and security assessment set in Nairobi and is intended to support international Red Cross delegates choose accommodation that meets the security regulations. The goal of the app is to provide an immersive 360 degree environment with training exercises for IFRC staff to learn how to conduct an RSA in a realistic location.

Stay Safe VR is the first ever virtual reality learning environment for global security training. The app was commissioned by the IFRC's Security Unit in Geneva and created by Finnish agency Lyfta who specialise in immersive technology for education. The Finnish Red Cross (FRC) provided technical communication support for the filming.

The app was designed in 2017, tested at the end of 2017 and released in January 2018. It was internally launched at the Red Cross General Assembly in October 2017 where

it was tested by 300 staff. To date, between 5,000 and 6,000 people have taken the full course. It is publicly available via Oculus and Samsung Gear and can be used by other organisations or individuals looking for interactive security training courses.

¹ https://www.oculus.com/experiences/go/1732706276770632/?locale=en_GB

#2

Aims & Rationale

Aim

Stay Safe VR was designed in response to the need to better train staff to effectively conduct an SRA of IFRC premises, thereby enhancing their own safety and enabling the delegation to be minimum safety regulation compliant. The experience has a pedagogical aim and the learning objective is to enhance Red Cross Red Cres-

cent (RCRC) staff capability to conduct an interactive security assessment on RCRC residencies within a VR environment. Stay Safe VR aims to provide staff and security focal points in both IFRC and National Society (NS) offices with a realistic simulation environment while emulating real life scenarios to the fullest extent possible.

Rationale

Stay Safe VR was created because the current Stay Safe e-learning course of the IFRC - the main tool to train staff and volunteers in security regulations - is out of date in both content and format (Adobe Flash (Action Script), XML, and HTML). As part of the process of updating the online training Stay Safe courses, the Security Unit wanted to look at new forms of technology and how these could complement learning objectives.

In addition to the expiry of the technology, IFRC Security requirements on living premises of staff when deployed overseas changed in 2016 with a revision of hous-

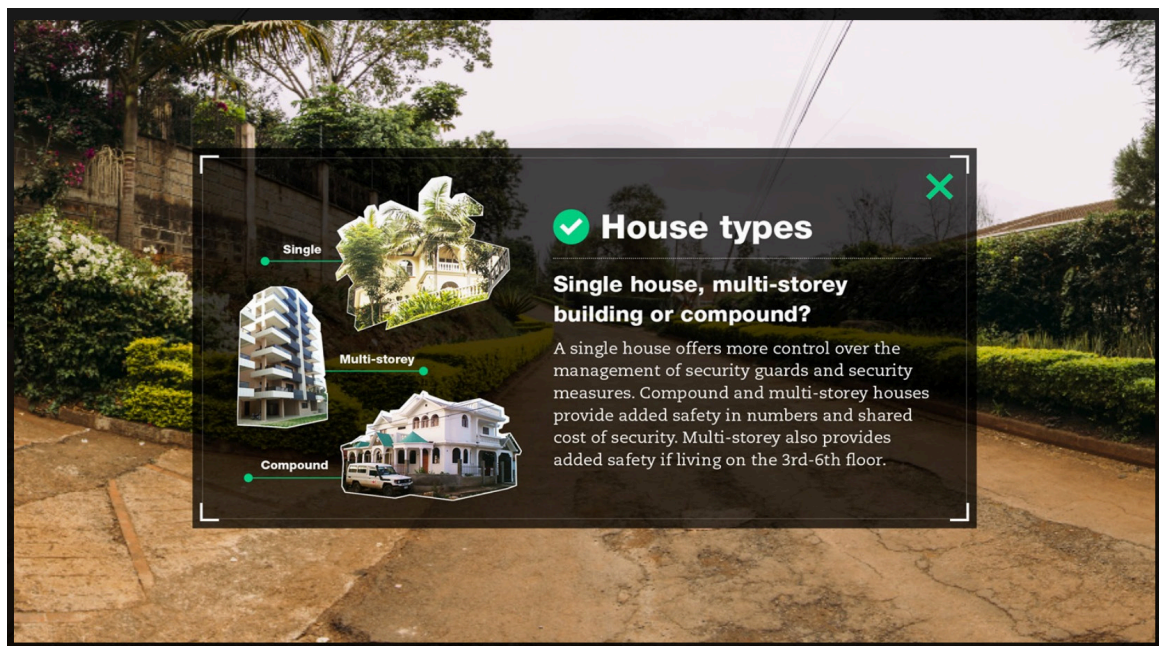
ing policy. All IFRC premises must have appropriate security measures in place in accordance with the minimum safety regulations for that particular context and all premises must be approved from a security perspective by the IFRC Head of Country Office. Before 2016, a security risk assessment would be conducted by the IFRC's security focal point, but now this is only the case in non-family duty stations where IFRC provides accommodation. In other duty stations delegates must conduct their own RSA of the premises to be vetted by the organization.

#3

Audience

The primary target audience for *Stay Safe VR* is niche: mostly expat international delegates and IFRC security focal points. IFRC would like to roll the experience out to

National Societies in the future. Given that the app is available publicly it can be used by anyone. The target age range according to the Oculus store guidance is PEGI 3+.



#4

Experience

Content description

The experience takes place in Nairobi, Kenya. The user is tasked with conducting a risk assessment of a typical IFRC delegate residence. The experience is intended to be used as a one off, but is made so that a user can go in and out of the simulations or go into specific parts that they want to focus on. The security assessment in virtual reality forms part of a one hour training package. The user spends 22 minutes in VR with a 20 minute break approximately half way through.

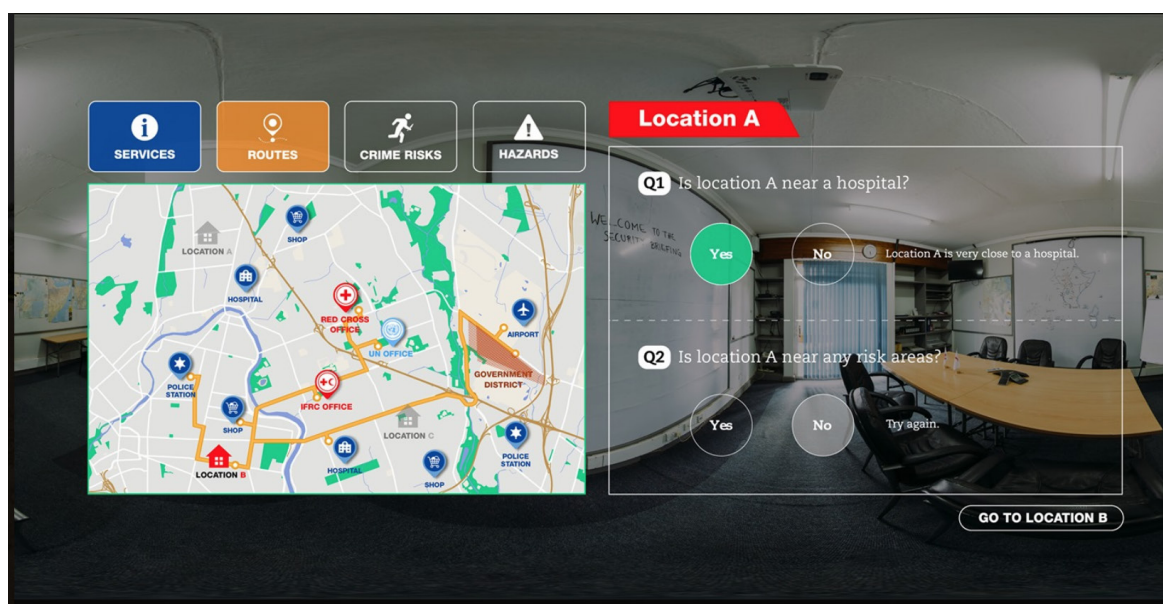
The simulation consists of two parts:

1. **Introductory video:** This observational 360 video of a neighbourhood in Nairobi was included to give the user a feeling of immersion in the context

where the simulation takes place. An area characterized by high crime was chosen. The video lasts approximately one minute.

2. **Training task:** This is the main part of the simulation and is set in a fictitious country. The training task is divided into two parts: 1) in the briefing room and 2) residential spaces.

1. **The briefing room** (total time 4 minutes): The user is provided with the security risk context and asked to assess the best location of a residential house, based on proximity to the office, key services and considering hazard and crime risk areas



1 in the briefing room

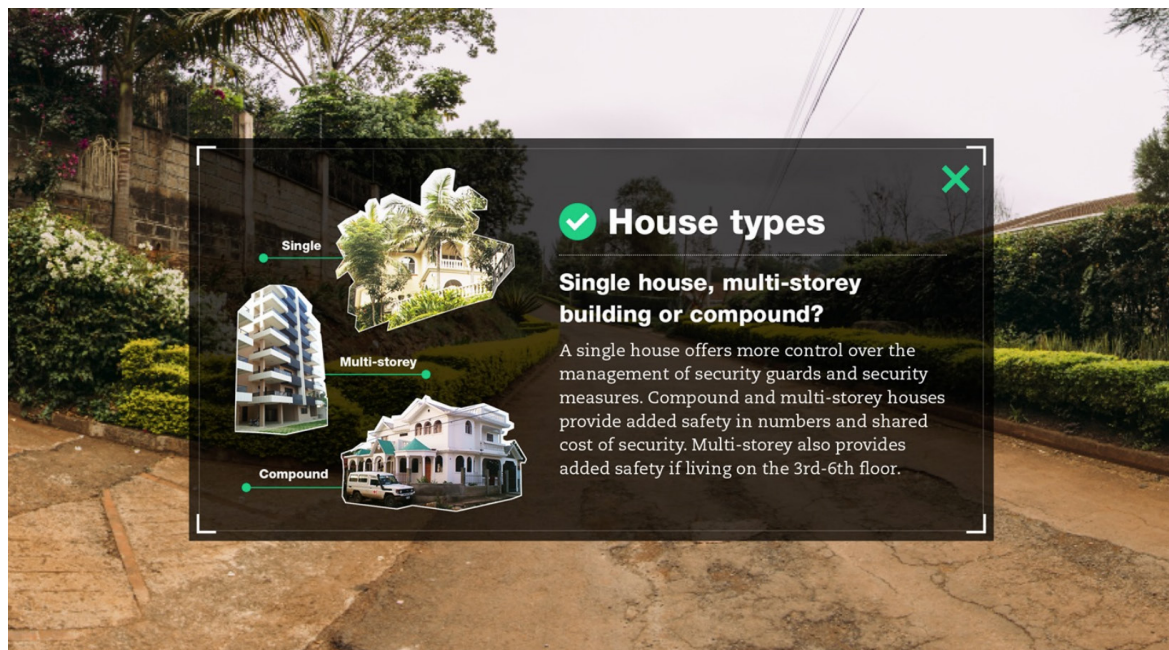
2. Residential spaces: The user is taken to the location they have chosen - a typical residential house. They are then tasked with conducting an RSA of the building and neighborhood. This is divided into seven scenes:

1. Outside perimeter
2. Driveway
3. Living room
4. Kitchen
5. Bedroom
6. Garden
7. Rooftop

The RSA takes approximately four to five minutes per scene - a total of 28-35 minutes to complete all of the scenes. In each area, the user is asked to identify areas of key security interest or concern, such as perimeter lighting, locking mechanisms of doors/windows, deterrence signs that the residence is guarded by a security company, list of emergency contact numbers, alarm system, electric sockets and wiring, guard equipment. Messages are kept to a minimum.

A typical one hour training session has the following components:

1. **Introductory briefing** (in person) - 5 mins
2. **VR Intro video** (in VR) - 1 min
3. **Training task** (in VR) - 20 mins
4. **Group work** (in person) - 20 mins.
5. **Redo of original residential assessment** (in VR). During this stage certain security related aspects that the learner was able to zoom in on during the first assessment are highlighted to emphasise key learning points - 8 mins.
6. **Wrap up of assessment exercise** (in person, in plenary). The groups need to answer if the property is MSR compliant and give the rationale for their decision. During this group work, the users discuss with the facilitator why they selected certain options and on the broader risk assessment. At the end, the facilitator provides an IFRC residence/office/hotel assessment checklist to participants - 5 mins.



2 residential spaces



Nairobi was chosen for filming because IFRC had resources in-country that could be of assistance during pre-site/residence selection, pre-production support and support/resources available during the filming. However the RSA part of the experience is set in a fictitious country so that all the main learning points could be covered, that would apply to any context. The fictitious country scenario is based around a context where there is no armed conflict,

but high crime in certain areas. It is prone to political instability, armed insurgency in neighboring countries which impact negatively on in-country stability. There has been an influx of refugees and the country has experienced economic downturn in recent years and certain natural hazard risks.

The original project proposal considered a home, a warehouse or an office for the RSA, but a home scenario was chosen in the end because of the change in IFRC Housing policy resulting in international staff now arranging their own residential accommodation, as well as the need highlighted for additional training support in this area. It was not possible to cover all sites, but the simulation stresses that a similar process should be conducted when conducting an RSA on other types of sites.

Integration into training module

The 360-degree immersion training is not a stand-alone product, but part of a one hour training module incorporating a classroom in person component to accompany the virtual reality. Exercises, group work, work plans and other supporting documents are used to enhance the learning experience and reinforce key learning points from the simulation.

The virtual reality part of the experience is long (22 minutes according to IFRC, at least 28 according to the GDPC test) and therefore it is essential to break this up into two parts with group work in the middle. The entire training package is structured to further the learning objectives and not act as a stand alone immersion tool. Support materials required for the training module include:

- ▶ Stay safe manuals
- ▶ Minimum Security Regulations policy
- ▶ IFRC Housing policy
- ▶ Country/area risk assessment
- ▶ Annex 1, residential security assessment checklist



#5

Technology

After reviewing various forms of technology, the IFRC Security team decided to test virtual reality by creating one module that is one small part of the overall Stay Safe course, and then decide if it was an approach that could be expanded to other parts of the course. They decided to start with a residential security assessment after analysing the areas of the course that would be most appropriate for a virtual environment. The project team explored other delivery modalities such as online version used through a tablet or desktop computer and/or using solely 3D imagery. They also discussed producing a fully immersive 3D simulation in partnership with the International Committee of the Red Cross, but decided against this because of the cost of producing a simulation with high quality graphics and the desire for a realistic scenario based on actual video footage.

Although Stay Safe VR uses 360 degree video that has been used extensively for awareness and fundraising campaigns across the sector, the Stay Safe VR team did not want to use 360 video with only observation by the user. They wanted to create an interactive experience and a learning opportunity, building off the video that immerses the user in a realistic environment. Therefore the 360 video setting the scene in Nairobi is only a small portion of the experience.

The Stay Safe VR is a virtual reality appli-

cation designed in Unity that works on Android smartphones. It is available for free on the Oculus store, however the app supports only the Oculus Go and Gear VR headsets, so a compatible headset is required to experience it. The app combines real life footage with a layer of interactive menus which are triggered by fixing the view at menu items. A layer of sound adds to the feeling of immersion to the simulation.

The IFRC Security Team procured 25 headsets and phones (Samsung S7) + Samsung VR Gear that were distributed to all IFRC regional offices.

Within the Red Cross Movement, the virtual reality training is usually delivered by the security focal points in regional offices.

#6

Production & Distribution

Production

Stay Safe VR was a collaboration between the IFRC, the Finnish Red Cross and Finnish agency Lyfta. The production process took nine months. Finnish Red Cross provided the audio/visual hardware/software needed for all phases of the project (pre-production, filming and post production in Nairobi) and coordinated with Lyfta. Lyfta advised on the technical specifications of VR equipment needed and preferred and built the simulation, based on the script provided by IFRC. Lyfta specialises in educational training, have worked on humanitarian projects in schools in the past, and brought a strong pedagogical approach to the production.

IFRC led on the film script, in close collab-

oration with FRC and Lyfta. IFRC pre-identified a suitable residence to be filmed with support of IFRC Nairobi security team. IFRC identified and provided a suitable classroom to film the risk assessment briefing and arranged in-country logistical support at the time of filming.

Stay Safe VR was tested at the Red Cross Movement's General Assembly in 2017 in Turkey, where 500 people tried it over the four day event. Most feedback to date has been face to face, after the training session is delivered, and built into the course evaluation session at the end..

Distribution

Stay Safe VR has not yet been rolled out at scale, although it is already publicly available on the Oculus website. To date distribution has consisted of:

1. Testing at the General Assembly
2. IFRC has started to integrate it into the Security Training Unit's trainings conducted in Geneva
3. IFRC Geneva Security Unit team has distributed 6 or 7 headsets and phones to all of their regional offices (Aftica, Asia Pacific, MENA, Americas).

Stay Safe VR will be rolled out at scale across the Movement once the e-learning modules have been updated (see future planning section).

Challenges

Challenges in the production of Stay Safe VR included:

- Filming in Nairobi: for example securing permission to use drones, or film in certain areas.
- Equipment: the equipment needs to be loaned to National Societies if they are to use it, as they rarely have the equipment themselves, or have this as a priority.
- Production time and resources: The people involved had to work on this project on top of a full time job and it took much more time than expected, particularly ensuring the script was correct.

#7

Outcomes and Future Planning

Key learnings

Some key learnings and insights highlighted by the IFRC Security Unit:

- ▶ Stay Safe VR has been well received by those who have been through the course so far
- ▶ The production team learnt a lot about methods of delivery for e-learning courses in general as part of deciding which technology to use. This learning has been useful in the broader process of updating the e-learning Stay Safe Course
- ▶ Feedback should be collected more systematically
- ▶ More time should be planned in for the production process - it was much more time consuming than they had planned for, between the preparation, script writing and filming.
- ▶ Should have had a more structured production process.
- ▶ Not as good value for money as the e-learning courses. Stay Safe e-learning cost 300K USD for approximately 200K users, which works out at approximately 1.2 USD per user. The virtual reality equivalent is more like 8-10 USD pp to date.
- ▶ Overall more expensive and not as scalable.

User feedback online

The app has been rated with three stars out of five on the Oculus site, out of 14 ratings.

Future plans

Future plans for *Stay Safe VR* are tied to the roll out of the updated *Stay Safe* e-learning course, that will be completed by the end of 2019. The virtual reality training module will be rolled out and publicised much more widely at the same time as the broader course. The IFRC team will also roll it out to National Societies, as far as the limited number of headsets will allow.

with agency Sweet Rush, will include be more interactive than the current version, with gaming features included, building on the latest in e-learning. The IFRC team is also considering turning *Stay Safe VR* into a desktop version with the same decision making features, that is less immersive but able to reach more people, given the technological restrictions that VR poses.

The new e-learning course, being produced

#8

Internal Evaluation and Learnings

Process

The design and production process used a combination of internal Red Cross expertise on both the technical area required (Security, IFRC) and AV (Finnish Red Cross communications team) and external digital and educational expertise. This combination brought a strong pedagogical approach but also capitalised on internal expertise.

The content was led by technical security experts and aligned with the security re-

quirements of IFRC. The experience is easy to use, and the user can dip in and out easily if the entire training course is too long or there are motion sickness issues. Some motion sickness was reported in users but this is kept to a minimum as the user is not required to move around extensively in the simulation, but rather select items from menus through a pointer from the headset.

The production process worked well in terms of coordinating among the different parties, but was reported to be time consuming and the amount of time needed, particularly for the script writing and filming, was underestimated. The primary focal point in the IFRC is also the head of security with a demanding full-time job. The process would have benefitted from a focal point with dedicated time allocated to the

script writing process. The use of internal resources did however keep production costs lower.

Lyfta managed the user testing process, and this was not conducted on Red Cross staff or volunteers as far as is known, until it was piloted at the General Assembly in October 2017.

Product and features

The combination of real life footage plus interactive menus places the user in a learning environment but with a sense of immersion in a real-life context that they might find themselves living in and conducting a security residential assessment in. This immersion adds a sense of reality to the experience that cannot be achieved in the e-learning desktop experience.

The content is full of decision making opportunities, as the user conducts the assessment and decides if a residence is safe to live in or not. Feedback is given to

the user both in the virtual experience, and then in person if they are taking part in the full one hour training course - in the middle and at the end of the experience. During the second half of the simulation, the user is given more feedback on their choices. The app does not incorporate any behavioural analysis.

The developers at Lyfta will be responsible for updating and improving the app. The fact that this is not in-house and will require more budget could become a hurdle to the updating process.

Content

The content of Stay Safe VR is based on specific security protocol of the IFRC and on training materials that were already developed. This made the content design process easier, with the main challenge being the selection of what part of the Stay Safe content would be most suited for virtual reality. The team was ambitious to create a 28+ minute simulation - Stay Safe VR is longer than most VR experiences are recommended to be and therefore the menu that allows the user to re-enter specific scenes is particularly important. They

also made sure to keep the messages to a minimum so that the user can understand the process and not have the simulation as a stand alone experience.

It is unlikely that young people would use the app, but if they do download it there is no major concern about the content, as most of it is a training module inside the house. The outdoor scene in an insecure part of Nairobi does not show any direct violence or disturbing scenes.

Scalability

The content filmed of a house in Nairobi looks similar to many typical residential locations that IFRC delegates would live in globally, and is therefore scalable across the Red Cross Movement as an illustrative residential example despite only detecting one location.

However overall *Stay Safe VR* is not as scalable as the e-learning course equivalent, given that the majority of delegates will not have the equipment. The regional offices supplied with headsets can use them in training, but only if the one hour training package is rolled out globally. At time of writing, the experience has not been widely rolled out and individual country delega-

tions do not have the equipment, so either delegates would have to have regional office briefings that include the VR component, or conduct the e-learning module instead.

At time of writing, approximately 5.5k people have been trained with the VR experience, and over 200k on the *Stay Safe* e-learning.

In addition, *Stay Safe VR* is only available in English. The IFRC has four official working languages, so this will be a hurdle to global roll out. At the time of writing there was no plan to translate the app into other languages.

Effectiveness

The owners of *Stay Safe VR* have yet to roll it out across the Movement at scale, however they are questioning the cost effectiveness of a training method that is not accessible to all without the headsets, and that will always be a more niche market than the revamped e-learning courses. The reality is that most people taking the

security training courses before deployments do so in their own time, from the office or from home, and a desktop/laptop setting is more likely to be used, and much more scalable. It is questionable how much value virtual reality adds to the learning outcomes.

Key Learnings

Stay Safe VR is very effective at immersing the user in a realistic situation and adds much value to the process of RSA training required of all IFRC delegates. It has been a positive experience for IFRC to take a new, innovative approach to training. However in the case of *Stay Safe VR*, this does not offer a scalable option for training globally, unless it is accompanied by a more robust

roll out. Even then, for a training course that most delegates do in their home before or at the start of deployment and not as part of a training package, it is questionable whether virtual reality is the most effective method.

Key learnings include:

- ▶ Production time and resources:
 - ★ There is a need to plan sufficient time for script writing and liaising between client and agency
 - ★ Dedicate a focal point with time in their job description for managing the production process and agency liaison
- ▶ Virtual reality does not fit every training need and there needs to be a clear advantage for selecting this technology, that is not yet as scalable as other approaches
- ▶ It is difficult to fit an e-learning course into a virtual reality experience. It is essential to choose a small part, with a small selection of key messages, and mainstream into a broader learning curriculum
- ▶ VR with 360 video of real locations adds a level of immersion that increases the quality of the learning experience.



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