



DIGITAL TOOLKIT: VIRTUAL INCLUSION

Version 3.0



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Milton Keynes, UK

Contents

1	Introduction to the Project	2
1.1	Inspiration	2
1.2	History	2
1.3	What is VR	2
1.4	Why VR is important for promoting Social Inclusion	2
1.5	How does it work?	3
1.6	Participatory approach.....	3
1.7	The scenarios	4
1.7.1	Rashid	4
1.7.2	Kasia	4
1.7.3	Darrell	4
2	Platforms & Equipment	5
2.1	Using Classroom TV/Projector	5
2.1.1	Overview	5
2.1.2	Equipment preparation	5
2.1.3	Playing the scenarios	5
2.2	Using individual laptops/tablets	6
2.2.1	Overview	6
2.2.2	Equipment preparation	6
2.2.3	Playing the scenarios	6
2.3	Using VR Headset	6
2.3.1	Overview	6
2.3.2	Equipment preparation	7
2.3.3	Playing the scenarios	7
2.3.4	Technical concerns	7
3	Teacher's notes	8
3.1	How to Use Toolkit	8
3.2	Videos of teachers.....	8
3.3	Possible Themes:.....	8
3.3.1	Theme 1: Identifying Discrimination	8
3.3.2	Theme 2: Building Social Resiliency.....	9
3.3.3	Theme 3: Fostering Greater Empathy	9
4	Keeping the conversation going	10
5	meet the Project Team	11

1 INTRODUCTION TO THE PROJECT

1.1 INSPIRATION

The world is now facing a global challenge of hate and extremism. This is additional to the existing challenge of bullying among children in different contexts. This means that we must harder than ever to raise awareness and tackle any sort of extremism with everyone especially children as they may not have a suitable space for them to discuss and process the influx of hatred spread in the news, social media, and possibly their families. To support them, they should be involved in constructive discussions about such essential topics. We worked on virtual inclusions with all of this in mind to leverage educational technology with the help of multimedia and gamification to achieve this vital goal with the help of virtual reality.

1.2 HISTORY

Technology has been used for long as a tool for education. It is linked to increased student engagement especially when it is accompanied with suitable interactive multimedia. However, there has always been a challenge in creating digital content for social inclusion where you can make someone witness an experience from the eyes of others. That's where the virtual reality technology started to see the light.

1.3 WHAT IS VR

Virtual reality (VR) is an interactive computer-generated experience taking place within a simulated environment. It incorporates mainly auditory and visual feedback. VR is the use of computer technology to create a simulated environment. Unlike traditional user interfaces, VR places the user inside an experience. Instead of viewing a screen in front of them, users are immersed and able to interact with 3D worlds.

1.4 WHY VR IS IMPORTANT FOR PROMOTING SOCIAL INCLUSION

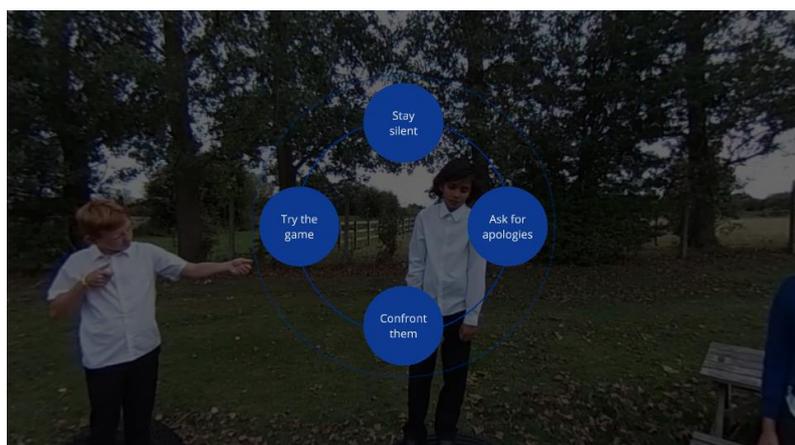
Virtual inclusion, which is the name of this project means the use of VR (virtual reality) technology as a tool to promote social inclusion and tackle discrimination among children. The importance of VR has various reasons. First, it allows children to experience something that they cannot experience in real world and furthermore allows them to see something from the eyes of someone else. Additionally, the research on engagement and the data that we collected from our demonstrations all strongly suggest that technology in general and especially VR intensely increase children engagement. Children have told us that this cool technology made it way easier to break the ice on intense discussions about inclusion, discrimination, and extremism.



Different scenes that can all be experienced by tilting the devices left and right

1.5 HOW DOES IT WORK?

VR can be implemented in different methods, one of which – the one we implemented- is through 360 videos. This type of videos allows the users to navigate around and see whatever is surrounding them. A perfect example is Google street experience where you can navigate different streets in the world from the comfort of your own device. We followed the same method but using videos, sounds, and interaction buttons. Our videos capture different scenarios of cases of discrimination among school students and are provided through our “Virtual Inclusion” application. The aim is for the students to watch these videos on various possible devices where they can watch, interact, discuss, make decisions, and learn from the experience. As we will see later in this toolkit, the teacher will lead constructive discussions before and after the videos and use the stories in the scenarios in the educational goal they plan to achieve.



Interacting with the videos by making decisions throughout the story

1.6 PARTICIPATORY APPROACH

To make sure that the outcome of our project is as engaging and relating as possible. We decided to follow a participatory approach by involving the students, teachers, and different community members and actors from the early stages of development. The stories that we produced have been collected from real stories collected from real children and teachers, and filmed with the help of real school student children. Several demonstrations and case studies have been conducted in collaboration with many schools in the UK. The goal was to get the feedback from the teachers and students, in addition to the user experience testing to evaluate and improve the technical aspects. The feedback received was very positive from both teachers and children. We are also working with several community actors to see how this tool can be used to promote inclusion in different contexts.

1.7 THE SCENARIOS

Currently, we have three different scenarios in the Virtual Inclusion app. Here we will provide a brief overview on each scenario. Please feel free to download and try the scenarios yourself. Once the app is opened, the user will see the following window to choose one of the scenarios to be played.



1.7.1 Rashid

Rashid is a child from the middle east. His friends are obsessed about a new viral video game where players play in teams as either police or terrorists. His friends suggest that he may want to join them and play as a terrorist which makes him feel unhappy. He gets the chance to either stay silent, ask for apologies, try the game, or confront his friends.



A scene from Rashid's scenario

1.7.2 Kasia

Kasia is a girl from an eastern European country joining a school in the UK. She faces some difficulties dealing with some of her new colleagues who question her language skills in a way that add extra stress to her school experience. However, her teacher and some other colleagues will have the chance to stand by her.



A scene from Kasia's scenario

1.7.3 Darrell

Darrell is a school boy who is from a Caribbean descent. He faces various experiences where he feels that he is being dealt with differently than other kids because of his skin colour. The ultimate challenge is when some children at school decide to take his backpack. That's where the chance comes for someone to stand by him and help him.



A scene from Darrell's scenario

2 PLATFORMS & EQUIPMENT

One of the most questions we get asked in our demonstrations is regarding equipment. We understand that some people may think that such technology requires equipment that are too complicated to be implemented in an ordinary school. Therefore, Virtual Inclusion app was designed to be fully flexible and suitable for a range of devices such as laptops, mobile phones, tablets, VR headsets, or even a simple classroom projector. Furthermore, Virtual Inclusion is playable on all main Operating Systems such as: Microsoft Windows (Through the internet browser), Android (most smart phones and tablets), and Apple iOS (iPhones and iPads).

This section will discuss the different operating systems and equipment that can be used to run Virtual Inclusion application. You should note that the equipment are two types:

Shared equipment: such as classroom projector and laptops that are used by a group of students.

Personal equipment: such as a VR headset, mobile/tablet application, personal laptops that are used individually.

We normally advise to start any lesson plan with a scenario experienced on a shared equipment where the teacher navigate the app and trying one scenario. This way the students get a grasp of the app, how it works, and how to navigate through it. Afterwards, the teacher can ask the students to use the app on personal equipment, so they have full control and autonomy of their experience.

2.1 USING CLASSROOM TV/PROJECTOR

2.1.1 Overview

In this case, the teacher would be controlling the app explaining to the students its purpose and how it works.

2.1.2 Equipment preparation

The app would be played on a laptop or a mobile/tablet that is linked to the classroom TV/Projector, so its content can be seen by all the students.

2.1.3 Playing the scenarios

Throughout the scenario, the teacher would control the navigation of the 360 video to focus on the angles where the events are happening. In addition to continuous navigation to allow the students to feel that they are in the middle of the scene.

In case the scenario leads to a decision-making stage. The teacher would take a moment to discuss the scenario and the different possibilities with the students. This discussion should then lead to choosing one option that the teacher will click on the screen, and the video will continue.



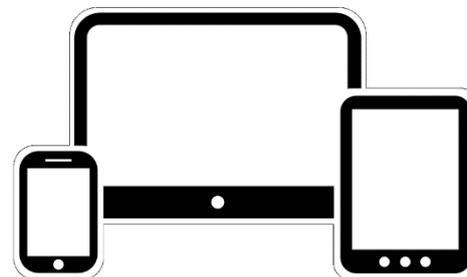
2.2 USING INDIVIDUAL LAPTOPS/TABLETS

2.2.1 Overview

In this case, each student will have full autonomy of the application. They will be able to choose which scenario to play and they will choose what to do in the decision-making phase in each scenario.

2.2.2 Equipment preparation

For laptops that use Windows or Mac OS, the app can either be played on the web browser following this link (www.link.com) which would need internet connection.



For laptops with Android Operating System such as Chromebooks, or any tablet/smart phone running Android operating system, then the Android version of Virtual Inclusion can be downloaded as standalone application on the laptop would be then able to play the scenarios with no internet connection required.

For any device (tablet/smart phone) running iOS operating system, then the iOS version of Virtual Inclusion can be downloaded as standalone application on the laptop would be then able to play the scenarios with no internet connection required.

P.S: We really advice to use headphones to avoid the noise in the classroom and to allow students to be fully immersed in the experience.

2.2.3 Playing the scenarios

The students will be controlling the application and will be able to watch multiple scenarios.

2.3 USING VR HEADSET

2.3.1 Overview

The use of VR headsets might be new to many people and it is way easier than many think, here we will explain how they work and how they can be used for Virtual Inclusion. Mainly, the application would be downloaded on a smart-phone, then the phone would be inserted into a VR headset. What the user sees is the smart-phone screen, the VR headset only acts as a casing for the smart-phone with special lenses that allow 360 view from the smart-phones screen.

It is important to note that VR headsets prices vary and the users can easily use Google cardboard VR headset (see picture on the right) with a price that starts from £5 per headset.



Google Cardboard VR

2.3.2 Equipment preparation

Smart phones running Android operating system require the Android version of Virtual Inclusion which can be downloaded as standalone application on the laptop would be then able to play the scenarios with no internet connection required.

Smart phones running iOS operating system require the iOS version of Virtual Inclusion can be downloaded as standalone application on the laptop would be then able to play the scenarios with no internet connection required.

P.S: Headphones should be connected to each smart-phone, some VR headsets include headphones that can be connected to the smart-phone either using a wire or using Bluetooth. Please refer to your headset manual if unsure.

2.3.3 Playing the scenarios

Once the application is installed on the device, the application would be started and then the VR headset will be closed with the smart phone placed inside. The VR headset will be placed on the user's head. We shall make sure that the headset is steady and that the user can see the content clearly. If the content seems blurry, then this can be fixed from the dials on each lens on the headset. Once the application starts, a small white dot will appear in the middle of the screen, the users would tilt their heads right and left to place that white dot on any button on the screen for 4 seconds and that button will then be triggered to choose one of the scenarios. Later, the same will apply to make a choice at the decision-making stage.

2.3.4 Technical concerns

Users should be supervised while watching especially if they need any assistance. We highly recommend that users should be seated while having their VR experience, this is to give them the freedom of rotating without the risk of falling.

Please refer to your VR headset/smart-phone manual if unsure of anything.

Some users may feel unwell when experiencing VR especially if this is the first time, this is normal due to motion sickness. In such case, we advise that the student should be advised to use another platform such as a touch screen, a laptop etc.

3 TEACHER'S NOTES

3.1 HOW TO USE TOOLKIT

This toolkit is meant to be as a guidance for the teachers and is not meant to provide strict ways of using the application. We understand that teachers may decide to use the application for different purposes depending on the age group they are working with, the educational goals, the session time, and many more dynamics. To get the most of this toolkit, read first two sections (Introduction, Equipment and Platforms) to get a grasp of the application, how it works, and the main project aim. Afterwards, we think that you would really benefit from listening to what other teachers said about this project/application, this can be found in section 3.2. Finally, for your guidance, we have provided some possible themes (section 3.3) that you may want to use the application to cover. Feel free to mix and match the ideas with what suits your class and to achieve your educational goals. And if you have any suggestions or notes that can make the application or this toolkit better, please do not hesitate to contact the project team which you can know more about in section 5 at the end of this toolkit.

3.2 VIDEOS OF TEACHERS

As we stated earlier, we have worked following a participatory approach with the help of some wonderful teachers who have provided invaluable help throughout this project. We think you would be interested in knowing what they say. Please find a link for video interviews with two teachers.

Emma: <https://www.dropbox.com/s/868jtdqusqpq26d/Emma%20interview%20cam%201.mov?dl=0>

Fran: <https://www.dropbox.com/s/zgqss7te82mf4py/Fran%20interview%20cam%201.mov?dl=0>

3.3 POSSIBLE THEMES:

For your guidance, we thought about providing you with some possible themes. Feel free to mix and match and improve these possible themes with whatever suits your educational goals, age group, lesson plans, equipment, and session time.

All our guidance lesson plans have three main parts: (1) **Reflect**, (2) **Share**, and (3) **Engage (practice)**.

3.3.1 Theme 1: Identifying Discrimination

- a. **Introduction:** How can you identify instances of discrimination among young people
- b. **Ideal age groups:** 9-12 year olds
- c. **Lesson Plan**
 - i. **"Let's Begin" - Reflection:** Use big Screen of a scenario for group reflection (10 - 15 minutes)
 1. What is the difference between bullying and discrimination
 2. Have you ever encountered discrimination in your life?
 3. Why is discrimination hurtful?
 - ii. **Main Activity - Sharing:** Ask Students to watch in groups of 2 - 3 on a tablet and share. Ask each group to list the instances of discrimination in each scenario. Then return and share with other groups in class. (30 minutes)

- iii. **Putting it into Practice:** Engagement: Allow students to re-watch one of the scenarios in the headset. Then have them write down or discuss in groups 1 - 3 ways they have personally faced or seen similar things happen in their school community as well as 1 - 3 ways they would try to address this discrimination if they saw it again. (30 minutes)

3.3.2 Theme 2: Building Social Resiliency

- a. **Introduction:** How can you build skills necessary to promote social inclusion in your school and community?
- b. **Ideal age groups:** 12 - 14-year-olds
- c. **Lesson Plan**
 - i. **Let's Begin - Reflection:** Provide students with reflection questions and allow them to independently explore one of the scenarios. (10 - 15 minutes)
 1. What can it be hard to confront instances of discrimination in my school and among my classmates?
 2. What are the main reasons that young people discriminate against each other?
 3. What can you realistically do to help make young people you know feel less discriminated against?
 - ii. **Main Activity - Sharing:** Ask students who group themselves according to scenarios. Each group will then present the scenario on the big screen in front of the class followed by a brief discussion of the reflection questions (30 minutes).
 - iii. **Putting it into Practice:** Have students break up into pairs and watch a different scenario than the one they previously experienced. They can take turns watching this scenario with a headset after which they can playact the different outcomes to the scenarios based on what they feel would realistically happen in their schools and community. (30 minutes)

3.3.3 Theme 3: Fostering Greater Empathy

- a. **Introduction:** How can you use VR technology to promote greater empathy for those experiencing discrimination - including possibly yourself!
- b. **Ideal age group:** 15 - 17 year olds
- c. **Lesson Plan**
 - i. **Let's Begin - Reflection:** Allow students to experience one of the scenarios through the headset (10 - 15 minutes)
 1. How can you put yourself into another person's shoes?
 2. How can a personal narrative help bring to life often complex social and structural issues?
 3. How can being immersed in another's experience foster greater empathy of others?

- ii. Main Activity - Sharing: Place students into groups of 3 - 5 and ask them to watch the scenario again as a group on the tablet and create "internal monologues" for each of the characters of their selected scenarios. (30 minutes)
- iii. Putting it Into Practice: Have students watch the scenario on the screen and then present their "internal monologues" in front of the class (30 minutes)

4 KEEPING THE CONVERSATION GOING

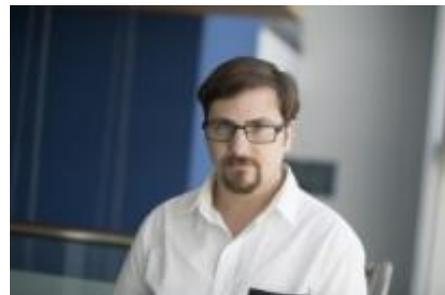
Our project wouldn't have been achieved without the input of many great teachers, students, and actors. We strongly believe that the key for our project to continue and expand is to keep a communication channel with our users.

Please do not hesitate at all by contacting us for any questions or suggestions that you feel are important to move this project to the next stage.

5 MEET THE PROJECT TEAM

- Dr Peter Bloom (UK Open University), Project Manager:

Is the Head of the Department of People and Organisations at the Open University, Co-Founder of the research group REEF (Research into Employment, Empowerment, and Futures). His research focuses on critically reimagining contemporary power, politics and economics - specifically related to themes of democracy, capitalism, and technology. His books include *Authoritarian Capitalism in the Age of Globalization* (Edward Elgar Press), *Beyond Power and Resistance: Politics at the Radical Limits* (Rowman and Littlefield International, November 2016), *The Ethics of Neoliberalism: The Business of Making Capitalism Moral* (Routledge, 2017), *The Bad Faith in the Free Market: The Radical Promise of Existential Freedom* (Palgrave Macmillan, 2018), and *The CEO Society: How the Cult of Corporate Leadership Transform Our World* co-written Carl Rhodes (Zed Books). His writing has been additionally featured in top international and national media outlets such as The Washington Post, The Guardian, and The Independent, The New Statesmen, The Week, The Conversation and Open Democracy among others. Recently, he has served as the lead academic on a range of BBC programmes including "The Bottom Line" on Radio 4, the "Can Britain Have a Payraise" aired on BBC2 and most recently the two part television documentary "The Secrets of Silicon Valley".



Dr Peter Bloom

- Proff Shailey Minocha (UK Open University):

is a Professor in the Faculty of Science, Technology, Engineering and Mathematics at The Open University, UK. Her research has two strands: learning technologies and social computing. She has studied diverse contexts in emerging online domains: how website design influences purchasing behaviour; how social software supports research dialogues; how blogs and wikis can promote reflective learning and support globally distributed software development teams; how online social interactions can offset social isolation and loneliness in older people; how activity monitoring technologies can help improve physical well-being; how virtual reality can provide authentic field trip experiences; and how to design 3D spaces in virtual worlds that exploit the artificial while relating to reality."



Proff Shailey Minocha

- George Alain (UK Open University), Educational Technology Academic. User Experience Research & Digital Toolkit:

George is a full time PhD researcher working on his thesis titled: "A Process for Designing Educational Technology Systems for Displaced War-Affected Children". George is experienced in conducting field work and participatory design workshops with children and adults. George was involved in several parts of this project from research, to researching and reporting the user experience feedback and usability testing notes from various demonstrations taking care of the technical aspects and acting as a bridge between the application users and the technical software development team at Animorph. Prior to his PhD, he studied Computer Science (BSc), Information Technology Management (MSc), and has worked in the



George Alain

computer development industry in areas of E-governance, Health, Education Gamification, with research focus on engagement, motivation and participatory user centred computer systems design.