VIRTUAL VISITS:
SCHOOL TRIPS FROM HOME

A virtual visit to an inspiring location can provide a respite from remote lessons.
**Alan O'Donohoe** shares tips for creating happy memories of a shared experience

When we are thrown an unexpected curveball, whether it be the unexpected absence of a colleague, severe weather conditions, or a global pandemic, it can be tempting for us teachers to put any planned school trips on hold. But our students may not appreciate a curriculum that consists of just the absolute necessities, particularly if they are finding it difficult to cope with events they have little control over and would welcome activities to take them away from it all.

It's likely, in anticipation of the possibility your school may need to close at short notice this term, that you will already have contingency plans in place for blended, online learning activities to be accessed remotely. When planning these activities, it can be difficult to inject fun, excitement, and interest. This is where a virtual visit can be a real game changer, as it offers unique opportunities to create a different kind of learning experience for students, one which broadens their horizons outside the prescribed curriculum, as well as engaging their interest beyond what happens on the screen.

What is a virtual visit?

Traditional school trips offer plenty of opportunities for engaging and inspiring learning experiences in a stimulating environment away from the classroom. On a virtual visit, rather than taking students to a physical location, the teacher instead simulates a visit to a destination using images, audio, and video to enhance the experience. A virtual tour is typically hosted using the screen sharing mode of a learning platform that students are already familiar with, such as Microsoft Teams, Google Classroom, or Moodle.
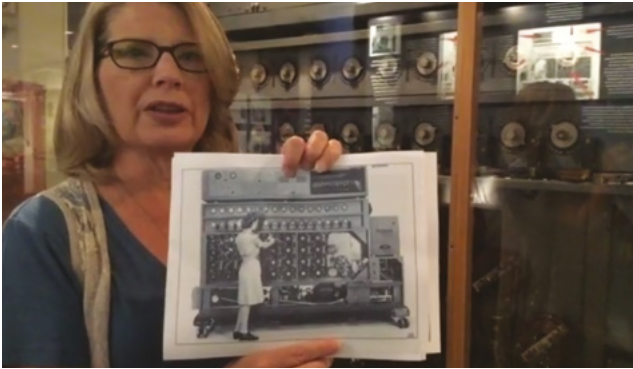
■ A tour guide brings the history of computing to life

If you have not yet experienced a virtual visit for yourself, you might first follow the example of some other computing teachers who have. These teachers have been surprised at how engaging their students found the experience and how much they enjoyed it, too. It's highly likely that your students will thank you for planning a very different learning experience for them.

While some schools have experimented with virtual reality headsets to conduct tours, I have found a conventional screen and headset or speakers is perfectly adequate and far more accessible, especially in a lockdown scenario.

> " A VIRTUAL VISIT CAN BE A GAME CHANGER THAT BROADENS HORIZONS

Advantages of virtual visits

A virtual visit is not intended to replace a normal school trip, but it can definitely create interest in visiting a destination and offers many advantages of its own:

■ There's often no cost or a lower cost to host a virtual visit, which opens up the option of experiencing inspiring locations to more students. Data from Teacher Tapp suggests that families in schools with higher numbers of free school meals are less likely to pay for trips, and that these schools are most likely to cancel a trip if parents can't contribute.

■ There is zero travel time, whereas travel time often exceeds the amount of time at the target destination on a school trip. What's more, not a single sick bag needs to be deployed!

■ Destination choices are no longer restricted by geographical boundaries – you might choose to visit The National Museum of Computing in Bletchley (UK) or the National Cryptographic Museum in Maryland (USA).

■ You'll enjoy substantially lighter stress and workload in terms of contingency planning and risk assessment.

■ You have the flexibility to change or cancel plans at the last minute when changes in circumstances demand it.

■ There are more access options – virtual visits can be accessed

OTHER VIRTUAL VISIT FORMATS

There are other formats of virtual visits worth considering, but these are recommended for learners who have already experienced at least one virtual visit and are ready to explore an alternative format.

Mystery tour
The teacher takes students to a mystery location with a strong connection to an area of the curriculum they have been studying. Collaborating in teams, learners will take part in a through the keyhole game, in which they need to guess the location using the clues offered. Following this, learners watch recorded interviews with various individuals who have an association with the location, and additional games, puzzles, and quizzes can also be included, to combine an element of interactivity and entertainment with the educational aspects of the visit.

Flipped tour
In this more advanced version of a virtual visit, the roles are flipped so that students become the tour guides, while teachers and other adults form the audience. Teams of students are assigned objects, and are required to present their object in a virtual visit for an invited audience, and create puzzles and activities for the guests. This takes much more planning to ensure that students feel confident taking on the roles required, but provides a much deeper experience and longer-term connections for the students.

remotely at home, together in class, or a combination of both.

■ You can split virtual visits into smaller bite-sized chunks, to be accessed over a longer time period. School trips, by their nature, typically pack a lot into a single day, potentially overwhelming and exhausting learners. However, The National Museum of Computing will split their virtual visits into segments to fit your timetable requirements.

■ You have the opportunity to extend the visit, and learners can also choose to access parts of the tour on demand afterwards, if they choose to.

Drawbacks of virtual visits

■ A virtual visit can't replace the same tactile, social experience of a school trip, but it can enhance and stimulate deeper interest in visiting a museum or place of interest.

■ Although access to digital devices is required for learners to access a virtual visit, this can be facilitated via Smart TV services and mobile devices, if laptops are not available.

■ There's less opportunity for students to socialise in the same way as they might on a coach journey, so build in collaboration to mitigate against this.

Alan Turing's Manchester

In April, I organised an exa.foundation free virtual computing history tour of the streets of Manchester. A group of teachers, their ▶

Computing History Tour, Manchester

Virtual School Trip to Bletchley
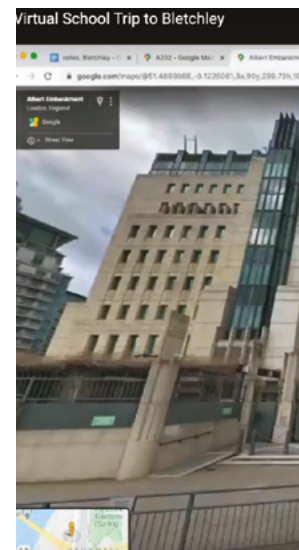
RESOURCES AND FURTHER READING

The National Museum of Computing has some of the best options for virtual visits. You have the option of choosing to organise your own DIY tour or arranging a paid-for curated tour led by a museum guide. The images are of a high quality and the guides are extremely knowledgeable and willing to accommodate your needs. Curated tours also include hands-on virtual activities, and the museum is happy to deliver a tour in separate lesson episodes. Contact the education team for more details: **helloworld.cc/tnmoctour**.

Exa.foundation regularly hosts free, online virtual visits to different locations worldwide depending on your needs and interests, and is also willing to support schools who choose to organise their own visits. Contact **info@exa.foundation** to make an enquiry, or visit the events calendar at: **exa.foundation/events**.

At time of writing, the **National Cryptological Museum** in Maryland, USA, is closed to the public, but is hosting free virtual visits each week. The museum guides providing these tours are retired members of National Security Agency staff who are extremely well qualified and willing to answer questions and interact with the audience. Check your time zone: for example, a 10:00 EDT tour can be enjoyed at 15:00 GMT in the UK. When the museum reopens it may stop advertising virtual tours; contact the museum directly to enquire about their tour plans: **helloworld.cc/ncmtours**.

A video recording from a virtual visit to **Bletchley** provides a useful reference for someone who has not yet experienced a virtual visit. It was one of the first virtual visits I hosted: **exa.is/bletchleytour-example**.
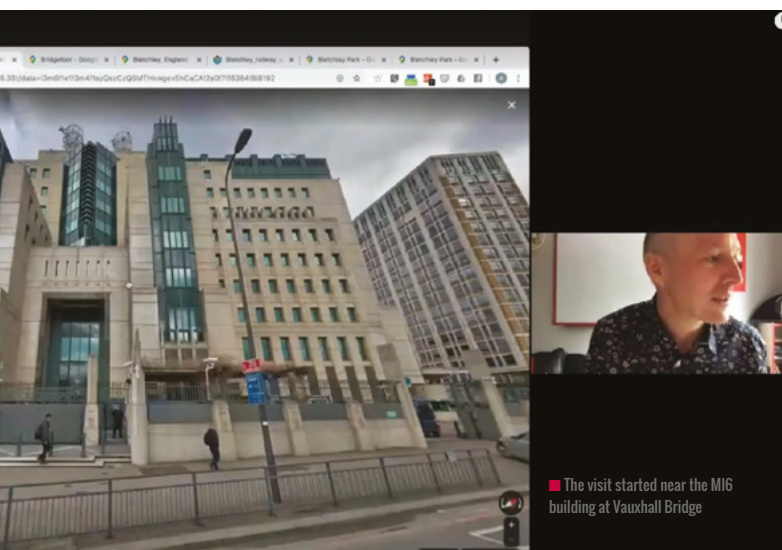
Planning a virtual school trip: To get the most from a virtual visit, it's worth considering why you are planning a tour and what you hope to achieve. This guide can help by raising some important questions for you: **helloworld.cc/virtualtripguide**.

> students, and I visited three locations which paid tribute to the life and work of Alan Turing and his contribution to the development of the modern computer. These tours were planned specifically so that learners could take an independent self-guided tour around Manchester city centre at a later date and visit the locations at their convenience. On some versions of the tour, we deliberately chose locations that could be visited 24/7 by members of the public. On other versions of the tour we visited private buildings and museums to reveal some hidden mysteries. Here are some thoughts from teachers who took their classes on a Manchester visit which I led:

" VIRTUAL VISITS COST ALMOST ZERO AND THERE ARE NO LIMITS ON LOCATION

Damian Sinnott, a computing teacher in Manchester, said, "The feedback from my students was overwhelmingly positive. After spending weeks completing work remotely it was a nice opportunity to engage with something different. One student reserved judgement, but the rest of the feedback was very positive and they want to do it again. The majority wanted to do it in real life, in fact – students commented they had previously walked past many of the locations and hadn't realised their relevance; it was very revealing. It really was a fantastic success and I look forward to doing more in the future. I had done the online tour before on my own, but still really enjoyed it."

Calum Woodhead, a computing teacher in Preston, said, "I am glad that we organised a virtual computer history trip, because it provided the students with a unique learning opportunity, encouraged students to interact with each other, and allowed them to visualise places outside of their normal learning environment. The most successful part of the virtual trip was how Alan engaged with the audience and regularly asked students
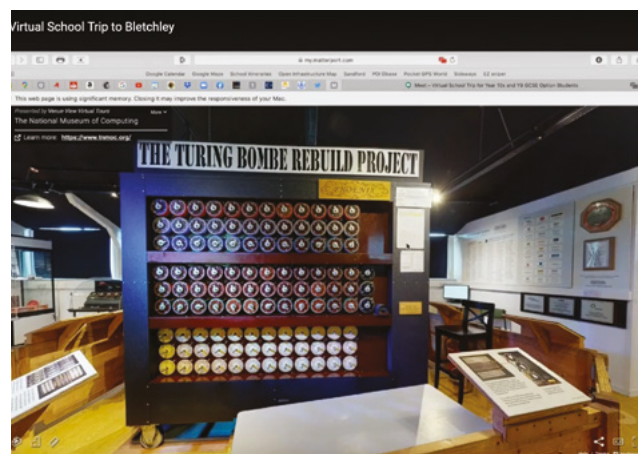
■ The visit started near the MI6 building at Vauxhall Bridge

■ A working reconstruction of the Turing-Welchman Bombe

■ An Enigma machine on display at Bletchley Park

" A VIRTUAL TRIP PROVIDES STUDENTS WITH A UNIQUE LEARNING OPPORTUNITY

to respond to questions. The students that I spoke to at the end of the session thoroughly enjoyed it and said they would like to do it again. Unfortunately, on the platform we used there was no option for this. They did mention having multiple-choice questions throughout so that everyone can engage – some of the students felt nervous about answering in front of the others. We look forward to more sessions like these."

Bletchley Park codebreakers

Two London schools participated in visits to Bletchley and The National Museum of Computing. In both cases, the visit started near a well-known London landmark, the MI6 building at Vauxhall Bridge, and traced the journey to Bletchley, to help students understand the significance of the location as well as the history of the intelligence services. The trip culminated in a brief tour of historic Bletchley Park Mansion and grounds, and then a volunteer from The National Museum of Computing gave a highly informative tour which featured Enigma, the Bombe, Lorenz, and Colossus. One school extended the visit to a Second World War codebreaking project day during which students collaborated in online breakout rooms to develop and create projects in response to what they had learnt on the visit. At the end of the day, the teams of students presented their projects to an invited audience. In both cases, it was clear how much the students appreciated hearing from a volunteer at The National Museum of Computing and having the opportunity to ask questions.

Stuart Shum, a computing teacher in London who took classes on a Bletchley tour, said, "The virtual trip was a great success. We had 30 students join the tour who were excited to virtually visit somewhere out of London during lockdown. Alan started the trip by

showing how to get to Bletchley and then to The National Museum of Computing. Our tour guide Peter (a volunteer from The National Museum of Computing) showed us around, giving us a whistle-stop tour of the museum, during which he showed us a range of interesting computers and devices which were relevant to what my students have been learning in computer science. This sparked the curiosity of the students, which resulted in positive feedback after the event. A few students had even told me they wanted to go and visit sometime in the future. Afterwards, word got round about the trip and many of my colleagues, parents, and a few students asked to watch the recording of the trip. The whole experience was really valuable and I would highly recommend it to anyone."

Halima Bhayat, a computing teacher at an all-girls' school in London, said, "During the coronavirus situation it has been difficult and at times unsafe to think about having a physical trip, so we organised a virtual visit. Virtual visits cost practically zero, much less than a physical trip, and you are not limited on location. I welcomed the fact that there were far less admin tasks and set-up. It was useful having someone to answer questions and go through the same steps on the tour, giving the impression that everyone is together, compared to a real trip, where you might split up as you cannot stay as one big group."

"I was impressed by the engagement right from the beginning as we started near our school in London and were led with some ▶

■ Home-baked cryptography

history along the way to Bletchley. As we are in London, the girls were able to start with familiar landmarks."

"During the group work part of the day, we should have planned more time for the girls to think about their project and kept girls in the same groups to work with each other. It helped having a collaboration area for the groups to work in e.g. we moved to Microsoft Teams and all the girls did this for the project so they could collaborate in an area and produce something."

Tips for planning a virtual visit

I've learnt some things from arranging a few virtual visits, which might be helpful if you are considering organising something similar:

- Don't try to reproduce online exactly what you would do on a normal school trip. Consider a virtual visit as a taster, rather than a replacement for real-life activities.
- Try booking onto one of the free virtual visits being hosted by exa.foundation or the other organisations listed. This will provide you with an opportunity to experience a virtual visit for yourself and anticipate how your students might engage.
- When planning the tour, limit the time of the tour presentation to 45 minutes, or a little longer if there is more than one presenter.
- Plan a virtual visit to the location yourself beforehand so you know what to expect.
- If a paid-for tour is available, do the maths. This may be much more cost-effective than using your already limited time and resources to try to match the quality of a professional tour guide There may be better resources out there already than you can create yourself.
- Try to ensure levels of interactivity to maintain engagement, so it

is not an entirely passive experience. Boost engagement through games, puzzles, and multiple-choice questions. Anonymous responses tend to encourage higher participation levels.
- Plan the build-up to the visit – consider how you will raise student excitement levels. Could students design special badges or accessories to bring to their online experience? Are there interesting or fun facts you can use to entice interest?
- Assign students to groups and ask them to research objects at the target destination.
- Vary the contents, to avoid it just being a spoken tour – consider including video clips, interviews, and other activities to add more layers to the tour.
- Extend the trip into a project, to avoid the experience being wholly about what they experience on the screen. Students will enjoy opportunities to collaborate, even if managed remotely, on a project closely tied to the visit. (HW)

ALAN O'DONOHOE
Alan has over 20 years' experience teaching and leading Technology, ICT, and Computing in schools in England. He runs exa.foundation, delivering professional development to engage digital makers, supporting computing teaching, and promoting the appropriate use of technology (@teknoteacher).