



## **ENGAGING POTENTIAL STUDENTS WITH SIMULATION AND INTERACTIVE ONLINE ACTIVITIES**

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### **Introduction**

This report provides a reflective account of adapting and redesigning the established content of an existing criminology module entitled, Forensic Criminology 2: Social Investigations, in order to engage year 12 and 13 school and college students using entirely online activities. The storyline originally created by Dr Iain Channing<sup>2</sup> was adapted and additional content underpinning the academic and policing procedures were provided by both Dr Channing and Brendan Brookshaw.<sup>3</sup> Difficult situations can often inspire ingenious solutions, as ‘Necessity is the Mother of Invention’<sup>4</sup> and the global pandemic of 2020 certainly forced this requirement on an unsuspecting population, including students and academics alike. The adaptation of some content from this interrupted criminology module raised the question whether a popular, participative module could be reproduced entirely as a remote challenge that would sustain the interest of participants over a designated period.

The process for developing new digital tools involves creating a rigorous strategy to realise the concept. Most strategies include several common elements that can be arranged to work for an individual situation. In this instance the case simulation had already been designed to enable interactive role-play, and I would be keeping as close to this developed storyline as possible.

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<sup>4</sup> Richard Franck, *Northern Memoirs, Calculated for the Meridian of Scotland* (first published 1694, Nabu 2011)

## **Delivery**

Delivery is a major factor when designing a learning experience for the remote online participant. Varying speeds of delivery for remote users and additional factors such as the devices used, unstable network connections, incompatible software and bugs can hinder the process – the list of things that can go wrong is extensive. The content would be designed for delivery to external schools, colleges and independent students at home, by way of a common flexible platform. Temporary accounts can be utilised for students enrolled on formal Plymouth University courses, but this was not an appropriate option for this circumstance. After exploring several possible solutions, I settled on using the University's Xerte platform which gives interactive navigation, along with several pre-programmed resources. The advantage of this platform was that it enabled remote access to the developed concept through a passworded link which we could send out to our participants. The Xerte platform gave good flexibility in terms of delivering content for Mac or PC, desktop, laptop, tablet and most phones. However, I decided to ask users to avoid using phones, as it limited some of the experience due to screen size. The fundamental limitation of the software was that it cannot be linked to an individual database for each user account, resulting in no individual data being stored, such as progress information or decision choices.

## **Concept Design**

The adapted scenario needed to be broken down into manageable component parts, ideally taking approximately one hour to complete and delivered on a week-by-week basis. I realised that one of the major factors in making this approach a success would be retention. Obviously, student engagement would be essential for this, as it would be an addition to their regular studies. Consequently, I needed to reward them with an experience that was fun, interactive and educational. Borrowing heavily from the 'whodunnit' approach of popular crime novels, I placed the user at the heart of the story, as they would be leading the investigation and making the decisions wherever possible. This role play would give the user responsibility for the outcome. Holding back on the results of their decisions helped to ensure that the user would return each week to evaluate their strategy. Introducing some cliff-hanger elements also meant that it would feel like the story was unfolding in real time, as a result of the actions of the user.

## **Content Development**

The major issue of the Xerte platform not retaining individual user information placed a significant limitation on the interactive element of the investigation, so 'work arounds' had to be produced. I was fortunate to gain some invaluable advice and support from Marianne Glover,<sup>5</sup> an experienced Xerte practitioner, during development. Together we spent many hours assessing options to find suitable solutions. There were also many multimedia elements to create, including video compositing with use of green screen effects, audio simulation, photo editing and 3D scene reconstruction based on photographs of the actual location. In addition, I created an introduction theme, with motion visuals and music that could be adapted and reused for various elements, including for marketing purposes, in order to capture and engage our potential students in the activity.

The final content delivery concept was as follows:

### Episode 1 – Scene of Crime

- Activity – view 'First Officer Attending' video report
- Activity – investigate scene reconstruction with evidence marked using hotspots that pop up photographs
- Activity – select up to 30 items of evidence to send to the forensic laboratory for analysis and additional requests, i.e. house to house investigation
- Note: CCTV & Phone analysis will be required for the continuing investigation and will appear selected by default
- Activity – access and study Witness Statement by Les Dawson, Social Worker to Tom Cooper who discovered the crime scene
- Activity – download the timeline template to build your events ledger, which you will find invaluable in order to create your hypothesis for the case.

### Episode 2 – Forensic Analysis Reports and Hypothesis Building

- Activity – view Coroner's Report has been received.
- Activity – study results of telephone analysis, including received or missed calls and texts
- Activity – view selected timecoded CCTV footage
- Activity – select any additional evidence required from scene based on case

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<sup>5</sup> Marianne Glover is Digital Learning Developer, Digital Education at Plymouth University

progress to send to the forensic laboratory for analysis

- Activity – add forensic information received to the criminal database search to find results (Tony Hancock record will appear)
- Activity - add new evidence to the timeline template to build your events ledger.

#### Episode 3 – Suspect Interview 1

- Activity – read Interview information and watch the suspect interview, whilst making a time log of possible evidence obtained
- Activity – on finishing the interview choose to request that suspect Larry Grayson be invited in for interview
- Activity – add new evidence to the timeline template, to build your events ledger.

#### Episode 4 – Suspect Interview 2 and submitting your case to CPS

- Activity – watch the suspect interview, whilst making a time log of possible new evidence obtained
- Activity – add new evidence to the timeline template, to build your events ledger.

#### Episode 5 – The Result

- Activity – decide who and how you want to charge separately for the deaths of Tom Cooper and Vicky Wood
- Activity – find out if you have managed a successful prosecution for each case in turn
- Activity – see the results of the trial, displayed as a media report
- Activity – the full chain of events will be displayed, following the results of your charges.

The prototype was beta tested with colleagues and student volunteers within the school. Although not restricted to each section on a weekly basis, these volunteers provided invaluable feedback through a linked survey. Adjustments were made as a result and the application was finalised.

## **Outreach Engagement**

The annual ESRC festival gave an opportunity to submit the interactive investigation, entitled Operation Tandem, for inclusion in the main event in November 2020. I was pleased that this submission was accepted for inclusion in a year which consisted entirely of online events, due to the pandemic. I was put in contact with Alice Edwards<sup>6</sup> and together we created a plan for publicising and delivering the event, which would run over five consecutive weeks to schools and colleges across England and Wales. We also decided to add a certificate of achievement for students who successfully completed the whole 5-week course, verified through the feedback survey on conclusion of the final part. Being a scheduled public event enabled the Interactive Crime Scene to have a public ESRC event web page, with a link provided in the correspondence sent out to the schools. In addition, an edited version of the video introduction to the crime was embedded within the page, which further encouraged student participation.<sup>7</sup>

The response to the initial contact information about this event from schools, colleges and individual students was very encouraging. It continued over a period of three weeks leading up to the launch of the event on the first working day of the festival week.

## **Summary**

An initial target of 100 participating students was greatly exceeded, with over 350 initial expressions of interest. At the time of launch approximately 280 students began the series, with over 200 completing the full five-week course from over 30 schools and colleges in the south of England and Wales.<sup>8</sup> Alice Edwards commented that:

The Interactive Crime Scene Investigation workshop series has proven popular with schools and colleges as it's an interesting and engaging concept as well as being flexible to complete. The workshop series ties in nicely with

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<sup>6</sup> Alice Edwards is Faculty Outreach Officer, Student Recruitment and Admissions (External Relations) at Plymouth University

<sup>7</sup> Operation Tandem Intro Video <https://youtu.be/cDx41IRZf1k>

<sup>8</sup> Participating Schools and Colleges

[https://www.google.com/maps/d/viewer?mid=1raZrmZk6\\_eNb6HjVRWhQiYVCaR8w65Pe&usp=sharing](https://www.google.com/maps/d/viewer?mid=1raZrmZk6_eNb6HjVRWhQiYVCaR8w65Pe&usp=sharing)

the A-Level curriculum, providing schools and colleges with an interactive tool they can use for lessons and revision. It has also provided students with the opportunity to add to their UCAS personal statements and CVs about their experience in taking part in the workshops.

A live Zoom session hosted by Alice was provided for participants after the conclusion of the event, during which students could share their participation experience, ask questions and discuss the case in further detail with lecturer Brendan Brookshaw<sup>9</sup> and myself. Subsequently another lecturer, Magdalini Pipini,<sup>10</sup> gave a brief overview about studying Criminology at Plymouth.

## **Feedback**

The feedback received from the student participants was overwhelmingly positive. There were very few issues with the overall delivery, given the restrictions. Some students said they did not have access to Word, resulting in the templates they were asked to download not being usable. Some others felt that the progress through the investigation was not individual enough, allowing students to make their own decisions on the investigation process, as they wanted to put their own line of questioning to the witnesses. These restrictions will be overcome with the introduction of more flexible delivery software, which is planned for a new Interactive Investigation in 2022.

Feedback is invaluable for indicating which areas of the application can be improved and refined, and will certainly inform future development. The abundance of positive comments was equally important for reinforcing decisions made during the process. It was fundamentally important that 'Operation Tandem' had solid academic foundations based on procedure and process, and that these concepts underpinning the experience were not lost within the challenge. What follows is a very small selection, taken from the 99 positive reviews of the 100 received.

'I really enjoyed it. It was one of the best courses I have completed. Gave me a true insight into the world of crime and how exciting it is when you finally solve the

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<sup>9</sup> Brendan Brookshaw is Lecturer in Criminology, Plymouth School of Law, Criminology and Government at Plymouth University

<sup>10</sup> Magdalini Pipini is Lecturer in Criminology, Plymouth School of Law, Criminology and Government at Plymouth University

case. It has made me solidify one of my possible options for uni: criminology. I would like to thank the creators of Operation Tandem for such an amazing opportunity.'

Accessibility played a key role during development, with the navigation system being refined and rethought at various stages. On reflection, there is still room for further improvement in this area. However, there was a strategy applied to balance the academic reading elements with interactive engagement. Understanding that this application would be extra-curricular was a key reminder that user experience would only be fully validated by participant retention.

'I really enjoyed Operation Tandem, the storyline was very interesting, and the website was very easy and enjoyable to use. The tasks did not take too long but were long enough to feel immersed in the case.'

Employing strategies more often associated with marketing campaigns, television series or chapters from popular fictional novels is an area that I explored as part of my digital arts degree 20 years ago.

'It was a very fun weekly task that had me hooked.'

This was an excellent opportunity to employ concepts of challenge, delaying reward and maintaining curiosity over a sustained period, in order to measure and establish overall effectiveness.

'I really enjoyed this unique experience. I looked forward to it every week. I also had the chance to improve my skills such as being able to analyse clearly. It made me gain new knowledge on criminology which I did not have beforehand.'

It is well documented that role-play can enhance the learning experience and encourage engagement with a subject. My experiences when using role-play in the classroom have supported this theory. However, the online gaming industry can be seen to lead the way when it comes to immersion. A key aspect in this exercise was to combine both aspects, in order to create an unfolding experience for the participants to engage with in real time, whilst allowing them to use current investigative techniques in order to solve the crime.

'I really enjoyed the experience as it isn't an opportunity we normally have in school. I enjoyed the interactive nature of the crime scene and developed my investigation skills. It gave me the opportunity to explore a career path I'm interested in which was really helpful.'

Placing our participants at the heart of the story and allowing them to make decisions that would lead to the outcome of the situation, tapped into a deeper user experience. In this instance, the responsibility of finding the evidence to create a strong enough case and ultimately exercise justice provided the incentive for learning.

## **Conclusion**

The majority of students who engaged with the process saw it through to the end. An additional bonus for them was the added incentive that an authorised Plymouth University Certificate of Achievement would be provided on completion. It is hoped that students who decide to study Criminology might look back on this experience as being instrumental in their career choice.

'Absolutely incredible. I wasn't considering forensics before and thought I would try out this case, and I absolutely loved it and am now considering doing it because of how much I enjoyed it.'

There is no doubt that the unfortunate circumstances of the 2020 pandemic directly led to the realisation that online learning is crucial to ensure engagement remotely. If simulated environments and storylines can result in emotional attachment and a feeling of responsibility in the student, then the use of immersive and interactive first-person experiences will inevitably play a significant role within the future of education.