Prospero: A digital platform to support applied theatre and game-based learning

David Cameron

Abstract

This paper introduces work-in-progress to develop hybrid forms of drama-based and game-based learning using a web platform called Prospero (https://prospero.digital/). Suitable for face-to-face, online or blended delivery modes, Prospero builds learning activities by curating existing web and media content. This can then be overlaid with new in-browser controls and timeline events, on-screen instructions, and additional media elements created and shared by instructors and participants. Prospero is developed by UK arts company C&T (http://www.candt.org), recognised as world leaders in the field of technology-enhanced drama-based creativity and education. This paper introduces some of the features of the Prospero system, as experienced in the initial phase of a pilot project, titled "The Pop-Up Newsroom", which aims to promote news literacy using drama and game conventions. The project is also exploring the concept of “intermediality”, which posits that our already multimodal and mediated lives are increasingly shaped by the exponential transformations of networked digital media. In particular, the project is seeking to understand the challenges and opportunities of learning and teaching in hybrid creative spaces that merge live performance, media arts, education, and digital cultures.

Introduction

This brief paper introduces work-in-progress to develop hybrid forms of drama-based and game-based learning using a web platform called Prospero (https://prospero.digital/). Suitable for face-to-face, online or blended delivery modes, Prospero builds learning activities by curating existing web and media content. This can then be overlaid with new in-browser controls and timeline events, on-screen instructions, and additional media elements created and shared by instructors and participants. Prospero co-ordinates collaborations between participants, either in distance learning mode or classroom situations, including through use of participants’ mobile devices for group or collaborative activities. Prospero is developed by UK arts company C&T (http://www.candt.org), recognised as world leaders in the field of technology-enhanced drama-based creativity and education. This paper introduces some of the features of the Prospero system, as experienced in the initial phase of a pilot project to promote news literacy using drama and game conventions.

Applied theatre and game-based learning

An increasing volume of research and practice has explored the intersections of what might broadly be termed “drama in education” and digital game-based learning (Carroll, 2009; Coles & Bryer, 2018; O’Toole & Dunn, 2008). A common feature is the recognition that conventions normally associated with performance, play, and entertainment in physical (drama) and virtual (digital games) forms have applications and implications for learning and teaching (Cameron, 2009). Some of these educational approaches would be familiar to educators and practitioners under various names such as “process drama”, “applied drama” or “applied theatre”, “serious games”, “game-based learning”, and “gamification”. These and other forms are not just the same things under different names, and all could be critiqued using often contested definitions. However, for convenience the term applied theatre is used in this paper to describe this use of dramatic and theatrical conventions for mostly non-theatrical purposes (Nicholson, 2005) — and, most directly, for those grounded in educational settings. Similarly, game-based learning is used here to cover the application of digital game conventions and mechanics for primarily educational purposes (Prensky, 2001).

C&T describe Prospero as ‘a toolkit for anyone who sees value in creative, kinaesthetic learning, whatever their context: health workers, development actors, youth centres, probation services, social justice advocates. In these contexts, the language of theatre may not be the typical vocabulary of stakeholders or practitioners, but it does offer a simple and easily understandable metaphor for how we learn in Prospero: a dramatic story with characters, actions, conflicts and challenges’ (Sutton, 2021).

The Pop-Up Newsroom project

The motivation and opportunity to explore Prospero emerged from a small research grant provided by the Faculty of Arts and Education at Charles Sturt University, Australia. The grant supported establishment of research in the area of “intermediality”, which posits that our already multimodal and mediated lives (Kress &
van Leeuwen, 2001) are increasingly shaped by the exponential transformations of networked digital media, ‘transgressing traditional media boundaries and coalescing as new intermedial forms as exemplified by the internet which houses and reframes multiple media including online “live” theatre or digital gaming which fuses a multitude of elements influenced by, among many others, the agency found within immersive theatre, filmic narrative and literary text’ (Chatzichristodoulou & Crossley, 2016, p. 277).

In particular, the project is seeking to understand the challenges and opportunities of learning and teaching in hybrid creative spaces that merge live performance, media arts, education, and digital cultures. One element of the project to be developed using the Prospero platform is titled “The Pop-Up Newsroom”, which will use applied theatre and game-based learning methods to explore issues of news literacy from both production and consumption perspectives. It will combine live and mediated learning and simulation experiences with real-world online news – including examples of misinformation and “fake news”. The project was originally planned to be developed and tested through an iterative design process, making use of a range of face-to-face and online settings including classrooms, public libraries, and open online courses through 2020. The timeline was altered due to the COVID-19 pandemic, and the project is currently focusing on developing media assets and designing activities for a fully online component of the project to explore Prospero’s capabilities and limitations. The ability to offer face-to-face components will be reviewed in early 2021.

Prospero: overview

The core Prospero application is designed to work through web browsers and an internet connection, and more advanced producer and user features require installation of a free extension that works as a small app within Chrome or Firefox browsers. These can be downloaded and installed if prompted by Prospero, or they can be installed directly from the Google Chrome Store or Firefox Add-on sites.

Depending on the interactive lesson plan created in Prospero, which is called a Smartscript, some additional technologies may be required to play content in the browser. Any special technical requirements for a Smartscript can be set out in lesson descriptions that are published in Prospero’s repository, known as the Library. Smartscripts can be designed with alternative “lite” versions for participants using mobile devices or more limited computer resources; this reflects C&T’s experience of project work with schools and organisations with restricted budgets or technical resources.

Participants can download Smartscripts from the Library, and then play them back in a web browser with an internet connection to experience the workshop or lesson in real-time. Prospero was designed primarily to facilitate and enhance face-to-face experiences, with a typical scenario being a small, facilitated group working through the activity together using a single web browser displayed on a monitor or projector. This enables a mix of physical and embodied work in the class, supported by and interacting with content and tools managed through Prospero. However, Smartscripts can be designed and deployed for other situations such as individual participants in a fully online mode.

Smartscripts designed for face-to-face workshops and classes can also coordinate multiple tablets and smartphones within the activity to facilitate group work or collaborative activities between individuals. Each device can represent group or individual roles within the activity, referred to as Actors, and the Library descriptions can outline this option if it is available.

Costs

Use of published Smartscripts with Prospero is free, and it has three levels of subscription allowing creation and sharing of new Smartscripts: Individual, Pro, and Enterprise. Current pricing is available from the site (https://prospero.digital/producer). Prospero describes an account holder as a ‘Producer’, with Pro and Enterprise levels also allowing the addition of ‘Directors’ with Smartscript editing privileges. An Individual level subscriber has both Producer and Director privileges for their single account. Prospero allows Smartscripts to be shared for free via the service, but also has a monetization scheme that allows Producers to set fees, with C&T recovering an administrative fee. C&T also offer to develop flexible partnership arrangements with other arts and education organisations on a case-by-case basis.

Support and training

The Prospero site includes a section titled the Academy which has sub-sections for ‘FAQs and Guides’, ‘Blogs & podcast’, and ‘Papers’. Rather than one document compiled as a user guide or manual, the main form of
instructional support for Prospero users are the Guides, which are intended as tutorials and usually include a short video clip to outline main features and workflows for creating and deploying content. There is also a curated selection of guides aimed at new users, especially those interested in creating and managing their own Smartscripts as Producers or Directors (https://academy.prospero.digital/getting-started).

Data, privacy, and acceptable use policies

C&T provide their data, privacy, and acceptable use policies for Prospero on the website (https://prospero.digital/policies). In most respects the data and privacy information seem to be based around UK requirements and guidance from the UK Information Commissioner's Office (https://ico.org.uk). Of note is C&T’s acceptable use policy that states users of the service must be at least 13 years of age. Later in the policy, C&T state that content must be appropriate for all persons who have access to or are likely to access the content, and in particular for children over 12 years of age. It is not clear how these policies might apply or be enforced if, for example, a teacher uses the service to design and facilitate a session with a group of younger participants.

Intellectual property and user content

Prospero enables mixing of content publicly already available on the Internet with new content such as images, video, audio, and text that users might create and add to generate their Smartscripts. Typical of many online services, C&T’s terms and conditions appear to assert intellectual property rights around Prospero’s functionality, and also grant a perpetual license to Prospero (C&T) to make use of user-generated content added to the service – though users retain ownership of intellectual property and ‘moral rights’ in their original content.

Prospero: A brief tour

Based on the Getting Started guide provided within Prospero, this section of the paper briefly introduces some of the key features and affordances of the service that are now being used to develop the first iteration of the Pop-Up Newsroom project.

As shown in Figure 1, the Library is Prospero’s repository of Smartscripts that have been made available for users. Producers and Directors can create an image to identify and promote each Smartscript. Selecting an item in the Library will take the user to more detailed information about the activity. Most Smartscripts are free to download and use, though some have an additional fee attached. Some Smartscripts have been developed by C&T to support their own projects, however the Library is growing with input from partner organisations and individuals.

Figure 1. Screenshot of the Prospero Library interface, October 2020.

Creating and editing Smartscripts uses core Prospero features, which are named using theatre terminology such as Scenes, Directions, and Actions.
Scenes

The basic unit of design in Prospero is a Scene, which represents a unit of action or activity. A sequence of Scenes can be arranged to create a Smartscript. This allows an episodic or scaffolded approach to experiencing the activity or lesson through a series of activities and curated resources. As shown in Figure 2, the browser-based tool for building a Scene first allows choice of content to act as the background when viewed on the screen by participants. This can come from any available source published online such as a live website, video, or graphic file. It can also be original media uploaded into Prospero, or a coloured screen.

However, far from just providing a visual canvas for screen-based content, each Scene is an opportunity to provide a provocation or stimulus to quickly move participants into the drama or game ‘world’. It can present what applied theatre practitioners might call the “pre-text” for the activity. Cecily O’Neill (1995) defines the qualities of a good pre-text as:

- responsiveness to imaginative transformation;
- the tensions, changes or contrasts it suggests;
- the questions it raises about identity and society, power and possibility; and
- its power to launch the dramatic world with economy and clarity; and
- the action it proposes and the implied transformation.

Dynamic materials such as websites, games, and videos or intriguing images, maps and even charts can make good Scenes or pre-texts.

Directions

Prospero presents a timeline for the tasks, activities, and on-screen instructions or media to be layered over the Scene, with an example in progress for the Pop-Up Newsroom shown in Figure 3. This timeline is described within Prospero as a set of Directions, in the way a play’s script might include stage directions for the setting and action in a dramatic scene, or a digital game could include software code to build the scene and allow action within it. As with theatre and games, the Scene and Directions are not the end product – they generate or present opportunities for actions and experiences that the participants must also provide.

Figure 2: Screenshot of Prospero’s ‘Add a scene’ option, October 2020.

Figure 3: Screenshot showing a Scene with Directions added (represented on a timeline) in Prospero, October 2020.
The Directions can easily create a number of on-screen actions such as displaying text and media on the screen, coordinating mobile devices, striking (clearing) the screen of content, playing audio files, fading to and from black to smooth transitions, and spotlighting areas of the screen. Figure 4 shows the top level of the Direction tool, with deeper levels offering more control over the actions and providing more functionality. This includes adding control buttons requiring input from participants, importing avatar images to represent on-screen characters, adding timed events, using geolocation triggers, switching to different web sources, and moving to the next Scene.

![Figure 4: Screenshot showing Directions options available in Prospero, October 2020.](image)

**Actors**

Prospero can coordinate group work and collaboration through the use of smartphones or tablets as additional screens, which are referred to as Actors. Each device can be assigned a role or character in the activity, and Prospero can then send tailored Scene content to different Actors. Prospero can work with a preset number of devices, or it can allocate roles across the number of devices available at the time.

![Figure 5: Screenshot showing Actor (mobile device) setup screen in Prospero, October 2020.](image)

Scenes can be previewed, edited, and deleted from within the Producer interface.

**Conclusion**

This brief paper presents only an initial introduction to Prospero, at the start of the design process for the Pop-Up Newsroom project. As work progresses additional information, findings, reflections, and examples will be shared and discussed on the project blog (https://thinkspace.csu.edu.au/popup/).

One challenge for educators wanting to create interactive learning materials is the technical and creative resources needed to design and deploy this content. One of the first affordances of Prospero identified in the early stages of the Pop-Up Newsroom project is the ability to make use of resources already published online from any source and accessible via a web browser. The relatively easy to use browser-based tools for creating Scenes and adding Directions allow existing web content to be co-opted as the raw materials for games, fictions or simulations populated with characters, dilemmas, conflicts and challenges for participants.
project, for example, this easily allows live news websites to be used as the pre-text for a drama or game to explore news literacy.

Another observation from this first phase of the project is that working with Prospero is a different experience to designing courses in what might at first appear similar to a web publishing or learning management system. Although there is a familiar element of working with media content and designing structured activities, there is very much a sense of designing an intermedial experience where the presence and actions of the participants will combine and recombine with the digital content in unplanned ways to generate an experience greater than the individual media forms, such that the medium specific conventions of drama and digital games might be mutually transformed ‘to allow new dimensions of perception and experience to be explored’ (Kattenbelt, 2008, p. 25).

References


