Toolkit: Writing for Interactive Film & TV

A practical guide for writers

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1. Introduction

This toolkit is intended for writers who have never worked in interactive film and/or TV but are curious as to how they might be able to expand their skills to prepare for working in this emerging medium. The guide assumes no previous knowledge of coding or interactive film and TV, although it does assume a basic understanding of scriptwriting. It attempts to be low code rather than no code and therefore assumes a basic understanding of the interactive fiction (IF) authoring tool Twine, and basic video editing too. Toolkit users who have never written a script before may find it useful to read a more general book on scriptwriting or some articles with key tips before beginning. Users of this toolkit may also want to familiarise themselves with Twine and a video editing programme such as VSCD or Filmora prior to commencing.

The approaches outlined in this guide are by no means exhaustive or prescriptive and are instead intended as a starting point for those wanting to embark on an exploration of some of the potential applications of interactive TV and film in relation to creative writing and/or interactive narrative. While it's unlikely that a writer working on an interactive TV or film project would be as heavily involved in the editing process as is described in this toolkit, this information is provided to give writers a deeper understanding of what they are writing towards, and how their writing decisions might affect editing. It also allows writers wishing to create portfolio pieces in this format to develop a process for doing so.

InGAME
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1.1 Using InGAME Toolkits

The remainder of this guide includes 4 main sections, plus a series of additional documents (elsewhere on the site) which make up the toolkit. These additions can be mixed and matched along with those from other toolkits to build a custom collection of the resources needed. Words in **bold blue** are defined in the Glossary. If you feel something is missing from the existing toolkits or would like to suggest a topic for InGAME toolkits to cover, please contact:
enquiries@innovationforgames.com

1.1.1 In this Document

Section 2
Describes what the guide means by interactive Film and TV, offers some examples of interactive Film and TV to read and play, and suggests some tools to create similar work.

Section 3
Suggests some experiments to undertake with the tools to increase your understanding.

Section 4
Gives some more in-depth tips on specific Interactive TV writing processes and concepts.

Section 5
Suggests how you might build on your experiments and offers some areas for further study.

1.1.2 Additional Documents

Quickstart Guide
A summary of the experimentation method used across these toolkits.

Bibliography
Full list of and links to all works cited, plus additional sites and resources which may be useful.

Glossary
A glossary of terms used across the toolkits.

Background Information
A brief overview of the researcher and research behind this toolkit.

Interactive TV Case Studies
Case studies of some interactive TV experiments undertaken during the development of this toolkit.

2. What is Interactive Film & TV?

Technically, the term 'interactive TV' covers a broad spectrum of services from platforms with minimal interactive elements (for example, iPlayer which allow viewers to press the 'red button' for more information or programs related to the one they are watching) to live programmes with a phone-in or voting element, to those where the viewer may influence the direction of the narrative by choosing between on screen prompts.

This toolkit focusses on this final most game-like variant of Interactive TV. Definitions of Interactive Film are a little narrower, usually referring to a 'pick-your-path' type of narrative, although this may be via voting in a cinema, or individual selection of choices at home.

"…interactive television is a form of television that also bases itself on actual physical interaction with the media in the form of choices, decisions, and communicative input."

Jens F. Jensen (2008) 'Interactive Television – A Brief Media History' in Proceedings of the 6th European Conference of Changing Television Environments

The earliest known interactive film is Radúz Činčera's *Kinautomat* (*One Man and his House* in the English dub) screened in 1967, and inviting the audience to cast their votes for the direction the story should take via coloured buttons on their seats. It was hugely popular, but despite this, sank into obscurity along with interactive film as a genre. This has happened several more times with each iteration of interactive film and TV – **FMV** (Full Motion Video) games in the mid-nineties, increasingly intricate DVD menus with game-like elements, and various other attempts at interactive cinema events – each format saw a brief boom followed by a longer bust. With the release of Charlie Brooker's *Bandersnatch* via Netflix in 2019, it seems that technology has finally caught up with creators' ambitions, and this time around interactive film and TV is here to stay. For a full history and database of early interactive cinema, Ludi Cine is well worth a look.

While this toolkit focuses on branching narrative, this is not necessarily the only way television will be interactive in the future. Companies such as Charisma AI are working on making characters that viewers can interact with through conversation. To learn more about writing for this kind of technology, you may wish to read the Writing for AI Toolkit.

2.1 Examples

The following section provides a few examples of interactive television. Note that some exist purely on the web, while others are viewable via streaming services or more conventional television channels.

2.1.1 Minecraft Story Mode

Minecraft Story Mode: https://www.netflix.com/gb/title/80227995

Available via: Netflix

Creator: Telltale Games

Premise: The viewer-player takes on the role of a member of a building team on their way to a competition.

Approach: This is a direct conversion of a story-based videogame to an interactive television program. Because of this, it was not made specifically for television viewing and play and this causes various issues. For example, scenes where in the game version the player would fully control the avatar and collect items are either removed altogether, or replaced with a brief choice screen. This makes the narrative seem disjointed in places and spoils the pacing. However, it also means that there are some more complex features not usually found in interactive TV and film, such as choosing the appearance

of the player-character and an inventory of items.

Figure 1: Netflix version of Minecraft Story Mode, with one possible variant of the player-character's appearance

2.1.2 Life Moves Pretty Fast

Life Moves Pretty Fast: https://player.stornaway.io/watch/2e7fa24e

Available via: Web (link above)

Creator: Stornaway

Premise: It's Wolfie's birthday and he needs help deciding how to spend his time.

Approach: A light-hearted, documentary style where Wolfie (Ru Howe) addresses the viewer directly. Howe previously created similar works on YouTube using just his smart phone, demonstrating the possibilities of creating low budget interactive film and TV works. This piece is created using Stornaway's own custom interactive TV tool which allows for more complex functionality such as recording variables.

2.1.3. Unbreakable Kimmy Schmidt: Kimmy vs the Reverend

Unbreakable Kimmy Schmidt: Kimmy vs the Reverend: https://www.netflix.com/gb/title/81131714

Available via: Netflix

Creators: Director – Claire Scanlon, Writers – Tina Fey, Robert Carlock, Sam Means

Premise: Kimmy (Ellie Kemper) is getting married and discovers her former kidnapper is still holding another woman captive.

Approach: Variables are set and recalled later (for example, whatever wedding dress is chosen at the beginning is worn in the wedding scenes at the end). Generally, the viewer's choices are simply presented as part of the narrative, although they are addressed directly if they make choices that are absolutely at odds with Kimmy's personality. Therefore, while there is a degree of viewer freedom, this encouragement of roleplay is used to prevent Kimmy (whose personality is well established in previous non-interactive episodes) acting out of character.

"Netflix's interactivity feature is employed in potentially transformative ways, providing a call-to-action to the show's fans (for it rewards knowledge of the programme) while implicating its audience as both spectators and witnesses..."

Stephanie Patrick (2021) 'You get to stop him! Gendered violence and interactive witnessing in Netflix's Kimmy vs the Reverend' in Critical Studies in Television: The International Journal of Television Studies

2.1.4. Click Interactive Episode

Click Interactive Episode: https://storyplayer.pilots.bbcconnectedstudio.co.uk/experience/click1000

Available from: Web (link above) & BBC iPlayer

Creator: BBC

Premise: Part of the BBC's ongoing tech news series, this episode differs in that the viewer can choose which features to view and make some key decisions which affect the narrative.

Approach: Created using the BBC's Storyformer tool, this episode contains both variables which are recorded (e.g. the choice to retain or return the wizard's hat) which then have an impact later in the episode (the hat contains a key which unlocks a door in Ian Livingstone's house – viewers who returned the hat are unable to enter). Much of the story is handled by simple branching choices.

2.2 Conclusions

Interactive TV and Film come in a wide variety of forms. They may be animated or live action, fiction or non-fiction. Some choose to address the viewer directly. This draws attention to the choices being made and the interaction points themselves. Others cast the viewer as a specific character and may also expect them to behave according to this assigned role. *Minecraft Story Mode* and *Kimmy vs the Reverend* are both made with large budgets, custom made development tools and professional actors. *Life Moves Pretty Fast* and *Click 1000* are lower budget (although still not cheap!), use readily available tools (both StoryFormer and Stornaway can be accessed for free) and key players who are not actors in their day jobs. However, that's not to say that the effect of these works can't be recreated on a much smaller scale, and at much lower cost. Charlie Brooker used Twine to draft *Bandersnatch* and *A Heist With Markiplier* simply uses YouTube's End Screen functionality rather than any special tools.

2.3 Potential Tools & Methods

Only tools which are entirely free to use both to create and share content are included in this tools list. Therefore, you might see more tools available which are not included here. Also, new tools are being developed all the time. The three tools described below offer a range of different affordances and will be suited to different types of project.

2.3.1 YouTube

Perhaps the most straightforward method of creating interactive TV and film, YouTube simply requires you to upload videos and link them using End Screens or Cards.

The story is created purely through branches, which although simple from a technical standpoint, means that you either need a lot of videos to branch to, or highly creative and intersting choices to make choosing between them more compelling. However, sharing is very easy once videos are published.

A Heist with Markiplier: https://www.youtube.com/watch?v=9TjfkXmwbTs

Creators: YouTube/Mark Fischbach

Overview: Viewers aid YouTuber Markiplier in carrying out a heist. The possible paths vary wildly in tone and style (for example, some are Claymation, while others are live action) and reach 31 possible endings.

Figure 2: End Screens in A Heist With Markiplier

Quick Start Guide: Ensure your videos are all at least 25 seconds long, as YouTube will only allow End Screens in videos longer than 25 seconds.

You may wish to include a freeze frame or blank screen at the end of each video so that you can place your End Screens and give your viewers time to choose (the other option is to ensure your footage itself allows sufficient decision-making time and correct positioning as in *A Heist With Markiplier* (above), but obviously this requires additional time and effort.

Draw a rough branching diagram of how your videos will connect and give them names that will make the choice clear to your viewer, as these and the thumbnail image are all the viewer will have to help them choose.

Upload your videos to YouTube and connect them as per your diagram using the End Screen function in YouTube studio. If you would like to include additional links mid-video, the Card function allows this.

To prevent 'cheating' and confusion, it may be best to make only the first video public, leaving the others unlisted. This will mean they can still be linked, but will not come up in YouTube searches.

2.3.2 Storyformer

Created by the BBC's R&D department, Storyformer is an industry standard tool. It is a Twine-like, no-code system which uses menus and drag and drop nodes to build branching structure and set variables and behaviours. It can record user pathways and choices and use these at a later date within the narrative. Audio and video can be uploaded separately or within video files and menu buttons can also be customised. At present, sharing completed works is somewhat difficult as it requires users to download a copy of

StoryPlayer and the appropriate files and set them up. There is also the potential to release via the BBC's platforms, but this is highly competitive and the BBC are very selective about the projects they publish.

His Dark Materials Adventure:
https://storyplayer.pilots.bbcconnectedstudio.co.uk/experience/HDMadventure

Creator: BBC Creative

Overview: Drawing on the world of *His Dark Materials*, this experience tells you your daemon based on your choices. In many ways this is closer to a **visual novel** than interactive television, showing the abundant cross-over between forms, and potential for varied creations.

Quick Start Guide:
Sign up here: https://www.bbc.co.uk/makerbox/tools/storyformer and then follow the tutorial guide.
You may also find the manual useful, as it contains the latest updates.

2.3.3 Twine

While not originally created as an interactive TV platform, Twine is a highly flexible tool which allows the incorporation of video content into its branching narrative structures. Unlike StoryFormer, the video and the choice selection are not directly connected to one another, and therefore pausing the video may mean that timed prompts appear regardless. Due to being in html, the completed work can be uploaded to any sharing platform.

Example: The Broken Rover

Creators: Mike Pynn, Irene Pynn, Rob Cunha

Overview: Two astronauts are on a mission in separate pods, communicating only via short video messages.

The game is somewhat similar to Sam Barlow's *Her Story*, with the user searching a video database and using new keywords discovered within the videos to find more and uncover the mystery. However, while *Her Story* uses the videogame engine Unity, *The Broken Rover* replicates many of the features (with the addition of a note-taking tool) using only Twine.

Quick Start Guide: Unfortunately the section on using Twine for video in the Twine Cookbook has been removed. However, there is a brief outline on how to do it here: https://twinery.org/forum/discussion/5707/how-to-insert-a-video
While this example shows autoplay working with a link to an online video, in the current version it seems it will only work with videos stored locally, presumably due to updates to Twine and/or the streaming platforms. For full details on tips to make Twine work with video, see the Interactive TV Case Studies document.

3 Experiments and Exercises

The following experiments will help you to create a process for working with interactive TV and film. The methods below are useable with any of the tools mentioned (unless otherwise specified) plus any others you may care to experiment with (for example, Vimeo, Instagram, TikTok etc). They only represent a tiny sample of ways you might script, create and share interactive TV/film pieces, but will hopefully provide a starting point. Reviewing the Case Studies may provide further ideas and guidance on specific tool usage.

3.1 Remixes

Remixing involves taking existing footage and recutting it. This could be reordering a single film, or cutting lots of short clips from different sources together. Naturally, this method lends itself well to interactive TV and film, and it also reduces the workload of the creator. Public domain film is particularly useful as it can be freely used without copyright concerns.

Here is a popular example of a remix.

3.1.1 Reviewing Footage

Visit a source of public domain film, for example:
https://www.loc.gov/film-and-videos/?dates=1800/1899
http://publicdomainmovies.net/

When reviewing films, consider how you want your remix to work. Do you want your narrative to remain close to that of the original footage? Would you prefer to totally change the genre, tone or events? Perhaps you want to stitch several together? Select a film or films accordingly.

Silent films and animation can make for easier remixing as the narrative can be more easily and convincingly changed through altering the voice over and/or title cards. Joins between sections are also less noticeable in these formats.

3.1.2 Recutting

Once you have selected your film or films, it's likely you will need some form of editing software to clip the pieces to the right length; add music, sound effects or subtitles; or do more complex things like change the colour, or add effects and transitions.

Filmora and VSCD can both be downloaded for free and have many tutorials. In Filmora, a watermark will be added to videos of the free version of the software, but is otherwise fully functional. VSCD is entirely free to use.

Begin with a rough cut – cutting longer segments to the length you need, or gathering clips into a rough order and sketching out how they might connect to one another. You can do this on paper, on a Google jam board, or using Twine as a planning tool.

While the processes here are described linearly, the reality is that you will need to work back and forth between tasks such as reviewing footage, scripting and planning your narrative, and cutting the footage into the required segments. As you redraft and develop your work, you may find you need to re-cut, re-edit or re-re-order some sections to improve the narrative.

3.1.3 Exercise 1: Review, Recut & Plan a Short Interactive Film

Review the videos in this folder.
Don't worry about the original context and order of the scenes.
Consider characters, setting, style, story and dialogue. Note whether your piece will use subtitles or voiceover, where you might use music and what style and tone that music will have.
Write a short plan which describes how these three videos will be linked. Your story could be branching or linear, but there should be at least one choice point. (You may wish to read section 3.2 for further tips)
Download the videos and using one of the free video tools suggested, add subtitles, music or voiceover as set out in your plan.

3.2. Original Work

Filming your own footage has both advantages and disadvantages. A major advantage is that you can write your script and then tailor the footage to suit it. A fairly significant disadvantage is that its time consuming and requires a whole additional skill set which you may not have. That being said, this is a learning project, not an Oscar contender! Therefore, you can use a smart phone, and, if you're not comfortable being in front of the camera yourself, use props or toys as characters. (See Adam and Joe's recreation of the film *Se7en* with cuddly toys as an example). Similarly, if you aren't comfortable voice acting, use an AI text-to-speech voice such as Amazon's Polly.

3.2.1 Writing Scripts for Interactive TV

Writing a script for an interactive TV or film narrative is often similar to writing for a **branching narrative** game, and so the all the usual tips for that apply here. Paul Nelson's guide offers some basics, but in brief, the main things to remember are:

- Avoid including too many branches
- Ensure it's clear to your viewer/player what choice they are making (unless tricking them is part of the narrative!)
- If you use variables, make sure to keep track of their names and functions

Additional points to remember when writing specifically for interactive TV:

- Avoid too many choices. Reading and watching has already split your viewer's attention - adding too many choices into the mix is likely to overwhelm them.
- Keep choice text short – most of the choice information should be conveyed visually or implied through the scene the viewer has just watched.
- Note timings – make sure you leave enough time for viewers to consider and make their choice. If you're filming your own scenes, you may wish to leave a few seconds with no dialogue and little action at each choice point. Alternatively you could make a note to use a freeze frame or title card.

As mentioned above, you may wish to expand on your initial sketch, or this script may be your starting point. Begin as simply as you can – it's always easier to add complexity later rather than attempting to remove it after creating lots of inter-dependent parts!

3.2.2 Exercise 2: Write and Implement Video in a Short Interactive Film

If you completed the previous exercise, you will already have a loose plan which you can now expand into a full script.

If your script is your starting point, begin this exercise by choosing a well-known fairy tale or nursery rhyme. For example 'Little Miss Muffet'. Consider how much you will need to convey in your initial video. Will this all be achieved visually? Will dialogue or other audio be needed. Try to keep things as simple as you can. For example:

```
SCENE 1: Miss Muffet is sitting on her tuffet, eating cuds and whey from a bowl.
FX: Eating noises, spoon scraping bowl

A spider lowers itself down in front of her.
```

Once you have your initial scene, come up with a choice the viewer could make.

```
CHOICE: Miss Muffet
   A) Loves the spider
   B) Hates the spider
```

Now script how each choice scene will look.

```
SCENE 1A:
Miss Muffet gives the spider a big kiss.
FX: Smooch sounds

SCENE 1B:
Miss Muffet SCREAMS and runs away.
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> *"Questions such as 'what is it rewarding to influence in a narrative?', 'to what extent?', and 'by which means?' have to be addressed."*
> *Marian Ursu et al. (2008) "Interactive TV narratives: Opportunities, progress and challenges" in ACM Transactions on Multimedia Computing, Communications and Applications*

Your initial script is now complete. You'll now need to create your scenes using glove puppets, yourself as an actor, cardboard cutouts, the choice is yours!

Once you have your footage, edit it as required with editing software. The next steps will depend on your chosen platform.

On YouTube, you will need to upload the clips with names that will work as choices, since this is all that will be visible to the user when using the End Screen function. So, in our example, the Scene 1 video would be something like: "Interactive Miss Muffet", while A and B would be 'Loves the spider' and 'Hates the spider' respectively.

In StoryFormer, you'll need to upload the videos using the Upload Ingester and then add them to your story nodes using Representations > Add Media.

In Twine, you'll need to create a folder called 'videos' or something similar within your Twine project folder, and link to them using the 'video src' html code.

Refer to each tool's individual guidelines for more information.

4 Writing Process

As you can see, there are two main approaches to writing for interactive film, those that begin with a script and those that begin with the available content. In industry, most projects will be likely be script-first. However, for a portfolio or academic piece, it may be necessary to work content-first. Whichever method you go with, due to the complex nature of interactive TV and film projects, planning (as opposed to **pantsing**) is necessary.

4.1 Planning & Writing

4.1.1 Content-First Approach

1) Initial review of film content
2) Rough cut: discard unwanted segments, collect required segments, organise roughly into order within a folder
3) Using the folder of clips as reference, sketch out a rough script outline, initially focussing on scene content and choice points (this may be in standard script format, or visual, or using Twine in order to include basic interactivity)
4) Undertake a more detailed review comparing each scene to its corresponding video and adding any dialogue plus notes on audio and other effects
5) Review the script as a whole considering your intended platform (e.g. will each segment be long enough for YouTube, which requires a minimum video length of 25 seconds?)

4.1.2 Script-First Approach

1) Begin as you would any writing project – come up with characters, scenarios, genre, however you might usually start
2) Consider how this narrative might lend itself to being interactive. What role will the viewer play (if any)? Will your actors directly address the viewer? Etc
3) Draft your initial script, including interaction points.
4) Revise your script as you would any other
5) Film your content as per your script
6) Undertake the steps of the content-first approach. However, rather than reviewing your script itself at this point, you are instead reviewing the structure and interaction points

> *"If we hadn't done the wall mapping and the shoot mapping, [if we] hadn't held the whole map and script in our heads, there's no way we could have done it."*
>
> *Quote by Kate Dimbleby on the importance of planning interactive TV projects*

4.2 Testing

Once you have a draft of your interactive film piece, it is necessary to at least test it yourself, and ideally to recruit some friends and family to do so too.

Try to take as many varied routes through the piece as possible. Ensure you always get the results you expected, and double check links and variables if things are going awry. Both StoryFormer and Twine have debugging functions to help you find and fix mistakes.

As well as the technical elements, you'll also need to consider narrative and

functional elements. Does the story make sense no matter what route your audience takes? (While this should be fully worked out during the planning stages, there might still be routes or interpretations of the narrative you hadn't considered). What technology are your viewers expected to use? What if they use something else, such as a mobile device? It may simply be that your interactive TV piece isn't compatible with their device. You can't cater to every platform, but you can include a note on the piece explaining known issues and ways to get the best performance.

4.3 Key Takeaways

Working with interactive film and TV is expensive and time-consuming, but there are ways to reduce both cost and effort.

In brief:

- Plan carefully prior to filming or implementing footage
- Select the appropriate tool ahead of time and ensure its functionality fits with your planned narrative
- Repurpose existing footage to create new narratives at a lower cost
- Undertake reviews of film content, script and narrative structure regularly – all three must work in concert
- Test thoroughly for function and narrative coherence before releasing the work

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"[…] certain types of interaction were greatly enhanced if it was the result of a call to action by the presenter. This brings in the interaction design as part of the filmed content and this reinforces the need for interaction design to be considered before the presentational elements of the footage are recorded."

Mike Armstrong et al discussing lessons learned at the BBC with regard to interactive TV in 'Taking Object-Based Media from the Research Environment into Mainstream Production', IBC 2019 Conference Proceedings.

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5 What Next?

New technologies for the creation of interactive film and TV are always developing, therefore if this is an area you're interested in, it may be worth joining the BBC's MakerBox community, which discusses developments in a variety of digital interactive entertainment technologies.

If you have only tried one of the methods of making interactive film given here (script-first or content-first), why not try the other? Or look for collaborators in creative communities in order to make a larger, more elaborate production.

Social media platforms also provide ways to get creative with uploading, sharing and linking interactive film and TV works.

> *"[…] interactivity is an avenue worth exploring, but the road to finding successful recipes is long and complex."*
>
> *Marian Ursu et al in 'Authoring Interactive Fictional Stories in Object-Based Media (OBM)' at IMX '20*