

Developing Interactive Fiction for the University Humanities Classroom: A Short Guide

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What is Interactive Fiction?

Interactive fiction (IF), otherwise known as gamebooks or “choose your own path” stories, is a genre of narrative games which leads students through a branching story or scenario. The choices students make in the game directly influence their future choices and the story outcomes. For example:

Imagine that you are returning home from abroad to find that a family tragedy has occurred. You investigate, but depending on who you talk to, you are given a different account of events. Your job is to figure out what really happened.

These characters' accounts, taken from different primary sources, often contradict each other, making it difficult to uncover the tragedy's true cause. Thus, playing the game asks students to consider larger themes within the field of history: can we reconstruct history using only one source? Can a historian reach an objective truth? This is IF in action within the humanities.

Interactive fiction falls into the realm of digital game-based learning (DGBL), a pedagogical approach that uses games to achieve specific learning outcomes (Plass et al., 2015). To this end, DGBL engages students in purposeful play by using digital tools and virtual environments where students can experiment and reflect. In well-constructed educational games, higher-order thinking skills such as critical thinking and problem-solving can be developed (Ahmad et al., 2021).

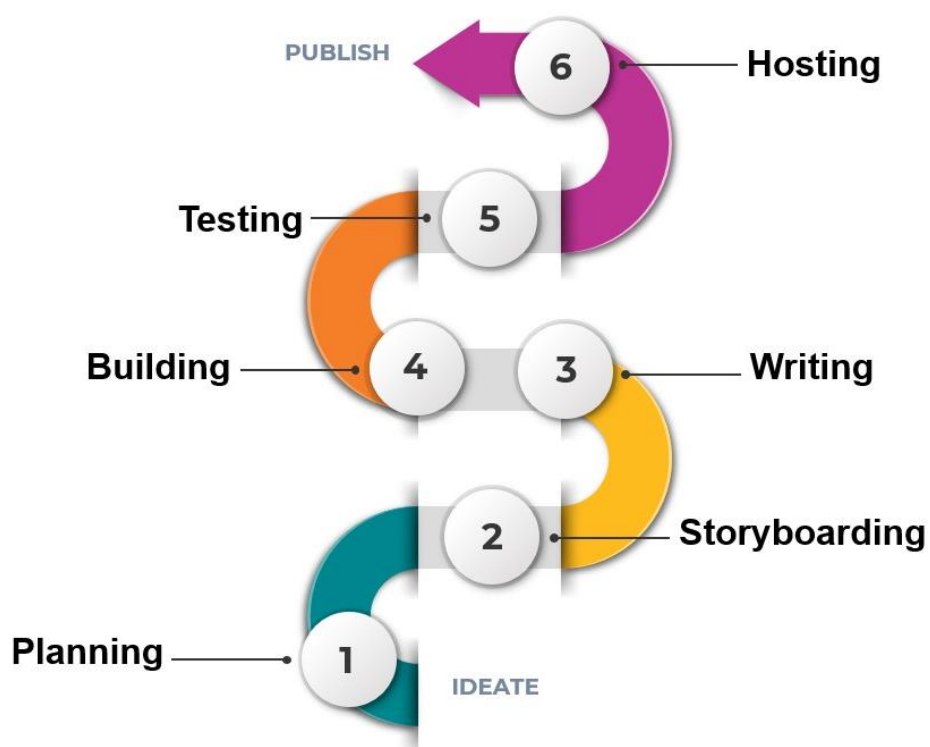
Within the humanities, we find examples of IF and game-based learning across disciplines. For example, the Vision Quest-University of Wyoming project uses augmented reality (AR) mobile place-based learning to teach Arapaho language and culture on campus (Kelly, 2020). Within Musicology, *iGamelan* is an immersive online resource that allows students to learn about and experiment with traditional Indonesian gamelan music (Brunt & Johnson, 2013). An IF gamebook presented in this guide — *The Four Cities: A story of Outremer in the 12th Century* — counters how the crusades are too often depicted in media as a Manichean battle between two clearly defined sides. It encourages students to question this narrative and focuses on the internal divisions and the inter-religious alliances in which all rulers engaged.

If you are interested in creating your own digital games, IF is a good place to start because of its versatility and low technological requirements. In the first part of this guide, we will take you through the IF development process, including the materials, tools, and approximate time needed for each stage. The second section provides examples of interactive fiction that have been developed through this project with suggested lesson plans.

Development Process

The game development process consists of six stages: planning, storyboarding, writing, building, testing, and hosting. In practice, these do not happen linearly and often overlap. We suggest reserving at least 4-6 months for the entire process.

Figure 1: Game Development Process



Planning

The game planning process begins with setting the stage. This stage is understood not only in terms of the time and place but in the purpose and the mechanics through which the game should engage the player. In its most basic form, IF can be thought of as a series of interconnected “book pages” in which students make a choice at the end of each page via hyperlinks. As students are “flipping through the book” they are participating in a dynamic two-way storytelling process.

Interactive fiction relies heavily on a narrative game mechanic, which aims to support learning and promote creativity through interaction with the story (Young et al., 2015). Because IF encourages students to co-construct the narrative within the predetermined constraints of the story as they are playing, it is most suited to content that is non-linear or allows for some ambiguity. More complex mechanics can be realized with more advanced programming.

Game designers must also focus on available source material. For our games, we found that the best stories came from historical events that had detailed descriptions or from microhistories that have a first-person narrative (e.g., biographies, correspondence). In this way, we had less to imagine and more historically accurate data to build upon. Once appropriate source material has been identified, creating an initial lesson plan can help designers align the games with their learning outcomes and see where the games fit within the bigger picture of the curriculum.

Finally, it is important to plan a game that can attract a wide range of interests among students. For example, in “The Richest and Most Favoured Rayahs of the Sultan: The Case of Düzoğlus,” the Ottoman Empire with its internal turmoil in the 19th century provided a good base for a game. The topic is broad enough to interest history students whose national history is connected to the Ottoman Empire in one way or another. It includes inter- and intra-communal dynamics, religion, governance, and the personal interests of historical characters: something that is missing from history teaching when we focus on prominent people and big events. Thinking about your learners can also uncover areas where additional resources may be helpful to guide students through the game, such as glossaries or a ‘detective notebook.’

All these considerations are incorporated into the Game Planning Worksheet in Appendix 1, which outlines the purpose, requirements, and relevance of the game.

Storyboarding

After picking the main events, characters, and mechanics to focus on, it is time to storyboard. This involves creating the different pathways players may take through the story. The goal is not to fully write each page, but to make notes about the content and the choices the players will have at the end of each page. A critical decision is if your game will have the same ending regardless of which path players take or if there will be multiple endings.

There are different ways to approach storyboarding depending on the intended narrative. One author found that constructing a central storyline first and then branching out with choices most paralleled how historians construct history. A tree approach — branching out with choices from the start — did not work as well because it relied heavily on counterfactuals.

Writing

Once you have storyboarded, it's time to start writing the game. This is arguably the longest stage in the game development process (writing a full game took us roughly 60 hours).

When writing, it's useful to keep readability in mind. You might ask yourself: how far you are willing to go with filling in gaps in primary and secondary sources? How much should you make up for the sake of a story?

Incorporating dialogues between characters may also add narrative interest. If a page gets too long, you might break it into multiple pages to keep players engaged; they need not be confronted with a choice at the end of each page. In these scenarios, we broke long dialogues into several pages, and the hyperlink at the end of the page was a question that kept the conversation going.

If authoring directly in Twine or Inklewriter, we would highly recommend saving a backup copy regularly or pasting the text into a document. When using the web-browser version of Twine, it is possible for the stories to be erased when your browser history is cleared, in which case you would lose your work.

Building

Once you have made headway with writing, you may wish to begin building the game simultaneously so that you can test as you go along. If you are new to using digital branching tools, it is useful to plan some extra time at this stage to account for a technological learning curve. For low-barrier-to-entry tools, we would recommend working with Twine or Microsoft/ Google Forms.

[Twine](#) is an open-source tool for telling interactive, non-linear stories. It is the more technical of the two options, requiring a small amount of HTML to add images and audio, but it also gives you more control over the look and feel of your game. It can be downloaded or used on a web-browser, though we would recommend the desktop version because it is easier to add multimedia. You will also need a third-party service to host your game on the web, which we'll discuss in the next section. These [Twine video tutorials](#) are a good place to get started. They use Harlowe, which is the version of Twine best suited for beginners.

[Microsoft Forms](#) and [Google Forms](#) are less technical options for building branching stories. No programming is needed, although you will have less control over the look and feel of your game and it will be more difficult to see the big picture view of your story. Therefore, we recommend storyboarding via a separate tool, either on a digital whiteboard or Inklewriter. Multi-media such as images and videos can easily be incorporated into Forms. No additional hosting service is needed, as the link to the

game can be directly shared. This [Microsoft Forms branching tutorial](#) shows how to create the structure for your game.

With both tools, accessibility should be taken into consideration from the outset to avoid inaccessible content later in the process. We would recommend paying particular attention to purposeful color choices, accessible hyperlinking, and ALT text for all images used in the game.

Box 2: Tips for Incorporating Multimedia

Tip 1: As you collect multimedia for your game, keep track of it in a well-organized folder. Give each image, video, or audio clip a short, distinct name (e.g., istanbul.png). This will save time when incorporating multimedia into Twine.

Tip 2: Investigate the copyright for primary sources early in the project. Depending on the licensing, you may need to write to the owners for permission to use the objects. This may also require paying a fee. We recommend consulting with university librarians on all copyright questions.

Tip 3: In our games, we used [MidJourney Bot](#) for generating images. Using AI generated multimedia should be considered carefully, taking into account ethical issues and historical accuracy. In addition, the use of AI images can foster nuanced discussions with students about AI within digital humanities after playing the game (see Box 3 for an example).

Testing & Hosting

The last stages of the IF development cycle are testing and hosting. Ideally, you will already be testing the game throughout the process, but at this stage, you might ask colleagues to do a complete walkthrough of the game to get feedback on story continuity and technical glitches. We suggest sharing the game with a mix of discipline experts and non-discipline experts, as they can provide different perspectives on both the content and the readability.

If you built the game in Twine, you will need an additional hosting service. If you would like to restrict the game to your students, you may be able to upload the file into your university learning management system (LMS). If the game should be publicly available, you can [host the game on itch.io](#) for free. You can also ask your university web or IT team if they could host the game on your university's web servers.

At this stage, you can also consider licensing options (e.g., copyright, Creative Commons). These may be restricted by the source materials you've chosen and how publicly you publish the game.

Interactive Fiction Examples

The Four Cities: A story of Outremer in the 12th Century

Developed by Juan Manuel Rubio Arévalo, Central European University

[Play The Four Cities](#) (created in Twine, version: Harlowe 3.3.5)

Given how the crusades are too often depicted in the media as a Manichean battle between two clearly defined sides, the game's message was directed towards questioning this narrative and focuses on the internal divisions and the inter-religious alliances that all rulers in the Holy Land had to engage to boost their own interests. For this, the period between 1130-1148 was chosen since it saw constant infighting among crusaders and Muslim rulers. It is a highly dynamic period in terms of inter-religious alliances, with the failure of the Second Crusade as its climax. The period was also chosen due to the richness of the sources available to us, with William of Tyre's and Ibn al-Qalanisi's narratives serving as the foundational stones for the narrative.

Since the game attempts to show the interreligious relations between Muslims and Franks in this period, it was also determined early in the planning that the game should allow the player to experience the story from a Frankish or a Muslim perspective. Furthermore, since the game deals primarily with internal divisions, two different paths were also provided to the player within each general story, be it Frankish or Muslim. This led to the main narrative structure of having four general routes to experience the events between 1130-1148 around (arguably) the four most important polities in the region: Jerusalem and Antioch for the crusaders, and Damascus and Aleppo for the Muslims. Currently one full pathway is complete.

With its four paths, the full game could be played in groups of four where each student follows a different path earlier in the game. The game is well-suited to courses about the Crusades and could also be played during a lesson on the Crusades in an undergraduate history survey course.

The Richest and Most Favoured Rayahs of the Sultan: The Case of Düzoğlus

Developed by Flora Ghazaryan, Central European University

[Play the Richest and Most Favoured Rayahs of the Sultan](#)
(created in Twine, version: SugarCube 2.36.1)

The study of Ottoman governance is related to the Muslim elite, and one rarely sees research on the role of non-Muslim subjects. The common perception is that the askeri class of Muslims was ruling over the reaya non-Muslims. This gamebook, along with the research behind it, comes to fill in such a gap. The main protagonists, the Düzoğlu

family, stand as representatives of the non-Muslim elite who, due to their political status or power, became an inseparable part of the imperial governance.

The game focuses on a key event, the 1819 execution, that opens discourse on political and religious levels. It also opens space for contemporary authors to write about complicated personal relationships that existed within and outside of the Armenian community. The aim of the game is to teach its players about the complexity of archival narrative material, and its story is reconstructed using various sources that mostly contradict each other not only in details but also in grand narratives.

Ideally, the game should be played by three groups as an assignment. Afterwards there should be presentations by the groups. This part is to illustrate the multiple story outcomes and boost a debate among the groups. The debate can start by comparing the outcomes of the game and move to a more detailed analysis of the Ottoman Empire, imperial history, history writing, and archives. The game can be played as part of a general history course with a focus on the nature of empires, Ottoman Empire history, political history, religious history, and history of communities. The game can also be a good example for methodological courses on microhistory, biography, and bottom-up history. At the end of the game there are compass points for instructors and students (see box 3).

Box 3: Compass Points from *The Richest and Most Favoured Rayahs of the Sultan*

1. Discuss all the outcomes of the game comparatively. Which path was the true one or the most historically accurate?
2. Can you reconstruct the history of this execution playing the game only once? Can you find out who the "murderer" was? Were the Düzoğlus innocent?
3. What do you notice about the complicated relations between ethno-confessional communities and the state in the long 19th century?
4. Look at the images generated by artificial intelligence (AI) and discuss: Are they historically accurate? How much romanticized orientalism is present?
5. Think about yourself as a historian: Can a historian reach an objective truth? What is history writing?
6. What is history and how is it different from storytelling?
7. Think about the openness of the archives and their nature: how much can we find? What can we trust as historians? How should we write narratives about the past?
8. What did you learn from this game that will help you in your future education and understanding of the historical past?

Further Resources

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Appendix 1: Planning the Game Worksheet

Designers may wish to use this worksheet as a guide for planning their IF games.

General Information

Item	Notes
Game Name	
Discipline	
Learning Outcome	
Skill acquired (transferable skills)	
Values incorporated	

Game Mechanics

Item	Notes
Hook	
Plot	
Hero	
Villain	
Challenges	
Hacks	
Reward	

Audience & Lesson Planning

Item	Notes
Who Audience/ Students/ Year	
What Short description of game	
Why Purpose of the game	
When and where it will be played	
With what Format/ software	
Player Single or Team	
Time for player to complete game	
Resources needed to play	
Platform(s) used for design	
Feedback on process while students play the game	
Debriefing after students play the game	

Worksheet developed by [Dr. Irene Lubbe](#) , 2022

