

# Untangling Twine: A Platform Study

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## ABSTRACT

As mainstream games require increasingly larger technical teams and more complex software, there has been a move in the opposite direction: that is, the development of game-making tools that “are being designed with people who aren't professional coders in mind.” While Twine is not the only platform designed to facilitate the creation of interactive stories, it has evolved into the primary hotbed for games exploring personal experiences, especially those dealing with issues like marginalization, queerness, and discrimination. This paper examines Twine from a platform studies perspective to understand how it supports and facilitates more experimental works. The platform's development history, documentation, UI, method of content generation, and distribution model combine to create a tool that facilitates these kinds of works. Twine's reference materials (oriented not toward code and problem solving, but to affirmation of the individual experience as the basis of a game), user interface (analogous to common brainstorming/writing techniques), orientation toward vignette (with the genre's subversive potential) and open distribution model (free to download, free to share, and exported as HTML) make the platform a uniquely-accessible tool for creating highly personal games. Analyzing Twine in this way allows game researchers to understand the importance of Twine's design to the creation of such works, in turn illustrating factors that platform developers may use to guide future software.

## Keywords

platform studies, computational expression, design tools, Twine, gender and sexuality

## INTRODUCTION

The current focus of the mainstream videogame industry is the triple-A title: a game that is “developed by a large studio [and] funded by a massive budget” (Warren 2012), produced with advanced software engines for technologically-impressive consoles (e.g. Xbox 360, Playstation 3, or PCs designed to support processor-heavy graphics). These AAA games are designed to be popular enough to “earn out in excess of one million titles sold” (Id.). While mainstream games require increasingly larger technical teams and more complex software, there has been a significant move in the opposite direction: that is, the development of game-making tools that “are being designed with people who aren't professional coders in mind” (Anthropy 2012). These tools are meant to make the design and release process easier, faster, more accessible, and less expensive for aspiring game creators.

Twine is one such platform, and it provides an interesting case study due to the consistently personal style of games that have been created with it. Twine is a platform that supports the creation of interactive stories that have branching narratives and variable states. It is by no means the only game development platform meant to support aspiring

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developers: GameMaker, Game Salad, and Inform 7 are just a few other examples. However, Twine has quickly become the tool of choice for people who want to make games about topics like marginalization, discrimination, disempowerment, mental health, and LGBTQ issues.

This paper takes a platform studies approach to Twine, analyzing how its design supports the creation of games that explore topics avoided by the mainstream. Examining what a Twine developer can “take[] for granted when developing” (in terms of reference materials, user interface, visual paradigm, and export process) reveals how Twine “influences, facilitates, or constrains” this form of expression (Montfort et al. 2009). These findings provide guidance for the development of future game development platforms.

## **HISTORICAL OVERVIEW OF TWINE**

Twine is the creation of Chris Klimas, an award-winning writer of interactive fiction (or IF) who has been producing games for well over a decade and a half. He created Twine (and its command-line interface, Twee) in the summer of 2009. They were released for free (and free to use for any purpose) for both Mac and Windows. Twine games can be saved as .tws files, but they can also be exported to widely-usable web files (HTML files with CSS). This is in contrast to many other interactive fiction platforms, which require special software to run the game files (e.g. .zblorb and the Z-Machine).

Although Twine was released in 2009, with consistent updates thereafter, there is little indication of it having much use in the first year or so of its creation. The official Google groups page for Tweecode / Twine shows only about 20 topic posts in 2010, one of which being a concerned “Is twine[sic] dead?” Despite interest in having contests and competitions for Twine games, the IF Wiki lists zero Twine entries for 2009, 2010, and 2011.

The explosion of interest in Twine game creation can largely be credited to game designer Anna Anthropy. Anthropy wrote several posts in 2012 about the significance of the platform and promoted it in her book, “Rise of the Videogame Zinesters.” Within a year, there was a flurry of activity including a formal tutorial by Anthropy in September, a Twine tutorial at a game jam in September, Twine-specific jams in September and October, and manifesto/tutorial by Porpentine in November. This contributed to the proliferation of Twine games as well as their presence in the Interactive Fiction Competition (5 out of the 8 non-traditional platforms entered). The interactive experiences provided by these works bear little resemblance to most AAA (or even most “indie”) games: in her “Ballin On Twine” post, Anthropy described Twine as a platform that “has become fertile territory for marginalized voices to grow.”

It should be noted that, software aside, Anthropy's game design aesthetic likely shaped the initial crop of games created with the platform. However, even with the strongest endorsement, a platform without Twine's specific affordances likely would not have been able to support the creation and distribution of works by marginalized people.

## **ACCESSIBILITY: THE TWINE REFERENCE MATERIALS**

Even the clearest and simplest platforms cannot assume that developers will immediately understand how to use them, making a tool's reference materials an important point of entry. Reference materials and documentation help developers figure out whether a platform suits their needs, figure out how the workflow functions, and find answers to specific questions. Most platform reference materials focus on the technical aspects of the tool. However, Twine reference materials, both official and unofficial, consistently speak

to their audiences from an aesthetic angle first. Rather than touting Twine's technological capabilities first and foremost, references for Twine tend to focus on why creative people might want to choose an interactive medium in the first place. This aesthetic focus helps draw in and create space for different kinds of artists and their stories.

Rather than answering 'how would you make a game with this?', the official Twine reference manual focuses on answering 'why would you make a game at all?' The very first section in the document is called "What Is Hypertext?" and eschews technical talk for a discussion about interactivity and choice. The reference materials talk about how hypertext can let readers "learn more about a certain topic," "change perspectives in a story," and "change the world of a story" ("Imagine a story that starts at its end and lets the reader undo certain choices already made"). They also emphasize that the above options are just "samples of the possibilities," and that "[t]here are as many kinds of ways a text can branch as there are writers." Putting the emphasis on 'writers,' rather than 'developers' or 'game-makers,' implies that creating this kind of interactive experience is not limited to those with technical ability. This point is emphasized by the reference materials' attitude to code. The materials do not assume that code is inherently valuable or that all users will be interested in learning it (or able to learn it at all). Rather, the introductory section is called "Why Use Code?" and lays out the specific kind of story in which the use of code would be appropriate. The materials even note that creators "don't need to understand how a macro works"--they only need to understand "how to use it to accomplish what [their] story needs to do." By focusing on the expressive potential of hypertext, rather than the technological capabilities of the platform, Twine's official reference materials welcome creative people and artists coming from other disciplines.

Multiple non-official Twine references go even further to attract people who may not see themselves as capable of making a game. These reference materials emphasize the validity of individual experience as the topic of a game. Anthropy has authored two Twine references that encourage this perspective. The first, "HOW TO MAKE GAMES WITH TWINE," includes a section called "But what can I make a game about?" She answers this question with prompts like "Your partner/family/cat/dog," "An important moment in your life," and "Your fantasies or hopes or fears"--personal topics that are largely unexplored in the typical action-adventure AAA game. Another tutorial by Anthropy, written in Twine, answers the question "What do I have to offer videogames?" with a discussion of privilege and the validity of the individual vantage point. Porpentine's Twine tutorial on *Nightmare Mode* only starts talking about code after discussing the alienation of the "average person [...] from their natural creativity and artistic agency." There is a need, she says, to make games and interactive works "for people like you," "for future lovers," and "for people who don't exist yet." These tutorials act as a call-to-arms for potential developers, validating and encouraging the use of individual experience as the subject of a game. Rather than answering 'why would I make a game with this?' these Twine references answer 'why should I make a game in the first place?' By emphasizing the individual in this way, they set the stage for an influx of personal games.

## **UI AND FUNCTIONALITY: THE CORKBOARD PARADIGM**

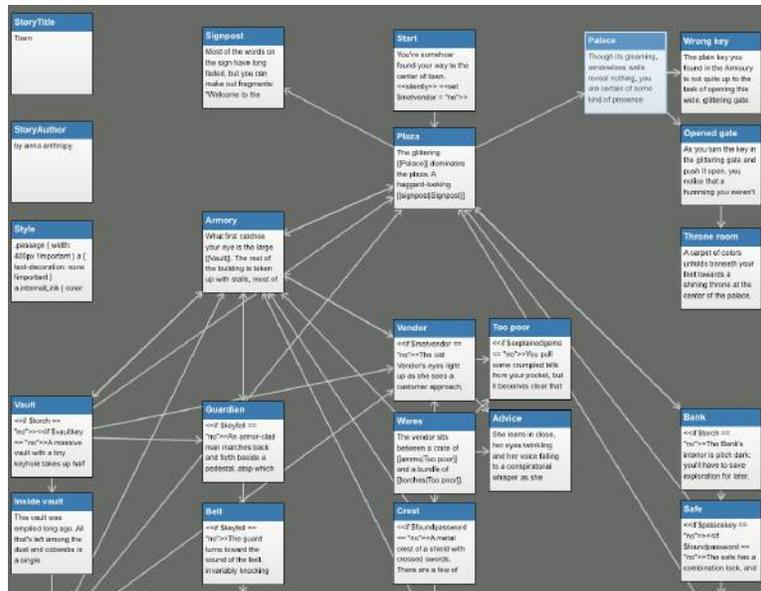
The similarity of Twine's user interface to common brainstorming techniques further helps invite non-technical creative people to start making games. Twine, as stated previously, is not the only platform designed to simplify the game design process. However, the way which Twine visually formats the game files (in terms of their content and connections) speaks to a creative process that is more analogous to writing than it is to coding, making it a more familiar space for those without code experience.



**Figure 1:** Scrivener, a digital tool for writers.

Although there are other languages meant to streamline the creation of text-based games, Twine's passage system most closely emulates the brainstorming, content generation, and organizational process of writing. A Twine passage is “the equivalent of a page in a Choose Your Own Adventure book” (Anthropy 2012). It has space for a title and some tags, with the rest of the space reserved for content (and potentially code). A Twine file, in its most zoomed-out view, is entirely passages and their connections to other passages. Links between passages are created semi-automatically: the creator types a short line of code to refer to another passage, and the resulting arrow is created and managed by Twine. This means that creators can move and arrange passages around the screen in whatever way they like without altering the underlying logic (which is rarely possible with traditional code). This kind of visual, spatial practice is relatively rare in the coding world (outside of patching languages, such as MaxMSP), but it is very similar to the way many writers plan and organize their stories. The platform “shows you the story as you make it, like notecards on a table,” as Porpentine says in her *Nightmare Mode* article. In her post, “Choice-based Narrative Tools: Twine,” Emily Short notes that the “graphical layout [is] its primary way of conceiving of authorship.” Comparing Twine files to the popular writing software Scrivener shows how similar Twine's UI is to the UI of tools designed to help writers.

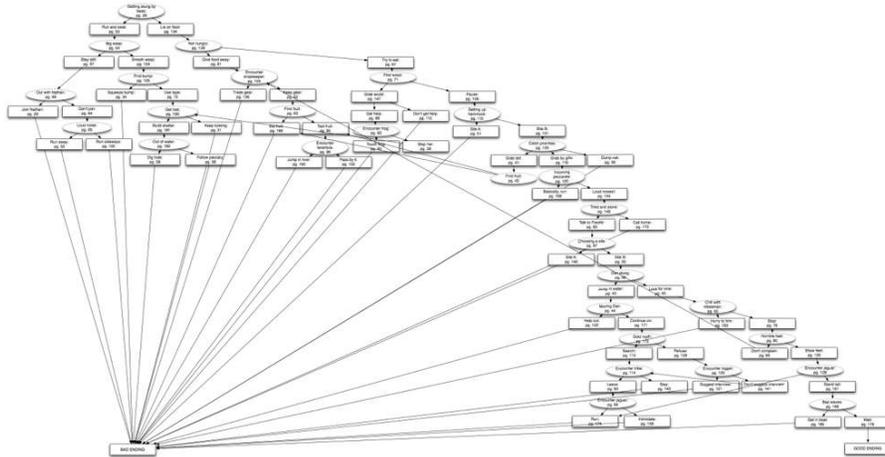
Indeed, those who create Twine games often talk about how this spatial layout brings a new aesthetic dimension to their writing and game creation processes. Long stretches of linked passages can take on stream-of-consciousness unruliness, or they can be shaped to match the setting of the story. In her post “a pack of twine,” Anthropy talks about how in *Town*, passages are laid out “in the shape of a town, [with] the passages [representing] each individual building clustered together.” Porpentine commented, during an interview with Emily Short, that “stories written in Twine have their own unique structure, like creatures under a microscope or root networks carrying information. I feel in my most aesthetic element when I'm working with Twine.” By using a passage system that mimics the corkboard-and-notecard paradigm, and by automating the underlying passage logic, Twine helps translate the game creation process to a potentially more familiar paradigm and presents artists with a new way of viewing their creative process.



**Figure 2:** A screenshot of the .tws file for Anna Anthropy's *Town*.

## CONTENT GENERATION: THE VIGNETTE

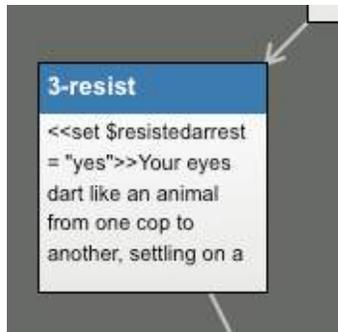
Because Twine has a very limited ability to help the author generate content, the platform inadvertently attracts those creating shorter “vignette” games. Branching narratives require a deceptively huge amount of content for a relatively small number of choices. A single binary choice in a story can lead to exponential growth in the story content required. Mapping out a children's CYOA shows just how many nodes are required to make even a simple, largely binary adventure story. While authors could, theoretically, partially generate part of their narrative, Twine has an ambivalent relationship with code. The platform does not format code or provide bug-checking, except that correct code will be colored. While technically-impressive Twine games certainly exist (*Naked Shades* is an MMO written in Twine), and while there is an active community around Twine hacks and macros, the amount of content needed for a long-form Twine game can easily make that genre unappealing to new developers.



**Figure 3:** A map of the choices in Borgenicht's and Khan's book, *Worst Case Scenario: Amazon*.

However, this can make a shorter, more contained, less logic-driven genre more appealing: here, the vignette. Vignettes are a “brief, indefinite, evocative description or account of a person or situation” (Bogost 2011). Rather than advancing a traditional three-part narrative, a vignette is “usually meant to give a sense of character” and “depict[] an experience or environment, roughly, softly, and subtly” (Id.). By sidestepping the issue of large-scale content generation, vignettes become an attractive genre for interactive narrative for new developers.

The vignette can be used as a way for authors to create 'critical play,' in which they “question an aspect of a play scenario's function that might otherwise be considered a given or necessary” (Flanagan 2009). Players coming to a Twine game may assume that the game will behave like a CYOA, and thus assume that the game 1) will posit them as the hero of an adventure story (as many AAA and CYOA works do), and 2) will give them significant agency (or at least meaningful choice) and freedom within a sprawling game world. This is especially likely since, “as an aesthetic, the vignette is rare in videogames” (Bogost 2011). There are many Twine vignettes that subvert these expectations. Maddox Pratt's *Intake* is an excellent example of a Twine game that, on its face, looks like a CYOA game, but that explores feelings of disempowerment. In *Intake*, the player is speaking to some sort of mental health provider, who insists that they are “here to help” and that, if the player tells them their story, they “will feel relief” and “feel heard.” In each passage, the therapist asks the player a question, and the player can choose an answer. However, any answer that the therapist deems 'non-standard' results in a terse reply, saying that the player's answer is not appropriate, not allowed, or not helpful. For example, if the player chooses that they are a person of color, and then answers that they are proud of being a person of color, the therapist responds that, “[f]or funding purposes, ‘proud’ is not considered an acceptable answer at this point in time.” While the game has several branches, the player can finish the story in as few as 8 or 9 clicks. The shortness of the game actually enhances the experience, as the rapid-fire progression through questions reinforces the therapist's brusque attitude. Further, the simplistic logic and lack of choice underlying the story helps express the protagonist's inability to change the situation. Twine's lack of affordances may lead to vignettes that create space to have “commentary on social experiences [...] that traditional gaming either avoids or unabashedly marks with stereotypes” (Flanagan 2009).



**Figure 4:** A closer look at the .tws file for Anna Anthropy's *Town*. Note that, from this view, the code (written inside the << >> marks) is not distinguished visually from any of the other text.

### **DISTRIBUTION: OWNERSHIP, DEREGULATION, AND SELF-HOSTING**

Twine's distribution model is key to its support of non-mainstream games. A platform's publishing and hosting process have serious effects on the developers who gravitate to the platform, the kinds of games that emerge from the platform, and the users who will be able to play the games. Most platforms do some combination of charging for the platform/development kit, charging for the ability to release work in a particular format, and/or charging for the right to release a work for profit. Many platforms also condition the game's publication on whether it passes review. Unity and GameMaker, for example, require game developers to pay extra to get functionality like exporting to web or mobile devices, or for the right to release their work commercially. Full versions of some platforms can be several thousand dollars. Platforms like XNA and iOS, while cheaper to develop for, require review processes that bar certain content, such as (for Xbox Live Indie Games) “full nudity,” “strong sexual content,” “human excretion,” and so on. In 2010, Apple deleted over 5000 iPhone games overnight due to their being, “in Apple's judgment, too sexual” (Anthropy, 2012). Further, any potential players must own the correct platform, which can be a financial obstacle.

Twine, however, has almost none of these bars to distribution. The platform itself is free and is available for Mac and Windows, two common operating systems. There is no official Twine authority that reviews the games for 'inappropriate' content before publication: game makers can design and publish games about whatever they like. Because Twine exports to a nearly ubiquitous format, the potential audience for Twine games is anyone with a computer and an internet connection. Twine games also tend to be extremely small (unless the author specifically adds assets), making them easy to download over slow or unreliable internet connections. Those with internet hosting are free to host their games on personal websites; those without can zip the games and email them to players. (Philome.la also offers free Twine game hosting.) These factors all combine to create a situation in which creators can experiment with their subject matter without having to worry about the restrictive aspects of the publication process.

The impact of this should not be discounted—recent Twine games, if they had been made for another platform, likely would not have seen the light of day. Games like *Sex Cops of Tickle City* and *Encyclopedia Fuckme* are, Anthropy says in an interview with Leigh Alexander, at least partially intended to “confront potentially sheltered players with the fact that identity and sexuality are far broader than they may have assumed.” However, the game's references to cannibalism and explicit sex would have it barred from the

aforementioned platforms. Porpentine's *Cyberqueen* explores the trope of the sadistic computer overlord, situated, as Anthropy says in her blog post on the game, “firmly within the realm of queer desire.” However, its mentions of sex and human excrement would likely cause it to be rejected from such platforms. *Calories*, by Emma Fearon, has the player go through a day of common, simple choices (whether to walk to school or catch a ride, whether to eat lunch or not), but always ends with the player's father coming into the room at 10PM. Regardless of their choices, the player is told “Your father gets into bed with you and rapes you.” The terseness of the sentence gives it incredible emotional weight, and creates an experience that is hard to forget. However, despite the power of the game, the presence of incest would almost certainly result in an instant bar from publication or distribution, if the game had been made for another platform. Even text adventure/hypertext distribution sources tend not to promote Twine games. There is a significant discrepancy in the current Twine coverage on the Interactive Fiction Wiki (as of May 12, 2013, it listed only 9 Twine games), and a list compiled by Anthropy in her “Ballin On Twine” post on August 29, 2012 (which listed 26 games). Without this low-/no-cost, decentralized, and deregulated publishing system, Twine would almost certainly not be able to support the works that deal with taboo content.

## **CONCLUSION**

As mainstream games require increasingly larger technical teams and more complex software, there has been a move in the opposite direction: that is, the development of game-making tools that “are being designed with people who aren't professional coders in mind.” These tools are meant to make the design and release process easier, faster, more accessible, and less expensive for aspiring game creators. Twine is unique among these platforms, as the vast majority of pieces made using Twine explore personal experience and deal with non-mainstream (and/or taboo) content. The prevalence of these works on this platform is no coincidence: the platform's development history, documentation, UI, method of content generation, and distribution model combine to create a tool that facilitates the creation of these kinds of works. Twine's reference materials (oriented not toward code and problem solving, but to affirmation of the individual experience as the basis of a game), user interface (analogous to common writing/brainstorming techniques), orientation toward vignette (with the genre's subversive potential) and open distribution model (free to download, free to share, and exported as HTML) combine to make a uniquely-accessible tool for creating highly personal games, and provide guidance for how platform designers can create tools that similarly encourage this kind of work.

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