Playful Essays: An Interactive Approach to Online Articles

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Abstract

A *Playful Essay* is a new type of online content that combines text-based articles and stories with playful and interactive elements. In this paper, I first explain what constitutes a playful essay, and why playful essays are worthwhile. Then, I explain the development of playful essays that I have created based on user-centric design methods and non-expert testing. Finally, I present a set of heuristics to evaluate and develop me playful essays based on what I've learned from personal creation and testing.

Author Keywords

Human Computer Interaction; User Interface Design; User Centered Design; Active Reading; Interactive Narrative

ACM Classification Keywords

H.5.2 [User Interfaces]: User-centered design

Introduction

New technology enables new ways to learn, communicate, and express thoughts. The printing press transformed storytelling by enabling stories to be recorded as text. The camera allowed memories to be captured visually. The list goes on: radio, television, etc. The same story, told through different technology, can completely change how the story is perceived. As Marshall McLuhan said long ago, the medium is the message.
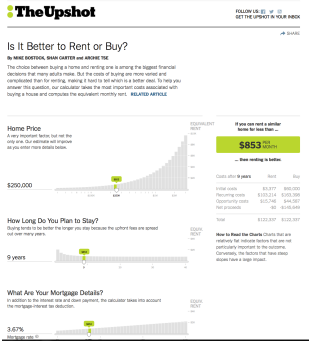
Figure 1: A screenshot of an NYTimes Interactive article. This example is a tool without a directed, text-based narrative. It is likely useful for many people, however it does not constitute a playful essay. The feedback is not meant as a way enahance the experience — it is meant as the sole purpose of the page.

It's undeniable that the computer is a radically new medium. So the question must be posed, are we using the medium to its fullest capability? I think the answer is a resounding no. Computers are an interactive and dynamic medium. But instead of designing for this medium, we often attempt to mimic the old media. To be fair: games and programs both take full advantage of computers. However much of what we use the computer for, especially on the Internet, are neither interactive nor dynamic.

I define interactive to mean the ability for a user to manipulate the content and explore multiple possibilities. Dynamic is the ability to change in light of new information. Static text, which is the vast majority of the internet — and therefore the vast majority of what we use computers for — is neither interactive nor dynamic.

However, there is an emerging space of content that attempts to bring interactive and dynamic elements to the text based content. Here, I propose to define a new category of content in this space. First, I explain what the requirements must be met to fit in this category, showing examples of content that does and does not fit. Then, I outline my contribution to the area using user-centric (and user-tested) design principles. Finally, I suggest a set of heuristics that should be used when developing new content.

Vision

My vision is of text-based online content that is both directed and playful. Both of these are key components for success. First, the content must be directed so that a user who does not want to spend a long time on the page is able to quickly read the article, skip the interactive elements, and still find the content worthwhile. In other words, when the content is printed onto (static) paper, the content's value

should decrease but diminish. Second, the content should be playful. Content that is playful has a number of advantages: users can have fun while absorbing information, understand concepts in more visual ways, and stay engaged with the content for a longer period of time.

In 1990, the world wide web began purely as a static text based system. Since then, there has been a slowly increasing amount of interactive and dynamic content (excluding pure games). However, there are extremely few examples of my vision for playful content. I call this category of content, oxymoronically, playful essays. In the following section, I attempt to dissect what is and what is not a playful essay.

The Category

In this section, I will classify a series of examples of interactive content. For each example I will categorize it as *content that is* an example of a playful essay, or alternatively, *content that isn't* an example of this genre. Because there are so few examples of style of article, it is easiest to explain what does not count first.

Content That Isn't

The rise in data drive journalism has prompted a rise in interactive charts. For example, the online edition of the New York Times has an entire section called "Interactive." The vast majority of the NYTimes Interactive articles are not Playful Essays. Most of them do not fit the category because they are not actually playful. While there are hints of interactive elements, such as being able to manipulate the axises of a chart, there is very little sense of exploration. The content that does have playful content often lack the directed narrative. Take a recent report on president election predictions titled "Who Will Win Super Tuesday?". While the charts are dynamic (they react to election results),
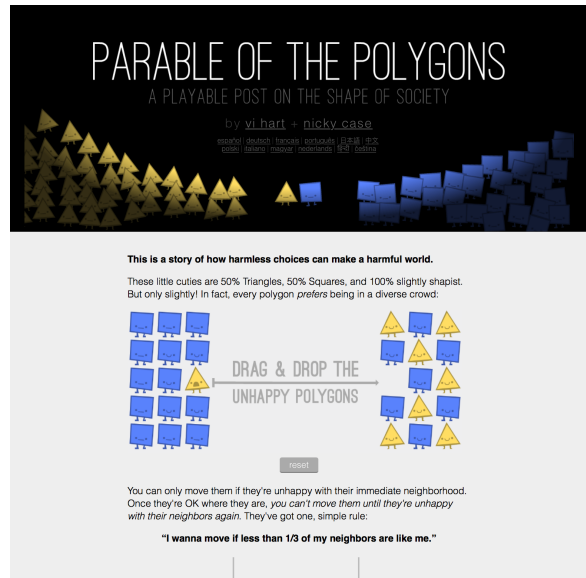
Figure 2: Parable of Polygons; the gold standard of playful essays. There is a clear narrative structure, merged beautifully with a series of mini-tasks or mini-games.

there is no sense of play. The reader is forced to progress linearly down the page without being able to explore or learn from feedback. A second example, "Is It Better to Rent or Buy?" involves aspects of play — there is feedback based on user interaction in an intriguing way. However, it lacks a directed narrative for a reader who wants to bypass the interaction and directly absorb the content. This is much more of a tool than a playful essay (The NYTimes accurately calls this page a "calculator").

Another category is that is similar but distinct from playful essays is the category of simulation. There are thousands

of examples of simulations online. Examples can seen ad nauseam on sites such as Phet. Some examples are 2 dimensional, some are 3 dimensional. Many are for educational content. However, these are distinct from playful essays because these simulations lack a directed narrative. If a user wanted to ignore the simulation (as some will occasionally want to), there would be no content to absorb. Many of these simulations also lack a focus on well designed elements of play — which only makes matters worse. Simulation, interactive charts, and online calculators are all missing key elements of either a linear narrative line or a sense of play. Therefore, none of these are examples of playful essays.

Content That Is
While I believe the definition of a playful essay is very loose, there appear to be very few examples of well done pieces. The gold standard is "Parable of Polygons." This is the closet to the platonic ideal of a playful essay. A user can read straight through the piece simply by scrolling and understand the narrative. A screenshot of this piece can be seen in Figure 2.

The authors of "Parable of Polygons" have attempted to catalogue similar styles of work in a genre known as "Explorable Explanations". When I began this project, I thought I would be exploring this space. However, I have concluded that there is a clear distinction between the specific idea of Playful Essays and general genre of Explorable Explanations. I believe that Playful Essays is a subset of Explorable Explanations. A categorization diagram can be seen in Figure 3.

Methods
In this section, I outline the steps I took to explore this design space. Because I worked with a category of content,

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                    Online-Content
           ┌──────────────┴──────────┐
       ┌───┴───┐                Interactive-Content
      Text   Video          ┌────────┼────────────┐
                        Simulation Data-Viz  Explorable-Explanations
                                                    │
                                              Playful-Essays
```
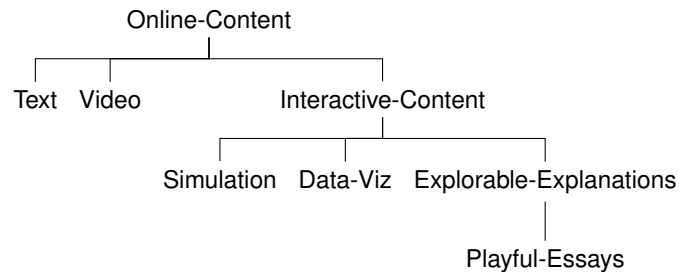
Figure 3: Classification Diagram in the space of online content. Playful essays are a subset of explorable explanations, which itself is a subset of interactive content

I explain multiple small design iterations (instead of one large project), as an attempt to quickly explore many facets of this space. I tested with three phases of iteration. Each are described in detail below.

Phase 1: Understanding the category
In the first phase, I attempted to understand the category. The approach was to take a large variety of online content, and attempt to classify each piece into categories. The result of this section is the classification system used in the previous section.

To experiment with different types of content, I drew examples from already created content from the New York Times, fivethirtyeight.com, BuzzFeed, and the Explorable Explanations website. I then watched and took notes of non-expert users exploring this content for as long as they wanted. Once they had finished the piece, or were no longer interested, I asked them a series of questions. The questions were asked in person, and varied somewhat based on each user's individual response. However, the core questions remained the same:

- Did you enjoy reading this piece?
- Did you find the interactive elements helpful or hurtful?
- Were there any places where you confused?
- Is there anything that could be done to make things more understandable/interesting?
- The list continues...

These questions helped define the genre, and lead to a greater understanding of the need to pair static text with seperate interactive elements.

Phase 2: Wide Experimentation
The second phase of testing involved casting a wide net of possibilites. There are a huge number of ways to add interactive elements to a playful essays. These include but are not limited to sliders, platform style game mechanics, and drag and drop simulations. In this phase of testing, I made a multitude of small demos of a variety of interactive elements. Then, I asked non-expert users to epxlore the interaction and provide feedback. This helped prune the types of interactive elements that were most beneficial to the story.

Specifically, an open source emjoi systems simulation worked really well in rapidly prototyping game-like tasks to better understand how a given system works. I used this system to embed interactivity to articles for the majority of the later-stage testing because of how straightforward and easy it is to use this tool.

Phase 3: Refining Heuristics
In the final phase of testing, I attempted to develop a set of heuristics that future developers can use to make great

interactive content. I accomplished this by modifying existing content by changing one element at a time, receiving feedback, and quickly iterating on the results. I reflect on the heuristics I developed in the next section.

Heurisitcs

After three phases of user testing, I was able to develop 4 heuristics that should be used to design future playful essays. First, all interactive elements must enhance the story, but must not be critical for understanding the content. Second, the interactions should replicate the ideals of games, however there should be no way to lose. Also, the rules should either be clearly stated or easily discoverable. The user should not waste time attempting to understand the controls of the interaction. Third, the interactions should begin in the simplest possible form, and slowly increase in complexity as the story progresses. Finally, testers should focus on user behavior over user responses — as the two do not always align.

In this section, I will further explain each heuristic and how the heuristic was formed.

Enhance, not inhibit

A key component of a playful essay is that the interaction should enhance the story. However, the story should be fully comprehensible without the interaction. Some users found that interactions that took too much space (or were too large a portion of the story) were frustrated that the article was hard to skim. A playful essay that is printed out should be readable without a screen.

Game-like, but without a score

I explored the possibility of having actual mini-games within a story, however it was not well received. Games that involve a score, or the potential to "lose" interfer with the goal of understanding the information that is being presented. Interactions should be game-like in style, but not in execution. No score or metric of success should be involved in the interaction.

Increase complexity slowly

When users were presented with large, complex models of systems at the beginning of a piece, they were often confused as to the main point of the article. Therefore, it is recommended that the early interaction elements are as simple and straightforward as possible.

Behavior, not explanation

Surprisingly, many users mentioned that they would not spend longer on an interactive story than on a static text equivalent. However, all of the non-expert testers spent more time on the interactive elements than on the main text. Therefore, it is suggested that a focus be put on the user behavior, instead of on the user responses to questions — which are subject to standard cognitive biases.

Contributions

In this paper, I described my process of explorative design research to answer the question, how can online context add interactive elements to increase joy and engagement. I defined a new category of content, dubbed Playful Essays. Then, I demonstrated why playful essays are worthwhile, and how they are different than other online content. Finally, I developed a set of heuristics that should be used when designing future playful essays. These findings will help improve the quality and usefulness of online content.