

Instructional Methods and Curricula for “Values Conscious Design”

Jonathan Belman

New York University

jonathan.belman@gmail.com

Mary Flanagan

The Tiltfactor Laboratory

Dartmouth College

mary.flanagan@dartmouth.edu

Helen Nissenbaum

New York University

helen.nissenbaum@nyu.edu

Abstract

Values at Play (VAP) is a project that aims to investigate the role of social, moral, and political values in digital games. A primary goal of the project has been to develop a systematic approach to considering values in the design process. Another goal, complementary to this one, has been to create and disseminate curricula and instructional materials for introducing students to our approach, and, more broadly, to “values conscious” design. This paper provides an overview of curricula and instructional materials created to date, as used in a number of graduate and undergraduate game design courses.

Author Keywords

Design; education; curriculum; values

Introduction

Values at Play (VAP) is a project that aims to investigate the role of social, moral, and political values in digital games. It builds on the premise that games, like other computer and information systems, may embody values in their architecture, interaction paradigms, and mechanisms. Furthermore, like other media, they may carry values through narrative and other representational aspects.

Over the past two and a half years, the VAP team has pursued two related goals. The first is to develop a systematic approach to considering values in the game design process. This has been a deeply interdisciplinary effort, including perspectives from game designers, activists, artists, philosophers, educators, and social scientists. The approach involves three recursive steps for “values conscious designers.” The first is to *discover* the values relevant to their project. The second is the process of *translating* those values into specific design features. The third is systematically to *verify* that the values content of what they have created matches their intentions. Flanagan, Howe, and Nissenbaum (2005) provide an extended description of the approach and a detailed account of how it was used in the design of an educational computer game, Rapunsel [<http://rapunsel.org/>].

A complementary goal for VAP is to create and disseminate a curriculum for introducing students to “values conscious” design.¹ The purpose of this paper is to provide an overview of the curriculum. We begin with a broad outline of its structure and content. This is followed by a summary and analysis of the exercises and readings. Where appropriate, we relate student feedback to illustrate their experiences with elements of the curriculum.² Finally, we discuss how our experience with the curriculum shapes future directions for the Values-at-Play project, as well as implications for general work in this area. The curriculum itself, including readings and related materials, is freely available online at www.valuesatplay.org.

Overview

The curriculum provides instructors with a four-week unit designed to be embedded within "traditional" game design courses. It supplements such courses with a novel, values-focused approach to design. Through a multi-faceted set of offerings, including readings, exercises, and class discussions, the curriculum aims to show students how to systematically consider social, moral, or political values in the analysis and design of digital games. The four classes comprising the standard VAP-unit are:

Class 1: Students are introduced to the basic concepts of values conscious design, including a methodology developed by VAP for systematically considering moral, political, and social values in technical devices and systems. Students use Grow-A-Game cards, a tool developed by the VAP team, to analyze their prior play experiences from a values-conscious perspective.

Class 2: For this class, students will have prepared a video segment from an existing game that demonstrates how values are "at play" in the game. After discussing the results of this exercise, they use the Grow-A-Game cards to brainstorm ideas for new games and game “mods”. The new game ideas they develop are meant to intentionally embody particular values, such as justice, tolerance, and equity, through their mechanics and representational aspects.

Class 3: Students flesh out the game ideas they generated with the Grow-A-Game cards in the previous class. They begin to paper prototype these game ideas for their final projects. In advanced classes, they may build working digital games instead of

¹ The VAP curriculum was created by Jim Diamond in 2007, and used in several game design programs, including at Georgia Tech, University of Southern California, University of California Santa Cruz, University of California San Diego, Rochester Institute of Technology, and Hunter College. In response to instructor feedback, it was revised in 2008 by Jonathan Belman.

² The student feedback cited in this paper is taken from two sources. The first is a focus group study conducted with students who had used the VAP curriculum in 2007-2008. A more detailed analysis of this data will appear in a forthcoming paper. The second data source is the design journals that students in several classes kept while using the VAP curriculum. In these journals, students provided personal reactions to their experiences with the curriculum.

paper prototypes. When this is the case, the VAP unit is typically spread out over an entire semester.

Class 4: Students review and discuss each other's paper prototypes or games, critiquing them from a values conscious perspective.

Activities

Activities in the VAP curriculum fall into two categories. In the first category of activities, students critically examine games they have played, focusing on how those games embody particular values. This prepares them for the next set of activities, in which they generate game ideas and develop games in which values are *at play*. The following sections describe the VAP curriculum activities in greater detail, and provide examples of how the activities unfold in class.

Analyzing Prior Play Experiences with the Grow-A-Game Cards

The Grow-A-Game card-deck is a flexible tool that can be used either to analyze prior play experiences or brainstorm new game ideas.³ In one subset of the Grow-A-Game card deck, each card represents a particular value, such as justice, tolerance, or equality. Many of the values that appear on the cards have been drawn from the foundational documents of liberal, egalitarian democracies, such as the United States Constitution and the Canadian Charter of Rights and Freedoms. Other values were arrived at through brainstorming among members and affiliates of VAP. The deck includes blank cards for users who wish to include values not currently in the deck.



Figure 1: A "value card" from the Grow-A-Game Deck

To analyze prior play experiences, participants select a "values card" from the deck, and discuss the value on the card in the context of their prior play experiences. For example, if the *environmentalism* card is drawn, one participant might begin a discussion of the game *Command & Conquer*. In many real-time strategy games like *Command & Conquer*, players continually

³ Instructions for the cards' various uses can be found with the curriculum materials online.

deplete the game world's natural resources, but are provided no mechanisms through which to replenish what they have taken. The observation regarding the lack of sustainability in the game is typical of the types of discussion topics and insights that emerge during the exercise.

As the Values Card exercise progresses, participants collectively explore how the value under discussion is embodied, affirmed or violated in particular games and through narrative, character representation, or particular game mechanics. Comparing interpretations of a particular value is especially useful in helping designers and design students understand differing points of view on how game elements can be culturally or socially interpreted. Even for those skeptical of the relevance of values, the exercise can spark lively discourse.

Capturing Videos of Value-Rich Moments in Games

After their first Grow-A-Game card exercise, students are asked to prepare a short video clip of a value-rich moment in a game they've played, along with a voice-over commentary explaining how values are *at play* in the clip. These clips are then uploaded to a collective wiki, where they become a shared resource for students and designers. In one class using the VAP curriculum, students compared clips from the games *Tomb Raider* and *Gears of War*. During a post-class focus group, one student described some insights he arrived at through the exercise:

“Another [set of videos] was Gears of War which has you play as a male character in a war zone and Tomb Raider. They're similar environments and the characters are in very similar situations - a hostile environment, getting shot at, and blood is everywhere. But in Gears of Wars it's a male character, and he from head to toe is completely armored. Lara Croft in Tomb Raider has a tank top on and short shorts and she's doing flips and everything ... I don't think the designers of Tomb Raider were trying to put a subliminal message in of how to view women, but obviously again she was consciously designed that way pixel by pixel from the ground up ... If you really think about it's kind of laughable. Tomb Raider is a game where they kind of make it grounded in the real world in certain aspects - she goes to real locations, she deals with human beings, it's not like aliens and stuff. So why is everything designed realistically except for her?”

The visual aspect of the video exercise gives students a perspective that is hard to attain through discussion alone. They can literally see the values at play in games, and collectively scrutinize game examples that might be unfamiliar to some students in the group.

Using the Grow-A-Game Cards to Generate New Game Ideas

To brainstorm new game ideas with the Grow-A-Game cards, students draw two cards from the deck. The first is a “values” card, and the second presents a non-traditional gameplay mechanic, such as singing, voting, or protecting. One of the purposes of the exercise is to introduce students to a broader palette of mechanics than are commonly represented in mainstream games, which tend to include a limited range of mechanics, e.g. gathering or collecting; violent mechanics; driving mechanics; and sports-related mechanics.

The two cards, one specifying a value and the other a mechanic, give students what at first may seem like a very difficult set of design constraints with which to work. For example, it may not be immediately clear how to make a game that embodies “fairness” using the mechanic of

“tempting,” or a game that embodies “cooperation” using the mechanic of “haunting.” However, our experience is that students typically produce excellent game ideas, and that the challenge of working with unusual constraints leads to more creative game ideas than are generated through traditional brainstorming methods.

An excellent example of this is *Hush*, a game developed by Jamie Antonisse and Devon Johnson, design students using the VAP curriculum at the University of Southern California. This game idea was conceived during a Grow-A-Game exercise, in which the students drew the “empathy” values card and the “singing” mechanics card. From that idea, what they developed is a strikingly original departure from traditional gameplay mechanics, and gives players a unique experience of the value of empathy. *Hush* is available to download for free online at <http://www.bettergamecontest.org/>.

Giving and Receiving Values-Focused Feedback

Once students have made sufficient progress on their games, it is helpful for them to regularly receive values-focused feedback. This is because students who start with the goal of embodying particular values in their work may lose sight of that goal as their designs progress. In a post-unit focus group, one student described how his group set out to make a game about racial tension between black and white youth at a high school in the American South. Gradually, the group drifted from its original goal until they were left with “a rumble game ... all the black kids and all the white kids just beating the crap out of each other in the middle of the field.”

In our experience, it is fairly common for students’ original values-related design goals to be lost or distorted while they grapple with issues of usability, technical constraints, and so on. Therefore, in the VAP unit, the feedback they give and receive from classmates is structured around questions such as, “Is it clear which values are meant to be at play in this game?” and “Is the values content of this game being interpreted differently than expected?” When these kinds of questions are explicitly asked, it reaffirms the centrality of values to students’ design projects, and increases the likelihood that their final projects will effectively embody values as intended.

Readings

In designing the curriculum, one of our priorities was to select readings that would effectively contextualize the VAP methodology for students. To this end, we have included readings that primarily fall into three broad categories, each central to the appreciation and practice of values conscious design.

1. The philosophical foundations of values conscious design.
2. Critiques of existing games from a values conscious perspective.
3. Strategies, features, and mechanics that are typically used by non-mainstream designers.

We elaborate below, the important contributions each of these topics makes to the overall goals of the curriculum, and will describe how particular readings are intended to engage students’

with these goals. We also provide examples of students' responses to the readings, and their use of ideas from the readings in their own design work.

The philosophical foundations of values conscious design

Scholars in a wide range of disciplines have embraced the idea that values are embodied in technical systems and devices. For example, Winner (1980) discussed how the influential urban planner Robert Moses build classist values into the physical infrastructure of New York City in the mid-20th century. Similarly, Weber (1997) argued that the design of air force training systems systematically discriminated against female pilots. The idea that values are “at play” in games can be seen as the extension of these ideas. Therefore, students are provided with valuable context by reading previous work on values in technology from sociology, philosophy, legal studies and other fields.

In addition to the Winner and Weber articles, students using the VAP curriculum read a piece by Friedman and Nissenbaum (1996) discussing how bias may be designed into computer software and information systems, including cases as mundane as airline reservation systems. While these systems are often assumed to be neutral, in reality they can produce search results that systematically favor some airlines over others. A recurring theme in student feedback during our assessment of the curriculum was that the article encouraged a more critical stance to ostensibly “value-neutral” artifacts. For example, one student wrote in her design journal that “it really makes one wonder what else is set up in certain computer systems to sway or bias the individual on the back side of the computer screen.” We consider this kind of alertness to the values content of artifacts to be an important characteristic of values conscious designers.

Critiques of existing games from a values conscious perspective

In previous work, we have argued that analyzing existing games from a values conscious perspective is an important first step towards values conscious game design (Flanagan, Nissenbaum, Belman & Diamond, 2007). However, many people associate values focused criticism in this area with politically motivated attacks that denigrate games in general as a pernicious influence. In the curriculum, we provide more sophisticated critiques that discuss how particular game features embody values (whether they are socially “positive” or “negative”) in the context of player experiences. We have found that this type of analysis encourages students to more carefully consider the values-relevant implications of design decisions in their own work (Belman & Flanagan, in press).

One of the curriculum readings is a series of values-focused reviews of popular commercial games (Belman, 2007). The reading begins with the following caveat: “Players’ perceptions and experiences of values in games are inevitably mediated by personal, cultural and situational factors and we would not expect two people to have identical values experiences while playing the same game.” Students seem to have taken this idea to heart, many using their design journals to comment on its relevance to their class work. For example, one student wrote:

“This article meant the most to me once I conducted the play-test for my game design project. After the three players finished with the game, they each had their own theory of what the game was about. One of the players interpreted the game exactly as it was intended. But the other two had interpretations far different from

our intentions. For the most part, I would conclude that their perceptions had a lot to do with their own life experiences.

A games idea, although one is constructed by the game designer does not mean anything. It is the idea that the player walks away with and learns from the game that ultimately decides the message that they walk away with. “

We consider this to be a valuable insight. However, we do not want students to conclude that the partly personal nature of players’ interpretations makes it impossible to design a game which clearly and effectively conveys a particular message. Rather, we would like them to see how they can mitigate the subjectivity of players’ interpretations through rigorous play-testing. By receiving feedback throughout the design process from a diverse group of play-testers, designers can craft a game in which the range of likely interpretations is acceptably narrow. This is a point that will be developed further in future iterations of the curriculum.

Strategies, features, and mechanics that are typically used by non-mainstream designers.

Most students begin the VAP unit having primarily played commercial games, with relatively little experience of experimental, activist, or otherwise non-mainstream games. As a consequence, they may only be familiar with the relatively limited palette of features and mechanics that are used in popular, and generally commercial, game design. With a narrow view of what is possible in their work, it may be difficult for them to put values *into play* in their games in clear and interesting ways. Therefore, we aim to introduce them to innovative strategies, features, and mechanics.

We have included some readings in the curriculum that present students with innovative approaches to design. We have also found it effective to have students play and discuss games that innovate beyond the clichés of commercial game design. One of the games that students play in the VAP unit is *September 12*, in which the mechanics convey a critique of post 9/11 American foreign policy. Interestingly, the game is designed so that it cannot be won in the conventional sense, underscoring the intractability of a family of geopolitical problems that it is designed to editorialize.⁴ This design strategy, the “unwinnable game,” was an approach frequently used by students to address a variety of difficult social problems in the games they designed. The following passage, taken from post-unit focus group interviews, describes how two students used this strategy in their own game designs:

Student 1: the game was about how difficult it is to be a taxi cab [driver] ... we made it so it’s impossible to ever like progress in life.

Student 2: We did something similar [in a game] about racial tension between black kids and white kids. But that was kind of difficult because most games you associate with winning. One side has to win, especially if it’s divided between parties. ... [In

⁴ The game’s author provides an “introduction” explaining that how this design feature contributes to *September 12*’s purpose and message: “This is not a game. You can’t win and you can’t lose. This is a simulation. It has no ending. It has already begun. The rules are dead simple. You can shoot. Or not. This is a simple model you can use to explore some aspects of the war on terror.”

our game] even after you achieved [friendly relations between black and white characters] it didn't necessarily mean that you won the game, because the game is never really over. It doesn't just matter what your actions are because there are other people too in the society. Those are the non-playable characters. So even if you were doing your part if other people were doing bad things it would bring the whole [situation] down.

In future iterations of the curriculum, we plan to introduce students to games demonstrating an even broader range of innovative mechanics. In the latest version, we've included *Hush* as an assigned game. In the future, we hope to use more games that have been designed by students working with the VAP curriculum.

Conclusions

The VAP curriculum was initially designed to be used in both undergraduate and graduate game design courses. However, over the past two years we've found that interest in the curriculum is more far-reaching than we had anticipated. In particular, K-12 teachers are increasingly using game design to teach a variety of topics, most commonly in the content areas of science, technology, engineering, and math. For example, students who design a game about the climate crisis may attain a better understanding of the topic than those who do more traditional course work, such as essay writing and presentations. This may be partly true because young students are motivated by the prospect of designing their own games, but also because the process of game design typically requires students to go beyond the rote understanding of topics that is often displayed in essays. In this way, the VAP curriculum contributes to a constructivist approach to the widely documented problem of how to facilitate the development of deep, robust, and flexible knowledge for students (see Perkins, 1992, for an overview of this issue in education research; see Fosnot, 1996, for a review of constructivist approaches to this problem). Recently, elements of the VAP curriculum have been used in K-12 teacher training programs. We plan to further encourage this use of the curriculum and its ancillary instructional tools by adapting it to meet the specific needs of K-12 teachers.

The Grow-A-Game cards have become very popular amongst social issues, serious, mainstream, and student game designers. They report that the cards are effective for brainstorming game ideas that are a significant departure from conventional mechanics and design clichés. We plan to create new versions of the cards to guide brainstorming activities for a wider range of audiences.

As digital games become a more prominent part of the cultural landscape, we see an increasingly important role for VAP and similar initiatives. In our view, the most significant innovation will come from those who rethink the foundational assumptions of game design and that "values conscious design" will remain part of this vanguard. We look forward to exploring this approach with students and designers and seeing how it evolves alongside the medium to which it is tied.

References

- Belman, J. (2007). *Game Reviews*. Unpublished curricular materials.
- Belman, J. & Flanagan, M. (in press). *Exploring the Creative Potential of Values Conscious Design: Students' Experiences with the Values at Play Curriculum*. Manuscript submitted for publication (copy on file with author).
- Flanagan, M., Howe, D., and Nissenbaum, H. (2008) Embodying Values in Technology: Theory and Practice. In J. van den Hoven, & J. Weckert (Eds.), *Information Technology and Moral Philosophy* (pp. 322-353). Cambridge: Cambridge University Press.
- Flanagan, M., Nissenbaum, H., Belman, J., & Diamond, J.. (2007) A Method for Discovering Values in Digital Games. *Situated Play DiGRA 07 Conference Proceedings*, Tokyo.
- Fosnot, C. T. (1996) *Constructivism: Theory, perspectives, and practice*. New York: Teachers College, Columbia University.
- Friedman, B., & Nissenbaum, H. (1996). Bias in computer systems. *ACM Transactions on Information Systems*, 14(3), 330-347.
- Perkins, D. (1992) *Smart Schools*. New York: The Free Press.
- Weber, R. (1997). Manufacturing Gender in Commercial and Military Cockpit Design. *Science, Technology & Human Values*, 22(2), 235 – 253.
- Winner. L. (1980). Do artifacts have politics? *Daedalus*, 109(1), 121-36.