

Game Design Advance

MDA



Lana Polansky recently wrote a [very interesting piece](#) about how we categorize games which includes an examination of the popular MDA game design framework. MDA stands for “Mechanics, Dynamics, Aesthetics”, it’s the organizing principle of Marc LeBlanc’s GDC game design workshop which I’ve been a part of for many years and was written up in 2004 as a [white paper](#) by Robin Hunicke, LeBlanc, and Robert Zubek.

In general I’m a fan of the MDA approach but I think Polansky’s essay highlights some of the most problematic aspects of it, especially around the terms themselves. I’ve been thinking about these problems for a while and reading Polansky’s piece has prompted me to try to organize my thoughts on the subject.

For me, the greatest strength of MDA is that it emphasizes the “second order” nature of game design. *Mechanics* is used to refer to the parts of the game that the designer has direct control over, *aesthetics* refers to the qualities of player experience that the game ultimately generates, and in between, linking the two, are the *dynamics* of the game in action – the behavior of the game’s different parts interacting with each other and the player while the game is being played.

Emphasizing this indirectness between what the designer puts into the game and the final result of the player’s experience can be very useful because one of the most challenging things about game design is how complex and surprising a game’s behavior can be. It’s easy to add some element to a game expecting one result and then watch something totally different emerge once the game is set in motion and begins to unfold unpredictably through time and space. MDA offers a way of thinking about this challenge – it develops models that help illustrate all the different kinds of qualities of player experience you might want to generate, the different kinds of dynamics that might produce those experiential qualities, and the types of mechanics that are likely to lead to those dynamics.

So what are the problems?

As Polansky suggests, I think the major problems have to do with the lack of clarity around the terms on either end of the equation – “aesthetics” and “mechanics”.

Let's start with "aesthetics". MDA wants to use this word broadly, to describe all the different dimensions along which a game can be beautiful, meaningful, interesting, moving, expressive, etc.

Unfortunately, this word has a widespread and unshakable association with the *visual* qualities of a thing. Most of the time, when someone talks about the "aesthetics" of a game they intend to refer specifically to the graphics, art direction, or visual style.

No matter how strictly you attempt to clarify that you aren't talking about *visual* aesthetics, that you are talking about the broader set of qualities that make an experience beautiful, meaningful, interesting, valuable, etc., people will continue to naturally, instinctively think of "aesthetics" as "visual aesthetics". You can say aesthetics means any emotional/psychological/expressive component of the experience that the game is attempting to achieve – whether it's competition, exploration, storytelling, humor, terror, camaraderie – it doesn't mean art style, it doesn't mean graphics, and people will nod and say they understand. But then two seconds later they will turn around and say "the gameplay vs. the aesthetics".

As someone who has tried for a long time to get people to adopt this broader use of the term "aesthetics", I am reluctantly coming to the conclusion that it just ain't gonna happen. Polansky suggests that "affect" might be a better way to express what MDA is really trying to get at here and I agree.

But even more problematic is the term "mechanics". Again, MDA wants to use this word broadly to refer to *all* of the stuff that the designer has control over – not just the rules of the game but the materials as well, the recipe *and* the ingredients. Marc sometimes uses the example of a boardgame: the mechanics are all the contents of the box – the rule book, board, and pieces; the dynamics are all the actions of the game and players as it's being played; and the aesthetics are the emotional and psychological qualities of the players' experience that cause them to want to play the game again, or not.

Here we have a word-association problem that's similar to aesthetics/visuals but a million times worse. Because people, especially game designers, have a *very* specific thing they use "mechanics" to refer to – namely the "chunkable" units of gameplay that are often shared between games, little combinatory tropes or conventions, what Polansky calls "ludic devices" eg. the 52-card deck, roll-and-move, jumping and falling, key-and-lock, hit points, etc... And it *especially* is used to refer to the units of *interaction*, the rules for how things are connected. It is, in fact, mostly used to *distinguish* interaction from sensation, to isolate the choices and actions in the game from the visuals, text, and sound in the game. Even though all of those things are "mechanics" in the sense that MDA wants to communicate.

This is so deeply confusing even the original paper doesn't know how to sort it out. At first it defines mechanics as "the particular components of the game, at the level of data representation and algorithms." ie. all the things in the game *and* the rules that determine how they behave and how the player interacts with them. This is the broad definition.

Later the paper refers to mechanics as "...the various actions, behaviors and control mechanisms afforded to the player within a game context" and then goes on to say that the mechanics work *alongside* (and are therefore presumably distinct from) the game's "content (levels, assets and so on.)" This is the narrow (and common) definition.

Why does this matter?

The whole point of MDA is to help guide designers through game design's highly second-order creative process. The designer has her hands on the stuff over here, *all* the things that can be directly manipulated in the design process (including all the

materials and the instructions for how they are hooked together and their first-order interactions with the player), and she cares about the psycho/emotional/expressive effects that are going to emerge out the other end, and in-between there are players playing and all the surprising and hard-to-predict behavior of dynamic systems.

But instead of communicating this idea clearly the phrase “MDA” reinforces a lot of pre-existing concepts like “gameplay vs. graphics” or “underlying system vs. surface qualities” or “abstract rules vs. images and story”. Your brain has to work very hard to avoid seeing these standard dichotomies in the phrase MDA when, in fact, the version of MDA that is most useful (in my opinion) puts the rules and the graphics *together* along with the language and the sounds and everything else that constitutes the material “stuff” of the game.

I think *maybe* the source of this confusion is that MDA comes out of a time, and a scene, which really *did* emphasize the more narrow, system-focused, abstract elements of game design. It suggests a point of view that considers a game’s assets to be of secondary importance. I suspect they weren’t thinking of how confusing it was to include the graphics in the term “mechanics” because they weren’t really thinking of the graphics much at all.

I still think the MDA framework has a lot to offer when understood in its broader and more comprehensive sense. Like any design framework its usefulness is always going to be limited, it’s not a grand unified process for creating games, but it can be extremely powerful as a conceptual tool for approaching many game design problems.

Maybe we could keep the initials and replace (or add) terms? Like: Materials/Dynamics/Affect? Or Mechanics&Materials/Dynamics/Affect? The important thing is for people who use MDA in their practice and/or teaching to be aware of these issues and think them through for themselves.

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1. [Jesper Juul](#) wrote:

Great post. I think a better triplet would be:

- 1) Design (given that we are thinking about all of what we already call design)
- 2) Play (given that we are talking about the game as played, not just its emergence properties)
- 3) Experience (given that this also ties into to User Experience etc..)

So Design – Play – Experience, DPE.

On a side note, Ion Storm’s list of types of fun is a better starting point for students in my experience:

<http://www.jesperjuul.net/ludologist/the-words-of-game-design-the-terminology-of-ion-storm>

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