Make the Design do the Work

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Improving the clarity of games allows players to spend more of their mental effort on strategic planning rather than the mundane bookkeeping of calculating legal moves. This article discusses techniques for achieving this, by making the design do the work rather than the player, and demonstrates this concept through example. Such techniques include visual design, simplifying rules, clarifying rules, harnessing emergent strategies, and minimising mental bookkeeping.

1 Introduction

T HIS issue's game design pattern deals with the notion of making the design do the work rather than the player. The aim is to free the player from the mundane bookkeeping of move-making, so that they can focus on the more interesting task of deciding which moves to make. This paper outlines relevant principles, then demonstrates these in relation to numerous examples and counterexamples from well-known – and some lesser-known – games and puzzles.

1.1 Transparency of Rules

The related concept of *embedding the rules* of a game to improve its design is treated in an earlier paper [2]. While there is overlap between the two concepts, embedding the rules is actually a subset of the broader aim of making the design do the work, which can take other forms such as even *increasing* the complexity of rule sets in order to benefit the player. Embedding the rules aims to minimise the number of rules that players must learn, while making the design do the work aims to minimise the mental effort that players must expend in order to play the game. This is the difference between the *clarity* of a rule set (form) and the clarity of moves in action and their implications (function) [5].

The assumption here is that the rules of a game should be as transparent as possible, so as not to distract players from strategic planning. We want the mechanisms of play to be as *clear* as possible so that players can see far down the game tree [3]. However, this is not true for all types of games; e.g. many war games are measured by the complexity and quality of the simulated battle experience rather than their strategic depth. War gamers may recognise this as the distinction between *design for cause* – focussing on the detail – and *design for effect* – abstracting away the detail in favour of higher-level control.

1.2 Design for Cause and Effect

This distinction between design for cause and design for effect was first described in the seminal 1978 article 'Game Design: Art or Science' [4] in relation to two popular board war games of the time, and the merits of each side have been debated ever since. Game designer Alan Emrich later defined these terms as follows:[1]

Design for Cause: When a game's design has players follow all of the logical steps and procedures to obtain an outcome, when players experience a methodology and must consider its many facets. This can often lead to systems that are over-engineered. *That is, when the players are doing all the work and the designer is having all the fun.*

Design for Effect: When a game abstracts complex procedures for simplicity's sake so that the players can get straight to the 'boom'. *That is, when the designer does all the work so the players can have all the fun.*

Both philosophies have their proponents, although I personally find the latter more compelling and believe that it has broader relevance to many more types of games and puzzles, so will focus on that approach here. This paper could just as well be called 'Designing for Effect'.

1.3 Perceived Affordance

Design researcher Don Norman identifies three basic principles for the design of effective user controls [5]:

1. *Visibility*: It should be obvious what a control is used for.
2. *Affordance:* It should be obvious how a control is used.
3. *Feedback*: It should be obvious when a control has been used.

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[1] Emrich's 'Game Glossary' web site that contains these definitions is no longer available. Note that the exact meanings of these terms are *still* being debated online: https://boardgamegeek.com/thread/1668036/design-effect