The Strategy Game Designer's Constitution

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This article aims to help strategy game designers create games with more strategic depth and rigour while being alerted to conceptual design problems. It contains some "golden rules" for design, interesting game mechanics to consider for your games, and a thought-provoking list of potential victory and ending conditions that you may have completely overlooked. After reading this article you should be able to spot potential flaws in your design and have some great ideas to work with.

This article was inspired by another very well thought-out article entitled [I Have No Words And I Must Design](). If you have not read this article, you should take the time to do so now. It has a broader scope than this one and can be good for designers of all types of games.

[There is also a companion "cheat sheet" for this article]() which puts all the key points onto one page that you can print out and use as a handy reference.

Strategy VS. Tactics

Before we begin, we should clearly point out the difference between *strategy* and *tactics*. So let's first look at the academic definitions (compiled from various sources):

- **Strategy:** A plan of action intended to accomplish a specific goal. An elaborate and systematic plan of action. Synonyms include "plan" and "scheme".
- **Tactics:** A procedure or set of maneuvers engaged in to achieve an end, an aim, or a goal. An expedient for achieving a goal; a maneuver.

A "strategy" is an overarching plan of action. It is a collective *group of tactics*. Tactics, in turn, are individual maneuvers or actions that support the strategy.

In designing *strategy* games then, we need to constantly be promoting certain aspects of game play. Strategy games are characterized by:

- **Long-range goals (besides simply winning).** All games are meant to be won. That is what makes them "games", per se. For *strategy* games, long-range objectives should be required in order to win. Things like "capture the queen" or "fortify my current position". These goals are a level higher than manipulating specific game units or variables, but do not represent the entire game itself (winning).
- **Forethought to achieve those goals.** Based on our description above, the classic strategy game *Chess* appears to be more of a game of tactics. Each move is critical, Each piece is valued. And yet, it is widely recognized as a game of strategy. Good Chess players are not playing individual pieces however. They are

playing an overall position on the board and think several moves ahead in order to gain an advantage. Playing each move at face value is the mark of a novice player. Therefore, strategy games emphasize *forethought.*

- **Minimizing the impact of specific actions when compared to the overall strategy.** Strategy should win a strategy game, not tactics. While a game may include giving orders or moving game units specifically, the game as a whole should not emphasize any particular action. Making a good or bad "move" should not automatically determine whether or not you have won or lost the game. Some games in particular make the player feel they must restart if they don't get a good "starting position". This could indicate a design flaw (or a player obsession).

- **Relative unimportance of individual units or functions as they relate to the whole.** The impact of losing a game unit or a conflict is lessened in a strategy game. This is not to say that some key units, battles, or tactics are unimportant. However, in the larger scheme of things these specifics should not win or lose the entire game. For instance, again in Chess, the Queen is a very important piece. But losing the Queen does not mean the game is lost or that that player is doomed. In fact, loss of this "unit" may even be *part of the strategy.*

Tactical games, on the other hand, emphasize the opposite. Moves are made at face value as the situation dictates. It focuses more on specific moves or specific units which really can win or lose the game. There are few long range goals and the game may be segmented into shorter sections ("acts", "chapters", "missions", and whatnot). Strategy games are generally played start to finish which allows for more variety in between, thus not restricting the player from a full range of actions.

The Golden Rules of Strategy Game Design

The following is a list of simple rules and examples that help express strategy. These rules help developers make better designs and also help players have more fun. When we ask ourselves "What makes a good strategy design?", we are also asking "How can I make this game fun to play?" Obviously, this is somewhat subjective. There are people who play for the fun of playing, those who play for the immersions and experience, and those goal-oriented folks who punish themselves with ever more difficult challenges (winning on the hardest difficulty level, setting new records, and so on). Not all games will relate to all players, but generally speaking the following should apply to strategy games.

Obvious choices should not be choices

If you offer the choice between A and B, and A is always better than B, then *the choice should never be presented to the player*. This turns into a monotonous tedium for the player since it is understood to be unnecessary.

This manifests itself in different ways but most often it comes down to a balancing issue. Some games have obvious and unbalanced features that players quickly capitalize on. If option A always works best over other competing options, why would the player *ever* want

to choose to do anything else?

Another area this problem displays itself is where you have two different situations and each situation requires a specific and obvious solution. Making the player "solve" the obvious problem doesn't take any brainpower and does not make the game more fun to play. It adds no strategic value to the game. If square pegs always go in square holes, there is no point in having square pegs or holes in the game. Instead you would want varying degrees of results in varying situations.

Players should understand the game mechanics

Games have rules. Players need to understand those rules in order to play the game. Strategy games on the PC have a tendency to get out of hand with rules. There are so many things to learn that a player can easily feel overwhelmed. While a learning curve is not a bad thing, unnecessarily hiding the core mechanics of the game from the player is usually not wise. The player needs to understand why, for instance, a weapon only does 10pts of the damage against the enemy. If the player understood the simple logic that went into the damage formula, the game might be more enjoyable. If this formula is never presented plainly to the player, the entire experience will be a frustration.

Clear feedback on choices is required

There should be no ambiguity as to whether a player's choice was a good or bad one. It may be slightly good or slightly bad or both, but it should never be ambiguous or puzzling. If the player is presented with ten options and, after trying all ten, cannot tell the difference, the reason for having so many options is wasted. Which naturally leads us to...

Give the player less variables, more choices

Instead of offering many game elements with few uses, offer the player *few* elements with *many* uses. The point of this is to increase the number of choices the player has which increases the fun factor and decreases the number of game elements. Additional elements are harder to remember in game play and harder to design and develop anyway.

In the classic dungeon crawler, red keys open red doors, blue keys open blue doors, and so on. This situation produces many variables (doors and keys), but zero choices (which keys to use on which doors). What this ultimately produces is *tedium*, not strategy! This game play mechanic may be appropriate for an adventure game, but not for a strategy game.

Don't Play Known Outcomes

If the outcome of a game is certain, play should stop. The concept of "playing" a game means that the outcome is uncertain. If the outcome of the game (who will win or lose) becomes known at any point in the game, it is no longer a game and simply becomes a process of "mopping up." The game stops being fun because its outcome is already known.

This is bad for both losing players *and winning players as well!* Why? Losing players don't enjoy losing, but most winning players don't enjoy the tedium of mopping up a game that's already in the bag.

You can eliminate or reduce playing through known outcomes by changing the victory conditions. Do you need to conquer everything, or would 50% be good enough to win? You can also keep the game tighter by adding negative feedback mechanisms (see "Feedback Loops" below).

Offer risk-versus-reward type decisions.

Investors know this concept very well. You can invest in stocks and bonds that are low risk, but also offer low return for your money. Alternatively, you can invest in high-risk securities that may gain or lose oodles of cash. Strategic choices should be the same way. You offer either A) the low risk, stable reward option, or B) the high risk, volatile reward option. By making the player choose a level of risk, this may offset the problem of giving players simple choices with simple answers. (See "Obvious choices should not be choices")

Don't offer 'systems' that the player does not interact with

Some games go to great lengths to create intricate, complicated, realistic, simulator-level systems of rules. While this isn't necessarily bad in itself, there is a problem with taking a great marvel of design and putting a simple interface on top of it. Why is this bad? It negates all the complexity.

If complicated systems were "abstracted" into the interface by simply posting a few simple symbols or numbers on the screen, the complexity would mean nothing. The player would not understand what was happening under the hood. The complexity of the system would be lost on the player, who 1) does not understand all the intricacies that the developers put into the system, 2) cannot interact with the system to influence it in any meaningful way, and 3) probably doesn't care anyway. For the player, a few simple rules would have been better. Can you still build complicated gameplay mechanics *without* a simplistic interface to hide it? *Only if the player can comprehend the rules.*

Strategic Scales

Strategy games may include a variety of "strategic scales", or choices with a range of potential responses. Not all of these are required, but they are something to consider when designing your own game. These include:

Offense VS. Defense

The classic and most obvious. *Offense VS. Defense* is self explanatory and rarely needs consideration in most games. However, care should be given to weight each side reasonably

equally for games which include both offense and defense. Some games may be purely about offense (an "arms race" scenario). Does your game play well either way or is it weighted towards one side or the other? Is playing defensively a viable option? If defense is not a viable option, consider removing it (see "Obvious choices should not be choices").

Light VS. Heavy

Light VS. Heavy is a catch-all for several other scales which do much of the same thing but take different forms: *Many VS. Few*, *Slow VS. Fast*, *Power VS. Speed*, *Power VS. Mobility* and others. By including this option, you do away with an obvious "arms race" scenario. Instead of "bigger" always being better, you give "smaller" a chance to be a competitive choice. Given that light and heavy are equally useful but for different reasons, you give players the opportunity to progress through the game with divergent strategies instead of letting it become a constant ladder of "1-upping" opponents.

Examples of this scale include: using many smaller units or using fewer and more powerful units; using a stronger and slower unit or using a swifter, more fleeting unit.

Efficiency VS. Volume

Producing twice as much volume could (in some situations) be accounted as the same as using the volume twice as well. Either way, output is the same. How it is produced is not. This scale assumes that your game factors in some kind of "resource" to be played for. Creating this scale in the game not only gives players a strategic choice but also gives them a fallback option if one option is not present or favorable to their position. For instance, if the player does not have the means to increase volume, they may increase efficiency instead. While this may help in the short term, it may also leave a strategic weakness to be exploited in the future.

Efficiency and volume need not be mutually exclusive. They may be used together in the game. However care should be taken to clearly separate their mechanics, otherwise they may as well be the same thing. Using them simultaneously for the same purpose would nullify their strategic usefulness in the design. You might as well eliminate one.

Diversity VS. Homogeny

Also known as Generalization VS. Specialization. The player taking the more diverse (general) position is better suited for quick responses to changing needs in the game. By being a jack of all trades, the player can change or adapt his own strategy on the fly. However, the homogeneous (specialized) position can more effectively drive a winning strategy home and is more of a threat (or a defense).

Homogeny is realized when a player "puts all of their eggs in one basket." It is essentially a risk/reward gamble. A homogeneous or specialized approach heightens the player's offensive or defensive position, but leaves them weak in other areas. Furthermore, once a

highly specialized player comes under attack from a weak point, that player is less effective at changing strategy in mid-stride, having invested too much in one single approach.

Diversity is not easily overcome. It also responds quickly and evenly to a variety of problems. Especially large problems pose a threat to the diverse player. Strong attacks and heavy defenses may be insurmountable obstacles to the diversified player.

For this scale to be useful in design, diversity and homogeny need to be equally effective. In practice, diversity tends to be a decent but not often victorious approach. Much depends on the mechanics of the game and the dynamics of the players involved. If diversity often comes up lacking in gameplay you may consider either 1) giving a slight bonus for taking a diverse position, or 2) increasing risk for a specialized strategy.

Strategy VS. Luck

Luck and strategy are opposites. Luck should be used as a design element to enhance the fun-factor of a game, not to make it more strategic. More luck means proportionately less strategy. If you aim to make a true strategy game, you should not use any luck element at all. Obviously, random game elements should not be added if they do not make the game more fun.

It could also be argued that luck creates it's own strategy, namely *risk management* or "hedging bets." This mostly applies to games like Poker or Backgammon where luck is an integral part of the game. However, this almost always boils down to simply playing the odds of a given situation, not making a strategic choice (again, see "Obvious choices should not be choices"). There may be some strategy in having a choice between a high-risk luck element and a low-risk luck element or the choice between using a luck element and not using it at all (see "Offer risk-versus-reward type decisions"). However, there is no strategy in subjecting all players to a single luck element in which there is no decision making, e.g. rolling dice, drawing cards, flipping coins, etc..

Considerations

Consider options with both drawbacks *and* benefits

An option does not always have to be an explicit benefit or drawback. It can be both. There need not always be a "right" answer, but there should always be clear consequences. What you want to avoid are ambiguous results. Results can be mixed, but at the same time should be clearly defined.

For strategy games, you can clearly see this balance between *offense* and *defense*. A side that is heavily defended may be weak in attacking. It may survive forever but will make little progress. A side that has great offensive potential can make a lot of progress, but is very vulnerable.

A great example of a feature with both drawbacks and benefits is in the card game *Dominion*. In this game, the thing which makes you win (victory point cards) hinders your progress during the game itself. So although they are needed to win, they are bad to have!

"Feedback Loops" - Reward and Punishment

Feedback loops (*see Rules of Play*, 2003 Katie Salen, Eric Zimmerman) are game mechanisms to either increase or decrease a current game position held by a player. You can think of it as reward or punishment for a winning or losing position. Use feedback loop mechanisms in a game to balance the game from going too fast or slow. Feedback loops come in two flavors:

- **Negative Feedback** - *Negative feedback* is when a game gives a special rule to help players that are losing or to punish players for getting too far in the lead. It keeps the game more balanced towards neutral where nobody wins or loses by too much. *Negative feedback slows down the game pace*. This can make the game feel more lively since it may not be clear who will win until the end. Many board games have a social kind of negative feedback loop wherein players may attack or refuse to deal with another player who is clearly in the lead or about to win, slowing the leader's progress.
- **Positive Feedback** - Positive feedback is when a game rewards winners or punishes losers. Examples are when the game makes it easy for a losing player to get further taken advantage of, or if it gives increased leverage to a player who is already clearly winning. Positive feedback makes the game grow exponentially or even spiral out of control. *Use positive feedback mechanisms to quicken the game pace*. Basic *Monopoly* gameplay is an example of a positive feedback; more hotels and houses makes you more money which allows you to buy even more hotels and houses...

Visibility

Consider limiting the scope of the players' knowledge. This can include knowledge of the playing field (if there is one), knowledge of other players and their resources, and knowledge about the future play of the game itself. This can be accomplished by randomization of goals, game phases, or anything that a player might come to *expect* at a later point in the game.

Emergent Strategies

Is there only one right way to play the game or are there several viable approaches? Strategies emerge when there are *interactions between game components*. Do the components of the game only do one thing? Can they be broadened out to do more than one thing? How can different parts of the game interact with each other in combinations?

When To Hold 'Em And When To Fold 'Em

Consider adding reasons to *not* play resources immediately. Is there a penalty or a reward for holding on to something? Will it grow in value or crumble in your hand? For example: many games have some form of currency. Obviously, spending money advances the game, so perhaps there could be a reason to save money such as earning interest on it, saving it for impending doom, or possibly counting it as points towards another goal. A game could also have resources that are best played at a specific time, either because of some game phase or as part of the strategy. This is very common in card games where cards might be saved for later to do more damage, bluff, or throw off an opponent.

Punishment for Thoughtlessness

Obviously, a strategy game ought to reward a player for playing strategically. You can also punish players for not having a good strategy by limiting a player's ability to quickly change their plan mid-game. If a player's choices are necessarily expensive in either time or resources, changing strategies would be a waste for that player.

You can accomplish this by making choices more expensive, by requiring changes to have "turnaround time", or by making the player's previous choices obsolete or diminished over time. You may also consider giving rewards to players who do *not* make changes in their strategies by having units or a position gain value over time, by accruing interest, or by reducing costs.

Ways To Play

- **Inclusive Play** - Inclusive play requires that all players remain in the game until it ends. Inclusive play is usually a good choice for strategy games with multiple human players. This is simply to keep everyone involved in the game. With single-player computer games, keeping other players happy isn't an issue.
- **Exclusive Play** - Individual players drop out of the game ("lose") individually until only a winner or winners are left remaining. Virtually all 4X-style computer games have exclusive play.
- **Cooperative Play** - Players can cooperate with each other in a variety of ways:
  - *Against the computer* - Players cooperate against AI opponents or a specific "boss" opponent.
  - *In a team* - Players arranged in teams may compete against other teams but cooperate with each other. Team play can also take the form of permanent or temporary alliances.
  - *Against the clock* - Players race the clock to complete a victory condition for all players before time expires. This is usually an "everybody wins" type of game.
  - *With a common goal* - Players cooperate to achieve a common goal or solve a common puzzle. This is usually an "everybody wins" type of game as well.

- **Competitive Play** - Players can compete directly with each other or can be arranged in teams. Players can also compete with AI opponents in computer games. Competitive play can be temporary or permanent (using alliances or game-required temporary cooperative play)

Ways To Win

Keep in mind that the options here pertain only to strategy games. There are plenty of non-strategy game victory conditions outside the scope of this document:

- **Elimination** - Win by eliminating, destroying, moving, or removing opponents, obstacles, targets, or non-playing characters. Elimination can require a player to remove everything or a specific percentage or number of things.
- **Acquisition** - Win by acquiring something or a certain level of something: money, resources, cards, tokens, opponents, or items on map. Victory by acquisition could also be called *victory by conquest*.
- **Points** - Victory by high score is a lot like victory by acquisition, but so much greater because "points" are an abstract representation of value. Points can be awarded for anything. Additionally, different amounts of points can be awarded to players for different things. Players are then assessed by their overall skill level in the game and not by any specific skill. This encourages mastery of all the game's elements. Points are so flexible that you can even subtract or multiply points if so needed. Points can also be adjusted if the game is unbalanced.
- **Physical Goal** - Win by getting to a location or several locations. This victory requires a game space to play in; Not all games have a game space. This victory could also be a victory by *travel, discovery,* or *exploration.* RoboSport (by Maxis) had a clever game mode called "baseball" where the player had to move units to four corners of a map to win.
- **Abstinence** - Win by *not* doing something or by doing something efficiently. You might consider not losing something the player already has, going "out of balance", going out of bounds, losing resources, spending resources, or trying *not* to receive points. Victory by abstinence can also be *victory by efficiency* (like golf).
- **Riddance** - Win by getting rid of something. Players may start with an item or items that need to be played out of the hand (like a card game), placed on a map, spent (like money), traded away, or destroyed. Victory by riddance provides the intriguing concept of giving opponents something they don't want as a hindrance (as opposed to *not* giving them something they *do* want) and of "going out" to win.
- **Spacial Dominance** - Win by possessing or controlling an amount of physical area on a map. You will need to decide what constitutes "controlling." Victory can be attained by total domination, however a shorter and less player-exclusive game can be played by making the goal be a certain percentage of space or number of areas instead.
- **Key Target** - Win by removing, destroying, creating, acquiring, or converting a key target or targets. Chess is won by capturing the King, not by capturing other pieces (this minor detail escapes many beginners). Key targets can be per-game

(one target for all players), per-player (each player has a different target), or inter-player (each player has a target to defend against the others, e.g. "capture the flag").

- **Diplomacy** - Win by social means. This can include winning by default (lack of other players), resignation of opponents, or a declaration of a draw or tie. Players could also vote for a winner (such as in *Master of Orion*), or periodically vote for a loser (think *Survivor*). There may also be multiple winners where a person wins by being allied with a winner (or loses by being allied with a loser).
- **Time** - Rarely used in strategy games, but listed here regardless. Victory is given to the player who deals with a scenario in the fastest time.
- **Combinations** - Win by completing multiple simultaneous victory conditions. This is not a victory condition, per se, but interesting to explore. Consider Physical Goal + Riddance. This requires the players to get everything out of something or away from something. Or consider Points + Abstinence, possibly requiring the player to win with the *most* points in the *least* moves (or while using the least resources, losing the least number of units, etc).
- **Variable** - Win by completing one of several *different* victory conditions. This allows multiple paths to victory which allows for a wider style of play.

Ways To End

Important note: Ending conditions are not always victory conditions! - It is important that you specifically consider what events trigger the end of the game. This does not necessarily determine a winner in itself. For instance, some card games are over when someone "goes out," but the winner may be determined by counting points afterward. *Go* is over when all the available space is controlled, but the winner is determined by counting points. However, in some games, victory and endings are the same. In *Chess*, the game ends *and* is won when a king is captured.

Endings that correspond to victory conditions:

- **Elimination** - End the game by removing all players or competitive forces from the game. This could also be called "last man standing".
- **Acquisition** - The game ends when a specific number or percentage of items or resources have been collected.
- **Points** - End the game by scoring a number of points. This requires that score be actively kept during play as opposed to scoring after the game's end. A scoring end condition can be further restricted by only permitting a specific score to end the game with no overage or underage allowed.
- **Physical Goal** - The game ends when one or more players reach a specific physical goal (like a race) or after *all* players have reached the goal.
- **Riddance** - End the game by getting rid of something.
- **Spacial Endings** - The game ends when all space or a specific portion of space is used up, controlled, or owned, either by players in general or by a specific player.

For example, play may end and the game won by a player controlling 50% of the available area; or the game may end (but victory not determined) when 100% of the available area is controlled by all players in general or when no more moves can be played in it.

- **Key Target** - The game ends when a specific target (or targets) is captured, destroyed, or collected.
- **Diplomacy** - Players decide when the game is over. This can be a popular vote for a winner, a resignation, or a decision to draw or tie.

Endings not related to victory conditions:

- **Combinations ("And" Endings)** - The game ends when two or more ending conditions are met. For example: a *Canasta* hand is over when a player has both the necessary number of plays made *and* gets rid of all their cards. This player may not end the game if the required plays have not been made.
- **Variable ("Or" Endings)** - Allow any number of multiple conditions to end the game. Variable end conditions usually go with variable victory conditions.
- **Exhaustion** - End the game by exhausting an available resource. This could be a stack of cards, money, game tokens, collectible items, etc.. The game can end with the exhaustion of a specific resource or all resources combined.
- **Inability to Play** - The game can end either when one or all players cannot make a legal play. Some games end after a player cannot play and all other players get "one last turn."
- **Time** - The game ends when a time limit expires. Time limits are not related to a time victory condition, which is more like a race.
- **Random** - What ends the game is randomly determined before the game starts. This forces more variety in play style.