"It's Only A Game"

GAME DESIGN METHODOLOGY

by Jim Wallman

Introduction

This paper was first put together for a game design Seminar held by Chestnut Lodge Wargames Group (CLWG) in 1993. It has been revised after being reviewed for the CLWG Fourth Annual Conference in October 1995.
It is based on my own experience as a game designer, informed by discussion with others, theories produced by other professionals (in particular those in the RAND Corporation) and a wish, on my part, to crystallise all of this in one place.

The methodology I outline here applies primarily to historical simulation and games. The principles involved would, I know, apply to other sorts of games as well - the demands of interpersonal interaction - the core of a good game - are, in my opinion, the same for a commercial board game as they are for a crisis simulation.

Aims and Objectives

The first and most important element of any game design is that of setting your aims and objectives. These are implicit in your initial decision to design a game on a given subject. Perhaps a book you have just read, a film you've just seen; whatever the inspiration - it creates your first aim.

BE CLEAR ABOUT YOUR AIMS

The most common problems in game design can often be brought back the designer having too woolly aims. If you don't know exactly what you want the game to be about - how can you hope to design it successfully?

One of the best practical ways of establishing an aim and keeping to it is to document what you are doing - in other words your first action must be WRITE IT DOWN.

Amazing though it may seem, writing down your objective can be harder than you think. Let's take an example:

Example: "I want to do a game about the Battle of Buena Vista in 1847"

The first step is to decide what aspect of this obscure battle interests you?
You might choose a number of directions to approach the subject:

- a game of the battle as a whole,
- the actions of one regiment in the battle,
- the general strategic problems of Gen. Santa Anna and Gen. Taylor in the Mexican War,
- or the detail of operation of mobile artillery batteries (a feature of this battle).

All of these are legitimate approaches to a game. The answer to this initial step usually determines all the following design steps.

Design Considerations

This section deals with the fundamental machinery of game design and is at the core of this methodology.

I have divided these design considerations into two main headings, Structures and Resources.

These are not to be taken as separate and independent stages, since much of the design process is iterative, each area being revisited in turn several times before the design is finalised.

Structure

There are four main areas that need to be considered under structure, these are Level, Resolution Game Type and Layout.

a. Level:

This can be restated as: What are the players going to do?
This is most important and is closely related to Resolution (see below).
You must always be clear about what the players are going to do, and the sorts of decision being taken by them at the level they are supposed to be representing. This is an important element of the research on any game, since you have to get an idea of the decision making process in the real-world situation you are simulating. In the Buena Vista example - you might ask yourself the following questions when deciding on the level of the game:

i. In the case of say, the regimental commander, what decisions does he take?

ii. How often does he take decisions? (once per battle, once per hour, once per few minutes?)

iii. Do his decisions have any impact on the outcome? (He might actually be deciding whether to have red or white wine for dinner ....).

Armed with the answers to these questions, then imagine yourself sitting down and playing. Would a player have enough to do and of interest at the level you have chosen? Do commanders at their level exercise wide freedom of decision-making or must they follow closely the orders of others? You need to have some idea of the real-life decisions taken at this level? (not a question easily answered in many instances).

b. Resolution:

There is a well known rule of thumb in simulation which says that the resolution of a

game should normally be two organisational levels below the player level. Hence if the game is set at divisional level, resolution should normally be battalion, or if the game is battalion level, the smallest unit would be a platoon.

This should not be considered some sort of rigid design rule, however, merely a very useful starting point.

You can see how the resolution is important - a game set at brigade level with battalion resolution (only one level down) would mean that the player only had 3 or 4 units to make decisions for. In such a case, unless the game system had terrific time pressures, the players would be very likely to be under-employed (and hence bored - the ultimate crime in game design).

On the other hand, a game set at brigade level with platoon resolution (three levels down) would give the player typically 27-36 sub units to consider, which is probably too much unless the players have several hours to complete each round of decision-making.

c. Game Type.

In our field of historical crisis simulations or games, there is quite a sophisticated lexicon of game types. For definitions, see the Glossary at Annex A. I shall assume a working knowledge of the main types at this stage. You need to consider the game types you will be using. On the first stage of the design process you should avoid making a firm decision on game type until you have looked further at the other design considerations.

Reject nothing - you will be surprised how many game structures can be used to meet the same objectives.

A key early decision to be taken here, however, is whether the game is to be Open or Closed. The degree of closure is vital when deciding on basic game type - for example it is very much harder to have a high degree of closure on a two-player board game (though not impossible - just very difficult).

You need to be clear why you are selecting a particular game type. As I have said, at this stage you should not necessarily arrive at a single game type - but a short-list should be apparent early on. Be clear why you are excluding particular game types as well as why you're including others. Few game subjects are applicable to *all* game types. Unfortunately, only experience can tell you what does and doesn't work for a particular design

d. Game Layout:

In terms of pure game design, the layout of the venue should be of minor importance. But in the real world, we have to fit our games into the spaces available. If you are fortunate enough to be involved in a group that has access to a large hall or conference centre, then this is less of a problem than if you are running games in a friend's house or classroom setting.

Here again, the layout of the game is related to the degree of closure, as well as the

game type. Let us examine how the game layout is influenced by the main game types we would normally consider.

Game Type	Layout Considerations
Figure Wargame	Needs reasonable space for a table. One room, space for props etc.
Map Wargame / Kriegsspiel	Can be done on one table with screens, usually multiple rooms required.
Committee Game	Normally single room with chairs as a minimum, a table would be a help.
Dialogue Game	Depending on the context a central map/model is a help, otherwise the same as a committee game in layout.
Megagame	Space for multiple teams, either at separate tables in a large hall, or a large number of separate rooms.
Cardboard Box Simulator	These can be held almost anywhere, depending on the game - often the CBS is structured around the space available (e.g.: Bomber Simulator in a Loft, Deep Sea Diver Simulator in a Cellar)
Role Playing Game	Same requirements as for a committee game, although the more elaborate can be like a figure game.
Board Game	Usually only a few players (typically 2) and a table.
Voicegame	Multiple tables, optionally screened off from each other.

To recap; in defining your structure, you should have a number of potential game types, and some reasonably clear idea of the game layout and the level of players and resolution of forces represented. But it doesn't end here since you must consider your resources too.

Resources

The three main resources you have are your **audience**, **time** and **equipment**.

These feed back into your structural considerations, and as I have already mentioned, you may be simultaneously considering game type and equipment or audience.

a. Audience:

One of the first questions I always ask myself when considering my audience is: 'What will they put up with?'

The second factor is knowing how many you will get to play. In practice you do need to be flexible. In a recreational context it is not a good plan to design a game for a precise number because you often need to accommodate an extra player or a few less.

Finally, ask yourself what can they cope with? The abilities (or otherwise) or the players are important factors - it is no use designing a game that requires half the players to be able to speak Spanish if none of them do.

Related to the above point, you must also consider the audience's need, in other words you should have some idea what they want from a game. It is, of course, not a bad thing to challenge their preconceptions occasionally - but you should perhaps avoid doing it too often, or you'll end up a solo gamer pretty quickly.

For example: in the CLWG the expectation of a historical game is that it is reasonably realistic.

Again the size, ability and expectations of the audience have an influence on the game type. In many cases the main expectation of the audience is merely that they are going to experience a particular game type (i.e. figure game, board game, commercial RPG etc.)

b. Time:

The most important question here is: How long have you got?
This has an effect on the game type selected, since some game types have overheads in terms of setting up time (e.g. figure games), and in terms of game complexity - is there enough time to see the game through to a satisfactory conclusion?

The calculation of time is important, since it is often ignored.

Perhaps an example will help illustrate the point:

Let us say that at the Battle of Buena Vista, the action we want to simulate took 6 hours in real life. We plan to play it in 3 hours at a club meeting.

> So, the question here is; how long should it take to process a game move? Much of this will depend on the mechanisms chosen (and I will talk a little more on mechanisms shortly) but the mechanisms are themselves dependent on how long you have to resolve the battle. Let us say that you expect it to take 10 minutes to resolve a single game move. Simple maths from the assumptions above will tell you that each game move must represent 20 minutes of battle time.
> From this falls out how much detail you can afford to include in your rules in order to ensure that a game turn is resolved in the required 10 minutes..

In the old days of figure wargaming it was common for 'battles' to take half an hour to

resolve a single turn, which was supposed to represent one minute or so of action. Not surprisingly, few wargame battles were ever fought to any sort of conclusion, and they therefore lacked any sort of realism.

c. Equipment:

This is determined very largely by the game type you choose. It is not a particularly sensible idea to choose a game type just because you have the equipment to do it that way (figure games are a classic example). Similarly, if you cannot get the equipment together for your chosen game type, then you are forced to look at alternatives.

TESTING THE DESIGN

The final part of the design process is testing. This is still before you actually write the game details - you must first ask yourself:

Has it met the Aim?

Refer back to your aim. It may be that the game you have outlined to meet the aim is actually very dull, or not what you actually wanted. Perhaps you should have thought more about the aim? Go back and change it – decide to rewrite or even discard the idea.

You might find that after going through a design process, the game is not workable in the way you want. Be prepared to discard it.

Pressing on regardless may be a measure of your determination but it will earn you no thanks from your game-playing audience.
If you do not complete the design, or turn it into a game, write it up anyway - this is an easy (and good) way of meeting your article requirement for CLWG, if nothing else.

And the effort will not have been a total waste because you will have helped someone else who might have had a similar idea.

The value of being part of a group (like CLWG) is that members should be able to spark ideas off each other - your incomplete design might be just the inspiration someone else is looking for in a similar project.

Sharing the ideas and design process is, in my experience, always rewarding.

WRITING THE RULES / GAME

I have left this to the last because it is, to me, the easiest and least important part.

Wargames are interesting in their emphasis on written and often complex rules. Often wargame rules are merely a collection of mechanisms only loosely held

together by a central model or a game design (if a design exists at all).

Writing game mechanisms *is* simple, and everyone can do it with only the minimum of thought. Once you have the design structure the mechanisms just fall into place.

I do not intend to give you too much sage advice on the minutiae of mechanism writing, we don't have time and in any case it is usually highly design-specific[1].

There are thousands of different game mechanisms, employed in wargames, board games and role-playing games. Most people borrow extensively from other games – and so long as you have done the design work, knowing what mechanism is appropriate becomes very easy.

Initially, when testing, many designs do not need wholly worked out and detailed written rules, since the game designer is present. *Free Kriegsspieling* the game is easy under these circumstances. You really only need formal and codified written rules when the game is expected to transport from the designer to other users or other groups, or when the designer has a large and complex situation he or she wishes to simulate (for example in a game with complex economic rules).

THE DESIGN CYCLE

Assuming that you have gone through the design process, tested against your aims, built your structure and written the rules / game; you will next be playing the game.

The first few games with a new CLWG audience will test the assumptions to the limits, and even if the game works the design process is by no means finished.

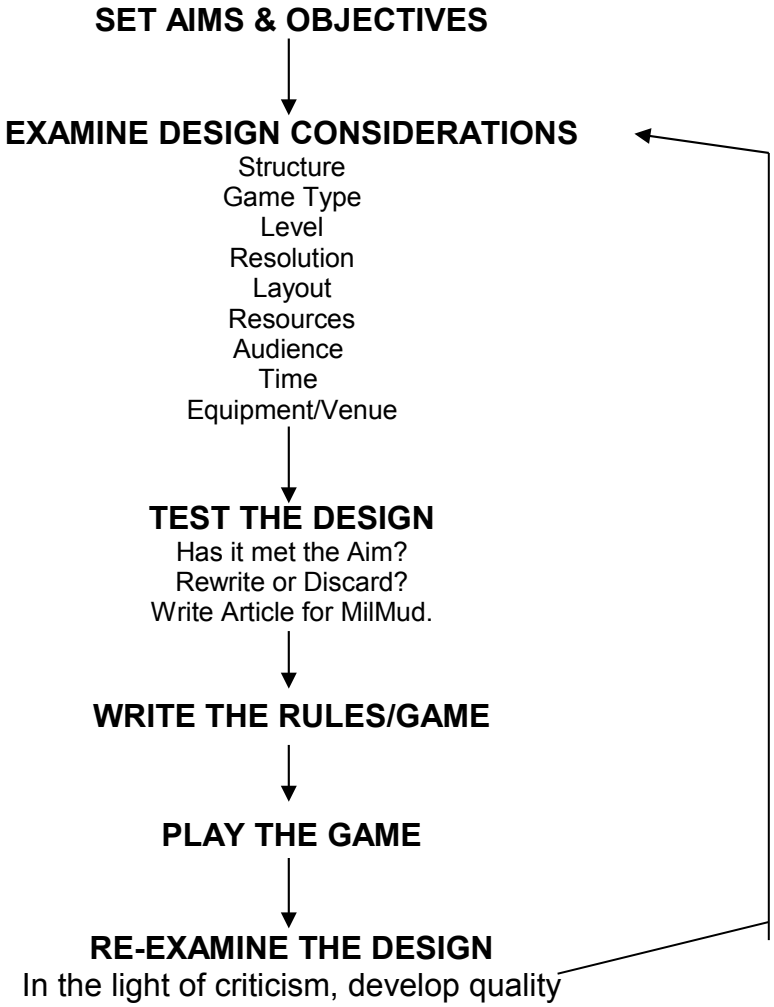
You should be aiming to improve the **quality** of your game by accepting **criticism** and carrying out further **development** in the light of playing experience.

If this means re-examining the whole project from *AIMS* onwards then so be it.

The design process is a continuing one and at CLWG one we take seriously, no matter how silly or serious the game subject matter.

[1] Since originally writing this, I have been pressured by a number of people who say "well it might be easy for *you*..". There may be something in this, but it isn't even possible to talk about mechanisms until one has discussed the structural considerations outlined in this article - and the precise mechanisms one uses - whilst important, will be very specific to those aims. For a discussion of the issues around top-down mechanism design in the battle game format, see my article on 'One Brain Cell Rules'

DESIGN METHODOLOGY SUMMARY



ANNEX A
GLOSSARY OF TERMS

Free Kriegsspiel	A wargame with no stict written rules. Outcomes are determined by the judgement of an experienced Game Controller or Umpire.
Megagame	A multi-player game usually involving 30+ players, in which players are organised into teams and those teams are organised into a hierarchy of teams.
Voicegame	A game where the main interaction between the players is via vocie – either using radios or verbal commands. This is used where communications are critical.
Dialogue Game	A game, like consequences, where each stage is determined by the views of the other players who are, in effect participating in a collective stroytelling exercise.
Cardboard Box Simulator	A game where there is a significant physical element. It might be simply seating the players in positions that realate to their roles in the game (for example a group of players playing as a tank crew might have their chairs in the same relative positions to each other as the seating arrangement in a tank).
Committee Game	A game where players are primarily negotiating or discussing what to do, without necessarily having direct control of military units or kinetic effects.