

# On the Way to Fun

**An Emotion-Based Approach to  
Successful Game Design**

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# PART I

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## **Emotions and Games: The 6-1-1 Framework**

*Defining Emotions and Instincts and How They Can  
Lead the Way to Fun in Videogames*



## What Are Basic Emotions and Instincts?

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We started our introduction by saying that defining “fun” is an impossible task due to its inherently subjective nature, so we turned our attention to the understanding of basic emotions, hoping that they will help us in discovering an alternative path still leading the way toward fun in games. While very useful, this framework carries some limitations. Even though the study of emotions has received considerable attention in the scientific and psychological communities within the last 100 years, there does not appear to be definitive agreement on their nature or which ones, if any, are considered “basic”, or fundamental.

Some researchers categorized only two emotions as basic—happiness and sadness [Weiner and Graham 84]. Other researchers cite as many as ten or more (e.g., anger, contempt, disgust, distress, fear, guilt, interest, joy, shame, surprise) [Izard 77]. Some related basic emotions to unique facial expressions [Ekman 99] and [Ekman 04], while others followed different cues and approaches. In any case, most lists usually include emotions such as happiness, sadness, anger, and fear (or their respective synonyms) and these are often considered hardwired in the brain through means of the natural evolution of the species (see, e.g., [Plutchik 82]).

Despite the disagreement on which emotions are considered basic, it’s important to note that most researchers still tend to believe in a core, more primordial, set of emotions. From these core emotions all other innumerable ones can be derived by following different theories and approaches, often in a way similar

to the derivation of any color from a set of three fundamental ones.

These basic emotions, in turn, can relate to basic instincts in different ways. But before analyzing their interactions, we should also specify what we mean by “instincts”. In fact, even the analysis of instincts can spur disagreement among sociologists and psychologists, with some even denying that humans now have any instincts at all! This apparently surprising conclusion derives from the notion that our culture and civilization allow us to override or control them [Robertson 89]. Here are the generally accepted characteristics of instincts.

- (a) They are automatic.
- (b) They are irresistible.
- (c) They occur at some point in development.
- (d) They are triggered by some event in the environment.
- (e) They occur in every member of the species.
- (f) They cannot be modified.
- (g) They govern a behavior for which the organism needs no training.

Typical and well-known basic human instincts are, for example,

- ✎ survival,
- ✎ aggressiveness,
- ✎ protection/caring,
- ✎ collecting,
- ✎ reproduction.

Whether we actually can control our own instincts or not, characteristic (d)—triggered by an event—is the focal one for game designers who must figure out how to trigger and manipulate events to provide new and immersive gaming experiences.

For our purposes, we can simply take the others for granted and let sociologists debate each other over them.

So, how can we trigger a particular instinct? A very good example is a sudden loud noise from a hidden, unknown source. Such an event will excite a strong fear emotion that, in turn, will trigger a corresponding survival instinct. Survival can take the form of fighting against the threat or trying to escape from it, which is also known as the “fight or flight” behavior.

Other times, the relationship between emotions and instincts works in the opposite way. Let’s imagine we just found the very rare stamp that we needed to complete our valuable album started many years earlier. This discovery will trigger our collecting instinct that will make us crave as many related items of a particular type as possible. That’s why so many people all around the world have the hobby of collecting something. Amazingly, this collecting instinct has been hardwired in our brain since the beginning of human kind! Suppose though, that for some reason we are not able to get the stamp—maybe the owner doesn’t want to sell it or the requested price is too high and we cannot afford it. This will ultimately trigger a particular emotion which could be anger, frustration, or sadness, according to our personality and self-control capabilities.

Throughout this book we will see several examples of how different emotions and instincts were effectively triggered by a proper use of different settings, storylines, or in-game events to build new gameplay experiences that were exciting and immersive. Nonetheless it is worth pointing out that all these topics have been hotly debated for decades by highly respected researchers and there remains a lack of agreement about them, including universally accepted definitions. So, I guess now we need to wish ourselves good luck in this critical endeavor and hope that our straightforward analysis will still allow us to get a better understanding of how, and why, games are so much...fun!



## Introducing the 6-11 Framework

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As discussed in the previous section, there is no general agreement on which, among all possible emotions and instincts, are the basic ones. However, we can still try to identify a small subset that seems to be more suitable to be correlated with our medium. In particular, we will be using a framework based on only 6 emotions, 11 instincts, and their interactions—the 6-11 Framework.

These are the six emotions on which we will focus our analysis.

**Fear.** This is one of the most common emotions in games today. In fact, thanks to the newest technologies, it is very easy to represent realistic environments and situations where fear can be triggered—dim the lights, place the player in a confined space with dark corners and hidden spots, and make a creature suddenly shout right behind the player...et voilà! We only need think of all of the recent survival horror games or dungeon explorations in role playing games (RPG) for plenty of modern examples.

**Anger.** Anger is a powerful emotion often used as a motivational factor to play again (e.g., if the player gets defeated by some challenging opponent) or to advance in the story to correct any wrongs inflicted by some bad guy.

**Joy/happiness.** Joy is the most common emotion associated with games and, arguably, one of the most relevant for having a fun gaming experience. Usually this is a consequence of the player succeeding in some task and being rewarded by means of power-ups, story advancements, and so on.

**Pride.** Often pride will kick in once the game is over as a consequence of a high score with related bragging rights to show off the successful performance to friends and other players. Pride can also be used as a motivational factor in pushing players to improve themselves and advance in the game further by providing rewards or even more difficult challenges. For example, players should feel they are good enough to beat that obnoxious final boss or smart enough to solve that mind-bending puzzle and will try hard to improve their skills to succeed. Particular care needs to be considered here, though—if the challenge is too tough, pride can turn into frustration and players may drop the game altogether. So, when trying to rely on pride to keep players interested in the game through means of difficult challenges, it must be carefully fine-tuned and tested.

**Sadness.** This emotion is probably the most difficult one to achieve because obviously sadness doesn't really seem to correspond to fun. Nonetheless, game designers have always been attracted by sadness as they aspired to bring their creations to new artistic heights by making games able to touch more complex and mature themes. This requires an immersive story so that the player can feel a strong bond with the gaming world and different “non-playable characters” (NPC). See the analysis of the game *Planet Fall* in Part II for the first game that successfully achieved this.

**Excitement.** This is the final result most games worth playing should achieve, as it is most likely the closest we can get to our ultimate objective of fun. It should happen naturally as a consequence of successfully triggering other emotions and/or instincts. Many different ways of bringing excitement to the overall experience are possible. For example, putting players under time pressure to accomplishing a particular task or mission, or changing the pace of the game can also be quite effective. These events will likely result in a more hectic experience that will make the player feel more excited and involved in the action.

Now let's now turn our attention to the basic instincts and behaviors that seem to be heavily involved in games. For this purpose, it is useful to group them into three main categories.

- ✦ *First person* instincts are those that are directed toward ourselves and are for our own preservation and well-being.
- ✦ *Third person* instincts are directed toward others. This group includes contrasting instincts, showing both our good and evil sides that sometimes drive us to help people in need while at other times drive us to take advantage of them.
- ✦ *World* instincts are directed toward the interaction with surrounding environments.

In particular, we will concentrate on the following 11 instincts:

### First Person

**Survival (fight or flight).** The most fundamental and primordial of all instincts, triggered when we, like any other living being, are faced with a life threat. According to the situation, our brain will instantly decide whether we should face the threat and fight for our life or try to avoid it by finding a possible way of escaping.

**Self-identification.** People tend to admire successful individuals or smart fictional characters and naturally start to imagine being like their models. All kids dream to replicate the feats of their heroes and wish they could be like them—whether they have superhuman powers like Superman or Harry Potter, or they are tough guys like Duke Nukem in the famous *3D Realms* games or even average but lovable guys like Guybrush Threepwood in the classic LucasArts game *Secrets of Monkey Island*. It doesn't really matter as long as the games succeed in exciting the fantasy of their fans.

**Collecting.** As discussed in a previous example, collecting something can be a very strong instinct that can link to a variety of different emotions and it has always been widely used in games. Whether we are talking about the dots in games as old as *Pac-Man* or all the possible achievements in one of the latest Xbox Live Arcade (XBLA) games, the underlying principle is the same—they all rely on this powerful instinct.

**Greed.** Often we are also prone to go beyond a simple collection and start wishing to amass as many things as possible. Whether they are valuable items or just goods and resources we need to build our virtual empire in a strategy game, a greedy instinct is likely to surface very early in our gaming habits.

### Third Person

**Protection/care/nurture.** Arguably the best instincts of all—the ones that push all parents to love their children and every person to feel the impulse for caring and helping those in need. Many successful games have been designed to resonate with these instincts alone, like the widely popular *Nintendogs* series by Nintendo on their DS console.

**Aggressiveness.** The other side of the coin, usually leading to violence when coupled with greed or anger. It is exploited in countless games.

**Revenge.** Another powerful instinct that can act as a motivational force and is often used in games to advance the storyline or justify why we need to annihilate some “bad guy.”

**Competition.** Deeply linked with the social aspects of our psyche and one of the most important instincts in games. Without it, games would lose much of their appeal. In fact, we tend to be always ready

to compete with others and this can be easily associated with other instincts and needs such as

- ✎ Proving ourselves and being acknowledged by others for our results, and
- ✎ Socializing and interacting with other people—something that designers of massively multiplayer online (MMO) games have obviously understood very well!

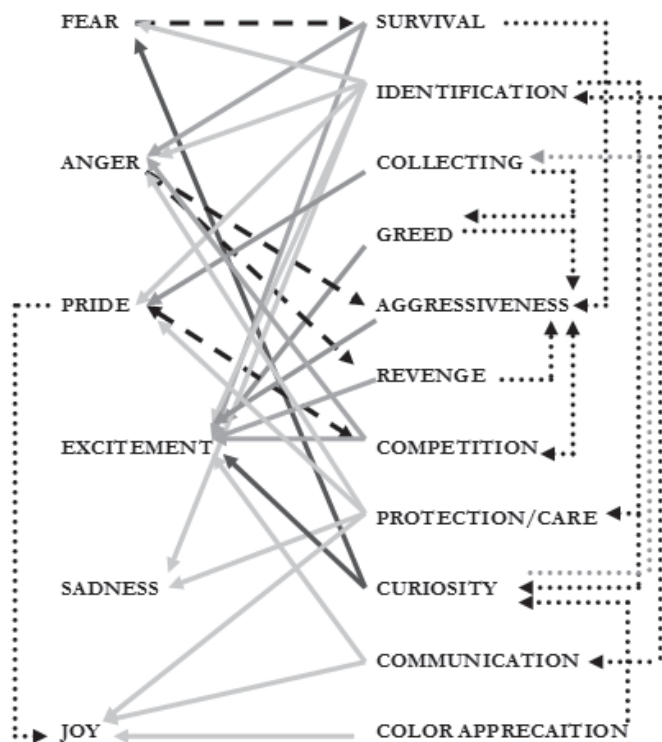
**Communication.** The need for expressing ideas, thoughts, or just gossip was one of the most influential for human evolution and it can be used to great effect in games too, whether in relating with NPCs or other players (e.g. chat rooms in MMO games).

## World

**Curiosity.** All human discoveries, whether of a scientific or geographical nature, have been made thanks to this instinct that always pushes us toward the unknown. And also pushes many gamers to get into that spooky manor at the end of the road without knowing who, or what, may be lurking behind its closed doors....

**Color appreciation.** We are naturally attracted by colorful scenes and environments, something that undoubtedly influenced our artistic sides, including the appreciation for increasingly detailed and colorful graphics in games.

Having identified the instincts and emotions of interest, we should analyze how they can interact. In general, there can be many different ways for them to correspond to and enhance each other but, in our context, let's narrow our scope and focus only on a subset of possible main relationships and correspondences, as shown in the Figure 1.



**Figure 1.** Possible main relationships between basic emotions and instincts. Solid lines indicate instincts to emotions; dashed lines, from emotions to instincts; dotted lines indicate interactions within the same group.

The underlying idea is that fun can be achieved by stimulating different emotions in series or in parallel. This will then form a sequence that, through a corresponding set of game dynamics which are sought after by the player once the proper basic instincts have been triggered, usually ends with excitement and/or joy. This network of relationships makes the backbone of the 6-11 Framework that we will be using to analyze different games and find out how they successfully exploited players' emotions.

To get a better understanding, let's have a closer look at the picture by analyzing the interactions between each emotion and instinct one by one.

### Instincts

**Survival.** Whether we try to escape or we decide to face the danger and fight, the adrenaline rush triggered by the survival instinct will provide new *excitement* to the gaming experience. The survival instinct can also lead to *aggressiveness* and, once the threat is over, it may lead to the instinct of *revenge* through *anger*.

**Identification.** If the game succeeds in making us identify with an in-game virtual character (or avatar), all possible emotions will be easier to achieve. In general, a proper character identification will likely bring more *excitement* for the upcoming adventures and we will be immersed in the game and feel more *proud* of our virtual successes or *sad* and disappointed for any eventual failure. It will also make players more involved and immersed in the story and virtual world, enhancing their *curiosity* of exploring it and willingness to know more about it. It can also lead to *protection/care* for in-game characters or for the player's avatar itself.

**Collecting.** This will make players *proud* of their achievements and can also easily lead to *greed* and push them to want more and more. *Collecting* can eventually be reached through *curiosity* due to some findings in a successful exploration.

**Greed.** It can be reached through *collecting* and it can also turn straight into *excitement* (for example, while gambling) or make us more *aggressive* to satisfy our wishes.

**Aggressiveness.** It can be triggered by *survival* and *greed* instincts and it can make us look for further challenges and *competition*. The ensuing conflicts can, in turn, make us more aggressive. Different emotions can easily lead to aggressiveness, most importantly *anger* and *fear*.

**Competition.** This can happen both within the game itself and outside of it (within the player's communities and social circle of friends). Competition will naturally lead to *excitement* and eventually to *anger* in case of defeat, or *pride* in case of success. It can also interact both ways with *aggressiveness* and be triggered by the wish for *revenge*.

**Revenge.** It can be triggered by *anger* due to a failure and can drive to *aggressiveness*, eventually leading to *competition*, for example to have another chance. And planning and executing revenge can lead straight to *excitement*.

**Protection/care.** According to the result of the interactions with the object of our care, these instincts can lead to *joy*, for example if we save someone we care about, *pride*, or even *sadness* in case of a loss. It can be reached through a strong immersion within the game, possibly from the *identification* instinct. It can also lead to *anger* and be a motivational factor to justify *aggressiveness* if the object of our care is threatened by something or someone.

**Curiosity.** Exploring the world and getting more in depth into the story can lead to *excitement* or even *fear*, if the player is led toward dangers. It can also lead us to discover something interesting, triggering the *collecting* instinct. Like protection, curiosity can be enhanced by strong immersion and *identification* and also by *color appreciation* as players will feel attracted by areas particularly beautiful and colorful.

**Color appreciation.** This can lead to *curiosity* or directly to *joy*. It is not by chance that so many players consider beautiful graphics a very important aspect of their enjoyment of their gaming experiences.

**Communication.** Communicating with NPCs, other players, or even with the system itself can bring *excitement* and *joy*, in addition to helping to immerse the player in the game and contributing to set up the proper *identification*.

## Emotions

**Fear.** One of the most commonly used emotions in games. It can be triggered by *curiosity* and will naturally lead to the *survival* instinct and eventually to *aggressiveness*. Fear is easier to achieve if a proper *identification* with the in-game character is first established.

**Anger.** It can trigger *revenge* or *aggressiveness* and can be raised by a strong *competitive* mood, a *competition* gone wrong, or a threat/attack we *survived*, as long as a proper *identification* is achieved first.

**Joy (or happiness).** One of the emotions most closely related to fun. Joy is often reached through *pride* but it can also be triggered through other means like a smart design of the aesthetics of the virtual world (i.e., through *color appreciation*), by rewarding the player at the right times (e.g., offering cut scenes or bonus stages after beating a level), or by designing amusing interactions between the player and a NPC (*communication*).

**Pride.** Most successful endeavors will make the player feel proud of his achievements and can involve *identification*, *collecting*, *competition*, and *protection/care*, leading to *joy* and *happiness*. On the other hand, pride can also lead to *aggressiveness* through *competition* if we feel that our honor/abilities are being questioned.

**Sadness.** It will usually enter the picture when something related to *identification* or *protection/care* goes wrong. In its simplest form it may just mean that the player is sad for having lost a game, but it can be much more meaningful and emotionally intense if strictly related to the game's story itself (e.g., a loss that can not be avoided even when successful).

**Excitement.** Many different sequences can lead to *excitement*, as soon as different emotions capture the player's attention and imagination. *Survival, identification, greed, competition, revenge, curiosity,* and *communication* can all bring new excitement to the player.

All of these different emotions and instincts can surface while playing games and can subconsciously affect the player, involving him or her in an immersive experience that has no equal among other forms of entertainment. Where else can we experience such a broad range of different emotions, including contrasting ones, in just a limited amount of time?

Learning how these different aspects of human psychology can be integrated into games is the skill that makes our medium unique and the work of game designers so fascinating, but also so difficult.

We will need lots of experience and practice to be successful and, to start understanding how all this could actually work in practice, we will see several examples in the second part of this book where we will analyze different games using this particular emotion- and instinct-based framework.