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Game Design for Contesters — Part 1: Flow

Game designers can teach us how to be better competitors and how to design better and more varied contests.

Immediately after getting home from school, my teenage sons would get on their computers and play *World of Warcraft* with an intensity and skill not observed in any of their academic or sports endeavors. This drove my wife crazy. "You should be doing homework! Why are you playing this game?" she said one day.

They ignored her. They not only didn't hear her, they seemed unaware she existed.

"I know why they are doing it," I said. "They are in flow."

"*Flow?* That sounds way too California New Age for me," she scoffed, cursing computers in general. "It wasn't like this when *I* was a kid."

Actually, for me it *was exactly* the same when I was my sons' age, but without the computer. When I came home from high school in the late 1960s, I'd get on 20 meters and run stations contest style with my drifty, barefoot Eico 753. There was a window when all the Europeans were turning on their rigs after dinner, but North Americans hadn't come home from work yet. I found that "NAME HR IS BROOKE BROOKE" was as boring for me to send as it was for the other op to copy. But if I handed out honest signal reports at 30 WPM, I could generate a pileup from operators who, like me, couldn't care less about names, because call signs were *way* cooler. We only wanted to know how loud we were, and if we could beat the other guy.

I always knew I was addicted to contesting, but only recently, after I began studying game design, did I learn why. It all has to do with *flow*. Mastering flow is the secret to mastering *everything*, because flow is all about mastery. Flow is the most addictive, non-chemically induced mental state known to man. Game designers know all about keeping you in flow, and they are so good at it that their industry considers flow addiction a major ethical issue.

What's Flow?

Wikipedia says, "Flow is the mental state of operation in which a person in an activity is fully immersed in a feeling of energized focus, full involvement, and success in the process of the activity." Yup, that's it. Sunday morning, the sun comes up, 20 opens, and the 10 minute rate meter tops 180. It doesn't matter that you have the flu and you haven't slept in two days. Life is good.

How do you get into flow? According to *Wikipedia*, you can't force yourself to enter flow. It just happens. You can enter a flow state while engaged in *any* activity, although, the online reference concludes, "it is most likely to occur when one is whole-heartedly performing a task or activity for intrinsic purposes."

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By definition games such as radio contests might look like a lot of work, but they are played *only* for intrinsic purposes. If it isn't fun, it isn't a game. The playwright/composer/actor Noël Coward understood this, because he loved writing. As he once put it, "It is funny how work is more fun than fun."

Even though my wife has a ham license (she's N2GSG), radio contests look too much like *work* to her. But she is a writer and, like Coward, she's spent plenty of time in flow. She is just unfamiliar with the word.

Game designers know that to get into a flow state you must be engaged in an activity where your skill and challenge are matched. If the challenge is too easy, you become bored; if it is too hard, you become stressed. The region where challenge and skill meet is called the "flow channel," and good games keep you "in the zone" nearly all the time. As you begin to master a skill, rather than let you get bored, you are presented with a "level-up" in the form of greater challenges (see Figure 1).

Some stress is good, but if there is too much, you will quit, so the ideal level-up puts you in a region called "eustress" — just beyond your current skill level, but where mastery is in sight and you feel energized, but not threatened.

I'll start the CQ World Wide CW on 20 meters, because I haven't sent code in 6 months and need to go easy before I level up to the bedlam on 40. Eventually I feel in control and then can relax into S&Ping on 80 and 160. By the wee hours, though, I'm getting bored. Then the sun comes up, and I have to be everywhere at once, and that is one level-up after another — and just in the nick of time, or you'd find me asleep at the desk. Later in the day the risk is that I'll feel too comfortable on a well-defended run frequency, and I won't push myself to change bands as often as I should.

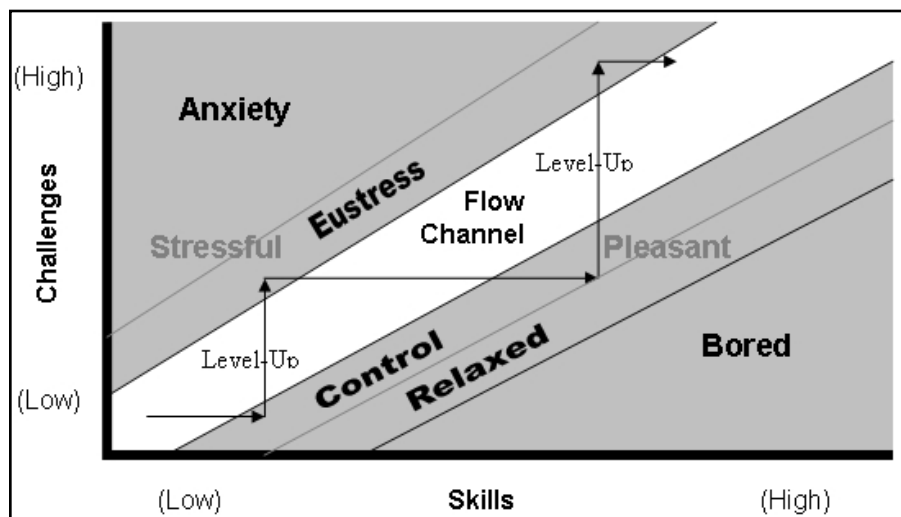A designer might say the gray-line level-

Figure 1 — Graph depicting the region where flow occurs, the flow channel (adapted from *The Art of Game Design* by Jesse Schell)

up is *exogenous* (external to me), but the afternoon band change is *endogenous* (under my control). Put differently, a good game presents a mix of *challenges you must take* and *mistakes you are free to make*. Well designed games adapt themselves to the players, always allowing them to find a place in the flow channel. Poorly designed games present players with either unbearable stress or boredom. This is why limiting operating time for ham radio contests is a good design decision.

Most modern computer games do not run for a set time, as our contests do, nor do they have a set goal, such as a marathon. Instead they continuously level up until the player eventually loses and then wants to play again. Supporters of the self esteem/everyone-is-a-winner movement might not like it, but game designers have discovered that *failure* is more rewarding than success. They define *finite games* as ones you play to win — and thus end the game. *Infinite games* are played with the goal of continuing the play. A single contest might be a finite game, but contesting is an infinite game, as is life itself. (*Health warning*: Getting everything you want and having nothing left to strive for, or straying too far away from the flow channel in the direction of stress or boredom, and you risk becoming anxious or depressed.)

Computer games are more addictive for more people than older games, such as chess or checkers, because technology can monitor your performance and feed you progressively more difficult tasks, ratcheting you up the flow channel. Just when you're about to get bored it magically gets harder, and just when you're about to quit in frustration it gets easier.

Perhaps there could be a contest without a fixed duration but that levels-up until everyone drops out. For example, imagine if everyone had to start a CW contest at 10 WPM for the first hour, then 12 WPM for the second, and so on. The contest ends when the last two people can no longer communicate. The novice player interested in upping his speed would be in big demand in the early going, because the experienced players would know they need to work the lesser-skilled ops before they drop out, and there's plenty of time to work the veteran ops at 30 WPM during the 10th hour. For experienced ops, 10 WPM won't be boring, if they practice SO4R skills with quadraphonic headphones.

I built a contest station with a 100 foot tower and stacked monobanders on 10, 15 and 20. I did well but never broke into the Top 10. Then one year I blew up my linear minutes before the start of CQ WW CW and entered barefoot. My score took a hit, but the greater challenge made it more fun than ever, and I set a new low power record. Once I felt masterful, I added a second
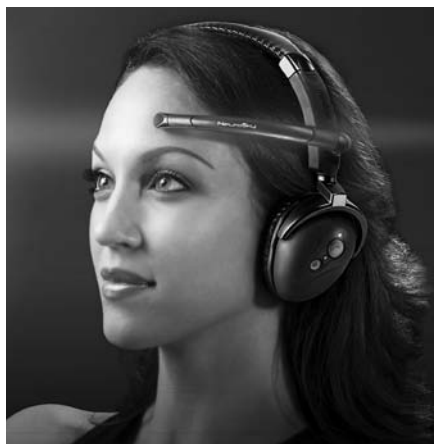

Figure 2 —The NeuroSky Mindset wireless headset, microphone and EEG: That's not a misplaced boom mic on her forehead. It's a sensor "listening" to her brain. *NeuroSky, used with permission*

radio and leveled-up again. Although my score is much better when I'm running high power, assisted, I spend much more time in flow running SO2R low power — or even multi-op low power. I'm pleased that contest sponsors are adding new categories to encourage these operating approaches.

In future installments I'll discuss how contests can be improved, but for now think about what you can do to keep yourself in flow as often as possible. I contend that if you aren't in flow during most of a contest, you are not a contester. You might be handing out points or collecting new multipliers, but unless the hours pass like minutes and the minutes like seconds it ain't the real deal.

Alpha and Beta

Soon, you won't need to take my word for it. A researcher can tell if you are in flow by measuring your brain waves, and electroencephalograms (EEGs) have come down in price to the point that they are now sold as game controllers. At the Game Developer's Conference in March 2012 I got to play an archery game with just my brain, thanks to the $99 NeuroSky MindWave headset. With the headset in place, a lead clipped on my left earlobe and a metal sensor against my forehead, the game could tell if I was both calm and focused. If I became overly excited or lost concentration the arrow would veer off course, but when I got in the flow channel, *thwack*! Bull's eye!

For $199 you can upgrade to the Mind-Set with Bluetooth, full-muff headphones and a wireless mic. I'm sure contest software developers will be all over this, and soon you'll get direct feedback if you're losing either your cool or your concentration. You'll be able to correlate your rate sheet and UBN report to your alpha and beta waves. The data we collect could be a great boon to scientists, particularly those studying sleep deprivation. Most of their

experiments are contrived and involve a small number of subjects who are unaccustomed to spending long hours in flow. Also, many consider two nights of sleep deprivation cruel and unethical (wimps!), so they'll *have* to get the data from us. As an added bonus, the NeuroSky can sense eye blinks, so who needs a foot switch?

Positive Psychology

I may be wrong, but I believe contesters are super-high achievers, both on the air and on the job. Why? Because, whether we are aware of it or not, it's all about flow. Dr Marty Seligman at the University of Pennsylvania's Positive Psychology Center and many others in the positive psychology movement study three overlapping areas of research, which they dub "the pleasant life," "the good life" and "the meaningful life." Most people who only work for the weekends aspire to the pleasant life, which proves elusive, because we quickly habituate to stimulus. As Figure 1 shows, "pleasant" butts up against "bored." Many people spend their free time entertaining themselves, but often this is unsatisfying. It's sad, but our consumption-driven economy depends on this.

The good life requires engagement, and that involves spending a large fraction of your waking hours experiencing the beneficial effects of immersion, absorption and flow, which, it's interesting to note, allow us to tolerate a good deal of unpleasantness.

Summer Reading

While I personally don't derive much meaning from DXpeditioning and contesting, it is a nice change of scenery and activity (but not pace) from my normal work (which *is* meaningful). If you work for a living, consider reading *The 100 Best Business Books of All Time,* which starts with a review of the 1991 work called *Flow* by Mihaly Csikszentmihalyi (pronounced "chick-sent-me-hi"). Then read *Flow* itself.

In high school, the time I spent on the air might have hurt my grades, but I developed a low tolerance for any activity that did not offer immersion, absorption, and flow, and I owe most of my career success to this.

In future installments I'll talk about other game design issues, such as the taxonomy of fun, the player's journey, and Bartle's player types. For now, practice spending every day in the flow channel. Your work will improve, and it can help your score come contest season.

*Brooke Allen, N2BA, was first licensed as WB2RWY in 1966. He is an avid contester and has operated from about 30 DXCC locations. He holds a BA in mathematics from Rutgers University and an MBA in finance from NYU. You can learn more about him on his Web site, **www.BrookeAllen.net**.* NCJ