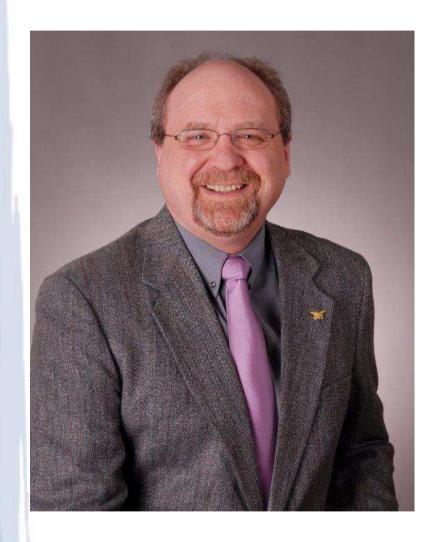
## System Engineering Lessons Learned From Online Gaming

or

How Playing a MMORP Game Has Made me a Better Architect/System Engineer

Jon Clauss – Lockheed Martin Fellow, INCOSE Member



Jon Clauss is a Lockheed Martin Fellow, and has been at Lockheed Martin Aero – Fort Worth and legacy companies for 30 years. He started his career in the Flight Controls area and has worked the integration of system including the F-111, F-16, X-35 and F-35. His current work focus is architecture, systems engineering and integration of the F-35 with off-board systems.

### So A MMORP Game?

Massively multiplayer online role-playing games (MMORPGs) blend the genres of role-playing video games and massively multiplayer online games, potentially in the form of web browser-based games, in which a very large number of players interact with one another within a world,(1)



#### World of Warcraft

- 100 Million total created accounts
- 12 Million subscribers at peak
- Currently 5.6 Million subscribers
- Highest Grossing Video game of all time



# You have to have a vision/goal.

- "Easy to learn, hard to master"
  - Don't stand in fire
- "Game play trumps lore.
  - The rules of the game don't have to match what you might think the 'rules' might be.

You also have to be able to articulate the vision/goal in ways to folks can understand.

In Systems Engineering this is why you do Architecture.

- Conops
- Architecture views, diagrams, etc.

Architecture is the 1<sup>st</sup> step in articulating your solution.

# You can't please everyone, so don't try.

When you build a complex system with many stakeholders, everyone has an opinion.

Trying to please everyone often results in a system that everyone 'hates' equally.

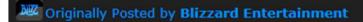
Find a solution that is consistent with your vision and move on.

Articulate and write down your rationale.





## Never confuse being popular with being right.



I have read all of your tweets, and will continue to. Thank you very much for the outpouring of feedback. (Muffinus)

It's a holiday weekend here so there won't be an immediate response, but please know you aren't being ignored. (WatcherDev)
Reading everything. Even the harsh things. Especially the harsh things. I understand you just want to keep enjoying a game you love. (WatcherDev)

Even now, I'm wasting words when the decision was made long ago and won't ever change to introduce flying.

I'm curious - why do you assume the decision was made long ago? I'm sorry you think we've just been lying all this time. (WatcherDev)

you realize most of the post has turned into just flaming you guys because months of real feedback was ignored right? There is a massive difference between "ignored" and "disagreed with." (CM\_Lore)

### But, if the customer really wants it they win.

#### Originally Posted by Ion Hazzikostas (Official Post)

At the heart of the initial plan to restrict flight in Draenor (even after players reach level 100) lies the design goal of providing the best moment-to-moment gameplay possible in the outdoor world. From navigating the lava flows of the Molten Front in Patch 4.2, to breaching the Thunder King's stronghold in Patch 5.2, to reaching the heights of the Ordon Sanctuary on Timeless Isle in Patch 5.4, to uncovering secrets deep within Gorgrond's jungles on Draenor, World of Warcraft is full of memorable moments that are only possible when players explore the world by ground. And as we've continued to develop content over the years, we've focused more and more on providing players with these kinds of experiences.

# Yelling rarely gets you what you want

Why can't we get a blue post on relevant things? I would love to hear some real reasons for why WoD patches were trash and not the time old excuse that "it just didn't work out" And there is nothing new here...Just reworked systems and bosses from other expansions

You're not really asking a question. You want us to agree "x was trash." We're just not going to do that. We do however try to make sure we're taking feedback and game experiences (on many fronts) to note so that we can continue to find ways to improve on the game.

We're not always going to agree on what that means, but we'll keep trying to find ways to give people fun experiences within the game.

We've seen a lot of these, "just admit" posts. They're not questions. They're statements of opinion that we take note of, just like we take note of those that say, "we are enjoying x." We do our best to keep learning and growing whether you believe it's the 'right path' or not is just a matter of preference. That doesn't stop our bid to do better where we can as a goal for the overall health of the game. (Blue Tracker / Official Forums)

# If you want to win the fight come armed with data.

"Trust God everyone else bring data"

### This is the essence of Decision Analysis

 Focus on understanding the needs and transition from "value to the measurement"

# When you find you did it wrong, admit, fix it and move on.

#### Originally Posted by Lore (Official Post)

Recently, we applied a hotfix that reduced the damage players took in PvP by 10%. Our goal was to reduce damage across the board in order to slow matches down a bit.

However, we received overwhelming feedback from players saying that this change did not result in a positive effect on gameplay, and that they preferred the faster-paced matches they were experiencing prior to the hotfix. After some discussion, we've decided to reverse the change and remove the 10% damage reduction in PvP.

We will continue to look for opportunities to improve PvP combat in World of Warcraft. Thanks for your continued feedback!

# People will do things with what you create that you didn't think of, and sometimes that is OK.

- Many complex systems in the hands of users will demonstrate 'emergent' behaviors.
- Human beings are very clever, they will find ways to 'optimize"
  - More "fun"
  - Easier
  - Faster
  - Gain an advantage.
  - Cheat

# Wrap It Up

 Even things we don't think of as technical can teach us lessons we can apply to make us better Systems Engineers.

### References

- (1) Wikipedia
- (2) SEBOK:

http://sebokwiki.org/wiki/Decision\_Management

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