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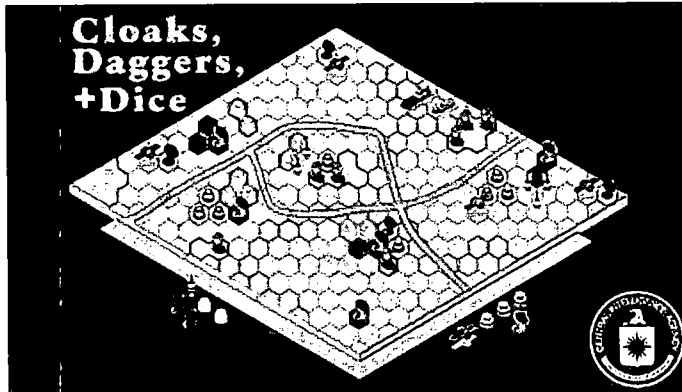
## *Cloaks, Daggers, and Dice: How the CIA Uses Games*

### CIA Panel at South by Southwest Conference

### Prepared Remarks, Talking Points for Anticipated Questions, and Slides

#### Panel Participants:

- Carolyn R (moderator)
- David C
- Volko R
- Rachel G



#### Instructions

- 1 Games as a training tool
- 2 Games as a model for thinking
- 3 Designing games for complexity

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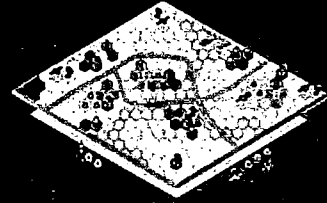
## Opening Statement – David

The year is 2008. It's a beautiful spring day in the Washington DC metro area. The sun is shining, the birds are singing, and I've recently been promoted to the CIA's senior analytic service. So, as you can imagine, I'm feeling pretty good about myself. Then, I get a call from my boss's boss. "Umm, David, I'd like to see you in my office when

you have a moment." Oookay, that sounds a little ominous to me. But, I head on over to his office – when I have a moment, of course – and ask him what's up. He turns to me and says "David, I have an opportunity for you." Now, I don't know about you, but when management says "I have an opportunity for you" that doesn't necessarily fill me with hope and excitement.

### Player One

#### Using Games to Train Intelligence Officers



But in this case, it turned out my fears were unwarranted. The opportunity in question was for me to become an instructor at the CIA's Sherman Kent School for Intelligence Analysis, where -- among other things -- they wanted me to stand up a new class that would teach analysts how to work more effectively with their colleagues in the intelligence collection agencies. And I enjoyed that job so much, I stayed there for four years even though it was originally only supposed to be a one year rotation. And one of the reasons I enjoyed it so much is that I was able to bring my love of gaming into the classroom, and explore ways of using games to help train the CIA's analytic cadre.

And that's one of the things we'd like to talk with you about today – to give you some insight into how we at the CIA have used games and gaming concepts to support our national security mission. We all come at this from a slightly different angle, so each of us will give a brief opening remark that tells you a little something about how we've incorporated games into our work process, and then we'll open it up to the floor for any questions. So, I'll go ahead and kick things off.

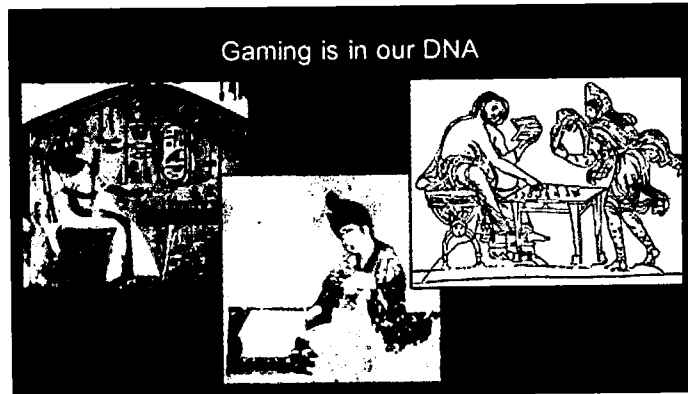
Now typically in a professional class at the CIA, you have a certain number of days of classroom instruction, followed by some kind of exercise at the end – usually involving teams and flipcharts – to see whether or not you've absorbed the lessons of the class. But when I was designing my classes, I started thinking "that's soooo boring. Surely I can come up with some other way of reinforcing the class's teaching points." And I hit on the idea of developing a boardgame that would play off of the teaching objectives of the class.

Why a game? Let me answer that question with a question. By show of hands, how many people in this room play card games? What about board games? Any role players out there – Dungeon and Dragons, for example? Video games? Anyone enjoy going to a casino? How about fantasy football?

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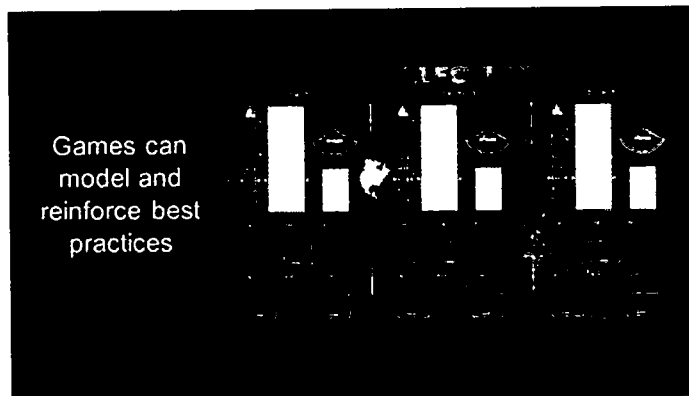
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Playing games is part of the human condition. You might even say it's in our DNA. The ancient Egyptian game *Senet* dates back to at least 3500 BC according to some archeological finds. The Chinese game *Go* is considered by many historians to be the oldest game that's still played today. And we have evidence that ancient Greeks and Romans used sand tables for simulations – which, when you think about it, are also a form of game.



So, given the human propensity to play games then, it seems to make sense to take advantage of that as part of the work process. Leverage the game-playing instinct into learning, for example. So, let me talk a little bit about the different games I created at the CIA for use in training and what they helped teach.

Here we have a board game I called simply **Collection: The Boardgame**. The premise of the game was that the players were a team of analysts, working cooperatively to get reporting from different intelligence collectors against different international crises. Each of the players is a different kind of analyst – for example, a military analyst, a political analyst or an economic analyst – and they each have different “abilities” they can use

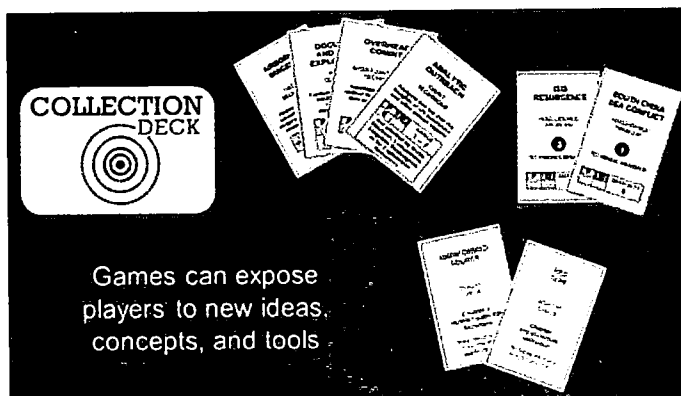


to get reporting from the collectors. However, while they are trying to get reporting, the different crises are getting hotter and hotter—and if any reaches a crisis level of 10, it's game over: an intelligence failure. For anyone out there who's played **Pandemic** or **Forbidden Island**, you'll be familiar with this kind of cooperative game, where it's you and the fellow players against a deck of cards and a ticking clock. What I liked about this game was that it was really about the value of collaboration. When we played it in class, we'd usually have 3 or 4 teams playing the game concurrently at different tables. Those teams that learned to work well together and leverage each other's strengths did much better than those teams where the players struck out on their own.

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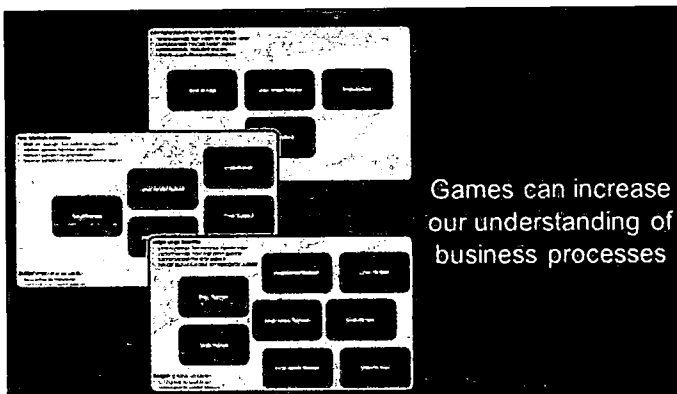
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The next game I created was a card game called **Collection Deck**. This game was created kind of in response to the board game. While the board game did a good job in teaching the value of collaboration between analysts and collectors, it didn't really teach analysts about all the different ways collectors can gather information. **Collection Deck**



was designed to meet that training objective. Kind of a combination of a trick-capturing game like Bridge or Whist, and a collectible card game like **Pokémon** or **Magic: the Gathering**, in this game the players use collection technique cards in order to "capture" or solve intelligence problems – but only certain techniques can be used against certain problems, and the other players can play reality check cards in order to throw obstacles in your path. For example, a player may try to use an overhead satellite to take pictures of something, but another player throws down a card indicating there was a ground station failure, and so they can't use that overhead satellite. The idea behind the game is to introduce players to a bunch of intelligence collection capabilities they may not otherwise have been aware of, and to think logically about how they could use those capabilities, and what obstacles they might encounter while doing so.

This final game I'd like to share with you is one that I'm still in the process of designing. So, it doesn't even really have a name. Let's call it **Satellite Construction Kit**. The basic concept is that teams of students would have to work together to design an intelligence satellite constellation. They'd have to work within a budget, and decide what size constellation to build as well as what kinds of



capabilities to put on the satellites. Do you build a constellation with lots of small satellites, which can only have limited capabilities, or one big satellite which can have lots of capabilities? Do you design it to take pictures from space, collect communications signals, or track friendly forces? Every decision they make will have both costs and benefits. If they choose A, then they can't choose B. If they choose B, they can't choose C. As they are working together and coming to consensus on what kind of satellite to build, certain obstacles might be thrown in their path. For example, all of a sudden they find that their budget has been slashed by 10% and maybe they now have to give up one of the payloads they were going to build into the satellite. Or Congress directs them to make sure that they definitely build it with one specific capability, and now they have to figure out what they are going to drop to accommodate that (if they don't already have it). Although designing a satellite constellation is the framework for the game, it's not about teaching them how to design an actual satellite constellation – it's about

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understanding the tradeoffs and decisions that occur in the intelligence community when designing a collection system, and the different things that can impact those decisions.

So with that, let me turn it over to my colleague Volko, for his perspective and thoughts on this issue.

## Talking Points – David

### **1) *What's your approach to designing a game?***

Since I've designed games for use in classes, I always start with the training objective. What's the lesson we're trying to get across? I then let that guide the design process. I also have to consider the class environment. How many students will there be? How many instructors? How much time will they have for the game? All these feed into it. So, you start off with a bunch of constraints that you wouldn't have when just designing a game for fun. However, there's one big freedom you have that traditional game designers don't: you generally don't have to worry about replayability – students will only take your class once, so you can design a game that's only meant to be played once.

### **2) *What advice would you offer others who might be interested in incorporating games into their work process?***

Two things. 1) Play lots of games for ideas. There are a lot of different game mechanics out there and the best way to be exposed to them is to play them via other games. 2) Always keep the purpose of the game in mind – what are you trying to achieve? Games in the workplace should have a purpose, not just be for fun (although they certainly should be as fun as you can make them). Keeping the purpose in mind will help guide your decisions during the design process and better position yourself to justify the use of the game to any skeptics.

### **3) *What challenges have you faced when using games in your organization, and how did you deal with those challenges?***

I definitely saw some resistance among students and managers who weren't "game people." But as I stated at the start of this session, I think all humans are "game people"; we just sometimes forget it. I also saw resistance from folks who thought that games were too "frivolous" to be in the workplace. I think the way I dealt with both types of people were to point out that some of the most serious organizations in the world use games to great effect. The military, for example, regularly uses war games to train the soldiers and leaders. Hospitals and airlines uses simulations to train their doctors and pilots – people who literally hold the lives of others in their hands.

### **4) *Can you provide an example of something that you learned through a game, or a time when a game was successful in meeting an objective?***

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Any time I've used a game in a class or a training brownbag, I always have some kind of wrap-up session to help bring the lessons of the game together. And I always ask three questions: 1) How was the game realistic? 2) How was the game unrealistic? and 3) What lessons can we take away from the game to incorporate into our day-to-day workflow? And pretty much every single time, this is when I see the light dawn in the players' eyes, as they realize how the game reflected on reality and what they can carry away from it. But to be specific, I mentioned the Collection Deck game earlier. I've had numerous students tell me after playing that game something along the lines of "I had no idea that capability existed in the Intelligence Community – do you have someone I can talk to about how to bring it to bear on my intelligence problem?" That's a huge win for me.

### Opening Statement – Volko

My name is Volko Ruhnke. Like David, among my jobs at CIA has been to help train our analysts and facilitate their research. I've used a particular kind of game—simulation games, especially manual, tabletop simulations such as board wargames—to do this.

#### Player Two

Using Games to  
Synthesize Models of  
Intelligence Issues



I am particularly interested in helping analysts join their various types of expertise into what we call a "corporate product"—a synthesis of their individual knowledge that represents CIA's best judgment as an agency.

For example, if we were asked to project broadly what might happen in the war in Afghanistan over the next year, we would need to involve military, political, and economic analysts focused on Afghanistan; counterterrorism specialists who know something about the plans and capabilities of extremist groups activities there; perhaps experts in the foreign policies of various regional powers around Afghanistan; and so on.

Each of these analysts would bring their expert perspective on the many aspects of Afghanistan that interact with one another—each expert has a "mental model" of Afghanistan, a representation in their head of these interactions or dynamics. Each of their mental models is unique, and a major hurdle is how to express, share, and mutually refine their models.

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Here is a model of war in Afghanistan, from some years ago. The US commanding general there when shown this image supposedly joked “When we understand that slide, we’ll have won the war!” It’s not our slide, but it is a well-constructed model of war in Afghanistan at the time.

Imagine, though, that we are analysts and each of us has something like this in our head—how are we going to explain it too each other, much less refine and learn from it?

Not an inviting task!

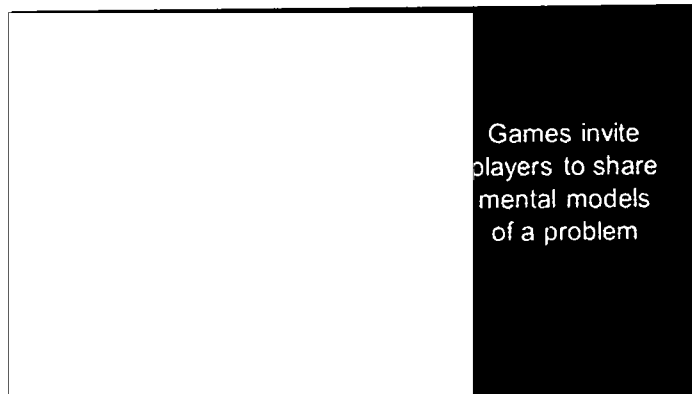


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Here is a commercial boardgame about Afghanistan that I co-designed on the outside. It too, I would argue, is a well-constructed model of that war (though for a different purpose).

These friends playing the game are experiencing, together, the designers’ mental model. The players are inside the model, operating it, and will quickly come to understand, well

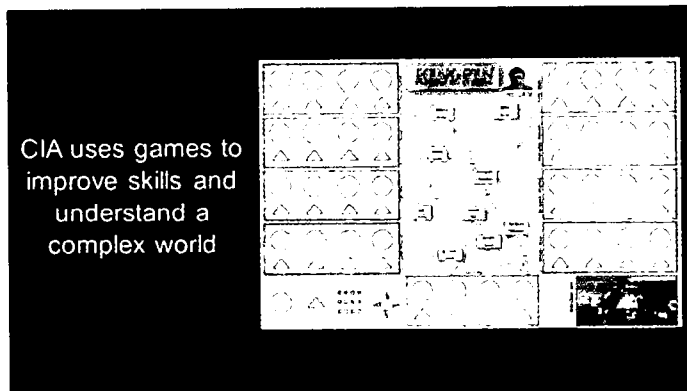
enough to critique it and even improve it their tastes and purposes. And though they are learning and refining their own mental models, they are doing this for fun!



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Here is the game board from a tabletop simulation that we use to train analysts, in this case, analysts who might work with law enforcement, counter-narcotics, or counter-terrorism authorities around the world. This game, “KINGPIN”, presents a model of many of the interactions that go into hunting a well-armed and well-protected bad

guy—in this case a drug cartel kingpin. We use a real-world historical case—Mexico’s successful hunt for Sinaloa Cartel boss “El Chapo” Guzman—to improve our analysts’ own mental models of how to help hunt down such “hard target” fugitives from justice. This is the game, by the way, that I’d like to share with those of you who will be able to join us for our demo session later

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~~UNCLASSIFIED~~**Talking Points – Volko****1) *What's your approach to designing a game?***

Since I focus on simulation games, the first (and hardest) question is, what is the nature of the model that the game will represent? It's not easy to develop—much less express—a mental model of the actors, factors, and their interactions that are important to understanding the sorts of issues that CIA must assess—wars, politics, economies, and such. These interactions are fundamental to the kind of complexity that Rachel discussed.

The second question then is, what game mechanics are best suited to represent these interactions: victory conditions for the incentives of the actors concerned; what is the playing field, the boundaries of the model; what resources do the players have in the game; how do the players use them to advance their goals against one another, the rules that represent real-world capabilities? And so on.

**2) *What advice would you offer others who might be interested in incorporating games into their work process?***

Be diligent in identifying first the learning or research purpose of the game. Ask Why a game? Do we need a simulation or just a frame game (like “jeopardy” or “trivial pursuit”)? Will the time to find or build the right game be worth it? What does the game have to have in it, and what can be left out—so that we don't get a “Christmas tree” weighed down by too many ornaments to achieve our focused purpose.

**3) *What challenges have you faced when using games in your organization, and how did you deal with those challenges?***

Time commitment by players is a concern, for both training and research simulation games. In our training house, we don't get students for a semester. In a few hours to days, we have to have shown them something that they can use back on the line, to produce analysis (in my case). Simulation games can get complicated, and having to learn to play a game before you can extract real-world understanding is an additional hurdle.

We deal with that (or should) by ruthlessly stripping away all that is not needed, purposeful to our learning objectives or intelligence questions. “Keep is simple” is obvious but can be hard to achieve.

**4) *Can you provide an example of something that you learned through a game, or a time when a game was successful in meeting an objective?***

One of my training games on political systems—this one models parliamentary politics—inspired a student political analysts to design his own tabletop game about democratization in the country he is expert on. He then played the game with a series of experts on that country and on regional democratization, then got one of our data scientist to generate probabilistic findings from that tabletop expression of his mental model. This research generated several finished intelligence products—before, by the way, that particular country experienced a prolonged internal political crisis that brought several issues that he had explored to the fore in the real world.

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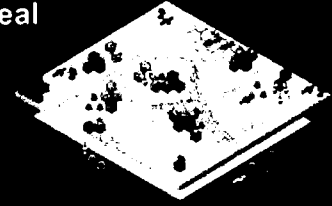
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## Opening Statement - Rachel

Hello, my name is Rachel and I'm the Chief Strategist and Deputy Director for Digital Futures, an organization within CIA's Directorate for Digital Innovation. In my current role and actually over the course of my career my focus has been to translate unconventional and innovative thinking—whether it's mine or other officers—into opportunities and solutions that help us continuously leverage the evolving digital landscape. And games and simulations have played a large role in that. I got into game design because as a cyberterrorism analyst a million years ago we were getting asked questions by policymakers that we could not answer using traditional intelligence. As a result I started designing wargames to come up with insights and truths that could inform those answers.

### Player Three

Designing Intelligence Games to Capture Real World Complexity



So, as David described you can see that the IC has a healthy appetite for simulating intelligence problems, and as you have heard from Volko, we pay a great deal of attention to what happens in the heads of our players as games progress and are played out. We continuously subject our players to new data and information, forcing them to repeatedly refine their decisions and assumptions. It sounds fun and exciting in theory right? But how well does it conform to the real world and how complex events actually evolve? I suspect that at this point many of you have questions about the correlation between what we design and what we follow going on among the participants, and, what actually goes on in the real world and what actually happens with people caught up in real life crisis where decisions are made collectively.

That is a long way of asking what the correlation is between human behavior among players in a game and human behavior among real decision makers as events unfold in real life. So I thought I would spend a few minutes sharing with you how I address the challenge of designing intelligence games that do justice emulating real world complexity and behavior.

#### **Key points on this slide:**

- Embedded creativity is integral to the game
- Players are connected to purpose
- Game controller has to use a light touch

#### How Do You Design For...

Black swans and unintended consequences?

Realistic, plausible behavior?

Scope and pacing that supports genuine decision making?

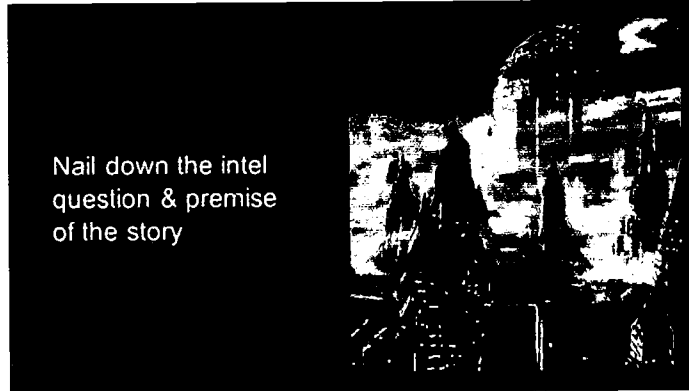
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**Key point on this slide**

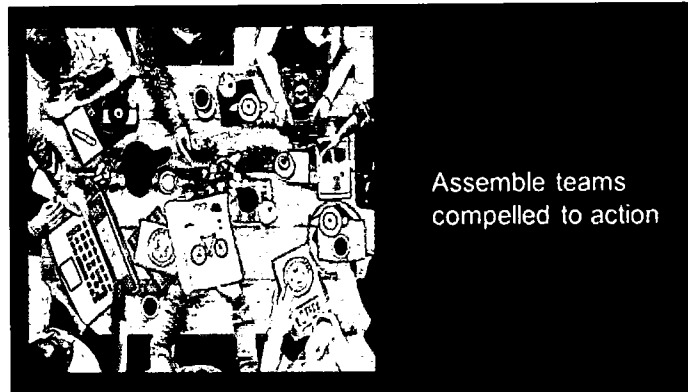
- *Introduce hypothetical intelligence question and unpack next steps:*

*“In a fully digitized environment—such as a smart city that is full of sensors, is data driven, and artificially intelligent, how would the business of intelligence work?”*



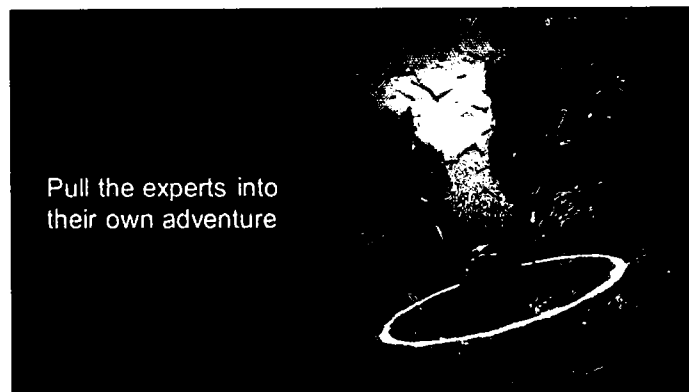
**Key point on this slide**

- Teams need to reflect more than just the intelligence question.



**Key points on this slide**

- Building out the story is key.
- Players need to integrate & become part of the story early.



*“It’s 2040 and the fictional country of Alileal—a developing country of strategic importance to the major state powers including the US—becomes the sole beneficiary of a newly discovered, highly prized material that triggers a technological breakthrough. Alileal becomes rich overnight. They have a new set of geopolitical levers to use for re-negotiating their position in the world. One result of their good fortune is that it has enabled them to exponentially leapfrog past everyone technologically and rapidly transform their cities into fully instrumented, smart*

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*environments run by advanced AI systems. Alileal's cities are highly efficient—sophisticated analytics automate and optimize the management of everything from public utilities and critical infrastructure to individual movement and mobility. Also, this 'system' or collection of systems have perfect knowledge of all information. This includes anything that has ever been reported or disclosed about every country's intelligence capabilities."*

**Key point this slide:**

- Done right, complexity will emerge organically.
- Don't try to control it too much.



**Talking Points – Rachel**

**1) What's your approach to designing a game?**

I immediately start thinking about the sparks and tension that I could create around the intelligence question to be explored. I'm thinking through ways that I would try and break the game before I've even designed it. Sometimes that means trying to challenge the validity of the question being asked in order to pressure-test whether or not it's worth putting all of these resources and time into. I also start thinking about how to cast as wide a net as possible to pull in experts from across many different disciplines.

**2) What advice would you offer others who might be interested in incorporating games into their work process?**

Do it! Honestly I don't know how you can get away with not embedding some sort of a game element into everything you do now—it feels like that is just increasingly how our brains are wired to ingest, process, and react to information given all of the technology and data coming at us as a normal part of our routines.

**3) What challenges have you faced when using games in your organization and how did you deal with that?**

Players will always try to break the game or game the game. That's a given. The challenge is that they won't always tell you that is what they did to win. It's super, super important—actually vital for intelligence games-- to know what is behind or enabling the 'win' or outcome. This is what gives the insight its plausibility. I had one game where the blue team 'recruited' someone who was providing support to both blue and red team rooms. The blue team 'won'

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but never explained why they had made certain decisions. We knew something was off and only found out because the tech started talking about how much fun he had – he never even knew he had been recruited!! Without knowing that information the intelligence write-up would have been different, drawing on a different set of conclusions. I was a player in a field game a few years ago where I got played—I was leader of a team tasked with pulling off a ‘terrorist’ attack. We succeeded—but not as a result of the plan I had laid out. Little did I know that the Spec Ops person on my team had decided to unilaterally go in a different direction and ‘update’ my orders when I wasn’t around. THAT (unanticipated social dynamics amongst bad guys) ended up being the focus of our intel write-up.

**4) Can you provide an example of something that you learned through a game, or a time when a game was successful in meeting an objective?**

I designed a game a few years ago that explored how various external events could shape or influence terrorism. We saw a shift in the balance of power between two wealthy, developed countries because of third and fourth order effects from an event that was conceived by the players. No way linear analysis would have ever given us that insight. The cyber games I ran many years ago still provide insight to this day. I screenwriters, directors, and other creatives from the entertainment industry for many of the red teams I design. What I learned is that there are a lot of scary ingenious people out there we are lucky are American citizens!

## End Game

- 1 CIA uses games to understand our world
- 2 Games help clearly communicate complexity
- 3 Design should connect players to your objective

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