Designing the Decision: Serious Games as an Advancement in Training, Education, and Crafting an Effective Exercise

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Emergency management doctrine already knows what a game is. The Homeland Security Exercise and Evaluation Program (HSEEP) taxonomy, as presented in FEMA's Emergency Management Institute materials, lists games among the discussion-based exercises, alongside seminars, workshops, and tabletop exercises. In that framing, a game is a simulation of operations, usually involving teams, often in a competitive setting, built from rules, data, and procedures that depict a real or hypothetical situation. A defining feature of games is that their purpose is to guide players to identify critical decision-making points and explore the consequences of their decisions or actions—consequences such as a reveal of new choices or deeper cascading effects; this makes games useful for validating plans and processes, and evaluating what resources are needed to move ahead. The definition is precise and has been part of the framework for years. What's been missing is the design knowledge, facilitation practice, and evidence base needed to make games a routine, high-quality instrument in the preparedness toolbox. That craft is where to find the real advancement in training, education, and exercise design.

The Decision Is the Curriculum

Each exercise type in the HSEEP continuum has a distinct pedagogical engine. Seminars orient. Workshops produce. Tabletops generate discussion of a hypothetical scenario, with a facilitator introducing problems and keeping the group on track. Drills, functional exercises, and full-scale exercises rehearse the actual performance of plans and capabilities, at increasing cost and complexity. Games take a unique position in this landscape because their engine is neither presentation nor performance: it is consequence. In a well-designed serious game, players make decisions inside a system of rules and data—and the system answers back. Resources committed to one problem may be unavailable for the next. A neglected risk resurfaces, amplified. A coordination failure becomes visible on the board, or a new set of conditions is revealed, introducing an opportunity to consider a new plan of action.

FEMA's definition emphasizes the implications of player decisions and the open, decision-based format that can incorporate what-if questions. This is also what distinguishes a game from even an advanced tabletop. In a tabletop, participants discuss what they might do, would do, and the scenario advances through scripted injects. In a game, participants act within the model; the scenario advances because of what they did. Player agency and interactive feedback loops turn abstract principles into practiced trade-offs.

Systematic reviews show that board, tabletop, and other analog game approaches foster engagement, collaboration, and higher-order thinking precisely because learners act and receive feedback rather than only listen and discuss (Sousa et al., 2023). Such experiential learning builds what emergency managers need most, and classrooms teach worst: the capacity to anticipate second- and third-order effects of your own choices, under time pressure and with incomplete information, and to be able to fail safely in the process. This is the next level of tabletop exercises.

From Accessory to Methodology: Designing Games as Exercises

At CAPTRS, we start with learning objectives, not mechanics, to develop our games. Our interdisciplinary team of game designers, communication experts, cognitive scientists, engineers, and subject-matter experts anchor in a team's context and the competencies they need to practice, such as resource allocation under uncertainty, cascading-effect response, or cross-agency activation, and then we build the game mechanics, elements, and narrative arc that make those competencies playable.

Two further design challenges decide whether a game works as a real-world exercise. The first is the learning curve. Professional audiences cannot spend an hour reading rules, so a game that is too demanding will never enter the agency training calendar. The SIMRED framework (Serious Game Integrated Methodology for Real-World Development)

continued on page 23

Serious Games

continued from page 22

addresses the learning curve by designing the tutorial as part of the Digital Insight App in parallel with the game itself. These tools record key player decisions and outcomes during gameplay and return them as immediate post-action material. FEMA's own guidance notes how



Figure 1 - From draft to prototype playtesting and digital support tools

learning experience itself. Short introductory games and embedded, escalating tutorials let players build the cognitive model of the system while already playing it (Sousa & de Rosa, 2026).

The second challenge is to design a game for players across the continuum of experts and non-experts who play a role in emergency management. Real preparedness rooms mix seasoned responders with elected officials and community stakeholders; fast analog game formats with well-designed roles allow all of them to contribute meaningfully within a single session (Sousa et al., 2022). Analog games carry a further advantage here because the model is transparent. Every rule, dependency, and trade-off sits on the table where it can be questioned, which turns the game system itself into an object of discussion, exactly the strategic, policy-oriented conversation discussion-based exercises exist to produce.

Finally, no game is an exercise without a debrief. The simulation/gaming discipline has long argued that learning happens in the structured reflection after play, not only the play alone (Crookall, 2010). CAPTRS builds facilitation guides, facilitator training, and the CAPTRS identifying critical decision-making points is a major factor in evaluating a game. Capturing those points digitally makes the evaluation systematic and links game sessions to the improvement-planning step of the HSEEP cycle.

A Portfolio Mapped to Purpose

CAPTRS currently fields a portfolio of research-driven games that operationalize this methodology for the people on the front lines of crisis. The EMCE series (EMCE: City Blackout and EMCE: Hurricane), examined in detail in the August 2026 issue of this Bulletin, places cascading effects at the center of game architecture, training players to read a crisis as a system of interdependent failures rather than a sequence of isolated incidents. Our A3P game targets situational awareness, revealing how individuals and teams interpret risk, weigh the reliability of information sources, and align their assessments before activating response plans. The C3C game brings multiple agencies into a shared crisis simulation to expose coordination gaps and turn written activation protocols into practiced, collaborative actions. Beyond emergency management, we have piloted the same design approach in public health, including a strategy game built around the 7-1-7 outbreak detection and response targets, played with World Health Organization teams.

These serious games simulate real-world operations with teams, rules, data, and procedures. They validate plans by stress-testing them against player decisions, evaluate resource needs by making scarcity a live constraint of play, and they open space for what-if by letting groups replay a crisis under different assumptions. Just as importantly, these next-level games do not compete with the rest of the exercise continuum. A game can precede a functional exercise and prime a team's mental models at a fraction of the cost. It can follow full-scale exercises, letting a team safely re-explore the decisions that went wrong, and fill the long gaps between formal exercise cycles when skills and memory decay.

What This Unlocks

Seen through the lens of training, education, and exercise design, well-designed serious games advance practice in three specific ways.

First, they make exercise continuous rather than episodic. Traditional operations-based exercises are indispensable but expensive, and most teams experience them annually at best. A boxed analog game with a facilitation guide and a trained facilitator is repeatable, portable, and cheap by comparison. And it sets a preparedness training cadence, which is how every other high-performance domain does it.

Second, these games widen who can be trained. Because tutorial and role designs drop the entry barrier, games extend meaningful exercise participation beyond operational specialists to elected officials, city leaders, teachers, and community partners, the very people whose crisis decisions are most consequential

continued on page 24

Serious Games

continued from page 23

and least rehearsed. Preparedness education becomes something that invites in the entire response ecosystem.

Third, exercises become measurable. When gameplay generates a recorded trail of decisions, timings, and outcomes, debriefs move from impression to evidence, and repeated sessions can be compared over time. This answers one of the oldest criticisms of discussion-based exercises: that their outputs are difficult to evaluate, and it gives the growing field of serious games for preparedness the data to advance its own designs.

Advances in Imagination

History shows we are often unprepared for crises because we fail to imagine what's possible. Games are imagination with consequences, when structured, replayable, and safe. The exercise doctrine that emergency managers already use has carved out a place for them all along. And in the past few years, we've seen the maturation of game design for preparedness into a rigorous, research-based discipline, with objective-driven mechanics, tutorial frameworks that break the learning curve, facilitation and debriefing practice, and digital tools that capture decisions for evaluation. Their purpose is not to replace exercises, but to complete the toolbox, and to practice today, seriously and playfully, for tomorrow's threats.🔷

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