Workshop Paper: Building on the Fly by Design
Decision-Making in a Crisis

Issue:

1. When managing a disaster, senior leaders must make coordinated but sometimes siloed decisions with limited time and information.
2. Simulations and tabletop exercises are useful tools to practice and analyze decision-making in a low-information crisis setting.
3. The goal of the Building on the Fly by Design initiative is to develop a **unified framework to design potential solutions** during a crisis of untested magnitude. This framework can be broken down into three key components and objectives:
   a. **Understand current approaches:** How do leaders make critical decisions in a crisis of exceptional size and scope, and specifically, how does shared situational awareness and collaboration across sectors contribute to or impact decision-making?
   b. **Enable innovation through design thinking:** Building on the fly by design in a crisis will require creative problem solving and new ideas. How can we empower participants to innovate beyond traditional processes and methods in a crisis setting?
   c. **Create a proactive, systemized approach:** How can we create a highly reliable, risk-based process for making decisions in a crisis setting?
4. This process, generated through Meeting 1 and applied in Meeting 2, should be structured and executed in a reproducible and broadly applicable way – emphasizing the decision-making tools, rather than the specific scenario.

Methods:

1. To study how participants seek out information and come to a shared understanding, we suggest **providing initial information** to set the stage, and making other information **available upon request**. This will allow us to study the ways decision-makers seek out knowledge, as well as the kind of information they tend to seek out.
   a. Information may be siloed by participant or sector, requiring effective communication across participants. In addition, information may be missing, unreliable, or may not match up with information provided to another participant. This will replicate real-world information uncertainty and provide an opportunity to study how participants work together to build situational awareness.
   b. Participants should be given the opportunity to work with participants from other agencies and sectors and share information.

   We also suggest providing participants the opportunity to **reflect on their own internal decision-making approach** and **document the heuristics** they rely on when addressing a novel or seemingly overwhelming problem**.**
   c. Participants should be asked to note their initial reactions and gut responses to injects, considering both what information they would like to have, and how they would act if this were the only information available.

    d. In addition, participants should be encouraged to acknowledge and document the interpersonal or political realities they may face and consider how their own lived experience impacts their decisions.

2. To provide a non-prescriptive opportunity for participants to innovate beyond traditional crisis responses, we suggest providing a **factual context and a broad question**, then **empowering participants to define specific problems** to tackle.
    a. Injects should be factual rather than question-based, and should not include policy solutions, whenever possible. Defining the specific problems and solutions should be up to participants. This will replicate real-world crisis settings, and provide an opportunity for participants to engage in design thinking to innovate and consider out-of-the-box solutions.
    b. Prompts should create a practically unbounded space for ideation and problem identification, with time built in to discuss and refine the problem definition.
    c. Consider using tools and techniques from design sprints to facilitate brainstorming and solution selection.

3. To investigate urgent decision-making with long-term consequences and uncertain information, we suggest creating a scenario that mimics certain aspects of real-world conditions and consequences. Specifically, we suggest utilizing a **path-dependent scenario** that incentivizes participants to consider the long-term consequences while still improvising responses to crises in the moment and providing **time-variable injects** that allow for different forms of decision-making.
    a. Successive injects should incorporate the consequences of decisions made in earlier parts of the simulation. Injects should balance inconceivability (to surprise participants and push them out of their comfort zone) with credibility.
    b. Injects should vary in length, where some provide ample time for cross-sectoral discussion and others require near-immediate response.