CSCI 215
Social and Ethical Issues in Computer Science

False Ballistic Missile Alert

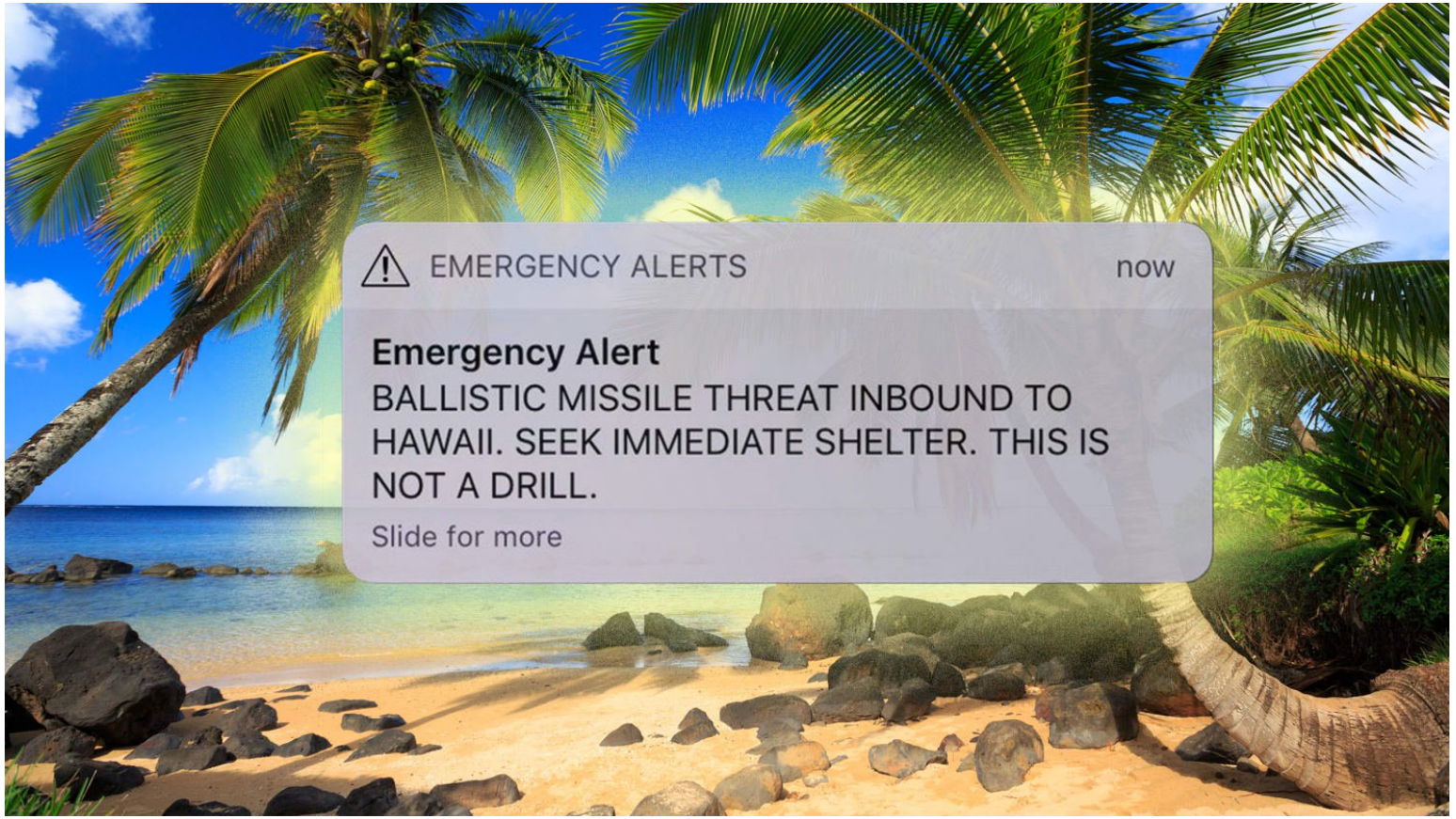
Tensions at that Time

- North Korea
  - use of nuclear weapons
  - ICBM tests (most recent – Nov 2017)
- Testing of siren – Dec 2017
  - But no discussion on what to do if not a test

What Happened?

- Tell me what happened as a result of the false missile alert in Hawaii on Jan 13, 2018
  - What was sent to the public and what were the results

Screenshot


EMERGENCY ALERTS
now
Emergency Alert
BALLISTIC MISSILE THREAT INBOUND TO HAWAII. SEEK IMMEDIATE SHELTER. THIS IS NOT A DRILL.
Slide for more

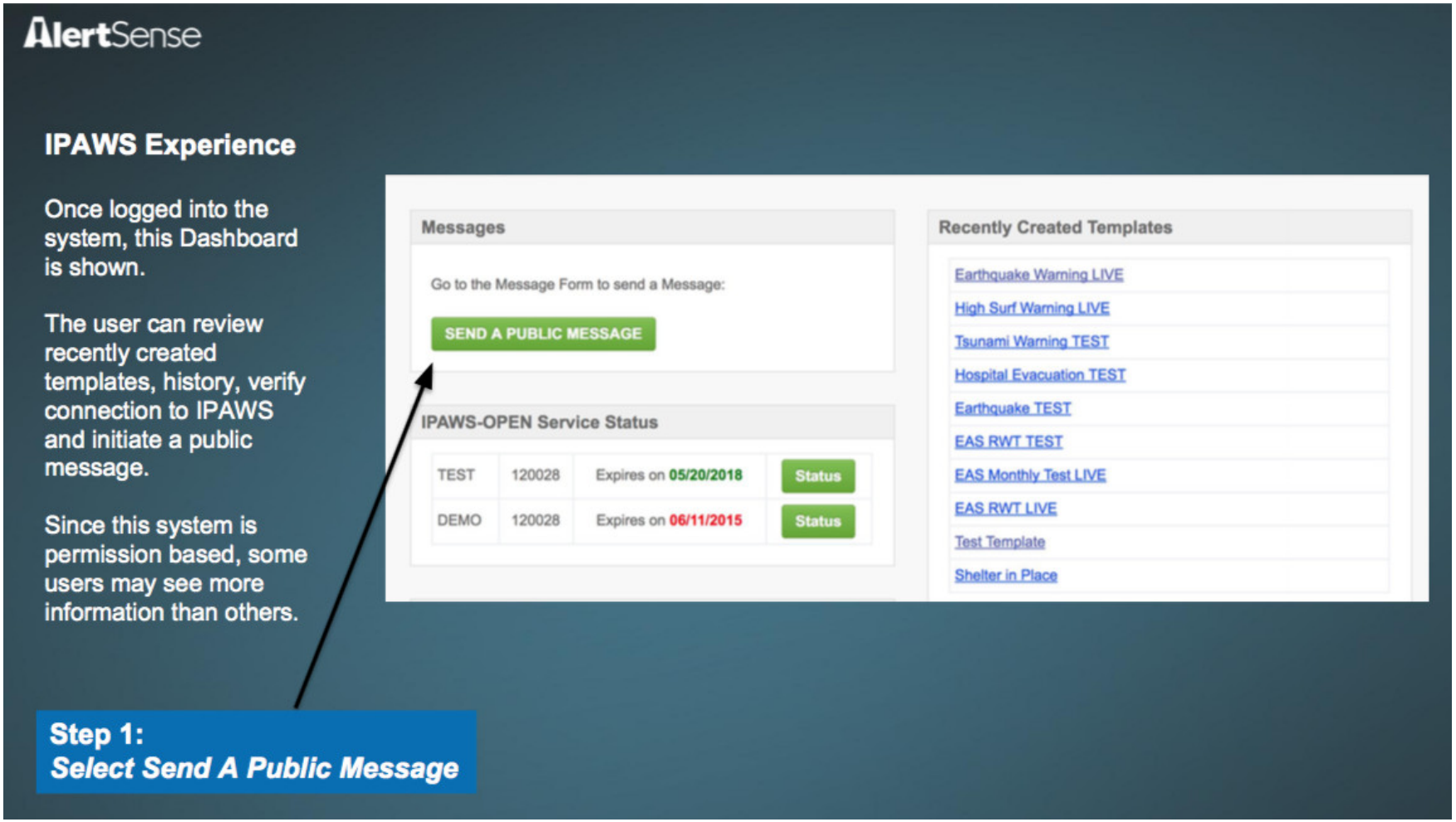
Videos

- Link: https://www.cnn.com/videos/us/2018/01/13/hawaii-basketball-game-false-missile-alert-sot-nr.cnn
- Link: https://abcnews.go.com/US/hawaii-startled-false-alarm-imminent-missile-attack/story?id=52329674
- Link: https://www.msnbc.com/velshi-ruhle/watch/what-happened-in-hawaii-s-false-missile-alert-1137384003898

False Missile Alert in Hawaii

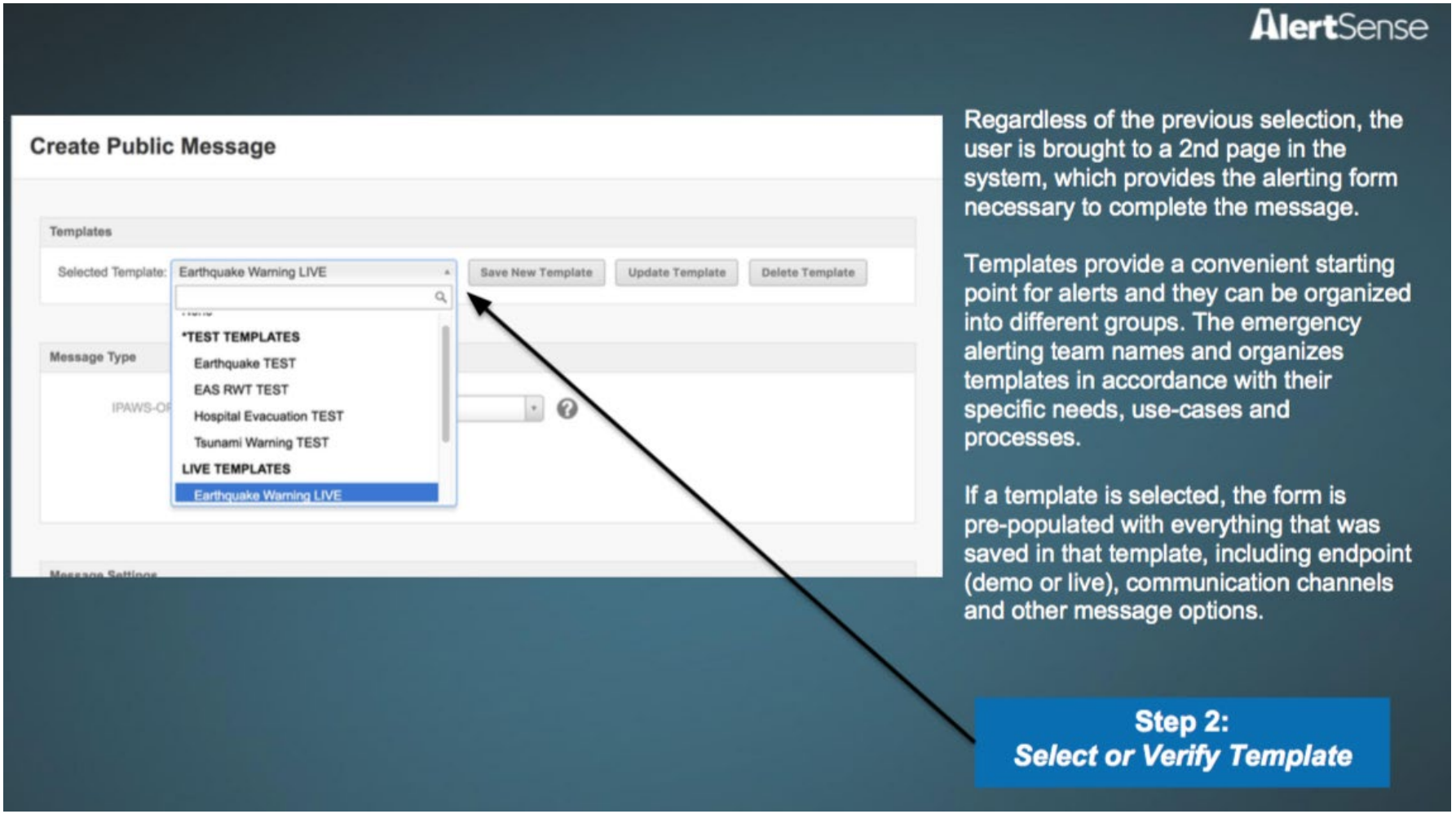
The employee accidentally clicked "PACOM (CDW) - STATE ONLY" instead of the similarly named option "DRILL-PACOM (DEMO) STATE ONLY", creating massive panic until a follow up message 40 minutes later revealed it was a mistake.

Software Screens



Taken from https://www.theverge.com/2018/1/18/16905512/hawaii-missile-software-false-alarm-emergency-alert

Software Screens



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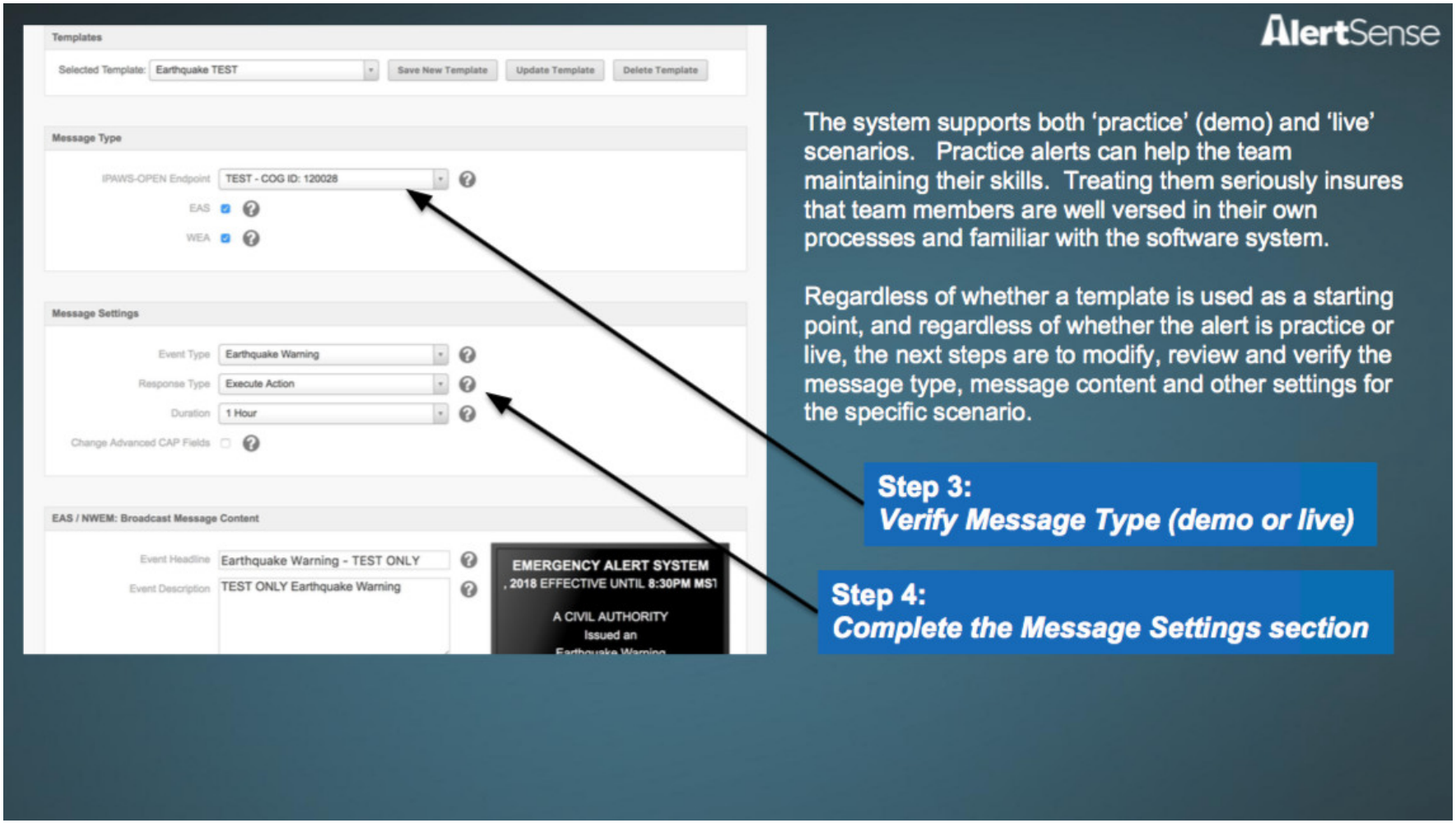

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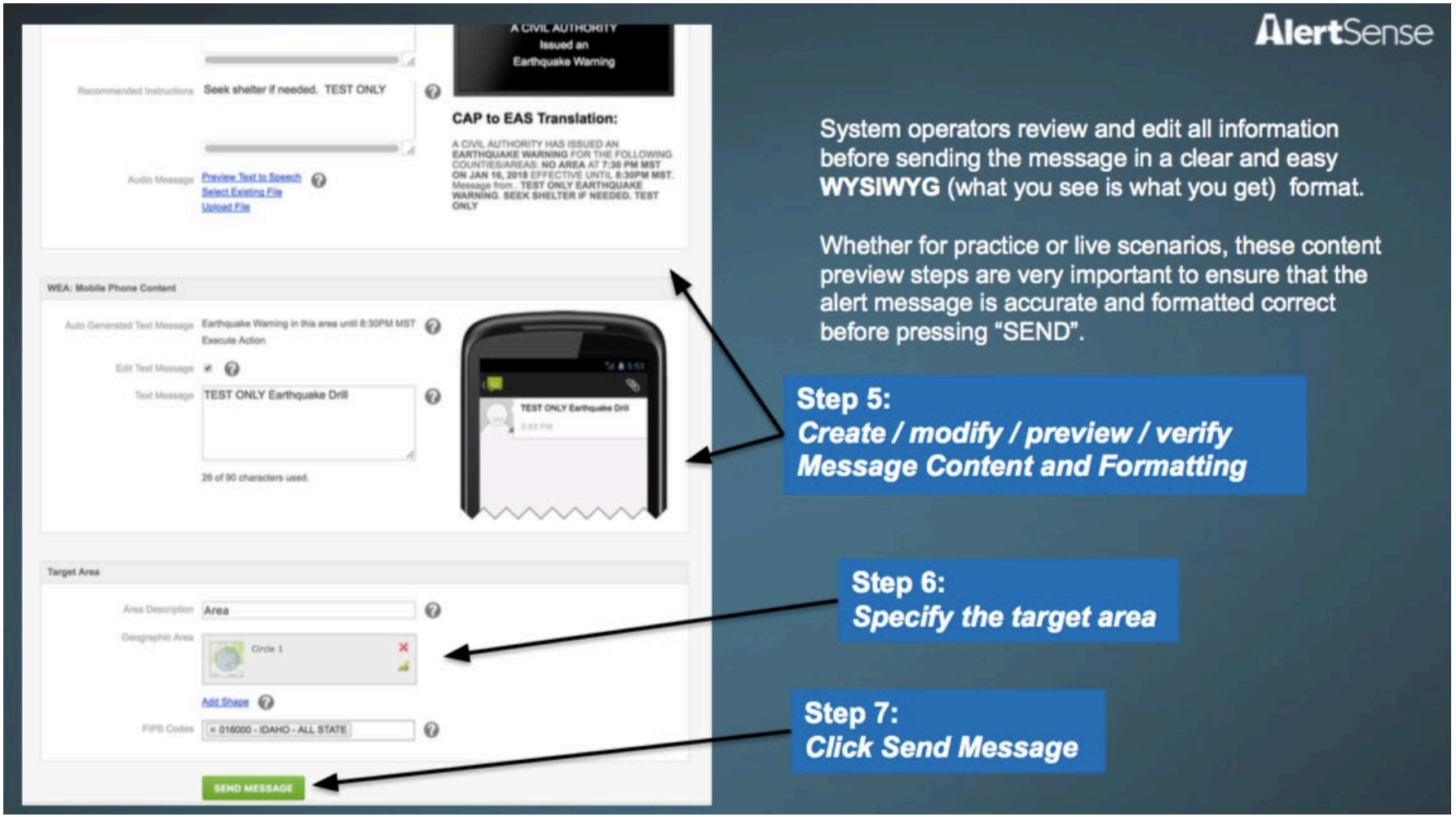

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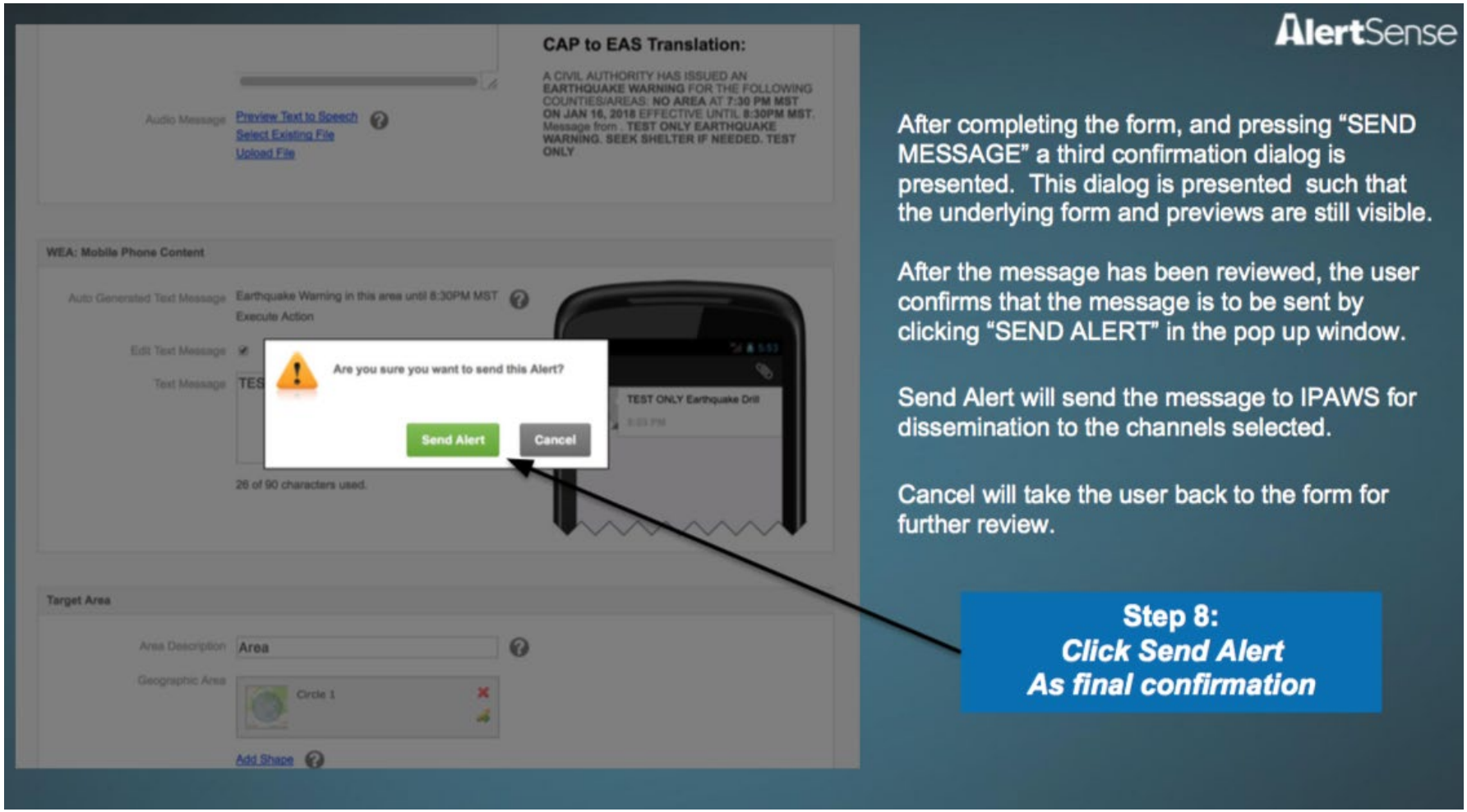

Taken from https://www.theverge.com/2018/1/18/16905512/hawaii-missile-software-false-alarm-emergency-alert

Software

- Can you think of
  - something good about this software?
  - something bad about this software?

A User Interface Designer's Opinion

Kim Flaherty, a design expert at the research firm Nielsen Norman Group

- "Any critical system, whether it's in a hospital or a critical alert system for public safety, should be specifically designed to prevent errors like this,"

Taken from https://theoutline.com/post/2954/user-interface-designers-are-horrified-by-hawaii-s-missile-alert-system?zd=2&zi=m3ow6edq

A User Interface Designer's Opinion

Kim Flaherty, a design expert at the research firm Nielsen Norman Group

- The system would have two modes — a sandbox mode for testing purposes, like the routine drill the employee was trying to select, and a separate one for live alerts that would be differentiated by clear visual cues.

Taken from https://theoutline.com/post/2954/user-interface-designers-are-horrified-by-hawaii-s-missile-alert-system?zd=2&zi=m3ow6edq

A User Interface Designer's Opinion

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- A better system, Flaherty said, would also require a user to complete a small task before the system would send a critical alert. It could be as simple as a CAPTCHA image or two-factor authentication, or it could require another employee to separately authorize the alert. Systems that simply ask if a user is sure they want to take an action, as the Hawaii system reportedly did, are notoriously ineffective, she said, because people get used to clicking them every time.

Taken from https://theoutline.com/post/2954/user-interface-designers-are-horrified-by-hawaii-s-missile-alert-system?zd=2&zi=m3ow6edq

A User Interface Designer's Opinion

Kim Flaherty, a design expert at the research firm Nielsen Norman Group

- Flaherty would also recommend clearer copywriting and better on-page organization, since the options on the image Hawaii are released are ordered strangely and laden with acronyms like "PACOM" and "CDW."

Taken from https://theoutline.com/post/2954/user-interface-designers-are-horrified-by-hawaii-s-missile-alert-system?zd=2&zi=m3ow6edq

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- "The wording and the way these are written up is very cryptic," she said. "It takes a lot of mental work to differentiate between these. If this is getting tested once a week, someone's going to eventually push the wrong button."

Taken from https://theoutline.com/post/2954/user-interface-designers-are-horrified-by-hawaii-s-missile-alert-system?zd=2&zi=m3ow6edq

A User Interface Designer's Opinion

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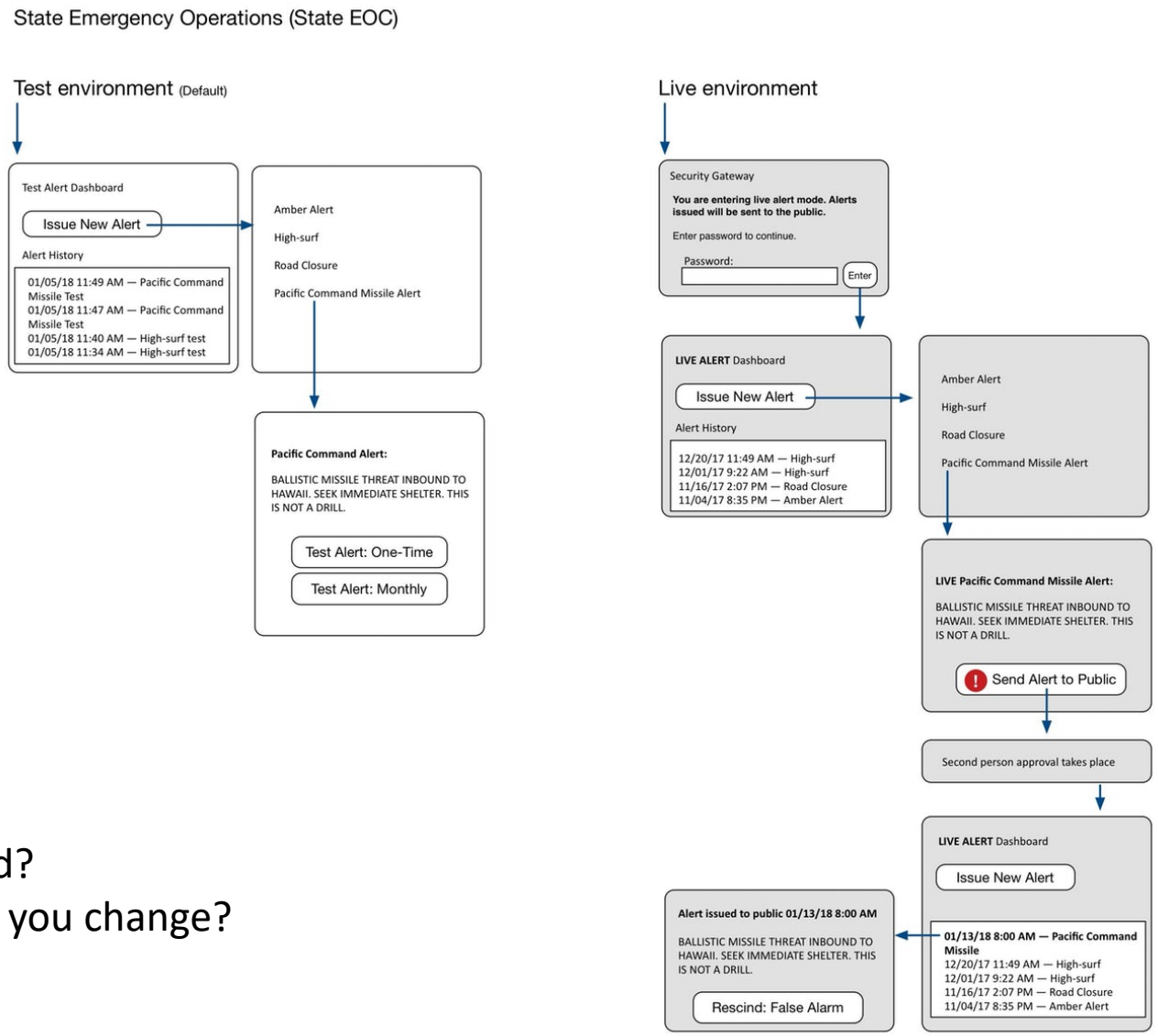
- Flaherty would also recommend a function that would let the state immediately send a second message to call off the first

Taken from https://theoutline.com/post/2954/user-interface-designers-are-horrified-by-hawaii-s-missile-alert-system?zd=2&zi=m3ow6edq

A Mockup Of a Solution



What is good?
What would you change?

Who should be held liable?

- Developer
- Developer company
- Hawaii government
- User/operator
- Operator/supervisor
- Trainer
- Others?

Presentation Speakers

- Tuesday, 9/1

Brown, Jack
Fehres, Megan
Johnson, Coulter
Jubenville, John
Skoog, Ezra