Sean Takafuji
Jason Len
ICS 414
Team Buffalo
Assignment: Team Project #3

- A link to the github repository for your implemented system, including "device drivers" for at least two warning modes. Of course you will need to fake (write "stub" code to facilitate testing) the device(s) itself.
- LOC for the implementation so far:
- Verification and Validation (V&V) plan (and results so far). I recommend using TDD (test driven development), as well as other techniques (your choice, but you need to describe what you will do to convince us that your warning system works).

Link to Github Repo: https://github.com/ics414-buffalo/aloha-alert

Current Lines of Code:

- total with modules: 597669 lines
- our own lines of code: 751 lines
- Drivers fully implemented: (See note below.)
  - device 1: email sent to TV and Radio
  - device 2: SMS text sent to Public

Verification and Validation (V&V) plan (and results so far):

- "Validation. The assurance that a product, service, or system meets the needs of the customer and other identified stakeholders. It often involves acceptance and suitability with external customers. Contrast with *verification*."
  - Accuracy and Precision
  - Repeatability
  - Reproducibility
  - Limit of detection
  - Limit of quantification
  - Curve Fitting
  - System Suitability
- "Verification. The evaluation of whether or not a product, service, or system complies with a regulation, requirement, specification, or imposed condition. It is often an internal process. Contrast with *validation*."

- Brute Force Testing: Testing of all clickable links and testing the entries of the following to text boxes.
  - <CR> (we just hit enter)
  - “send” correct response

    - “Send” Slightly wrong answer
    - “sen” Slightly wrong answer
    - “end” Slightly wrong answer
    - “word” Random word
    - “?” Hacking the system
    - “#” Hacking the system
    - “1=-1” Hacking the system
    - “1=1” Hacking the system
    - “asldfkj” Random characters
- Test Driven Development: Sample users as in Assignment #1 with test case. Script to follow:
    - This is a **test case.** We want to test the system with an inbound missile test.
    - This is **REAL.** Send out an amber alert for Casey Lee.
    - This is **REAL.** Send out an amber alert for Jamie Williamson.
    - This is **REAL.** Send out a Tsunami warning.
    - Display a listing of current warnings
    - This is **REAL.** Cancel Tsunami warning.
    - This is **REAL.** Cancel amber alert for Jamie Williamson
    - This is **REAL.** Send out a inbound missile warning.
    - Display a listing of current warnings.
    - Cancel missile warning.
    - Display a listing of current warnings.
    - End of Test Case.

At the current stage, we are working on using the “brute force” method of testing. Here is a listing of the different user actions that were tested.

✓ Clicking on “whitespace” area that are not clickable

X Main Page
- X Amber Alert
- X Natural Disaster
- ✓ Foreign Threats
- X Cancel Threats
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page” Link
- X “Alerts” Link
- X “How to Use” Link

X Foreign Threats Page
- ✓ Missile Attack REAL
- ✓ Missile Attack TEST
- ✓ Cancel Button
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page” Link

- X “Alerts” Link
- X “How to Use” Link

X Real Missile Attack Page

- ✓ <CR> (we just hit enter)
- ✓ “CONFIRM” correct response
- ✓ “confirm” Slightly wrong answer
- ✓ “onfirm” Slightly wrong answer
- ✓ “confir ” Slightly wrong answer
- ✓ “verify” Random word
- ✓ “?” Hacking the system
- ✓ “#” Hacking the system
- ✓ “1=-1” Hacking the system
- ✓ “1=1” Hacking the system
- ✓ “asldfkj” Random characters
- ✓ Missile Attack TEST
- ✓ Go Back Button
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page” Link
- X “Alerts” Link
- X “How to Use” Link

X Test Missile Attack Page

- ✓ <CR> (we just hit enter)
- ✓ “CONFIRM” correct response
- ✓ “confirm” Slightly wrong answer
- ✓ “onfirm” Slightly wrong answer
- ✓ “confir ” Slightly wrong answer
- ✓ “verify” Random word
- ✓ “?” Hacking the system
- ✓ “#” Hacking the system
- ✓ “1=-1” Hacking the system
- ✓ “1=1” Hacking the system
- ✓ “asldfkj” Random characters
- ✓ Missile Attack TEST
- ✓ Go Back Button
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page” Link
- X “Alerts” Link
- X “How to Use” Link

X Missile Attack Emergency Message Sent

- ✓ Main Menu Button
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page” Link
- X “Alerts” Link

- X "How to Use" Link

X Hawaii EMS (from Cancel before sending) Page
- ✓ Return to Messages
- ✓ Alert from List
- ✓ Main Menu Button
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page" Link
- X "Alerts" Link
- X "How to Use" Link

X Missile Attack Warning Cancelled
- X Main Menu Button
- X Multiple Different Whitespace Clicks (10+)
- X *Main Page" Link
- X "Alerts" Link
- X "How to Use" Link

X Amber Alert Page
- ✓ Cancel Threats
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page" Link
- X "Alerts" Link
- X "How to Use" Link

X Natural Disasters Page
- ✓ Cancel Threats
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page" Link
- X "Alerts" Link
- X "How to Use" Link

X Test Missile Attack Page
- ✓ Cancel Threats
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page" Link
- X "Alerts" Link
- X "How to Use" Link

X Warning Successfully Sent Page
- ✓ Multiple Different Whitespace Clicks (10+)
- ✓ *Main Page" Link
- X "Alerts" Link
- X "How to Use" Link

Device Drivers Implemented:
We tested the email and SMS text modules with real addresses and phone numbers and were successful. The emails will be sent (and represent) items being sent to Television and Radio.

The SMS text messages will be the items sent to the public. These email and phone numbers have been removed since the Github is set to public.