FY2014 System Integration Test

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DMAC Workshop Sep 2013
2014 the year of the test

BUGS HAVE FEELINGS TOO

IF YOU FIND A BUG: REPORT IT
BUGS DON’T LIKE TO BE FORGOTTEN

IF YOU FIND A BUG: GET TO KNOW THEM
BUGS LIKE TO BE UNDERSTOOD

IF YOU FIND A BUG: TAKE A PHOTO
BUGS LIKE TO KEEP MEMORIES OF THE OCCASION

IF YOU FIND A BUG: GET TO KNOW THEIR MATES
BUGS ARE SOCIALITES

IF YOU FIND A BUG: REPORT IT QUICK
OTHERWISE BUGS SETTLE IN AND MAKE A HOME FOR THEMSELVES

IF YOU FIND A BUG: BE HONEST
BUGS DON’T LIKE GOSSIP

IF YOU FIND A BUG: NOTE HOW YOU MEET THEM
BUGS ARE ROMANTICS

IF YOU FIND A BUG: DON’T IGNORE IT
BUGS CAN BITE IF NOT APPRECIATED

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Software testing toolbox

- **Unit test**
  - Basic code function

- **Component test**
  - Design

- **Validation test**
  - Requirements

- **Systems test**
  - Systems engineering

Software Engineering: A Practitioners Approach, Pressman, 2005
“The System”: distributed implementation of the publish/find/bind pattern

Illustrates the Publish, Find, Bind Pattern. OGC Reference Model (OGC 08-062r7)
Why should we do this?

• Exercise the existing IOOS distributed data discovery and publication implementation architecture to determine efficacy and identify needed improvements.

• Evaluate Regional/Federal adoption of DMAC

• Identify system constraints, performance issues, needed improvements
How might we do this?

Hurricane Sandy is pushing up the Eastern Seaboard and an analyst in coastal New Jersey has four hours to put together a map of the mean tidal amplitudes overlayed with areas where historical extremes indicate vulnerability to inundation.

Can they find the data and make a map?
How might we do this?

Hurricane Sandy is pushing up the Eastern Seaboard and an analyst in coastal New Jersey has four hours to put together a map of the mean tidal amplitudes overlayed with areas where historical extremes indicate vulnerability to inundation.

Can they find the data and make a map?

- Repeated application of basic publish find bind steps in different scenarios.
- IEEE testing process definitions
  - Input/predicted results/execution conditions
What next?

• Project Initiation and Charter (DONE)
• Project Planning (Sep ‘13 – Dec ‘13)
• Scenario Identification (Dec ‘13 – Jan ‘14)
• Code/Test (Feb ‘14 – May ’14)
• Analysis and Reporting (Jun ‘14 – Jul ‘14)
Who’s in?

RATBERT, MY COMPANY IS HIRING FOR OUR QUALITY ASSURANCE GROUP. YOU’D BE PERFECT.

WHAT WOULD I HAVE TO DO?

YOU WOULD FIND FLAWS IN OUR NEW PRODUCT, THUS MAKING YOURSELF AN OBJECT OF INTENSE HATRED AND RIDICULE.

BUT THEN YOU’D FIX THOSE FLAWS... AND YOUR RESPECT FOR ME WOULD GROW INTO A SPECIAL BOND OF FRIENDSHIP, RIGHT?!

NO, THEN WE SHIP.