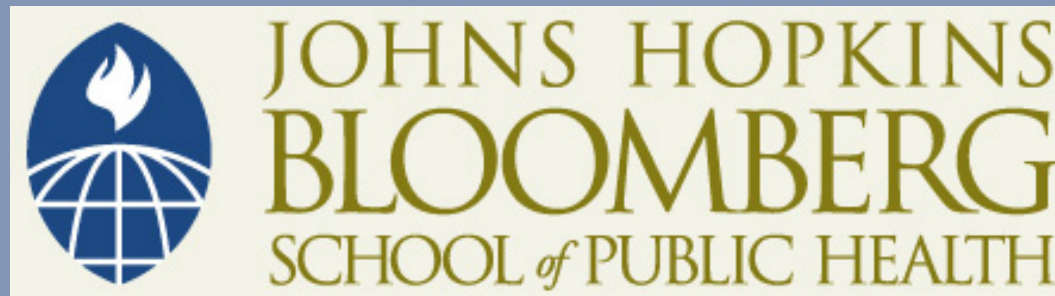


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Testing and Product Certification

Bill Majurski

Computer Scientist, National Institute of Standards and
Technology (NIST)

JOHNS HOPKINS
UNIVERSITY

Section A

Introduction

NIST

- National Institute for Standards and Technology
- US Department of Commerce
- US National Standards and Measurement laboratory
- Measurement applied to software → testing

Work with IHE

- Integrating the Healthcare Enterprise (<http://www.ihe.net>)
- Involved in development of Cross-Enterprise Document Sharing (XDS)
 - Profile creation
 - Testing
 - Developer support
 - Tools development

Why IHE?

- Google “healthcare interoperability”
- Many other organizations involved in movement towards interoperability
- IHE has interoperability as its focus

Where to Start?

- Goal is to apply testing to achieve interoperability
 - Interoperability is a feature of the specifications
 - Testing verifies
- Start with requirements
- Standard(s) exist to support requirements

Focus

- Interoperability = $W + X + Y + Z$
- What are W, X, Y, and Z?

Some Possible Components

- Agreements
- Data
- Structure
- Messages
- Standards
- Testing
- Claims

Basic Questions

- Why is testing so complex?
- Why is interoperability hard?
- Why is interoperability important?
- Who needs to know?

What Is *Interoperability*?

- Ability to automatically interpret exchanged data
- Can involve:
 - Message sequences
 - Message formats
 - Data types
 - Data coding
 - Language

Standard(s)

- Is standard strong (specific) enough to support testing?
 - Normative (“shall”) language
 - Informative language

Weaknesses in a Standard

- ... from the point of view of interoperability
- Free text vs. coded entry
- The holder “will inform” the needer ...
 - No normative language, no mechanism

Profiling

- A profile is a set of constraints placed on a standard(s) to ensure interoperability
- Narrow the scope
- Narrow the choice of mechanism
- Achieve agreement of stakeholders

IHE Approach

- Work with stakeholders to:
 - Define use cases to narrow the scope of the standard(s)
 - Document the narrowed scope
 - Document the technical approach to achieving the narrowed scope
- Formally publish resulting document as an Integration Profile