Structuring Next Generation Guidelines: VSTL Perspective
Thoughts on current VVSG Structure

• Pros
  – More readable than most standards
  – Individualized Requirements
  – Well organized

• Cons
  – Device class is not well defined or is limited
  – Some requirements are not process or technology agnostic
  – Not quickly adaptable
Thoughts on current VVSG Structure

• Pros
  – Adjust requirements quickly
  – React to changing technology
  – Easier to understand by the general population

• Cons
  – Adjust requirements quickly
  – No formal development process
Creating Testable Requirements

What is a requirement?

• A requirement is a singular documented physical and/or functional need that a particular design, product or process must be able to perform.

• It is a statement that identifies a necessary attribute, capability, characteristic, or quality of a system for it to have value and utility to a customer, organization, internal user, or other stakeholder.
Creating Testable Requirements

Characteristics of a testable requirement

– Contextually specific
– Does not use adjectives
– Measurable
– Not procedural
Creating Testable Requirements

After the election, the e-pollbook must permit voter history to be quickly and accurately uploaded into the county voter registration system

- Quickly is not measurable
- Not all county VR systems are the same
- Mixing procedural with functional requirements
Creating Testable Requirements

For all text intended for voters or poll workers, the voting system shall provide a font with the following characteristics

– i. Height of capital letters at least: 3.0 mm
– ii. x-height of at least: 70% of cap height
– iii. Stroke width at least: 0.35 mm.
Creating Testable Requirements

• Contextually defined
  – …text intended for voters or poll workers

• Measurable
  – 3.0 mm
  – 70% of cap height
  – 0.35 mm

• Not procedural
What are test assertions?

• A test assertion is a condition that must be tested to confirm conformance to a requirement.

• A test assertion is defined as an expression, which encapsulates some testable logic specified about a target under test.
For all text intended for voters or poll workers, the voting system shall provide a font that is readable.

**TA01:** The height of capital letters shall be at least 3.0 mm.

**TA02:** The text shall have an x-height of at least 70% of the capital letter height.

**TA03:** The text shall have a stroke width at least 0.35 mm.
Requirements development guidance

• Don’t use generalities when discussing specific components
  – Vote capture device instead of voting system
• Don’t use adjectives
• Include specific values and margins of error when appropriate
• Design requirements to support procedures and not to define them
Questions?