



NTS

WE ENGINEER SUCCESS

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

Test Assertions



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**

Creating Testable Requirements

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.

Guidance

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?