

Context Description: Posted Dec. 1, 2006

This draft report was prepared by NIST staff at the request of the Technical Guidelines Development Committee (TGDC) to serve as a point of discussion at the Dec. 4-5 meeting of the TGDC. Prepared in conjunction with members of a TGDC subcommittee, the report is a discussion draft and does not represent a consensus view or recommendation from either NIST or the TGDC. It reflects the conclusions of NIST research staff for purposes of discussion. The TGDC is an advisory group to the Election Assistance Commission, which produces voluntary voting system guidelines and was established by the Help America Vote Act. NIST serves as a technical advisor to the TGDC.

The NIST research and the draft report's conclusions are based on interviews and discussions with election officials, voting system vendors, computer scientists, and other experts in the field, as well as a literature search and the technical expertise of its authors. It is intended to help in developing guidelines for the next generation of electronic voting machine to ensure that these systems are as reliable, accurate, and secure as possible. Issues of certification or decertification of voting systems currently in place are outside the scope of this document and of the TGDC's deliberations.

Adjustable Aspects of the Voting Station

Version date: October 31, 2006

1. Introduction

A recurring issue within the HFP section of the VVSG has the formulation of consistent and reasonable requirements for the handling of *adjustable* aspects of the voting station. In this short note, we review the current status and make recommendations. Requirement references apply to the October 30, 2006 draft version of the HFP section.

2. Current Status

Note that requirement #3.2.5-B requires resetting all defaults at the end of the voting session and 3.2.5-C requires a "global reset" mechanism available to the voter within the session.

Requirement#	Aspect	Default Value	Available Values	Scope	Adjuster
3.2.5-D, 3.3.2-	Font size	none	min=3.0-	Acc-	Voter

Requirement#	Aspect	Default Value	Available Values	Scope	Adjuster
B			4.0mm max=6.3- 9.0mm	VS	
3.2.5-H, 3.3.2-C	Contrast	none	min=3:1 max=6:1	Acc- VS	Voter or Poll Worker
3.3.2-D (new)	Color Saturation	none	low, high	Acc- VS	Voter
3.3.3-C.4, 3.3.3-C.5	Speech Volume	40-50dB	20-100dB	All Audio	unspecified
3.3.3-C.8	Speech Speed	Normal (implicit)	75-200%	All Audio	Voter
3.3.2-F	Audio/Visual Mode	Both (implicit)	Both, audio- only, video- only	Acc- VS	Voter
3.3.4-B	Input Mode	Conventional (implicit)	Conventional, Non-manual	Acc- VS	unspecified
3.2.3.2-A, 3.2.3.2-B	Overvote/Undervote Warning	none	enabled, disabled	PCOS	Poll worker

3. Analysis and Recommendations

Note that speech volume and sound apply to any voting station that supports audio, whether or not deemed to be a fully accessible voting station. Warnings about over- and undervoting apply only to precinct-count optical scanners (PCOS). Also, these PCOS settings are one-time configurations, not varied per voting session.

3.1 Defaults

No initial defaults are specified for font size, contrast, or color and this is probably as it should be, since vendors should have some freedom to design their interfaces. Defaults for speech speed, A/V mode and Input mode are not explicitly stated, although presumably most vendors would choose the reasonable value. Does this need to be nailed down?

3.2 Adjuster

It seems quite anomalous to guarantee the voter control over all visual presentation aspects except contrast. Not specifying voter control for volume is just an oversight I think. So, the recommendation is that voter control be specified for these two (contrast and volume). Initialization of input mode is a bit trickier: if a voter has virtually no motor control, he/she might need poll worker assistance to "get started" using the non-manual input control (e.g. sip-and-puff). Perhaps this point should be added to the discussion paragraph of 3.3.4-B.