

AS-IS

TO-BE

Introduction

The Office of Human Factors Engineering was charged with creating a design library for the Computerized Patient Record System (CPRS)/Veterans Health Information System and Technology Architecture (Vista) to be used as an efficient means of communication among project team members with diverse backgrounds. Provision of this tool proposes to significantly shorten development time and reduce re-work by project teams and Health Informatics Specialists/Clinical Applications Coordinators (HIS/CAC).

Purpose

The purpose of this document is to provide a high level, visual reference artifact for product teams creating CPRS/Vista tools. All members should be able to review product designs and understand tool capabilities. It can provide an overview of functions and features.

Scope

This document only describes some components of CPRS/Vista. This document does not provide a narrative account of the requirements development process, the software design lifecycle, or usability testing. Finally, this document does not discuss application of the components to mapping data elements, workflow designs or process re-engineering.

Glossary of Terms

Alternate progress note text

Output of the template that is different than the template text.

Branching logic

A reminder definition string used to determine a true or false statement. A reminder group in any reminder dialog (template or clinical reminder) can be suppressed based on the result of the reminder definition. For example, if a health factor is present that the patient has already been screened for item X, that dialog group can be suppressed if HF == true. I.e. the user will not be prompted to respond the screen.

Clinical Reminder Dialog (CRD)

A CPRS tool that accepts user input focused on a task. This data populates in a TIU note. It can associate the tasks with Health Factors, standardized ICD and CPT codes for tracking, analysis and reporting.

Computerized Patient Record System (CPRS)

The graphic user interface for the VA's electronic health record. It is the clinical front end to the Vista database.

Components

The module that is presented in any given template. Typically, components include groups, elements, and health factors.

CPT

Current Procedural Terminology. Medical code set used for reporting medical, surgical and diagnostic procedures and services to entities such as physicians, health insurance companies, and accreditation organizations.

DIALOG elements

Elements are the most granular component of a reminder dialog. They are defined primarily to represent sentences to display in the CPRS window with a check-box. They can print text, render input fields, or pull data from findings table.

DIALOG group

A reminder component that groups dialog elements or other groups. Elements and groups nested within parent groups inherit functions of the parent group and typically share behavioral and thematic characteristics. A group can be defined with a finding item and a check-box. The components in the group can be hidden from the CPRS GUI until the dialog group is selected.

Reminder definition

The internal logic of the reminder. It describes the patients the reminder applies to, how often it is given, and what resolves or satisfies the reminder. It is comprised of the predefined set of finding items used to identify patient cohorts and reminder resolutions.

Vista

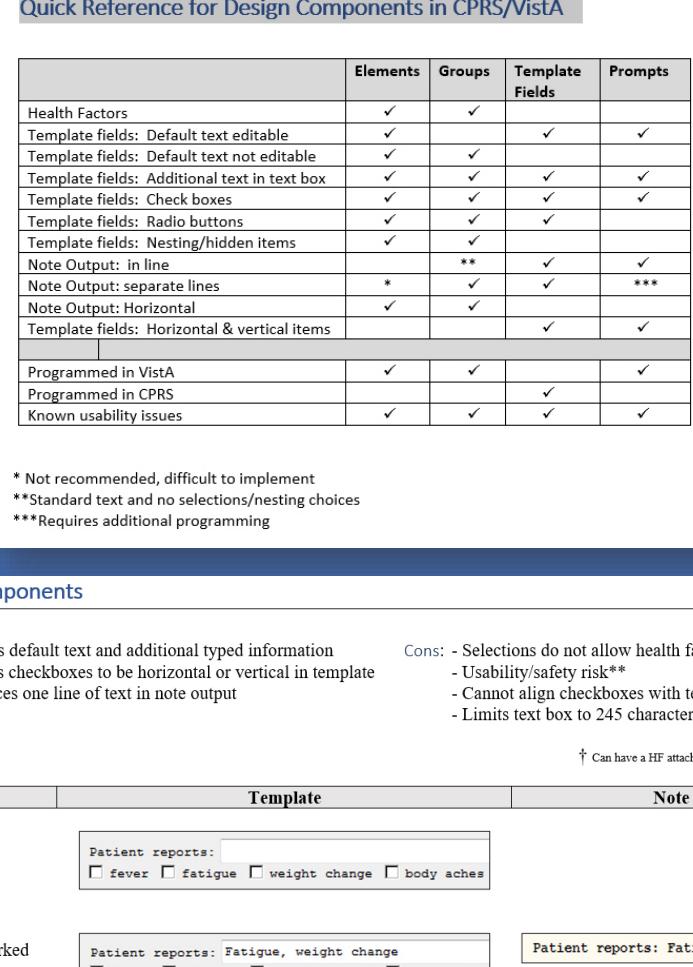
Veterans Health Information Systems and Technology Architecture: The database/core of the VA's electronic health record. Vista uses a command line interface.

Architecture Overview Infographic

The diagram is a graphic representation of general clinical reminder architecture and the information flow lifecycle. Briefly, end-users interact with reminder dialogs (i.e., graphic user interface representation of the reminder). These dialogs review information in the database, either from the CPRS or Vista databases. ICD and CPT codes are mapped to specific findings table. Each reminder dialog is comprised of reminder elements and/or groups. The groups organize content into related themes with shared functional characteristics.

Selected elements and groups are associated with health factors. These factors essentially "tag" the data with a unique identifier. The information is then stored at a PXRM namespace or "address" in the reminders findings table.

The reminder summary extract can be used to generate reports from health factors, ICD and CPT codes in the findings table. Alternatively, sites can retrieve data from regional and national databases that archive Vista data (e.g., Regional Data Warehouse; Corporate Data Warehouse).



Best Practices

Below is a core sample of CPRS/Vista programming best practices from the National Clinical Reminder Dialog Workgroup and the Office of Human Factors Engineering:

✓ Narrow scope to addresses only what is needed

✓ Identify data items that need to be trackable before beginning development

- o Default to national health factors, ICD and CPT codes as appropriate

✓ Build template in smallest components possible to facilitate modification, if needed

✓ Make template and note output easy to read

- o Keep the wording short and concise

- o Avoid abbreviations that have not been previously spelled out

- o Express the same thing the same way for consistency

- o Minimize clicking and scrolling

- o Indent all template fields at least two spaces

- o Add trailing spaces to single line template fields

✓ Keep "like things" together

✓ Use clear visual breaks between different content areas

- o Blank lines

- o ****, —, etc.

✓ Box only larger reminder groups so as not to make the template look too busy

✓ Only show them items that need to be displayed (e.g. A primary care dialog for a male patient would not contain a breast exam)

✓ Label fields in reminder dialogs so they are easy to identify in error messages

✓ Use alternate progress note text that reads well and meets documentation requirements

Programmed in Vista

Programmed in CPRS

Known usability issues

* Not recommended, difficult to implement

** Standard text and no selection/nesting choices

*** Requires additional programming

Quick Reference for Design Components in CPRS/Vista

The introduction suggests at least a somewhat broader audience, though one that includes CACs.

The articulation of "Purpose" is clunky.

Question: Are there two uses of the word, tools, here? Tools as products and tools as feature of CPRS?

The Glossary is comprehensive. Not all terms will appear on the page.

Seems most are terms that a CAC would be familiar with, right?

Are we preparing this for CACs or a more general audience?

Propose not including a glossary but potentially defining in the text where they appear.

Introduction

This page contains excerpts from a Design Pattern Library, which was drafted by the Office of Human Factors Engineering (HFE) to

- 1) support an understanding of CPRS/Vista capabilities
- 2) provide an inventory of best practices for product design
- 3) illustrate use of CPRS/Vista components

The full document can be downloaded [here](#).





























