ClearVote 2.3

ClearAccess Build Procedures

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Document history

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Preface

This section defines the purpose of this document.

About this document

This document provides a procedure for building the ClearAccess accessible voting system.

Scope of this document

This document contains the following sections:

- Chapter 1. Setting up the build environment
- Chapter 2. Installing the third-party software
- Chapter 3. Installing the source code
- Chapter 4. Building ClearAccess

Intended audience

The document is for state and federal election officials and their voting system test laboratories as part of the Technical Data Package (TDP) required to certify the ClearVote system for use. Clear Ballot personnel also use this document to support election officials and staff.

References to ClearVote products

A ClearVote® system can comprise the ClearAccess®, ClearCast®, ClearCount®, and ClearDesign® products. Jurisdictions are not required to purchase all products. You can ignore references to any ClearVote products that are not part of your voting system. Also ignore implementation options that are not relevant to your policies and procedures.

Chapter 1. Setting up the build environment

To build the ClearAccess system, use a computer that runs the Microsoft Windows 10 operating system and is not connected to the Internet.

Perform a fresh installation of the operating system to set up the build environment.

Chapter 2. Downloading and installing the third-party software

This chapter describes how to download and install the third-party software.

2.1 Overview

The build computer for ClearAccess requires several third-party tools and libraries. The ClearAccess source includes the setup/build-setup and setup/static-setup directories. These two directories contain the files used to download and install the third-party tools and libraries.

The build computer for ClearAccess is not connected to the Internet. To download the third-party tools and libraries, connect a separate Windows computer to the Internet and follow the steps in "Downloading the third-party tools and Python libraries" and "Downloading the JavaScript libraries" below.

After downloading the third-party tools and libraries, you copy the tools and libraries to a USB drive. You then insert the USB drive into the build computer for ClearAccess when following the steps in "Installing the third-party tools and Python libraries" on the next page.

2.2 Downloading the third-party tools and Python libraries

Follow these steps on a computer that is connected to the Internet:

1. Make a directory to use as a working directory.

2. Copy the ClearAccess source setup/build-setup directory to the working directory.

3. Navigate to the build-setup directory.

4. Right-click **get_packages.ps1** and select **Run with PowerShell**.

   This step downloads all the files in python.list into the python-lib directories.

5. Copy the build-setup directory to a USB drive that you will use for the installation procedure.

2.3 Downloading the JavaScript libraries

Follow these steps on a computer that is connected to the Internet:

1. Copy the ClearAccess source setup/static-setup directory to the working directory that you created in the previous section.

2. Navigate to the static-setup directory.

3. Right-click the file **get_packages.ps1** and select **Run with PowerShell**.

    This step downloads all the files listed in static.list and then copies the files in the copy.list file to the 3rdParty directory.

4. Copy the 3rdParty directory to a USB drive that you will use for the installation procedure.

The 3rdParty directory will replace any 3rdParty directory in the ClearAccess source static directory during build setup.

2.4 Installing the third-party tools and Python libraries

The installation process includes the copying of the 3rd party tools and Python libraries to the build computer and then installing them.

1. Log in to the build computer.

2. Insert the USB drive containing the build-setup files created in "Downloading the third-party tools and Python libraries" on the previous page.

3. Copy the build-setup directory from the USB drive to the build computer.

4. Click the Windows icon in the status bar at the bottom of the screen, type **cmd**, and click **Command Prompt**.

    A Command Prompt window opens.

5. In the Command Prompt window, use the cd command to change to the build-setup directory.

6. Install the 3rd party tools and Python libraries by running the install_packages script in the Command Prompt window.

    a. When prompted to restart the computer at the end of the installation on Python 2.7.10, click **No**.

        This step allows the install_packages script to install the remainder of the libraries.

    b. After the install_packages script has completed, restart the build computer.

Chapter 3. Installing the source code

This chapter describes how to install the source code.

3.1 Overview

The source code for ClearAccess is all contained within a single directory structure.

The name of the directory is typically src-bmd. This directory contains the following listed in Table 3-1.

Table 3-1. Subdirectories of src-bmd

Subdirectory	Description
controllers	The python controller modules used by ClearAccess
models	The python model modules used by ClearAccess
utils	The python utility modules used by ClearAccess
templates	The HTML template modules used by ClearAccess
static	The static JavaScript, css, and image files used by ClearAccess and the third-party JavaScript libraries

3.2 Installation process

This installation process assumes the source is in a zip file that is on a USB drive.

To install the source code:

1. Log in to the build computer.

2. Create a sub-directory named ClearAccess in the user's Document directory.

3. Copy the source code from the USB drive to the ClearAccess directory.

4. Unzip the source code.

   That will create a new subdirectory named src-bmd.

3.3 Installing the JavaScript libraries

To install the JavaScript libraries:

1. Insert the USB drive containing the 3rdParty files that you previously created.

   See "Downloading the JavaScript libraries" on page 7.

2. Copy the 3rdParty directory from the USB drive to the source code 3rdParty directory (ClearAccess/src-bmd/static/3rdParty).

   This step replaces the 3rdParty directory in the source.

Chapter 4. Building ClearAccess

This chapter describes how to build ClearAccess.

4.1 Overview

The build process for ClearAccess must be done on a properly configured build computer. The process builds a distribution ClearAccess.exe file, which includes the ClearAccess code and all of the third-party libraries that are used by ClearAccess.

4.2 Build process

This section describes how to build the ClearAccess distributable on a ClearAccess build computer.

1. Log in to the build computer.

2. Change to the src-bmd subdirectory.

3. Double-click the build file.

   This will build the ClearAccess system and place the output in the dist subdirectory.

4. Change to the dist subdirectory.

5. Copy the ClearAccess-*x.x.x* Installer.exe file to the USB drive.

   The file ClearAccess-*x.x.x* Installer.exe is the distribution file. The value *x.x.x* is a placeholder for the version number.