ANSI/NIST-ITL 1-2011 Formatted Record and Field Extractor

User Guide

NIST/ITL CSD Software: ANSI/NIST-ITL 1-2011 Formatted Record and Field Extractor

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2 Overview

This document describes the features of the ANSI/NIST-ITL 1-2011 Formatted Record and Field Extractor software. This software was designed to extract biometric and non-biometric data from files that conform to the Traditional data format specified in ANSI/NIST-ITL 1-2011. The Traditional encoding format was not changed in Update 2013 of the ANSI/NIST-ITL 1-2011 standard; this tool should be able to extract fields and records from those files as well. However it has only been tested against files conforming to the ANSI/NIST-ITL 1-2011 standard. In addition to extracting data from ANSI/NIST-ITL Transactions, the software can display images (when possible) of the biometric sample. For this version of the software, this feature has been enabled for the embedded images within Records with image compression algorithms of PNG, JPEG, and BMP.

3 Relevant Standards

The following is a list of standards that are relevant to this tool. NIST Special Publication 500-290, ANSI/NIST-ITL 1-2011, November 2011, Information Technology: American National Standard for Information Systems - Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information

- NIST Special Publication 500-290 Rev1 (2013) ANSI/NIST-ITL 1-2011 Update: 2013 Information Technology: American National Standard for Information Systems Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information

4 Extractor Input Syntax

The Extractor software has several user input fields to specify what should be extracted (see Clause 5). Although the input fields will accept any input text, the software behind the user interface will perform some filtering on the input. All non-numeric and redundant text will be removed before any attempted extraction.

Some examples:

- Input of “1, 2 and 3” will be converted to the list [1, 2, 3]
- Input of “3 to 9” will be converted to the list [3, 9]
- Input of “abc2def8ghi1jkl2mno3” will be converted to the list [1, 2, 3, 8]

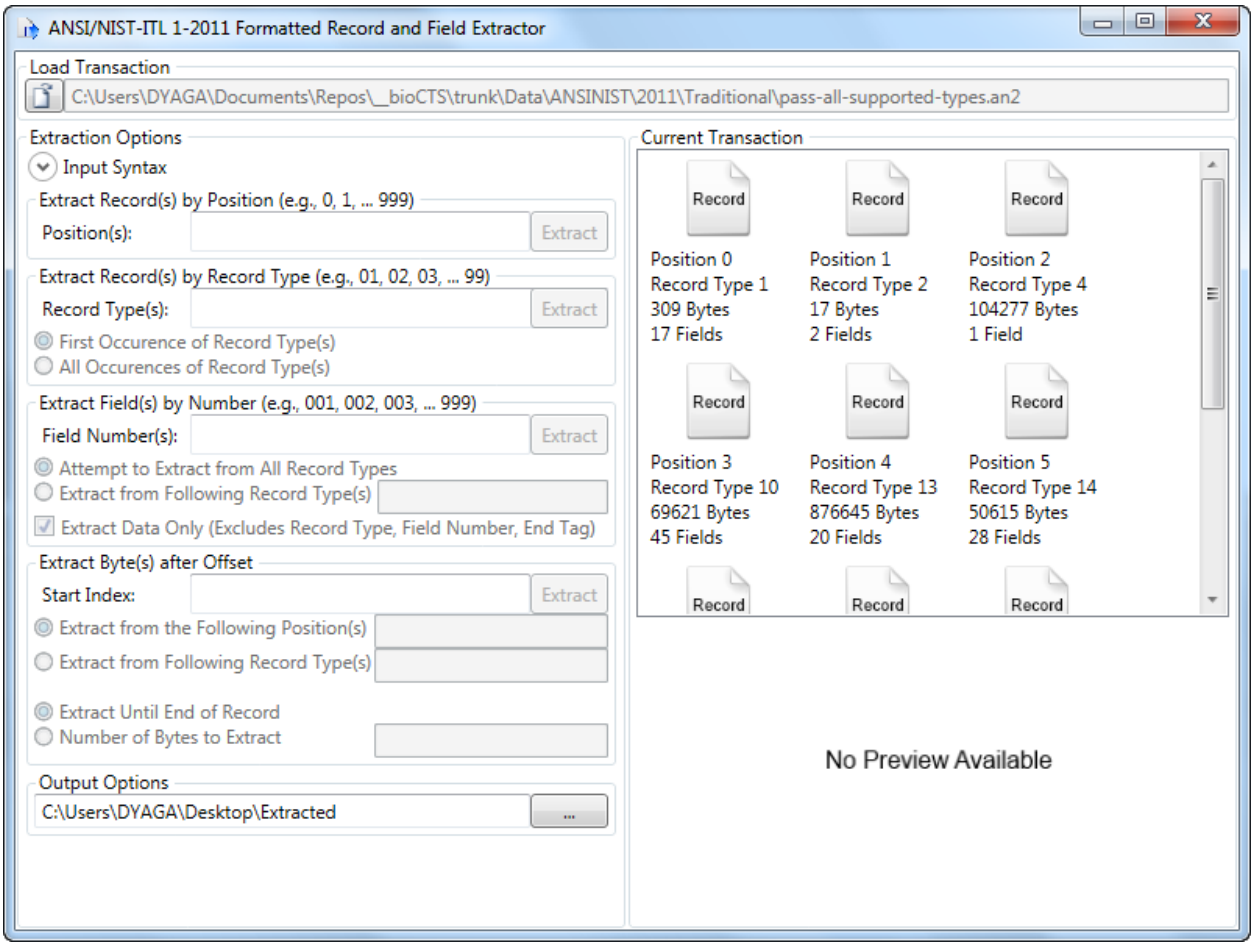
The only input fields that do not accept multiple values are under `Extract Byte(s) after Offset`: `Start Index`, and `Number of Bytes to Extract`. These input fields will still remove text, and convert to a unique list, but will only use the first value found as their input.

For example:

- Input of “1, 2, and 3” will use [1] as the input
- Input of “95, 2, 0 and 44” will use [95] as the input

5 Capabilities of the Software

There are several methods of extracting data from a Traditionally Encoded ANSI/NIST-ITL Transaction supported. The following sections will describe each of the methods supported.



5.1 Extract Record(s) by Position

A single ANSI/NIST-ITL Transaction may contain multiple Records. The Extractor software parses a Transaction and assigns each Record an index number, starting from 0, as they are read. For example, a Transaction with 5 Records will have indexes which range from 0 to 4.

Entire Records can be extracted with this method by specifying the position(s) of Records within the loaded Transaction.

5.2 Extract Record(s) by Record Type

A single ANSI/NIST-ITL Transaction may contain multiple Records of the same Record Type. The Extractor software parses a Transaction and can recognize the Record Types contained within. The Extractor software can extract the first occurrence, or all occurrences of a specified Record Type.

5.3 Extract Field(s) by Field Number

A Traditionally Encoded ANSI/NIST-ITL Transaction has both Binary Records and Tagged-Field Records. The nature of Tagged-Field Record Types allows the Extractor software to specify a specific field number to be extracted. For example, the Extractor software can extract every field 999 from a Transaction, which will extract biometric image data from the Transaction.

5.4 Extract Byte(s) after Offset

This extraction method was designed primarily for Binary Records, but can also work with Tagged-Field Records. This method can extract data starting at the specified index to the end of a Record, or a certain number of bytes. For example, the Extractor software can extract from Record Type 4, starting at byte index 18 until the end of the Record will extract the image data.

6 Additional Features of the Software

In addition to extracting data from ANSI/NIST-ITL Transactions, the software can display images (when possible) of the biometric sample. This feature has been enabled for the embedded images within Records with image compression algorithms of PNG, JPEG, and BMP.