Connecticut CT WiZ: Student Roster Upload Specification

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Change Log

The following table captures the progression of this document over time

Version	Date	Description	Author
1.0	11/15/2016	Initial Version of Document	Roy Miller
1.1	2/7/2017	Incorporated Steve Jarvis's matching suggestions for hyphenated names	Claire Murchie
1.2	2/10/2017	Removed add of patient record when no match is found	Claire Murchie
1.3	4/25/2017	Modified the input file based on feedback from Infinite Campus and PowerSchool.	Claire Murchie
1.4	4/28/2017	Additional updates after talking to CDPHE	Claire Murchie
1.5	5/15/2017	Modified document format	Nicole Dais
2.0	6/21/2017	Updated specifications/New screens	Nicole Dais
2.1	7/5/2017	Updated specifications/New screens	Nicole Dais
3.0	7/26/2017	Updated file format to .csv/Included new address changes	Nicole Dais
4.0	8/20/2018	Updated Data File Format table. Fields out of order.	Geoff Bednarsky
4.1	11/9/2018	Updated specifications for Connecticut	Beth Gamble

Overview

This interface enables Schools Districts/Schools to upload rosters of their students into CT WiZ. This document outlines the process, business rules, input file format and data types, and the file outputs for the Student Roster interface.

Significant Design Decisions

- To minimize the amount of manual intervention required for this process, the student roster files will be submitted via the CT WiZ user interface screens.
- Any person uploading a student roster file must be a CT WiZ user in the main CT WiZ application. They must be associated to at least one School/School District in CT WiZ and have access to the School Nurse reports category under the Reports module.
- Due to the potentially large number of records that may need to be processed, all extracts will be processed via scheduled jobs that run during off-peak hours (e.g., evenings and weekends).

Interface Specification

The following sections describe the process for Schools Districts/Schools to load student roster data into the CT WiZ Immunization Information System (IIS).

Preparing the Roster Data File

The School District/School office staff will generate an input data file that adheres to the format and definition defined below. Schools are responsible for identifying the specific records that will be sent to the CT WiZ.

Generating the Files

Any user uploading a data file will require a username and password to access CT WiZ. Each user account must be associated with the appropriate School District/School and must be given access to the Reports module and the *School Nurse* Report Category.

A new report called "Student Roster File Import" will be added to the *School Nurse* report category. Selecting this report will display a screen enabling the user to either upload a new school roster or search for previous uploads associated with the user's default School District/ School.

When creating a new upload, the following information will be required:

- School District/School – This will default to the user's default School District/School. This can be changed but only to school districts/schools the user is associated to.
- Upload File – The user will browse for the data file to submit. (Data files uploaded to CT WiZ will be stored within the CT WiZ database to adequately secure the data.)

Error! Reference source not found. describes the format that is used for sending data from a School District/School to CT WiZ.

- The file is comma (",") delimited text or csv file, and each student record should be on a new line.
- The file should not contain a header.
- Fields marked as required ***MUST*** have a value.

- Fields not marked as required can be left empty. However, it's important to account for the empty field to ensure any subsequent fields are still in the proper location in the file. Each record line should have 19 fields.
- Any file submitted to CT WiZ via this interface **MUST** comply with this format.
- The upload file must be in .txt or .csv format.
- Upload file name cannot be longer than 80 characters.
- Record count cannot exceed 50,000 students. Note: Limit can be modified by system parameter.

#	Data Field	Data Type (Max Length)	Required?	Conversion Note
1	Student ID	Character (50)	Y	Will be stored as the student ID for that School/School District in CT WiZ.
2	Student Last Name	Character (30)	Y	Used to match Student's Last Name field in CT WiZ. If the value is longer than 30 characters, the additional characters are truncated and a message is generated in the message log.
3	Student First Name	Character (25)	Y	Used to match Student's First Name field in CT WiZ. If the value is longer than 25 characters, the additional characters are truncated and a message is generated in the message log.
4	Student Middle Name	Character (25)	N	Used to match Student's Middle Name field in CT WiZ. If the value is longer than 25 characters, the additional characters are truncated and a message is generated in the message log.
5	Student Gender	Character (1)	Y	Loaded into the Student Gender field if NULL in CT WiZ.
6	Student Date of Birth	MM/DD/YYYY	Y	Used to match Student's Date of Birth field in CT WiZ. If this field is empty or does not contain a valid date, then a message is generated in the message log.
7	Student Address Line 1	Character (250)	N	Loaded into the Street Address field on the Demographics screen for the Students' physical and mailing addresses if NULL in CT WiZ or different than current address listed. This is the address where the student lives.
8	Student Address Line 2	Character (25)	N	Loaded into the Street Address field on the Demographics screen for the Students' physical and

#	Data Field	Data Type (Max Length)	Required?	Conversion Note
				mailing addresses if NULL in CT WiZ or different than current address listed. This is the address where the student lives.
9	Student City	Character (50)	N	Loaded into the City field on the Demographics screen for the Student's physical and mailing addresses if NULL in CT WiZ or different than current city listed. This is the address where the student lives.
10	Student State	Character (2)	N	Loaded into the State field on the Demographics screen for the student's physical and mailing addresses if NULL in CT WiZ or different than current state listed. This is the address where the student lives.
11	Student Zip Code	88888-XXXX	N	Loaded into the Zip Code field on the Demographics screen for the student's physical and mailing addresses if NULL in CT WiZ or different than current zip code listed. This is the address where the student lives.
12	Student Primary Phone Number	999-999-9999	N	This may be a cell, work, or home number. The number provided will be loaded into the student's Home Phone field on the Demographics screen in CT WiZ if NULL in CT WiZ and leveraged when needed to contact the student
13	Student School District	Character (50)	N	Loaded into the School District field on the Education screen for the Student in CT WiZ. If NULL, student enrollment will be added based on selected School District.
14	Student School / Child Care Name	Character (50)	N	Loaded into the School field on the Education screen for the Student in CT WiZ. If NULL, student enrollment will be added based on selected School.
15	Student Grade	Character (10)	N	Will be stored as the Grade on the Education screen for that

#	Data Field	Data Type (Max Length)	Required?	Conversion Note
				student as defined by the Grade level codes table.
16	Guardian's Last Name	Character (30)	N	Loaded into the Last Name field in the Patient Emergency Contacts table if not found in CT WiZ.
17	Guardian's First Name	Character (30)	N	Loaded into the First Name field in the Patient Emergency Contacts table if not found in CT WiZ.
18	Guardian's Legal Relationship to Student	Character (30)	N	Loaded into the Contact Relationship field in the Patient Emergency Contacts table if not found. Valid values as defined in the Emergency Contact codes table in CT WiZ.
19	Guardian's Emergency Contact Phone Number	999-999-9999	N	Loaded into the Emergency Phone number in the Patient Emergency Contacts table if not found in CT WiZ.

Table 1: Data File Format

Student Roster Import File

A user is only able to import files and view files for the School District/Schools to which they are associated with. The Student Roster Import File screen allows the user to import a new file and view previously imported files (processed and unprocessed). This screen can be found in the Reports module under the School Nurse category.

Buttons and Navigation

- **Add New Upload File.** Click this button to upload a new Student Roster file into the system.
- **Previous Criteria.** CT WiZ stores your search criteria after every search. Click this button to restore the criteria used during your last search. Please note that this function is still available even if you have logged out of the system – the next time you login, clicking this button will still display the criteria used to perform your last search.
- **Clear.** Clears any fields containing search criteria. This is a quick way to refresh your screen and begin a completely new search.
- **Search.** After entering your search criteria, click this button to perform the search.
- **Cancel.** Click this button to discard any changes and return to the previous screen.

Fields and Icons

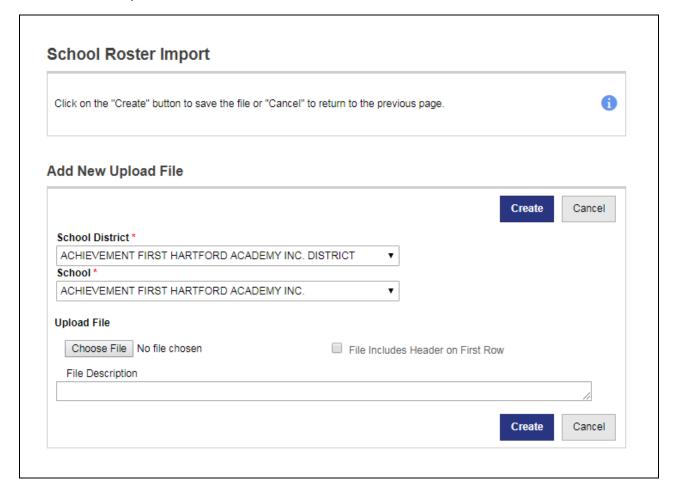- **School District.** The list of School Districts to which the user is associated with.
- **School.** The list of Schools associated to the School District to which the user is associated with.
- **File Uploaded Date Range.** Restrict results to only those files uploaded during this date range.
- **File Processed Date Range.** Restrict results to only those files processed during this date range.

- **Status.** Use this filter to restrict results by file processed status (processed/unprocessed).
- **Show only files with errors.** Check this box to include only files with errors in the results.

Processing the Request File

A user is only able to import files for the School District/Schools to which they are associated with. Navigate to the Import screen by clicking the 'Student Roster File Import' report category. Click on the Add New Upload File button. Select the School District/School if other than shown (for nurses associated with multiple School Districts and/or Schools). Choose the saved file from your computer, enter a file description if needed and click Create.

School Roster Import

Click on the "Create" button to save the file or "Cancel" to return to the previous page. ⓘ

Add New Upload File

Create   Cancel

School District *
ACHIEVEMENT FIRST HARTFORD ACADEMY INC. DISTRICT ▾
School *
ACHIEVEMENT FIRST HARTFORD ACADEMY INC. ▾

Upload File

Choose File | No file chosen   ☐ File Includes Header on First Row

File Description

Create   Cancel

Matching Students in CT WiZ will be based on the following criteria:

- Student First Name
- Student Last Name
- Student Date of Birth

1. CT WiZ will search for a record on the file where the first name, last name, middle initial and date of birth supplied match the first name, last name, middle initial (whether formal name, birth record name, or alias name) and date of birth in CT WiZ. All open and deleted records will be searched.
   a. If only one matching record is found based on the search criteria, CT WiZ will end the search and the record will be selected.

b. If last name contains a hyphen or space, perform the following additional tests to try to find a single match:
- Requested last name = CT WIZ last name replacing hyphen with a space
- Requested last name = CT WIZ last name removing any hyphens in the name
- Requested last name = CT WIZ last name replacing an embedded space with a hyphen
- CT WIZ last name and requested name are hyphenated names where one is the reverse of the other
  - Example Requested: "GARCIA MEDINA" = CT WIZ: "MEDINA-GARCIA"
- Requested last name having a space and where CT WIZ last name is hyphenated and is the reverse of requested last name with CT WiZ last name having the hyphen removed
  - Example Requested: "GARCIA MEDINA" = CT WIZ: "MEDINA GARCIA"
- CT WIZ last name is hyphenated and requested last name is one of the parts
  - Example Requested: "MEDINA" = CT WIZ: "GARCIA-MEDINA"
- Requested last name is hyphenated and CT WIZ last name is one of the parts
  - Example Requested: "GARCIA-MEDINA" = CT WIZ: "MEDINA"
- Complete CT WIZ last name is found in requested last name
  - Example Requested: "MEDINAGARCIA" = CT WIZ: "GARCIA"
- CT WIZ last name starts with the requested last name and the requested last name is 5 characters or longer
  - Example Requested: "GARCIA" = CT WIZ: "GARCIA-MEDINA"

c. No matching records are found, CT WiZ will end the search and create a record in the error file for later review.
d. If multiple matching records are found, CT WiZ will continue with step #2.

2. Once the set of potential matching records has been identified, CT WiZ will use the remaining fields in the message to attempt to further refine the set of matching records.
   a. Student Middle Name (match on the first initial)
      i. If reduced to zero matches, will skip middle name and match on gender.
      ii. If more than one potential match, will use full middle name to reduce number of matches to one.
         1. If reduced to zero matches, return to student middle initial search.
   b. Student Gender
      i. CT WiZ will refine the list of potential matches by removing any records where the student gender is not identified in CT WiZ or does not match the student gender provided.
         1. If the list has one record, CT WiZ will stop searching and record will be selected.
         2. If the list of remaining potential matching records is empty, CT WiZ will end the search and create a record in the output file for later review.
         3. If the list of remaining potential matching records has multiple records, CT WiZ will end the search and no student record will be added. These students will be added to the "Student not loaded into CT WiZ" list.
   c. Student ID:
      i. Including the Student ID as a unique identifier for each student will reduce the possibility of not finding a correct match.
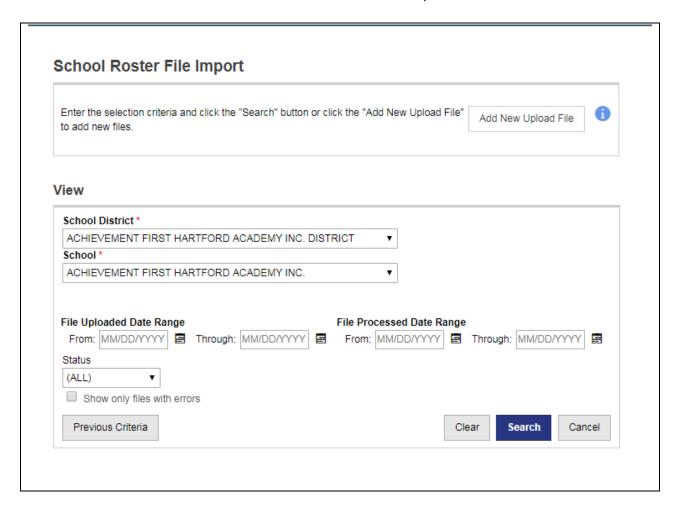
(NOTE: The above description is not intended to imply anything regarding the technical design of the queries used to locate matching records in CT WiZ. The goal is only to describe the general concept of how the searches will work.)

Once an existing record is found, CT WiZ will begin processing the remaining data in the record:
- If an existing record was found, a student enrollment will be processed.
- Any missing Patient Demographic information in CT WiZ will be updated by the provided school information as specified in Table 1.
  - Both physical and mailing address in Patient Demographics will be updated if different then the School provided information.

View File Imports

A user will only be able to view the files for the School/School District to which they are associated with. Navigate to the view screen by clicking the 'Student Roster File Import' report category. Enter the search criteria and click "Search" or click "Cancel" to return to the previous screen.

School Roster File Import

Enter the selection criteria and click the "Search" button or click the "Add New Upload File" to add new files.

[Add New Upload File]   ⓘ

View

School District *
ACHIEVEMENT FIRST HARTFORD ACADEMY INC. DISTRICT ▼
School *
ACHIEVEMENT FIRST HARTFORD ACADEMY INC. ▼

File Uploaded Date Range   **File Processed Date Range**
From: MM/DD/YYYY 🗒 Through: MM/DD/YYYY 🗒   From: MM/DD/YYYY 🗒 Through: MM/DD/YYYY 🗒
Status
(ALL) ▼
☐ Show only files with errors

[Previous Criteria]   [Clear] [**Search**] [Cancel]

Viewing File Import Search Results

The search results portion of this screen displays all queries/file imports that have been uploaded into the import staging table. If a file has been processed (overnight), the Date/Time Processed column will display the date and time of when the file was processed. The Processed Records, Total Errors and Total Warnings columns also have data appear after the file is processed representing the number of records.

School Roster File Import

Enter the selection criteria and click the "Search" button or click the "Add New Upload File" to add new files.

[Add New Upload File] ⓘ

View

School District *
SOUTH WINDSOR SCHOOL DISTRICT ▼

School *
ORCHARD HILL SCHOOL ▼

File Uploaded Date Range
From: MM/DD/YYYY 🗓 Through: MM/DD/YYYY 🗓

File Processed Date Range
From: MM/DD/YYYY 🗓 Through: MM/DD/YYYY 🗓

Status
(ALL) ▼

☐ Show only files with errors

[Previous Criteria]   [Clear] [Search] [Cancel]

Uploads

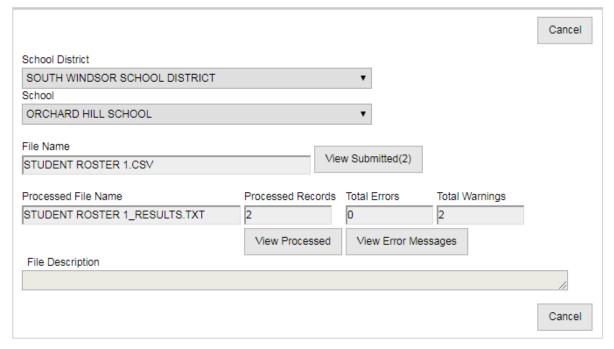| District	School	File Description	Filename	Date/Time Uploaded	Date/Time Processed	Processed Records	Total Errors	Total Warnings		
SOUTH WINDSOR SCHOOL DISTRICT	ORCHARD HILL SCHOOL		Student Roster 1.csv	11/8/2018 1:32:36 PM	11/9/2018 8:30:03 AM	2	0	2	❓	[View]

Reviewing the Results

The reports can be broken down into two files. The first file has all the students whose data was successfully loaded into CT WiZ. These are the students where a single match was found and there were no errors. The second file, if needed, shows all the students whose data was not successfully loaded into CT WiZ. These are the students where there are duplicates, format issues, missing data, no match to an existing patient, etc. This file also contains the warnings from the successful records.

School Roster Import

Click on the "Create" button to save the file or "Cancel" to return to the previous page.

Edit Upload File

Cancel

School District

SOUTH WINDSOR SCHOOL DISTRICT ▼

School

ORCHARD HILL SCHOOL ▼

File Name

STUDENT ROSTER 1.CSV   View Submitted(2)

Processed File Name	Processed Records	Total Errors	Total Warnings
STUDENT ROSTER 1_RESULTS.TXT	2	0	2

View Processed   View Error Messages

File Description

Cancel

Reviewing Error and Warning Messages

Table 2 contains a complete list of the possible error and warning messages for Incoming Data.

Incoming Data Error messages (Example)

Incoming Data	Message Type	Message Text (interpretive) * denotes the errors that will prohibit the file from being processed
School	ERROR	No Student Match Found
School	ERROR	Student is missing IZ Program
School	ERROR	School District Name does not match selected School District
School	ERROR	School Name does not match selected School
School	ERROR	Invalid Date of Birth - Please Verify: ' + @child_date_of_birth
School	ERROR	Missing Date of Birth
School	ERROR	Missing First Name
School	ERROR	Missing Last Name
School	ERROR	Missing Gender
School	ERROR	Gender does not match
School	ERROR	Missing Unique Student ID for School/School District
School	ERROR	Student has been deleted or opted-out
School	WARNING	Student ID does not match
School	WARNING	Illegal character. Removed "{illegal character}" from First Name - Please Verify: {resulting child_first_name}
School	WARNING	Illegal character. Removed "{illegal character}" from Last Name - Please Verify: {resulting child_last_name}
School	WARNING	Illegal character. Removed "{illegal character}" from Middle Name - Please Verify: {resulting child_middle_name}
School	WARNING	Illegal character. Removed "{illegal character}" from Mother First Name - Please Verify: {resulting mother_first_name}
School	WARNING	Illegal character. Removed "{illegal character}" from Mothers Maiden Name - Please Verify: {resulting mother_maiden_surname}
School	WARNING	Invalid Gender - Please Verify: ' + @child_gender

Incoming Data	Message Type	Message Text (interpretive) * denotes the errors that will prohibit the file from being processed
School	WARNING	First Name Truncated - Please Verify: ' + @child_first_name
School	WARNING	Middle Name Truncated - Please Verify: ' + @child_middle_name
School	WARNING	Last Name Truncated - Please Verify: ' + @child_last_name
School	WARNING	Invalid City - Please Verify: ' + @residence_city
School	WARNING	Invalid County - Please Verify: ' + @residence_county
School	WARNING	Invalid State - Please Verify: ' + @residence_state
School	WARNING	Invalid Zip Code - Please Verify: ' + @residence_zip_code
School	WARNING	Invalid Zip Code +4 - Please Verify: ' + @residence_zip_code
School	WARNING	Residence GIS address mapping could not be found - Please verify City/State/Zip: [' + @residence_city +'/'+ @residence_state +'/'+ @residence_zip_code+'] County: ['+isnull(@residence_county,'') +']'
School	WARNING	Invalid grade level – Please Verify: '+ @student_grade
School	WARNING	Invalid relationship type – Please Verify: '+ @contact_relationship

Table 2: Incoming Data Error Messages

Viewing Student Roster Report

Once the records have been processed, all successfully matched students will appear on the **Student Roster Report** for the appropriate School District/School. This report can be accessed from the School Nurse Reports Module.