First Step of La Porte
Aid Application & Payment Tracking System / DB

1. Introduction

Aid Applications were initially tracked using a Microsoft® (MS) Excel spreadsheet. As the number of clients grew, it became harder to find information in the spreadsheet, etc. Switching to a database (DB) solution offered multiple advantages:

- Multi-User: The database can be queried by one volunteer while another volunteer is entering new information. Likewise multiple operators can query the database simultaneously or enter data simultaneously.

- Controlled vocabulary: Church names and township names are restricted to a list of valid values to facilitate searching and reporting. Drop-down form controls are available for valid value selection. These controls also feature "Auto-completion".

- Data checking: A new address ZipCode and City are matched to a table of know valid combinations. The operator is warned if the combination is not in the table. Likewise, the operator is warned if an unlikely date is entered.

- Suggested values are also contained in drop-down form controls, like the Marital Status drop-down form control, but the operator is free to improvise.

- Multiple forms isolate the information of interest for viewing or editing (whereas a spreadsheet generally lumps all of the data together).

- Many reports are built into the system. For example, it is possible to generate a report containing all of the aid applications on file for anyone with a certain last name.

- Form and report data filters (such as the Date Range & Last Name filters) also help isolate the information of interest.

- Two input wizards help the operator add new Applications and new Relationships using multiple forms.

In this case, the database engine and the user friendly canned program are MS Access 2010 based so that they can run on Windows Vista if need be.   MS Access 2013 is out now and is apparently upward compatible with the 2010 style code. However, MS Access 2013 is NOT Vista compatible.

The "canned" program can be run using MS Access 2010 or 2013 (only the 32-bit version was tested). It will also operate using the FREE MS Access runtime system but then its functionality is limited to the "canned" functionality discussed below. In-other-words, the runtime versions of MS Access do not permit the operator to perform ad hoc operations such as designing and executing a custom query.   Only pre-programmed operations can be executed with the free runtime system.   (Note: Only the 2010, 32-bit, version of the Access runtime system has been tested.)

2. Installation

The canned application and the data are in two separate files to facilitate a multi-user configuration; FirstStepApp.accdb (the APPlication) & FirstStepDB.accdb (the DataBase). This way multiple Access applications (runtime or full Access install based) can share the same database (data set) in a single file / location.

Microsoft Access 2010 or 2013 does NOT need to be installed on the database PC (containing FirstStepDB.accdb). However a full version of Access should be installed somewhere to allow for ad hoc reporting etc.

To install the FREE runtime system on a PC without a full version of Access, go to http://www.microsoft.com/en-us/download/details.aspx?id=10910 and download the 2010 32-bit version of the runtime system then follow the Instructions. Then likewise, download and install the MS Access 2010 runtime Service Pack 1 (SP1) from http://www.microsoft.com/en-us/download/details.aspx?id=26601 to update the runtime files.

To install the First Step canned application for use with a runtime enabled PC, execute the WELLS Technical Services supplied setup file. This install is created using the MS Access File menu's "Package Solution" feature. The multiple files can be consolidated into a single executable using WinZip with the Self-Extractor option. The First Step install is NOT required for use with a full-blown MS Access installation (obtained separately or as part of a MS Office purchase). If MS Access is installed on the target PC, then one only needs to copy FirstStepApp.accdb to the target PC (and usually into C:\First Step\ to keep the First Step DB files together).

3. Configuration

The major configuration issue is the location of the shared data base file; FirstStepDB.accdb !   There is an option on the First Step Start form to indicate the use of a local DB file at C:\First Step\ FirstStepDB.accdb (as shown in the Start form's caption in the screen shot below). This option can be used for training purposes or for searching a database copy when the network is unavailable.

The network database location, for example \\FIRSTEP-HP\First Step\FirstStepDB.accdb, can be built into the system (using the Link Manager) when it is packaged for distribution. However, Double-Clicking on the First Step graphic on the Start screen will open a simple message box with three choices:
1. YES => Set the database NETWORK location for use on the First Step office LAN,
2. NO => Set the database NETWORK location for use on the WELLS Technical Services LAN, &
3. CANCEL => No Change.
Note: The database location will be saved and remain in effect despite a system restart (until changed again).

The other configuration issue is which version of the "Start" screen to display when the Access applications starts? The runtime version install file includes a "/x Start_RO" on the short-cut target line to launch the "Read Only" Start screen on startup. With this Start screen (Start_RO), only two buttons are available for searching the database via the Client & Address search forms. Changing the macro execution option to "x/ Start" will enable all of the "canned features" / buttons as shown below. Note the client search form does let the operator add or edit aliases, otherwise all Start_RO operations are read only (with one minor exception regarding Aliases).

4. Conventions

Since this application is MS Access based it uses MS Access forms. Multiple forms use the standard Access navigation controls which include a search box, filter toggle switch and record selectors.

In this DB application, white text boxes are for data entry whereas bluish text boxes are for feedback from the program. Some labels are used for feedback too. For example, date range restriction labels will appear on forms where the "Date Range" filter button exists when a restricted date range is specified.

The First Step Client DB system currently lacks a Help file. However "ControlTip Text" descriptions were programmed into most of the form controls including every button. To see a tip, hover the mouse cursor over the control of interest and a text message will appear after a second or two.

There are two multi-form wizards, one for New Application entry and one for New Relationship entry. Most of these forms have an "Enter" key. In multiple cases the "Enter" key is not required because the "Next" becomes enabled when sufficient information is entered. However, the Enter key gives the operator something to click on when they have finished entering the last piece of required data on a form but haven't left the field yet. Leaving the field for the optional comment field would enable the Next key but clicking the Enter key is more intuitive.

The Wizards were also designed to support backing up and changing entries then moving forward to complete the Application or Relationship entry.

5. Basic Functionality

The full "canned" First Step application opens with a "Start" form containing ten application buttons plus the "Exit Access" button and the "About" button. The ten buttons lead to a form or forms that facilitate DB searches, the addition of new information and the editing of existing information plus the many reporting options. The reports and most of the forms can be opened simultaneously to allow for side by side comparisons. However, the two wizards operate in "dialog mode" which does not allow the user to switch to a different form until the wizard is finished or closed (to avoid multi-form confusion). Filter forms also operate in dialog mode.

The date range selection form can be launched from three forms; the "Application Reports" form, the "Client Search form" and the "Application Edit" form. All three forms clear the date range filter when they open which turns off any date range filtering on the other two forms (if they are already open). However, if the forms are all open and the operator sets the date from one form, it will be applied to the other open forms too (as shown by the date range feedback labels). So, if you want to use the same date range on more than one form, open them up, and then apply the date range to one so it will automatically apply to the others too.

It is important to understand that there are three kinds of human names in the system; Client Names, Application Names, and Alias Names. Relationships can be entered by linking together two different clients. In general, client entries are for whom the application was filled-out and for people related to them in some way. An applicant name is whoever filled out the application. The applicant name is usually the client's name but the applicant name can be an alias or someone else such as a relative or township trustee. Applicants, such as a township trustee, do not need to be entered as clients unless a relationship needs to be entered. Alias names are simply different names for the same client entered for client search purposes. For example, the official client name may be a women's married name and the alias her maiden name.

Ideally, the same client will be assigned to each application for that client despite any name changes / aliases (to facilitate reporting by client). However, the client search form will search for a given last and/or first name in all three kinds of name fields plus in the relationship names too.

5.1. Searching & Aliases

A "Client Search" and "Address Search" button / form are available for searching the DB by name (Last and/or First) or by Address (Indiana / USA is assumed / ignored but other address fields are searchable / filterable).

The Client Search form features an "Add Alias" button that becomes enabled once a single client of interest is found. The button pops-up the "Alias Info" form which can be used for viewing or editing any existing aliases for the client of interest and/or adding one or more additional Aliases. The "Alias Info" form can also be used to delete alias records too (but there should be little need to delete aliases).

The client search form will search for all three kinds of names including those linked together by the Relationship entries. However, relationships do not impact the Client Search statistics or details output.

5.2. Applications

Two aid application related buttons are available for entering a New Application or Editing or Adding to an existing Application as it goes through the approval process. The New Application Wizard button takes the operator through four forms to:

1. Select an existing client OR enter a new Client as the primary client for this application.
2. Specify that the Applicant is the primary client (the typical case) OR enter an Applicant's name if different than the existing Client's name (and optionally add the Applicant as a client so that a relationship can be entered.). This Form also lets one start adding comments to the Application Comment Field.
3. Select an existing address OR enter a new Address of Interest, and
4. Enter the currently available remaining application information (that has been "computerized").

Note: If the applicant is known to be associated with an existing client, then they can be "connected" (linked) in this database system at data entry time. This will make it easier to locate the application in the future because the "Client Search" form will search by first and/or last names in both the Application table and the Client table. In most cases, the client and the applicant will be the same.

The "Application Edit" form includes two buttons for switching the Client or Address to a different or new entry. The form will also let the operator edit an address directly on the form if it is used by only a single client. It is also possible to delete an Application via the "Delete" button (without deleting the related Client or Address record). The operator will be prompted for a Yes or No before the deletion is actually made.

5.3. Client & Address Edit plus Client Addition

The program includes both Client and Address edit buttons. New Clients and/or Addresses are usually entered via the four forms "New Application Wizard". However, there is also a "Client Addition" button that can be used to enter "related clients" who do not have their own application. The four forms New Application Wizard makes it relatively easy to link applications to existing clients and/or addresses and to only add New Clients and/or New Addresses if needed.

Both the client and address edit forms have a Delete button. However MS Access will not let the operator delete a client or address that is in use by an Application.

5.4. Relationships

Relationships can be entered between any two Clients to facilitate searches for related applications. (An applicant name has to also be entered as a client before a relationship with another client can be entered.)

Two relationship related buttons are available for entering a New Relationship or editing or deleting an existing relationship. The New Relationship Wizard button takes the operator through a three form process to:

1. Pick Client ONE
2. Pick Client TWO
3. Enter the relationship Comment

Note: The system does not currently prevent a relationship from being entered twice if client one & two are switched.

6. Reports

The reports available via the two search forms were for the most part intended for viewing, not printing. However, the Applications of Interest report was formatted to fit on 8 ½ by 11" standard paper in landscape mode.

Most of the available reports are launched via the "Application Report" form. As shown below, the "Application Reports" form includes three output options and an optional Date Range filter button that applies to all of the available reports.

Clicking on a report button will send the report of interest directly to the default printer if the "Print" option is selected. Otherwise, in Screen or Print Preview mode, the report is sent to the screen via a report form. Screen mode and Print Preview mode look similar but print preview mode includes page breaks with page numbering and headers on each page whereas screen mode output can look like one very long page.

The three Export options / button build a query based on the current date range and simply open the query for "normal Access" data-grid / spreadsheet style viewing. The data of interest can then be easily selected and copied into Excel for a custom report.

The other seven report options / buttons on the "Application Report" form generate nearly identical reports based on differing "Application Status" content. Most of the reports are sorted in descending order based on the last name and secondarily based on the first name. The exception is the "Paid Sorted by Paid Date" report.

The "Other" option generates a report containing data were the Application Status is not "Paid", "Denied", "Incomplete", "Pending" or "Hold". Currently that means "MAW" (Meet Another Way) and "To Pay" (Waiting to be paid). These codes are relatively rare partly because the "To Pay" codes eventually become "Paid".
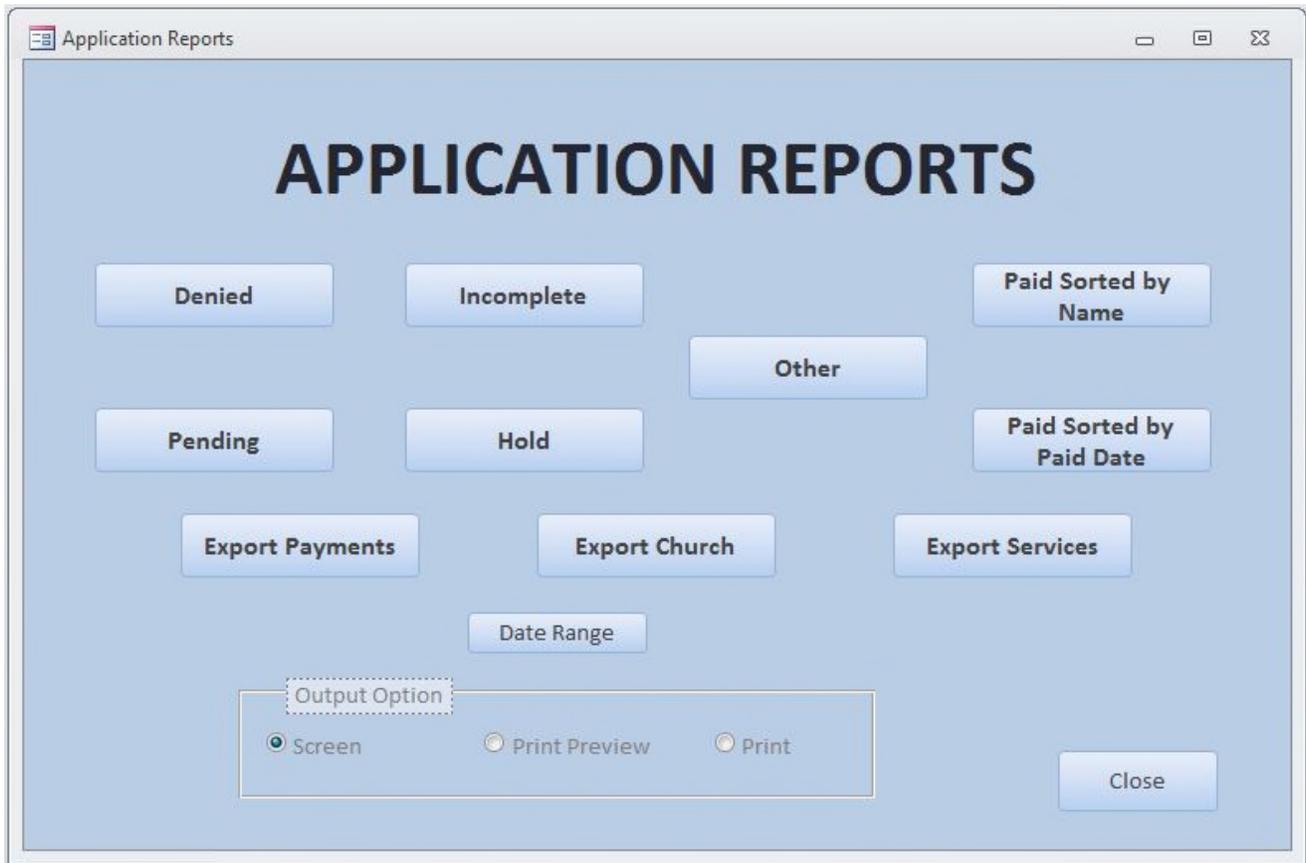
7. Data Structure

The following diagram shows all FIVE of the data tables and how they relate to each other. (Note; Tables Clients and Clients_1 represent the same DB table shown as two tables in order to show the double relationship.) There are also four simple valid value data tables. Referential integrity is enforced. Cascade update and cascade delete is turned off for all five relationships.
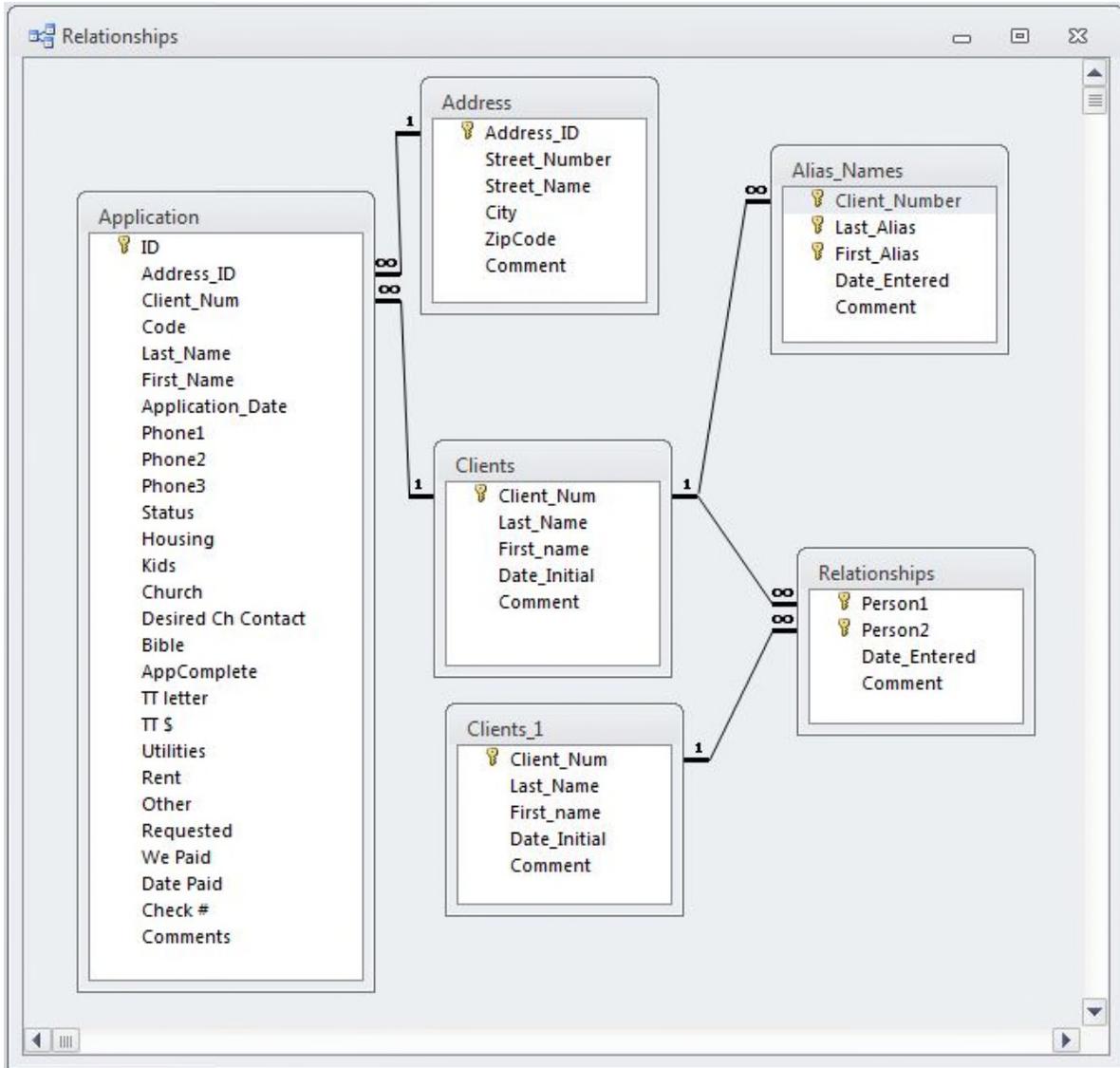
The following table lists each data field by each table name in alphabetic order.

					Field Information	
Table Name	Field Name	Field Type	Field Length	Field Order	Field Description	

Table Name	Field Name	Field Type	Field Length	Field Order	Field Description
Address	Address_ID	Long	4	1	Unique Identificaion Number (not to be confused with the Street Number)
Address	Street_Number	Text	12	2	Street NUMBER AS TEXT to allow for xxxxA & xxxxB for example
Address	Street_Name	Text	50	3	Street Name (Hopefully consistent)
Address	City	Text	50	4	The STATE of INDIANA is always assumed
Address	ZipCode	Long	4	5	Just the first 5 digits

Table Information					
					Field Information
Table Name	**Field Name**	**Field Type**	**Field Length**	**Field Order**	**Field Description**
Address	Comment	Text	255	6	Comment about the address (not the client or application)
Alias_Names	Client_Number	Long	4	1	Valid Client Number
Alias_Names	Last_Alias	Text	50	2	Alias Last Name
Alias_Names	First_Alias	Text	30	3	Alias First Name
Alias_Names	Date_Entered	Date	8	4	Date Entered
Alias_Names	Comment	Text	255	5	Comment about the Alias
Application	ID	Long	4	1	Unique Identificaion Number
Application	Address_ID	Long	4	2	Valid Address Number
Application	Client_Num	Long	4	3	Valid Client Number
Application	Code	Text	10	4	Workflow Status / Classification
Application	Last_Name	Text	255	5	Last Name used for this application
Application	First_Name	Text	255	6	First Name used for this application
Application	Application_Date	Date	8	7	Date that the applicant filled out the hard copy form
Application	Phone1	Text	255	8	Primary Phone Number
Application	Phone2	Text	255	9	Secondary Phone Number
Application	Phone3	Text	255	10	Secondary Phone Number
Application	Status	Text	6	11	Marital Status (D = Divorced, W=Widows, S=Seperated, Etc.)
Application	Housing	Text	10	12	Housing Status (Own, Rent, R-S, Etc.)
Application	Kids	Text	5	13	Usually a number or null ....
Application	Church	Text	255	14	See the CHURCHs table
Application	Desired Ch Contact	Text	255	15	See the CHURCHs table (and Yes, No, Maybe & ?)
Application	Bible	Text	255	16	Do they have a bible?
Application	AppComplete	Boolean	1	17	Application Completed, Yes or No
Application	TT letter	Text	255	18	Township Entry indicates that we have a trustee letter
Application	TT $	Text	255	19	Township Payment, if any or Denied, etc. ....
Application	Utilities	Text	255	20	Need as money (usually)
Application	Rent	Text	255	21	Need as money (usually)
Application	Other	Text	255	22	Need as money (usually)
Application	Requested	Currency	8	23	Amount requested
Application	We Paid	Currency	8	24	Amount First Step paid
Application	Date Paid	Date	8	25	Date First Step paid
Application	Check #	Text	255	26	Sometimes two check numbers
Application	Comments	Text	255	27	Comment about the Application
Churches	Church	Text	30	1	Valid Church Names (Controlled Vocabulary)

Field Information					
Table Name	**Field Name**	**Field Type**	**Field Length**	**Field Order**	**Field Description**
Clients	Client_Num	Long	4	1	Unique Client Number
Clients	Last_Name	Text	50	2	"Official" Last Name (May have aliases)
Clients	First_name	Text	30	3	"Official" First Name
Clients	Date_Initial	Date	8	4	Date that the client name is entered (usually the same as the first application date)
Clients	Comment	Text	255	5	Comment about the Client
Codes	Code	Text	255	1	Application status code
Codes	Description	Text	50	2	Status code description
Relationships	Person1	Long	4	1	Valid Client Number
Relationships	Person2	Long	4	2	Valid Client Number
Relationships	Date_Entered	Date	8	3	Date relationship entered
Relationships	Comment	Text	255	4	Comment about the relationship
Townships	Township	Text	15	1	Valid (LaPorte County) townships
Valid ZipCodes and Cities	City	Text	50	1	Post Office location (City, Town or Village)
Valid ZipCodes and Cities	ZipCode	Long	4	2	Post Office Zip Code

8. Using Access for infrequent tasks

8.1. Adding to a valid value table

Open the tables using Access and append or edit in the usual Access manner.

- Churches

- Townships

- Valid ZipCodes and Cities

- Codes (Process Stage Codes)

8.2. Data Checking Queries

There are currently useful data checking queries in FirstStepDB.accdb such as "Cliient vs Applicant Name differ" which can be used to spot typos.

8.3. Export Queries

MS Access (not the runtime version First Step application) is capable of exporting query results to Microsoft Excel (or a text file, XML file, PDF or XPS file or even to an e-mail message). Multiple "select" queries are included in the application file; FirstStepApp.accdb. Select query content can be exported to Excel for custom reporting.

For example, query "Application Edit" can be used to send all of the Application data, including related Client and Address data, to Excel. Likewise, all of the Relationship data can be sent to Excel via the Relationship Info query. However, it is best to make a copy of the query of interest before any modifications are made because some queries are used by reports and "bound" forms. Queries with a "_Export" prefix are not used by the canned application and can be safely modified.

9. Trouble Shooting

If the client PC is unable to "see" (list) the FirstStepDB.accdb in Windows Explorer because of a network security issue, then there is no way that the Access application will be able to access the shared dataset in FirstStepDB.accdb. Therefore, if the application (FirstStepApp.accdr or FirstStepApp.accdb or FirstStepApp.accde) cannot access the dataset and the Configuration was set correctly (as described above), then check for database (DB) server access with Windows Explorer to make sure that the local area network (LAN) is working well.

10. References

10.1.   First Step Web-Site

http://www.firststepoflaporte.org/

10.2.   WELLS Technical Web-Site

http://www.WellsTechnical.com

10.3.   Microsoft Access

http://office.microsoft.com/en-us/access/

11. History

11.1.   Version 1.00 dated 6-22-2012

Application tracking with Excel was abandoned in April of 2013. Instead beta versions of the Application Tracking system were used into June. Frequent modifications and additions (plus some fixes) were made based on input from the office managers over a roughly seven week period. By 6/22/2013 the application had matured enough to be deemed Version 1.00.

11.2.   Version 1.01 dated 7-10-2013

The "Code Description" field has been added to the "Export Services" output "Report" option. Note: the application table "We Paid" field is now a currency field instead of text field (as of July 4th) but no changes needed to be made to the First Step App to accommodate this change. Now the "We Paid" field will only accept numbers.

11.3.   Version 1.02 dated 8-16-2013

The "Denied" Report was unable to display an August date without having the report template field length increased. The other Access report templates were checked for date field length and a few increased. The Date Filter form was also modified to optionally generate different date ranges. Instead of two and five year date range options, the form now offers convenient 7 day, 30 day & last quarter (90 day) date range generation options in addition to the one year (365 day) date range option. Date ranges can still be specified "manually".

11.4.   Version 1.03 dated 10-31-2013

The Application Statistics report also had its date field length increased to accommodate longer date information. The Relationship Edit (& search) form had the client comment fields reversed. Now both client comments are listed under the appropriate client's name.

11.5. Version 1.10 dated 2-17-2014

The version number was upped to # 1.10 (from # 1.05) because of new functionality (and not just minor tweaks). This update also includes an improved Read-Only mode, a SQL fix (regarding the "Relationships of Interest Report") and the ability to turn filtering off has been disabled on the old form and the new form that require filtering (Alias Info and Comments, respectively).

The most obvious change to the First Step volunteer operator is the new "Comments" button on the "Client Search" form. This button becomes enabled once a client search has found a single client. (In Read Only mode, the button only becomes enabled if there are one or more comments available for viewing because it is not possible to add comments in Read Only mode.)

Comment fields are available for data entry in the Client, Address, Relationships and Application tables (and their related forms). The new "Comments" feature gives First Step the ability to track calls or visits versus time that are not associated with a new client or application. For example, some clients will visit multiple times before they are eligible to enter a new applications. The new Comments form (and the Comments table that it is connected to) enable First Step to track these non-application related visits.

11.6. Version 1.20 dated 3-30-2014

A FEMA (Federal Emergency Management Agency) application code has been added to the system because First Step is now screening applications for FEMA assistance (via the Salvation Army). A new FEMA report option has been added to the system and FEMA applications are no longer included in the "Other" application codes report.