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Open Accounting

Version 1.9

User Manual

Welcome

About Open Accounting

Open Accounting is a time and expense billing system suitable for most professional practices that do not maintain an inventory. The software can handle Accounts for multiple customers, called Contacts, doing business with multiple companies, called Organizations. Note that an account is a unique combination of an organization and a contact, so the same person can be billed by two different companies.

This version of Open Accounting is deployed as a Microsoft® Access database. Two builds are available: one for Access 97 and another for Access 2000. Development is performed in Access 2003 with an Access 2000 format file.

The program can use the Jet database built into Access or any ODBC compliant database server. SQL code for defining and initially populating tables on the server are included in the distribution.

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Although the software is free, we do charge for consulting, customization, and support services. We are able to provide these services via email and telephone, or in person if transportation expenses are reimbursed. Please visit our web site for details.

About This Manual

This document is not comprehensive. Instead it contains the absolute minimum information needed to assist a person skilled in Microsoft Access to install, configure, and run the accounting system. Technical details for creating an ODBC back end database are included in an appendix.

Note when a word is capitalized mid-sentence, for example Transactions, there is an object in the database, such as a form, macro, or report, with that name. Words that look similar but are not capitalized, such as transaction, refer to an object instance or a database record instead.

The Future

We realize that Open Accounting is not truly open: it requires Microsoft Access to run, a considerable expense. However this is only the beginning. In the future, we plan to port Open Accounting to some system that can run on Apple®, Linux®, and Windows® computers without run-time fees.

Legal Information

General

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Retention of Rights

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Trade and Service Marks

The term “Open Accounting” is not registered with the US Patent and Trademark Office. Our date of first use is February 9, 2006. We try to acknowledge the first use of registered trade marks with the ® symbol throughout this document. We do not acknowledge any other trade or service mark.

No Warranty

Open Accounting is provided as is without warranty, including any warranty of merchantability or fitness for a particular purpose. Use Open Accounting entirely at your own risk.

Features and Limitations

Before spending a whole lot of time and effort playing with Open Accounting (or paying for services), it might be prudent to review its known features and limitations.

Candidate Organizations

Open Accounting is well suited for use by professionals in private practice that bill for time and expenses. Examples include consultants, educational diagnosticians, and lawyers. It is not suited for those needing specialized reporting, such as in a medical practice, or inventory management, such as in retail sales. The retainer billing feature can also be used by non-profit organizations needing to track member pledges.

Features

- **Expense, Job, Retainer, and Time Billing:** forms are included to bill for time by the hour, flat rate job labor, and expenses. In addition, retainers at any period, say monthly, can be accommodated.
- **Account Statements:** reports can be generated for one account or all accounts in an organization at any time. The statements are “live,” meaning any database change is reflected when a statement is printed.
- **Receivables Management:** reports showing current balance and annual payment history for all accounts are provided. These reports can be run per contact or organization. A report showing only outstanding balances may be run at any time.
- **Automated Payment Processing:** when payments are entered, the system can automatically credit against transactions in priority order. Short and long payment exceptions are tracked.
- **Administration:** forms providing direct access to the most common database tables are included.

Limitations

- **Built on Access:** the system requires that Microsoft Access be installed prior to use. Thus Open Accounting cannot be used on Linux computers. It has not been tested on Office X for Apple.
- **No Inventory:** although expenses can be billed, there is no reliable way of tracking inventory levels or accounting for any difference between wholesale and retail pricing.
- **Limited Reporting:** the system provides comprehensive but limited reporting. Although Open Accounting is suitable for billing, many organizations will not find it suitable for other accounting purposes, such as tax accounting.

Data Model

This section describes the relational data model of the shared tables used in Open Accounting. Understanding this model can be an aid in the customization, installation, and maintenance of the system.

Story Description

Open Accounting allows billing of job time and expenses to various Accounts. Each account is uniquely identified by two data items: a link to Organizations and a link to Contacts. So the system can bill for more than one company (although only one is active at any given time) and one person can be a customer of multiple companies.

Organizations contain identifying information about the billing entity: company name, slogan, street address, and so on. Each organization has a unique identifier of one to four characters. This means abbreviations, such as LBG, can be used as identifiers.

Contacts also contain identifying information. There is at least one person assigned to a contact, and there may be more than one. Contacts have priorities and roles. Assignment of names to these is arbitrary, however the application enforces relational integrity to the Priorities and Roles tables.

There are two types of Transactions: billings and payments, or more precisely billings and not billings. Transactions are always made against an account. There is no attempt to normalize Transactions: each record has space for all of the information necessary to be either a billing or a payment.

Transactions reference Categories and Types. A category is the reason for a transaction: a category helps us understand why something is billed or paid. Sample Categories include consulting, service calls, webmastering, retainers, general expenses, hardware, and software.

Types apply only payments. In fact the type "Billing" is reserved for, surprise, Transactions that are in fact billings. No payment (non-billing transaction) may have the billing type, which is a "magic number" as explained below. Types are payment vehicles like cash, checks, and credits applied to the account.

Magic Numbers

There are several "magic numbers" in the system: the billing type and the boundary between goods and services. There is a third magic number, the boundary between payments and credits, but it turns out to be the same number as the other boundary. There is one system reserved magic number. And even though it is a string, the word "Reconcile" is a reserved deposit number.

Billing Type of 100

As mentioned earlier, all Transactions that are billings have the same type. This is the integer value 100. Application code depends on this type always being 100, but it can be named something besides Billing.

Payment Category of 100

Transactions that are payments may have the same type—or not, depending on the configuration. If detailed payment processing is on, payments have the same category as the corresponding transaction. If this feature is off, all payments have a category of 100. See the paragraph on Detailed Payment Processing in the Operation section for more details.

Boundary of 10,000

There are two basic Categories: expenses and service. Expenses are reimbursements, but services represent gross revenue. The boundary between both is 10,000, with Categories less than 10,000 considered expenses and 10,000 or more considered services. Note that one service exactly equals 10,000: Retainer.

Something else about Categories: detailed payment processing is applied in priority order based on the numerical value of the category's ID, or primary database key. Lower numbers receive consideration first. So the list as shipped starts with penalty fees, such as late fees, followed by expenses, followed by services.

A similar scheme is used to classify Types: values less than 10,000 represent payments received from customers: cash, checks, and so on. Values 10,000 and over are considered credits applied by management in lieu of payments to balance an account. Examples include warranty service credits. Unlike Categories, the boundary value of 10,000 does not represent anything special.

System Reserved Undefined Value

The “magic number” zero represents an undefined, system reserved value. For example no transaction should have a category or type of zero. The system checks for improper use of zero in some (but not all) cases.

System Reserved Deposit Number of “Reconcile”

When posting payments, one can choose to record a deposit number immediately or at a later time, perhaps after the deposit has been made at the bank. The system uses the deposit number “Reconcile” for post-deposit reconciliation. Do not use a deposit number of “Reconcile” for any other purpose.

Installation and Configuration

Overview

Prior to deploying Open Accounting, one must install the database and populate some tables. This section describes these prerequisite tasks. Then one can use the automated forms to post billings and payments.

Note to International Users

Open Accounting uses the double type for all numeric calculations. Thus it has no idea what a dollar is, or a Euro for that matter. All Transactions for a given organization must be in the same currency. But it's possible to create multiple Organizations to service Contacts in different currency systems.

The indexes between tables are thirty-two bit integers. One can, for example, change the type name "Cash" to "Geld" and the system will still work as long as the associated ID, 200 by default, does not change. Unfortunately this change impacts all Organizations in the system.

Installation

Database Files

Open Accounting is distributed in two files. One file, called openAccountingTables###-###.mdb, contains the tables themselves. The other, called openAccounting###-###.mdb, contains code, forms, macros, queries, and reports.

The application is linked to the tables. Unfortunately since Access stores absolute and not relative path names, this link must be adapted to every single installation. In Access 2000 and above, it's possible to use the link table manager for this task. In Access 97, however, one must relink the tables.

Which tables need to be relinked? Those with single word names such as Accounts, Categories, and so on. Leave tables with multiple word names, such as CurrentSession, alone. In the Tables view, first delete the links. Then use Link Tables under Get External Data in the File menu to open the openAccountingTables###-###.mdb file, click the Select All button, and then OK.

Database Server

If desired, an ODBC compatible database server can host the shared database tables, again those with single word names. We provide scripts written in SQL to create and initially populate the required tables. These scripts were tested in MySQL® and may need modification to work with other brands of database servers.

Configuration

After installation, it's necessary to populate the Accounts, Contacts, and Organizations tables. When shipped, Organizations contains a bogus company. Accounts and Contacts are empty. Tables used for relational integrity are populated, but one may change them if desired.

Forms for editing existing rows in configuration tables are provided under the Administration menu. New rows must be manually inserted, however: refer to the Data Model section for information about setting values for primary keys. After changing any data item in a configuration table, either close and open the database or use the Change Organization button on the main menu to propagate the update.

Organizations

Start Open Accounting without configuration and you'll be using a company named CHANGE ORGANIZATION TABLE!!! with an identifier of FAKE. So the first order of business is modify this table. There is an editor provided under Administration for just this purpose. The required changes should be obvious, except for the slogan column: this is just a tag line printed on the account statements. Once the Organizations table has been updated, use the Change Organization button on the Main menu to log in again.

The Organizations table can have multiple records for tracking different companies or people. For example, a professional association could use one record in this table for each practitioner to allow tracking by care provider. Or each record could represent a separate corporation. Or an accountant could use one record per client. Organizations are groups of related accounts, and Transactions are posted to one organization at a time.

The DetailedBilling column in the Organizations table determines if payments are matched to transactions or not. Some customers may be confused by detailed billing. However internal auditing may be eased with this feature enabled.

By the way, there is nothing that keeps one from using the FAKE organization. Or creating an organization called DEMO. It's perfectly OK to create bogus Organizations, Contacts, and Accounts for demonstration, training, or other purposes.

The PostYear field allows one to set the fiscal year for posting transactions. This field is read at program start-up and sets a global default for all forms.

Contacts

There are two ways to populate the contacts table:

- Type in contact information one at a time, or
- Import this information from another database, such as the Palm Desktop.

Actually Access can import data from Excel spreadsheets, and some programs can export Access tables. But there is one problem with importing data from another program: the priority and role fields are required in Open Accounting, but there may be no corresponding data in the other program.

There are two potential solutions. In the Contacts database table definition, either a) set the required property for both of these columns to No or b) set the default value property to a value appropriate for most contacts, then manually edit the exceptions.

Also please note the Zip code field is digits only.

Accounts

Unfortunately it's probably going to be near impossible to import data for this table from another program. But fortunately it takes about ten seconds to populate each record.

Recall from our data model discussion that each record in the Accounts table has a link to both the Organizations and Contacts tables. The data entry form for Accounts present these as drop downs. Of the remaining fields, the hourly rate is used for time billing and it can be different for each account. Also the monthly retainer field is used whenever retainer postings are processed.

Note that even though the field is called monthly retainer, it can be a weekly, quarterly, or annual retainer. You can run retainer postings at any time. The only catch is the posting is done for all accounts with a positive retainer amount at the same time.

The credit limit field is not used by the software in this version. The initial balance field is used to carry over an account from a different system: a positive balance represents an unpaid balance and a negative number indicates the account is overpaid.

Statement Envelopes

We have formatted the Statement Envelopes report to use Letter size paper. Margins are set such that if a COM 10 envelope is loaded, it should format and print correctly. However not all printers load envelopes the same way. It may be necessary to swap the left and right margins depending on the printer model.

To determine if this step is necessary, print one COM 10 envelope. If the return address does not print correctly but the destination address does, swap these two margins and try again.

Fiscal Year Considerations

The software as shipped considers the calendar and fiscal year to be the same: January 1 to December 31 of the current PostYear column in the Organizations table. Some institutions, for example schools, may wish to use a disjoint fiscal year: for example, a school's fiscal year 2007 may start on August 1, 2007 and end on July 31, 2008.

One report, Account History, keys off this PostDate field. To make an adjustment for a disjoint fiscal year, the Visual Basic functions computeStartDate and computeCutoffDate in the Globals module must be modified to compute the appropriate start and stop dates for this report.

Operation

This section of the manual is rather thin. We assume that if a menu appears with the buttons labeled Billing, Payments, Reporting, Administration, and Change Organization, most people can follow along. We will, however, discuss some of the automated processing that happens behind the scenes.

Also, don't hesitate to create a bogus organization for demonstration and training purposes. Use this organization to create practice Contacts, Accounts, and Transactions.

A Word of Warning

There are two types of notes in Open Accounting: public and private. Transaction notes are public, meaning they appear on account statements. Notes associated with records in the Accounts, Contacts, or Organization tables, however, are private: they do not appear on customer statements.

As a general rule, never type anything in a transaction note that is not for publication. Although it is possible to create a payment transaction with a category of Admin Credit and a note of "Applied to account in lieu of cash for sexual favors received," that generally is not an acceptable practice. Except perhaps for transactions posted on April 1.

Data Entry Conventions

Open Accounting follows some data entry conventions:

- Pressing the tab key while in a field updates that field and puts the cursor in the next field.
- Typing in a drop down field narrows the selection list. For example, typing "D" starts the selection list at the first last name starting with "D." Usually typing the first four letters of a person's last name will find the appropriate contact.
- Standard Access record selection and navigation features are sometimes used. When a pencil icon appears in a record selector, the record is being edited. Clicking the pencil saves those changes. Pressing the Esc key once cancels changes to a field. Pressing Esc again cancels all changes to the record.

Selecting an Organization

Start Open Accounting and the Login screen with a drop down of defined Organizations appears. Choose the organization to work and the Main form with that organization's associated identifier appears. To work with a different organization, click the Change Organization button on the Main form.

Accidentally close the Main form? Under Window, Unhide the database window. Then look at the Macros list and run Autoexec.

Two-Phase Posting

Billing and payment processing operations have two phases: in the first phase, work entered in a form is saved and validated. In the second phase, the work is posted to the database. This allows one to visually proof forms before committing any transaction. It also allows one to save a session and return, say after a lunch break, in some (but not all) cases.

Billings

There are four forms used to bill customers: expenses, jobs, time, and retainers.

Expenses and Jobs

Expense billings are pretty self explanatory: Choose the account this transaction applies to. Enter the post date, the amount, and a note explaining why the expense was incurred. Choose a category. Click the Validate button, check the form, and click the Approve button if things look OK.

What is the difference between an expense and a job billing? The categories available in the form: one has items that are expenses and the other has items that are services. Otherwise these forms are the same.

Time

Billing for time is a bit trickier because this form is automated. Note when selecting the customer, the associated hourly rate is pulled from the Accounts table automatically. Change this number if desired. Enter a start and stop time as a twenty-four hour based decimal number (13.25 means 1:15 PM), click Validate, and the form calculates the bill amount.

Note two things: one can change the rate and times, but not the bill amount. Also the start and stop time are appended to the end of the notes field. Click Validate twice and the time is appended twice.

Retainers

Retainer postings are automated. After entering the post date for retainer billings, the system selects Accounts where the monthly retainer is positive, i.e. more than zero. Data on the approval screen cannot be modified: this form merely previews changes resulting from the posting, if approved.

Note that in many professional practices, retainers are good for a block of time and excess hours are billed separately. Unfortunately the system does not track those hours for you: that is a manual process. But since retainer postings are merely Transactions, it's not a problem to mix all billing types on an account.

Payments

Detailed Payment Processing

When this feature is enabled, Open Accounting applies payments to *each and every* billing transaction. So if one posts two billings of \$50 each and processes a single \$100 payment, statements will reflect two \$50 payments. This may be irritating for some organizations. But for non-profits using pledges (retainers), it shows credits for regular and ad-hoc billings separately.

This feature may be turned on or off at any time using the Organizations form under the Administration menu. Changes are reflected the next time payments are processed. Existing transactions in the database are not impacted.

Batch Deposits

A potentially invaluable feature is payments are grouped into batches called Deposits. For example, one can group together five checks for one banking transaction. This helps reconcile banking and billing activity: a report tracks payments by deposits for just this purpose.

Deposit numbers are free-form text. They are limited to sixteen characters, can be anything, but should be unique for each banking transaction. Filing deposit slips when returning from the bank? The slip number may be used. Or in a professional practice, the biller's initials and date may be used, for example JK060928.

Since deposit numbers are not numbers but text strings, each should have the same length for sorting purposes. At print time these "numbers" will sort alphabetically: T1, T10, T11, T2, T3, ... T9 for example. But T01, T02, T03, ... T11 will sort as expected.

Deposit numbers need not be unique. Using the same one for three different sessions means the payments collected for all three will be aggregated in one batch at report time. It is also possible to have a deposit number for credit payment types, for example Credits, to group non-banking transactions in reports.

One can assign deposit numbers at payment posting time or after the bank deposit has been made. To assign deposit numbers immediately, clear the Post deposit reconciliation check box. To assign these numbers after visiting the bank, check this box. Payments will be recorded with the system reserved value of "Reconcile" as a deposit number. Please do not try to use "Reconcile" as an actual deposit number.

One final note on deposit numbers: these are saved in memory, not on disk, until the payments are actually posted. So one has to remember what deposit number was used when saving and resuming a session.

Payment Recording

When starting a payment processing session, one may choose to display either all Contacts who have an account with the current organization, or only those Accounts that have an outstanding balance. The initial payment amount is zero. Only payments with positive amounts are posted as Transactions.

Reconciling Deposits

After returning from the bank, use the Reconcile Deposits button under the Payment form to assign deposit numbers to various payments. These numbers are assigned one at a time. Unlike the Record Payments form, changes to this form take place immediately. Once the form is closed, changes must be made in the Transactions form under Administration.

Reporting

Reports are “live,” meaning changes to the database will be reflected immediately. Reports do not change the database, so it’s safe to run any report at any time. Most report launch forms have the following features:

- **Start Date:** Post date of first transaction detail. Transactions prior to the start date will be considered in the report’s summary information.
- **Stop Date:** Cutoff post date for Transactions considered by the report. Any transaction posted to the database will not be reflected in the report. If an option to change the stop date is not available, this is pulled from the computer’s current date.
- **Contact Selection:** Most reports can be run for all Contacts with an account in the current organization, or just one contact. To select a single contact, check or clear the appropriate control box and pick a contact from the drop down.
- **Detail Selection:** Some reports allow selection of only summary information or details by contact. Again, check or clear the appropriate box when prompted.

The Account History report uses the PostDate column in the Organizations table as an input. This report returns transactions from January 1 through December 31 in the current PostYear.

Manual Transactions

While it is possible to manually add Transactions to the database using a form under the Administration menu, we recommend against doing so. Instead, insert a transaction using a billing or payment form. Then modify this transaction, for example the notes field, using this manual form.

Appendix: ODBC Database Servers

Microsoft Access, and thus Open Accounting, support the use of a relational database server via the Open Data Base Connection (ODBC) protocol. Many popular databases, including MySQL, Oracle®, and Sybase®, include ODBC drivers for use in multiple operating system environments.

One benefit of using a database server is speed. In a database with about one thousand Transactions, reports are five to ten times faster running on MySQL via ODBC than in Jet on a laptop hard drive.

Although setting up ODBC is outside the scope of Open Accounting, we do provide two SQL files for assisting with this practice. One is called OpenAccounting.ddl.sql. This script creates a database called OpenAccounting and then defines the required tables.

The other script is called OpenAccounting.dml.sql. This script populates these tables with the minimum amount of data necessary to run the system.

It generally is no problem to start an Open Accounting operation using ODBC. But if one starts out using the Jet database engine in Access, it is somewhat tricky to then later upgrade to ODBC.

All is not lost, however. Access includes a data export feature. And a local table may have the same name as an ODBC table. So to transfer data, perform the following steps:

- **Create Tables on Server:** Use the OpenAccounting.ddl.sql script to create the database and tables on the server.
- **Install ODBC Drivers:** Install the required driver and configure a machine data source that connects to this new database.
- **Export Data:** Link the ODBC tables to the openAccountingTables###-###.mdb file. Then use the Export command on the File menu to copy data to the ODBC tables.
- **Link Application:** Delete the existing table links in the openAccounting###-###.mdb file and then use Link Tables under Get External Data in the File menu to connect with the ODBC machine source.

Oh, and as a reminder: all of the tables hosted on the database server have single word names: Accounts, Contacts, Transactions, and so on. Local tables have multiple word names: CurrentSession is an example. Do not delete local tables when performing this porting operation.