



GnuCash

Accounting in the Eyes of a Programmer

Oron Peled <oron@actcom.co.il>





Motivation

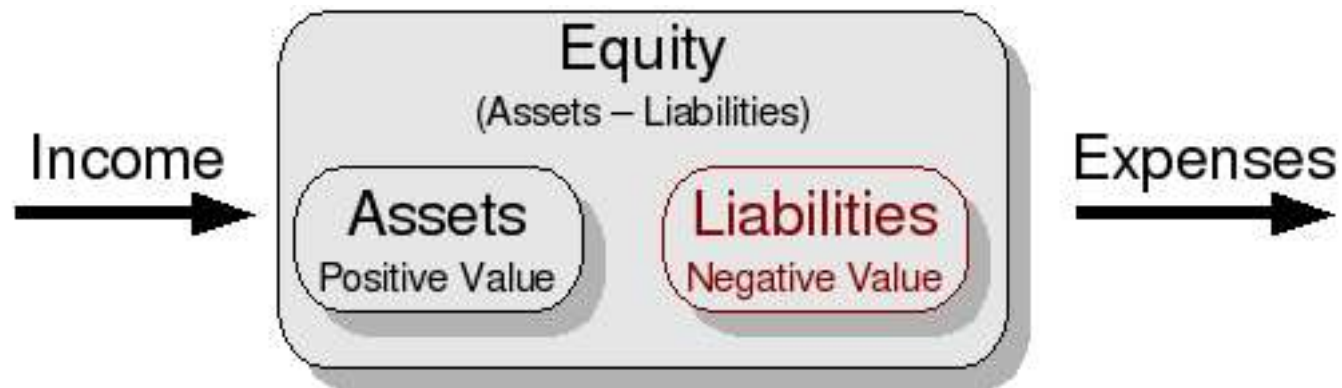
- You have a small business
- Family accounts
- Your bank manager calls...





Account Types

- Double Entry:
Each transaction appears on two accounts





Account Tree

- How detailed?
 - Labor
- vs.
- Control

File Edit View Actions Business Reports Tools Windows Help			
Save	Close	Open	Edit
Options	New	Delete	Exit
Net Assets (\$): \$0.00 Profits (\$): \$0.00			
Accounts	Account Name	Description	Total
	Asset		\$0.00
	Checking		\$0.00
	Savings		\$0.00
	Liability		\$0.00
	Visa		\$0.00
	Income		\$0.00
	Salary		\$0.00
	Expenses		\$0.00
	Electricity		\$0.00
	Groceries		\$0.00
	Phone		\$0.00
	Rent		\$0.00
	Taxes		\$0.00
	Federal		\$0.00
	Medicare		\$0.00
	Social Security		\$0.00
	Equity		\$0.00
	Starting Balances		\$0.00





Simple Transactions

+

Assets:Current:Checking Account - Register

-

▲

×

File

Edit

View

Actions

Reports

Tools

Help

×

Close

Enter

Cancel

Delete

Duplicate

Schedule

Split

Blank

Jump

Transfer

Find

Report

Print

Present: ILS 877.50

Future: ILS 877.50

Cleared: -ILS 102.50

Reconciled: -ILS 102.50

Projected Minimum: ILS 877.50

Date	Num	Description		Tot Deposit	t Withdrawal	Balance
21. 1.2005	76543	Accountant	Expenses:Commissions	n	250.00	-250.00
28. 1.2005		Payment	Income:Sales	n	1,230.00	980.00
20. 2.2005		Monthly Payment	Expenses:Equipment Rental	y	102.50	877.50
8. 1.2005	Num	Description		Tot Deposit	t Withdrawal	Balance

Friday 28 January 2005





Split Transactions

File Edit View Actions Reports Tools Help

Close Enter Cancel Delete Duplicate Schedule Split Blank

Present: \$1,624.79 Future: \$1,624.79 Cleared: \$0.00 Reconciled: \$0.00 Projected

Num	Description		t Deposit	Withdrawal	Balance
	Opening Balance	Equity:Opening Balances	n 1,000.00		1,000.00
	Grocery Store	Expenses:Groceries	n	45.21	954.79
Num	Employers R Us		670.00	Withdrawal	1,624.79
		Assets:Checking Account	n 670.00		
		Expenses:Taxes:Federal	n 180.00		
		Expenses:Taxes:Social Se	n 60.00		
		Expenses:Taxes:Medicare	n 90.00		
		Income:Salary	n	1,000.00	
			n		

Employers R Us





Date Shortcuts

In any date field

- previous day	today	+ next day
[month ago] month ahead
month start		month end
year start		year end





Other Shortcuts

- In any amount field there is:
 - A mini-calculator
- In the number field:
 - A +/- increments/decrements by one
- The description field:
 - Is copied from previous transactions





The “num” field

- Used for reference
- Examples:
 - Check number (for my checks)
 - Invoice number (for my invoices)
 - Payment counter – 3/12





A mini-demo

- Create an account tree
- Set assets and liabilities (against equity)
- Use transactions



Action->Schedule...

Expenses:Taxes:Social Security - Register

File Edit View Actions Reports Tools Help

Close Enter Cancel Delete Duplicate Schedule Split Blank Jump Transfer Find Report Print

Present: ILS 1,630.00 Future: ILS 1,630.00 Cleared: ILS 0.00 Reconciled: ILS 0.00 Projected Minimum: ILS 1,630.00

Date	Num	Description	Expense	ot Rebate	Balance
10. 2.2005	Num	Monthly Payment			
			Expenses:Taxes:Social S	1,630.00	
			Assets:Current:Checking		1,630.00
10. 2.2005					

Make Scheduled transaction

Name: Monthly Payment

Frequency: Daily

Start Date: 21. 2.2005

End

^ Never End

End Date: 20. 2.2005

Number of Occurrences:

OK Advanced... Cancel

Monthly Payment





Scheduling Variables

- ST may contain arbitrary variables
- Must be filed during "run"
- Obviously cannot be automatic
- Example...





Since Last Run...

Since Last Run

To-Create Transaction Preparation

Name	State	Disposition?
Monthly Payment		Create as scheduled
20. 2. 2005	Ready to create	

Variables

Variable	Value
interest:	5.00

Value: 5.000000

Template Transaction (Read-Only)

Date	Num	Description		Tot Funds In	Tot Funds Out
Scheduled		Monthly Payment			
		Expenses:Equipment Rental	n	100+interest*0.5	
		Assets:Current:Checking Accour	n		100+interest*0.5
Scheduled	Num	Description		Tot Funds In	Tot Funds Out
			n		

Back Next Cancel





Reconciliation

- Against the bank/credit card statement
 - I do it every month
- This is the QA of your management:
 - How many items are "discovered"
 - "What? I bought this? When?"
 - You get to see the bank commissions etc.





Reconciliation Window

Assets:Current:Checking Account - Reconcile

Reconcile Account Transaction Help

New Edit Delete Open Finish

Funds In

Date ▾	Num	Description	Amount	R

Total: ILS 0.00

Funds Out

Date ▾	Num	Description	Amount	R
20. 2.2005		Monthly Paym	102.50	✓

Total: ILS 102.50

Starting Balance: ILS 0.00
Ending Balance: -ILS 102.50
Reconciled Balance: -ILS 102.50
Difference: ILS 0.00





Business Features

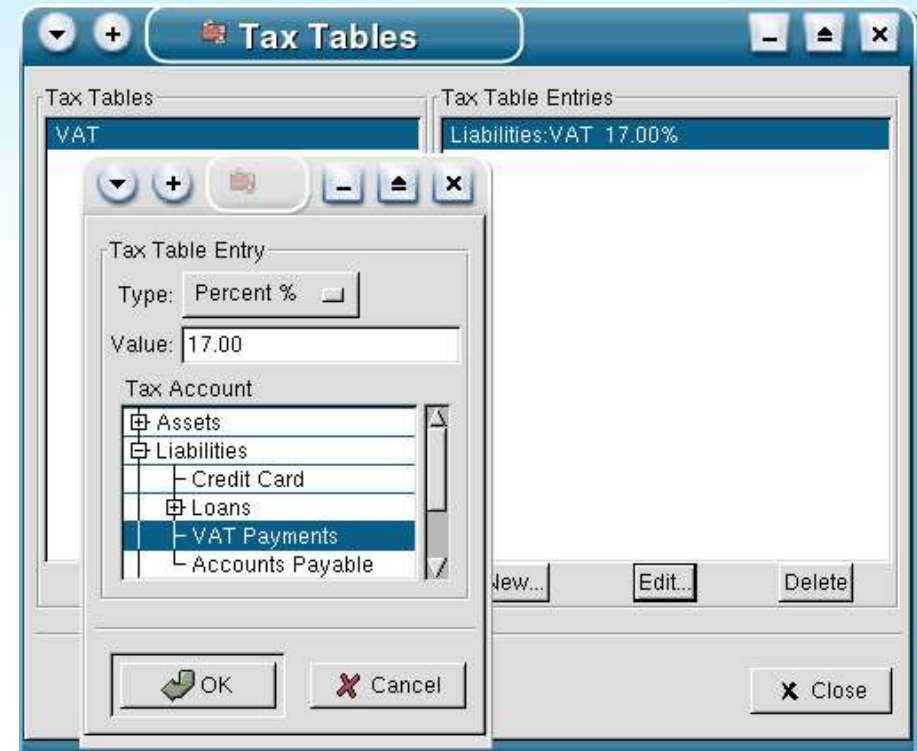
- Relatively new (GnuCash 1.8.x)
- Entities:
 - Customer: Jobs, Invoices
 - Vendor: Jobs, Bills
 - Employee: Expenses (no Integrated Payroll yet)
- Tax Tables
- Billing Terms





Tax Tables

- Percent or Fixed
- Tax account
- I only use VAT





Billing Terms

- Days or Proximo
- Discounts
- Where is?

current + 60

And its ilk?

Term Definition

Description: Shotef + 30 (approx)

Type: Proximo

Due Day: 1

Discount Day: 1

Discount %: 0.00

Cutoff Day: -1

OK Cancel





Customer

- Billing Address
- Terms
- Tax

The image displays two screenshots of the 'Edit Customer' dialog box, showing different tabs.

Left Screenshot (Billing Address Tab):

- Customer:** Billing Information | Shipping Address
- Identification:**
 - Customer Number: 000001
 - Company Name: Acme Products
 - ☐ Active
- Billing Address:**
 - Name: Acme Inc.
 - Address: 1 Acme Rd.
 - Flee Garden
 - Phone:
 - Fax:
 - Email:
- Notes:**
- Buttons:** OK, Cancel, Help

Right Screenshot (Billing Information Tab):

- Customer:** Billing Information | Shipping Address
- Billing Information:**
 - Currency: ILS (Israeli New Shekel) /
 - Terms: Shotef_30
 - Discount: 0
 - Credit Limit: 0.00
 - Tax Included: No
 - Tax Table: ☐ VAT
- Buttons:** OK, Cancel, Help





Invoice

- Manual Invoice ID
- One job, Many invoices
- Terms

New Invoice - 51

Invoice Information

Invoice ID: 513

Date Opened: 21. 2.2005

Billing Information

Customer: Acme Products [Select...]

Job: Factory Setup [Select...]

Billing ID: 222

Terms: Shotef_30


Notes

[Text Area]

OK Cancel Help



Edit Invoice



Edit Invoice - 513

File Edit View Actions Reports Tools Help

Close Edit Enter Cancel Delete Duplicate Blank Print Post Unpost

Invoice Information
 Invoice ID: 513
 Date Opened: 21.2.2005
☐ Active

Billing Information
 Customer: Acme Products Edit...
 Job: Factory Setup Edit...
 Billing ID: 222
 Terms: Shorter_30

Notes

Invoice Entries

Date	Ir	Description	Action	Income Account	Quantity	Unit Price	Dis	Dis	Discount	Ta	Ta	Tax Table	Subtotal	Tax
005	X	Material purchase	Material	Income.Sales	1.00	9,876.00	%	<	Discount	X		VAT	9,876.00	678.92
005							%	<		X		VAT		

Total: ILS 11,554.92 Subtotal: ILS 9,876.00 Tax: ILS 1,678.92

Material purchase

- Action: Hours, Material, Project
- Discounts, Tax included
- POST when ready!





Invoice List

- Search similar to:

- Vendors
- Jobs
- Customers
- Bills

- Invoice status

Search for...

Invoice Search

Search Criteria

Add criterion

Search for items where all criteria are met

Company Name contains a Case Insensitive? Remove

Type of search

- New search
- Refine current search
- Add results to current search
- Delete results from current search
- Search only active data

Num	Opened	Company	Posted	Paid	Type
513	21. 2.2005	Acme Product	21. 2.2005		Invoice
514	21. 2.2005	Acme Product	21. 2.2005		Invoice

View/Edit Invoice

Process Payment

Find Close New Invoice Help





Process Payment

- Amount:

Default – invoice sum
- Transfer Account

And for the hard work...

Payment Information

Customer	Acme Products	Select...
Date	21. 2.2005	/
Amount	2500	
Num	1/2	
Memo	First payment, more due	

Post To

Assets:Accounts Receivable	/
----------------------------	---

Transfer Account

<input checked="" type="checkbox"/> Assets	
<input checked="" type="checkbox"/> Current	
<input type="checkbox"/> Bank CD	
<input checked="" type="checkbox"/> Checking Account	
<input type="checkbox"/> Money Market	
<input type="checkbox"/> Savings Account	

OK Cancel





Customer Report (Tada!!)

Customer Report - GnuCash (/home/oron/Work/Cour)

File Edit View Actions Business Reports Tools Windows Help

Save Close Back Forward Reload Stop Export Options Print Exit

☒ Net Assets (ILS): ILS 15,253.50 Profits (ILS): ILS 0.00

Accounts

Customer Report

Customer Report: [Acme Products](#)

Acme Products
Acme Inc.
1 Acme Rd.
Flee Garden

February 21, 2005

Date Range: 1. 1.2005 - 21. 2.2005

Date	Due Date	Reference	Type	Description	Amount
21. 2.2005		1/2	Payment, thank you	First payment, more due	-ILS 2,500.00
21. 2.2005	1. 3.2005	513	Invoice		ILS 11,554.92
21. 2.2005	1. 3.2005	514	Invoice		ILS 5,265.00
Total Due					ILS 14,319.92

0-30 days	31-60 days	61-90 days	91+ days
ILS 14,319.92	ILS 0.00	ILS 0.00	ILS 0.00





More Reports

- Cash Flow
- Profit and Loss
- Expenses/Income Bar/Pie charts
- Balance Sheet
- Print Checks (from Register)
- Print invoices





Print Invoice

Printable Invoice - GnuCash (/home/oron/Work/Courses/)


File Edit View Actions Business Reports Tools Windows Help

Save Close Back Forward Reload Stop Export Options Print Exit

Net Assets (ILS): ILS 15,253.50 Profits (ILS): ILS 0.00

Accounts

Printable Invoice



Invoice #514
 Invoice Date: 21. 2.2005
 Due Date: 1. 3.2005

Acme Products Inc
 February 21, 2005

Acme Products
 Acme Inc.
 1 Acme Rd.
 Flee Garden

Date	Description	Charge Type	Quantity	Unit Price	Discount	Total
21. 2.2005	Work	Hours	20.00	ILS 250.00	10.00%	ILS 4,500.00
Subtotal						ILS 4,500.00
VAT Payments						ILS 765.00
Amount Due						ILS 5,265.00

Payable to the order of Acme Inc.





Not Covered

- Investments
 - Stock, prices, dividends
 - Interest, depreciation
 - Currencies
- Tax Forms (US)
- Localization:
 - Hebrew data
 - Hebrew interface
 - Local data sources
 - Local taxes





Hacking GnuCash

- Default data storage is in XML (gzipped)
- Root is in /usr/share/gnucash:
 - User interface is done via Glade
 - Logic is in scheme (libguile)

- Example:

```
cd guile-modules/gnucash/report  
diff invoice.scm fancy-invoice.scm
```

- Anybody?





Thank You

Questions?

