

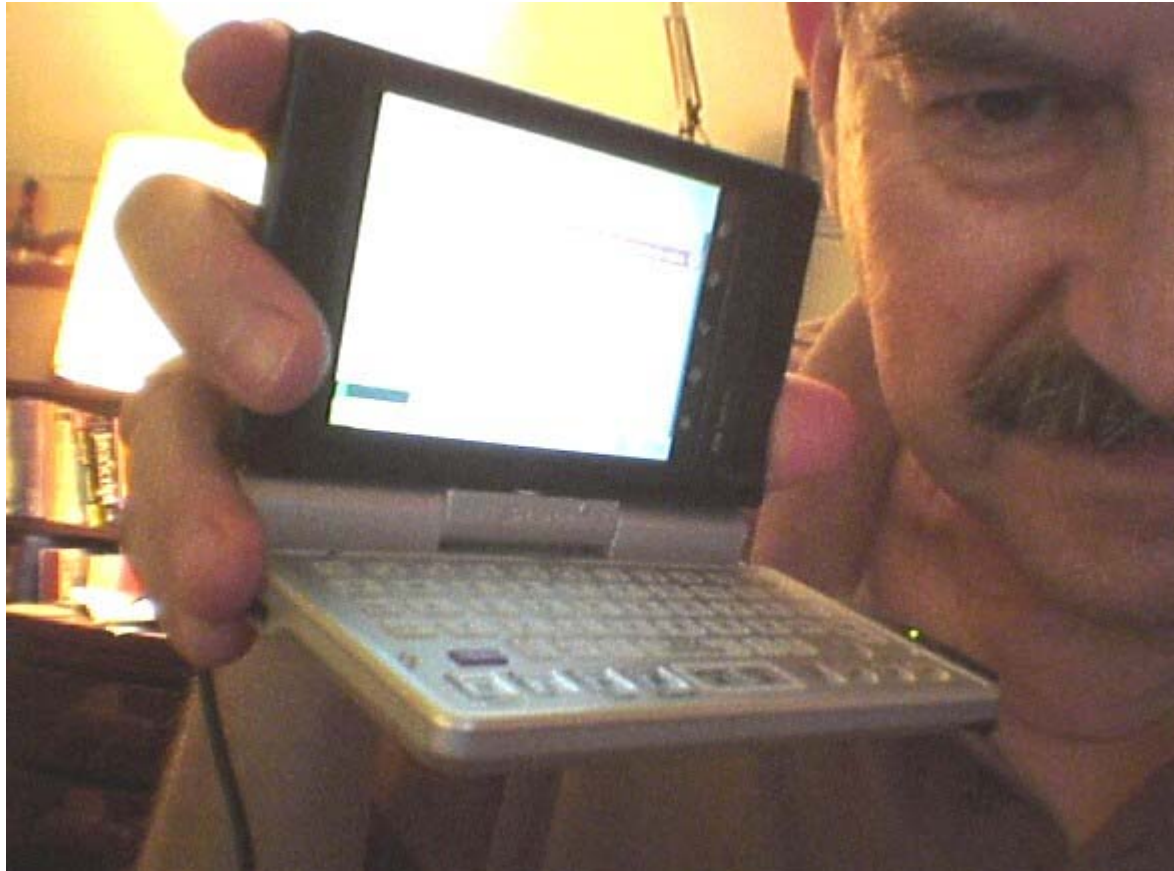
# Porting Uptake Curve Explorer to the Sharp Zaurus C750

**A little case study of java and SQL  
portability and pitfalls.**

George S. Almasi

August 10, 2003

## The Sharp Zaurus C750 Embedded Linux PDA

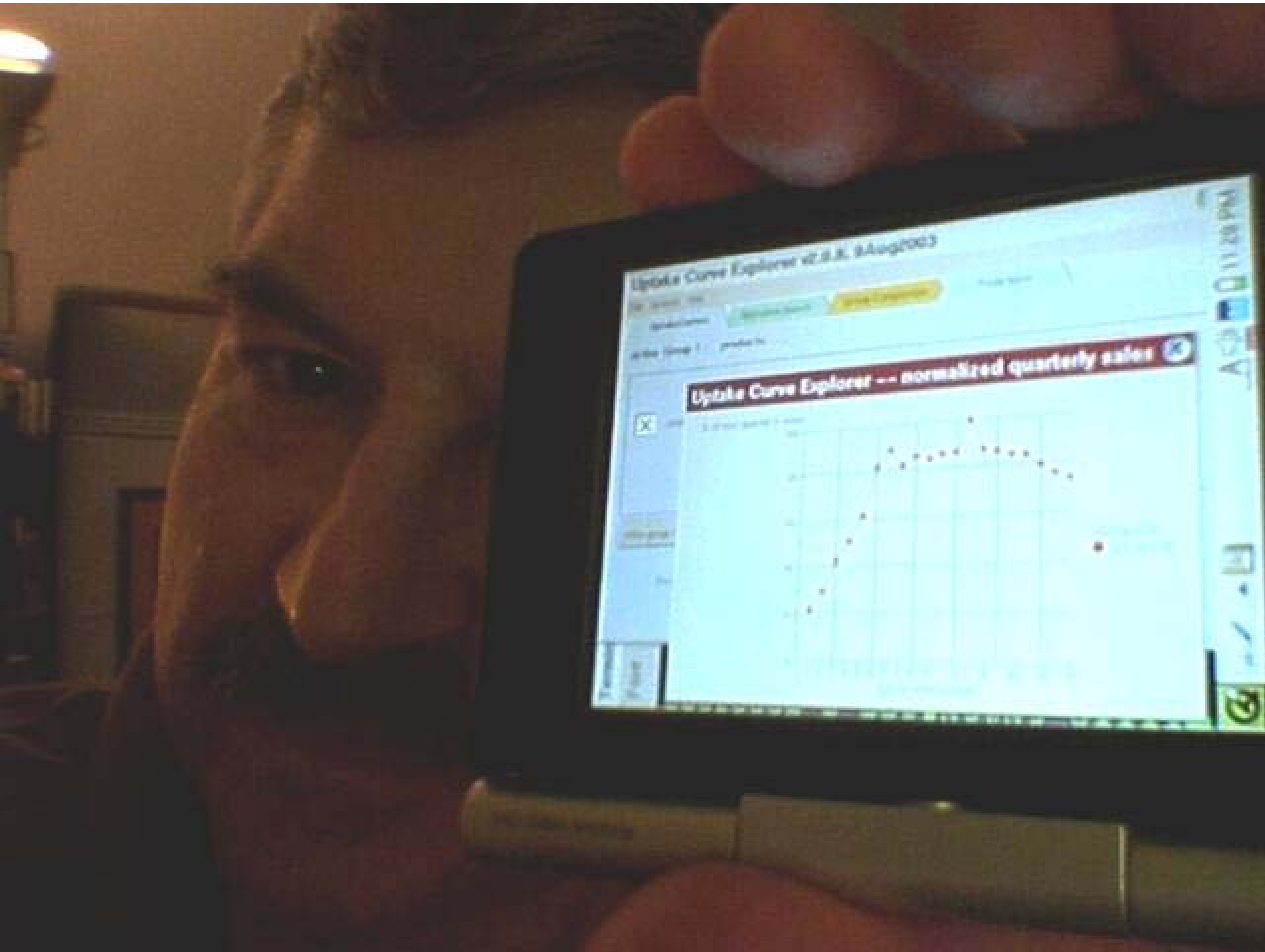


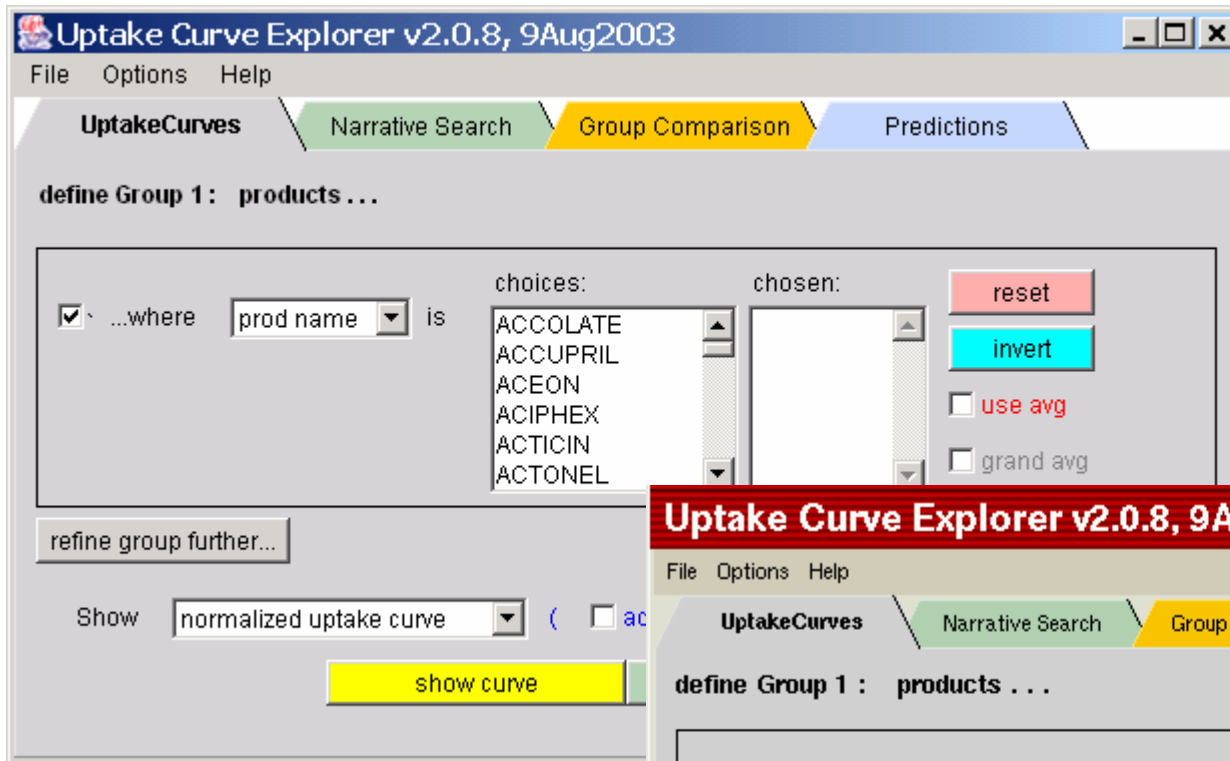
400 MHz Intel StrongARM processor, 64MB memory, weighs 7 oz.

640 x 480 screen (VGA)

Jeode java environment, MySQL database environment

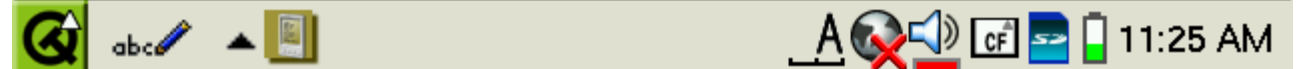
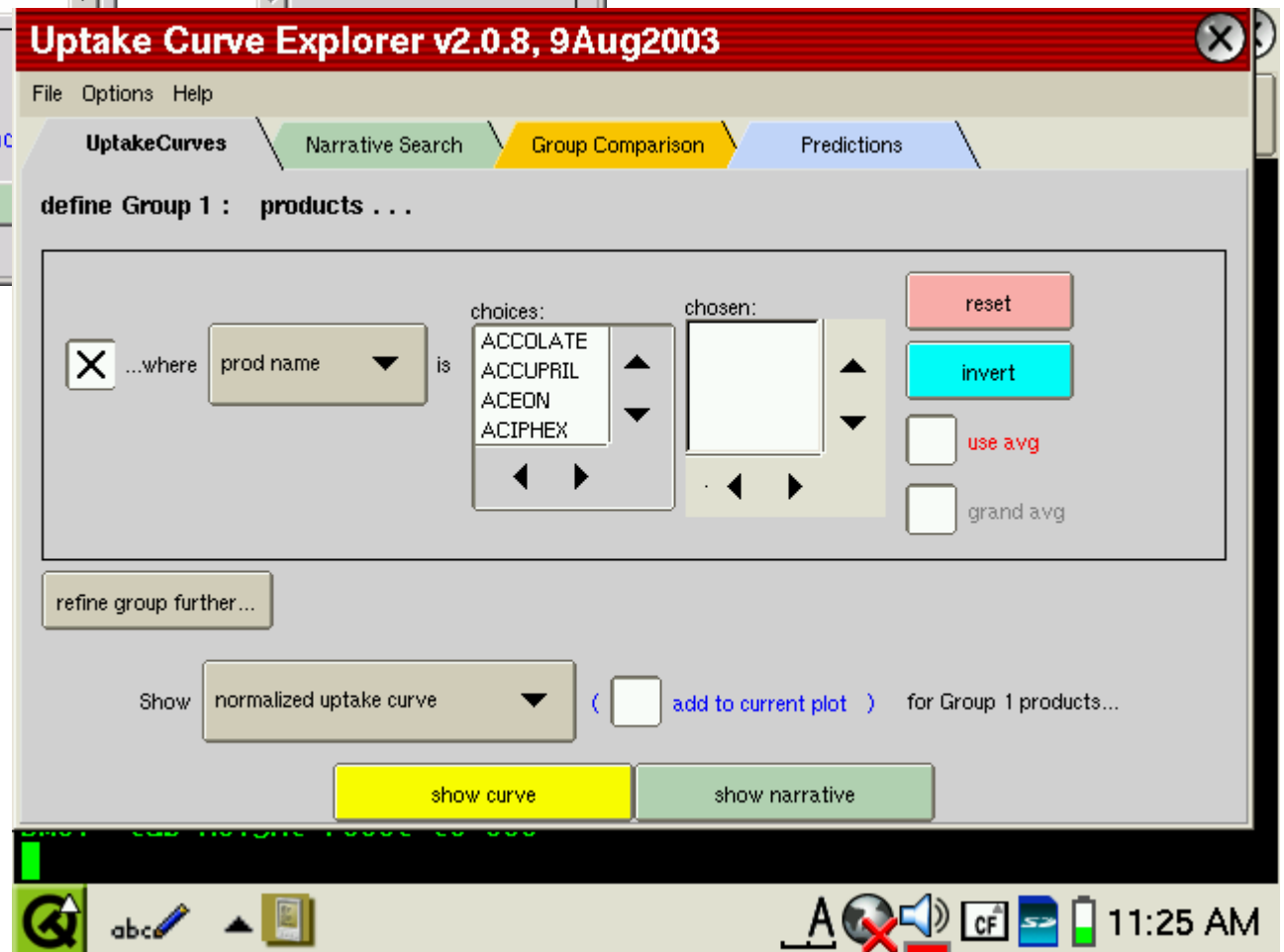
Obtained from <http://www.dynamism.com>

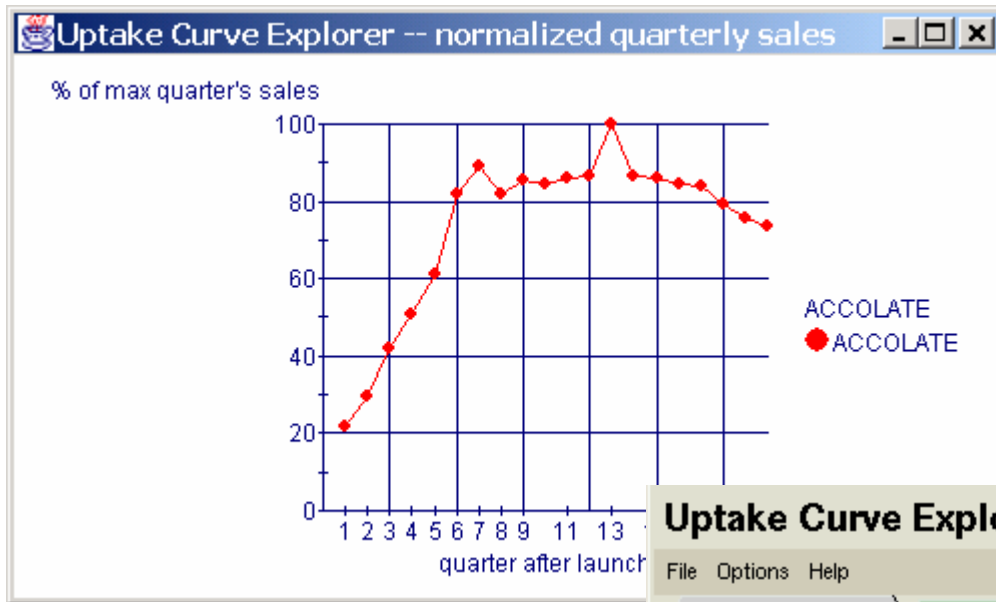




Windows 2000

Zaurus





Windows 2000

Zaurus

Uptake Curve Explorer v2.0.8, 9Aug2003

File Options Help

UptakeCurves Narrative Search Group Comparison Predictions

define Group 1 : products . . .

Uptake Curve Explorer -- normalized quarterly sales

% of max quarter's sales

Quarter after launch	% of max quarter's sales
1	22
2	30
3	42
4	52
5	62
6	82
7	90
8	82
9	85
10	85
11	85
12	85
13	100
14	85
15	85
16	82
17	82
18	78
19	75
20	72

quarter after launch

ACCOLATE  
● ACCOLATE

abc

11:26 AM

ACCOLATE

Product Brief

Description

Zeneca's first pulmonary allergy agent was approved by the FDA on September 25, 1996. Accolate (zafirlukast) is a non-steroidal leukotriene receptor antagonist that was launched in November 1996. Accolate and other leukotriene antagonists work by actually blocking the activity of leukotrienes that are known to play a critical role in triggering asthma attacks. Its primary indication is for use in preventive and chronic treatment of asthma in adults and children ages 12 and older. Accolate does not offer immediate relief of asthma symptoms and should be used with a bronchodilator, particularly to treat acute asthma attacks. The National Heart, Lung and Blood Institute stated that Accolate and Zflo may be used as alternative therapies to low doses of inhaled corticosteroids, cromolyn or nedocromil for patients with mild, persistent asthma. In November 1998, Zeneca filed with the FDA to approve claims that the U.S. asthma controller market is currently comprised of children. The FDA later approved Accolate, for use in children as young as seven years of age. Accolate will now compete with Merck & Co's Singulair, which has been available for asthma in the U.S. for patients aged six and over since 1998. Accolate is available in a 10 mg, non-flavored minitab, with recommended dosing of one tablet twice daily, even during symptom-free periods. It has been available since 1996 for asthma patients 12 years of age and older.

Market Conditions

Accolate, the first in a new class of asthma therapies, is categorized in USC 28500, Leukotriene antagonists. Unlike other asthma therapies currently available, Accolate is available in tablet form and recommended for twice-daily dosing. The leading competitors, Proventil, Ventolin, Azmacort and Serevent, are most effective in inhaler forms. Accolate enters a selected respiratory therapeutic market worth over \$1.5 billion annually. Accolate sustained release formulation is expected to be launched in Europe and the U.S. in 2001.

Post-Launch Trends

Prescription and Sales Trends

Upt: ACCOLATE narrative

File ACCOLATE

ACCOLATE

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family declining(26) vs. family growing(198)

Help

Variables	Avg for Group 1	Avg for Group 2	Group 1 to Group 2 indx(%)
5 year revenue (\$)	82,693,018.19	681,187,776.12	12
year1 revenue (\$)	66,745,170.81	66,147,017.63	101
FIVE YEAR PROMOTIONAL \$	43,750,777.96	104,024,858.96	42
Q2revenue (\$)	22,261,944.69	13,435,123.36	166
Q1revenue (\$)	14,437,294.00	8,065,500.49	179
FIVE YEAR SAMPLES	2,581,317.62	17,977,393.03	14
TOTAL 5YEAR CONTACTS	343,792.46	1,169,756.65	29
declining (%)	100.00	0.00	∞
ORDER 7 plus (%)	53.85		
Easier (%)	40.00		
ESTABLISHED (%)	38.46		
Established Product (%)	30.77		
Boosts Disease Awareness (%)	30.00		
FDA Rating	27.00		
New Mechanism of Action (%)	20.00		
ORDER 2 or 3 (%)	19.23		

## Group Compare On Win2K/DB2 Vs. Zaurus/MySQL

August 10, 2003

family declining(26) vs. family growing(198)

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TOTAL 5YEAR CONTACTS	343,792.46	1,169,756.65	29	
declining (%)	100.00	0.00	?	
ORDER 7 plus (%)	53.85	45.45	118	
Easier (%)	40.00	26.23	152	
ESTABLISHED (%)	38.46	16.67	231	
Established Product (%)	30.77	25.25	122	
Boosts Disease Awareness (%)	30.00	10.66	282	
FDA Rating	27.00	30.90	87	
New Mechanism of Action (%)	20.00	32.79	61	
ORDER 2 or 3 (%)	19.23	22.22	87	
ORDER 4 or 5 or 6 (%)	19.23	22.22	87	
Monthly Med Education (\$)	16,900.00	280,827.87	6	

10:46 PM

## database (343) vs. family growing(198)

Variables	Avg for Group 1	Avg for Group 2	Group 1 to Group 2 indx(%)
5 year revenue (\$)	498,264,582.90	673,609,384.61	74
FIVE YEAR PROMOTIONAL \$	92,042,905.08	104,024,858.96	88
year1 revenue (\$)	71,565,349.84	66,147,017.63	108
FIVE YEAR SAMPLES	16,297,870.41	17,977,393.03	91
Q2revenue (\$)	16,199,984.66	13,435,123.36	121
Q1revenue (\$)	10,419,502.19	8,065,500.49	129
TOTAL 5YEAR CONTACTS	1,001,796.23	1,169,756.65	86
Monthly Med Education (\$)	188,019.32	280,827.87	67
growing (%)	57.73	100.00	58
ORDER 7 plus (%)	46.94	45.45	103
FDA Rating	33.19	30.90	107
New Mechanism of Action (%)	31.40	32.79	96
Established Product (%)	24.78	25.25	98
peaking (%)	23.91	0.00	?
Easier (%)	22.71	26.23	87
ORDER 4 or 5 or 6 (%)	20.41		
ORDER 2 or 3 (%)	20.12		
Average Days in Rx (pills)	19.42		

Variables	Avg for Group 1	Avg for Group 2
5 year revenue (\$)	502,639,281.21	681,187,776.12
FIVE YEAR PROMOTIONAL \$	92,042,905.08	104,024,858.96
year1 revenue (\$)	71,565,349.84	66,147,017.63
FIVE YEAR SAMPLES	16,297,870.41	17,977,393.03
Q2revenue (\$)	16,199,984.66	13,435,123.36
Q1revenue (\$)	10,419,502.19	8,065,500.49
TOTAL 5YEAR CONTACTS	1,001,796.23	1,169,756.65
Monthly Med Education (\$)	188,019.32	280,827.87
growing (%)	57.73	100.00
ORDER 7 plus (%)	46.94	45.45
FDA Rating	33.19	30.90
New Mechanism of Action (%)	31.40	32.79
Established Product (%)	24.78	25.25

Java Applet Window

Variables	Avg for Group 1	Avg for Group 2	Group 1 to Group 2 indx(%)
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year1 revenue (\$)	71,565,349.84	66,147,017.63	108
FIVE YEAR SAMPLES	16,297,870.41	17,977,393.03	91
Q2revenue (\$)	16,199,984.66	13,435,123.36	121
Q1revenue (\$)	10,419,502.19	8,065,500.49	129
TOTAL 5YEAR CONTACTS	1,001,796.23	1,169,756.65	86
Monthly Med Education (\$)	185,454.11	280,827.87	66
growing (%)	57.73	100.00	58
ORDER 7 plus (%)	46.94	45.45	103
FDA Rating	33.19	30.90	107
New Mechanism of Action (%)	31.40	32.79	96
Established Product (%)	24.78	25.25	98

### A cautionary tale:

The quarterly revenue columns in table BMS\_RAW2 were defined decimal(12,2). But Lipitor exceeds this in Q14. DB2 and MySQL on our web server corrected for this, but MySQL on the Zaurus did not, and put in 999,999,999.99. I had to change to decimal(13,2) in order to get the results to agree, as shown in the preceding slide.

## Remaining Flies in the Ointment...

**640x480 on Windows**

**640x480 on Zaurus**

**membership predictions:**

Confidence 86%: family = growing  
 Confidence 93%: family = growing or peaking  
 Confidence 67%: predicted curves, in decreasing order of probability:  
 8 accel-growth, 5 convex-growth

1. Ugh! Giant CheckBoxes! What gives? Limited peer widget set in Jeode?
2. Taskbar blocks TextArea; must add your own scrolling to overcome
3. How do you do a right-click with a stylus? What's a Popup Trigger in Jeode?

## Summary Opinion of the Zaurus C750

- Superb Hardware
- Excellent Operating System
- Excellent Application Installation Mechanism
- Supplied PersonalJava sucks – no sql classes, can't handle any klg.com.Jclass classes (Chart, Table, TabManager)
- Jeode Java downloaded from Web is almost completely satisfactory runtime environment, solves above problems.
- MySQL downloaded from web works very well; a little slower than I expected, but has full functionality and is very reliable.
- Installing jikes allows compiling java on Zaurus!
- NetFront web browser doesn't handle java applets. Major bummer! (Opera no better).
- Many apps available on web (PDF reader, etc), most written for the 5500, but can be reset for C750 screen resolution & orientation; hold stylus on icon, unselect "magnified screen".

-- George S. Almasi, 11 Aug 2003