

# SugarCE 5.0 + GPL3 = Open Personal Health Care Records

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# Open Personalized Health Informatics

## **Free Software bio-informatics startup.**

### **Mission:**

- help build a care system that enhances every family's health.
- reduce barriers to use vast health databases, publications, know-how
- empower consumers to leverage own ICTs.

### **Philosophy: Open Access; Open Code; Open Data.**

### **Products and services:**

- Free software for consumers to manage family's health
- custom development
- consulting, integration
- pre-loaded computers

### **About José C. Lacal:**

- Technologist & Public Health Entrepreneur.
- 43 yr old; 21 yr IT exp.
- 3<sup>rd</sup> start-up

# Framing this Talk: Health $\neq$ Healthcare

“..students of medical economics have long realized that what consumers demand when they purchase medical services are not these services per se but rather better health.” <sup>[01]</sup>

Family as the unit of care.

Live long and prosper; then check out quickly.

More healthcare for all is NOT scalable.

More health for all is very scalable.

From: “Let's improve the healthcare system for all.”

To: “A care system that improves the health of all.”

# How Would You Like a Colonoscopy?



Posted on Tue, Aug. 01, 2006

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## Plan seeks better health

### Pawlenty launches Q-Care to cut state, insurer costs

BY BILL SALISBURY  
Pioneer Press

Gov. Tim Pawlenty on Monday announced a new program to provide "performance pay" to doctors and hospitals that meet new quality standards for state-purchased health care. He predicted the plan would save the state and health insurance companies more than \$150 million a year.



#### NEWSLETTERS

Commonwealth Fund Digest  
Commonwealth Fund

#### Publications > In the Literature

**How Much More Cost-Sharing Will Health Savings Accounts Bring?**



## Federal Diary

Stephen Barr, Columnist

### Bill to Promote Electronic Health Records

By [Stephen Barr](#)

Thursday, March 2, 2006; Page D04

In an effort to dramatically expand the use of "electronic health records," a key House chairman said yesterday that he will propose legislation to promote their use in the federal employee health insurance program.



Consumers really want to reduce the odds of needing the procedure.

**Summary of Nationwide Health Information Network (NHIN) Request for Information (RFI) Responses**

June 2005

# Healthcare-designed Automobiles

Listing of best  
body shops in  
your area.

Massive social  
investments to  
develop car  
repair tools,  
equipment.

Publish  
guidelines for  
evidence-based  
vehicle repair.

Clearinghouse



Average cost of  
car repairs across  
state.



Posted on Tue, Aug. 01, 2006

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**Plan**  
**Pawlen**

BY BILL SA  
Pioneer Pre

Gov. Tim F  
to doctors  
care. He p  
more than \$150 million a year.

Repair shops  
would be  
reimbursed even  
if car is not fixed.

Insurer costs

to provide "performance pay"  
for state-purchased health  
with insurance companies



NEWSLETTERS

Commonwealth Fund Digest  
Commonwealth Fund

All consumers  
would pay the  
same rate,  
regardless of  
driving record.

How Much More Cost-Sharing Will  
Health Savings Accounts Bring?



**Federal Diary**

Stephen Barr, C

**Bill to Promote I**

By Stephen Barr  
Thursday, March 2, 2006;

In an effort to dramaticall  
ords," a  
key House chairman said yesterday that he will propose legislation to  
promote their use in the federal employee health insurance program.

Repair shops will  
tout their  
"Electronic Car  
Record."

**Summary of I**  
**Information M**  
**Request for Information (RFI)**

Repair shops open  
Mon-Fri, 09:00 to  
17:00 hr. only.

Repair shops will  
connect to a car-  
RHIO.



# Engineering-designed Automobiles

◀ Start Bosch

## Automotive Technology

► Overview

### Fields of application

- Safety
- Emissions
- Fuel consumption
- Driving pleasure

### Subjects

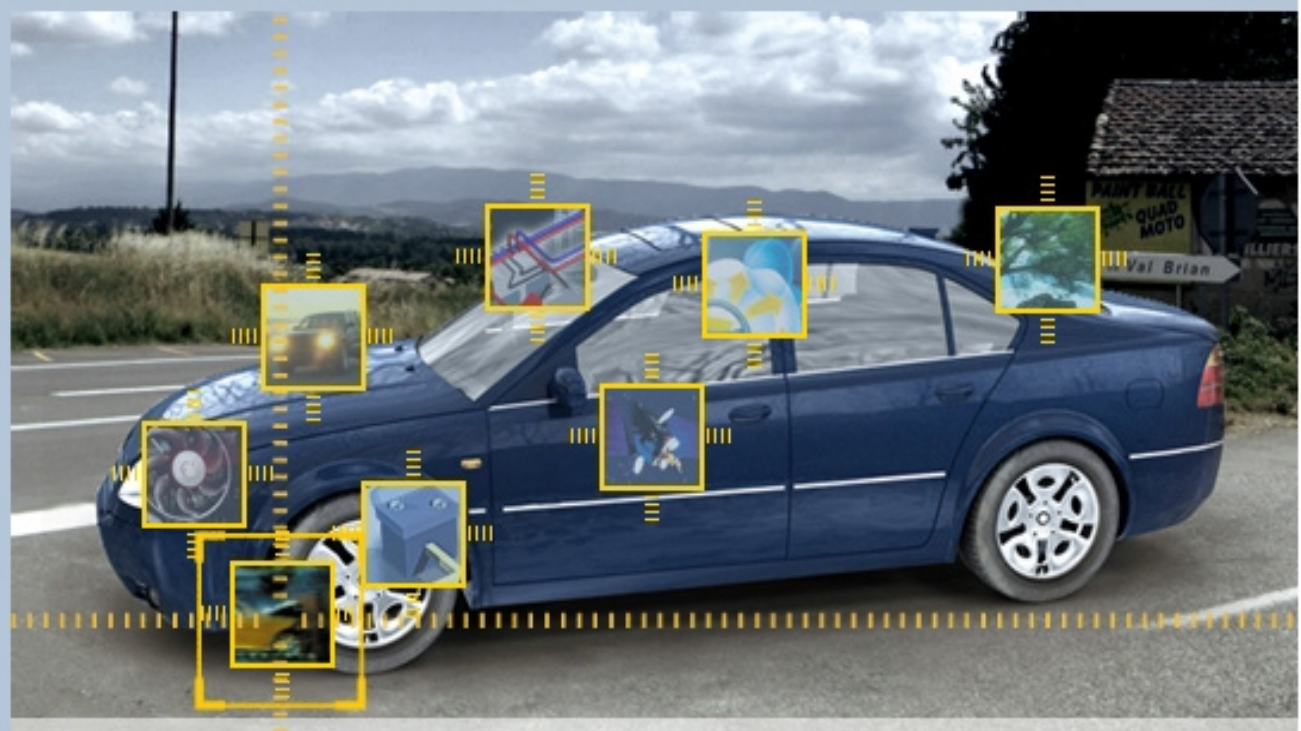
- Technical solutions for commercial vehicles
- Innovations yesterday and today

### Service

- Trade Fair dates
- Information media
- Glossary
- Search
- Product overview

### Company

- Automotive divisions
- Automotive Technology worldwide
- Locations worldwide
- Jobs and careers



## Accident-prevention concepts

Steer, accelerate, brake, maintain an adequate distance to the next vehicle - our goal in the active safety sector is to apply pro-active vehicle-intervention technology to prevent accidents from happening. The ultimate objective is to develop a comprehensive assistance system that will provide the driver with the best possible information and support under any and all conditions.



Source: Bosch's website.

# Why Personalized Health Informatics?

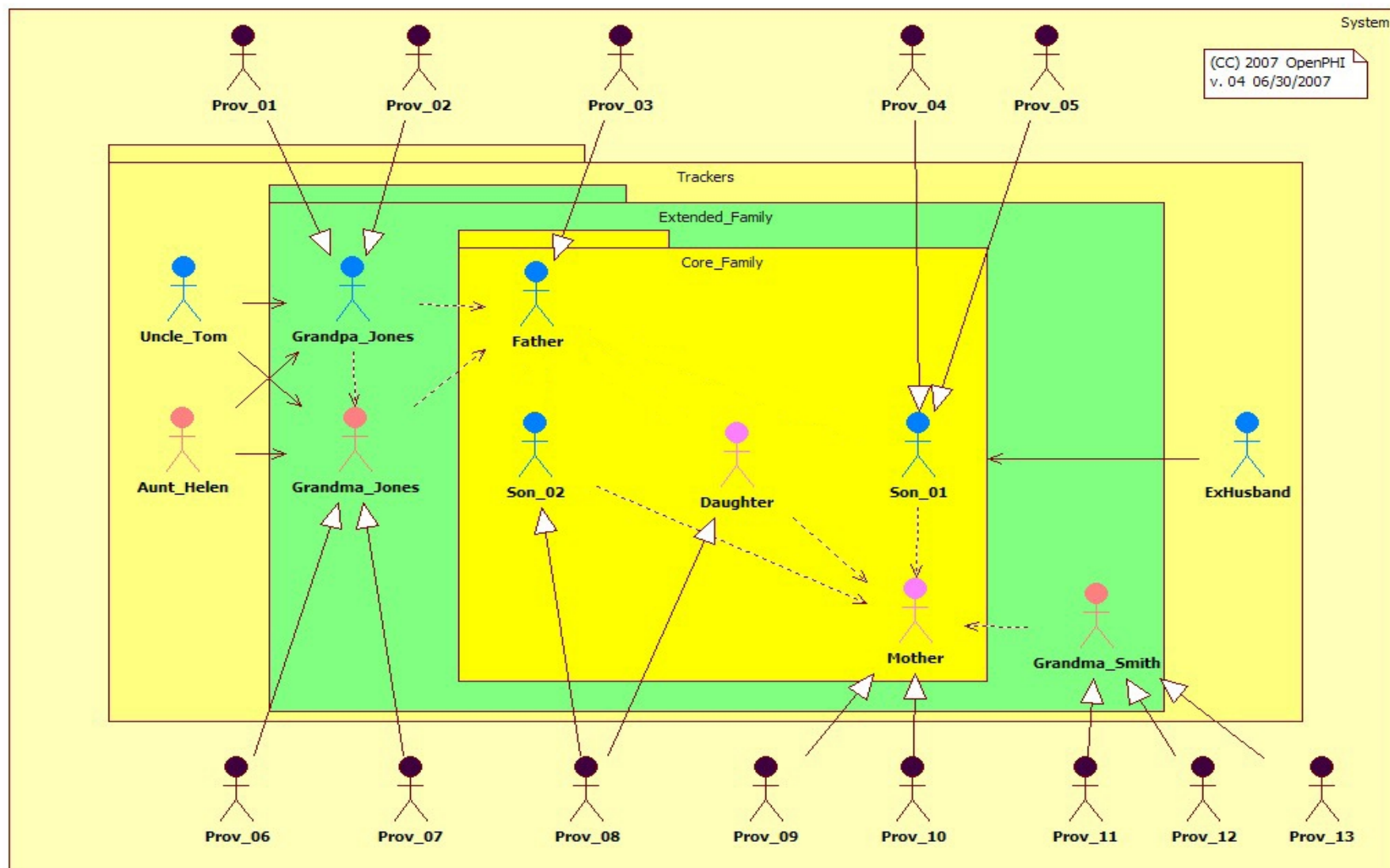
## **Consumers want control over health data: social and economic pressure**

- less trust in providers
- need to improve healthcare's delivery systems, methods
- consumer-driven healthcare (HSAs)
- high-deductible plans
- care coordination for life-long chronic diseases

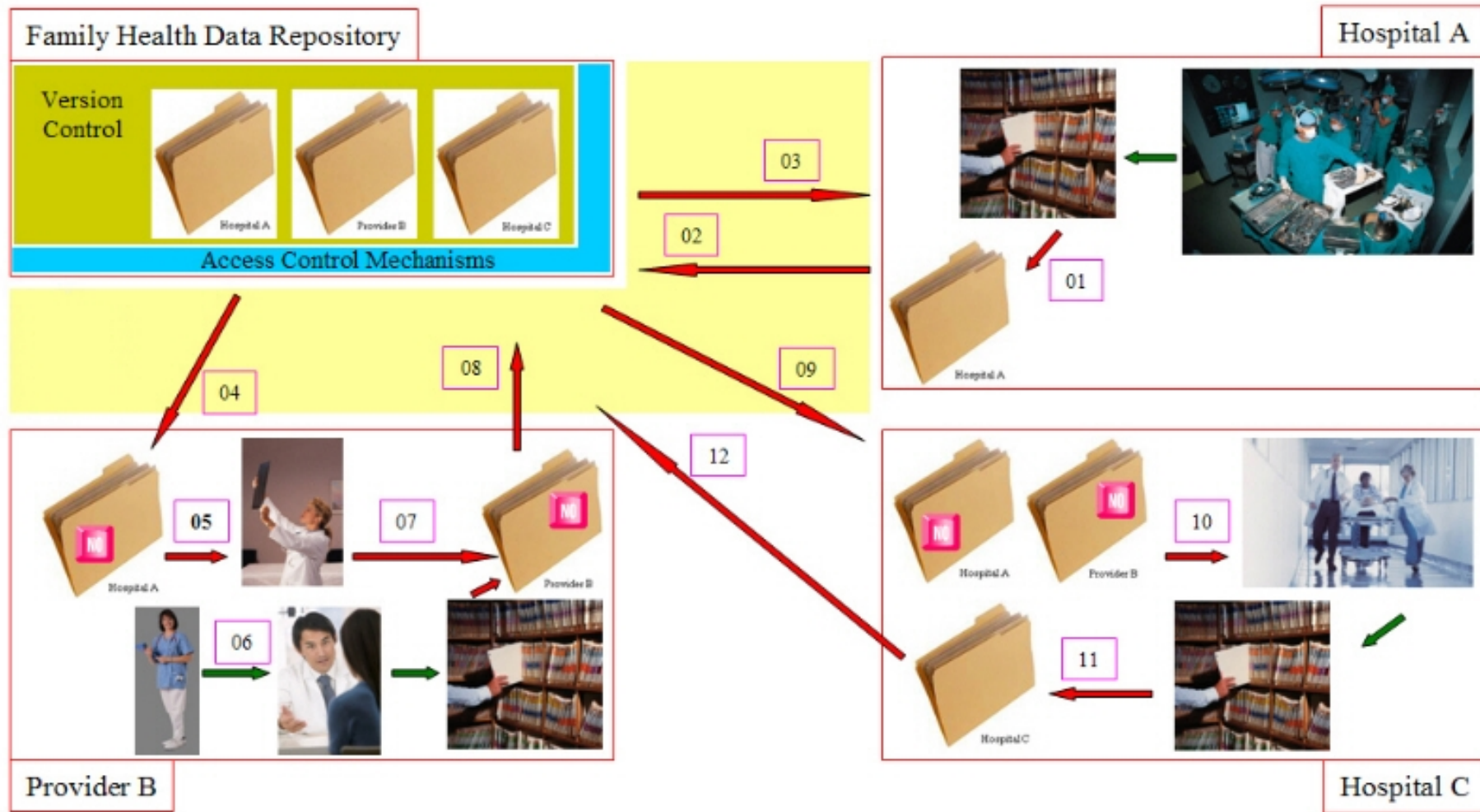
- **Consumers pushed to “own” their health data:**
  - few EMR deployments
  - privacy of outsourced health data processing
  - health data floating around (RHIOs) with no Consumer control
- **Need to migrate from a provider-centric model towards a Consumer-controlled model of health improvement.**



# Family-Centered



# Consumer-Owned Health Data Ecosystem



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# HealthAlbum™ CRM: Consumer Health

## **Customer Relationship Management (CRM):**

- manage customers
- store proposals
- calls, meeting calendar
- tracks bugs, defects
- compile knowledge set
- archive e-mails, faxes
- analyze sales trends
- role-based access
- “Business Dashboard”

## **• HealthAlbum™ flips CRM for Consumers to:**

- manage providers
- store health records
- appointments calendar
- track illness, treatment
- summarize literature
- archive e-mails, faxes
- analyze health trends
- need-to-know access
- “Health Dashboard”



Manage, store  
all documents

Global search function  
across Consumer data

Last Viewed: July's asthma | Antibiotics for Call insurance | Take Mom to onc | Pediatrician vi

SHORTCUTS

Create Contact

Enter Business Card

Create Account

Create Lead

Create Bill / Claim

Create Case

Report Bug

Schedule Meeting

Schedule Call

Create Task

Compose Email

NEW CONTACT

First Name:

Last Name: \*

Phone:

Easy access to  
all functionality

Add Dashlets

MY CALLS

Close	Subject	Duration	Start Date	Start Time	Accept?
<input checked="" type="checkbox"/>	Call insurance co. for referral.	0h15m	2007-05-22	15:30	Accepted

MY MEETINGS

Close	Subject	Duration	Start Date	Start Time	Accept?
<input checked="" type="checkbox"/>	Take Mom to oncologist.	1h00m	2007-05-22	13:30	Accepted

MY ASSIGNED PRESCRIPTIONS

Number	Subject	Priority	Status
1	Antibiotics for Jimmy.	Medium	New

MY LEADS

Name	Office Phone	Date Created
------	--------------	--------------

Review guidelines,  
Evidence Based Med.

Manage providers  
(physicians, clinics,  
hospitals, specialists)

Manage open bills,  
reimbursements,  
claims, deductibles

Multi user system,  
role-based access  
control mechanisms.

Track illnesses,  
treatment plans for  
each family member

JOTPAD

Double click below to  
Open Personalized Health Informatics (O  
http://openphi.lacal.net Jose@Lacal.net  
This is the Aliva release, issued on 04/2  
WARNING: Do \*\*NOT\*\* enter any health data into this system. This is a test  
version. Do \*\*NOT\*\* use this system to treat any person or as a source of  
information for a procedure.

MY OPEN CASES

Number	Subject
1	July's asthma is flaring up again.

MY TOP OPEN BILLS / CLAIMS

Bill / Claim Name	Amount	Expected Close Date
Pediatrician visit - reimbursement	\$45.00	2007-05-22

MY ACCOUNTS

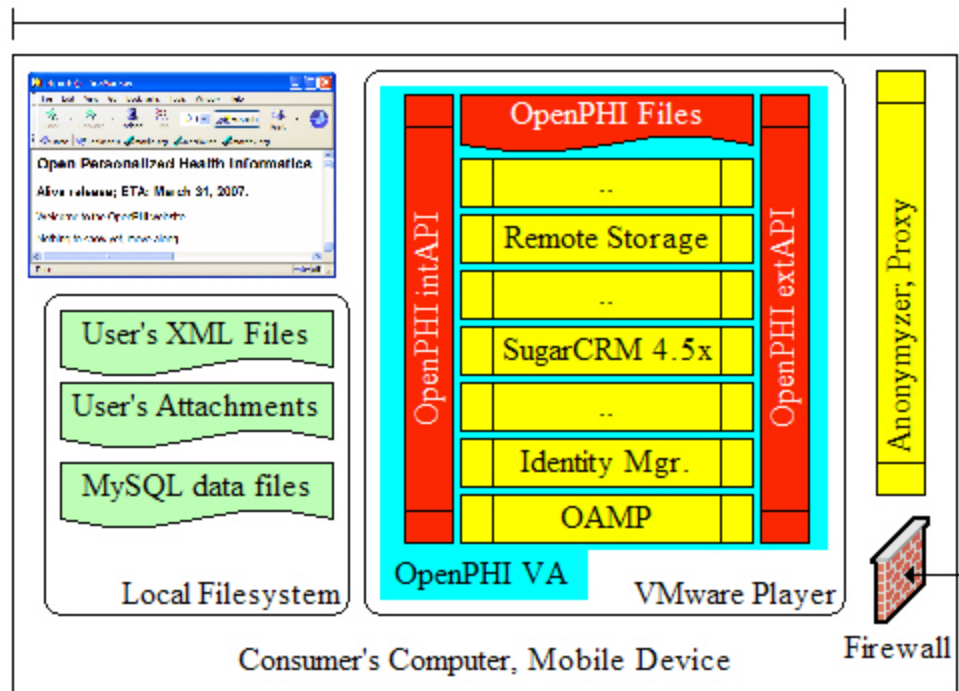
Account Name	Phone	Date Entered
Blue Ridge Pediatrics, Inc.	(123) 456- 7890	2007-04-2 09:57

# HealthAlbum™ Specs

HealthAlbum™

## Virtual Appliance (“VA”):

- software “container” holds an operating system (OS) with no modification to PC
- VA holds complete server environment
- web browser interface
- Consumer data is also stored locally
- runs on older PCs
- multiple languages



## Benefits:

- total consumer control
- high security, privacy
- portable, persistent
- improve health, healing

B



# HealthAlbum™ vs. Other PHR Offerings

	Government (Veterans Adm.)	Provider (Hospital)	Employer (Dossia)	RHIOs	Insurance Company	Private, Web- based PHR	HealthAlbum
Consumer data ownership	NO	NO	NO	NO	NO	Mostly	YES
Consumer controls access, usage	Limited	NO	Limited	NO	NO	Mostly	YES
Longitudinal	Limited	NO. Consumers change providers as needed.	NO. Consumers change employers often.	NO. Consumers move city to city, state to state.	NO. Consumers change ins. cos. often.	YES	YES
Hosting service provider has Consumer trust.	NO	Some	Limited	None	Limited	Questionable	YES
Guarantees no secondary data usage w/o opt in	NO	NO	NO	NO	NO	Varies	YES
Designed for use while protecting Consumer's anonymity.	NO	NO	NO	NO	NO	NO	YES
Consumer controls where data is stored.	NO	NO	NO	NO	NO	NO	YES
How are the costs of the hosting service paid for?	Taxes.	Fees; revenue from data sales.	Unknown.	Fees; ads; revenue from data sales.	Unknown.	Fees; ads; revenue from data sales.	No cost (your own PC)
Can Consumer move data to another hosting option?	Unknown.	Maybe.	Maybe.	NO.	NO.	Maybe.	YES
Anonymous usage? (Consumer does NOT need to set up an account, and no need to log in.)	NO	NO	NO	NO	NO	NO	YES
Software's source code freely available under GPL for inspection, security audit?	NO	NO	NO	NO	NO	NO	YES
Software's source code available under GPL for modifications, improvements, customizations?	NO	NO	NO	NO	NO	NO	YES
Is Consumer data stored in industry-standard formats?	Maybe	NO. Proprietary EMRs.	Unknown.	NO. Proprietary EMRs.	NO.	Maybe.	YES

# Who Would Bother?

Disease Condition	Number of Affected Individuals (US)
Asthma	<u>06.5M</u> <sup>11</sup>
Autism	Up to 560,000 individuals (0 to 21 years) have an <u>ASD</u> <sup>12</sup>
Cancer	One in 330 children will develop cancer by age 20 <sup>13 14</sup>
Cerebral Palsy	764,000 children and adults manifest symptoms of cerebral palsy. <sup>15</sup>
Cystic Fibrosis	30,000 children and adults <sup>16</sup>
Juvenile Diabetes	150,000 young people under 18 years (one in every 400 to 500) <sup>17</sup>
Muscular Dystrophy	Over <u>01M</u> affected by neuromuscular diseases. 250,000 have MD. <sup>18</sup>

Table 2: Number of Affected Individuals by Disease Condition.

## “Data management-heavy diseases” concept:

- constant interaction with providers
- lots of paperwork, data generated constantly
- need historical tracking of files, encounters

## HealthAlbum designed to help parents to:

- alleviate management load of tracking data, appointments, bills
- own their family’s health data, and manage data where / whenever

# Why Sugar? Why SugarCE?

## Why Sugar?

- a.) Wonderful metaphor, flip it on its head
- b.) Users familiar with UI; in use at office, home
- c.) Local, yet web-based
- d.) License (GPL v3): long-term code availability
- e.) Community
- f.) Code flexibility

## Why SugarCE?

### Cost:

- a.) US\$0 base software
- b.) US\$0 distribution cost
- c.) Pay for what is needed

### Control:

- a.) Great CRM “platform” to bolt OpenPHI's specific code on top
- b.) Give control to users

# Implementation Notes

## **Business Model:**

- **Free HealthAlbum**
- **Consulting, branding, customization revenue**

## **Target markets:**

- **hospitals**
- **insurance companies**
- **pharma: clinical trials**

## **Lessons learned:**

- **SugarCRM can be used in many domains beyond its traditional B2C focus.**
- **Easy to build similar uses of SugarCRM in non-traditional (CRM) domains.**

# More Information

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