EDBI Emergency Department Brief Intervention Paul R. Potts

HMRL

Project Summary

- Screen injured people in University of Michigan hospital Emergency Dept. for alcohol use, possible relation to injury
- Test efficacy of tailored materials in changing drinking behavior when presented in this "teachable moment"
- Generic magazine vs. tailored, counseling vs. no counseling

Project Components

- Newton survey engine + Survey
- C "Listener" (Mac data upload program)
- Randomizer' application (web-based)
- Oracle database
- Publisher + tailored messages + layout
- Data translator (format data for analysis)

Original Plans

- Tailored black and white printing on color stationery (like M-Care)
- This meant no tailored color pictures
- Then Hewlett-Packard released inexpensive color laser printers. Slow, but very reliable (down to 8 minutes to print a magazine, with considerable tweaking of graphics)

Newton Goes Under

- Apple's Newton division was spun out into a separate company, then spun back in, then killed without warning
- **Too late to start over**
- Difficult to acquire enough Newton units, but we managed (including replacements for loss and damage over the study period)

Physically Complex Project

- Keep track of patients in crowded, chaoticE.D. (which is being rebuilt in the process)
- Track PDAs and cope with damage, bloodstains
- Get magazines to patients, counsel them, or follow up by mail if necessary (this was added to methodology)

Technically Complex Project

Components written in:

- NewtonScript
- C++
- Java
- Objective C
- "GroverTalk"
- XML

Awkward, but only this flexibility made it possible to merge so many platforms

Follow the Bouncing Data

- Collected on Newton, -> "soup"
- Imported by Mac Listener->file
- □ File sent via FTP->Purgatory (our server)
- Group set, data->Oracle by Randomizer
- (Possibly) file->publisher to make booklet
- Exported from Oracle->file by script
- Java translates data for analysis, generates degree-oftailoring variables using XML dictionaries, Scheme rules

Status Today

In the field for nearly a year
Occasional glitches, but working well
1500+ screened
250 eligible, most of these in study randomized to groups
Not too far from recruitment goals

Status Today (continued)

• Out of Newton pens (social workers throw them away when patients bleed on them) Need to recondition rechargeable batteries Occasional smashed or malfunctioning Newton, occasional server or network problem, but overall quite reliable • Exploding booklet problem fixed!

Future of PDA Projects

- Nothing has replaced the Newton
- It has great battery life, screen
- Options for handheld computers limited
- Windows CE devices: poor battery life, screen size, weak Java support, high price
- Palm devices: tiny screen size, poor development tools

Future of PDA Projects (cont.)

- Would like to develop for Palm platform
- Java support promised, will no doubt arrive eventually
- We could use our Java HAMSTER core!

Newton Engine: HAMSTER

- Developed originally for the Quit for Keeps project (smoking cessation for pregnant women using Newtons for data acquisition)
- Survey Engine needed some improvements and additional features specific to this project
- Survey went through EXTENSIVE revisions for length, clarity, logic

Mac Listener

Originally a PC application written in Visual BASIC by UNC, rewritten by me
Became a Mac C++ program by Mike
Shares original design

Web Randomizer

- A WebObjects application, controlled via a web browser.
- Written by Rob Decker in Objective-C
- Allows you to randomize a user or assign a group manually (chosen with marbles)
- Does URN randomization (balanced)
- Puts data in Oracle database

Publisher

- Uses our existing print publisher framework
- Messages written in our print publishing language ("GroverTalk")
- Drives Quark XPressTM
- We're now using full-color tailored printing in other projects
- Exploding booklet" problem that was quite severe, but fixed with latest Quark

