Homebrew Databases:
Complexities of Everyday Information Management in Nonprofit Organizations

Amy Voida
UC Irvine

Ellie Harmon
UC Irvine

Ban Al-Ani
UC Irvine
<table>
<thead>
<tr>
<th>To Do:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health:</td>
</tr>
<tr>
<td>- climb mountains/like/walk.</td>
</tr>
<tr>
<td>- speech/reads 3rd grade book.</td>
</tr>
<tr>
<td>- re-activate Health club (memberships in fall (check-shares)).</td>
</tr>
<tr>
<td>- start training again (walk until fall).</td>
</tr>
<tr>
<td>House:</td>
</tr>
<tr>
<td>- move stuff from garage to spare room.</td>
</tr>
<tr>
<td>- set up (on table) 2nd floor (table)</td>
</tr>
<tr>
<td>- paint top of desk top.</td>
</tr>
<tr>
<td>- many pictures (on paper, on wall).</td>
</tr>
<tr>
<td>- take down blinds (winding up).</td>
</tr>
<tr>
<td>- close (in since).</td>
</tr>
<tr>
<td>- strike plants (move plants).</td>
</tr>
<tr>
<td>Purchase:</td>
</tr>
<tr>
<td>- chains &amp; emergency kit for car.</td>
</tr>
<tr>
<td>- buy new (unlike).</td>
</tr>
<tr>
<td>Financial:</td>
</tr>
<tr>
<td>- set date for meeting.</td>
</tr>
<tr>
<td>- research LEED cert. make up.</td>
</tr>
<tr>
<td>- fall through 1st floor (unlike).</td>
</tr>
<tr>
<td>Other:</td>
</tr>
<tr>
<td>- follow up with V1.3.</td>
</tr>
<tr>
<td>- trip to go (unlike).</td>
</tr>
</tbody>
</table>
| - outfit + lunch. (shopping time online.)

- Julie Bacon (message) 200.

- make gear app.
- passports + applications.
- movie pass + ticket (check clothing, shoes, etc)
- find wood Buddha + straw hat.
- completetoggle + check out, make new card.

- Design Principles

- Ethics

- BIG EFFECTS

- Small Cares + Big Effects

- Check list

- Chas + Kwan
<table>
<thead>
<tr>
<th>Name</th>
<th>Artist</th>
<th>Time</th>
<th>Album</th>
<th>Year</th>
<th>Last Played</th>
<th>PlayCnt</th>
<th>My Rating</th>
<th>Genre</th>
</tr>
</thead>
<tbody>
<tr>
<td>2     Jesus The Missing Years</td>
<td>Prine, John</td>
<td>5:55</td>
<td>The Missing Years</td>
<td>1991</td>
<td>9/13/06 10:20 AM</td>
<td>13</td>
<td>★★★★★</td>
<td>Folk</td>
</tr>
<tr>
<td>3     The Luck Of The Irish</td>
<td>Lennon, John</td>
<td>2:56</td>
<td>Sometime in New York</td>
<td>1972</td>
<td>9/13/06 10:22 AM</td>
<td>14</td>
<td>★★★★★</td>
<td>Rock</td>
</tr>
<tr>
<td>4     Screw You, We're from Texas</td>
<td>Hubbard, Ray W...</td>
<td>4:04</td>
<td>Grow</td>
<td>2003</td>
<td>9/13/06 10:21 AM</td>
<td>5</td>
<td>★★★★★</td>
<td>Alt-Country</td>
</tr>
<tr>
<td>5     The Great Curve</td>
<td>Talking Heads</td>
<td>6:42</td>
<td>The Name Of This Ban...</td>
<td>1980</td>
<td>9/13/06 10:33 AM</td>
<td>11</td>
<td>★★★★★</td>
<td>Indie</td>
</tr>
<tr>
<td>6     The Big Country</td>
<td>Talking Heads</td>
<td>5:09</td>
<td>The Name Of This Ban...</td>
<td>1978</td>
<td>9/13/06 10:38 AM</td>
<td>14</td>
<td>★★★★★</td>
<td>Indie</td>
</tr>
<tr>
<td>7     Cut Your Hair</td>
<td>Pavement</td>
<td>3:06</td>
<td>Crooked Rain Crooked</td>
<td>1994</td>
<td>9/13/06 10:41 AM</td>
<td>14</td>
<td>★★★★★</td>
<td>Alternative</td>
</tr>
<tr>
<td>8     Cabbage Alley</td>
<td>Meters</td>
<td>3:30</td>
<td>Best Of The Meters</td>
<td>1972</td>
<td>9/13/06 10:45 AM</td>
<td>14</td>
<td>★★★★★</td>
<td>Funk</td>
</tr>
<tr>
<td>9     Positive</td>
<td>Spearhead</td>
<td>4:29</td>
<td>Home</td>
<td>1994</td>
<td>9/13/06 10:48 AM</td>
<td>7</td>
<td>★★★★★</td>
<td>Indie</td>
</tr>
<tr>
<td>10    Strange</td>
<td>Wire</td>
<td>3:58</td>
<td>Pink Flag</td>
<td>1977</td>
<td>9/13/06 10:54 AM</td>
<td>9</td>
<td>★★★★★</td>
<td>Alternative</td>
</tr>
<tr>
<td>11    Long Legged Guitar Pickin'</td>
<td>Cash, Johnny ...</td>
<td>2:37</td>
<td>Carryin' On With Johnn...</td>
<td>1973</td>
<td>9/13/06 10:55 AM</td>
<td>14</td>
<td>★★★★★</td>
<td>Folk</td>
</tr>
<tr>
<td>12    Ring Worm</td>
<td>Morrison, Van</td>
<td>1:32</td>
<td>The Bang Records Con...</td>
<td>1968</td>
<td>9/13/06 10:57 AM</td>
<td>8</td>
<td>★★★★★</td>
<td>Indie</td>
</tr>
<tr>
<td>13    Fool's Paradise</td>
<td>Allison, Mose</td>
<td>3:32</td>
<td>Mose Alive</td>
<td>1967</td>
<td>9/13/06 11:00 AM</td>
<td>9</td>
<td>★★★★★</td>
<td>Jazz</td>
</tr>
<tr>
<td>14    We Better Talk This Over</td>
<td>Dylan, Bob</td>
<td>4:07</td>
<td>Street Legal</td>
<td>1978</td>
<td>9/13/06 11:04 AM</td>
<td>14</td>
<td>★★★★★</td>
<td>Rock</td>
</tr>
<tr>
<td>15    Baba L'Rouami</td>
<td>Gnawa Night Sp...</td>
<td>3:07</td>
<td>Gnawa Music Of Marr...</td>
<td>1990</td>
<td>8/14/06 10:41 PM</td>
<td>12</td>
<td>★★★★★</td>
<td>African</td>
</tr>
<tr>
<td>16    Jesus Wants Me For A Sun...</td>
<td>Vaselines, The...</td>
<td>3:31</td>
<td>The Way Of The Vaseli...</td>
<td>1992</td>
<td>8/14/06 9:30 AM</td>
<td>3</td>
<td>★★★★★</td>
<td>Indie</td>
</tr>
<tr>
<td>17    Where I Lead Me</td>
<td>Van Zandt, Tow...</td>
<td>2:47</td>
<td>Delta Momma Blues</td>
<td>1971</td>
<td>8/14/06 9:30 AM</td>
<td>10</td>
<td>★★★★★</td>
<td>Cosmic A...</td>
</tr>
<tr>
<td>19    Sir Duke</td>
<td>Wonder, Stevie</td>
<td>3:54</td>
<td>Songs In The Key Of Life</td>
<td>1975</td>
<td>8/3/06 10:26 AM</td>
<td>8</td>
<td>★★★★★</td>
<td>R&amp;B</td>
</tr>
<tr>
<td>20    Oculi Filiioli (Junior's Eyes)</td>
<td>Rondellus</td>
<td>5:33</td>
<td>Sabbatum</td>
<td>2002</td>
<td>9/9/06 4:20 PM</td>
<td>16</td>
<td>★★★★★</td>
<td>Classical</td>
</tr>
</tbody>
</table>

iTunes

Baba L'Rouami
Gnawa Night Spirit Masters

0:25  2:42

THE NAME OF THIS BAND IS TALKING HEADS

LIVE DOUBLE

The Name Of This Band Is Talking Heads
Talking Heads

Reggae
WorldBeat CDI...
QlStarry
QlTunes Friday
New Rips
* This Years Mod...
Gravitas
S count
150 greatest hits
2002–03 models
2004 models
2005 Models
a randomizer 90
Albumizer
All
Chios files
high res unplayed
Music Videos
R&B
R&B Podilizer
Reggae CDizer
RockSnob iPod
World Beat
Zoinks iPod
Clutter
33.3
500 Rolling Stone
500 RS Chios
Best songs 2004
Block Party!
brains
Celtic Groove
Crazy Grits
Debut albums
emusic
Punk rainbow
J Rock Snobs
Below is the list of available variables for this template. You can use these variables within your subject or message.

- %EMPID
- %EMPLNAME
- %SUBMISSION_DATE
- %SHEET_ID
- %SHEET_NAME
- %BUSINESS_PURPOSE
- %TOTAL_AMT
- %TOTAL_REIMB_AMT
- %CURRENCY_CD

```
SELECT A.EMPID, B.NAME EMPLNAME, %DateOut(A.SUBMISSION_DATE), A.SHEET_ID, A.SHEET_NAME, C.DESCRIPT BUSINESS_PURPOSE, A.TOTAL_AMT, SUM(CASE WHEN E.REIMBURSEMENT_CD = 'R' AND F.EXPEND_MTHD_CODE = 'EMP' THEN E.MON END) - AADVANCE AMT, A.CURRENCY_CD, Z.THERE I SEE YOU FROM PS_EX_SHEET_HDR A, PS_PERSONAL_DATA B, PS_EX_PURPOSE_TBL C, PS_EX_SHEET_LINE D, PS_EX_MTHD_TBL F
```

Generic Template Definition | Blackberry Email Responses
This is where we get crazy. This is nuts. We actually—we don't have a database of our volunteers.... I shouldn't say that. We have probably seven databases for volunteers. All of them have different information. It took us three to four months to even figure out who had what databases.

- Volunteer Coordinator at a Human Services Nonprofit (P1)
Your Whirlwind Tour of Homebrew Databases

- Method
- Homebrew Databases: Example & Definition
- Homebrew Databases: Configurations & Challenges
  - Personal Office Applications as “Databases”
  - Paper-Based “Databases”
- Enterprise & Custom Databases
Method

- Semi-structured Interviews
- 23 Volunteer Coordinators
  - Variety of Job Titles, Locations within the Organization
  - Variety of Sizes (& Maturity) of Volunteer Programs
  - Variety of Domains for Nonprofit Work
- Iterative, Inductive Data Analysis
Challenges with a Multiplicity of Systems

- Redundant data entry... have to (manually) re-enter a different subset of the data in every system
- Version control issues... information falls out of sync across multiple “databases”
- Information management systems are abandoned
…and at the point when you have to do multiple entries is when you don’t do entries. You know, it just is so time-consuming and redundant that you have so many other things to do, that you just don’t have the time to enter it.

- Volunteer Coordinator at a Housing & Shelter Nonprofit (L2)
Homebrew Database

- An assemblage of information management resources that people have pieced together to satisfice their information management needs.
- Involved multiple systems
- Sometimes included actual database software but more typically consisted of other resources
- Participants referred to it as their “database” or “databases”
Types of Systems in the Homebrew Databases

- Personal office applications as “databases”
- Paper-based “databases”
- Enterprise or custom databases
Personal Office Applications as Databases
Personal Office Applications as Databases

- The allure...
- Readily available
- Already familiar
- Can be used flexibly
Personal Office Applications as Databases

The allure...
- Readily available
- Already familiar
- Can be used flexibly

The problems that arise...
- Failure to scale
  - Number of users
  - Number of records
  - Dimensions of data
- Inaccessibility
  - Access and aggregation
  - From off-site locations
We were crashing the system for a year and a half and no one told us. Our network would go down every time we sent an email out to all the volunteers, but there was never the connection made. And one day I was pulled over to the data room and, “Do you recognize these email addresses?” I’m like, “Yes, those are our volunteers!”

- Volunteer Coordinator at an Animal Welfare Nonprofit (D2)
Personal Office Applications as Databases

The allure...
- Readily available
- Already familiar

The problems that arise...
- Failure to scale
  - Number of users
  - Number of records
  - Dimensions of data
- Inaccessibility
  - Access and aggregation
  - From off-site locations
Paper-Based Databases
Paper-Based Databases

The allure...

❖ Supports collaboration
❖ Tangible “master” copy
doesn’t fall out of sync
❖ Serves as a lowest common
demoninator
❖ Provides a shared
awareness of process
Paper-Based Databases

The allure...
- Supports collaboration
- Tangible “master” copy doesn’t fall out of sync
- Serves as a lowest common denominator
- Provides a shared awareness of process

The problems that arise...
- Failure to scale
- Inaccessibility

...but magnified!
Enterprise or Custom Databases
Enterprise or Custom Databases

- The allure...
- Ability to handle scalability of data and users
Enterprise or Custom Databases

The problems that arise...
- Overhead & setup cost
- Developing the system
- Training people to use the system
- Initial data entry
- Inaccessibility of the data
- Ongoing overhead with data entry

The allure...
- Ability to handle scalability of data and users
So, I guess that’s part of the daily [work], too, is the input of the night before’s volunteer hours, which is a little backed up right now… My volunteer who does that has been sick for a while…. We try to keep up with it and it just gets away from you. We could use extra hands, but that means extra computers and extra spots to sit.

- Volunteer Coordinator at a Food & Nutrition Nonprofit (K1)
The Cycle of Reconfiguration

1. Search for one system that does it all
2. Change systems to try and consolidate functionality
3. Migrate data from one system to another
4. Abandon information that can't be migrated
5. Struggle with additional overhead in data management
Improving the Human Factors Aspect of Database Interactions

BEN SHNEIDERMAN
University of Maryland

The widespread dissemination of computer and information systems to non-technically trained individuals requires a new approach to the design and development of database interfaces. This paper provides the motivational background for controlled psychological experimentation in exploring the person-machine interface. Frameworks for the selectionist approach are given, research methods discussed, research issues presented, and a small experiment is offered as an example of what can be accomplished. This experiment is a comparison of natural and artificial language query facilities. Although subjects posed approximately equal numbers of valid queries with either facility, natural language was significantly more invalid queries which could not be answered from the database that was described.

Key Words and Phrases: human factors, database systems, data models, query languages, natural language interfaces, psychology, experimentation

ICATC/81 Categories: 4.33, 4.4, 3.72

1. INTRODUCTION

As questions of technical feasibility and performance of database systems are resolved, increased attention is being paid to human factors. There is widespread recognition that future systems will be commercially viable only if the user interface is in harmony with user skills and task requirements. Management increasingly focuses on human factors, but technical professionals have shown little predilection to go beyond introspection and their own experience. Unfortunately, the background of a systems or language designer may be profoundly different from the background of the intended user. Even if this were not the case, casual introspection hardly seems an adequate basis to develop costly and widely used computer and information systems.

The programming language community has begun to take a more psychologically oriented approach to studying programmer behavior and utilization of language facilities [1-9]. Research in this area is leading to improved guidelines

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This work was partially supported by the National Science Foundation under Grants MAC-76-03142 and MCS-77-88641.

Author's address: Department of Information Systems Management, University of Maryland, College Park, MD 20742.

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Thanks!

This research was supported by:
Center for Organizational Research at UCI

Amy Voida  
amyvoida@uci.edu

Ellie Harmon  
ellie.harmon@uci.edu

Ban Al-Ani  
balani@uci.edu