Chandler: An Open Source Personal Information Manager

Mitchell Baker, Katie Capps-Parlante, Andy Hertzfeld, Chao Lam

**Open Source Applications Foundation
www.osafoundation.org**

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Topics

- Chandler Overview - Chao Lam
- Architectural Overview - Andy Hertzfeld
- Data Model - Katie Capps-Parlante
- Project Dynamics - Mitchell Baker

Chandler Overview

Chao Lam

Chandler in a Nutshell^{TM}

- Open Source Personal Information Manager
- Email, calendar, contacts, tasks, free-form items
- Easy sharing and collaboration
- Server optional
- Linux, Mac, and Windows
- Modular and extensible platform

Chandler Key Product Focus

- Task-centric; NOT application-centric
- Innovative document architecture and info-widgets
- Strong information management capabilities
- Sharing and collaboration
- High-volume power email features

Project: My Wife's Surprise Party

Calendar

	Sun - July 14	Mon - July 15	Tue - July 16	Wed - July 16	Thu - July 17	Fri - July 18	Sat - July 19
9:00							
10:00							Davis Beach bike ride
11:00							Flower Delivery
Noon							Guests Arrive
1:00							Surprise party for Elaine!
2:00	Planning Meeting						
3:00				Kids' song rehearsal			
4:00				Put together slide show			
5:00						Pick up cake	

About

Shhhh. . .You are cordially invited to a. . .

<SURPRISE BIRTHDAY PARTY>

For Elaine Jek

Saturday - July 18
At the Levin's
23210 Juniper Avenue, Torrance
Please RSVP to Chao by July 11th - Thanks!

Participants

	Confirmed	Tasks
▼		
	Mitchell BAKER (+1 guest)	Pick up cake, Sesame Noodle Salad, Planning Meeting, Davis Beach bike ride
	Katie CAPPS PARLANTE (+2 guests)	Bring girls' scrapbook, Crispy Chicken with Seaweed
	Elaine JEK	Our surprise guest
	Chih-Chao LAM	Kids' song rehearsal, Put together slide show, Flower Delivery, Planning Meeting, Cook Abalone
▼	**Not Yet Responded**	
	Andy HERTZFELD more	

Message Threads

JLevin: So, have we agreed it's going to be a potluck?

MBaker: Yeah, let's do that. I'll bring cold noodle salad

Chao: The potluck is confirmed - I've created the Potluck List for everyone. How about last names A-L bring a main dish and M-Z bring drinks and desserts?

Chao: Can anyone loan me a projector?

SHajarnavis: I've got a projector.
                                              more

This is a "Surprise Party" document. "About" introduces the project, while "Calendar" and "Participants" indicate key people and tasks. The "Message Board" keeps everyone in sync.

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By clicking on a participant (Mitchell Baker), you can preview key contact data and see her related activities and tasks. This highlights the interconnections between disparate data.

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Potluck List

Guest	Dish or Dessert
MBaker	Sesame Noodle Salad
KCapps	Crispy Chicken with Seaweed
Chao	Abalone
JLevin	Stuffed peppers
MChan	Shrimp dumplings
SHajarnavis	Vegetable stew
MZecker	Key lime pie
LUy	Sparkling punch

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Not Yet Responded

Andy HERTZFELD

andy@internet.com
Cell: (650) 555-1234
123 Any Street
Cupertino, CA 90503

more

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A user can easily create and share a custom list as needed - in this case, a "Potluck List" that with two columns - "Username" and "Dish or Dessert".

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Flower Delivery

Vendor	www.localflowers.com
Order #	4SIA-203VKE
Total Cost	$35.00
Notes	
Related To	To Do List, Budget

Budget

Item #	Name	Budgeted	Actual
1	Flower Delivery	$40.00	$35.00
2	Balloon Delivery	20.00	22.00
3	Cake	15.00	13.72
4	Champagne - 3 bottles	18.00	19.56
	Total	$93.00	$90.28
	Cost / Participant	$9.30	$9.03

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Automated agents can interact with the project's many objects - for example, aggregating the various purchases into a budget statement.

Chandler Road Map

- 0.1 Release (Apr '03)
- Dev Releases (Present - Dec '03)
  - 0.2, 0.3 "architecture" releases (Oct '03, Jan '04)
  - 0.5 "Alpha"
  - 0.6 "Beta"
- Chandler 1.0 "Canoga" (Dec' 04)
- Chandler 2.0 "Westwood Higher-Ed" (Sep '05)

Dev Releases

- Build up platform and infrastructure

- Innovative "must-have" capabilities

- Modular, extensible architecture

- Basic elements of end-user applications to validate platform

Architecture Goals

- Cross Platform - same code base for Windows, Macintosh, Linux

- Won't compromise on user interface or fit and finish

- Flexible, on-the-fly data model ala Lotus Agenda

- As modular as possible

- Easy Sharing and Collaboration

- Easy to Program at Multiple Levels

Andy Hertzfeld

wxWindows Cross-Platform GUI Platform

- Cross platform development using native widgets

- Modern, mature, 1st class GUI toolkit

- We must improve wxWindows where it falls short, like imaging model

- Excellent Python integration

Python

- Ease of programming more important than efficiency

- But easy integration with C when we need performance

- Python is great for modularity, flexible data model, and programming in the large

Andy Hertzfeld

Modularity and Extensibility

- Commited to extreme modularity
- Parcel framework allows many kinds of extensions
- User Interface is completely scriptable
- Easy customization

Document Architecture

- Easy authoring and customization of rich views

- End user has fine control over presentation

- Style abstracted from document via stylesheets

- Outline/Table widget

Agent Framework

- Metaphor of people in occupational roles performing tasks on your behalf
- Perform actions automatically when conditions arise
- Orchestration of multi-step processes in the background
- Graphically rich UI expresses activity and urgency

Data Model Overview

Katie Capps Parlante

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Flexible Data Model

- Not a relational database or object database
  - Formal schema, hard to change
- Not a spreadsheet
  - Flexible, no semantics
- Data Framework
  - Data Model and Item Repository
  - Flexible, semi-structured data
  - Includes some semantic information

User's Data

- Flexibly create new data

- Add semantics to data (schema)

- Schema is just more data

- Create relationships between new data and existing data

- Semantic Web: share data with semantics

Python Programmer

- Data Model
    - Define schema with XML
- Python Mapping
    - Access data as objects
    - Associate methods with objects
- Repository
    - sharing, security, replication
    - BerkeleyDB for storage
    - ZODB for object cache

Items

calendar event

uid	party_uid
subject	'Suprise party for Elaine!'
startTime	1:00 PM
duration	3 Hours
associatedWith	elaine_uid
isa	CalendarEvent_uid

contact

uid	elaine_uid
firstName	'Elaine'
lastName	'Jek'
email	'elaine@yahoo.com'
associatedWith	party_uid
isa	Contact_uid

Items

attributes

uid	party_uid
subject	'Suprise party for Elaine!'
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attributes

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Items

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Items

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Schema Items

Kind

uid	CalendarEvent_uid
name	'CalendarEvent'
attribute	startTime_uid
	duration_uid
	subject_uid
	associated_with
pythonMapping	chandler.cal.Event
isa	Kind_uid

Attribute Definition

uid	startTime_uid
name	'startTime'
identifier	startTime
type	DateTime
cardinality	one
isa	AttrDef_uid

Schema Items

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Flexible Data

- Add additional attributes to an item
- Add additional attributes to a kind
- Global attributes
- Symmetrical item references

Current Status

- Iterative design mode
- 0.2 Release
  - API
  - Strawman schema
  - Functional repository implementation
- Data framework project wiki page

Project Dynamics

Mitchell Baker

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Where We Are Today

- Finalizing critical design elements
- Early, early implementation
- Status reflected in project dynamics

Code

- Open CVS repository: http://cvs.osafoundation.org
- Code is still sparse
- "Dot Releases"
    - Reasonable release process -planning, testing, documentation
- "Milestones"
    - Calendar based builds every 2 weeks
    - Used for project management - did the work we hoped would get done in these 2 weeks actually get done?
    - No polishing, very basic QA
    - Useful for working with Chandler in between Dot Releases
- Bugzilla: http://bugzilla.osafoundation.org
- Available under the GPL now, will also be available under other, including commercial licenses.

Information

- Wiki: http://wiki.osafoundation.org/bin/view/Main/WikiHome

  - Design docs --agents, datamodel, etc.

  - Project planning

  - Best place to find out current status

- Bi-weekly Status Updates: http://wiki.osafoundation.org/bin/view/Main/OSAFStatusReports

- RSS feeds for various pages: http://www.osafoundation.org/announcements_whats_new.htm

- Website: www.osafoundation.org

Discussion

- IRC "irc.osafoundation.org #chandler"
  - Currently sporatic activity
  - Weekly "Office Hour" Tuesday at 11am Pacific Time
  - Scheduled sessions to discuss particular topics: http://wiki.osafoundation.org/bin/view/Main/ ChatSchedule
- Mailing Lists: http://www.osafoundation.org/ mailing_lists.htm
- Wiki

Getting Involved

- Now

    - Get to know us: IRC, Wiki, mailing lists, Website

    - Share your expertise: wxWindows, wxPython, agents, data models, security

    - Develop expertise: wxPython, wxWindows

    - Write a parcel, stress our framework

    - Employment opportunities listed on Website

- Soon

    - Develop features for Chandler

    - Develop parcels for information you care about

    - Localize, test

Thank You
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