Open Source Applications Foundation

A Developer's Tour of Chandler

July 26–30, 2004

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Overview

- Big Picture (Mitch Kapor)
- Chandler Architecture Overview (Ted Leung)
  - Repository and Services
- Project Dynamics / Community (Ted Leung)
- Introduction to CPIA (John Anderson)
- Chandler, Email, & Twisted (Brian Kirsch)
- Demo
- Q & A

The Big Picture

Mitch Kapor <mitch@osafoundation.org>

Chandler Architecture

Ted Leung <twl@osafoundation.org>

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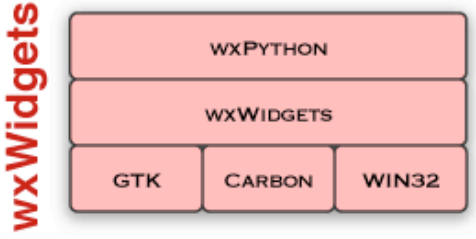
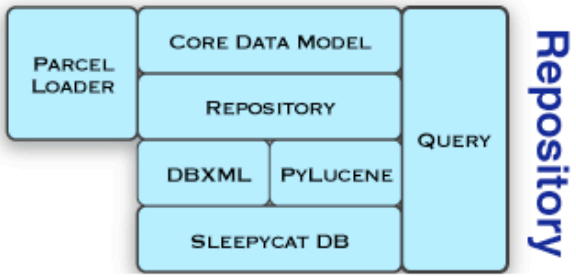
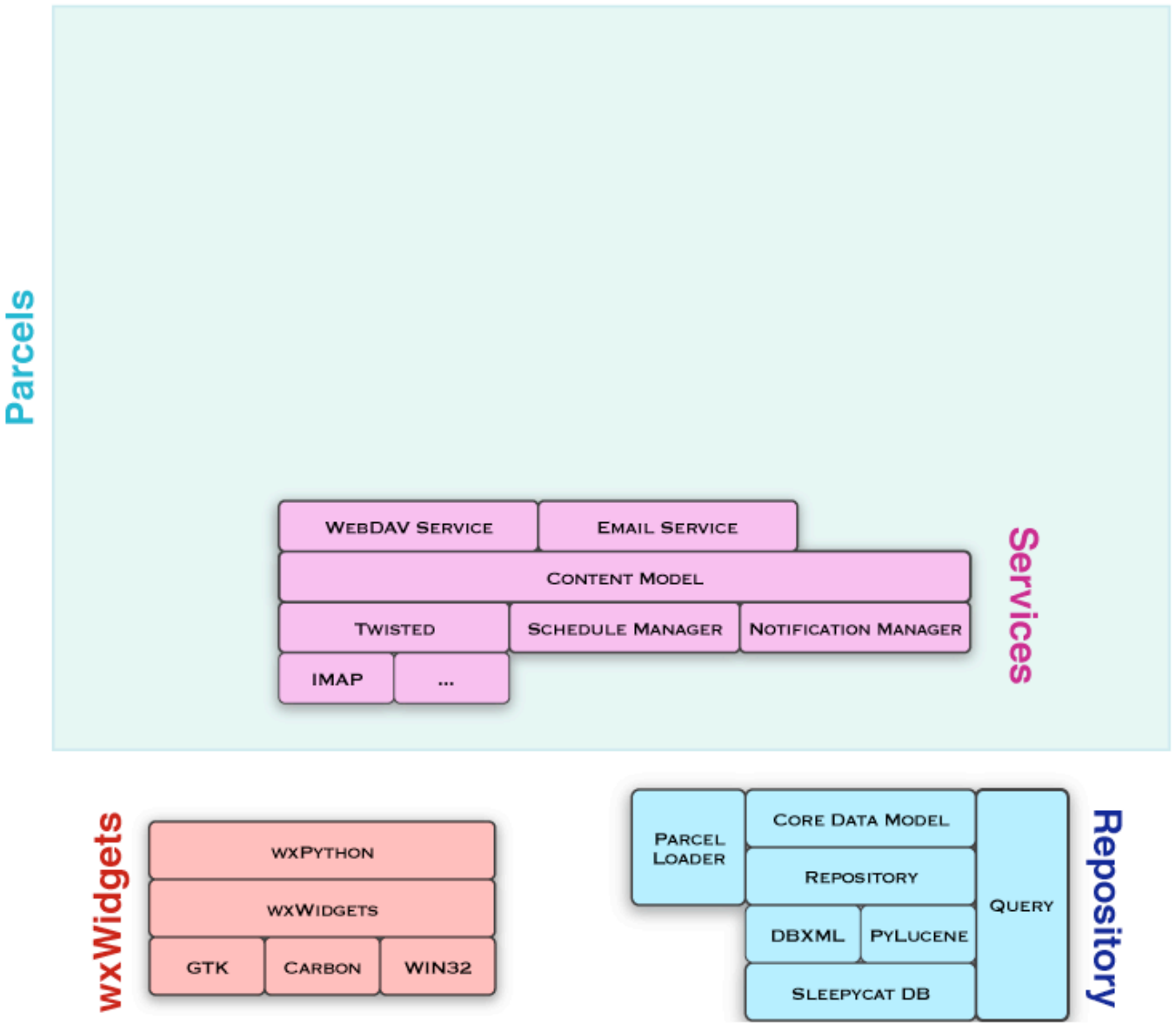

wxWidgets
wxPython
wxWidgets
GTK
Carbon
WIN32


Parcel Loader
Core Data Model
Repository
DBXML
PyLucene
Sleepycat DB
Query
Repository


Parcels
WebDAV Service
Email Service
Content Model
Twisted
Schedule Manager
Notification Manager
IMAP
...
Services
wxWidgets
wxPython
wxWidgets
GTK
Carbon
WIN32
Parcel Loader
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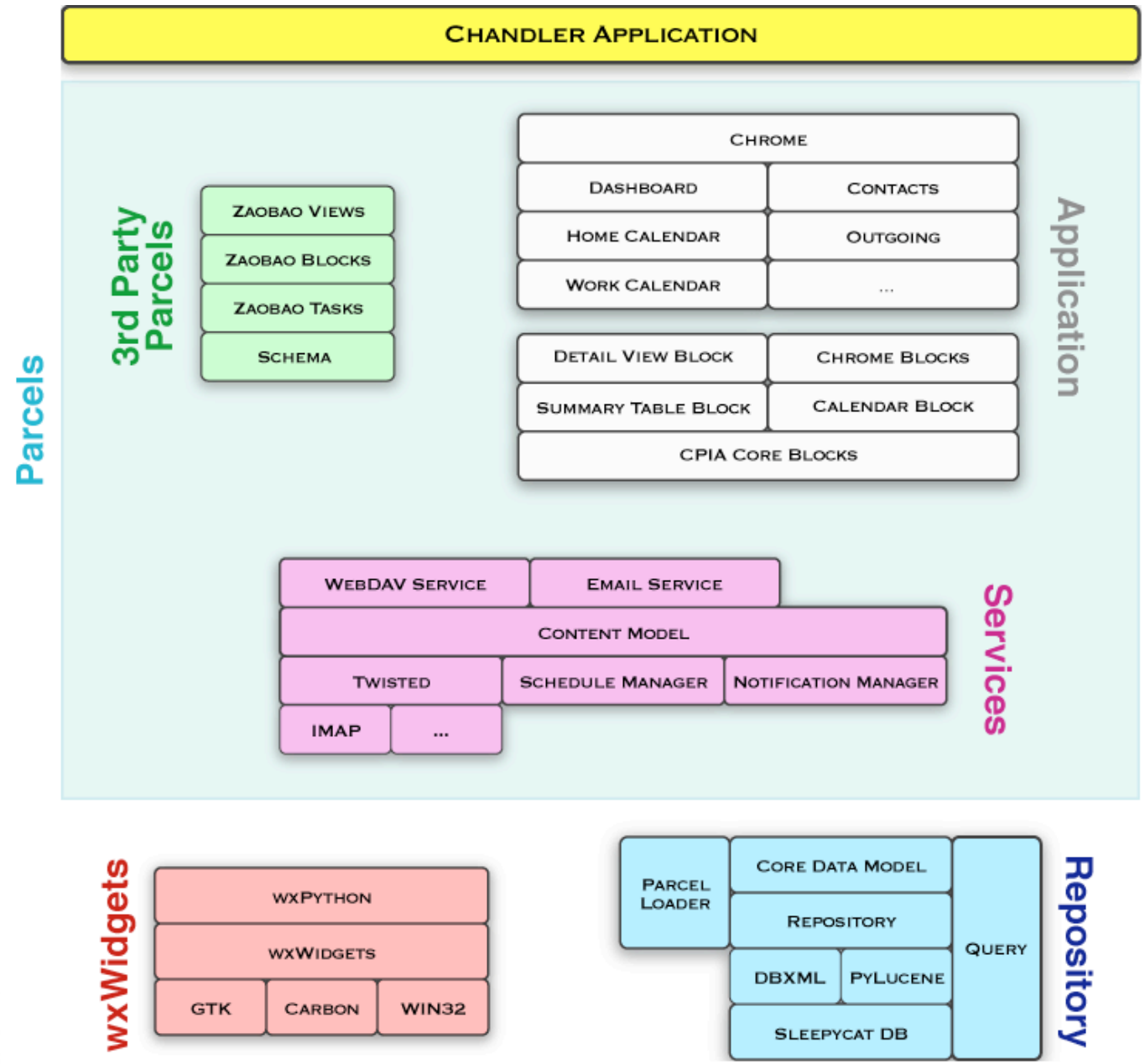
Query
Repository


Chandler Application
Parcels
3rd Party Parcels
Zaobao Views
Zaobao Blocks
Zaobao Tasks
Schema
Application
Chrome
Dashboard
Contacts
Home Calendar
Outgoing
Work Calendar
...
Detail View Block
Chrome Blocks
Summary Table Block
Calendar Block
CPIA Core Blocks
Services
WebDAV Service
Email Service
Content Model
Twisted
Schedule Manager
Notification Manager
IMAP
...
wxWidgets
wxPython
wxWidgets
GTK
Carbon
Win32
Repository
Parcel Loader
Core Data Model
Repository
DBXML
PyLucene
Sleepycat DB
Query

Chandler Repository

- Item based data model
  - bi-directional references
- Integrated with Python
- Uses an XML format to describe the schema
- Concurrency control / threading
- Full text indexing
  - PyLucene

Services

- Standards
  - IMAP/POP
  - WebDAV
  - XMPP
  - CALDAV
- Security
  - PKI Infrastructure
  - m2crypto

Developer Info

- CVS
  - cvs.osafoundation.org
- Bi-weekly milestone builds
- bugzilla.osafoundation.org
- Licensing
  - Dual Licensed, GPL

Community

- wiki.osafoundation.org
  - RSS feeds
- www.osafoundation.org
- Mailing lists
  - {dev, design, pylucene-dev}@osafoundation.org
- IRC
  - irc.osafoundation.org:6667
  - #chandler

Chandler Roadmap

- 0.4 Release - October 2004
  - Experimentally usable
- 0.5 Release - 3-5 mos after 0.4
  - Basic end user functionality
  - Dogfood
- 1.0 (Canoga) Release - 2005

CPIA

Chandler **P**resentation & **I**nteraction **A**rchitecture

John Anderson <john@osafoundation.org>

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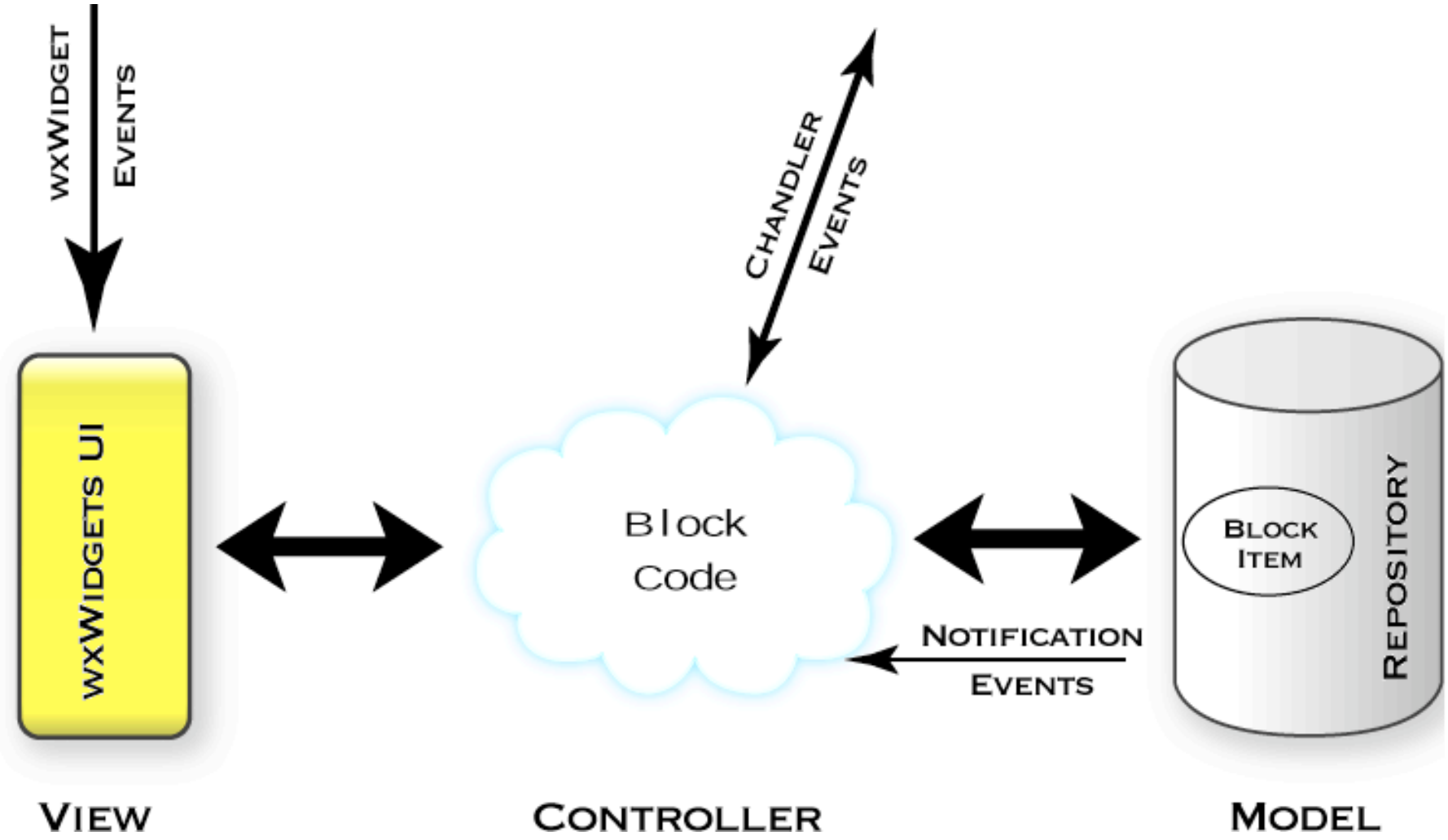
Goals

- Design a set of Chandler-specific UI building blocks
- Blocks don’t depend on the presentation platform
- Enable a non-programmer build mode


wxWidget Events
Chandler Events
wxWidgets UI
Block Code
Notification Events
Block Item
Repository
View
Controller
Model

Examples of Blocks

- Container blocks
- Tree and List blocks
- Compound blocks

Progress Report

- Data driven model works well (observable queries)
- Not enough experience with Chandler events
- No experience with multiple presentation platforms

Chandler Mail Framework

Brian Kirsch <bkirsch@osafoundation.org>

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Chandler Mail Libraries Requirements

IMAP Library

- Open Source (non-GPL)
- Pipelining
- IMAP Syntax call efficiency
- SSL / TLS support
- Handle quirky IMAP server implementations
- IMAP Authentication Schemes (Login, MD5, etc.)
- Actively maintained

Mail Message Parser

- Open Source
- Handle badly formatted messages (Spam)
- Good performance
- Handle parsing of very complex mail messages
- i18n Support
- Actively maintained

IMAP Evaluation

- Mozilla Mail Client (C++, XPCom)
- University of Washington C-client (C)
- Python imaplib (Python)
- Twisted IMAP4Client library (Python)
  - http://www.twistedmatrix.com/

Mail Library Determination

- Twisted Framework for IMAP support
- Python version 2.4 Feedparser (Spambayes)

Still to be decided:

- POP3 Library
- SMTP Library
- Spam / Filter Libraries
- Encryption Libraries (S/MIME, PGP)

Twisted in Chandler

- Twisted is a core service within Chandler
- The Twisted Asynchronous event loop is run in a dedicated thread and accessed via the reactor.callFromThread() syntax
- Chandler code leveraging Twisted runs in the Twisted asynchronous event thread (Repository Views)

Chandler 0.4 Release

0.4A Milestone:

- Download mail messages from one or more IMAP accounts and store in the repository utilizing Twisted's IMAP4Client and Python's message parser.
- Improve the Chandler mail content model
- Identify and resolve IMAP server synchronization issues

0.4B Milestone:

- Compose and send mail from Chandler UI (SMTP support)
- Encrypted (SSL) IMAP client / server communication (configurable)

Looking Forward

- The Inbox
- Discussion Threads
- Item Collections
- IMAP / Chandler Synchronization
- Searching

- Spam Protection / Rules / Signing (S/Mime, PGP)

More Information

- Email Service Page

http://wiki.osafoundation.org/twiki/bin/view/Chandler/EmailService

- Chandler Twisted Home

http://wiki.osafoundation.org/twiki/bin/view/Chandler/TwistedHome

Demo

BOF - tonight

OSAF's Chandler - Q & A With the Developers

Track: BOF
Date: Wednesday, July 28
Time: 7:00pm - 8:00pm
Location: Columbia

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Item Collection

Date	Who	About
	Stored	
	Processing	Friday May 7, 2004 2:52 PM PST
2004 Apr	Michael Kent	New Project Announcement
	Anthony Jackson	Re: New Project Announcement
	Angela Green	Re: New Project Announcement
	Jordan Adams (24)	[Dev] Profile of startup
Select item	Mark Timmons (24)	Re: [Dev] Profile of startup
26–02	Nate Brillman (24)	Re: [Dev] Profile of startup
27 T	Eileen Simmons	Research Results Attached as Document
This month	mary@domain.com	subject goes here
This week	Me	record sales
May 03 M	abraham.lincoln@gm.edu	my country for a beaver!
Today F	tonyb@parliament.gov.uk	mano a mano a bush
8	Jensen Biggens III	how live large in l.a.
	Jordan Knight	Orthodontia conference 2004
	Carol King	dinner at Freddies, bring your own
	Fania Michaels	discuss inviting Arlene with Fania
	hail@mary.com	bad credit?
	king@wenceslas.com (10)	What have you done for me lately?
	Kathy Peter, Martha Young	my kingdom for a horse!
11	**mason@dixonline.com**	**confessions of a spineless arthropod**
	george@curious.com	**my kingdom for a mouse!**
12	Phillip Roth	wall proposal
	George Berlin	Conference attendance
	Karen Hughes	you knowest not what which you sayest
	Port@tonkin.sw (5)	Big losses? Little pay-off?
May 30 Su	**majordomo@admin.net**	**Bridal party! invitations**
Today F	Me	Pick up cabbanges
2	**cheese@grater.com**	**Cuisinarts going WRONG**
	Roberta Newsom	**Can you come at 8:30 on Monday**
3:00	3–4:30PM Finger painting meeting w CZ YtS LaKR in Bldg A	
4:00		
5:00	4:30–5PM Type up meeting notes for JZ	
	Deferred	