

Merging Horde Groupware with jQuery Mobile

LinuxTag Berlin
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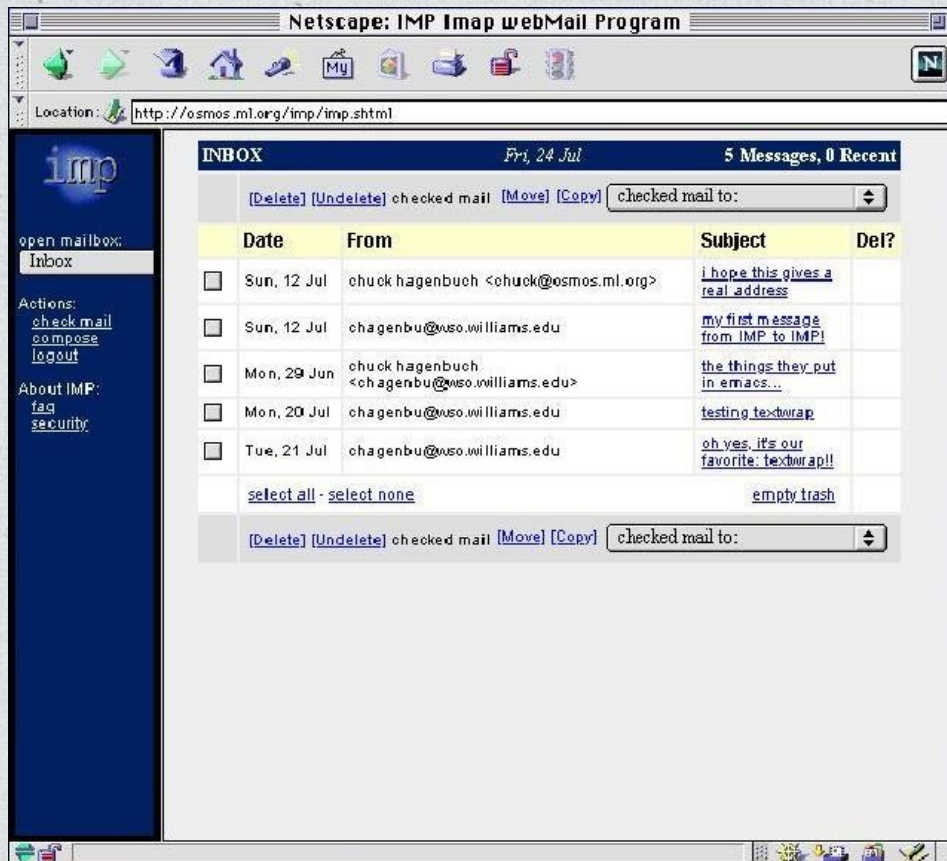
horde

I'm going to show

- How Horde evolved
- How that helped us adding a jQuery Mobile interface
- What have been the key points for a success
- Which problems we experienced
- How we solved them

A little bit of history

- Horde has a history of 14 years
- 1998: IMP 1.0 – PHP 3 webmail client





Location: <http://osmos.ml.org/imp/imp.shtml>

imp

open mailbox:

Inbox

Actions:

[check mail](#)

[compose](#)

[logout](#)

About IMP:

[faq](#)

[security](#)

INBOX

Fri, 24 Jul

5 Messages, 0 Recent

[Delete] [Undelete] checked mail [Move] [Copy] checked mail to: checked mail to: ▾

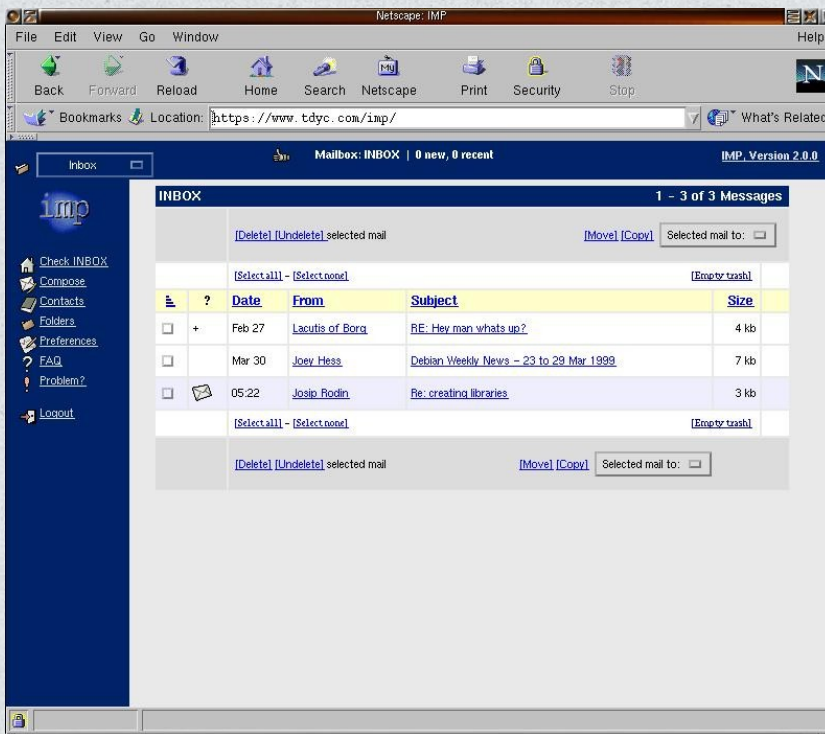
	Date	From	Subject	Del?
<input type="checkbox"/>	Sun, 12 Jul	chuck hagenbuch <chuck@osmos.ml.org>	i hope this gives a real address	
<input type="checkbox"/>	Sun, 12 Jul	chagenbu@uso.williams.edu	my first message from IMP to IMP!	
<input type="checkbox"/>	Mon, 29 Jun	chuck hagenbuch <chagenbu@uso.williams.edu>	the things they put in emacs...	
<input type="checkbox"/>	Mon, 20 Jul	chagenbu@uso.williams.edu	testing textwrap	
<input type="checkbox"/>	Tue, 21 Jul	chagenbu@uso.williams.edu	oh yes, it's our favorite: textwrap!!	
select all - select none			empty trash	

[Delete] [Undelete] checked mail [Move] [Copy] checked mail to: checked mail to: ▾



A little bit of history

- 1999: Horde 1.0, IMP 2.0
- PHP 3 application framework
- First objects





Back



Forward



Reload



Home



Search



Netscape



Print



Security



Stop



Bookmarks



Location:

<https://www.tdyc.com/imp/>

What's Related



Inbox



Mailbox: INBOX | 0 new, 0 recent

IMP, Version 2.0.0



- [Check INBOX](#)
- [Compose](#)
- [Contacts](#)
- [Folders](#)
- [Preferences](#)
- [FAQ](#)
- [Problem?](#)
- [Logout](#)

INBOX

1 - 3 of 3 Messages

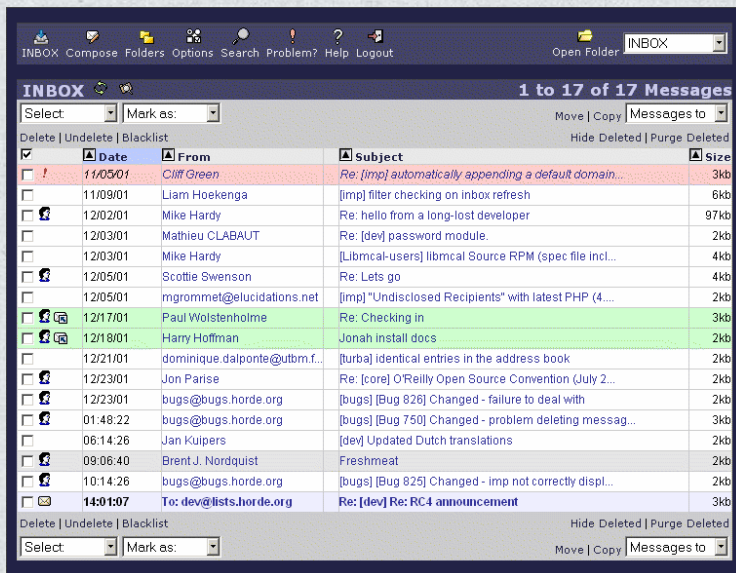
[\[Delete\]](#) [\[Undelete\]](#) selected mail[\[Move\]](#) [\[Copy\]](#)Selected mail to: [\[Select all\]](#) - [\[Select none\]](#)[\[Empty trash\]](#)

	?	Date	From	Subject	Size
<input type="checkbox"/>	+	Feb 27	Lacutis of Borg	RE: Hey man whats up?	4 kb
<input type="checkbox"/>		Mar 30	Joey Hess	Debian Weekly News - 23 to 29 Mar 1999	7 kb
<input type="checkbox"/>		05:22	Josip Rodin	Re: creating libraries	3 kb

[\[Select all\]](#) - [\[Select none\]](#)[\[Empty trash\]](#)[\[Delete\]](#) [\[Undelete\]](#) selected mail[\[Move\]](#) [\[Copy\]](#)Selected mail to:

A little bit of history

- 2002: Horde 2.0, IMP 3.0
- PHP 4
- First PHP OOP/MVC application framework
- 20 libraries















INBOX  

1 to 17 of 17 Messages

Select Mark as: Move | Copy Messages to

Delete | Undelete | Blacklist
Hide Deleted | Purge Deleted

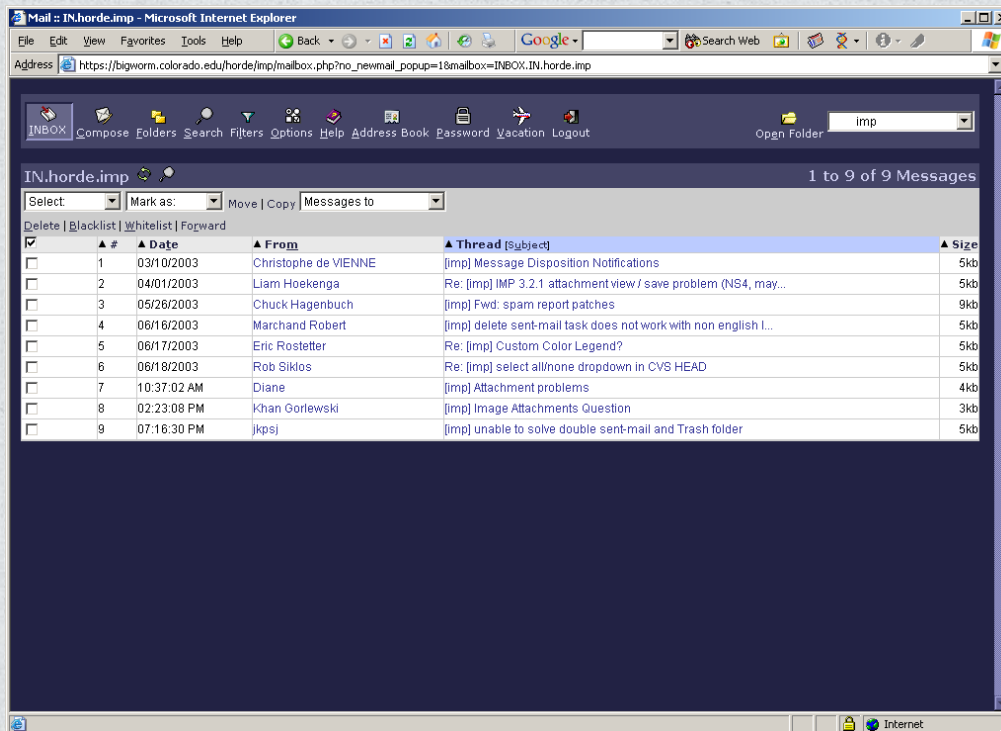
<input checked="" type="checkbox"/>	Date	From	Subject	Size
<input type="checkbox"/> !	11/05/01	Cliff Green	Re: [imp] automatically appending a default domain...	3kb
<input type="checkbox"/>	11/09/01	Liam Hoekenga	[imp] filter checking on inbox refresh	6kb
<input type="checkbox"/> 	12/02/01	Mike Hardy	Re: hello from a long-lost developer	97kb
<input type="checkbox"/>	12/03/01	Mathieu CLABAUT	Re: [dev] password module.	2kb
<input type="checkbox"/>	12/03/01	Mike Hardy	[Libmcal-users] libmcal Source RPM (spec file incl...	4kb
<input type="checkbox"/> 	12/05/01	Scottie Swenson	Re: Lets go	4kb
<input type="checkbox"/>	12/05/01	mgrommet@elucidations.net	[imp] "Undisclosed Recipients" with latest PHP (4...	2kb
<input type="checkbox"/>  	12/17/01	Paul Wolstenholme	Re: Checking in	3kb
<input type="checkbox"/>  	12/18/01	Harry Hoffman	Jonah install docs	2kb
<input type="checkbox"/>	12/21/01	dominique.dalponte@utbm.f...	[turba] identical entries in the address book	2kb
<input type="checkbox"/> 	12/23/01	Jon Parise	Re: [core] O'Reilly Open Source Convention (July 2...	2kb
<input type="checkbox"/> 	12/23/01	bugs@bugs.horde.org	[bugs] [Bug 826] Changed - failure to deal with	2kb
<input type="checkbox"/> 	01:48:22	bugs@bugs.horde.org	[bugs] [Bug 750] Changed - problem deleting messag...	3kb
<input type="checkbox"/>	06:14:26	Jan Kuipers	[dev] Updated Dutch translations	2kb
<input type="checkbox"/> 	09:06:40	Brent J. Nordquist	Freshmeat	2kb
<input type="checkbox"/> 	10:14:26	bugs@bugs.horde.org	[bugs] [Bug 825] Changed - imp not correctly displ...	2kb
<input type="checkbox"/> 	14:01:07	To: dev@lists.horde.org	Re: [dev] Re: RC4 announcement	3kb

Delete | Undelete | Blacklist
Hide Deleted | Purge Deleted

Select Mark as: Move | Copy Messages to

A little bit of history

- 2004: Horde 3.0, IMP 4.0
- 64 PHP libraries
- PEAR involvement



INBOX Compose Folders Search Filters Options Help Address Book Password Vacation Logout Open Folder imp

IN.horde.imp 1 to 9 of 9 Messages

Select: Mark as: Move | Copy Messages to

Delete | Blacklist | Whitelist | Forward

<input checked="" type="checkbox"/>	▲ #	▲ Date	▲ From	▲ Thread [Subject]	▲ Size
<input type="checkbox"/>	1	03/10/2003	Christophe de VIENNE	[imp] Message Disposition Notifications	5kb
<input type="checkbox"/>	2	04/01/2003	Liam Hoekenga	Re: [imp] IMP 3.2.1 attachment view / save problem (NS4, may...	5kb
<input type="checkbox"/>	3	05/26/2003	Chuck Hagenbuch	[imp] Fwd: spam report patches	9kb
<input type="checkbox"/>	4	06/16/2003	Marchand Robert	[imp] delete sent-mail task does not work with non english l...	5kb
<input type="checkbox"/>	5	06/17/2003	Eric Rostetter	Re: [imp] Custom Color Legend?	5kb
<input type="checkbox"/>	6	06/18/2003	Rob Siklos	Re: [imp] select all/none dropdown in CVS HEAD	5kb
<input type="checkbox"/>	7	10:37:02 AM	Diane	[imp] Attachment problems	4kb
<input type="checkbox"/>	8	02:23:08 PM	Khan Gorlewski	[imp] Image Attachments Question	3kb
<input type="checkbox"/>	9	07:16:30 PM	jkpsj	[imp] unable to solve double sent-mail and Trash folder	5kb

A little bit of history

- 2008: Horde 3.2, IMP 4.2
- New webmail interfaces: MIMP, DIMP

The screenshot shows the Horde webmail interface (IMP) with a sidebar on the left containing navigation options like Compose, Get Mail, Portal, Options, Log Out, Address Book, Filters, Calendar, Tasks, Notes, New Folder, Gesendet, Müll, O'Reilly, and Foo. The main area displays an inbox with a list of messages. A context menu is open over a message, showing actions such as Reply to Sender, Reply to All, Reply to List, Forward Entire Message, Forward Body Text Only, Forward Attachments Only, Mark as Read, Mark as New, Flag Message, Clear Flag, Blacklist, Whitelist, Delete, and Undelete. The selected message is from Chuck Hagenbuch to core@lists.horde.org, dated Mon, 11 Jul 2005 10:43:07 -0400. The message body contains forwarded text from Jan Schneider and Kevin Myer, discussing module listings.

The screenshot shows the Nokia Mobile Browser 3.0.1 displaying a list of messages. The browser interface includes a search bar and navigation buttons like Options and Back. The message list is as follows:

	From	Subject
+	Michael C...	Re: Need to get supp...
+	Mimi	Re: wedding party dr...
+	Kurt Van S...	Re: kronolith edit
	Jeff Clark	[whups] due date
N	Robert E.	[cvs]

- Horde
- Mail (26)
 - Filters
 - New Message
 - Search
 - Inbox (26)**
 - Drafts
 - Junk-E-Mail
 - Trash
 - Virtual Folders
- Organizing
- Options
- Log out

Inbox (26) Page 2 of 2 21 to 38 of 38 Messages

Select: [v] Mark as: [v] Move | Copy Messages to [v] [2] [v] [v]

Delete | Undelete | Blacklist | Whitelist | Forward | View Messages Purge Deleted

	#	Date	From	▲ Thread [Subject]	Size
	22	04/23/2005	Bestelling	Offerte-aanvraag	2-KB
	23	06/08/2005	scott slack	Communicate by choice lower res	565 KB
	24	08/04/2005	楊富雄	Fw: 也許你已經接到這種電話...提供大家參考.....	64 KB
	27	08/17/2005	Silva, Danielle S (D.H.)	Performance Parcial de Peças - 17 de Agosto - Atualizado!!	164 KB
	25	08/30/2005	Tong	Fw: โดเมนและโฮสหมดอายุ	7 KB
	26	09/01/2005	Marlin Schulze	[SECURITY] [DSA 793-1] New sqwebmail packages fix cross-site scripting	66 KB
	28	10/12/2005	bocaciua@libero.it	included message	2 KB
	29	10/26/2005	steveh@eecs.umich.edu	New Catering Lead From Yadaya.com	8 KB
	30	01/24/2006	BET Armor Ingénierie - EB	CTA / CODIS - 22 StBrieuc	861 KB
	31	03/07/2006	Carlos Amaral Rocha	Que otário.....	1,306 KB
	32	03/17/2006	temp4@truemail.co.th	ไทย Thai Language - Attach UTF-8	2 KB
	33	04/03/2006	David Chang	Re: 最近好嗎?	3 KB
	4	04/06/2006	Mail-Delivery-System	Undelivered Mail Returned to Sender	3-KB
	35	06/21/2006	Netmagic Support	202.87.xx.xx nagios error	4 KB
	34	06/22/2006	Rimma Ashkinadze	They got their summer haircuts!	116 KB
	36	08/01/2006	Jacques Beaudoin	Test from thunderbird	2 KB
	37	08/02/2006	紹雄 盧	Fwd: 美的饗宴!!!有音樂喔!!!	277 KB
	38	08/24/2006	Dimitris Tsachalis	thundirbird	61 KB

Unseen Answered Important Deleted Draft Personal

Delete | Undelete | Blacklist | Whitelist | Forward | View Messages Purge Deleted

Select: [v] Mark as: [v] Move | Copy Messages to [v] [2] [v] [v]

- Compose
- Get Mail
- Portal
- Options
- Log Out
- Inbox (208)**
- Address Book
- Filters
- Calendar
- Tasks
- Notes
- New Folder
- Gesendet
- Müll
- O'Reilly
- Foo

From	Thread Subject	Date Arrival
Chuck Hagenbuch	Re: [dev] [cvs] commit: imp_contacts.php imp/templates/compose_compose.inc recompos	06/09/2005
Martin Lohmeier	[dev] [ResourceLocking] looking for patch	06/21/2005
Mike Cochrane	[dev] ResNet 2005	06/25/2005
Jan Schneider	Re: [core] [dev] ResNet 2005	06/25/2005
Martin Lohmeier	[dev] [wicked] toc by category	07/04/2005
Chuck Hagenbuch	[core] Fwd: Re: SyncML support project in SOC	07/08/2005
Chuck Hagenbuch	Re: [core] Fwd: Re: SyncML support project in SOC	07/11/2005
Jan Schneider	Re: [core] Fwd: Re: SyncML support project in SOC	07/11/2005
Chuck Hagenbuch	Re: [core] Fwd: Re: SyncML support project in SOC	07/11/2005
Jan Schneider	Re: [core] Fwd: Re: SyncML support project in SOC	07/11/2005
Chuck Hagenbuch	Re: [core] Fwd: Re: SyncML support project in SOC	07/11/2005
Kevin Myer	[core] Organizing the non-development side of Horde	07/09/2005
Jan Schneider	Re: [core] Organizing the non-development side of H	07/11/2005
Jason M. Felice	Re: [core] Organizing the non-development side of	07/11/2005
Jan Schneider	Re: [core] Organizing the non-development side	07/11/2005
Chuck Hagenbuch	Re: [core] Organizing the non-developm	07/12/2005

Subject: Re: [core] Fwd: Re: SyncML support project in SOC
From: Chuck Hagenbuch <chuck@horde.org>
Date: Mon, 11 Jul 2005 10:43:07 -0400 [07/11/2005 04:43:07 PM CEST]
To: core@lists.horde.org

----- Forwarded message from jan@horde.org -----
 Date: Mon, 11 Jul 2005 16:06:09 +0200
 From: Jan Schneider <jan@horde.org>
 Reply-To: Jan Schneider <jan@horde.org>
 Subject: Re: [core] Fwd: Re: SyncML support project in SOC
 To: Chuck Hagenbuch <chuck@horde.org>
 Cc: kevin_myer@iu13.org

Zitat von Chuck Hagenbuch <chuck@horde.org>:

[Hide Quoted Text]

----- Forwarded message from kevin_myer@iu13.org -----
 Focus:
 end up throwing out the baby with the bath water so to speak. So maybe the important thing to clarify is which of the modules are really active modules, and which are stubs, or effectively dead. By providing snaps of everything daily, it makes it easier for people to shoot themselves in the foot (but as Jan says, people will always find a way to do that, no matter what you do).

What's even worse IMO, is that we currently have at least 3 module listings scattered

- Reply to Sender
- Reply to All
- Reply to List
- Forward Entire Message
- Forward Body Text Only
- Forward Attachments Only
- Mark as Read
- Mark as New
- Flag Message
- Clear Flag
- Blacklist
- Whitelist
- Delete
- Undelete

- Open in new window
- Print
- View Message Source



A little bit of history

- 2011: Horde 4, IMP 5
- PHP 5
- 91 libraries
- PEAR distribution (modularization, dependency management and injection)
- Webmail interfaces „back home“
- **jQuery Mobile interfaces**

Back

horde.apps

Log out

[turba] Addressboc

11/21/2010

Sebastian Kronenwerth

[kronolith] Kronolith

11/19/2010

gimili

Re: [horde] Whups

11/17/2010

Félix Manuel Molinuevo

Re: [horde] LDAP o

11/17/2010

Chris Flav

[horde] Object Inter

06/04/2010

Mailingliste TBits.net GmbH

[sync] Sync proble

09/05/2009

Lawrence McAbee

[sync] /tmp/sync of

09/03/2009

T. Rühlmann

Portal

Month

Log out

Day

Month

Summary

November 2010

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Sun 11/28/2010

All day

1st Advent

10:00 - 14:00

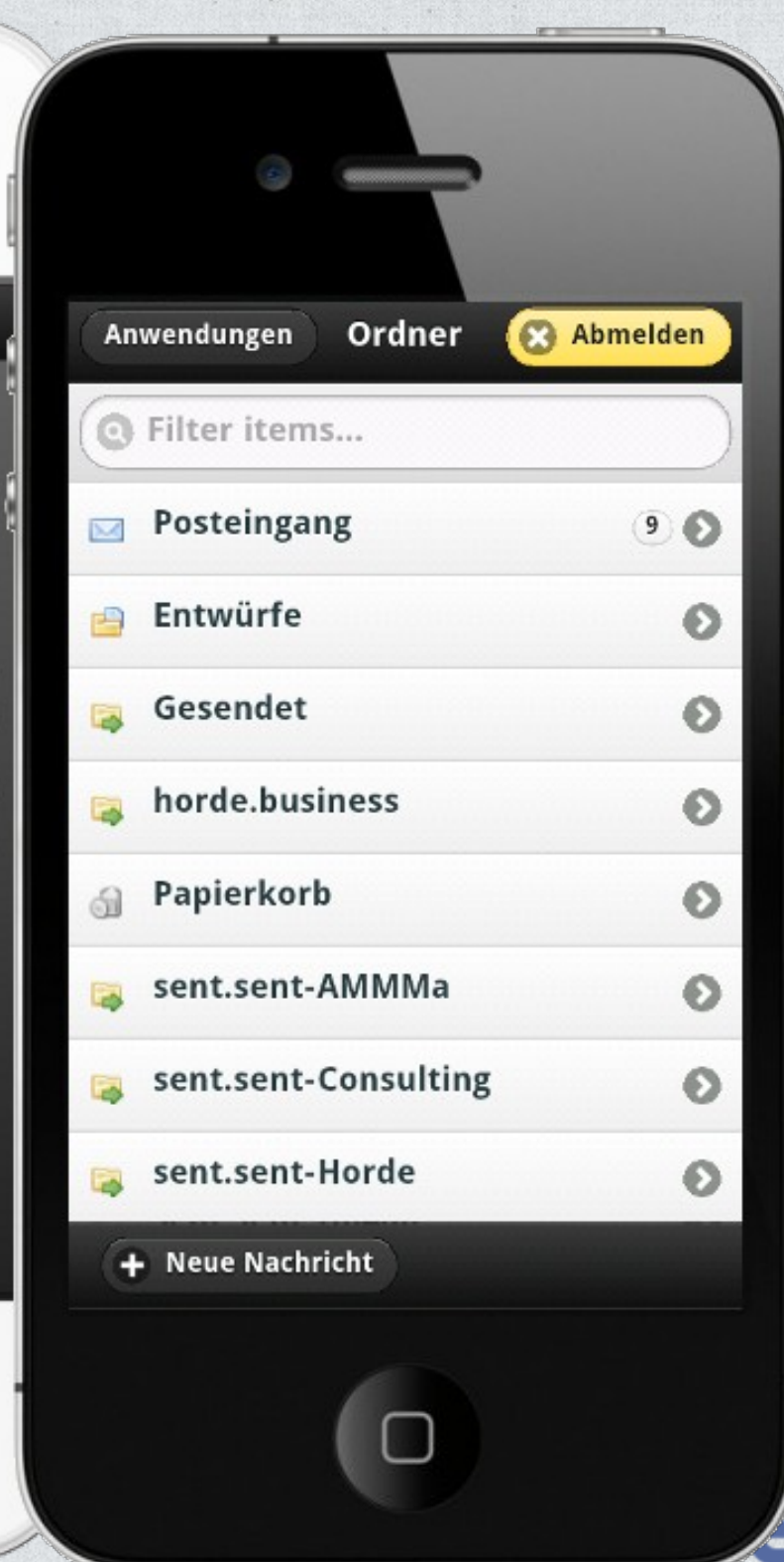
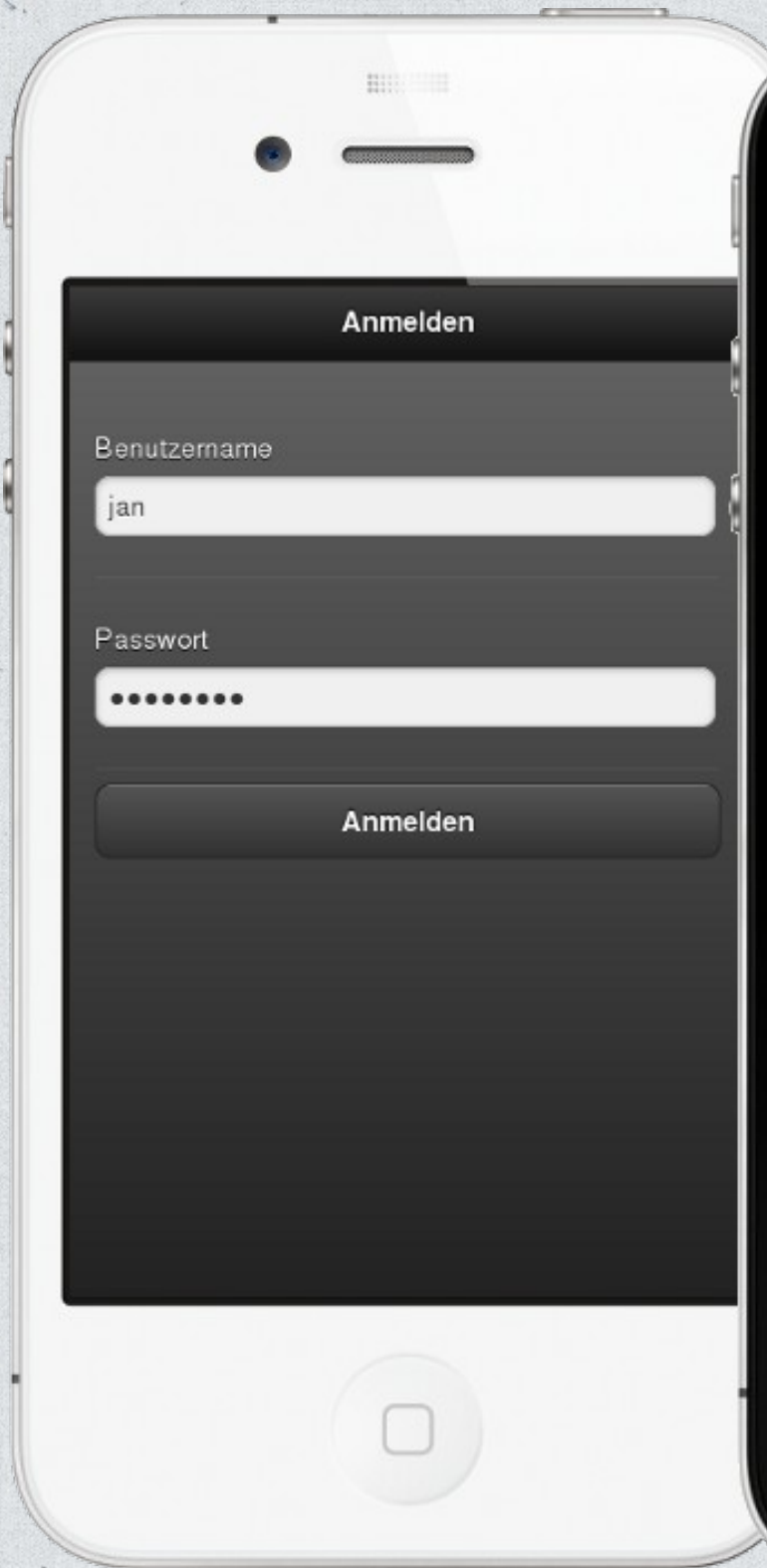
Brunch

Zweischlingen

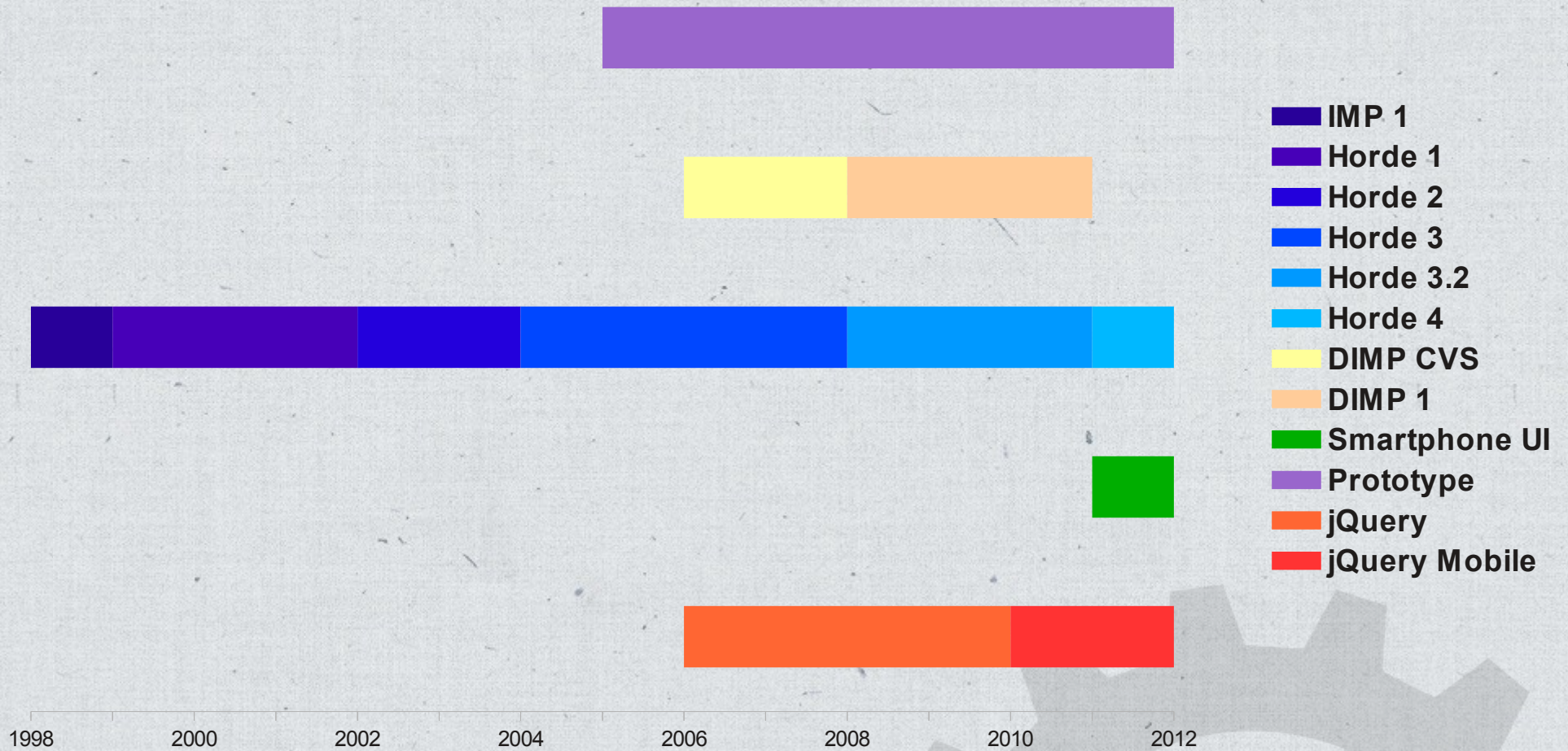
16:00 - 20:00

A little bit of future

- 2012: Horde 5, IMP 6
- Redesign of traditional and dynamic (AJAX) interfaces



Frameworks Timeline



How to create JQM applications

- HTML 5 page with CSS and JS from JQM
- ```
<div data-role="page">
 <div data-role="header">
 </div>
 <div data-role="content">
 Next page
 New page
 </div>
</div>
```
- External page loading via AJAX
- URL hash updating

# We could have done that

- Single controller scripts for:
  - Application list
  - Folder list
  - Mailbox, message list
  - Message
- Possible because of MVC (IMP, DIMP, MIMP)

# Advantages of traditional approach

- Browser degrading
- Easier to implement (best case: exchanging templates)

# Disadvantages of traditional approach

- Payload overhead (HTML fragments)
- No client-side caching
  - Going back == new request or:
  - No server updates going back
- Already using AJAX in JQM



# How we created JQM application

- Skeletons of all pages in single document/request
- Horde 4:
  - Observe vclick event
  - Manual JQM page change  
`$.mobile.changePage('#pageid');`
  - Manual AJAX request with callback  
`$.ajax({...});`
  - Update skeletons with JSON response

# How we created JQM application

- Horde 5:

- Real links: #message?view=SU5CT1g&uid=2115

- Observe pagebeforechange event

```
$(document).bind('pagebeforechange', ImpMobile.toPage);
```

- Intercept page loading

```
toPage: function(e, data)
```

```
{
```

```
 var url = HordeMobile.parseUrl(data.toPage);
```

```
 switch (url.view) {
```

```
 case 'message':
```

```
 ImpMobile.toMessage(url, data.options);
```

```
 e.preventDefault();
```

```
 break;
```

```
}
```

# How we created JQM application

```
toMessage: function(url, options)
{
 if (HordeMobile.currentPage('message')) {
 HordeMobile.updateHash(url);
 } else {
 options.dataUrl = url.parsed.href;
 $.mobile.changePage($('#message'), options);
 }
 $.mobile.showPageLoadingMsg();
 HordeMobile.doAction(
 'showMessage', {...},
 ImpMobile.messageLoaded
);
}
```

# How we created JQM application

- Advantage: works with every page loading technique
  - Click
  - `$.mobile.changePage()`
  - Deep links

# Reuse of existing AJAX API

- AJAX API existed for DIMP
- API methods for anything needed
  - Mailbox loading: `viewPort(view, slice, requestid, sortby, sortdir)`
  - Message loading: `showMessage(uid, view)`
  - Update polling: `poll()`

# Reuse of existing AJAX API

- API methods for anything needed
  - **Message composition:** `getReplyData (format, imp_compose, type, uid)`  
`getForwardData ()`  
`getRedirectData ()`  
`getResumeData ()`
  - **Message building/sending:** `sendMessage (form)`  
`redirectMessage ()`  
`saveDraft ()`  
`addAttachment ()`

# Reuse of existing AJAX API

- API methods for anything needed
  - Message management:
    - `reportSpam()`
    - `copyMessages()`
    - `moveMessages()`
    - `deleteMessages()`

# Key items for success

- Modularity
  - Strict separation of views and logic
- Flexibility
  - Proved multi-view support
- APIs
  - JS application talking to PHP application via AJAX/JSON



# Problems

- **Conflicting frameworks**
  - Existing JS/AJAX framework on Prototype
  - New JS/AJAX/UI framework on jQuery Mobile
  - \$.hell
- **No** `jQuery.noConflict()`
  - Low resources on mobile devices

# Workarounds/Solutions

- Workarounds
  - Port required JS code to jQuery
  - Filter security token from AJAX response  
`/*-secure-{"some":"json_object"}*/`
- Merge Prototype with jQuery

# Conclusion

- How Horde evolved
  - From monolithic app to very modular framework
- How that helped us adding a jQuery Mobile interface
  - Re-use of existing APIs and multi-view architecture
- What have been the key points for a success
  - Modularity, flexibility, APIs

# Conclusion

- Which problems we experienced
  - JQM focused on „static“ page loading
  - Conflicting frameworks
- How we solved them
  - Intercept „pagebeforechange“ event
  - Minimal code duplication

Questions?



horde

# Thank you!

Jan Schneider  
[jan@horde.org](mailto:jan@horde.org)

<http://www.horde.org/>  
<http://demo.horde.org/>



horde