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06. Januar 2010

COLLABORATIVE PROGRAMMING WITH GOOGLE WAVE

Agenda

- **Motivation, goals and scenario**
- **Communicaton paradigms**
- **Eclipse Communication Framework (ECF)**
- **Google Wave**
- **Demos**
- **Next steps**
- **Summary**
- **Questions**

MOTIVATION, GOALS AND SCENARIO

Motivation

- **Bachelor thesis 2008/2009:**
„Evaluation of Nintex Workflow 2007 for creating workflow solutions with Microsoft SharePoint technologies“
- **Working with Microsoft SharePoint 2007/2010 at HanseVision GmbH**

→ More collaboration!

Goals

- **Primary**

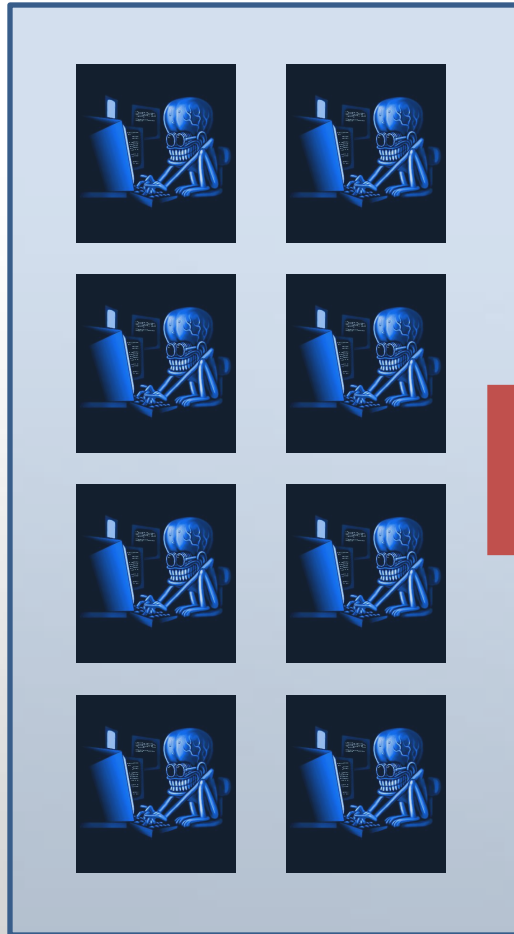
Support of software development processes through Google Wave (instead of using Team Foundation Server / Subversion / ...)

- **Secondary (additional)**

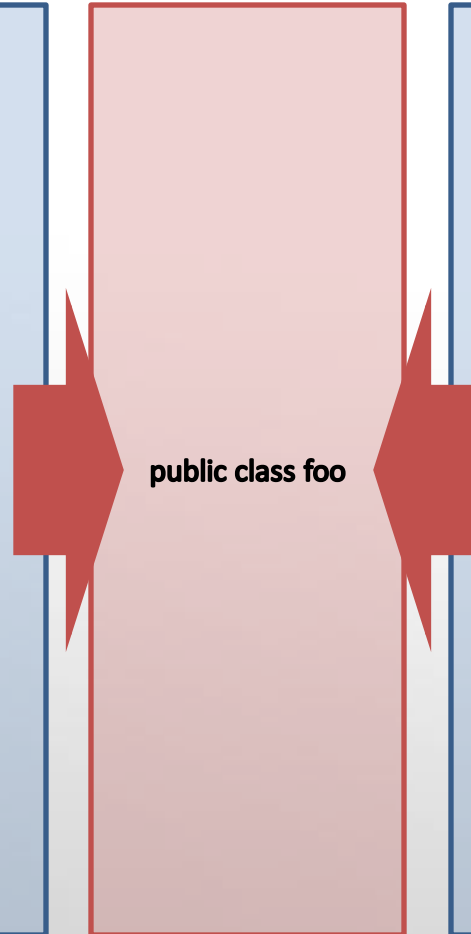
- Learn programming in python
- Business process management with Google Wave

Scenario

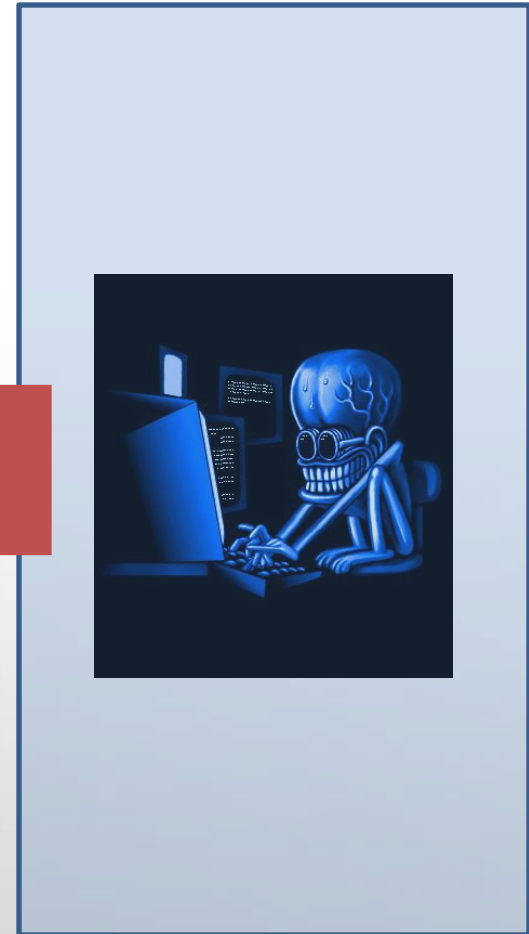
Office



Class



Waikīkī



COMMUNICATION PARADIGMS

Synchronous communication

- Independent of location

- Chat
- Video conferences
- ...

- Cons

- History and context of conversations



Asynchronous communication

- Independent of location and time

- E-Mail
- Discussion boards
- Blogs
- ...

- **Cons**

- Context of messages
- Finding information

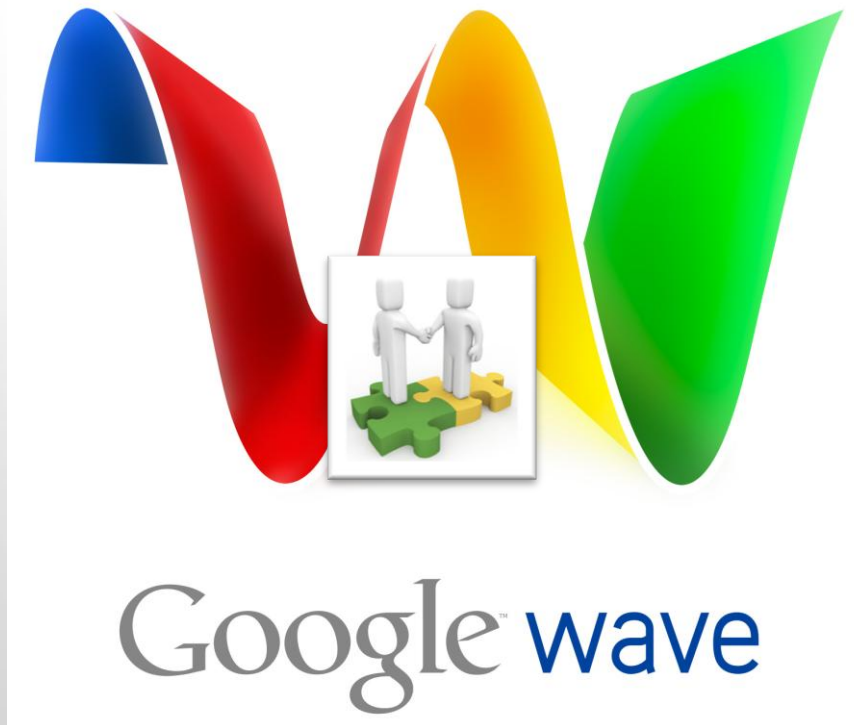


Google Wave...

- ... combines!



Asynchronous
communication



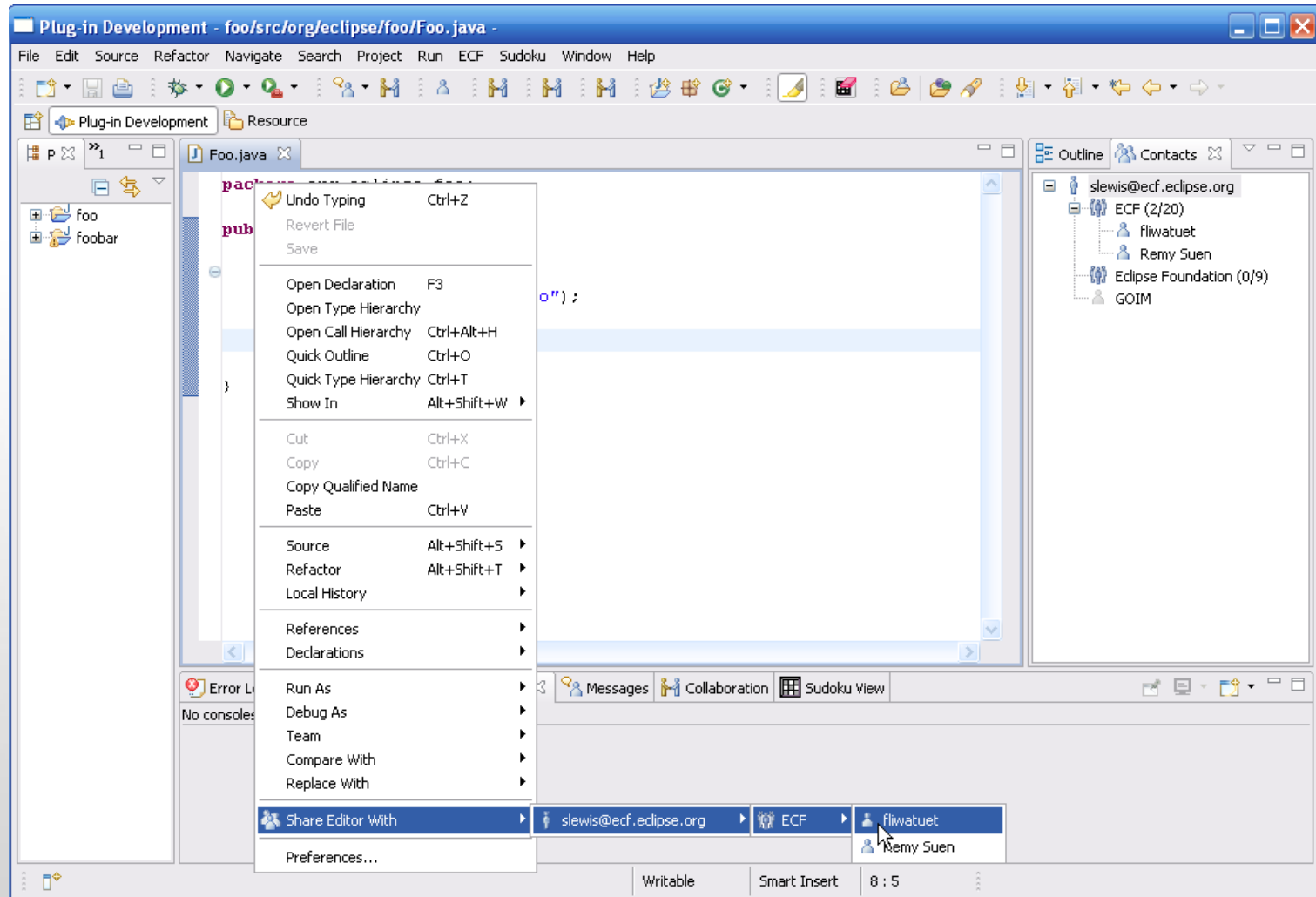
Synchronous
communication

ECLIPSE COMMUNICATION FRAMEWORK (ECF)

Eclipse Communication Framework (ECF)

- „... is a framework for supporting the development of distributed Eclipse-based tools and applications ...“
- ECF-Developers:
 - Included an own tool called „Cola“
 - Plan to include the Google Wave protocol

Cola: Real-Time Shared Editing



http://wiki.eclipse.org/DocShare_Plugin

GOOGLE WAVE

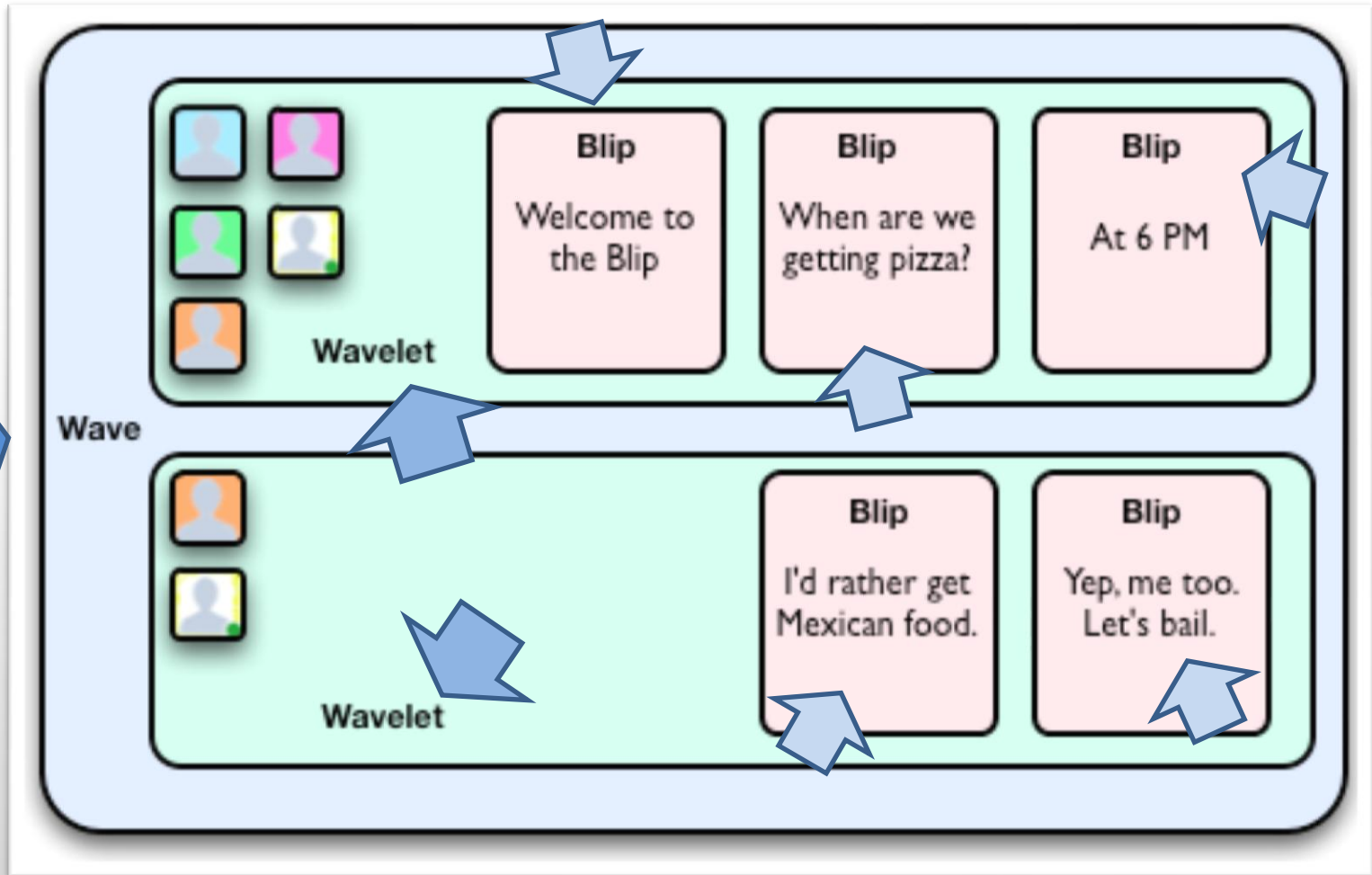
What is Google Wave?

- **What is a Wave?**

- Equal parts conversation and document
- Shared
- Live

→ **A (new) collaboration platform**

Inside a wave



<http://code.google.com/intl/de-DE/apis/wave/guide.html>

Components of Google Wave

- **Application client**
 - Interface for interacting
- **Application Programming Interface (API)**
 - Programming own extensions like robots or gadgets
 - Also you can develop embedded waves
- **Federation Protocol**
 - Underlying communication protocol
 - Extensible Messaging and Presence Protocol (XMPP)
 - Routes traffic peer-to-peer not by using a central server

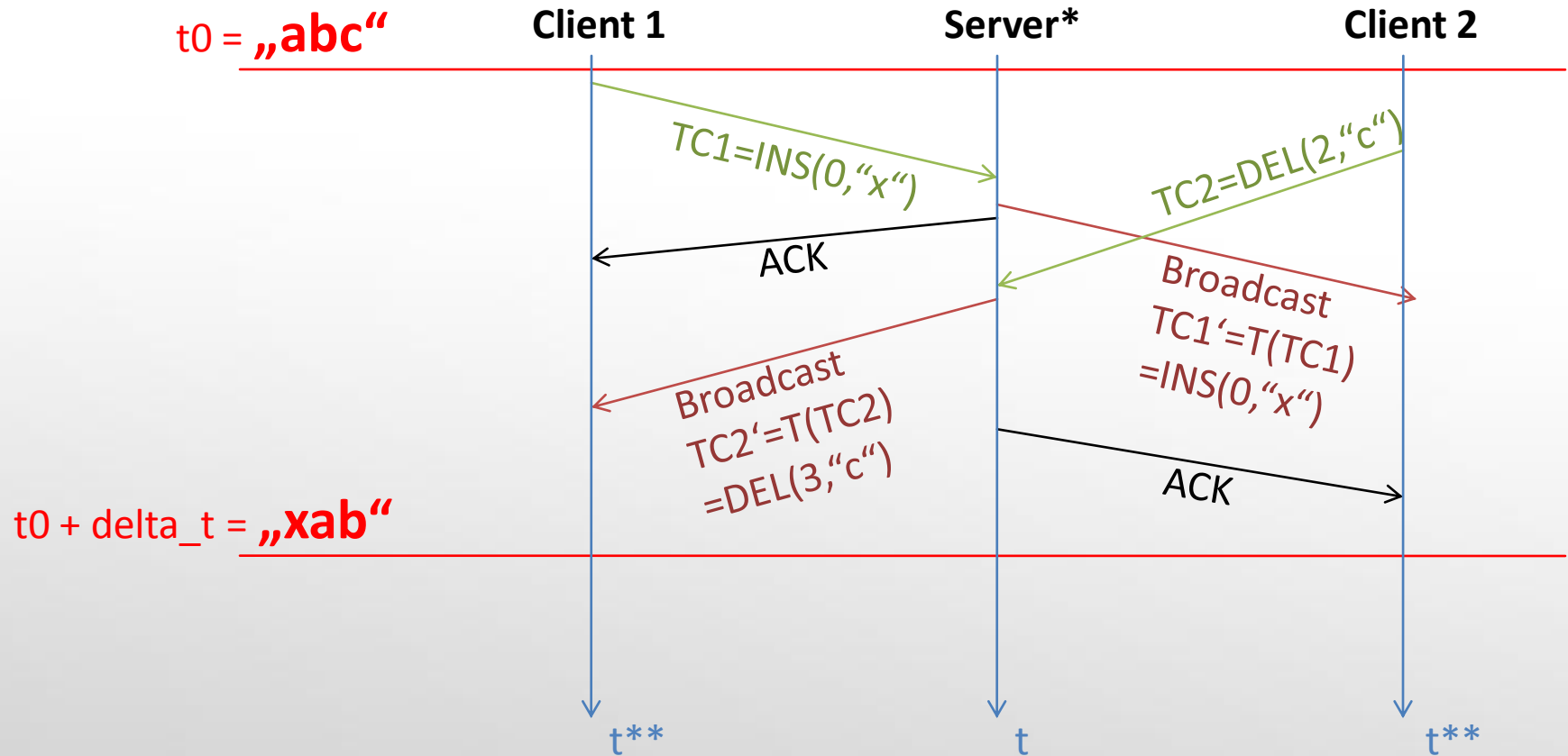
Google Wave documents

- **A Wave is a hosted XML document which:**
 - Allows seamless and low latency concurrent modifications
 - Supports rich text documents
- **Secures context and history of content**
- **Uses Operational Transformation (OT)**
 - That is where the live feeling comes from (keystroke by keystroke)

Operational Transformation (OT)

- **Google Wave uses modified OT:**
 - As the theoretical framework of concurrency control
 - To assure:
 - Efficiency of the server system through acknowledgements (server → (!) client)
 - Consistency and correctness (checksums) of content for all participants

OT - Example



* Has a single wavelet operation cache (Wave Store)

** Local caching while no ACK received from server

DEMOS

Jan - Google Wave

https://wave.google.com/wave/#restored:wave:googlewave.com!w%252BNK7Li_3SA

Google wave

Jan | Terms | Privacy | Help | Sign out

Navigation

- Inbox
- All
- By Me
- Requests
- Spam
- Settings
- Trash

SEARCHES (+)

FOLDERS (+)

Contacts

Jan

Search...

Manage contacts (+)

Inbox 1 - 6 of 6

New Wave in:inbox

Archive Mute Inbox Spam!

	Notizen Google Wave Public Wave Group –	Nov 7 1 msg
	Hi AW1 audience, I am a root blip. – Yeah, that	Nov 7 3 msgs
	AW1 Kollaboration mit Google Wave –	Oct 13 1 msg
	test2 – can someone read this? someone can	Oct 13 7 msgs
	Welcome to Google Wave – Click the link	Oct 10 1 msg
	Extensions Gallery – Google Wave extensio	Sep 30 1 msg

Save search

Hi AW1 audience, I am a root blip.

+

Reply Playback Archive Mute Spam!

Hi AW1 audience, I am a root blip. Nov 7

me (and Emoticony): Yeah, that is amazing! Nov 7

I am a node.

me (and Emoticony): Drag & Drop files from your Nov 7

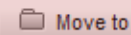
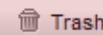
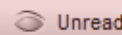
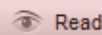
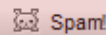
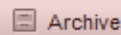
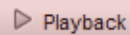
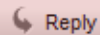
desktop into the browser (only Google Chrome)

Astraposter

Tags: (+)

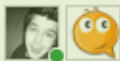
Images Files

Hi AW1 audience, I am a root blip.



Hi AW1 audience, I am a root *blip*.

1:54 pm ▾



me (and Emoticony):

Yeah, that is amazing! I am a node. 😊

1:55 pm ▾



me (and Emoticony):

Drag & Drop files from your desktop into the browser (only Google Chrome) ☹

2:00 pm ▾

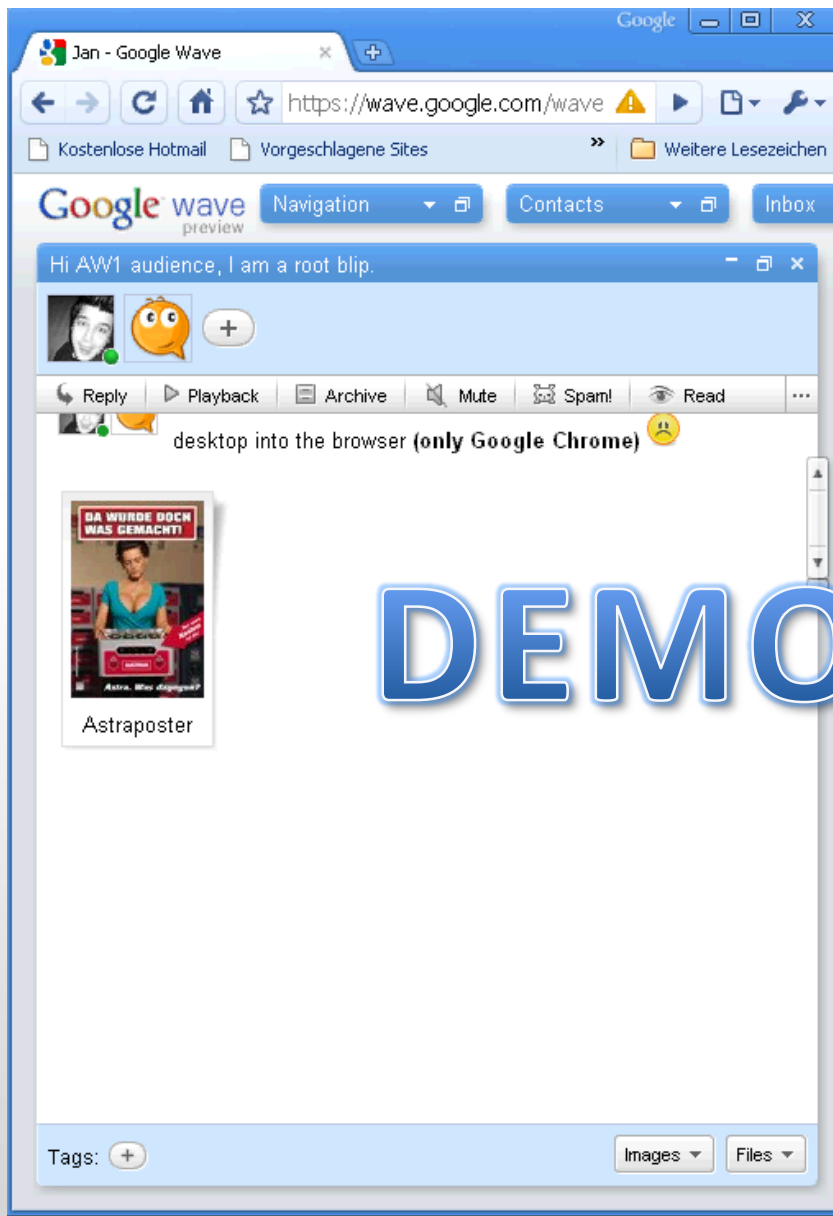


Astraposter

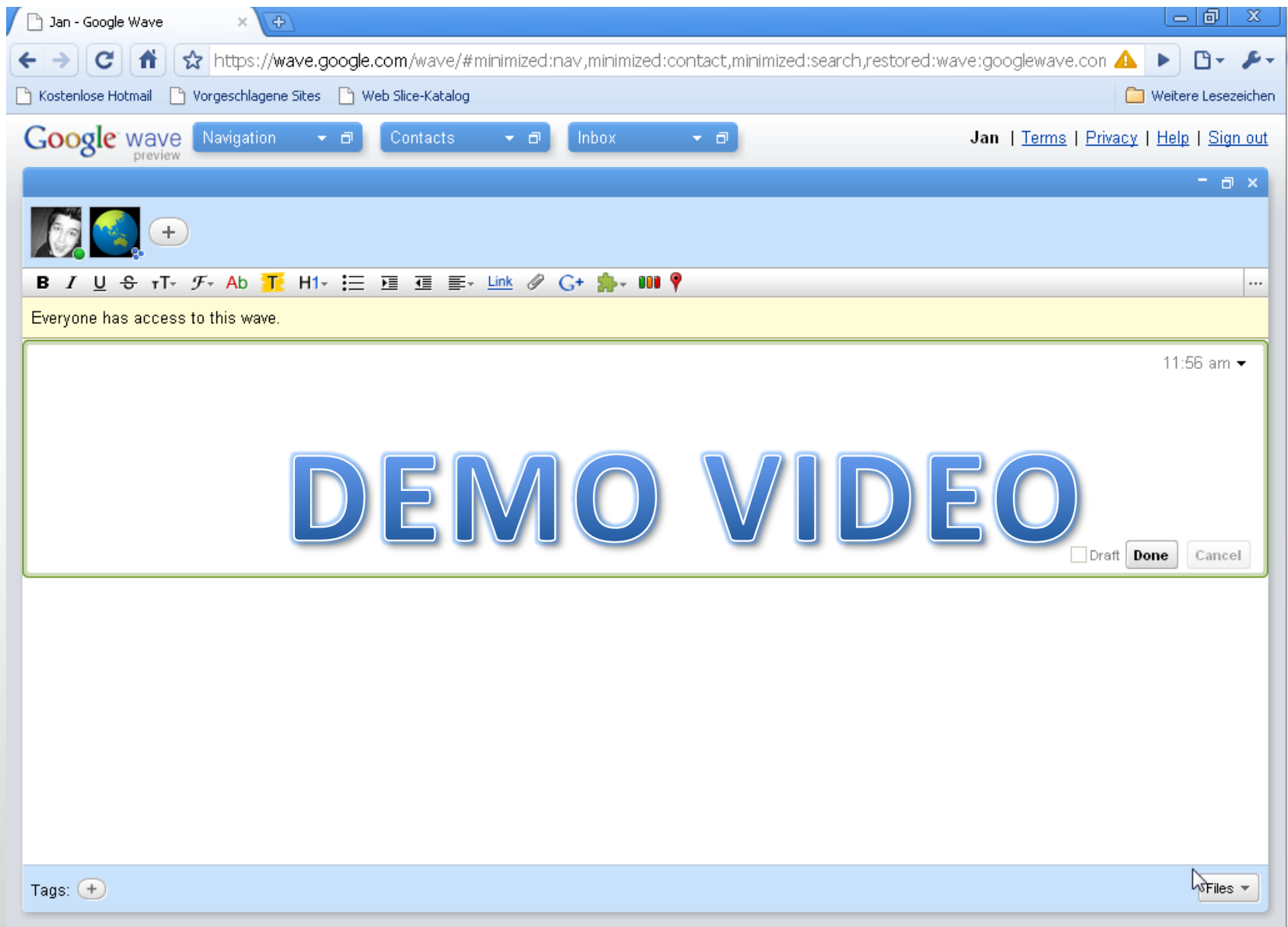
Tags: +

Images ▾

Files ▾



DEMO VIDEO



NEXT STEPS

Next steps

- **March 2010 - August 2010**
 - Working with the Google Wave API
 - Programming Google Wave robots and gadgets
 - Understanding ECF mechanism

SUMMARY

What have we learned today?

- **Google Wave**

- is a new real-time XML-based collaboration platform
- uses the Extensible Messaging and Presence Protocol (XMPP) and Operation Transformations
- is open source
- combines asynchronous and synchronous communication methods
- is not like Microsoft SharePoint 2007/2010 ;)



QUESTIONS

**THANK YOU FOR
YOUR ATTENTION!**

References

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