

# Wookies and Widgets

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# Widgets?

Mini portable applications, generally designed to work in a small view area rather than full-screen

Examples include games, clocks, feed displays, etc

Lots of competing models for this: iPhone SDK, Android SDK, Konfabulator, Apple Dashboard, Opera Widgets, Nokia Widgets, Google OpenSocial etc



# W3C Widget Specs

- Open standard for widgets
- You create an HTML file, add as many CSS, JavaScript and image files as you need, add a “config.xml” file with some basic info, zip the lot, change the extension to .wgt and it works. Just like that.



# Widget Specs & Status

- Packaging and Configuration (CR)
  - 100% conformance
- The Widget Interface (CR)
  - 90% conformance
- WARP (Draft)
- Widget URI scheme (Draft)
- Widget Signatures (Draft)



# W3C DAP & BONDI

- Camera
- Contacts
- Device status and settings
- File system
- Media gallery



# Widget development

- More like mobile app development than traditional web development
- W3C Mobile Web Best Practices a useful guide



# Widget market

- Right now W3C Widgets is at an early stage of adoption
- However it can be seen that within a short space of time, W3C widgets may have the widest global customer reach of any “app” technology
- So its worth investing in!



QuickTime™ and a  
decompressor  
are needed to see this picture.

*\* “Wookie” is not a clever acronym. so if you  
spell it WOOKIE you’re shouting!)*





# Apache Wookie (incubating)

- Entered incubator July '09
- originally developed in TenCompetence (Framework 6 IP)
  - Funded projects tend to build prototypes, not communities
  - Apache Incubator is to build community around code
- <http://incubator.apache.org/wookie/>



# Wookie is...

- A Widget runtime for websites
- Implements
  - W3C Widgets P&C
  - W3C Widgets Interface
  - Wave Gadget API
  - (any API you want...)
- Integrates into other apps via plugins



# Moodle...

**sandbox** You are logged in as [Scott Wilson](#) (Logout)

University of Bolton VLE ► sandbox ? Switch role to... Turn editing on

**Natter**

**NATTER**

Google wave access - yippee!

[goddardr](#) I really haven't got time to play sudoku!

[mhawksey](#) Hi all

[cobbers](#) Hello

[cobbers](#) So this natter would just stay within a course?

[scott](#) yep, its per-course when put in modle

[scott](#) moodle even

<embed>

**Social forum - latest topics**

Add a new discussion topic

**No Rights**  
by [John Attwood](#) - Tuesday, 27 October 2009, 04:54 PM

I don't think I have the right to edit-there is no edit button that I can see.

I have the edit button for my post but I was thinking it was the edit button you get as a creator/admin maybe I just don't understand.

[Edit](#) | [Delete](#)

[Discuss this topic](#) (0 replies so far)

**Kaixo Mundua**  
by [igor lopez](#) - Monday, 19 October 2009, 07:56 PM

Kaixo mundua  
Hello World

[Edit](#) | [Delete](#)

[Discuss this topic](#) (1 reply so far)

**holas**  
by [carlos chiarella](#) - Tuesday, 13 October 2009, 10:07 PM

**Wave Test: Sudoku**

**WaveWord**

now playing: [zdenous](#)

A<sub>1</sub> U<sub>1</sub> V<sub>4</sub>

[submit word](#) [pass](#)

scott WEED : 8 points  
notlob passed  
hundertwasser passed

**Leaderboard**

[kipprsnak](#): 14  
[scott](#): 12  
[ccupitt](#): 9  
[daveparkes](#): 8  
[taniwha](#): 7

<embed>

**WookieWiki**

**You decide**

Type question here...

1:

2:

# LAMS...

QuickTime™ and a  
decompressor  
are needed to see this picture.



# WebCT, Blackboard, D2L, Sakai...

The screenshot shows a WebCT interface for 'The University of Testing'. The top navigation bar includes 'My Places', 'Home', 'Help', and 'Logout'. Below this is a secondary bar with 'My Institution', 'Courses', 'Content Collection', 'System Admin', and 'Scholar'. The main content area is titled 'PowerLink demonstrations - BasicLTI' and shows a breadcrumb trail: 'Your location: Home Page > Wookie Chat Tool > Wookie Chat Tool'. On the left, there are two toolbars: 'Course Tools' (with 'Course Content' selected) and 'Instructor Tools' (with 'Manage Course' selected). The main content area displays a chat window titled 'NATTEA' with a message from 'Charles Severance (Admin)' saying 'Hi there Scott - this would be WebCT Vista'.

The screenshot shows a Desire2Learn interface for 'Dr. Chuck's Desire2Learn Course'. The top navigation bar includes 'My Home', 'Email', 'Locker', 'Schedule', 'Chat', and 'Content'. Below this is a secondary bar with 'Course Home', 'Content', 'Discussions', 'Dropbox', 'Self Assessments', 'Quizzes', 'Classlist', 'Grades', 'Links', and 'Glossary'. The main content area is titled 'Wookie' and shows two chat windows. The left chat window, titled 'NATTEA', displays a conversation between 'Chuck Instructor' and 'Matt Student'. The right chat window, titled 'Wisdom of Crowds', displays a message from 'Chuck Instructor' and a form for entering a guess and name.

My Home Email Locker Schedule Chat Content Welcome, Chuck Nov 26, 2009

Dr. Chuck's Desire2Learn Course

Course Home Content Discussions Dropbox Self Assessments Quizzes Classlist Grades Links Glossary Surveys Edit Course Logout

**Wookie**

**Wisdom of Crowds**

Hello: Chuck Instructor (Instructor) from S1300 via basiclti

Please enter a valid, numeric guess

Enter Guess:

Enter Name (opt):

Guess Reset Game Data

# Elgg... etc

The screenshot displays the 'New Elgg site' dashboard. At the top, a navigation bar includes links for Dashboard, Tools, Settings, and Administration, along with a search bar and a 'Log out' button. The main content area is titled 'New Elgg site' and features several widgets:

- wookie**: A chat window titled 'wookie' showing a chat log with messages from 'admin', 'scott', and 'admin'. The messages are: 'admin: has cleared the chat log', 'admin: hello world!', 'scott: joined the chat', 'scott: hi!', and 'admin: blimey, it works'.
- Activity**: A widget titled 'Activity' showing a notification: 'admin is now a member of 'Test Group' (just now)'.
- wookie**: A widget titled 'wookie' displaying a large image of a moon.
- wookie**: A widget titled 'wookie' showing a game interface with a yellow border, a 'Major' label, and a wooden board with green and white pieces.

At the bottom of the dashboard, there is a 'Spotlight' section. The overall interface is clean and modern, typical of a social networking platform.

# How Wookie Works

- Servlet, runs in Tomcat or Jetty
- Provides REST API for applications to access widgets using a plug-in
- Provides JavaScript API objects for widgets at runtime
- Admin UI for installing and managing W3C Widgets
- Server-side storage
- State and Participant push events using Comet (implemented with DWR)





# Wookie REST API

- GET /widgets *gets the list of widgets installed*
- POST /widgetinstances *instantiates a widget*
- POST /participants *adds a participant to a widget instance*
- Lots more at <http://incubator.apache.org/wookie/wookie-rest-api.html>





# Typical lifecycle

- GET /widgets -> render as a gallery for the user to pick which one to add
- POST /widgetinstances -> create an instance of the widget for the user, returns the URI and widget height/width
- POST /participants -> add user as a participant in the instance
- Create iframe with src, height and width set



# Widget runtime APIs

```
<feature name="http://wave.google.com"  
  required="true"/>
```

- W3C Widget Object : preferences, metadata
- Google Wave Gadget API : state, participants
- *Bondi camera API, W3C DAP*
- *SCORM CMI API*
- *... anything else!*



# Things developers can do with Wookie

- Create **widgets** Wookie can serve up
- Create **plugins** to connect Wookie with other platforms
- Create **features** that add more runtime capabilities
- Contribute to improving the **server code itself**



# A few widget best practices



# Build widgets to W3C, not for Wookie alone

- Don't rely on special internal Wookie features (e.g. DWR) if it can be avoided
- Try to provide fallbacks for installed features which may not be available for other widget containers (e.g. Wave)



# Consider mobile users too

W3C Widgets can also run in MS Windows Mobile, Opera, Aplix and other platforms - if you design them with mobile use in mind

- **Don't** navigate or use popups - always use `widget.openUrl()`
  - Will use device native best practice and user prefs (e.g. switch to mobile browser app, open new tab, prompt user etc)
- **Don't** rely on cookies - use `widget.preferences`
  - User may access from different devices; use preferences instead to store user personalisation or tracking info.
- **Do** keep your widgets as small as possible
- **Do** follow the W3C mobile web guidelines where it makes sense



# Security and privacy

- While you **can** store user credentials in widget.preferences, this is not necessarily a very secure place to put them
- In future OAuth may be added to Widgets and Wookie, which will make life a lot easier
- Widgets are bound by same-origin policy; until CORS is implemented, you need to use the server-side proxy offered by wookie for AJAX calls

