Ubicomp Mash-Ups Searching for Digital Hot Glue

Björn Hartmann • STANFORD BARCAMP • 27 August 2006

## Developers: What it Means to be a Mashup

Posted by ScuttleMonkey on Wednesday August 09, @03:36AM
from the development-has-to-come-from-somewhere dept.
An anonymous reader writes "IBM DevWorks has provided us with an introductory article that helps define what it means to be a mashup. In
 addition to just defining what a mashup really it the author also delves into what they do for the community at large and where they may take us in the near future. From the article: 'Mashups are an exciting genre of interactive Web applications that draw upon content retrieved from external data sources to create entirely new and innovative services. They are a hallmark of the second generation of Web applications informally known as Web 2.0."'

Read More... developers.slashdot.org 1 comment

## maybe another term is appropriate? (Score:2)

by macadamia_harold (947445) on Wednesday August 09, @03:47AM (\#15872021)

## (http://www.planesonasnake.com/)

Sorry, but this buzzword's taken.
mash up. v. To take elements of two or more pre-existing pieces of music and combine them to make a new song. n . A song comprised of elements of two or more pre-existing pieces of music.
2. I'm in the middle of mashing-up songs by Tom Jones and Michael Jackson. (verb usage)

Reply to This

## Working definition:

" A combination of existing technologies, glued together to achieve new functionality (as opposed to creating that functionality from scratch)."

## Mash-Up Matrix





## Web2.0 Mash-Ups



## Circuitbending \& Toy Hacking




# Example *1 - Henry Ford's Toy Set 



## Example \#2 <br> Our whiteboard has a Flickr account




## Example \#3-Ex-A-Sketch


http://hci.stanford.edu/research/ex-a-sketch/


$$
\begin{aligned}
& \text { Gluing things } \\
& \text { together: } \\
& \text { What? How? }
\end{aligned}
$$

## Three Realms

Things that live online

Things that live in or interface with physical space

Things that
live on my \{computer|pda|...\}

## ..with some examples

Flickr
Google Maps

Motors

Sensors

Cameras

Photoshop<br>Excel<br>Quicktime<br>Local Files

## Connecting different pieces



Glue

## Connecting different pieces



## Two kinds of Adhesives/Connectives



Hot glue


Dovetail joint

## Two kinds of Adhesives/Connectives



Hot glue


Dovetail joint

## Two kinds of Adhesives/Connectives

## Screen scraping <br> \& screen poking VS.

## Public APIs

Hot glue
Dovetail joint

## mashup-tools | FrontPage

| Home | Edit page New page | Comments | Files |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ads by Google | Flash Developers | Web Designers |  | Wiki Hosting | Webmaster Tools |
| Welcom | to the mashup | ls wiki! |  |  |  |

- ScreenPoking tools generate mouse and keyboard events to control PC applications through other means (mechanical, electronic, or through software). These are INPUT ONLY.
- ScreenScrapina tools
- Electronics:
- Hardware to $P C$ interfaces reading sensors on your $P C$, controlling actuators from your $P C$
- Simple Microcontrollers embedded control of sensors and actuators; mostly with roll-your-own PC connectivity.
- Transducers that change one type of input/output into another
- Game console to PC adanters let you turn game console controllers such as the DDR Dance Pad into PC game controllers.
- Game Controller to Kevboard and Mouse Transducer turn game controller events into to key+mouse events
- Optoisolators
- Automation Software
- GUI Automation remote control for your local apps
- Web Browser Automation script your web browsing and change web pages client-side
- ScriptinqLanquaqes make it easy to control and sequence local apps
- APIs and Data Formats that help to data exchange between local and remote services
- Some Specific Solutions - some particular kinds of glue ware that work well
- Lost\&Found - everything that didn't fit neatly in one of the categories above
- Learn more - reference material
- Books
- Sites


## mashup-tools | FrontPage

## Home

Ads by Google $\quad \underline{\text { Flash Developers } \quad \text { Web Designers Hosting } \quad \text { Webmaster Tools }}$

## Welcome to the mashup-tools wiki!

The goal of this wiki is to be a guide to the different tools and tips that ubicomp developers use when building technology mash-ups. Our definition of a mashup may differ from yours

- ScreenPoking tools generate mouse and keyboard events to control PC applications through other means (mechanical, electronic, or through software). These are INPUT ONLY.
- ScreenScrapina tools


## http://mashup-tools.pbwiki.com <br> 

- Game Controller to Keyboard and Mouse Transducer turn game controller events into to key+mouse events
- Optoisolators
- Automation Software
- GUI Automation remote control for your local apps
- Web Browser Automation script your web browsing and change web pages client-side
- ScriptinqLanquaqes make it easy to control and sequence local apps
- APIs and Data Formats that help to data exchange between local and remote services
- Some Specific Solutions - some particular kinds of glue ware that work well
- Lost\&Found - everything that didn't fit neatly in one of the categories above
- Learn more - reference material
- Books
- Sites

08 (0) 6
http://hci.stanford.edu

