

building for the post-mobile world

*why "mobile sites" are doomed,
why the future is made of structured content,
and how to build without breaking the bank*



hi. i'm @eaton!
i'm with lullabot.

strategy, design, and development



feel free to leave if...

- ▶ You don't manage or publish content
- ▶ Your pool of content is small, and static
- ▶ You have infinite budget, unlimited staff
- ▶ You're retiring in 2014

- ▶ Otherwise? Stick around, watch or heckle #postmobile

change is here



““ People don't want different content or less content. They imagine that their devices are different windows on the same content, and we don't get to choose how people view our stuff.

Karen McGrane, A List Apart

- ▶ Mobile is today's crisis

- ▶ **47%** of US adults use phone for browsing
- ▶ **15%** use their phone for *most* browsing
- ▶ **45%** of teen girls – same as IE's share

Mobile: No longer a feature

- ▶ **75%** of mobile usage at **home or the office**
- ▶ **90%** **split tasks** between multiple devices
- ▶ **68%** **avoid desktop site** if mobile breaks

Parity: No longer optional.

- ▶ **\$50k-150k** to build a midrange app
- ▶ **60%** of apps are never downloaded
- ▶ **50%** of app time is gaming or facebook

Apps: Not a silver bullet.

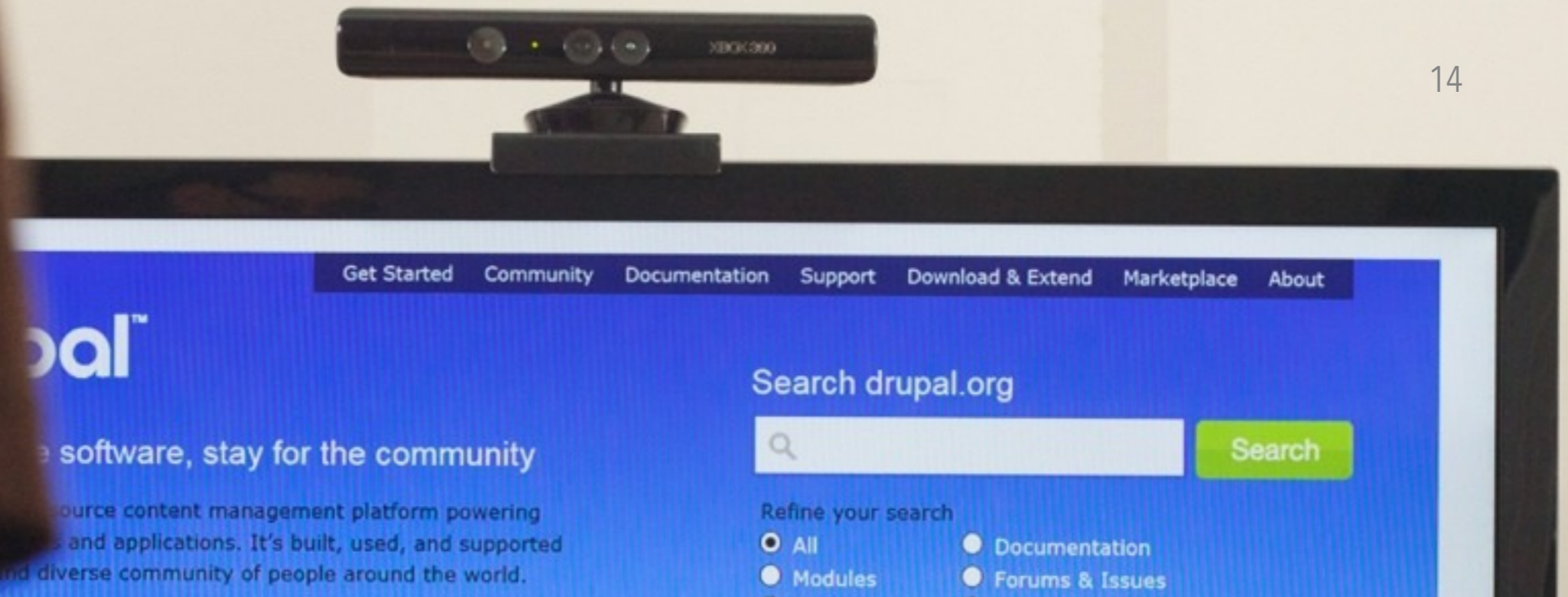


breakpoint overload



blink, blink, wink

Google Glass breaks every web site's interaction model. Sigh.



not even mobile

any site you can imagine. Join us!

Get Started with Drupal

Drupal Distributions

are a collection of pre-
designed and modular for feature

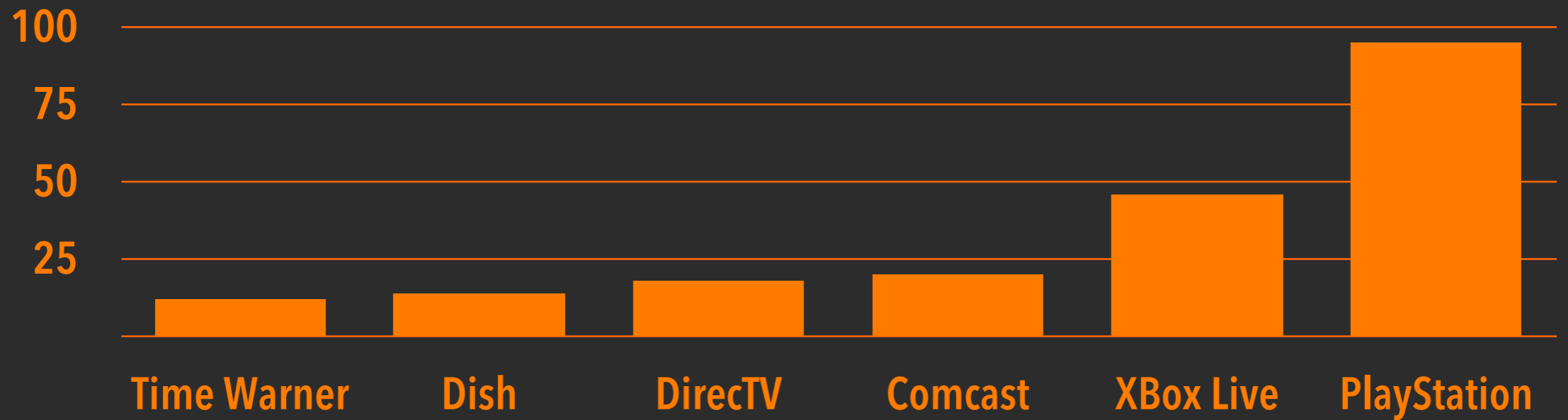
Gifts For
Everyone at
Every Budget

Lifeguard Press osCommerce Migration to
Drupal

Drupal need your help to **develop**,
design and **test** the next
version of Drupal.
Get started now.

19,840 Modules
1,594 Themes
527 Distributions
22,931 Developers

This week



46m on XBox Live

- ▶ Mobile is today's crisis
- ▶ Channel explosion is tomorrow's

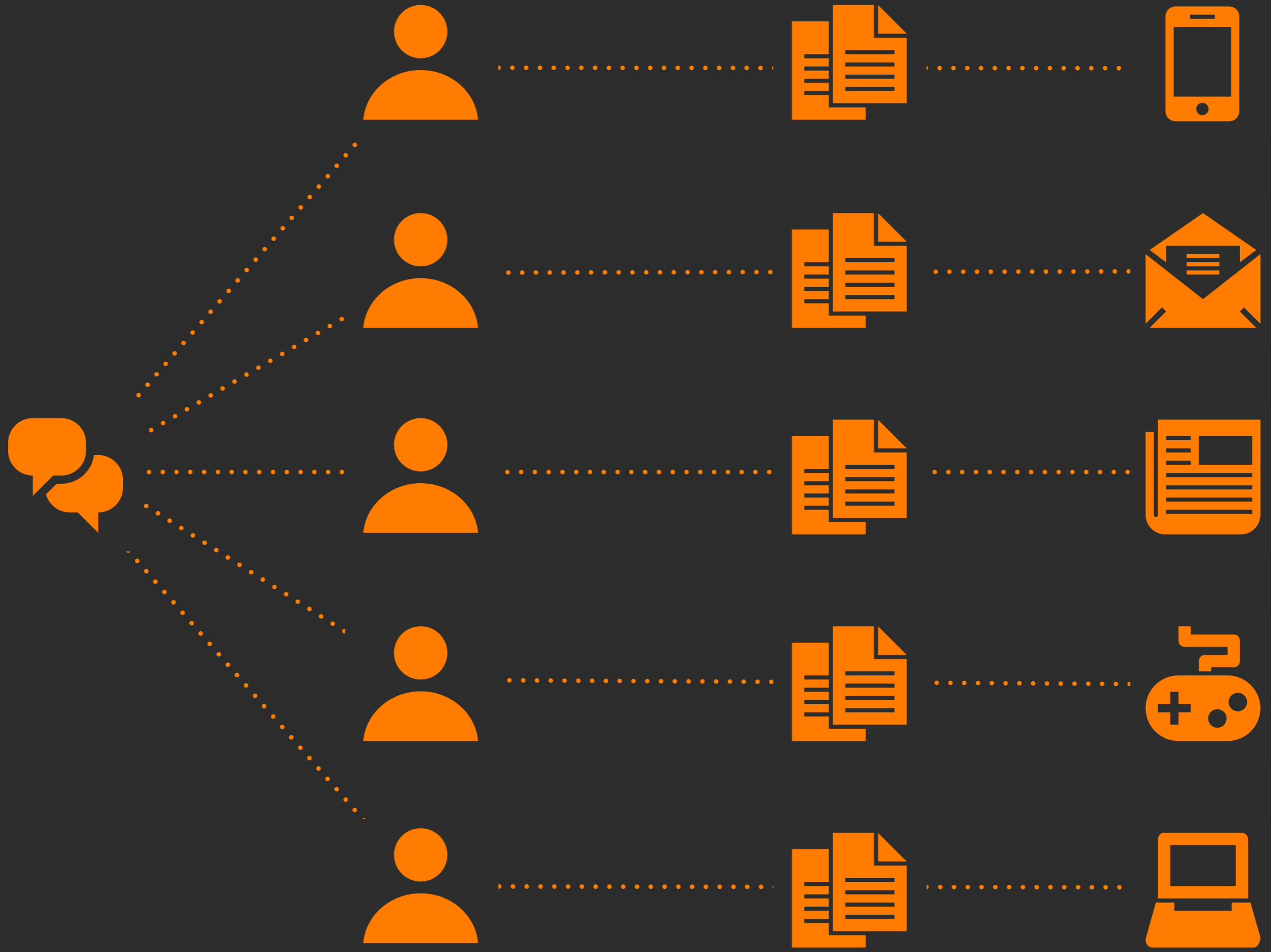






- ▶ Mobile is today's crisis
- ▶ Channel explosion is tomorrow's
- ▶ Forked content doesn't scale





“The challenge for most organisations in the long run won't be maintaining multiple sets of frontend code or different templates. It will be **maintaining variations of duplicate content.**”



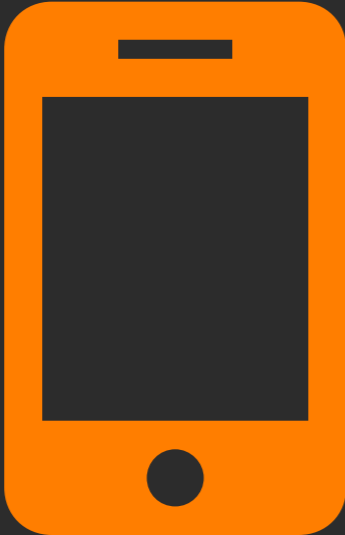
Karen McGrane: A Separate Mobile Site? No Forking Way

- ▶ Mobile is today's crisis
- ▶ Channel explosion is tomorrow's
- ▶ Forked content doesn't scale
- ▶ This isn't a new problem











**plan for the future
or pay to rebuild**

and rebuild...

and rebuild...

**there is a
solution**



“ Rather than thinking primarily about the final presentation – publishing web pages, mobile applications or brochures – an information-centric approach focuses on ensuring our data and content are accurate and available.

Whitehouse.gov, Digital Government Blueprint

who's already grappling with it?

- ▶ Governments (see [Data.gov](#))
- ▶ Large enterprise businesses
- ▶ Technical writers
- ▶ News media (see [NPR's COPE](#))



- ▶ Manage one pool of content

NPR's COPE

- ▶ Create Once, Publish Everywhere
- ▶ Small team, started a decade ago
- ▶ Uses the same content across all channels

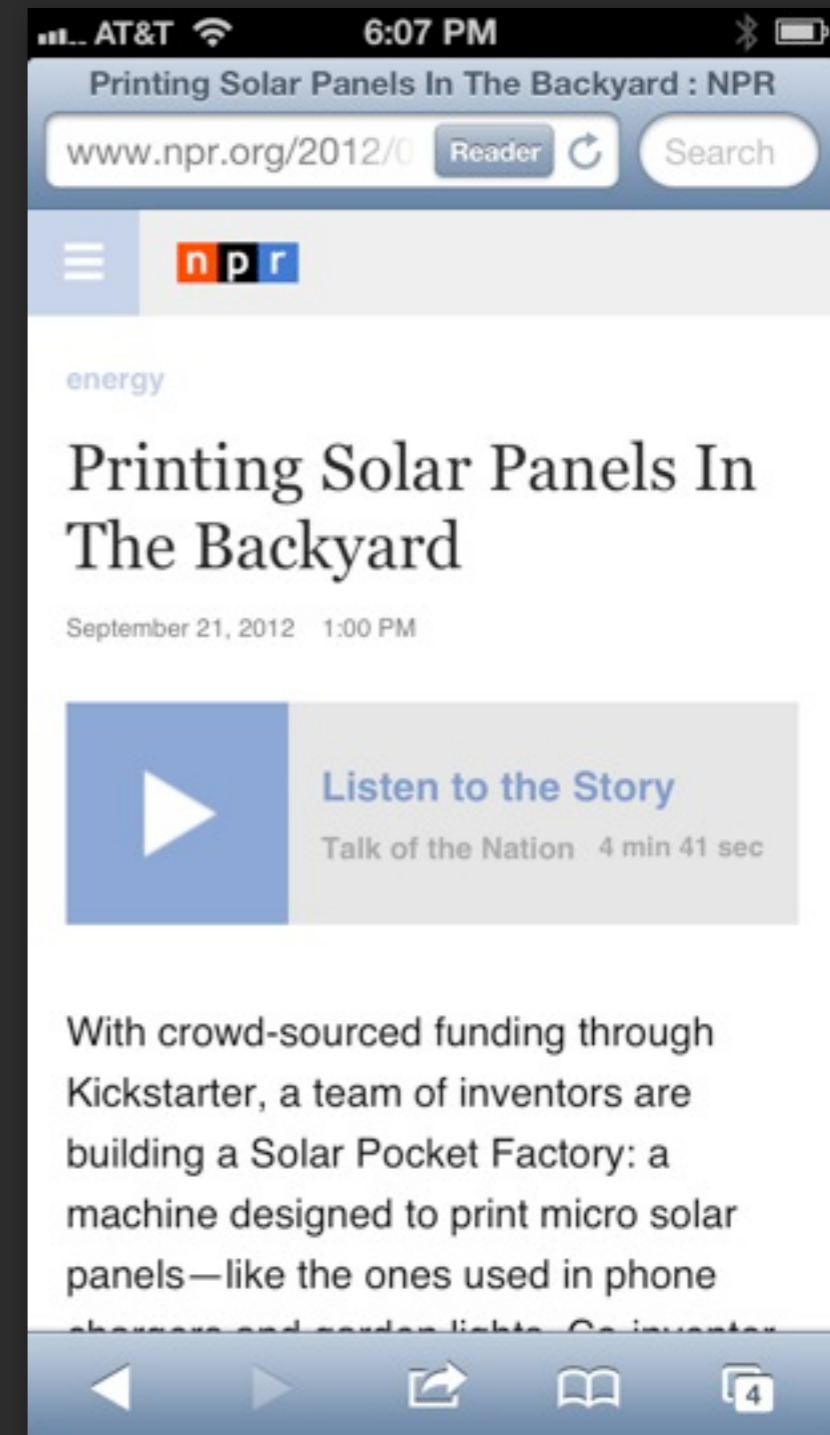
NPR's COPE

- ▶ Desktop
- ▶ Mobile
- ▶ iPhone
- ▶ Android
- ▶ Partner
- ▶ Microsite
- ▶ Youtube
- ▶ Social

The screenshot shows the NPR website interface. At the top, there is a navigation bar with the NPR logo and links for 'news', 'arts & life', 'music', and 'listen'. Below this, the article is categorized under 'news > science > energy'. The main headline is 'Printing Solar Panels In The Backyard', dated 'September 21, 2012 1:00 PM'. A prominent audio player is featured, with a play button icon, the text 'Listen to the Story' (with a speaker icon), 'Talk of the Nation', and a duration of '4 min 41 sec'. To the right of the player are links for 'Playlist' and 'Download'. Below the player, the article text begins: 'With crowd-sourced funding through Kickstarter, a team of inventors are building a Solar Pocket Factory: a machine designed to print micro solar panels—like the ones used in phone chargers and garden lights. Co-inventor Shawn Frayne stopped by Flora Lichtman's backyard with a few pieces of the prototype to explain how the machine works.' At the bottom of the article area, there is a 'Transcript' link. A footer at the very bottom of the page contains the copyright notice: 'Copyright © 2012 National Public Radio. For personal, noncommercial use only. See Terms of Use. For other uses, prior permission required.'

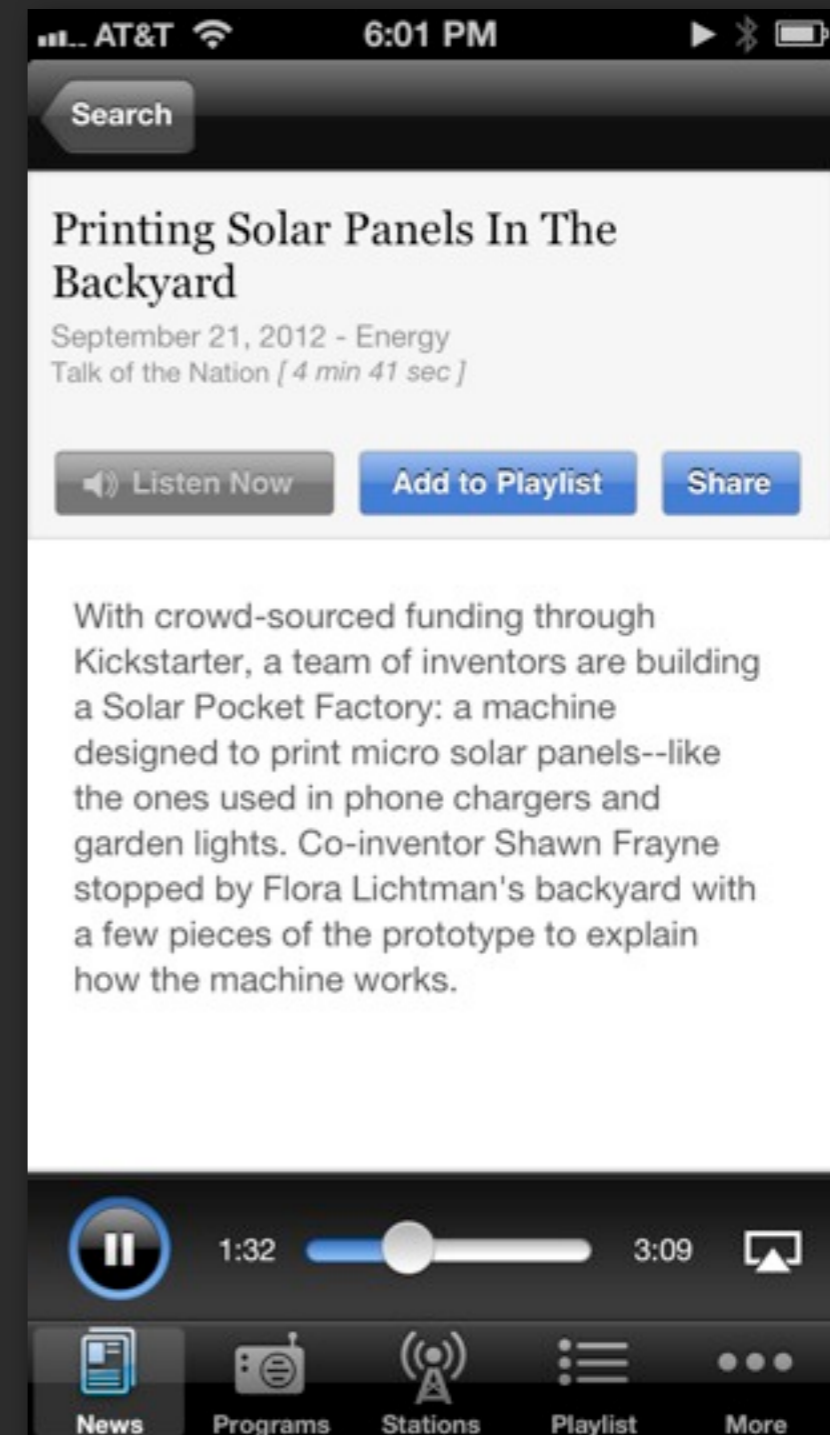
NPR's COPE

- ▶ Desktop
- ▶ Mobile
- ▶ iPhone
- ▶ Android
- ▶ Partner
- ▶ Microsite
- ▶ Youtube
- ▶ Social



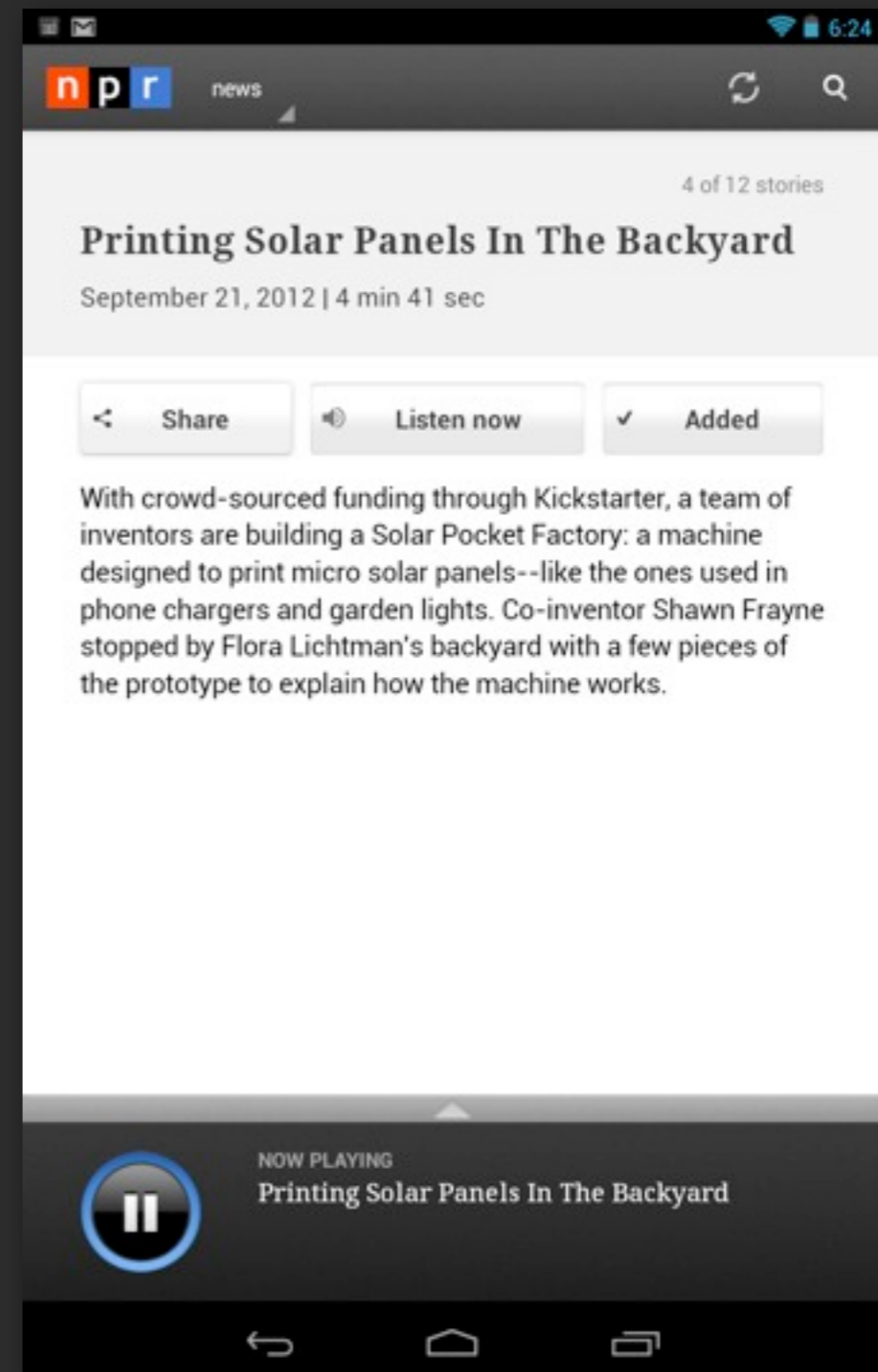
NPR's COPE

- ▶ Desktop
- ▶ Mobile
- ▶ iPhone
- ▶ Android
- ▶ Partner
- ▶ Microsite
- ▶ Youtube
- ▶ Social



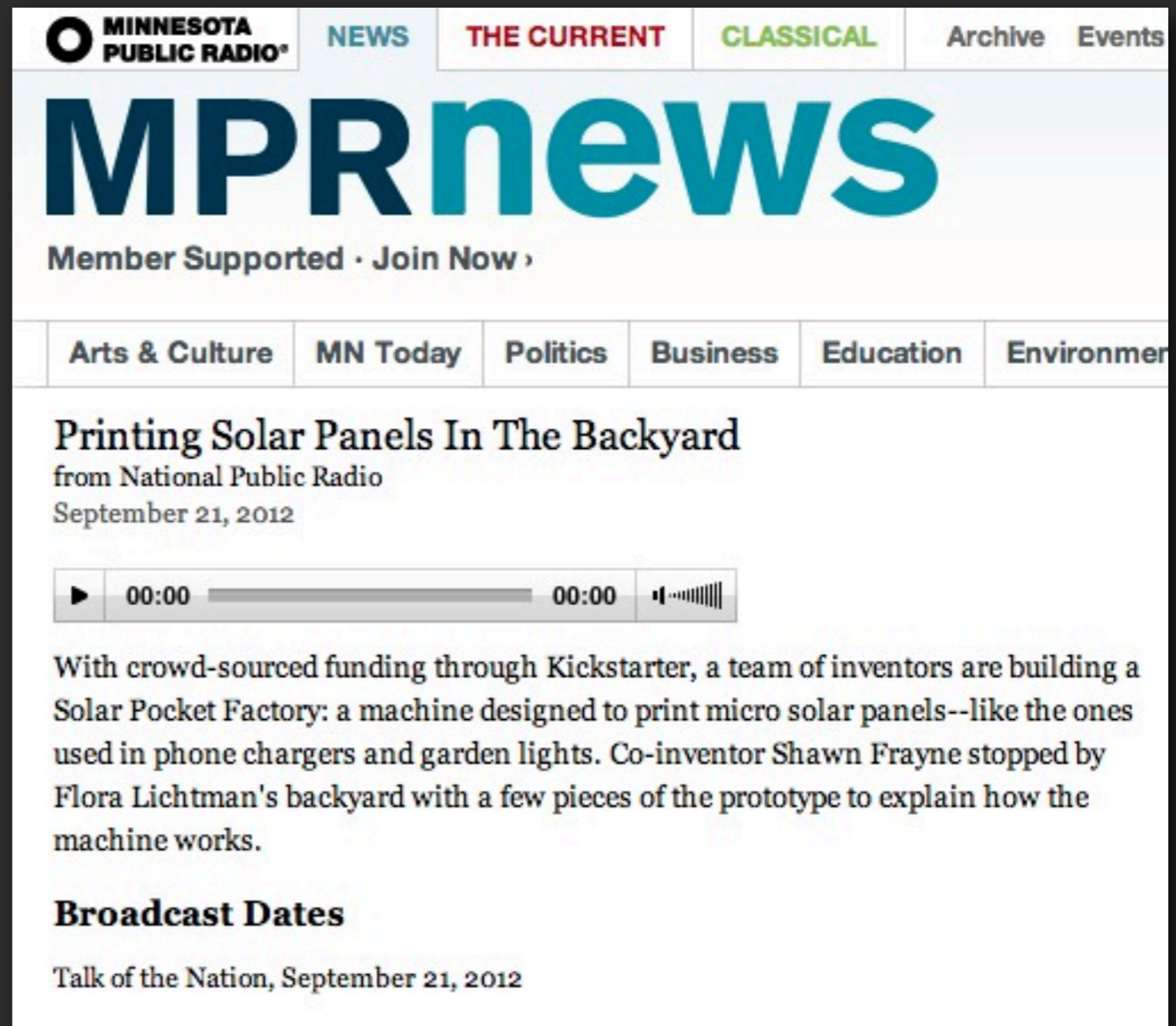
NPR's COPE

- ▶ Desktop
- ▶ Mobile
- ▶ iPhone
- ▶ Android
- ▶ Partner
- ▶ Microsite
- ▶ Youtube
- ▶ Social



NPR's COPE

- ▶ Desktop
- ▶ Mobile
- ▶ iPhone
- ▶ Android
- ▶ Partner
- ▶ Microsite
- ▶ Youtube
- ▶ Social



The screenshot shows the MPRnews website interface. At the top, there is a navigation bar with the Minnesota Public Radio logo and links for NEWS, THE CURRENT, CLASSICAL, Archive, and Events. Below this is the main header 'MPRnews' with a 'Member Supported · Join Now' link. A secondary navigation bar includes categories like Arts & Culture, MN Today, Politics, Business, Education, and Environment. The main content area features an article titled 'Printing Solar Panels In The Backyard' from National Public Radio, dated September 21, 2012. Below the title is an audio player with a play button, a progress bar at 00:00, and a volume icon. The article text describes a team of inventors building a Solar Pocket Factory, a machine for printing micro solar panels, and mentions co-inventor Shawn Frayne and Flora Lichtman's backyard. At the bottom, there is a 'Broadcast Dates' section indicating the article was part of 'Talk of the Nation' on September 21, 2012.

MINNESOTA PUBLIC RADIO® NEWS THE CURRENT CLASSICAL Archive Events

MPRnews

Member Supported · Join Now ›

Arts & Culture MN Today Politics Business Education Environment

Printing Solar Panels In The Backyard

from National Public Radio
September 21, 2012

▶ 00:00 00:00


With crowd-sourced funding through Kickstarter, a team of inventors are building a Solar Pocket Factory: a machine designed to print micro solar panels--like the ones used in phone chargers and garden lights. Co-inventor Shawn Frayne stopped by Flora Lichtman's backyard with a few pieces of the prototype to explain how the machine works.

Broadcast Dates

Talk of the Nation, September 21, 2012

NPR's COPE

- ▶ Desktop
- ▶ Mobile
- ▶ iPhone
- ▶ Android
- ▶ Partner
- ▶ Microsite
- ▶ Youtube
- ▶ Social



**SCIENCE
FRIDAY**

SUPPORT SCIENCE F

TOPICS AUDIO VIDEO BLOG FOR TEACHERS WAYS TO

VIEW CURRENT WEEK

Video

POPULAR VIDEOS

- Getting a Grip on Finger Wrinkles
- What's So Cool About Frozen Water?
- Where's The Octopus?
- Behold the Mighty Water Bear
- Shooting Stars
- What is a Flame?
- Reel Science Friday: 2012 Highlights
- Step Into an Optical Illusion
- Blue Whale Barrel Roll
- Super-Sized Snapshot

ARCHIVE


- 2012
- 2011
- 2010
- 2009
- 2008
- 2007

SUBSCRIBE

- Podcast
- YouTube

SEP. 21, 2012

Printing Solar Panels in the Backyard




EMBED
DOWNLOAD
Tweet

Imagine what you might do if you could print your own solar panels. That's kind of the dream behind Shawn Frayne and Alex Hornstein's Solar Pocket Factory – although they see it more as the "microbrewery" of panel production rather than a tool for everyone's garage. With over \$70,000 of backing from a successful [Kickstarter campaign](#), the inventors are now

NPR's COPE


- ▶ Desktop
- ▶ Mobile
- ▶ iPhone
- ▶ Android
- ▶ Partner
- ▶ Microsite
- ▶ Youtube
- ▶ Social




A man in a grey shirt is smiling and holding a small, rectangular solar panel with a blue grid pattern. The panel is mounted on a green frame. In the background, there is a brick wall and a metal structure. The video player interface shows a progress bar at 0:17 / 4:13.

Printing Solar Panels in the Backyard

SciFri · 81 videos 39,310

sci FRI  2,714  269  7

 Like  **About** Share Add to   

Published on Sep 21, 2012
Imagine what you might do if you could print your own solar panels.
That's kind of the dream behind Shawn Frayne and Alex
Homstein's Solar Pocket Factory -- although they see it more as

[Show more](#)

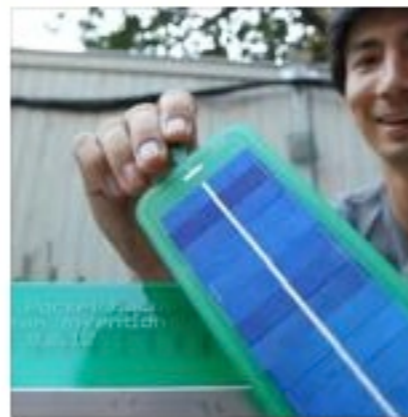
NPR's COPE

- ▶ Desktop
- ▶ Mobile
- ▶ iPhone
- ▶ Android
- ▶ Partner
- ▶ Microsite
- ▶ Youtube
- ▶ Social



Jeff Eaton

Just stumbled across this doing some research for a presentation. Pretty awesome stuff. <http://sciencefriday.com/topics/engineers-gadgets-geeks/video/09/21/2012/printing-solar-panels-in-the-backyard.html>

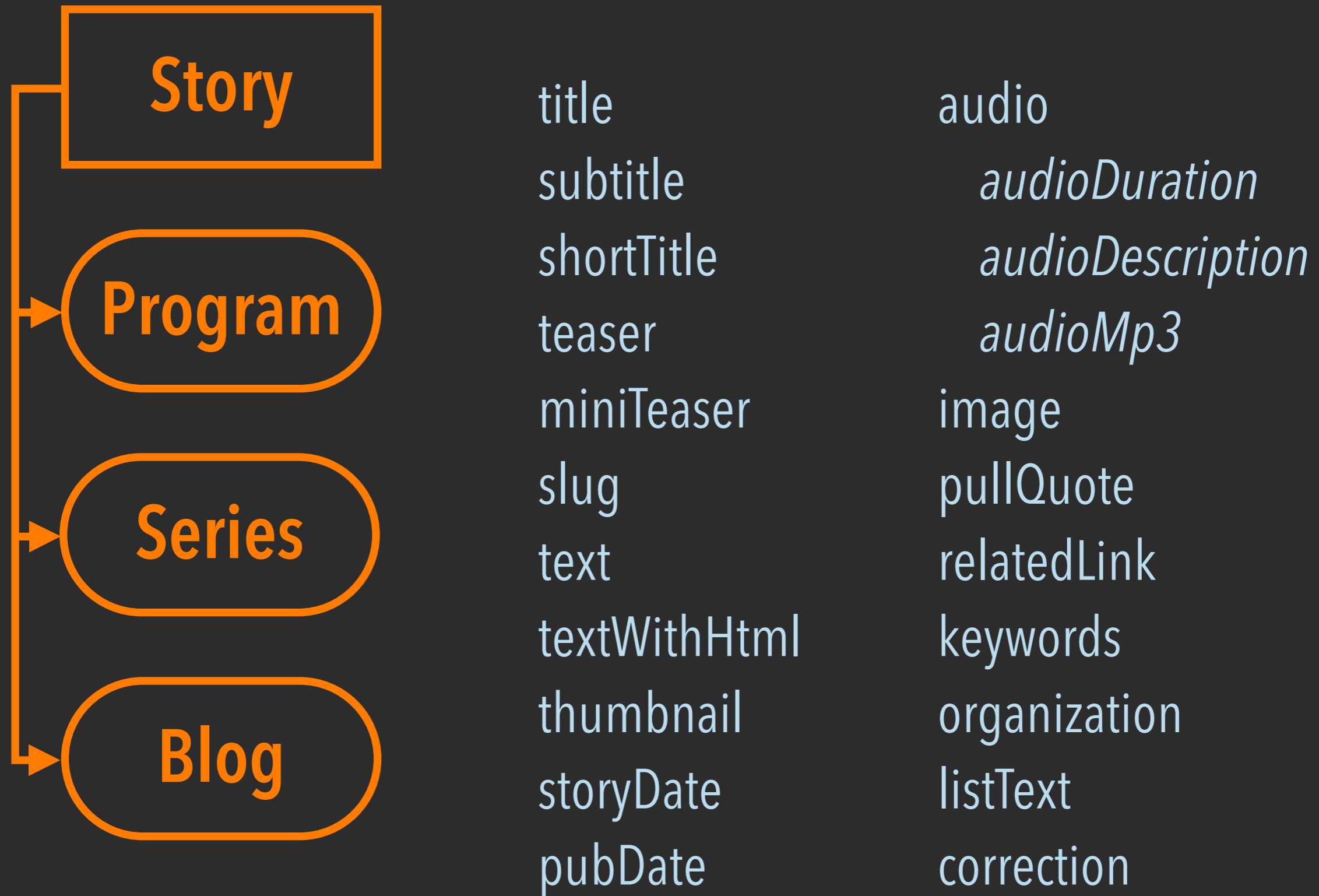


Printing Solar Panels in the Backyard
www.sciencefriday.com

With over \$70,000 of backing from a successful Kickstarter campaign, inventors Alex Hornstein and Shawn Frayne are working on a machine that prints micro solar panels.

Like · Comment · Share · Promote · a few seconds ago near Geneva ·

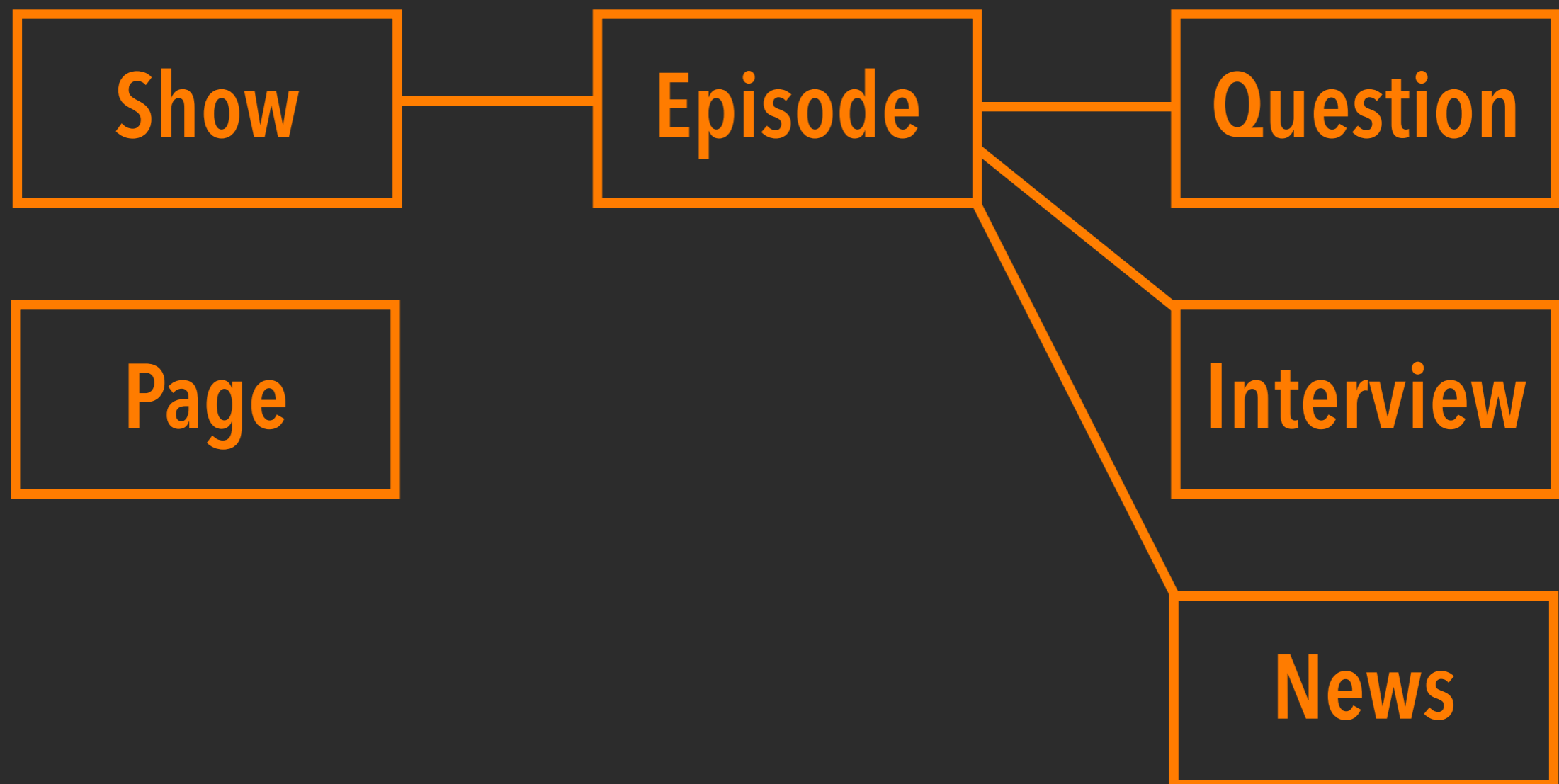
- ▶ Manage one pool of content
- ▶ Structure content for remixing



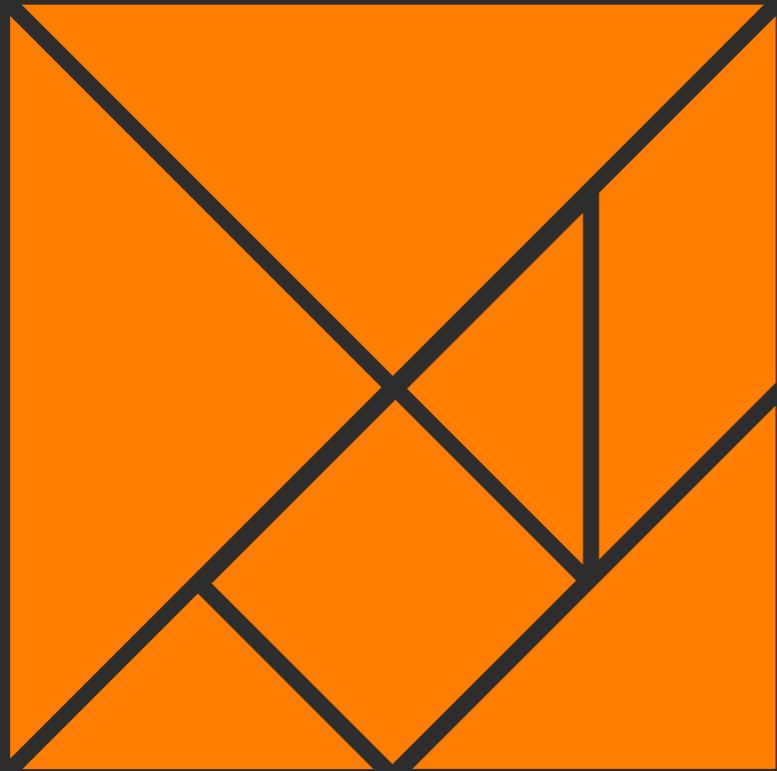
Tech Guy Labs

Page

Tech Guy Labs



Flexible chunks beat content blobs







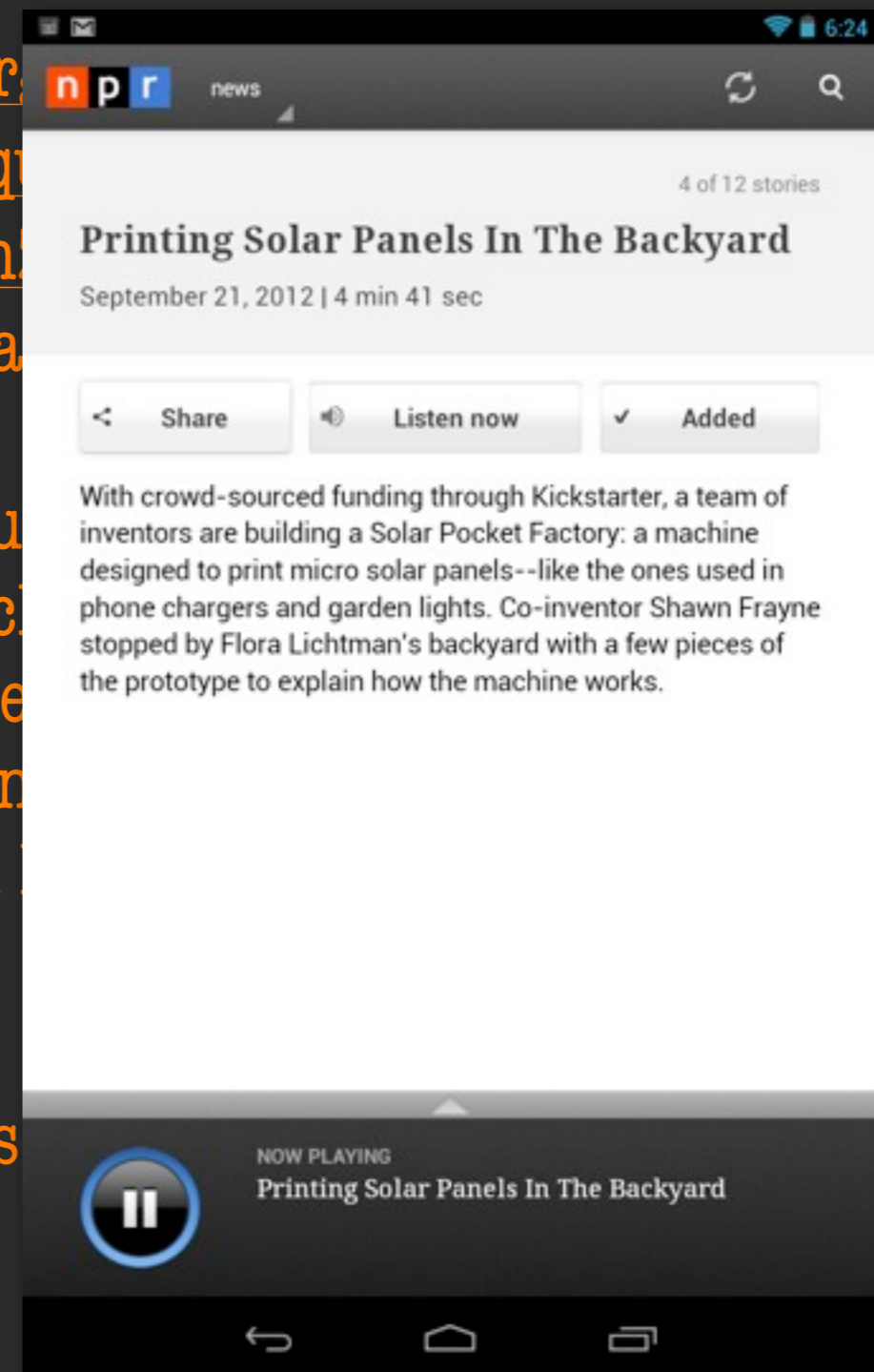
- ▶ Manage one pool of content
- ▶ Structure content for remixing
- ▶ Decouple content, presentation

[http://api.npr.org/query?](http://api.npr.org/query?fields=title,teasers&format=NRML&id=170510189&apiKey=MDEwNzg...)
fields=title,teasers
&format=NRML
&id=170510189
&apiKey=MDEwNzg...

```

<story id="161551774">
  <link type="html">http://www.npr.org
  <link type="api">http://api.npr.org/q
  <link type="short">http://n.pr/Sc6m
  <title>Printing Solar Panels In The Ba
  <teaser>
    With crowd-sourced funding throu
    inventors are building a Solar Poc
    designed to print micro solar pane
    Frayne stopped by Flora Lichtman
    pieces of the prototype to explain
  </teaser>
  <miniTeaser>
    A Kickstarter-funded project aims
    micro solar panels.
  </miniTeaser>
</story>

```



- ▶ Manage one pool of content
- ▶ Structure content for remixing
- ▶ Decouple content, presentation
- ▶ **...Profit?**

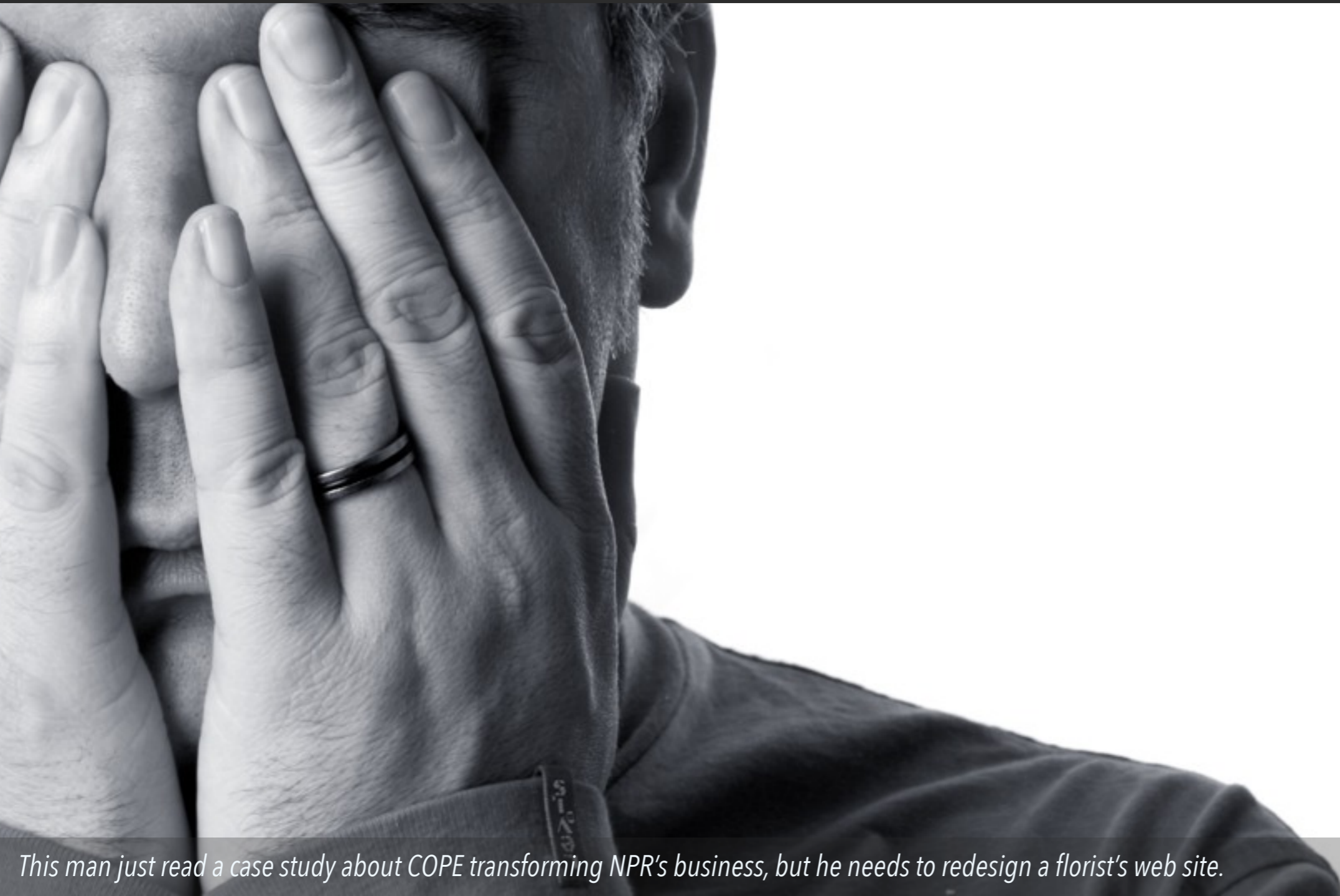
“ Having an API allows us to be highly efficient at building new platforms. **We build the presentation, and the 'data' is already ready to go.** In 12 months we doubled our online audience and launched 11 products, including a site redesign, with limited dev resources.

NPR, What We Did Wrong: NPR Improves Its API Architecture

**making it
happen**



So. Much. Work.



This man just read a case study about COPE transforming NPR's business, but he needs to redesign a florist's web site.

- ▶ Model meaning, not appearance

what you have vs. how it's presented

- ▶ Know why each element matters
- ▶ Learn from DBAs, markup purists
- ▶ Kill the dreaded "iPhone field"
- ▶ Test models with multiple channels

- ▶ Model meaning, not appearance
- ▶ Protect your assets

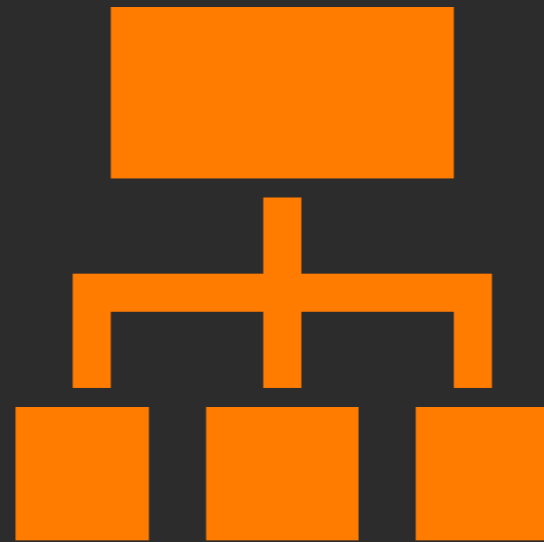
Assets

The stuff people want when they visit your site



Structure

The elements you use to group and organize assets



Presentation

Ephemeral stuff driven by channel design needs



- ▶ Model meaning, not appearance
- ▶ Protect your assets
- ▶ Expose and use content feeds

content APIs don't have to be crazy

- ▶ RSS, JSON, etc. (*Views RSS, Views Datasource*)
- ▶ Web Services (*Services, RestWS, ContentAPI...*)
- ▶ Consume, too! (*Feeds, Client-side scripts...*)
- ▶ Drupal 8 (*Web Services Initiative...*)

- ▶ Model meaning, not appearance
- ▶ Protect your assets
- ▶ Expose and use content feeds
- ▶ Tailor the editing experience

is this the scheduled
WYSIWYG rant? yes.

- ▶ It privileges the editor's device
- ▶ Dreamweaver fields kill reuse
- ▶ Visual layout runs the same risk
- ▶ Limit allowed tags, watch for abuse

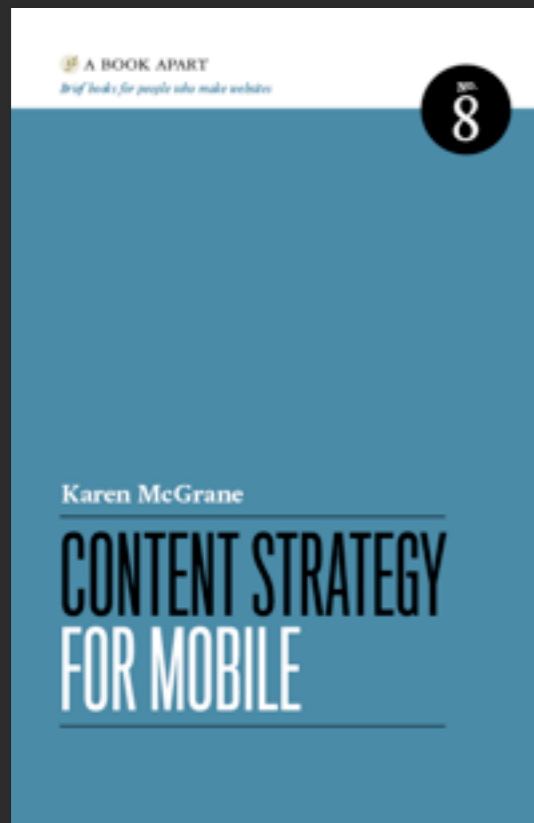
editors are the most important users

- ▶ Tailor tools for tasks and workflows
- ▶ Let them control priority, emphasis
- ▶ Don't force them to be designers
- ▶ Plan for long term maintenance

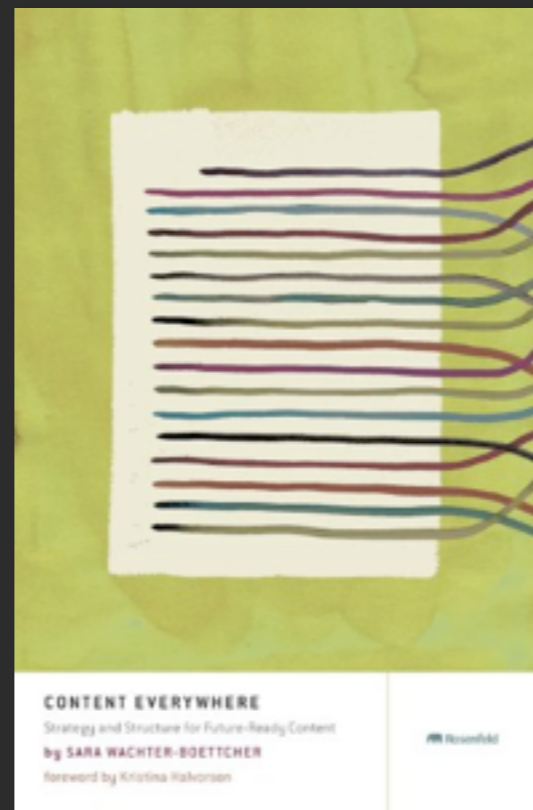
building for the post-mobile world

- ▶ **Reuse, don't fork, your content**
- ▶ **Put purpose and structure first**
- ▶ **Separate assets from presentation**
- ▶ **Expose feeds to drive new channels**

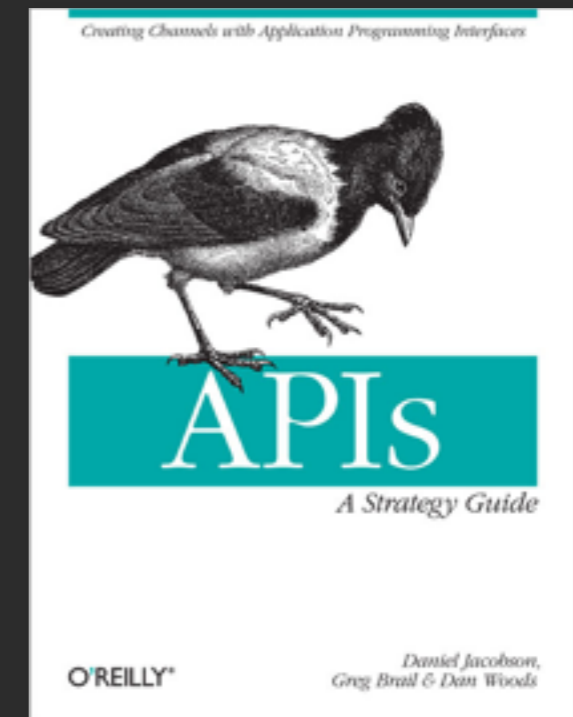
read these books now.



Content Strategy for Mobile



Content Everywhere



APIs, A Strategy Guide

read these links, too.

Luke W

www.lukew.com/ff

Karen McGrane

karenmcgrane.com

Insert Content here

insertcontenthere.com

MIT Technology Review

www.technologyreview.com/businessreport/mobile-computing-in-question

Subcompact Publishing

craigmod.com/journal/subcompact_publishing/

Future Friendly Design

speakerdeck.com/lukebrooker/future-friendly-design

Structure first

www.markboulton.co.uk/journal/structure-first-content-always

10 Commandments of
mobile design

www.lullabot.com/articles/10-commandments-modern-web-design