

# Publishing and the Open Web Platform

W3C and the Publishing Industry

Ivan Herman, W3C  
Beijing, 2013-11-07

These slides are available on-line:

<http://www.w3.org/2013/Talks/1107-Beijing-IH/Talk.pdf>



# First, a few words about W3C



# A bit of history...



Sir Tim Berners-Lee  
Web Inventor and  
W3C Director

**1989**

Tim Berners-Lee invents the World Wide Web.

**1994**

The W3C is founded by Tim Berners-Lee at the MIT, in collaboration with INRIA

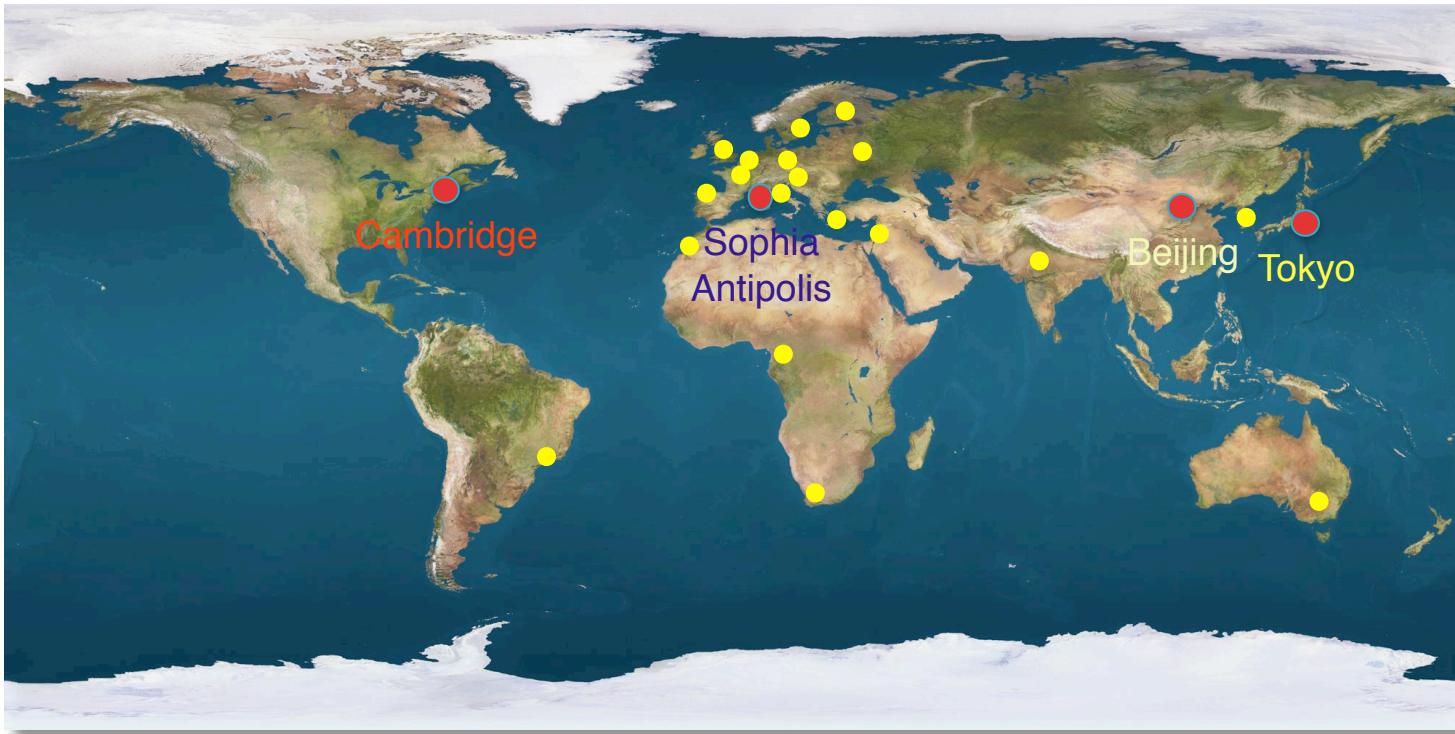
**2013**

The W3C is a joint endeavor of MIT, ERCIM, Keio University, and Beihang University

**W3C's mission is to ensure the long-term growth of the Web with the vision of ONE WEB FOR ALL**

# W3C is an international community around 4 “hosts”

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W3C is a non-profit membership organization with  
more than 390 members from all industries

# W3C at a glance

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W3C sets the standards that make the Web work:

- ▶ Basis of today's Web (the “Open Web Platform”):
  - HTML, CSS, SVG, Web Architecture, XML, ...
- ▶ Advancing the Web of tomorrow
  - e.g., Social Web, Web of Data, Mobile Web, Digital Publishing
- ▶ Key efforts focusing on universality:
  - Web Accessibility Initiative, Internationalization, Mobile Web, Security/Privacy

# What W3C does

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- ▶ *Develops specifications* (i.e., Web standards)
  - e.g., HTML, SVG, ...
- ▶ Develops guidelines, best practices
  - e.g., Web Content Accessibility Guidelines, Data Publishing Best Practices, ...
- ▶ Provides diverse forums for discussions, joint pre-standard specifications, participates at outreach events
  - e.g., Open Annotation Vocabulary
- ▶ Offers a validation suite and service, various courses, documentations

# What W3C does not do

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- ▶ Major software developments, standard implementation (except for proof of concepts)
- ▶ Conduct independent research (it does what the members want it to do...)
- ▶ Act as a legislative body (e.g., to *require* certain implementations to happen)

# More information

<http://www.w3.org> or <http://www.chinaw3c.org/>

World Wide Web Consortium (W3C)

Views: desktop mobile print

W3C By Region

STANDARDS PARTICIPATE MEMBERSHIP ABOUT W3C

STANDARDS

- Web Design and Applications
- Web Architecture
- Semantic Web
- XML Technology
- Web of Services
- Web of Devices
- Browsers and Authoring Tools

... or view all

WEB AND INDUSTRY

- Digital Publishing
- eGovernment
- Mobile Web

Widget Interface is a W3C Recommendation, Last Call: Po  
31 October 2013 | Archive

The Web Applications Working Group has published a W3C Recommendation. Widget Interface. This specification defines an application programming interface (API) that provides, amongst other things, functionality for accessing a widget's metadata and for storing data.

The Web Applications Working Group has also published a Last Call Working Draft. Lock. This specification defines an API that provides scripted access to raw movement data while locking the target of mouse events to a single element or cursor from view. This is an essential input mode for certain classes of application, first person perspective 3D applications and 3D modelling software. Comments are due by 28 November.

Learn more about the Rich Web Client Activity.

The Web Performance Working Group calls for review of User Experience and Performance Timeline, calls for implementations of Timing API for script-based animations  
31 October 2013 | Archive

Touch Events Extensions Note Published  
31 October 2013 | Archive

Linked Data Platform Use Cases and Requirements Draft I  
Connected to eiv.baidu.com...

W3C中国

W3C标准 首页 本地动态 参与W3C 会员 关于我们

万维网联盟(W3C)

Tim Berners Lee将于11月8日在北航举行报告会 欢迎在线报名  
November 01, 2013 | 国内新闻,技术活动,会员动态



2013年10月31日消息：W3C欢迎会员单位及广大关心Web技术标准的技术专家、开发者社区及教师、学生共同参加2013年11月8日下午15:00在北京航空航天大学举行的【北航大讲堂】活动。W3C创始人Tim Berners-Lee将和大家分享题为“开放的多种含义（The Many Meanings of ‘Open’）”的主题演讲。欢迎您在线报名参加。

蒂姆·伯纳斯-李（Tim Berners-Lee）爵士1955年出生于英国，他是万维网的发明者，英王功绩勋章（OM）获得者，不列颠帝国勋章（OBE）获得者，英国皇家学会会员，英国皇家工程师学会会员，美国国家科学院院士。1989年3月他正式提出万维网的设想，1990年12月25日，Tim Berners-Lee在日内瓦的欧洲粒子物理实验室(CERN)开发出了世界上第一个网页浏览器。他是国际权威万维网标准制定机构万维网联盟（World Wide Web Consortium, W3C）的创始人，并获得世界多国授予的多项荣誉。他最杰出的成就，是免费把万维网的构想推广到全世界，让万维网科技获得迅速的发展，深深改变了人类的生活面貌。

时间：2013年11月8日（星期五）15:00-16:30

地点：北京市海淀区学院路37号 北京航空航天大学 晨星音乐厅（学院路上北航东南门进校园后，向西直走200米即到）

北京航空航天大学于2006年4月设立了W3C中国办事处，2013年1月，[W3C北航总部正式成立](#)，与设立在美国麻省理工学院、欧洲数学与信息学研究联盟（ERCIM）和日本庆应大学等其他W3C的总部机构一道共同运营W3C。

人员招聘

# Publishing and the Open Web Platform



# 20 years ago the Web created new experiences for publishing

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- ▶ Reading
  - Hyperlinks (i.e., non-linear reading)
- ▶ Publishing
  - Global distribution
  - Anyone could publish (low barriers)
  - New advertising opportunities (search engines, pop-ups)
- ▶ But...
  - impoverished style, layout of early Web no match for print
  - low resolution screens, slow processors



# Trends of past decade have further transformed reading, publishing

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- ▶ Internet everywhere
- ▶ Multi-function devices
- ▶ Mobility
- ▶ Much higher quality display,  
typesetting, speed
- ▶ Social
- ▶ Customization
- ▶ Cloud
- ▶ Broadband



# Many industries feeling the impact

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- ▶ Mobile
  - ▶ Television
  - ▶ Automotive
  - ▶ Health Care
  - ▶ Gaming
- 
- ▶ Digital signage
  - ▶ Government



# But publishing in particular

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- ▶ Global eBook report: “Major [US] trade publishers have reported a market share for **ebook revenues around the 30% mark [...] 20% of the UK book market** was digital”
- ▶ The Bookseller: “In all of 2012, e-book **sales doubled their volume** [...] in the United Kingdom”
- ▶ Global eBook report: “**Ebooks have started to transform the entire ecosystem of publishing and reading.** By 2014, expect the entire value chain to be under scrutiny from all sides.”
- ▶ Global eBook report: “As of March 2012, [...] claimed to have published [...] nearly 6 million titles from more than 1.6 million authors [in China]. **By March 2012, the accumulated number of users/readers [in China] was said to be 123 million.**”

# That is because Publishing = Web

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- ▶ Web is “intimately” tied to the intrinsic purpose of publishing
  - the Web’s impact on automotive, government, health care, etc., is secondary to their intrinsic purposes.



# That is because Publishing = Web

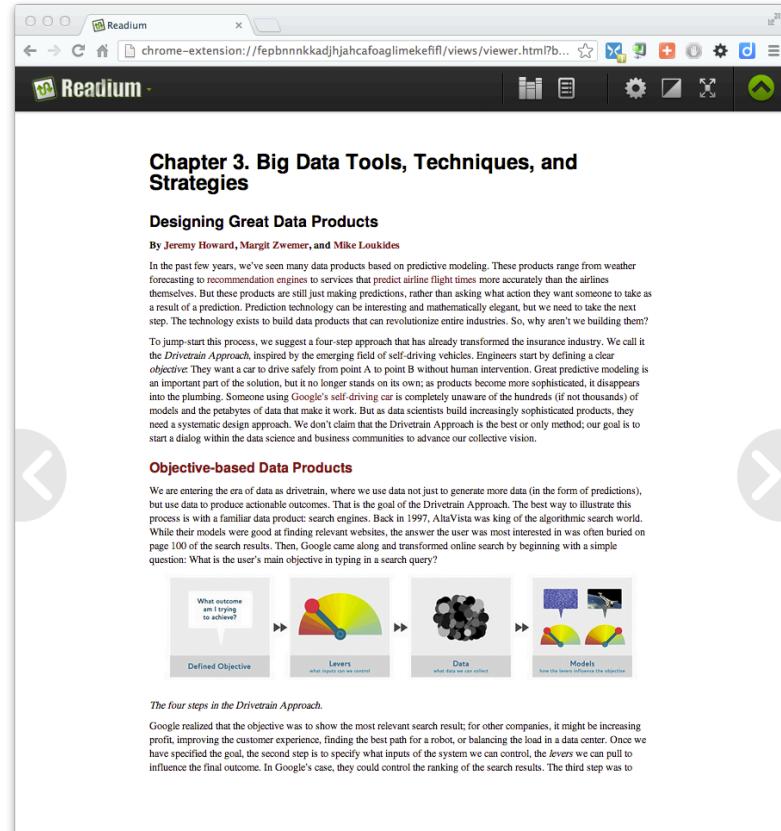
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- ▶ Publishing industry has leveraged the Web for 20 years
  - parts of industry have been early adopters
- ▶ Tomorrow they will be fully part of the Web
  - ebooks, magazines, journals picking up the technology  
*today*



# What “Ebooks picking up the technology *today*” means

- ▶ An ebook file is, usually, a packaged Web site
  - XHTML 1.1 for EPUB 2
  - XHTML 5 for EPUB 3
  - Mobi accepts XHTML/HTML as input source
- ▶ An ebook reader is “just” a very specialized browser!



# The Web has become an Open Web Platform

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- Web pages are more attractive, interactive and intelligent
- HTML5, SVG, or CSS provides cross-browser and cross-device interoperability
- Video, audio, etc., are a first-class citizens
- Data integration has been simplified
- It has tools for social networking (privacy, security, identity)



# Examples for the Open Web Platform influencing publishing

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- ▶ Recent ebook formats have picked up many of the OWP features
  - uses HTML5, i.e., includes audio and video as first class objects
  - SVG and Canvas comes to the fore
  - CSS 3 instead of older versions of CSS
  - (limited) scripting
  - MathML
- ▶ The “back-end”, production side is looking at OWP to simplify the author-to-(e)book workflow

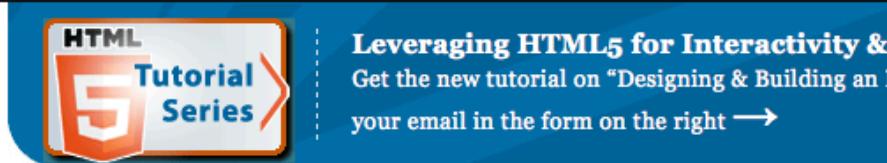
# Convergence is ongoing



The dbw logo features the letters "dbw" in a large, white, serif font. Behind the letters are several thin, light-colored lines radiating outwards, resembling a fan or a series of book spines.

**View The Main Event  
ON DEMAND**  
CONference + EXPO  
Opportunity. Innovation. Success.

News & Analysis   DBW Daily   Events   Webcasts   DBW U   Publishing Innovation Awards   QED   Director



**HTML5 Tutorial Series**

Leveraging HTML5 for Interactivity & ...  
Get the new tutorial on "Designing & Building an Interactive Book" by Faye Kellerman.  
your email in the form on the right →

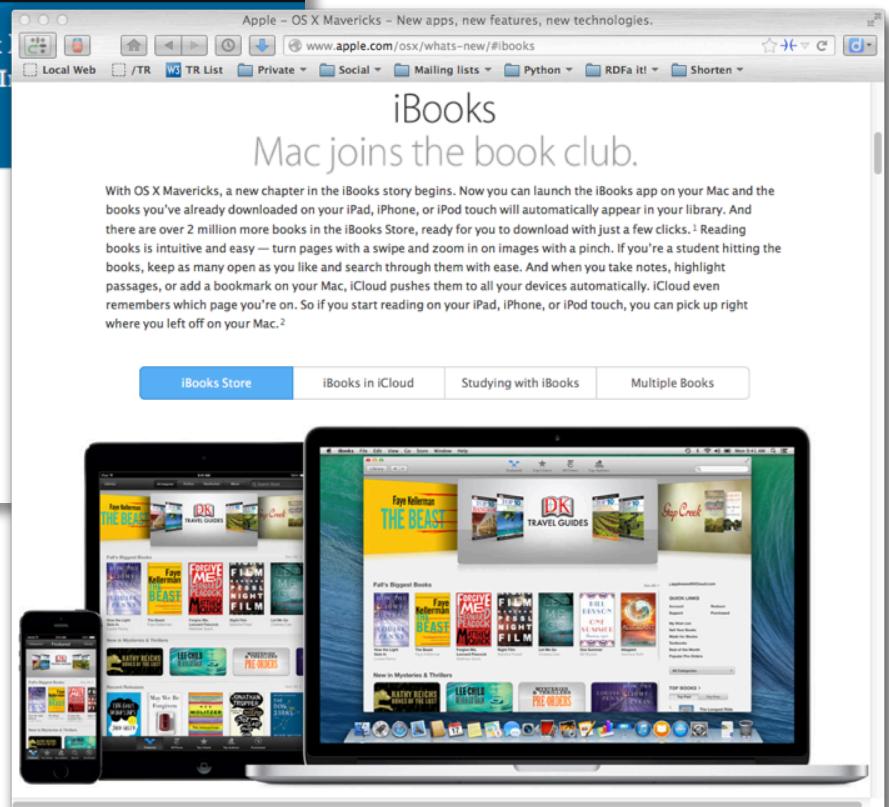
## Microsoft's \$1 Billion Bid for Nook

Categories: DBW Daily, Industry News

May 10, 2013 | DeannaUtroske | 0



According to documents obtained by TechCrunch, Microsoft has finally made a move to acquire Nook.



Apple – OS X Mavericks – New apps, new features, new technologies.

www.apple.com/osx/whats-new/#ibooks

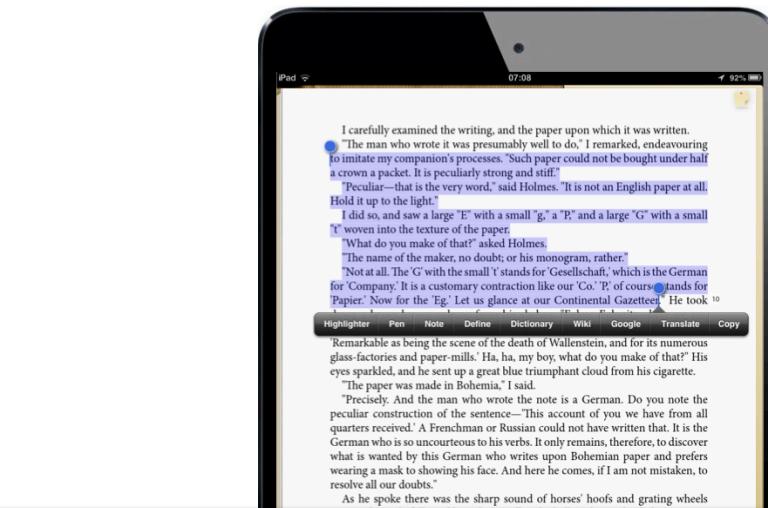
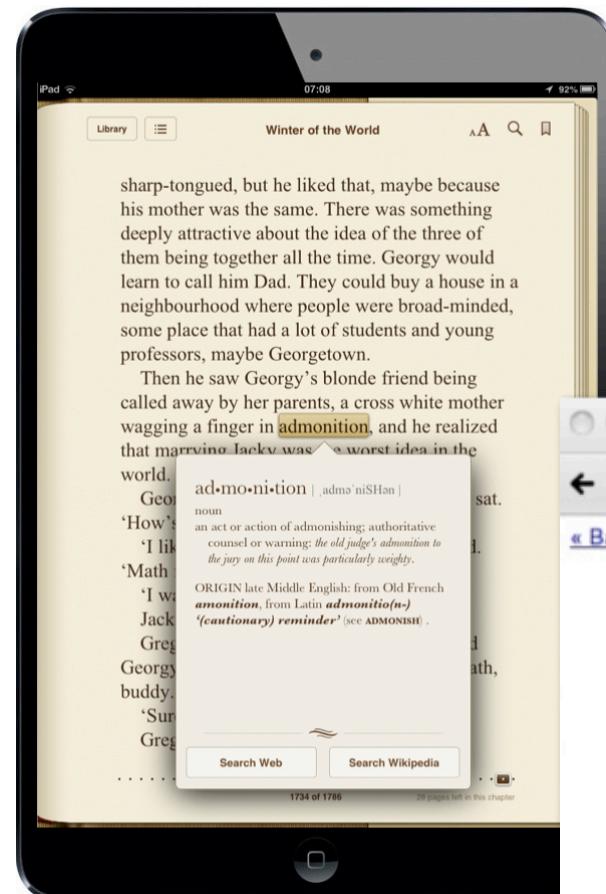
iBooks  
Mac joins the book club.

With OS X Mavericks, a new chapter in the iBooks story begins. Now you can launch the iBooks app on your Mac and the books you've already downloaded on your iPad, iPhone, or iPod touch will automatically appear in your library. And there are over 2 million more books in the iBooks Store, ready for you to download with just a few clicks.<sup>1</sup> Reading books is intuitive and easy — turn pages with a swipe and zoom in on images with a pinch. If you're a student hitting the books, keep as many open as you like and search through them with ease. And when you take notes, highlight passages, or add a bookmark on your Mac, iCloud pushes them to all your devices automatically. iCloud even remembers which page you're on. So if you start reading on your iPad, iPhone, or iPod touch, you can pick up right where you left off on your Mac.<sup>2</sup>

iBooks Store   iBooks in iCloud   Studying with iBooks   Multiple Books



# Third-party service integration



applied Tickler to further investigation. She concluded by showing me. I often served her as a connubial missile at Joe, who, glad to get hold of me on any terms, passed me on int

[Define](#)  
[Translate](#)  
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[Search Wikipedia](#)

ey and quietly fenced me there with his great legs.

"Where have you been, you ey?" said Mrs. Joe, stamping her foot. "Tell me directly what you've been doing to wear me away with

# Social becoming part of reading

The image illustrates the integration of social features into reading experiences across different platforms.

**Smartphone (Left):** Displays a book page from Google Play Books. A red circle highlights the top navigation bar, which includes icons for sharing, reading mode, and text size. The book being read is "OLE LUCKOIE (SHUT-EYE)" by OLE LUCKOIE. The page shows the first few paragraphs of the story.

**Tablet (Middle):** Shows the Goodreads website. The main headline reads "Meet your next favorite book." Below it, there's a section titled "Deciding what to read next?" and another titled "What will you discover?". The "What will you discover?" section shows a comparison between a user's discovery ("She discovered: NEXT OF KIN") and a recommended book ("Because Shomeret liked..."). To the right, there's a "Love lists" section showing friends' reading lists on Facebook and Goodreads.

**Desktop Browser (Right):** Displays the Goodreads mobile app interface titled "Reading Life". It shows a "FRIENDS" section with a "Friends Are Reading" status update. Below it are sections for "Friends On Facebook (4)" and "Love lists" for "Best Books of the Century" and "Best for Book Lovers".

# And run on any device

of our local papers had been picked up by the AP and had spread worldwide. We did interviews for newspapers and radio stations all across the country and at least one radio station in Canada.

With all the exposure it wasn't long before we were made aware that the record of 120 hours had been broken already. A few emails and phone calls later and we found out that two State Farm agents from Texas held the last record certified by Guinness of 118 hours. That was quite a downer. We had followers counting on us to break the record and we had figured everything on a faulty premise.

We resolved to just keep at it and hope for the best. We received lots of encouragement from friends, family and fans and we couldn't let them down. After

**"To anyone we inspired, thanks."**

many miles and a few adventures (which can be found here) we finished our crazy trip at four corners. We beat our expectations by a long shot, hitting all 48 contiguous states in 106 hours and 43 minutes. Even though we had five more hours of driving to get home, we were ecstatic.

After we wrapped up we found out how many people had heard about our Great American

Road Trip. We had as many as 25,000 hits on this site in a day from dozens of countries from every continent except Antarctica. We were mentioned in magazines ranging from a Christian Magazine to Car and Driver. We continued to do interviews and we found news articles in Chinese, German, and many other languages. We were astounded.

So many people connected with our trip in so many ways and we have been an inspiration to many to hit the road or follow their dreams. Some of those we inspired were inspired to beat our record and accomplished just that. The trip was great, the sense of accomplishment was wonderful but knowing we might have made a difference in someone's day, let alone life, is better than any record.

To anyone we inspired, to all those that enjoyed our journey, to our families and to our friends, thank you.



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# With high quality graphics

iPad 16:34 79%

Webb will be the largest telescope ever placed in orbit. To get this huge telescope into space, it will have to be folded up inside the rocket that carries it from Earth. It will unfurl as it nears its destination, the mirror unfolding and the sunshield spreading like wings.

With its infrared vision, Webb will be able to see light from vast distances that has been stretched as it travels across the expanding fabric of space – a process known as “redshifting.” This will enable scientists to see the light from the first galaxies to form in the early universe – the first flicker of stars that formed after the Big Bang.

Hubble has seen the adult, teenage and child galaxies of the universe, but Webb will see the cosmos’ toddlers and infants.

Webb's infrared view will allow us to see through opaque clouds of gas and dust in our own galaxy to objects within, like newborn stars and dusty disks forming new solar systems, expanding and deepening our knowledge about how stars and planets develop.

And Webb's instruments will be able to analyze the light from planets around other stars, allowing us to search for traces of water vapor that could indicate the presence of life-giving oceans. Webb's vision will be able to detect features in the atmosphere of a planet that could show biological activity.

Webb's launch is scheduled for 2018. And despite the high expectations for the telescope, the true excitement will come from the discoveries Webb makes that no one planned. When Webb takes its place among the stars, it will give astronomers an unprecedented tool to explore the cosmos. The greatest science it reveals may – as with Hubble – open avenues to questions astronomers have not yet thought to ask. The true power of Webb may be its potential for unbounded, unexpected discovery.

**Gallery 5.7 Webb Science Targets**

A simulated image gives a hint of what deep-field images will look like with Webb. Far-distant galaxies reveal new galactic populations.



Is everything perfect and fine?

a.k.a. are publishers and the Web  
coexisting perfectly?

No... ☹

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- ▶ Most of the publishing industry players have just been “users” of Web technologies
- ▶ Technology evolution has been driven by “traditional” Web browsing

*The specific needs and priorities of the publishing industry may not be reflected in the evolution of the Web!*

# Some examples of the publishers' needs

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- ▶ Should match current publishing practices
- ▶ Should leverage the Web at large
- ▶ Should provide more than just text in a file
- ▶ Should support diverse business and distribution models
- ▶ Should satisfy diverse usage communities and patterns



Screen shot: premiumfreebies.eu

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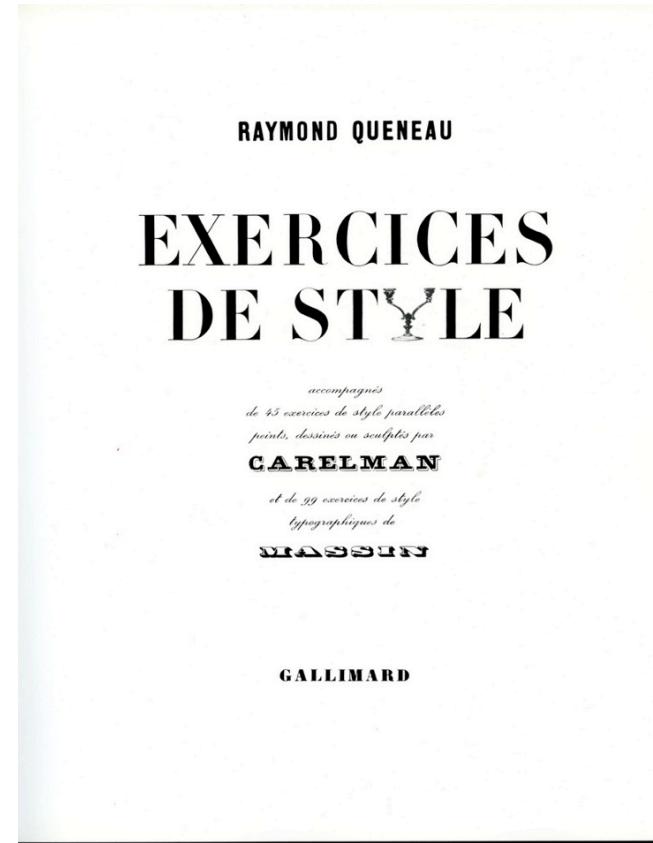


Screen shot: premiumfreebies.eu

*Achieving these may still raise technical challenges!*

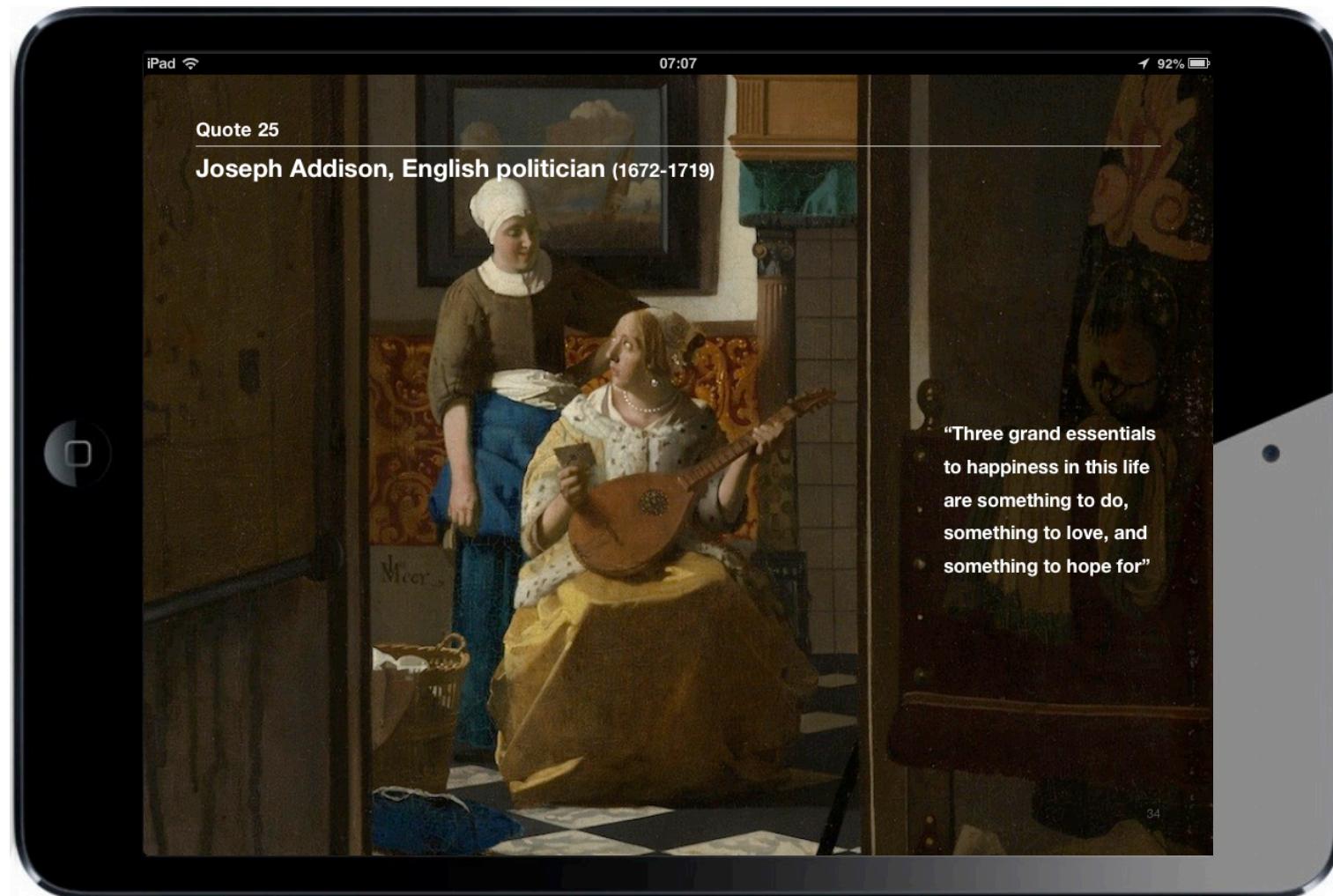
# “Should match current publishing practices”

- ▶ Screens, typography, high quality fonts, colors
- ▶ Advanced layout
  - multi-column
  - pagination, headers, footers
  - formatting in the world's scripts
  - hyphenation
  - ...



Photos from "Iliazd", Flickr

# Example: fixed layout



# Example: Missing CSS features

January 4

Pennsylvania city, each of her days could easily resemble the next—she has a lot of time, having been laid off from her job busing tables at a fast food restaurant. She has enough money to live on, as a recipient of government assistance for people with disabilities.

But Beth also has something else: ingenuity.

This trait isn't generally ascribed to people

# Example: Missing CSS features

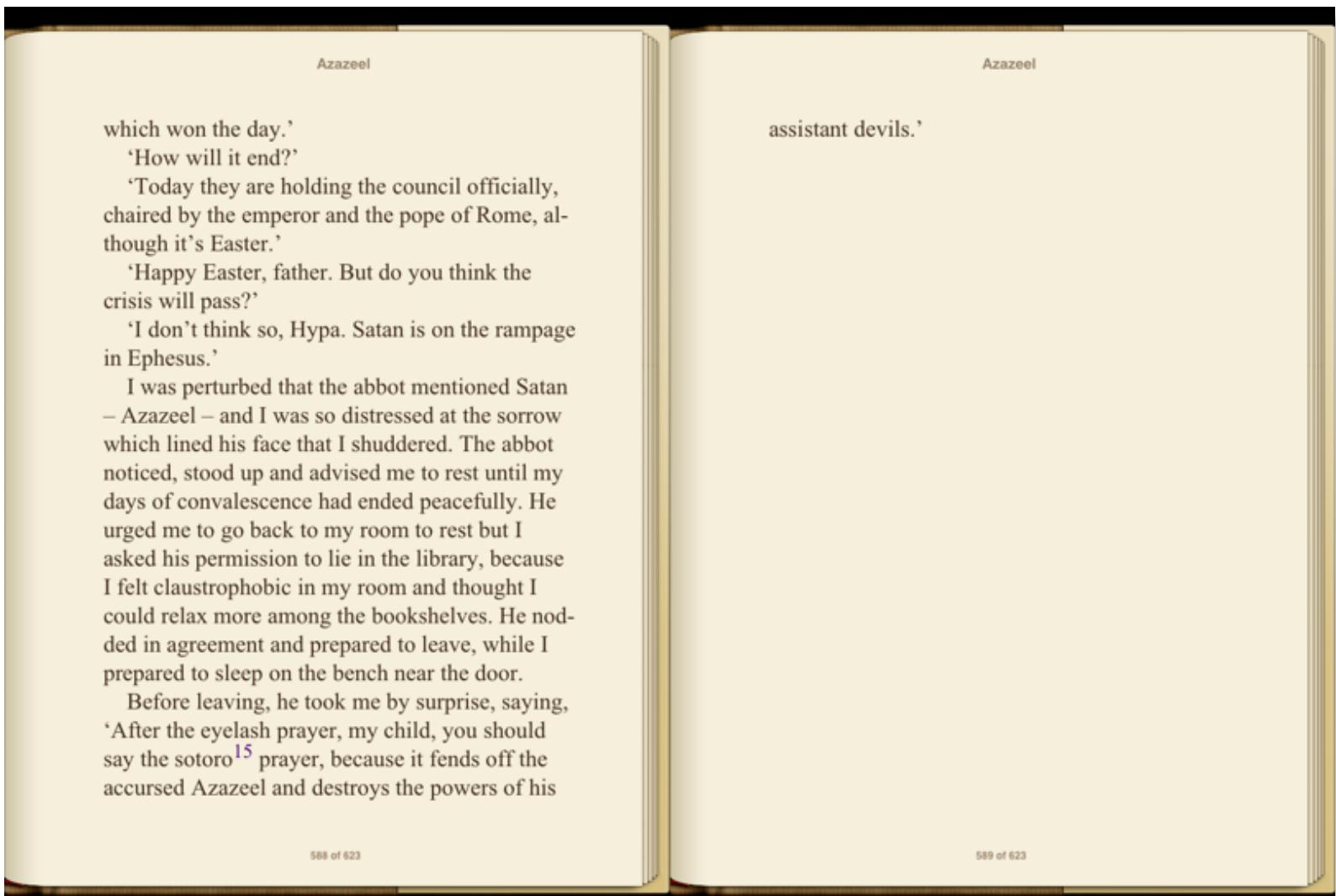
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# Example: better widow control



# “Should leverage the Web at large”

- ▶ Foster sharing, bookmarks, annotations
- ▶ Data integration, book ids, catalogs, specialized search, discovery
- ▶ Connect to external services
- ▶ Facilitate document development (e.g., on-line reviewing, cooperation with editors, on-demand printing...)



From blog.infotrends.com

# Annotation is an old tradition...

脂硯齋重評石頭記  
第五回

不似寶慶行警  
至四月八日高宗  
寶慶御賜之至正  
此君仍稱馬如龍  
二玉高綱是長子綱  
榮府行止考不于子  
冷香齋全集卷之三  
神妙之歌也

閑生而夢演紅樓夢立新場情傳幻境  
此等處實又半別卻小說之熟矣

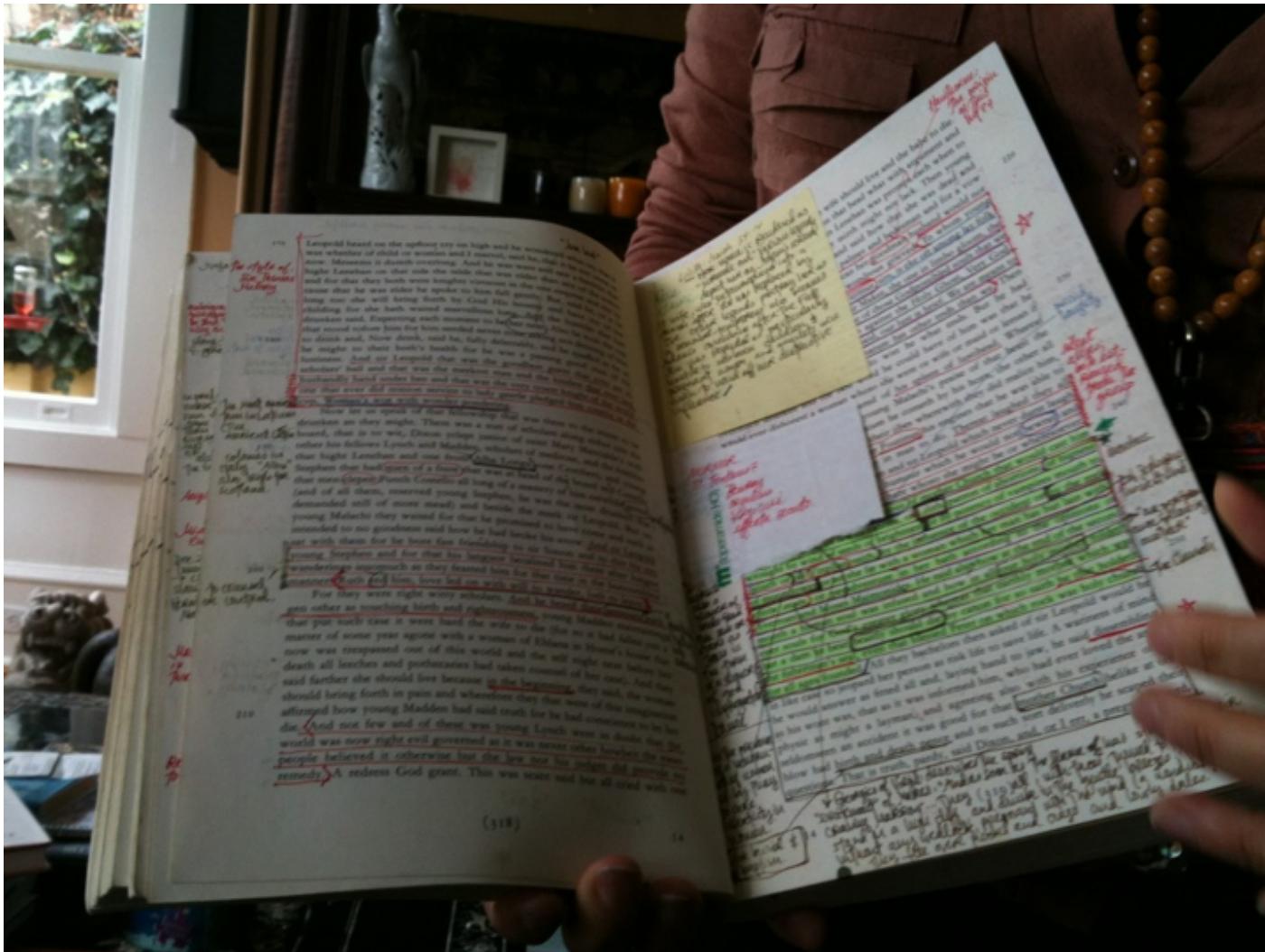
却說薛家母子在榮府中寄居等事略已表明  
比四則暫不能寫矣如今且說林黛玉自在榮府以來賈母萬般憐愛寢食一起居一如寶玉迎春探春惜春三個親孫女到此三女皆才子也且靠後便是寶玉和黛玉二人之親密友愛亦此二女知是有多大文章自較別個不同日則同行同坐夜則同息同上真是言和意順畧無參商不誰是多口之年那可彼此假作出之人耳想如今忽然來了一個薛寶釵年歲大不如人所云然品格端方容貌豊美人多謂黛玉

所者雖大不如人所云然品格端方容貌豊美人多謂黛玉

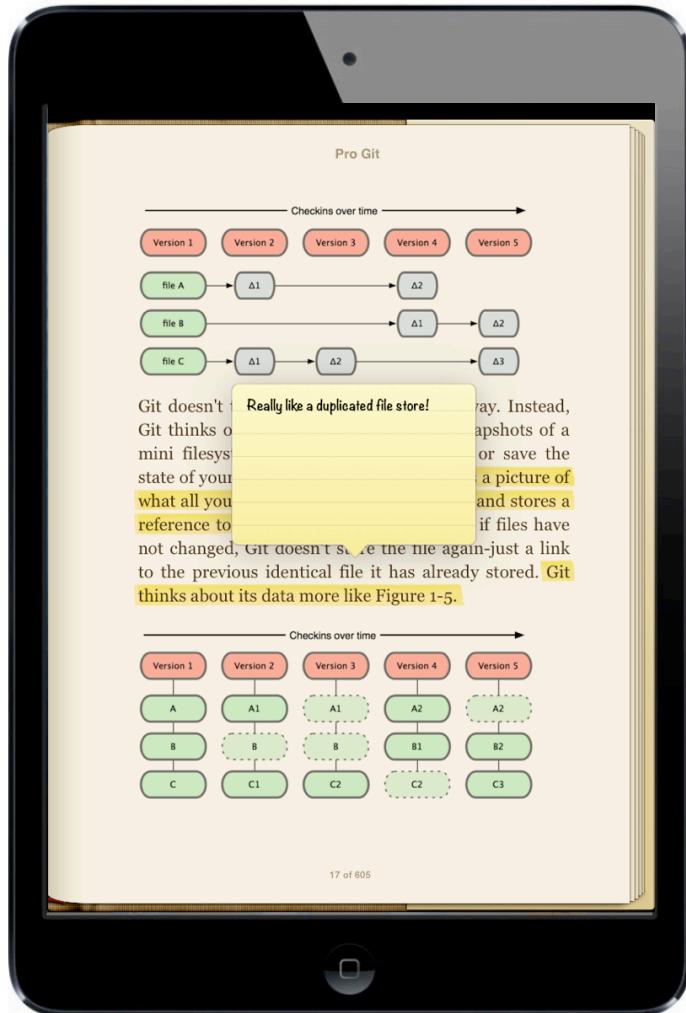
不及而且寶釵行爲豁達分從時不比黛玉

王孫高自許曰無下塵故比黛玉大得下人之心便是那些小丁頭子們亦多喜與寶釵去頑笑這裏是人所說的才子佳人方說他好。六月三十日正心中便有些悒鬱不忿之意寶釵却渾然不覺那寶玉亦在核提之間况自天性所熏來的。一片愚拙偏僻視姊妹弟兄皆出一體並無親疏遠近之別其中因與黛玉同隨賈母一處坐卧故畧與別個姊妹殊然慣些既熟慣則更覺親密既親密則不免一時有求全之毀不虛之隙這日不知爲何他二人言語有些不合起來黛玉又氣的獨在房中舞決寶玉又自悔誑言冒撞前去府就那黛玉方漸止的迴轉

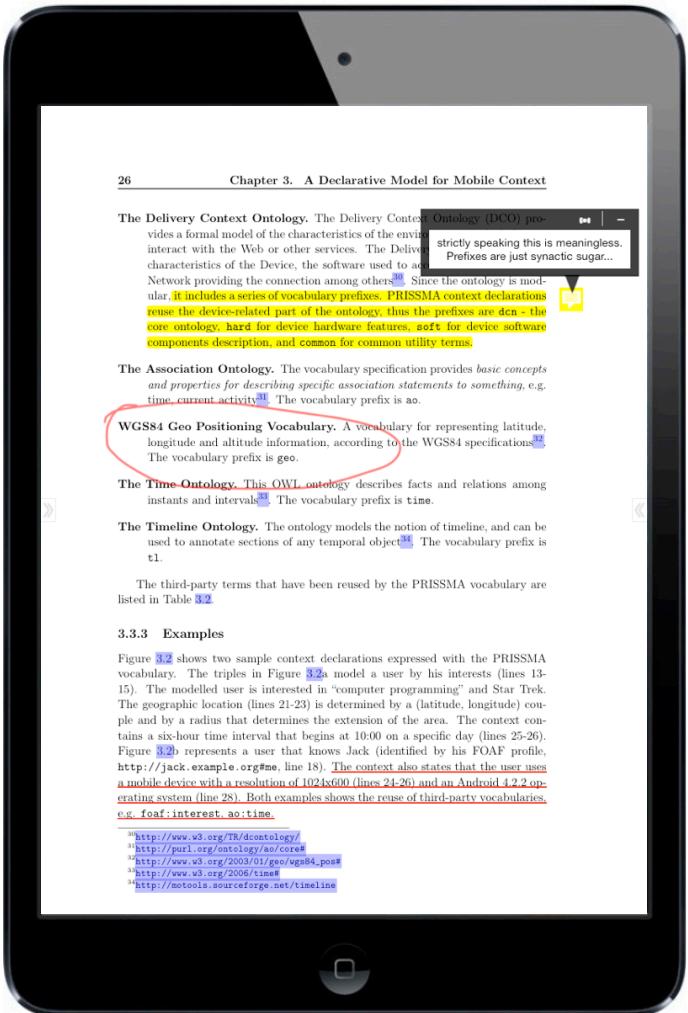
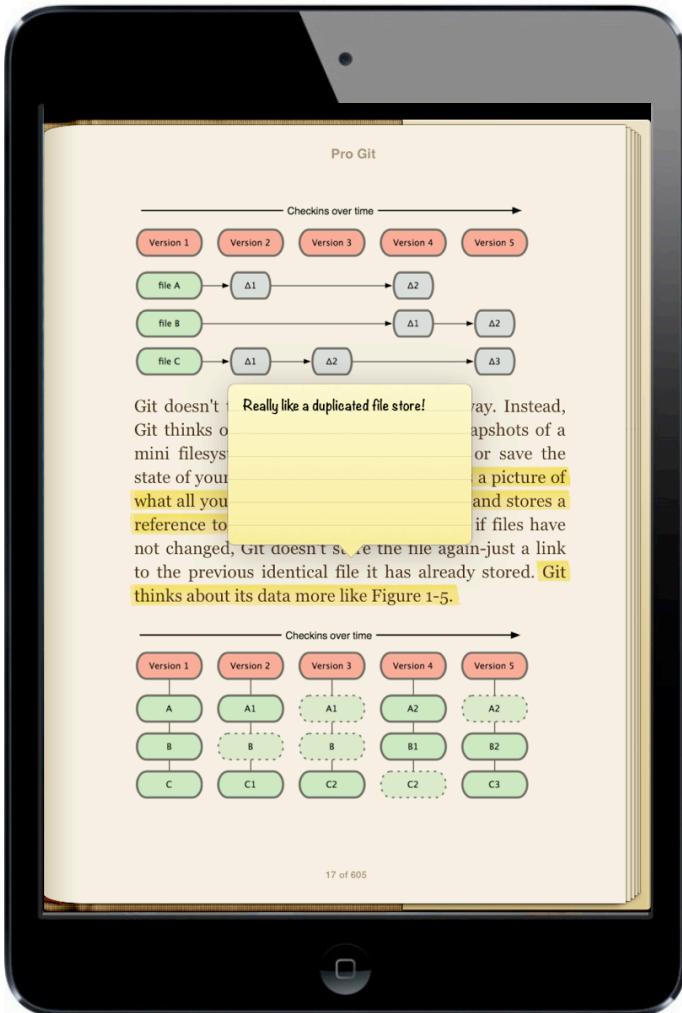
# ...sometimes a bit overdone ;-)



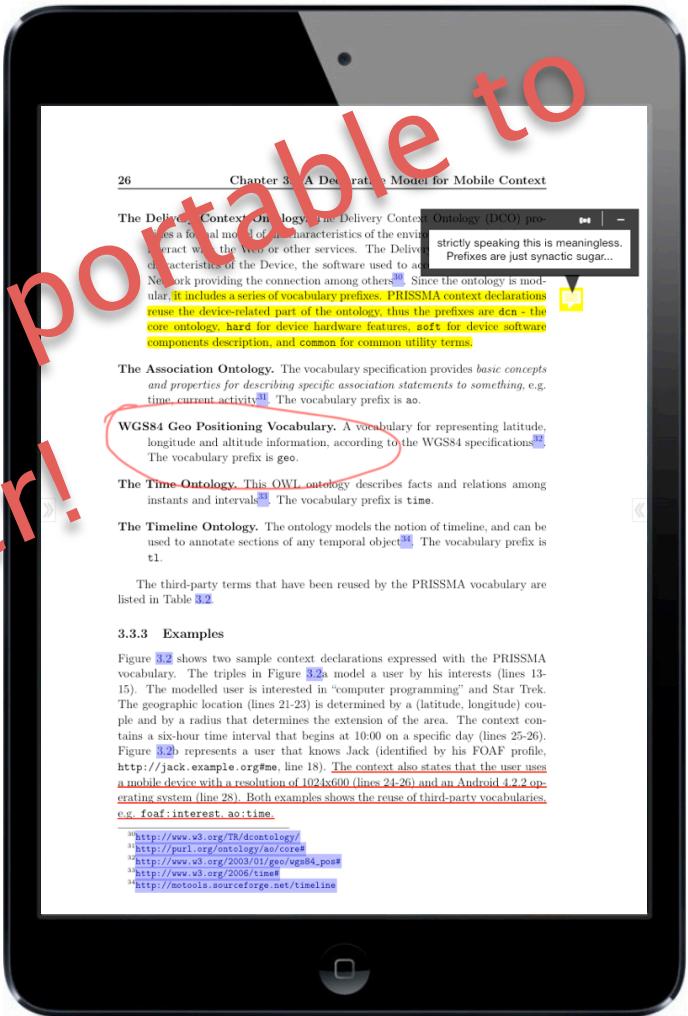
# Example: user annotation



# Example: user annotation



# Example: user annotation



# Example: printed book on demand

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- ▶ An upcoming market
- ▶ The Web should make that easy!

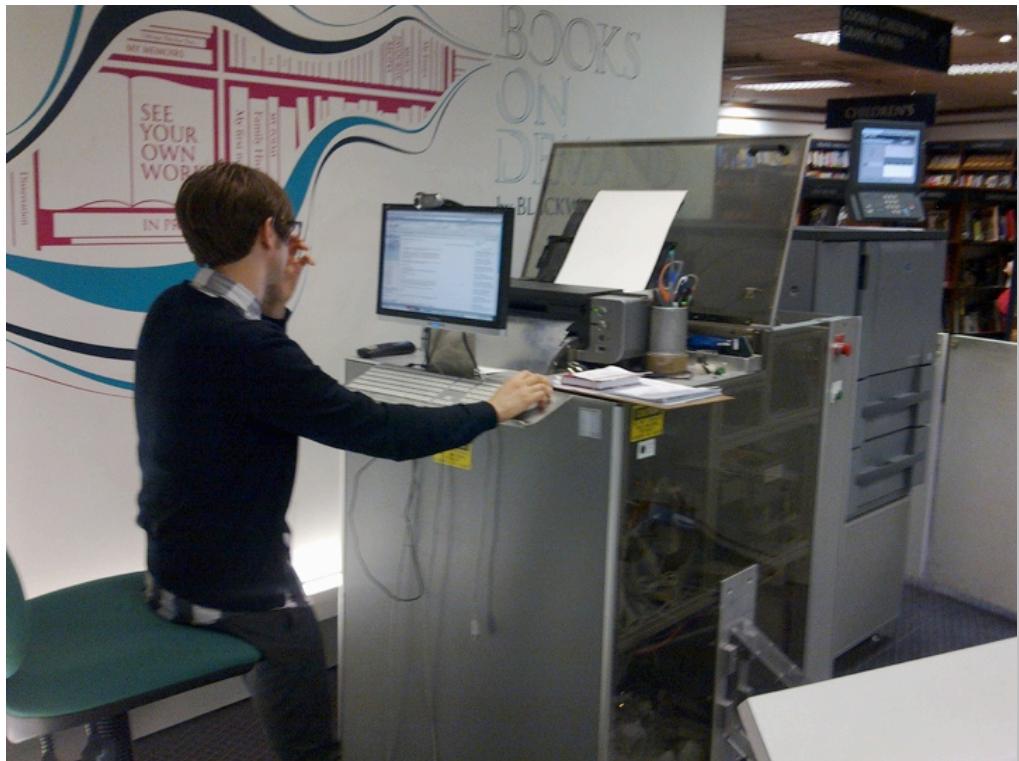


Photo: "shakespearesmonkey", flickr

# “Should provide more than just text in W3C a file”

- ▶ Make use of new possibilities
  - interaction
  - various media
  - cross-linking of internal content  
(indices, lists of tables, etc.)
  - high quality graphics
  - ...

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Hubble has seen the adult, teenage and child galaxies of the universe, but Webb will see the cosmos’ toddlers and infants.

Webb’s infrared view will allow us to see through opaque clouds of gas and dust in our own galaxy to objects within, like newborn stars and dusty disks forming new solar systems, expanding and deepening our knowledge about how stars and planets develop.

And Webb’s instruments will be able to analyze the light from planets around other stars, allowing us to search for traces of water vapor that could indicate the presence of life-giving oceans. Webb’s vision will be able to detect features in the atmosphere of a planet that could show biological activity.

Webb’s launch is scheduled for 2018. And despite the high expectations for the telescope, the true excitement will come from the discoveries Webb makes that no one planned. When Webb takes its place among the stars, it will give astronomers an unprecedented tool to explore the cosmos. The greatest science it reveals may – as with Hubble – open avenues to questions astronomers have not yet thought to ask. The true power of Webb may be its potential for unbounded, unexpected discovery.

# Example: “Our Choice”

---

# Example: “Our Choice”



# “Support diverse business and distribution models”

- ▶ Revenue generation
  - subscription
  - ad insertion in eBook apps
  - social sharing
  - product placement
- ▶ Web Payments
- ▶ Content protection
  - one device?
  - one user?
  - none?



# Example: book subscriptions

The image shows a web browser window with two tabs open, illustrating book subscription services.

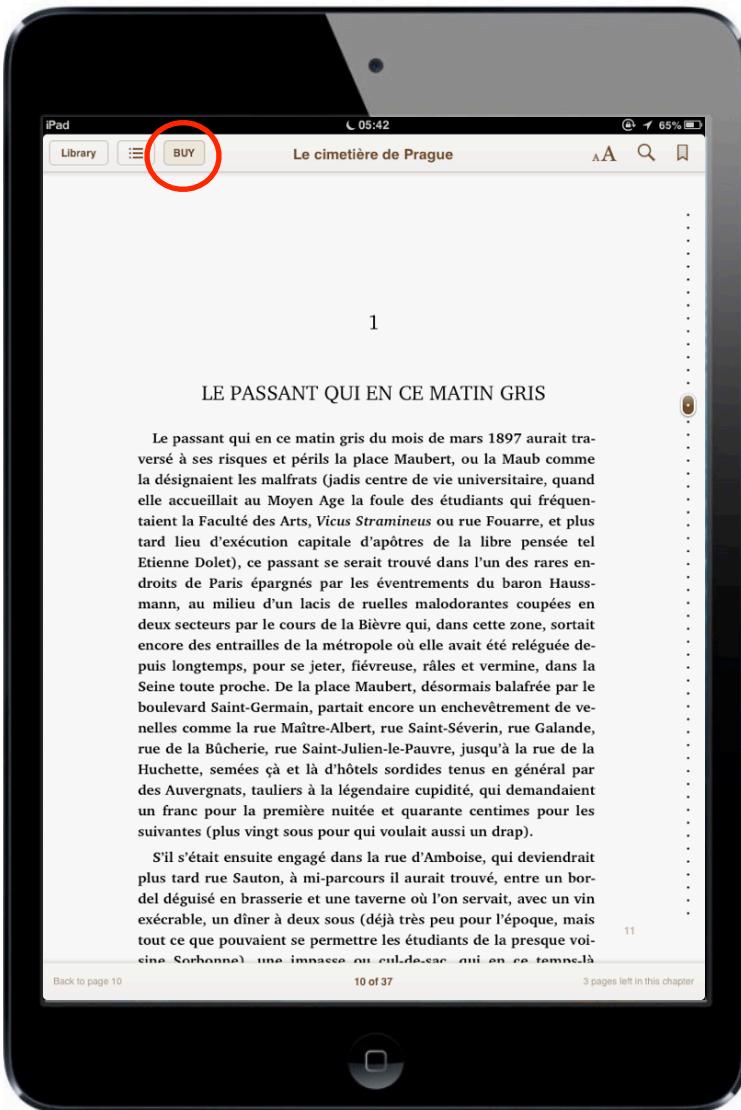
**Left Tab: eReatah (Facebook)**

- Page Title:** eReatah
- Page Description:** YOUR SOURCE FOR ONLINE eBook SUBSCRIPTIONS
- Image:** A large image of a tablet displaying a leopard print pattern.
- Facebook Metrics:** 479 likes - 42 talking about this
- Text:** An affordable eBook subscription service that allows you read more & PAY less. We also offer the Recommendation Station to help find your next book!
- Buttons:** SIGN UP FOR THE BETA, PotM, eReatah Beta Signup, Picks of the Month
- Input Fields:** Post, Photo / Video, Write something...
- Recent Activity:** eReatah posted on 23 August.

**Right Tab: Oyster**

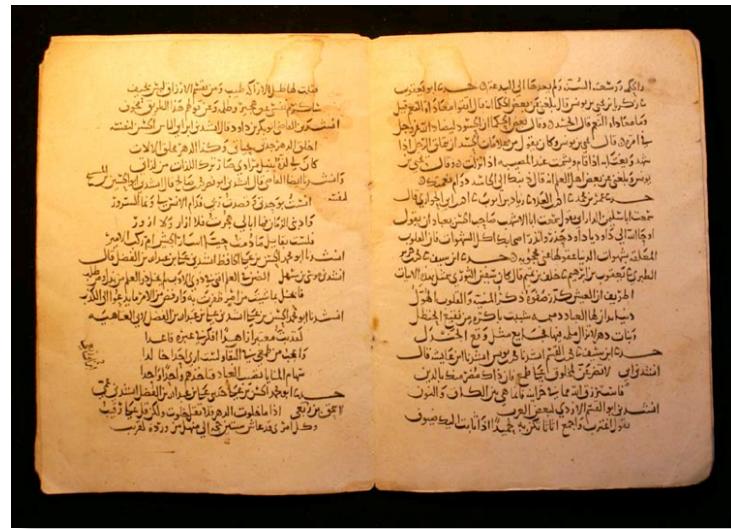
- Page Title:** Oyster
- Text:** Read unlimited books, just \$9.95 a month.
- Call-to-Action:** START YOUR FREE MONTH
- Image:** A woman sitting on a bench overlooking a city skyline (likely New York City) at sunset.
- Text at bottom:** THE WORLD IS YOURS FOR THE READING, LEARN MORE

# Example: buying through the reader

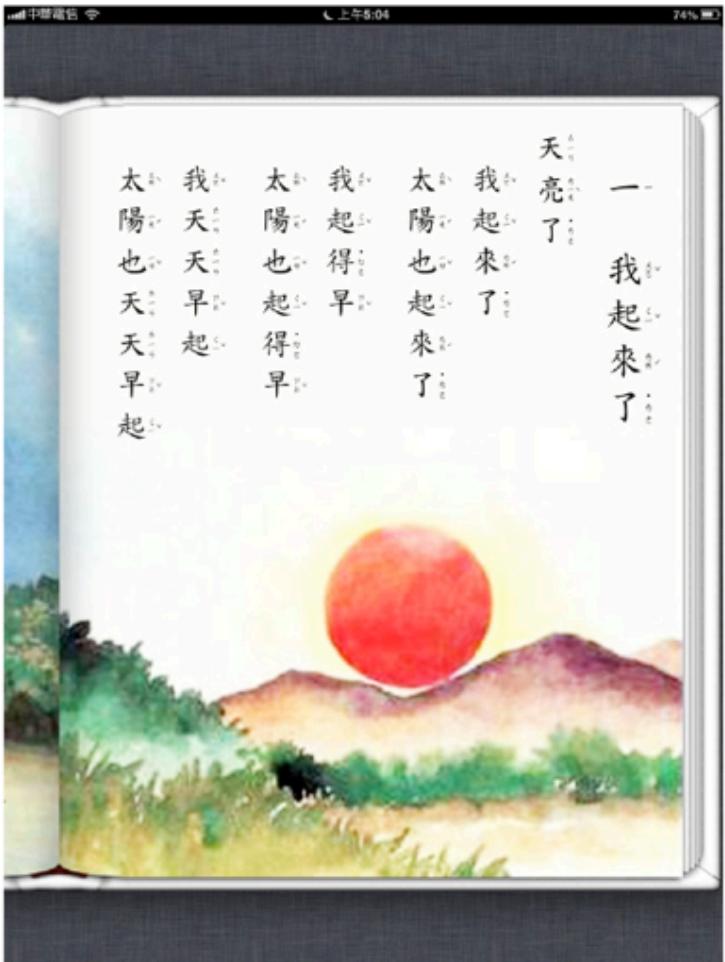
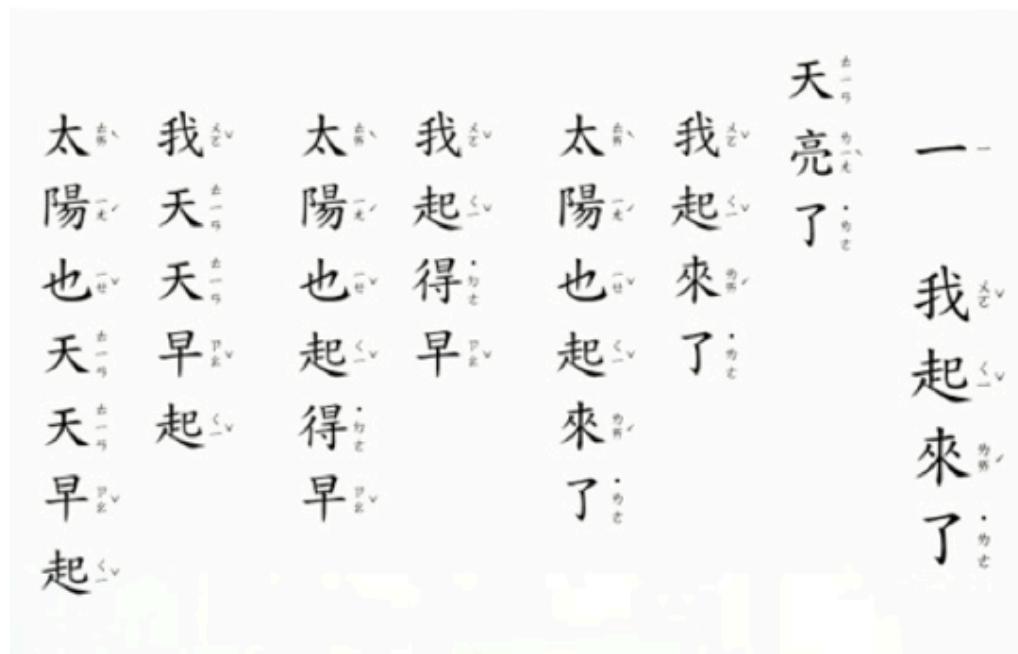


# “Should satisfy diverse usage communities and patterns”

- ▶ Rich content anywhere, anytime, across multiple devices
  - content portability
  - internationalization, accessibility
  - interaction, graphics, media
- ▶ Personalization
- ▶ Inclusion of social features



# Example: Bopomofo



# Example: vertical writing



以葉梨子苗煮湯洗  
足立差千金翼同  
種白蓀梨今生同州沙花牧  
織布沙上七月開花黃紫色  
其味甘而微腥褐綠色出  
相類但馬蕷子微大不堪入藥  
子皆用有刺者治風明日最  
但取堅實者春去刺用兼主  
中五戶瘧疾都子蜜丸  
服如胡豆二枚日三愈

**聖惠方** 治鼻塞多年不聞香臭水出不止  
午至酉出日乾用  
刺盡用酒拌再蒸從  
服如胡豆二枚日三愈

**雷公云** 凡使換後淨揀擇了蒸從午至  
酉出日乾於木曰中春令皮上  
大蓋煮取半盞仰卧先滿口含飯以汁灌鼻  
中不過再灌之嘔出一兩個應肉似赤蛹蟲即差

**又方** 治一切心如刺吐清汁七月七日搗葉  
子陰就作灰先食服方寸匕日三服

**又方** 治一切丁腫葉子七  
服如胡豆大二丸日三服

**又方** 治一切丁腫葉子七  
寸上如破

**又方** 治腫瘍葉子一外敷令黃搗蒜以麻油和如泥  
炒令焦黑以塗故布匕剪如腫大勿觸頭指上

**又方** 治一切丁腫葉子七  
寸上如破

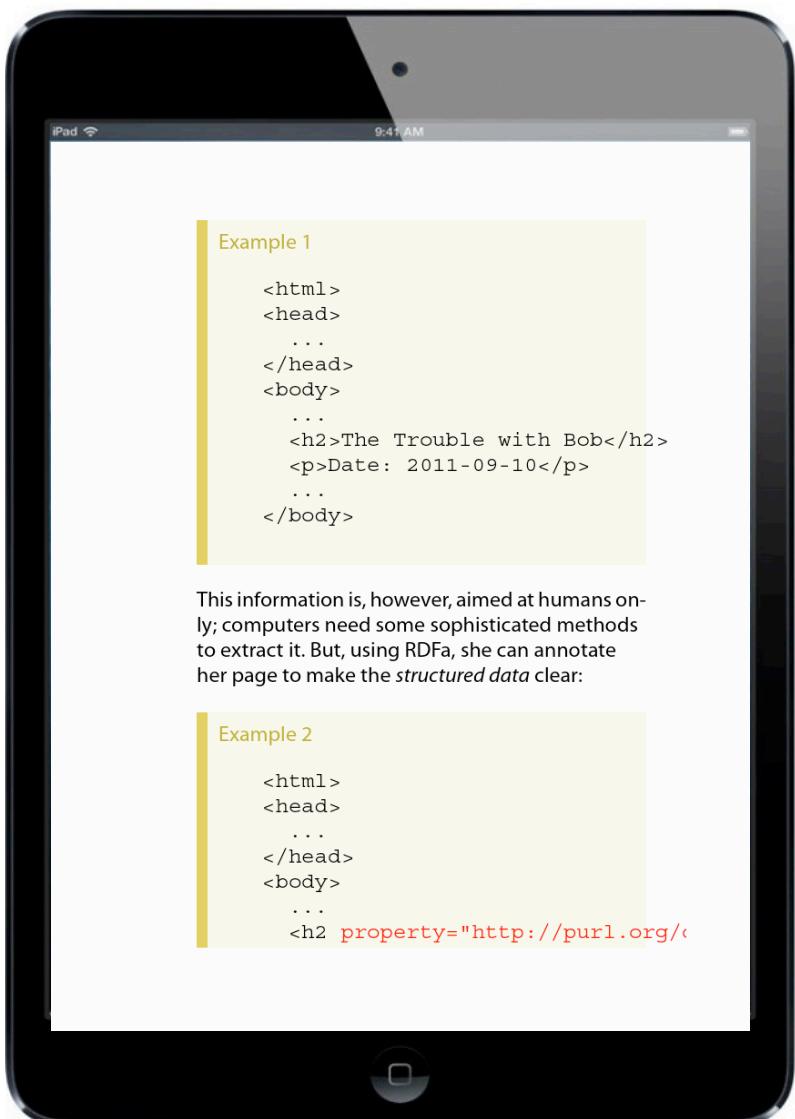
**又方** 治一切丁腫葉子一  
服急小兒搗成膏身頭即死以  
葉搗葉傅之無禁用子亦可

**千金方** 治癰瘍等一  
服葉梨子一碩當七八月熟時收  
白蘆根水調下日三服勿令中絕  
此正  
是橘子花收  
嫩葉為末每服三  
二錢飯後以溫酒調服

**治白癩風** 又一種白蘆根出同州沙花牧馬蘆根紫花作  
浸結子如羊內腎補阴藥今人多用國家惟用刺葉藥

1. « ສිංහල තු මෙයා » ( මාරු මෝන් එ පා )
  2. « මාරු මෝන් එ මෝන් » ( මාරු මෝන් එ මෝන් එ )
  3. « මාරු මෝන් එ මෝන් » ( මාරු මෝන් එ මෝන් එ )
  4. « මාරු මෝන් එ මෝන් » ( මාරු මෝන් එ මෝන් එ )
  5. « මාරු මෝන් එ මෝන් » ( මාරු මෝන් එ මෝන් එ )
1. « මාරු මෝන් එ මෝන් » ( මාරු මෝන් එ මෝන් එ )
2. « මාරු මෝන් එ මෝන් එ » ( මාරු මෝන් එ මෝන් එ )
3. « මාරු මෝන් එ මෝන් එ » ( මාරු මෝන් එ මෝන් එ )
4. « මාරු මෝන් එ මෝන් එ » ( මාරු මෝන් එ මෝන් එ )
5. « මාරු මෝන් එ මෝන් එ » ( මාරු මෝන් එ මෝන් එ )
- (N. Poppe) . මෝන් (E. Haenisch) . මෝන් (L. J. Cleve) . මෝන් (P. W. Cleve)

# Example: content portability



## Example 2

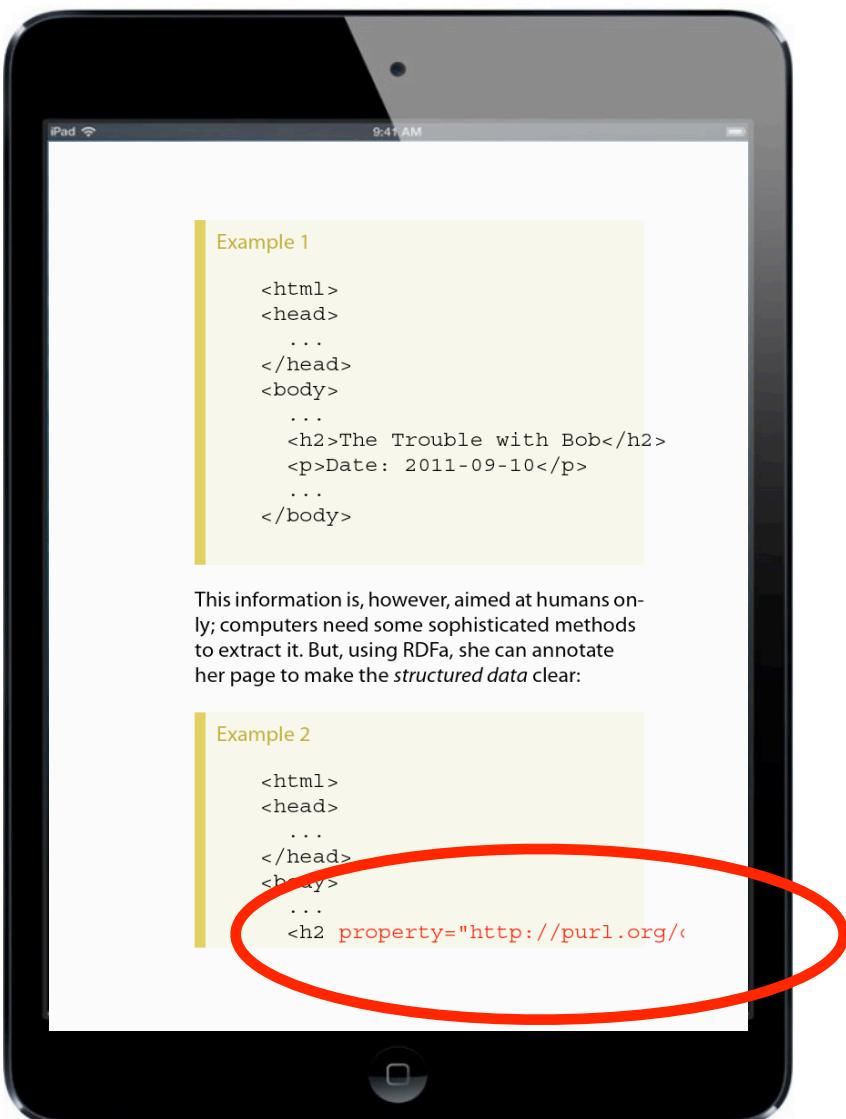
```
<html>
<head>
  ...
</head>
<body>
  ...
  <h2 property="http://purl.org/dc/terms/title">The
  Trouble with Bob</h2>
  <p>Date: <span property="http://purl.org/dc/terms/created">2011-09-
  10</span></p>
  ...
```



## EXAMPLE 2

```
<html>
<head>
  ...
</head>
<body>
  ...
  <h2 property="http://purl.org/dc/terms/title">The
  Trouble with Bob</h2>
  <p>Date: <span property="http://purl.org/dc/terms/created">2011-09-
  10</span></p>
  ...
```

# Example: content portability



## Example 2

```
<html>
<head>
...
</head>
<body>
...
<h2 property="http://purl.org/dc/terms/title">The
Trouble with Bob</h2>
<p>Date: <span property="http://purl.org/dc/terms/created">2011-09-10</span></p>
...
```



# High quality digital books need

---

- ▶ Advanced and interactive graphics
- ▶ Internationalization (Ruby, Bopomofo, vertical writing,...)
- ▶ Interoperable annotations and bookmarks
- ▶ MathML
- ▶ Font management
- ▶ Fixed layout
- ▶ Audio, video
- ▶ Headers, footers, ...
- ▶ Bridging on-line/off-line
- ▶ Harmonization of metadata
- ▶ Accessibility (e.g., speech/braille publications)
- ▶ ...

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- ▶ ...

Most of these are being worked on at W3C, but still need extra care and clear requirements!

# To repeat...

---

*The technology evolution of the Web has been driven by “traditional” Web browsing*

*The specific needs and priorities of the publishing industry may not be reflected in the evolution of the Web!*

A wide-angle photograph of a modern architectural complex. The central feature is a large, multi-story building with a light-colored facade and many windows. A glass-enclosed walkway or bridge connects parts of the building. In front of the building is a large, paved plaza with several small green lawns and trees. The foreground shows some lower-level structures and walkways. The overall impression is of a clean, modern urban environment.

The way forward: how can  
W3C help?

# Cooperation

---

- ▶ Develop cooperation with relevant organizations:  
IDPF, BISG, IPTC, JEPA, EDItEUR, ...
- ▶ Try to be on one another's events, build contacts
- ▶ Create bridges between the developers' communities  
and publishers
- ▶ *Ensure that the publishers' requirements are  
channeled to the relevant W3C groups*

# Privileged cooperation with IDPF

---

- ▶ IDPF is the organization standardizing EPUB
- ▶ EPUB 3 is the international standard for books, just like W3C standards
  - soon to be an ISO standard, too
- ▶ It is a universal format, usable for different languages and cultures
- ▶ A rich ecosystem is growing around it



# W3C's Workshop series

- ▶ “eBooks: Great Expectations”, NYC, February 2013 (co-organized with BISG and IDPF)
- ▶ “eBooks & I18N”, Tokyo, June 2013
- ▶ “Publishing and the OWP”, Paris, September 2013
- ▶ Regional events in Germany, India, ...



# Example for results: public list of discussions, presentations



W3 eBooks: Great Expectation... X

www.w3.org/2012/08/electronic-books/rapportebok.html

other topics. The full list is given in the summary or the wrap up session.

## Main workshop discussions

- Workshop agenda, links to slides and minutes

### First day, February 11th afternoon

The first day included: an Overview speech; a first [Keynote 1](#); and two sessions -- the first on [Presentation](#) and the second on [OWP/ePub](#). [\[Minutes from Day 1\]](#)

Following a welcome by session moderator Karen Myers (W3C) and scene setting talk by **Thierry Michel (W3C)** [[Slides](#)] the Workshop Co-Chair, **Jeff Jaffe (W3C)** [[Slides](#)] presented an overview of the World Wide Web Consortium and the Open Web Platform as a platform for innovation, consolidation, and cost efficiencies. Jeff also presented the expectations for this workshop and the workshop success criteria.

**Bill Mc Coy (IDPF)** [[Slides](#)] gave a keynote on the need to increase collaboration between W3C and the IDPF, urging that W3C collaborate on a shared vision and roadmap, building on EPUB 3 as the standard packaged format, for the eBook (portable document) instantiation of the Open Web Platform. Bill also talked about the need to extend current W3C work to address the requirements of the publishing industry, such as high-design content and rich media, accessibility for people with disabilities, internationalization, and semantic structure. He also emphasized the difficulty met by developers when adopting the large number of individual W3C Recommendations that constitute the full Open Web Platform.

#### Session 1

The first Session focused on "Presentation" (CSS, Fonts, etc.). It included four talks:

**Håkon Lee (Opera Software)** gave a demo style presentation showing an implementation of extended layout capabilities in a news magazine format. It demonstrated pagination and multi-column formatting, gesture-based navigation between pages for book-like presentations, all done adding a few lines of CSS to their code. Håkon said that the technical solution he proposed should cover most digital publishing needs.

The second talk by **Vladimir Levantovsky (Monotype)** [[Slides](#)] emphasized that digital publications should achieve the same level of typographic quality as print publications. Proposals for topics to be worked on included: high-quality typesetting and font definition and management. To achieve these goals, the standards developed by W3C and IDPF should provide adequate, unified support for all critical technology solutions enabling high-quality typography for eBooks and on the Web.

The third talk by **Jaejeung Kim (Kaist)** [[Slides](#)] took the position that electronic books should resemble the paper book in both design and functionality. Do so he talked about enrichment of eBook user interfaces with a Skeuomorphic approach. He demonstrated a prototype with features such as thumbing-through the book to get an overview concept, or temporal bookmarking by holding a page with one's finger and jumping back and forth between pages, letting go of the bookmarked finger when done.

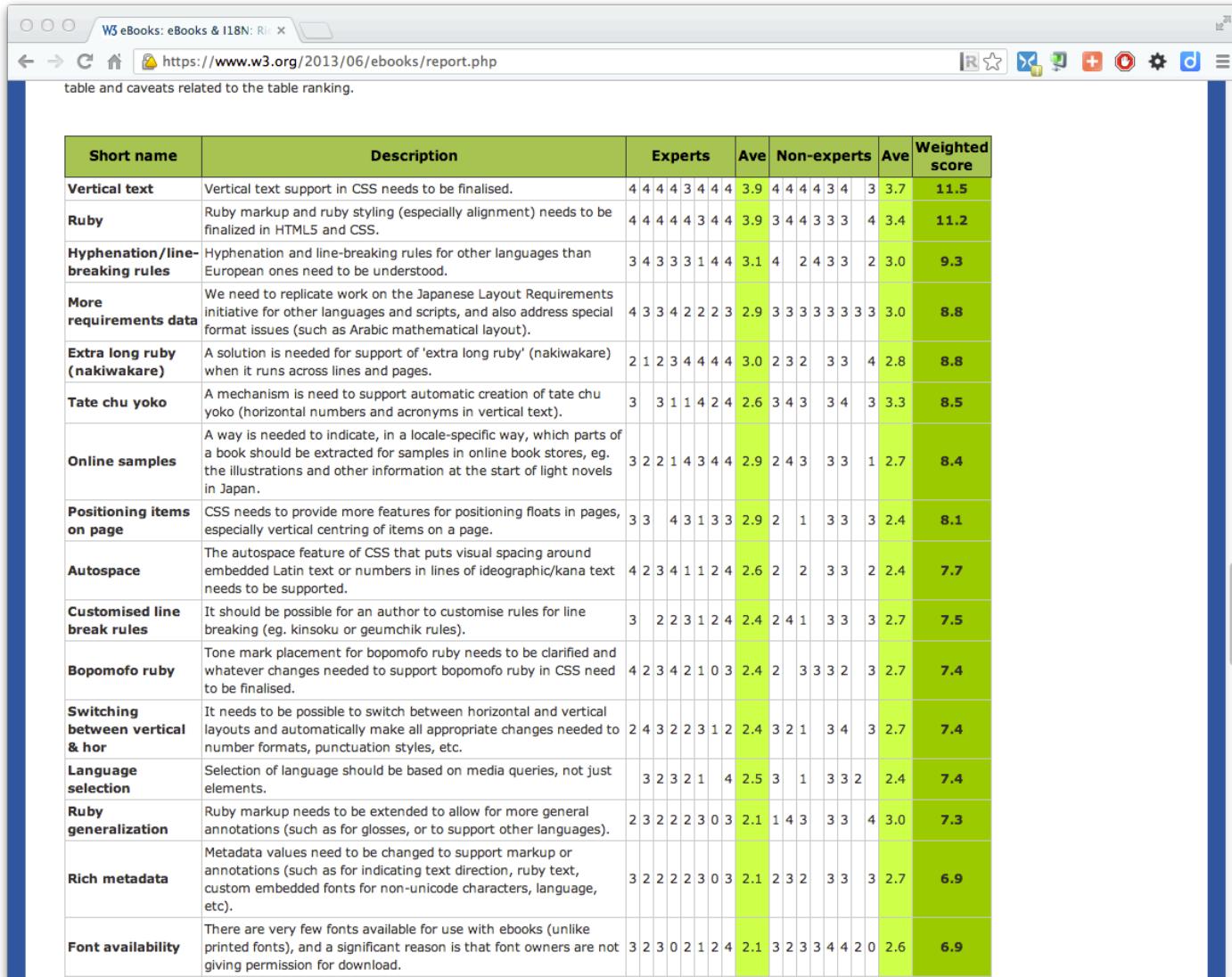
Finally, **Alan Stearns (Adobe)** [[Slides](#)] compared and contrasted the Web and eBook ecosystems. He proposed the adoption of a single solution when interests converge, and where EPUB leads, to improve the Web. He advocated for the prioritization of CSS specs like CSS3-Text and CSS3-Speech. He also talked about Paginated Views or Adaptive Layout as new Web features adapted from EPUB draft (CSS Regions, CSS Exclusions and Shapes CSS Page Templates). Alan also addressed the necessity for testing and the need for eBook readers to contribute their own test cases to, e.g., the [Caniuse](#) site.

These four presentations were followed by a discussion and feedback on presentation issues with the audience, moderated by Alan Stearns (Adobe) [[Minutes](#)]

#### Session 2

The second session focused on the Open Web Platform and the eBook format and included five presentations:

# Example for results: priority list for W3C CSS internationalization features



The screenshot shows a web browser window with the title "W3C eBooks: eBooks & I18N: Rich metadata". The URL is <https://www.w3.org/2013/06/ebooks/report.php>. The page displays a table ranking various CSS features based on expert and non-expert opinions.

Short name	Description	Experts	Ave	Non-experts	Ave	Weighted score
<b>Vertical text</b>	Vertical text support in CSS needs to be finalised.	4 4 4 4 3 4 4 4	3.9	4 4 4 4 3 4 4	3 3.7	<b>11.5</b>
<b>Ruby</b>	Ruby markup and ruby styling (especially alignment) needs to be finalized in HTML5 and CSS.	4 4 4 4 4 3 4 4	3.9	3 4 4 3 3 3 3	4 3.4	<b>11.2</b>
<b>Hyphenation/line-breaking rules</b>	Hyphenation and line-breaking rules for other languages than European ones need to be understood.	3 4 3 3 3 1 4 4	3.1	4 2 4 3 3	2 3.0	<b>9.3</b>
<b>More requirements data</b>	We need to replicate work on the Japanese Layout Requirements initiative for other languages and scripts, and also address special format issues (such as Arabic mathematical layout).	4 3 3 4 2 2 2 3	2.9	3 3 3 3 3 3 3 3	3.0	<b>8.8</b>
<b>Extra long ruby (nakikaware)</b>	A solution is needed for support of 'extra long ruby' (nakikaware) when it runs across lines and pages.	2 1 2 3 4 4 4 4	3.0	2 3 2 3 3 4	4 2.8	<b>8.8</b>
<b>Tate chu yoko</b>	A mechanism is need to support automatic creation of tate chu yoko (horizontal numbers and acronyms in vertical text).	3 3 1 1 4 2 4	2.6	3 4 3 3 4	3 3.3	<b>8.5</b>
<b>Online samples</b>	A way is needed to indicate, in a locale-specific way, which parts of a book should be extracted for samples in online book stores, eg. the illustrations and other information at the start of light novels in Japan.	3 2 2 1 4 3 4 4	2.9	2 4 3 3 3 1	1 2.7	<b>8.4</b>
<b>Positioning items on page</b>	CSS needs to provide more features for positioning floats in pages, especially vertical centring of items on a page.	3 3 4 3 1 3 3	2.9	2 1 3 3 3 3	2 2.4	<b>8.1</b>
<b>Autospace</b>	The autospace feature of CSS that puts visual spacing around embedded Latin text or numbers in lines of ideographic/kana text needs to be supported.	4 2 3 4 1 1 2 4	2.6	2 2 3 3 2 3	2 2.4	<b>7.7</b>
<b>Customised line break rules</b>	It should be possible for an author to customise rules for line breaking (eg. kinsoku or geumchik rules).	3 2 2 3 1 2 4	2.4	2 4 1 3 3 3 3	2 2.7	<b>7.5</b>
<b>Bopomofo ruby</b>	Tone mark placement for bopomofo ruby needs to be clarified and whatever changes needed to support bopomofo ruby in CSS need to be finalised.	4 2 3 4 2 1 0 3	2.4	2 3 3 3 2 3	2 2.7	<b>7.4</b>
<b>Switching between vertical &amp; hor</b>	It needs to be possible to switch between horizontal and vertical layouts and automatically make all appropriate changes needed to number formats, punctuation styles, etc.	2 4 3 2 2 3 1 2	2.4	3 2 1 3 4 3 2	3 2.7	<b>7.4</b>
<b>Language selection</b>	Selection of language should be based on media queries, not just elements.	3 2 3 2 1 4	2.5	3 1 3 3 2 2	2.4	<b>7.4</b>
<b>Ruby generalization</b>	Ruby markup needs to be extended to allow for more general annotations (such as for glosses, or to support other languages).	2 3 2 2 2 3 0 3	2.1	1 4 3 3 3 4 3	4 3.0	<b>7.3</b>
<b>Rich metadata</b>	Metadata values need to be changed to support markup or annotations (such as for indicating text direction, ruby text, custom embedded fonts for non-unicode characters, language, etc).	3 2 2 2 2 3 0 3	2.1	2 3 2 3 3 3 2	3 3 3 2.7	<b>6.9</b>
<b>Font availability</b>	There are very few fonts available for use with ebooks (unlike printed fonts), and a significant reason is that font owners are not giving permission for download.	3 2 3 0 2 1 2 4	2.1	3 2 3 3 4 4 2 0	2.6	<b>6.9</b>

# Main results so far

- ▶ Creation of a separate Digital Publishing Activity at W3C (June 2013)
  - *Digital Publishing is now a major focus area at W3C*

The screenshot shows a web browser displaying the W3C Digital Publishing Activity page. The URL in the address bar is `localhost:8001/dpub/`. The page has a blue header with the W3C logo and navigation links for STANDARDS, PARTICIPATE, MEMBERSHIP, and ABOUT W3C. A Google search bar is also present. The main content area is titled "W3C DIGITAL PUBLISHING ACTIVITY". It features a section about the activity's goal to help make the Web a platform for the digital publishing industry. Below this, there's a sidebar with news items like "EDUPUB: A Workshop on Digital Publishing for Education" and "W3C Workshop Report: Richer Internationalization for eBooks". The left sidebar contains links for ACTIVE GROUPS (Digital Publishing Interest Group), CALENDAR, W3C WORKSHOPS (Publishing and the OWP, eBooks & I18N, Great Expectations), OTHER EVENTS (IDPF EDUPUB Workshop), and OTHER RESOURCES (Liam Quin's presentation at Balisage 2013, Jeff Jaffe's keynote at IDPF 2013).

# New Digital Publishing Interest Group

- ▶ Co-chaired by Markus Gylling (IDPF) and Madi Salomon (Pearson)

“The **mission** of the Digital Publishing Interest Group, [...] a **forum for experts in the digital publishing ecosystem** [...] for technical discussions, gathering use cases and **to better align existing formats and technologies (e.g., EPUB) with the broader Open Web Platform.**”

# In practice...

---

- ▶ The interest group collects use cases and requirements
  - these requirements will be channeled to the CSS, HTML, MathML, SVG, etc., Working Groups
  - members of the IG will also join these groups, if necessary, to develop the necessary technologies
- ▶ The interest group will contribute to the general OWP interoperability testing effort at W3C
  - ensuring that the special publishing issues are also properly tested by implementations

# IG Task forces

---

- ▶ Task forces that have already been set up:
  - Pagination
  - Social Media and Annotations
  - Accessibility
  - Scientific and Technology Publishing
- ▶ Task forces under consideration:
  - Infographics
  - Metadata
  - Behavioral adaptation to content
  - Security
  - Fonts and typesetting

# The work has already begun...

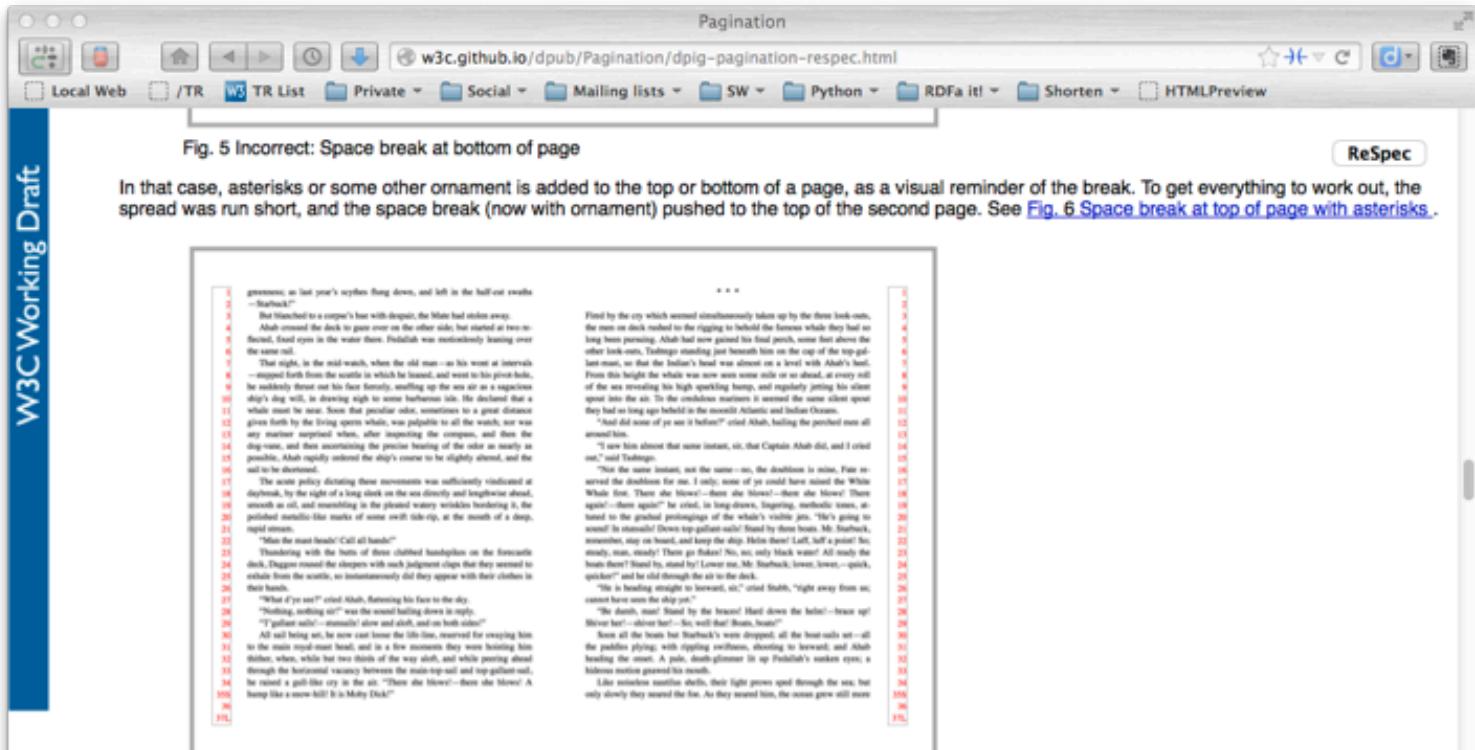


Fig. 5 Incorrect: Space break at bottom of page

In that case, asterisks or some other ornament is added to the top or bottom of a page, as a visual reminder of the break. To get everything to work out, the spread was run short, and the space break (now with ornament) pushed to the top of the second page. See [Fig. 6 Space break at top of page with asterisks](#).



Fig. 6 Space break at top of page with asterisks

## ISSUE 3

The editors are not aware of any implementation of this concept.

## 5. Running headers and footers

Books often have material printed at the top and/or bottom of each page, outside the normal content area. These headers or footers may serve as guideposts for reader, fodder for designers, low-tech DRM, or merely a way to know what book your fellow train passenger is reading. There's more to running headers than is dreamt of in the open web platform...

### 5.1 Content

# Industry Collaboration is Key

---

*Nothing can replace the influence of a company being around the table!*

- ▶ Publishing ecosystem players are getting involved:
  - Adobe, Canon, Hachette, Intel, Int'l Web Masters Association, Google, Kobo/Rakuten, Monotype, Nokia, Pearson LLC, ...
  - Discussions with many other publishers on-going

# Conclusions

The future: Publishing = Web

Work with W3C work to make this a reality!

