the_title();

HTTPS EVERYWHERE
I’M TIFFANY
@tiffanyakuchta
SEARS TALKING COMPUTRON
AGES 5 AND OLDER

The pre-computer with the friendly computer voice!

- Electronic Learning Aid and Instruction Book included.
- Additional word cartridges and storybooks available.
- Automatic shut-off reduces battery wear.

Makes learning fun with 19 activities and games!

1. Learn & Spell 120 words
2. Spelling quiz
3. Say It
4. Missing Letter
5. Begins with — first spelling
6. Hangman
7. Two Player Hangman
8. Discipline — scrambles words
9. Two Player Discipline
10. Addition — 3 skill levels
11. Subtraction — 3 skill levels
12. Multiplication — 3 skill levels
13. Division — 3 skill levels
14. Math quizzes — 3 skill levels
15. Math operations — 3 skill levels
16. Deduction — bonus games

ACTUALLY TALKS!
Are you ready to reroute the encryption?

WARNING: There will be several references to popular culture from the 80s, 90s and early 2000s in this talk...also dragons. I apologize in advance for the self-indulgence.
These developers are using stand up desks in a coworking space.
WHY YOU SHOULD CARE

Security
Future facing
And, of course...
HTTPS as a ranking signal

Wednesday, August 06, 2014

Webmaster level: all

Security is a top priority for Google. We invest a lot in making sure that our services use industry-leading security, like strong HTTPS encryption by default. That means that people using Search, Gmail and Google Drive, for example, automatically have a secure connection to Google.

Beyond our own stuff, we’re also working to make the Internet safer more broadly. A big part of that is making sure that websites people access from Google are secure. For instance, we have created resources to help webmasters prevent and fix security breaches on their sites.

We want to go even further. At Google I/O a few months ago, we called for “HTTPS everywhere” on the web.
REASONS WE DIDN’T JUST ALWAYS SSL

Speed
Complexity
IPv4 & lack of SNI support
Human error
“Please turn your monitor in a direction where only you can see it.”
NEW WORDPRESS PROJECTS

Implement a dev strategy that accounts for SSL.

Be mindful of SSL in code and content.
EXISTING WORDPRESS PROJECTS

Our focus today.
Transitioning a self-hosted WordPress install to HTTPS.
BEGIN AT THE BEGINNING

You’ll need a certificate.

Through your host, or maybe through Let’s Encrypt.
STEP 1: ADMIN CHANGES

```php
define('FORCE_SSL_ADMIN', true);
```
STEP 2: CHECK THE FRONTEND

Low user impact.

You can do this without forcing SSL.
Active mixed content!

View page over: HTTP - HTTPS

Several examples of active mixed content. When viewed over HTTPS most browsers block the content and display errors in the JavaScript console.

Loading insecure background here...

Loading insecure iframe...
Working title for this talk

Fixing mixed content.
FIXING MIXED CONTENT

You’ll see images, javascript, fonts, AJAX calls.

//example.com/image.jpg || https://example.com/image.jpg
The protocol relative URL is now an anti-pattern. If the asset is available on HTTPS, always request it with that. paulirish.com/2010/the-proto...
Whenever I learn a new skill I concoct elaborate fantasy scenarios where it lets me save the day.

Oh no! The killer must have followed her on vacation!

But to find them we'd have to search through 200 MB of emails looking for something formatted like an address! It's hopeless!

Everybody stand back.

I know regular expressions.
FIXING CONTENT: POSTS & META

Database
Code: Plugins & Filters
UPDATE wp_posts SET
post_content = replace(post_content,'http://yourdomain.com','https://yourdomain.com');

/*
 * not applicable in all situations
 * *
 */

UPDATE wp_posts SET
guid = replace(guid,'http://yourdomain.com','https://yourdomain.com');
PLUGINS FOR FIXING MIXED CONTENT

https://wordpress.org/plugins/search.php?q=mixed+content

More later
FIXING CODE: THEMES & PLUGINS

grep -RIn "src='http://" wp-content/themes/your-theme

grep -RIn "src="http://" wp-content/themes/your-theme
SETTINGS > GENERAL

WordPress Address (URL)  https://quandarymat.com

Site Address (URL)  https://quandarymat.com
FORCE SSL

RewriteEngine On

RewriteCond %{HTTPS} off

RewriteRule (.* ) https://%{HTTP_HOST}%{REQUEST_URI} [R=301,L]
“Roads? Where we’re going, we don’t need roads.”

To be clear, we’re going to October 21st of last year, but this------→ sorta just happened.
After Content Entry
Filter on content.

During Content Entry
Build a plugin to warn users in real time when they’re creating mixed content.
NEW/UPDATED PLUGINS

Wrapper for `wp_head()`;

Automation to notify an admin of mixed content in recently upgraded plugins. (Complex, and probably not worth the effort in the evolving landscape.)
And the Trogdor comes in the night!
Beware, Dragons

Load balancers, Reverse Proxy & CDN

is_ssl();
BEWARE, DRAGONS

WTF!? Errors.
Deprecated cipher suite, bad certificate chain.
https://www.ssllabs.com/ssltest/analyze.html
Beware, Dragons

Don’t forget to renew!
You are a human. Be less human...or automate.
BEWARE, DRAGONS

Webmaster tools will also need to be updated.
Working title for this talk

Yep. Still.
You’re probably going to want to make provisions for dev.
And for fallbacks.
Once you visit the site behind SSL, Chrome will do everything in its power to push you to the SSL version of the site on future visits.

Be aware while testing.
Questions?
Questions?
THANKS!
I’M STILL TIFFANY

@tiffanyakuchta
CREDITS

Trogdor images from hrwiki.org

Regex humor from xkcd.com

Scenes from the epic 1995 film, Hackers, from imdb.com

Assorted gifs from giphy.com

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