

Perceived Speed and Optimization

Eric Binnion
@ebinnion

```
reply:func
147      xCoors = _.map( [ .2, .4, .6, .8 ], function( num, key ) { return num * viewPortWidth; } ),
148      yCoords = _.map( [ .1, .2, .3, .4, .5 ], function( num, key ) { return num * viewPortHeight; } );
149
150      /*
151       * For each coordinate pair (x,y), get element at point,
152       * traverse up to find a post, and add post ID to elems.
153       */
154      var elems = [];
155      _.each( yCoords, function( y ){
156          _.each( xCoors, function( x ){
157              var element = $( document.elementFromPoint( x, y ) ),
158                  closest = element.closest( threadContainer + '.post' );
159
160              if ( closest.length > 0 ) {
161                  elems.push( closest.attr( 'id' ) );
162              }
163          });
164      });
165
166      // Find most frequent (mode) post ID in elems array
167      // Thanks Matthew Hall for this snippet: http://jsbeautifier.org/paste/10848
168      if ( elems.length > 0 ) {
169          var modeMap = {};
170
171          var maxEl = elems[0],
172              maxCount = 1;
173
174          _.each( elems, function( el ){
175              if ( modeMap[ el ] == null ) {
176                  modeMap[ el ] = 1;
177              } else {
178                  modeMap[ el ]++;
179              }
180
181              if ( modeMap[ el ] > maxCount ) {
182                  maxEl = el;
183                  maxCount = modeMap[ el ];
184              }
185          });
186
187          $( '.o2-posts #' + maxEl ).find( 'a.o2-post-reply:first' ).click();
188
189      }
190
191      e.preventDefault();
192  },
```

Eric Binnion

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Code Wrangler at Automattic

BA in Computer Science at
MSU

@ebinnion

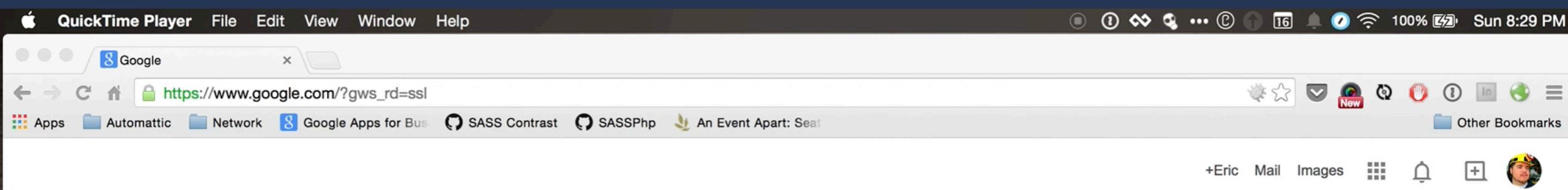


Overview of this Session

- What is perceived speed?
- Examples
- Why is it so important?
- Implementation
- Questions?

Perceived Speed

How quickly software **appears** to perform its task.



Google



g Google

https://www.google.com/?gws_rd=ssl



Apps

Automattic

Network

Google Apps for Bus

SASS Contrast

SASSPhp

An Event Apart: Seat

Other Bookmarks

+Eric Mail Images



Google

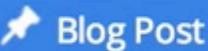


Google Search

I'm Feeling Lucky

Eric Binnion

her WordPress site

us Update  Blog Post  Quote  Link

Binnion. Whatcha up to?



Add Media 

Post it

Recent Updates

on 1:03 am on November 18, 2014

[Toggle Comment Threads](#) | [Keyboard Shortcuts](#)

[Permalink](#) | [Reply](#) | [Edit](#)

Hello world!

Welcome to WordPress. This is your first post. Edit or delete it, then start blogging!

to like this.

Mr WordPress 1:03 am on November 18, 2014

[Permalink](#) | [Reply](#) | [Edit](#)

Recent Posts

[Hello world!](#)

[Markup: HTML Tags and F](#)

[Markup: Image Alignment](#)

[Markup: Text Alignment](#)

[Markup: Title With Special C](#)

Recent Comments

[Mr WordPress](#) on [Hello wo](#)

[John Doe](#) on [Edge Case: No](#)

[Jane Doe](#) on [Protected: Ter](#)

[Password Protected \(the p](#)
“enter”)

[Jane Doe](#) on [Template: Con](#)

[John Doe](#) on [Template: Con](#)

Archives

[November 2014](#)

[January 2013](#)

[March 2012](#)

[January 2012](#)

The screenshot shows a user interface for posting content. At the top, there's a toolbar with icons for file operations like Open, Save, and Print. Below it is a text input field with placeholder text "What's happening?". To the right of the input field are three small square icons. Underneath the input field is a "Preview" button with a camera icon. On the far right of the toolbar is a three-dot menu icon. The main content area has a blue header bar with the text "NION'S TESTING SANDBOX" on the left and "Keyboard Shortcuts | Hide comment threads" on the right. Below the header is a large text area containing the post content. At the bottom of the main area are two buttons: "Reply" and "Follow".

nnion an hour ago

est Post

is some content

Reply Follow

nnion 12:42 pm on October 15, 2014

nother Test Post

o world

Reply 11 Follow

Eric Binnion's Testi Sandbox

Welcome to o2

Looking for answers? Check out the [Guide](#).

Search

Which is Faster?

Eric Binnion

Just another WordPress site

[Status Update](#) [Blog Post](#) [Quote](#) [Link](#)



Hi, ebinnion. Whatcha up to?

I

Add Media

Recent Updates

[Toggle Comment Threads](#) | [Keyboard Shortcuts](#)

ebinnion 1:03 am on November 18, 2014

[Permalink](#) | [Reply](#) | [Edit](#)

Hello world!

Welcome to WordPress. This is your first post. Edit or delete it, then start blogging!

Like this:

Like

Be the first to like this.

Mr WordPress 1:03 am on November 18, 2014

[Permalink](#) | [Reply](#) | [Edit](#)

Search

Recent Posts

[Hello world!](#)
[Markup: HTML Tags and Formatting](#)
[Markup: Image Alignment](#)
[Markup: Text Alignment](#)
[Markup: Title With Special Characters](#)

Recent Comments

[Mr WordPress](#) on [Hello world!](#)
[John Doe](#) on [Edge Case: No Content](#)
[Jane Doe](#) on [Protected: Template: Password Protected \(the password is "enter"\)](#)
[Jane Doe](#) on [Template: Comments](#)
[John Doe](#) on [Template: Comments](#)

Archives

[November 2014](#)
[January 2013](#)
[March 2012](#)
[January 2012](#)

Hi, Eric! What's happening?

[Edit](#) [Preview](#)

Notify me of new comments via email. [Post](#)

ERIC BINNION'S TESTING SANDBOX

[Keyboard Shortcuts](#) | [Hide comment threads](#)

ebinnion an hour ago

Test Post

Here is some content

[Reply](#) [Follow](#)

ebinnion 12:42 pm on October 15, 2014

Another Test Post

Hello world

[Reply 1](#) [Follow](#)

Eric Binnion's Testing Sandbox

Welcome to o2

Looking for answers? Check out the [Field Guide](#).

Search

Search ...

why?

Perception is Reality

– Lee Atwater

Perceived Speed

It's not about how fast your site is; it's about how fast your users think it is.

– Kyle Peatt¹

¹ Quote from <http://www.mobify.com/blog/beginners-guide-to-perceived-performance>

How do I Increase Perceived Speed?

Optimistic Interfaces

A method of improving
perceived speed of
applications by **assuming** that
interactions with the server will
succeed.

Assume Success

- Emulate while waiting
- Makes use of:
 - AJAX
 - Backbone, React, etc.

The screenshot shows a web application interface titled "ERIC BINNION'S TESTING SANDBOX". On the left, there is a rich text editor with a toolbar. A cursor is hovering over the text area, which contains the placeholder "Hi, Eric! What's happening?". Below the editor, there are "Edit" and "Preview" buttons, and a checkbox for "Notify me of new comments via email" followed by a "Post" button. To the right of the editor, the page title "ERIC BINNION'S TESTING SANDBOX" is displayed, along with "Keyboard Shortcuts | Hide comment threads". There are two posts listed:

- Test Post** by **ebinnion** (posted an hour ago). The post content is "Here is some content" and includes "Reply" and "Follow" buttons.
- Another Test Post** by **ebinnion** (posted 12:42 pm on October 15, 2014). The post content is "Hello world" and includes "Reply 11" and "Follow" buttons.

On the far right, there is a sidebar with the text "Eric Binnion's Testing Sandbox", "Welcome to o2", "Looking for answers? Check out the [Field Guide](#)", and a search bar labeled "Search ...".

But, Check Success

- How do we check that a request succeeded?
- How do we display failures?
- How do we recover?
 - Do we automatically retry?

Examples

- JetPack
- ROHO Sports / AppPresser
- O2

ic Binnion | Lessons Lear

manofhustle.com

Reader Following

+ New Post

E MENU



Eric Binnion

ns Learned in
ss, Programming,
and Life

November 12, 2014

SEARCH

Photo 101, Landmark

For the [Photo 101 Landmark theme](#), I decided that I would visit the Christmas display at Midwestern State University.

[EDIT THIS](#)

POSTS I LIKE



Landmark on

Charm



Disney and Ur

Studios i... on

YOU ARE FOLLOWING

You are following this blog
1,242 other amazing people

Roho Sports

- AppPresser
- High School booster club
- Each sport had a separate site (multisite)
- Each site had to allow subscriptions

The screenshot shows a mobile application for Roho Sports. At the top, there's a navigation bar with icons for menu, back, and settings, along with the Sprint network logo and the time 10:13 PM. The header features the "ROHO" logo with a horse and rider. Below the header is a large image of a football team in black uniforms. A horizontal navigation bar below the image has four dots, with the first one being black. The main content area has a dark header with the text "Upcoming Games". Below the header, there are three game entries, each with a date and time, the sport, and the names of the teams playing. Each entry also includes a "Directions" link. At the bottom of the screen, there's a red banner for State Farm with the text "Morris Stone (940) 322-2241".

Upcoming Games

12/30 11:00 AM
Soccer - Girls - JV2 Lady Raiders -
at Springtown

Directions

1/2 10:00 AM
Soccer - Girls - JV2 Lady Raiders -
at Intersquad

Directions

1/2 12:00 PM
Soccer - Girls - Varsity Lady
Raiders - vs Alumni Lady Raiders

 State Farm®
Morris Stone
(940) 322-2241

Subscribe AJAX Example (PHP)

```
add_action( 'wp_ajax_nopriv_register_device', 'register_device' );
add_action( 'wp_ajax_register_device', 'register_device' );
function register_device() {
    $blog_id = $_POST['blog_id'];
    $device  = $_POST['uuid'];

    $sport_devices = get_blog_option( $blog_id, 'registered_devices' );

    if ( is_array( $sport_devices ) ) {
        if ( ! in_array( $device, $sport_devices ) ) {
            $sport_devices[] = $device;
        }
    } else {
        $sport_devices = array( $device );
    }

    if ( ! update_blog_option( $blog_id, 'registered_devices', $sport_devices ) ) {
        wp_die( 'Registering device failed.' );
    }

    exit;
}
```

Subscribe AJAX Example (JS)

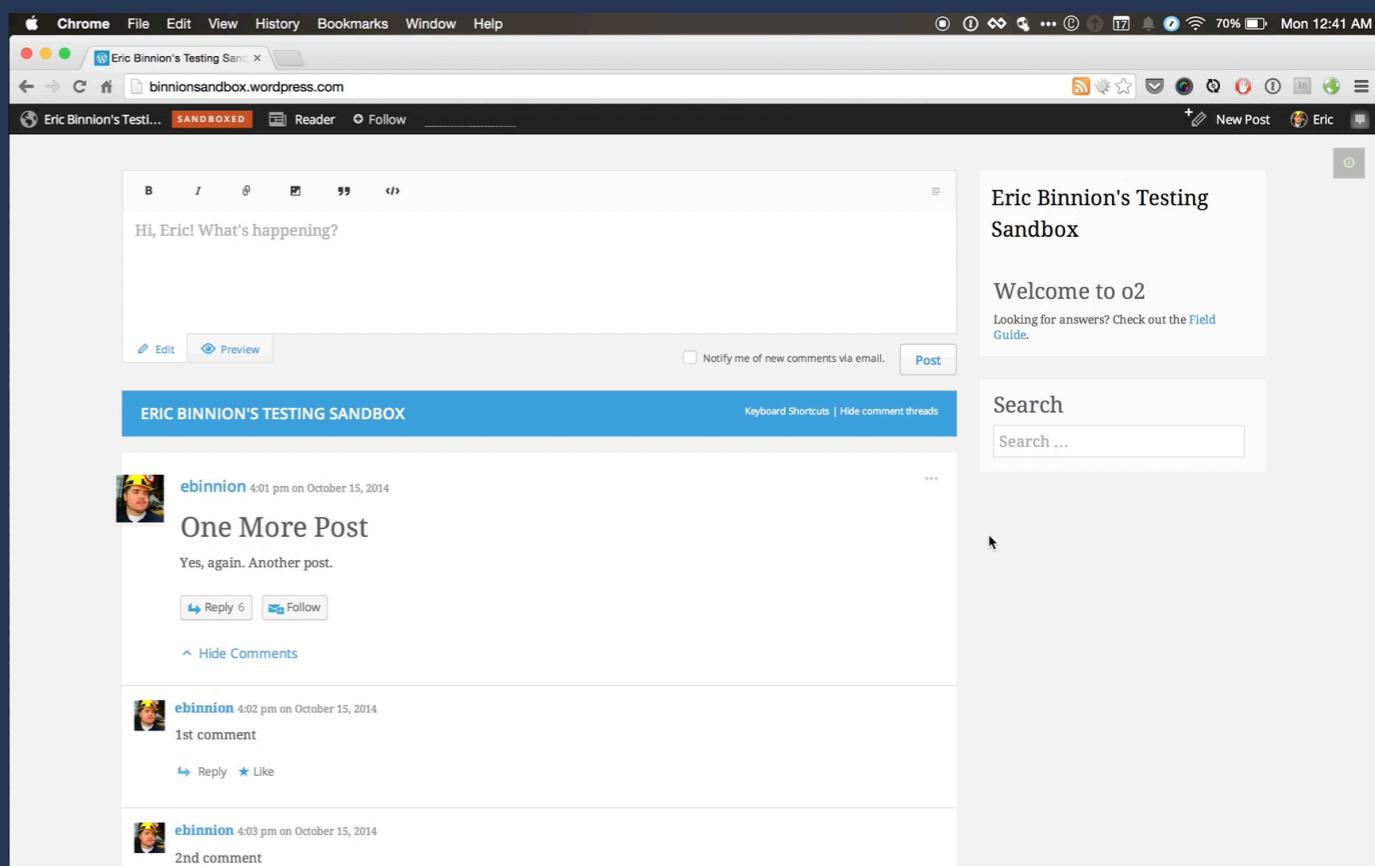
```
$(' .register-push' ).change(
  function( e ) {
    state = $( this ).is( ':checked' );
    target = $( this ).attr( 'data-site' );
    if ( 'undefined' !== typeof device && null !== device.uuid ) {
      var action = ( false == state ) ? 'deregister_device' : 'register_device';

      jQuery.post(
        appCore.ajaxurl,
        {
          'action': action,
          'uuid': device.uuid,
          'blog_id': target
        },
        function( response ){
          console.log( response );
        }
      ).fail( function( xhr, textStatus, errorThrown ) {

        // If the Ajax fails, then handle it
        alert( xhr.responseText );
      });
    }
  );
);
```

O2 Trash Post

- slideUp Post (hide)
- Attempt to destroy/delete post
- If successful, remove post from DOM
- Else, slideDown post and show notice



O2 Trash Post

```
onTrash: function( event ) {
  event.preventDefault();
  event.stopPropagation();

  var postId = parseInt( o2.options.postId, 10 );

  if ( 0 == postId ) {

    // If currently on a list view, slide the post up then proceed with the destroy.
    this.$el.slideUp( this.destroyViewModel( this, postId ) );
  } else {

    // Check if there is a postTrashedFailed notification and remove if so
    o2.Notifications.notifications.findFirstAndDestroy( 'postTrashedFailed' );

    var trashString = ( 'page' == o2.options.viewType ) ? 'pageBeingTrashed' : 'postBeingTrashed';

    o2.Notifications.add( {
      text: o2.strings.trashString,
      url: false,
      type: 'postBeingTrashed',
      sticky: false,
      popup: false,
      dismissable: true
    } );
  }

  this.destroyViewModel( this, postId );
},
},
```

O2 Trash Post

```
destroyViewModel: function( view, postId ) {
  view.model.destroy({
    wait: true,
    success: function( model, response ) {
      // Commented out for presentation
    },
    error: function( model, response ) {

      // Remove any actions menus that are currently open.
      view.closeOpenDisclosures();

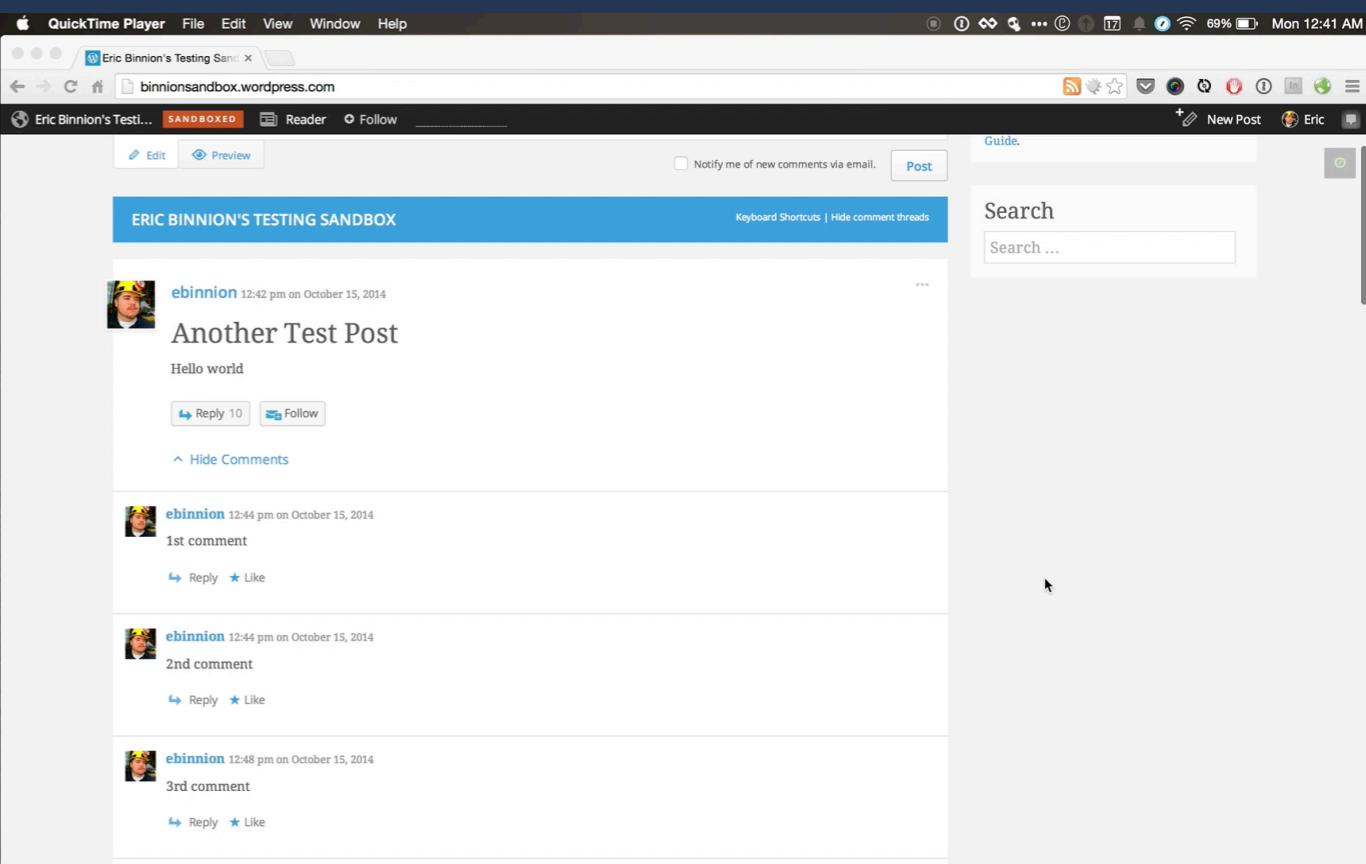
      // Check if there is a postBeingTrashed notification and remove if so
      o2.Notifications.notifications.findFirstAndDestroy( 'postBeingTrashed' );

      var trashFailedString = ( 'page' == o2.options.viewType ) ? 'pageTrashedFailed' : 'postTrashedFailed';

      // If the destroy failed, show the post again.
      view.$el.slideDown();
      o2.Notifications.add( {
        text: o2.strings.trashFailedString,
        url: false,
        type: 'postTrashedFailed',
        sticky: false,
        popup: true,
        dismissable: true
      } );
    }
  });
},
```

O2 Trash Comment

- Change comment content
- If successful, do nothing
- Else, change comment content back



O2 Trash Comment

```
onTrash: function( event ) {
  event.preventDefault();
  event.stopImmediatePropagation();

  this.options.isSaving = true;
  this.options.isTrashedAction = true;

  o2.Events.dispatcher.trigger( 'notify-app.o2', { saveInProgress: true } );

  var updates = {
    isTrashed:      true,
    trashedSession: true
  };

  this.model.save( updates, { success: this.onSaveSuccess, error: this.onSaveError } );
},
```

O2 Trash Comment

```
onSaveError: function( model, xhr ) {
  o2.Events.dispatcher.trigger( 'notify-app.o2', { saveInProgress: false } );

  var responseText = '';
  var errorText = '';
  try {
    // See if the XHR responseText is actually a JSONified object
    var responseObject = $.parseJSON( xhr.responseText );
    if ( ( 'undefined' !== typeof responseObject.data.errorText ) ) {
      errorText = responseObject.data.errorText;
    }
  } catch ( e ) {
    // Not JSON - use the responseText directly
    // e.g. this occurs if you attempt to post the same comment twice - you get
    // a non JSON error back in the response
    errorText = xhr.responseText;
  }

  o2.Notifications.add( {
    model: model,
    type: 'error',
    text: errorText,
    sticky: true
  });

  // Turn editing back on
  this.options.isSaving = false;
  this.options.isEditing = true;
  this.render();

  o2.Events.doAction( 'post-comment-save.o2' );
},
} ,
```

Questions?

Credits

Perceived Speed Photo Credit: [Loïc Lagarde](#) - cc

Instagram screenshots: <https://speakerdeck.com/mikeyk/secrets-to-lightning-fast-mobile-design>