

Creating a Chrome Extension

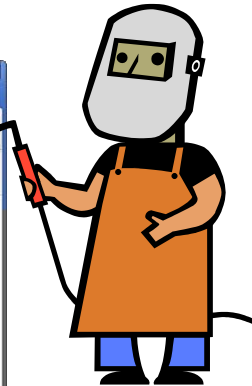
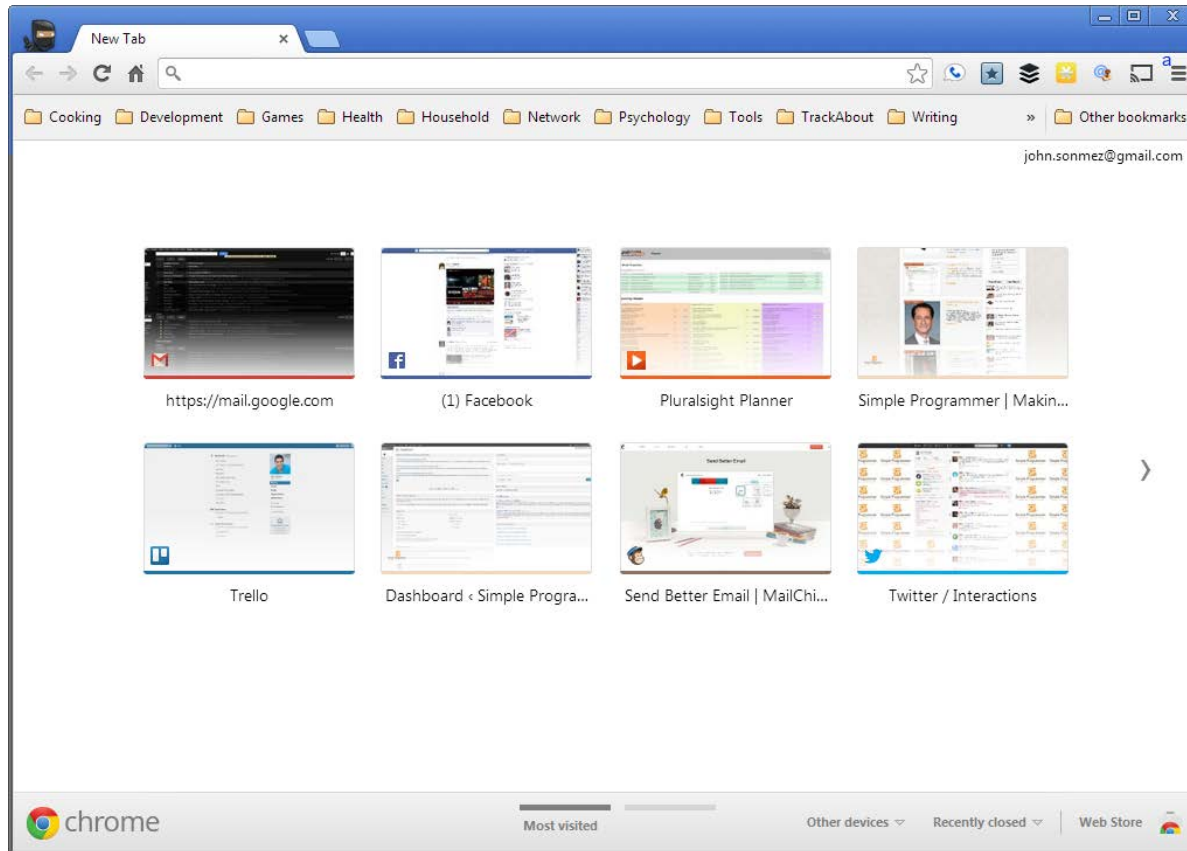
Introduction

John Sonmez
<http://simpleprogrammer.com>
@jsonmez



pluralsight 
hardcore developer training

Who This Course Is For



Anyone who wants to make extensions for Chrome!

What This Course Will Cover

- **Module 1: Introduction**
 - What is a Chrome extension?
 - What can Chrome extensions do?
- **Module 2: Hello Extension**
 - Create the Hello World extension
 - Learn about how extensions work
- **Module 3: A Browser Action Extension**
 - Create extension with popup UI
- **Module 4: A Page Action Extension**
 - Create extension that modifies a page
- **Module 5: Debugging and Deployment**
 - Debugging an extension
 - Chrome Web Store submission



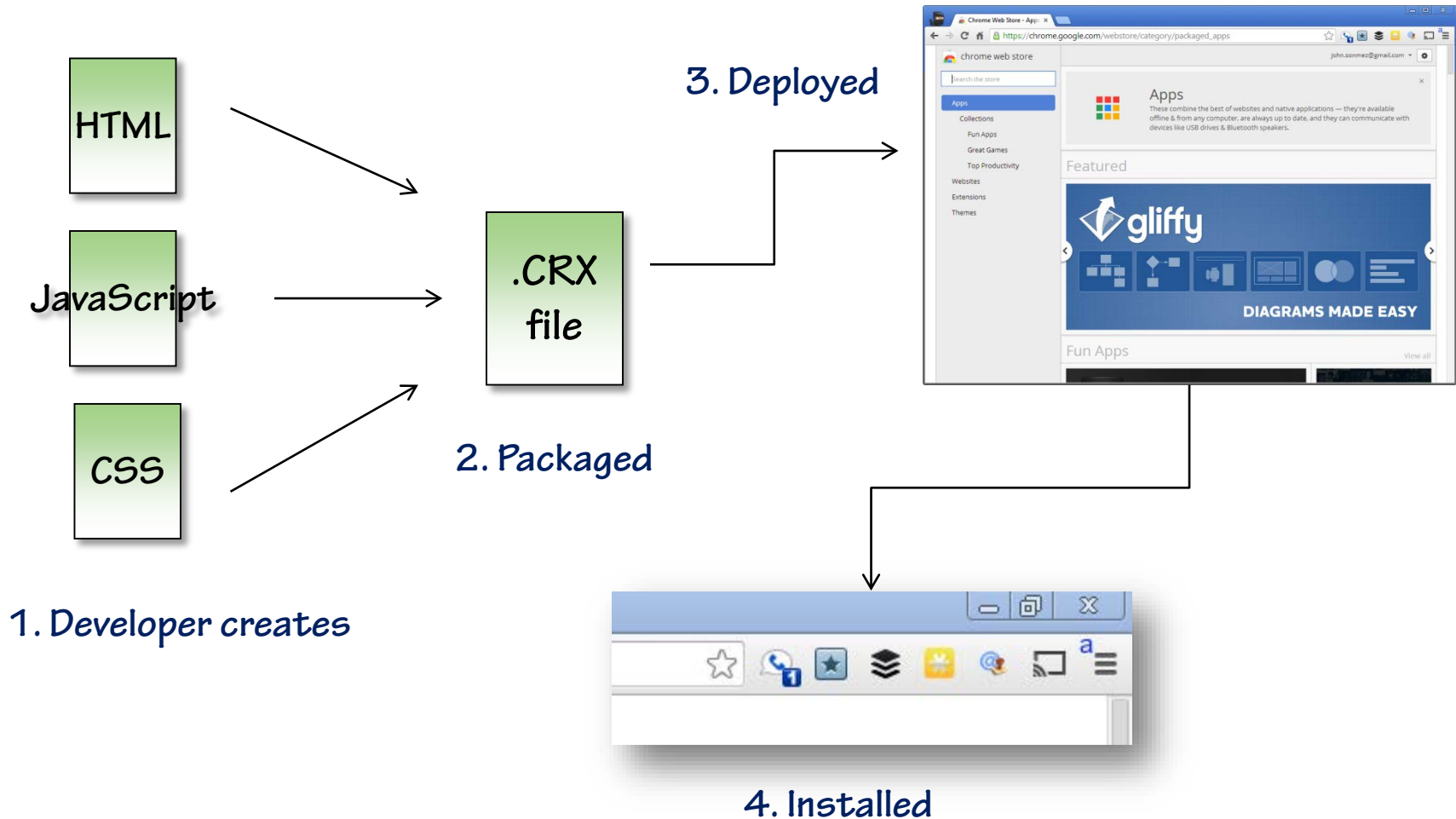
We are going to be bolting things onto Chrome

What is a Chrome Extension?



An extension is sort of like a plugin

How Chrome Extensions Work



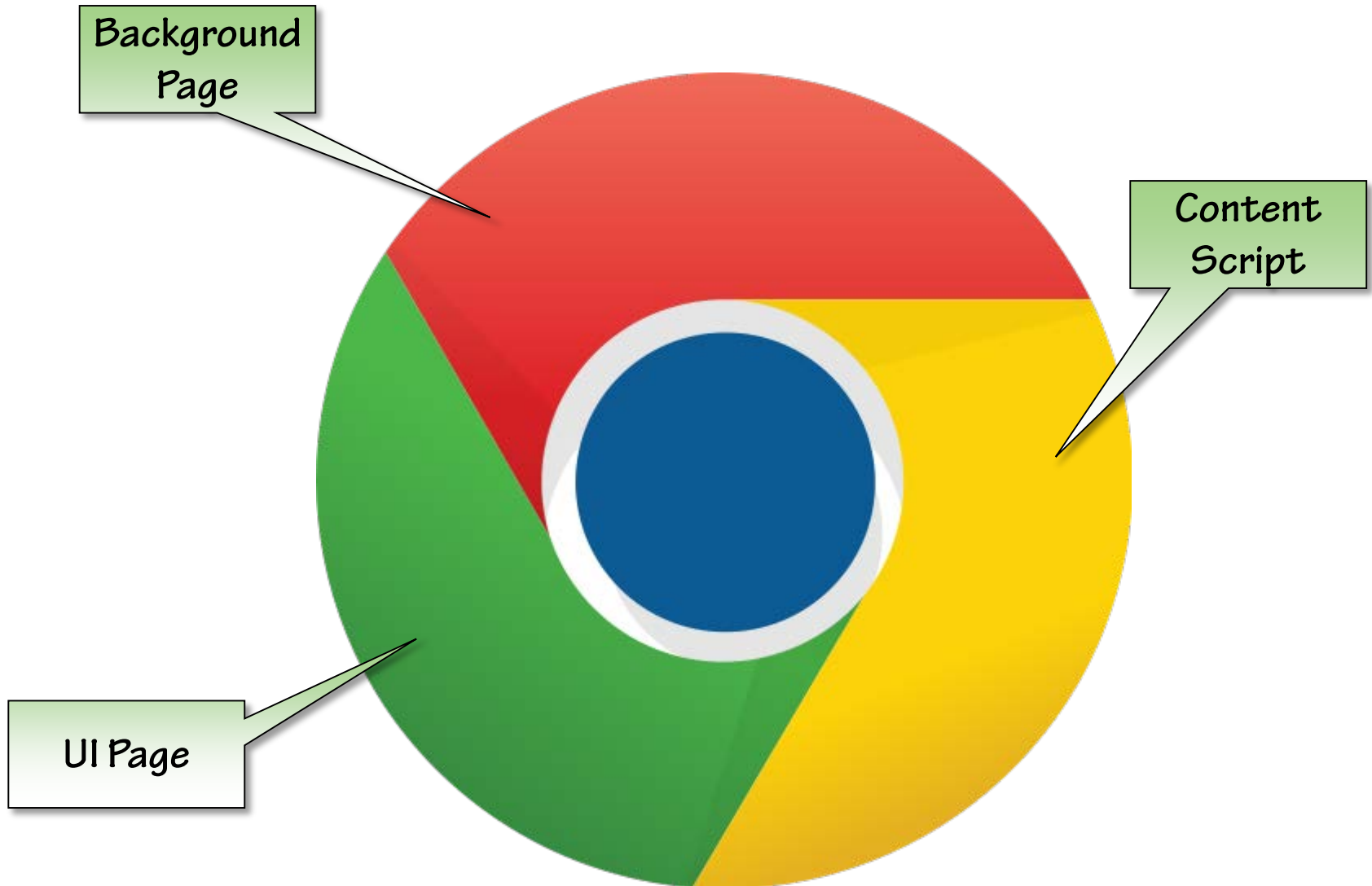
What Extension Can Do

- Interact with web pages or servers
- Control browser features
- Add UI to Chrome
 - Browser action
 - Page action
- Create options pages
- Modify loaded pages
- Add to context menu
- Even load DLLs (DANGER)



Extensions are extremely powerful

Extension Parts



Background Pages

The image shows two overlapping Chrome browser windows. The foreground window is the 'Task Manager - Google Chrome' window, displaying a table of running tasks. The background window is the 'CRX Package Format' page on developer.chrome.com, which is titled 'CRX Package Format' and contains information about the CRX file format. An arrow points from the 'Background Pages' title to the 'CRX Package Format' page.

Task Manager - Google Chrome

Task	Memory	CPU	Network	Process ID	FPS
Browser	404,004K	0	0	2620	N/A
Tab: Home Page (955)	73,376K	0	0	13156	0
Tab: History	39,292K	0	0	15536	4
Extension: Klout (beta)	9,548K	0	0	5404	N/A
Extension: HelloSign for Gmail	2,316K	0	0	6100	N/A
Extension: Background Page: REST Console	2,396K	0	0	6064	N/A
Extension: Buffer	9,596K	0	0	15540	N/A
Extension: WiseStamp - Email Signatures for Gmail, Google Apps and more	48,624K	0	0	5304	N/A
Extension: Neat Bookmarks	6,876K	0	0	6156	N/A
Extension: Google Cast	14,440K	0	0	6048	N/A
Extension: LastPass	37,272K	0	0	16688	N/A
Extension: Google Voice (by Google)	20,852K	0	0	17272	N/A
GPU Process	95,740K	0	N/A	5756	N/A
Plug-in: NPLastPass	4,784K	0	N/A	12144	N/A
Plug-in: Shockwave Flash	13,612K	0	N/A	9260	N/A
Plug-in Broken: Shockwave Flash	14,896K	0	N/A	7144	N/A

[Stats for nerds](#) [End process](#)

CRX Package Format

CRX files are ZIP files with a special header and the .crx file extension.

Package header

Extension contents

Example

Packaging scripts

Ruby

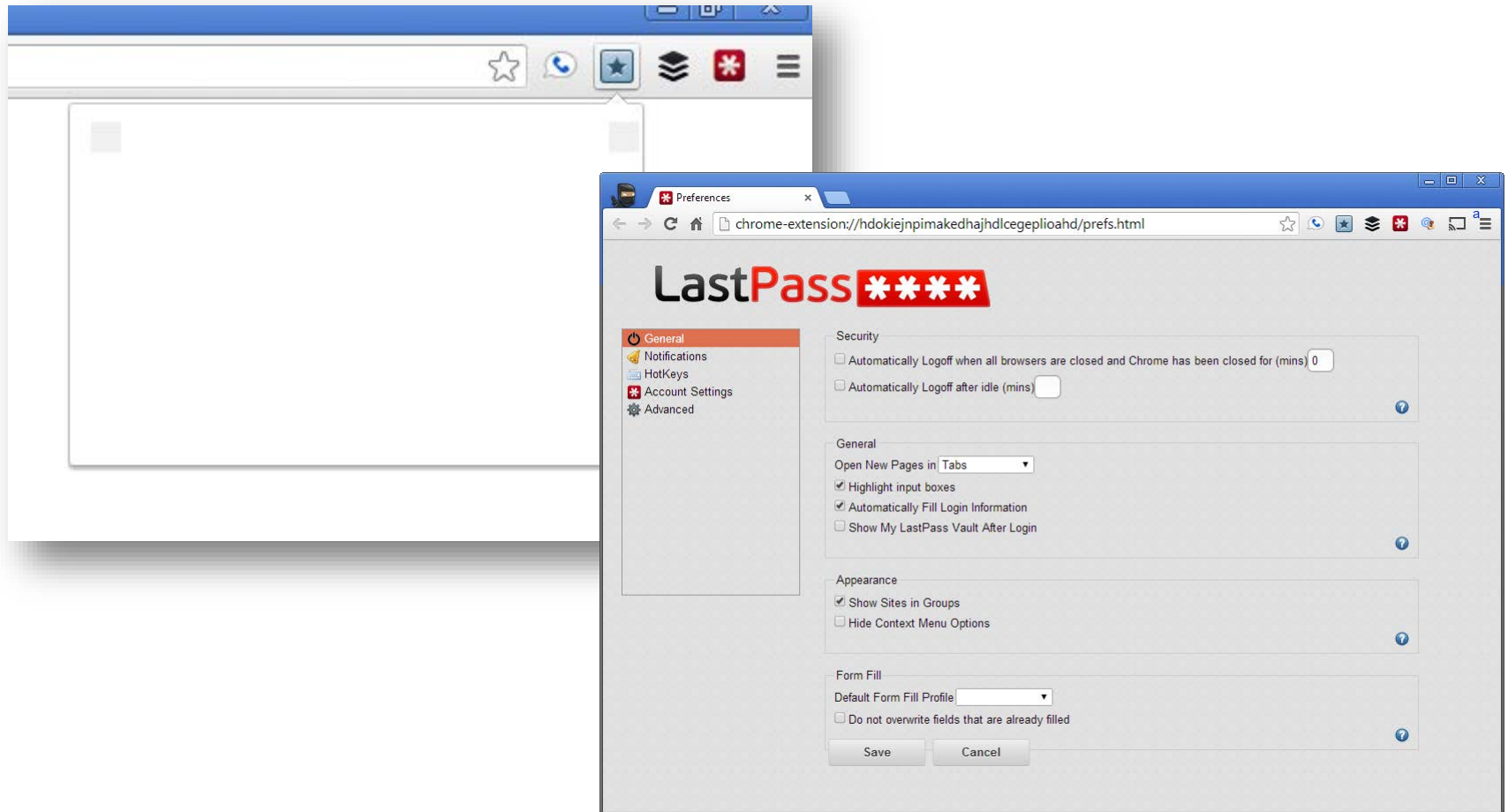
Bash

Field	Type	Length	Value	Description
magic	char[]	32 bits	Cr24	Chrome requires this constant at the beginning of every .crx package.
number	unsigned int	32 bits	2	The version of the .crx file format used (currently 2).
public key	unsigned int	32 bits	pubkey.length	The length of the RSA public key in bytes.
signature	unsigned int	32 bits	sig.length	The length of the signature in bytes.

[SEND FEEDBACK](#)

Background pages can be persistent or event pages

UI Pages



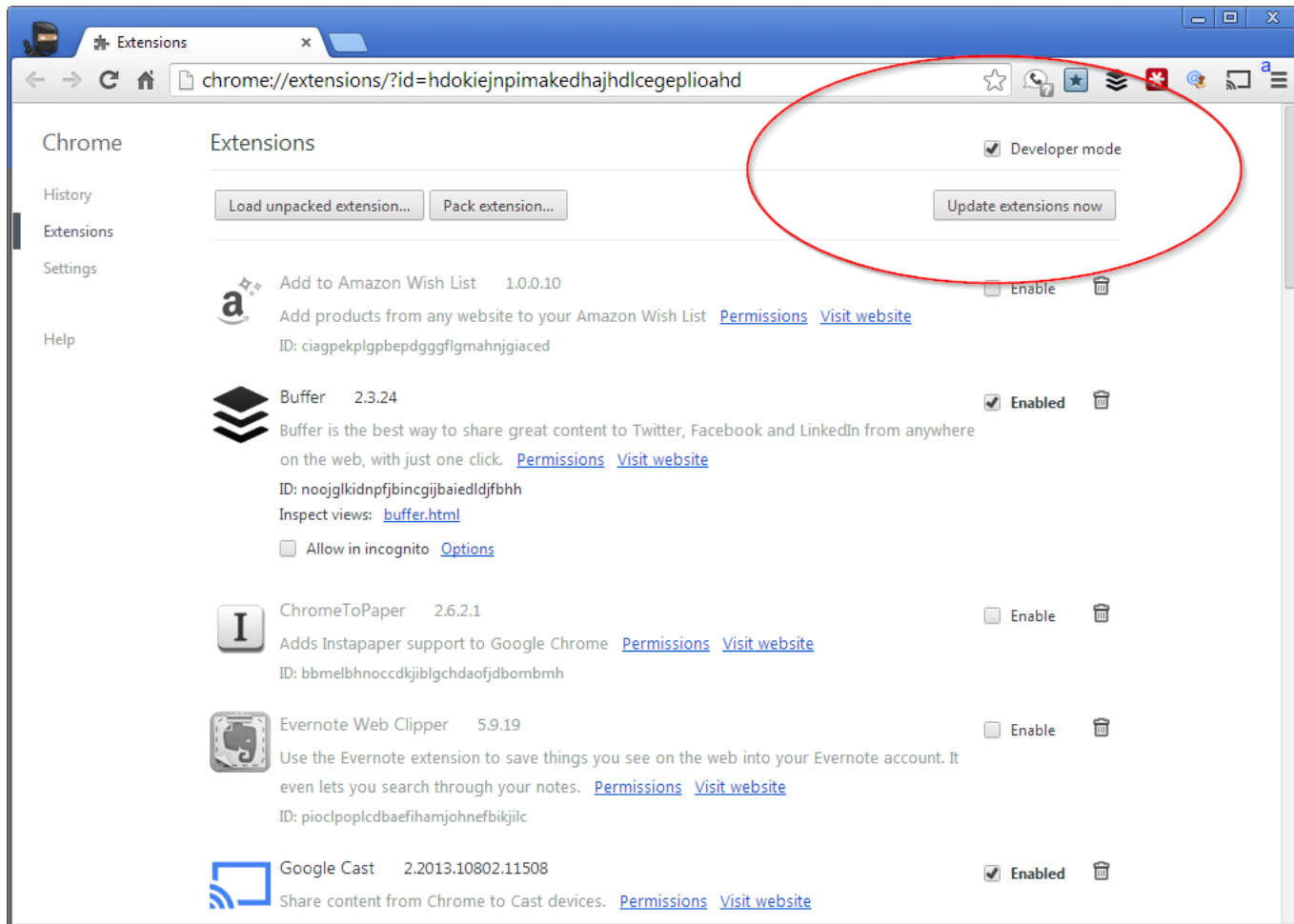
Extensions can have their own UIs

Content Scripts

```
/* Copyright 2012 The Chromium Authors. All rights reserved.  
 * Use of this source code is governed by a BSD-style license that can be  
 * found in the LICENSE file.  
  
r.define('uber', function() {  
  /**  
   * Options for how web history should be handled.  
   */  
  var HISTORY_STATE_OPTION = {  
    PUSH: 1, // Push a new history state.  
    REPLACE: 2, // Replace the current history state.  
    NONE: 3, // Ignore this history state change.  
  };  
  
  /**  
   * We cache a reference to the #navigation frame here so we don't need  
   * it from the DOM on each scroll.  
   * @type {Node}  
   * @private  
   */  
  var navFrame;  
  
  /**  
   * Handles page initialization.  
   */  
  function onLoad(e) {  
    navFrame = $('navigation');  
    navFrame.dataset.width = navFrame.offsetWidth;  
  
    // Select a page based on the page-URL.  
    var params = resolvePageInfo();  
    showPage(params.id, HISTORY_STATE_OPTION.NONE, params.path);  
  
    window.addEventListener('message', handleWindowMessage);  
  }  
});
```

Content scripts can be added to any pages that are browsed

Up Next



We'll create a "Hello World" extension to learn the basics