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CSS Minifier – Implementation Notes

(Please contact – [nitinr@microsoft.com](mailto:nitinr@microsoft.com) for any feedback or questions)

# Introduction

The document provides the end user documentation for CSS Minifier and the various features which can be leveraged for various minification scenarios

# Supported W3C Specifications

The current version of CSS Minifier is developed against the following W3C Specifications. The ANTLR grammar don’t match verbatim with grammar provided in CSS specifications for the reason that the ANTLR grammar is LL(\*) vs. the LR grammar provided in CSS specifications.

## CSS 2.1

<http://www.w3.org/TR/2011/REC-CSS2-20110607/>

<http://www.w3.org/TR/2011/REC-CSS2-20110607/grammar.html>

## CSS3 Selectors

<http://www.w3.org/TR/2009/PR-css3-selectors-20091215/> (Grammar is part of specification)

## CSS Color Module

<http://www.w3.org/TR/2011/REC-css3-color-20110607/> (Grammar is subset of CSS 2.1 spec.)

## CSS3 Namespaces

<http://www.w3.org/TR/2011/PR-css3-namespace-20110811/> (Grammar is part of specification)

## CSS3 Media Queries

<http://www.w3.org/TR/2010/CR-css3-mediaqueries-20100727/> (Grammar is part of specification)

## CSS3 Animations

<http://www.w3.org/TR/2009/WD-css3-animations-20090320/> (Grammar is part of specification)

The animations at this point are implemented as the vendor specific extensions and hence following token is supported for key frames:

KEYFRAMES\_SYM

    : '@keyframes'

    | '@-ms-keyframes' // MS - Not sure how spec would be implemented?

    | '@-moz-keyframes' // Mozilla

    | '@-webkit-keyframes' // Chrome/Safari

    ;

## CSS3 Fonts

<http://www.w3.org/TR/2011/WD-css3-fonts-20110324/>

Only @font-face is supported in the current release.

## Data URI

The data uris are recognized and preserved while minification

Example:

.picture

{

    background: url(%2FwD%2FAP%2BgvaeTAAAAEUlEQVR42mP4%2F58BCv7%2FZwAAHfAD%2FabwPj4AAAAASUVORK5CYII%3D) fixed 1px 0;

}

# Generating the ANTLR Lexer and Parser from Grammar

At this point, the generated Lexer and Parser are checked-in at:

$/MSNRF/Main/Dev/Tools/SOT/SOT/Css/CssLexer.cs

$/MSNRF/Main/Dev/Tools/SOT/SOT/Css/CssParser.cs

In order to generate the Lexer and Parser based on updated grammar, proceed with following steps:

1. Check out $/MSNRF/Main/Dev/Tools/SOT/Sot.Build.targets
2. Uncomment the following line (DON’T CHECK-IN THIS CHANGE):

<!--<Import Project="$(ProjectDir)..\..\Antlr\Runtime\antlr-dotnet-tool-3.3.1.7705\Antlr3.targets" />-->

1. Reload the $/MSNRF/Main/Dev/Tools/SOT/SOT.sln and choose the “Release” configuration.
2. Build
3. Observe the new code generated at $/MSNRF/Main/Dev/Tools/SOT/SOT/obj
4. Integrate the code generated in step 5 with existing code.
5. Done.

# Resources

[Internet Explorer 9 Guide for Developers](http://msdn.microsoft.com/en-us/ie/ff468705)

<http://www.fontspring.com/blog/the-new-bulletproof-font-face-syntax>

<http://dev.opera.com/articles/view/introducing-woff-web-open-font-format/>

<http://www.html5rocks.com/en/tutorials/webfonts/quick/>

Data URIs - <http://msdn.microsoft.com/en-us/ie/hh410109#_DataURI>

Border Enhancements - <http://perishablepress.com/press/2010/02/22/css3-border-properties/>

Gradients - <http://www.storiesinflight.com/html5/index.html#gradients>