draft-mcsweeney-drop-scheme-01
Defined Resource Operator (drop)
The 'drop' URI Scheme

Abstract

   This document describes the 'drop' Uniform Resource
   Identifier (URI) scheme.

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translate it into languages other than English.

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1. Introduction

This document is provided to inform the internet community of the 'drop' URI scheme and to meet the required guidelines of a permanent URI scheme. This scheme shortens the path to further unifying communications by using public mechanisms of continuity for the pre-resolution of private and public service integration.

2. Scheme definitions and syntax

2.1. Demonstrable, New, Long-Lived Utility

Phone numbers and physical addresses are antiquated but still very useful. But what is to say that they both can not be represented by the same character string? For any given person or business, it is simpler to enter a single string into one's phone than what is currently an ever growing list of communication method identifiers. When an owner is able to update contact information it requires no changes by another user's contact list or database. People, businesses, and machines generally have a wide variety of, and specific uses for, different modes of communication. Where those modes of communication overlap, there should also be consolidation. The 'drop' scheme was created in a way to be able to reuse current infrastructure making it easy to use and quick to deploy.

2.2. Syntactic Compatibility

"While it is common for schemes to further delegate their
substructure to the URI's owner, publishing independent standards
that mandate particular forms of URI substructure is inappropriate,

because that essentially usurps ownership. [RFC7320] abstract

nonetheless....

   "The URI syntax defines a grammar that is a superset of all
   valid URIs, allowing an implementation to parse the common components
   of a URI reference without knowing the scheme-specific requirements
   of every possible identifier. [RFC3986 abstract]

Section 3 of [RFC3986] defines the overall syntax for URIs and offers a
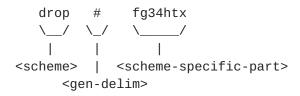couple examples showing the component parts (1-5). The scheme and path
components are required, though the path may be empty (no characters).

          foo://example.com:8042/over/there?name=ferret#nose
          _/   _____/_____/ _____/ __/
           | | | | |
   URI= scheme(1) authority(2)   path(3)   query(4)   fragment(5)
           | _____|__
          / \ /   \
          urn:example:animal:ferret:nose

The 'drop' URI does not use all 5 of the parse-able components
available to it. Instead, it uses only the required scheme(1) and
path(3) components. Previously registered URIs such as the 'tel'
[RFC3966] and 'geo' [RFC5870] schemes also use a limited number of
components. But unlike these other schemes the 'drop' scheme uses the
number sign '#' as a general delimiter where typically a colon ":" is
found. The ":" and the "#" are two of the seven charcters catagorized as
general delimiters (gen-delims) in the "reserved" set. The general
delimiters (gen-delims), described in Section 2.2 [RFC3986], can be used
to seperate generic URI components(1-5). The "#" is defined as a
delimiter by the implementation-specific syntax of the 'drop' URI's
dereferencing algorithm. The 'drop' scheme syntax is as follows:

drop-uri = drop "#" character string

          drop   #   fg34htx
          __/ _/   _____/
           | | |
       <scheme> | <scheme-specific-part>
            <gen-delim>

Characters of the scheme-specific-part have not been limited.
The following are some examples of 'drop' URIs:

       drop#sd54g54 | drop#34.56 | drop#fgte8g-234.45

After the first step of resolution, the scheme-specific part of a 'drop'

URI becomes the subdomain portion of a FQDN where the resource(s) can be located or further processing continued. It would look similar to 'sd54g54.dropexample.com'. There will be only one second level domain for http use. This subdomain characteristic gives it a global uniqueness which adds value and prevents ambiguity.

Compared against other URI schemes, the 'drop' scheme's use of a number sign makes the scheme in its entirety unique, including the scheme-specific-part. More so, the scheme-specific-part can be user generated to add an extra layer of uniquess. Sending a fax to the same digits as a phone call has been for around a long time proving that being unique and being common can coexist. The 'drop' scheme can extend that commonality to the web and beyond.

2.3. Definitions and Operations

Primarily functioning as a locator there are three ways to get to a 'drop' URI resource; http, SRV records, and private resolution. Private resolution is only used if the resource(s) can not be found using the previous two methods. This resource retrieval process utilizes the Dynamic Delegation Discovery System [RFC3401]. Invoking the 'drop' URI will cause a lookup for matching application information starting with an A record [RFC1035], then on to Service Records [RFC2782], and then on to other available records that may offer a new rule set for resolution. As an example use case, when the 'drop' scheme is typed into the address bar of a browser, the dns returns a FQDN to where the browser may then go and retrieve a HTML document. Similarly, the same scheme-specific part can be used in a messaging address, or mapping location application. Reusability of a scheme-specific-part that has an output of a hierarchical structure representing an administrative delegation that translates into a domain name makes this scheme a perfect fit for domain name system [RFC6950] section 3.3. Users and owners define what operations are available. One user may have sip services enabled while another may only let you go to a company's webpage.

Permanency of what is identified by the scheme-specific-part is not guaranteed and is user specific. Permanency of a specific scheme-specific-part is not guaranteed to exist or that it will re-exist after it had once existed. There may be a future need where the 'drop' URI scheme will want to be used as a strict identifier so it would not be fair to constrain the definition of this scheme in this document at this time. Other future uses beyond what is commonly known of unique subdomain creation should be anticipated for this 'drop' scheme.

2.4. Internationalization and Character Encoding

   The 'drop' scheme name follows the syntax of Section 3.1 of [RFC3986] which only allows for a limited number of characters (US-ASCII). The scheme name is also sufficiently short and distinguishable to

avoid problems. The 'drop' scheme name does not identify any
particular application and does not have any correspondence with a
particular service name. Queries that come in non-ASCII encoding
must be allowed to go forward so that private resolution can continue
if A and SRV record lookups fail.

2.5. Interoperability Considerations

   The scheme creator is not aware of any details regarding the scheme
that may impact interoperability.

3.   URI Scheme Registration Request

   Scheme name: drop

   Status: permanent

   Applications/protocols that use this scheme name:
   http, sip, email

   Contact:
   Registering party: Tim McSweeney <tim@dropnumber.com>
   Scheme creator: Parameter One

   Change controller:
   Either the registering party or someone who is verified to represent
   the scheme creator.

   References: Section 6 of this document

4. IANA Considerations

   Expert Review" with an initial (optional)
   registration update request - permanent

5. Security Considerations

Security is partly dependent on the resource being located
and the application being used for the locating. Generally, security
concerns for this URI would come from the use of the URI and not
necessarily from the URI itself as [RFC3986] section 7 describes.
Examples are, domain spoofing, malicious redirection, domain hijacking,
and phishing attacks.

6. Normative References

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7. Informative References

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