

# Microdata for Dallas County Historical & Genealogical Cemetery Data

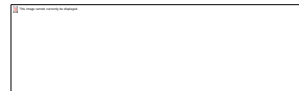
Tony Hanson

Webmaster



# What You Will Learn

- **What** is Microdata
- **How** Microdata is used
- **Why** Microdata is significant



# The Problem

- The goal of a well designed web page is to make information useful to **natural language interpreters**
  - a.k.a. **‘People’**
- This was the original goal/purpose of HTML



# There Are Several Classes of Users

- **Browsers**
- **Web Crawlers**
  - Where our site appears on the results list depends a lot on what the web crawlers find
  - Organizing and tagging data in a way that is meaningful to the search engine is very important...
- **Web based applications** that use your data



# HTML As Obfuscator

- ‘Reverse Engineering’ the structure and relationships on the original data from HTML is difficult...
  - Maybe even impossible



# Data Source: Relational Database Table

Field	Type
cemetery_name	varchar(60)
first_name	varchar(30)
last_name	varchar(30)
spouse_name	varchar(60)
birth_date	varchar(25)
death_date	varchar(25)
burial_date	varchar(25)
section	varchar(20)
grave	varchar(15)
stone_type	varchar(15)



# Resulting Page

Josephine Meyer MUNN

**Date Born:** 12 Nov 1858

**Date Died:** 24 Feb 1936

**Cemetery:** Oakland

**Stone Type:** Single

**Spouse:** [Thomas J. Munn]

**Date Buried:** 25 Feb 1936



# HTML

```
<h2>Josephine <b><u>Meyer</u></b> MUNN</h2>
<table>
  <tr>
    <td align=right><b>Date Born:</b></td>
    <td align=left>12 Nov 1858</td>
  </tr>
  <tr>
    <td align=right><b>Date Died:</b></td>
    <td>24 Feb 1936</td>
  </tr>
  <tr>
    <td align=right><b>Cemetery:</b></td>
    <td>Oak Cliff</td>
  </tr>
  <tr>
    <td align=right><b>Stone Type:</b></td>
    <td>Single</td>
  </tr>
  <tr>
    <td align=right><b>Spouse:</b></td>
    <td>[Thomas J. Munn]</td>
  </tr>
  <tr>
    <td align=right><b>Date Buried:</b></td>
    <td>25 Feb 1936</td>
  </tr>
</table>
```





# Data Structure: Lost In Translation...

Field	Type
cemetery_name	varchar(60)
first_name	varchar(30)
last_name	varchar(30)
spouse_name	varchar(60)
birth_date	varchar(25)
death_date	varchar(25)
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```

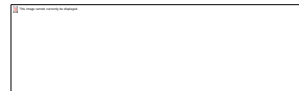
<h2>Josephine <b><u>Meyer</u></b> MUNN</h2>
<table>
  <tr>
    <td align=right><b>Date Born:</b></td>
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    <td>oak cliff</td>
  </tr>
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  <tr>
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    <td>[Thomas J. Munn]</td>
  </tr>
  <tr>
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    <td>25 Feb 1936</td>
  </tr>
</table>

```



# Sharing Data & Structure

- Possible using a variety of methods
- Most are programmer intensive to create
- Each one is unique
- May expose your system to security risks
- Has little (or nothing) to do with the actual web page



# Two Views Of The Data

Field	Type
cemetery_name	varchar(60)
first_name	varchar(30)
last_name	varchar(30)
spouse_name	varchar(60)
birth_date	varchar(25)
death_date	varchar(25)
burial_date	varchar(25)
section	varchar(20)
grave	varchar(15)
stone_type	varchar(15)

API View

```
<h2>Josephine <b><u>Meyer</u></b> MUNN</h2>
<table>
  <tr>
    <td align=right><b>Date Born:</b></td>
    <td align=left>12 Nov 1858</td>
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    <td align=right><b>Spouse:</b></td>
    <td>[Thomas J. Munn]</td>
  </tr>
  <tr>
    <td align=right><b>Date Buried:</b></td>
    <td>25 Feb 1936</td>
  </tr>
</table>
```

Browser/Crawler View



# Microdata

A vocabulary and syntax used to extend HTML  
with additional machine readable semantics



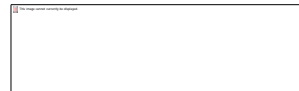
# Microdata Attributes

- Extension to existing HTML & CSS markup techniques
- Machine readable
  - Usually not seen by the Browser user
- Controlled Vocabulary (defines the scope)
- Information identified as Property-Value pairs



# How Does Microdata Help?

- Through the use of additional tags, it is possible to identify the specific meaning for each item of information
  - These tags do not alter the way the information is displayed by the browser
  - However, they do provide a great deal additional information that can be used by the browser, the web crawlers and other applications



# schema.org

- Launched in June 2011 by Bing, Google and Yahoo
  - Yandex – Russia’s largest search engine – has since signed onto the effort
- Goal: To create and support a common set of schemas for structured data markup on web pages

YAHOO!

Google™

bing™

Yandex



## What is Schema.org?

This site provides a collection of schemas, i.e., html tags, that webmasters can use to markup their pages in ways recognized by major search providers. Search engines including Bing, Google, Yahoo! and Yandex rely on this markup to improve the display of search results, making it easier for people to find the right web pages.

Many sites are generated from structured data, which is often stored in databases. When this data is formatted into HTML, it becomes very difficult to recover the original structured data. Many applications, especially search engines, can benefit greatly from direct access to this structured data. On-page markup enables search engines to understand the information on web pages and provide richer search results in order to make it easier for users to find relevant information on the web. Markup can also enable new tools and applications that make use of the structure.

A shared markup vocabulary makes it easier for webmasters to decide on a markup schema and get the maximum benefit for their efforts. So, in the spirit of sitemaps.org, search engines have come together to provide a shared collection of schemas that webmasters can use.

We invite you to [get started!](#)

View our blog at [blog.schema.org](http://blog.schema.org).





# The Type Hierarchy

- Thing
  - CreativeWork
  - Event ←
  - MedicalEntity
  - Organization
  - Person
  - Place
  - Product

# Thing > Event

An event happening at a certain time at a certain location.

Property	Expected Type	Description
<b>Properties from Thing</b> ←		
<u>additionalType</u>	URL	An additional type for the item, typically used for adding more specific types from external vocabularies in microdata syntax. This is a relationship between something and a class that the thing is in. In RDFa syntax, it is better to use the native RDFa syntax – the 'typeof' attribute – for multiple types. Schema.org tools may have only weaker understanding of extra types, in particular those defined externally.
<u>description</u>	Text	A short description of the item.
<u>image</u>	URL	URL of an image of the item.
<u>name</u>	Text	The name of the item.
<u>sameAs</u>	URL	URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Freebase page, or official website.
<u>url</u>	URL	URL of the item.

Property    Type    Description



## Properties from Event

<u>attendee</u>	<u>Organization</u> or <u>Person</u>	A person or organization attending the event.
<u>attendees</u>	<u>Organization</u> or <u>Person</u>	A person attending the event (legacy spelling; see singular form, attendee).
<u>duration</u>	Duration	The duration of the item (movie, audio recording, event, etc.) in <u>ISO 8601 date format</u> .
<u>endDate</u>	Date	The end date and time of the event (in <u>ISO 8601 date format</u> ).
<u>location</u>	<u>Place</u> or <u>PostalAddress</u>	The location of the event, organization or action.
<u>offers</u>	<u>Offer</u>	An offer to sell this item—for example, an offer to sell a product, the DVD of a movie, or tickets to an event.
<u>performer</u>	<u>Organization</u> or <u>Person</u>	A performer at the event—for example, a presenter, musician, musical group or actor.
<u>performers</u>	<u>Organization</u> or <u>Person</u>	The main performer or performers of the event—for example, a presenter, musician, or actor (legacy spelling; see singular form, performer).
<u>startDate</u>	Date	The start date and time of the event (in <u>ISO 8601 date format</u> ).
<u>subEvent</u>	<u>Event</u>	An Event that is part of this event. For example, a conference event includes many presentations, each are a subEvent of the conference.
<u>subEvents</u>	<u>Event</u>	Events that are a part of this event. For example, a conference event includes many presentations, each are subEvents of the conference (legacy spelling; see singular form, subEvent).
<u>superEvent</u>	<u>Event</u>	An event that this event is a part of. For example, a collection of individual music performances might each have a music festival as their superEvent.

Property    Type    Description



## Example 1

### Original HTML:

```
<a href="nba-miami-philidelphia-game3.html">  
NBA Eastern Conference First Round Playoff Tickets:  
Miami Heat at Philadelphia 76ers - Game 3 (Home Game 1)  
</a>
```

Thu, 04/21/16

8:00 p.m.

```
<a href="wells-fargo-center.html">  
Wells Fargo Center  
</a>
```

Philadelphia, PA

Priced from: \$35

1938 tickets left



# This is an Event

With Schema.org:

```
<div itemscope itemtype="http://schema.org/Event">
  <a itemprop="url" href="nba-miami-philidelphia-game3.html">
    NBA Eastern Conference First Round Playoff Tickets:
    <span itemprop="name"> Miami Heat at Philadelphia 76ers - Game 3 (Home Game 1) </span>
  </a>

  <meta itemprop="startDate" content="2016-04-21T20:00">
    Thu, 04/21/16
    8:00 p.m.
```



## With Schema.org:

```
<div itemscope itemtype="http://schema.org/Event">
  <a itemprop="url" href="nba-miami-philidelphia-game3.html">
    NBA Eastern Conference First Round Playoff Tickets:
    <span itemprop="name"> Miami Heat at Philadelphia 76ers - Game 3 (Home Game 1) </span>
  </a>

  <meta itemprop="startDate" content="2016-04-21T20:00">
    Thu, 04/21/16
    8:00 p.m.

  <div itemprop="location" itemscope itemtype="http://schema.org/Place">
    <a itemprop="url" href="wells-fargo-center.html">
      Wells Fargo Center
    </a>
    <div itemprop="address" itemscope itemtype="http://schema.org/PostalAddress">
      <span itemprop="addressLocality">Philadelphia</span>,
      <span itemprop="addressRegion">PA</span>
    </div>
  </div>
</div>
```

# Location



## With Schema.org:

```
<div itemscope itemtype="http://schema.org/Event">
  <a itemprop="url" href="nba-miami-philidelphia-game3.html">
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    </div>
  </div>
</div>
```

# US Mail Address



## With Schema.org:

```
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    <a itemprop="url" href="wells-fargo-center.html">
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    <div itemprop="address" itemscope itemtype="http://schema.org/PostalAddress">
      <span itemprop="addressLocality">Philadelphia</span>,
      <span itemprop="addressRegion">PA</span>
    </div>
  </div>

  <div itemprop="offers" itemscope itemtype="http://schema.org/AggregateOffer">
    Priced from: <span itemprop="lowPrice">$35</span>
    <span itemprop="offerCount">1938</span> tickets left
  </div>
</div>
```

For Sale





# Metadata Is Available To All Users

- Web Crawlers have more meaningful data
- Web based applications can understand the structure and interrelationships of your data
- Browsers can do some useful things with it too...





# Chrome

- Google's Chrome Browser supports extensions
- People Inspector
  - Senses when a page has information tagged using the schema.org People Schema
  - Allows the user to launch queries to several web sites



# DGS Cemetery Database

- Data gathered by volunteers for 13 years
- Sources:
  - Cemetery Records
  - Tomb Stones
  - Other Records
- Nearly 35,000 records
- Has been tagged with schema.org schema's





## Cemetery Database Search Tool

Name

Cemetery

Cemetery Section

Military Service

Search

Clear

Back

[DGS Home Page](#)

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## William Henry ABBOTT

**Date Born:** 29 Nov 1847

**Date Died:** 08 Jan 1912

**Cemetery:** Oak Cliff

**Stone Type:** Single

**Spouse:**

**Date Buried:** 09 Jan 1912

**Age:**

**Section:** Old 1

**Subsection:** Lot

**Subsection Number:** 22a

**Part of Lot:**

**Grave #:**

**Lot Part:**

**Lot Owner:**

**Funeral Home:**

**Tombstone Inscription:**

**Notes:**

**Military Service:**

[Comment on this Record](#)

[View All Records From This Section](#)

[View All Records From This Subsection](#)

[Back](#)





Cemetery Database Search Tool

William Henry **ABBOTT**

Date Born: 29 Nov 1847  
Date Died: 08 Jan 1912

Name  
Abbott

People Inspector (Alpha)

Name	Birth	Death	Copy	Search
William Henry ABBOTT	11/29/1847	1/8/1912		

Share this page:

Notes:  
Military Service:

Comment on this Record

View All Records From This Section

View All Records From This Subsection

Back



Empty rectangular box

**Records** Collections

### Search Results from Historical Records

1-50 of 22,462 results for Name: **William ABBOTT**, Event: **Birth**, Event: **Death**

Number of results to show:

Name	Events	Relationships
Try adding more search terms to improve your search results.		
<a href="#">William Henry Abbott</a> Texas, Death Index, 1903-2000	death: 8 January 1912 Dallas, Texas	
<a href="#">John William Abbott</a> England Births and Christenings, 1538-1975	christening: 1847 TYDD-ST. MARY, LINCOLN, ENGLAND residence: Tydd, Lincolnshire, England	father: James Abbott mother: Mary
<a href="#">William Abbott</a> England Births and Christenings, 1538-1975	christening: 6 June 1847 BASCHURCH, SHROPSHIRE, ENGLAND	father: William Abbott mother: Mary
<a href="#">William Abbott</a> England Births and Christenings, 1538-1975	christening: 18 April 1847 STAVELEY, DERBY, ENGLAND	father: George Abbott mother: Elizabeth
<a href="#">William John Abbott</a> England Births and Christenings, 1538-1975	christening: 26 September 1847 ST NEOT, CORNWALL, ENGLAND	father: John Abbott mother: Jane
<a href="#">John William Abbott</a> England Births and Christenings, 1538-1975	christening: 20 November 1847 TYDD SAINT MARY, LINCOLN, ENGLAND	father: James Abbott mother: Mary
<a href="#">William Henry Abbott</a> England Births and Christenings, 1538-1975	christening: 27 June 1847 St. Thomas The Apostle, Cornwall, England residence: St. Thomas the Apostle, Cornwall, England	father: Henry Abbott mother: Sarah Abbott

**Refine your search**

First Names

Last Names

**Restrict records by:**

- [Location](#)
- [Type](#)
- [Batch Number](#)
- [Film Number](#)

**Search with a life event:**

Birthplace

Birth Year (Range)

[Marriage](#)

[Residence](#)

Death Place

Death Year (Range)

[Any](#)



Refine your search ▲

First Names

William



Last Names

ABBOTT



Restrict records by:

Location

Type

Batch Number

Film Number

Search with a life event:

Birthplace

Birth Year (Range)

1847

1847



Marriage

Residence

Death Place

Death Year (Range)

1912

1912



[Records](#) [Collections](#)

### Search Results from Historical Records

1-50 of 22,462 results for Name: **William ABBOTT**, Event: **Birth**, Event: **Death**

Number of results to show:

Name	Events	Relationships
------	--------	---------------

Try adding more search terms to improve your search results.

death: 8 January 1912 Dallas, Texas

Name	William Henry Abbott
Titles and Terms	
Event Type	Death
Event Date	08 Jan 1912
Event Place	Dallas, Texas
Gender	
Marital Status	
Certificate Number	562

#### Refine your search

First Names

Last Names

Restrict records by:

[William Henry Abbott](#)  
[Texas, Death Index, 1903-2000](#)

Death Place

Death Year (Range)

[Any](#)

1538-1975

[John William Abbott](#)

England Births and Christenings, 1538-1975

christening: 20 November 1847 TYDD SAINT MARY,LINCOLN,ENGLAND

father: James Abbott  
 mother: Mary

[William Henry Abbott](#)

England Births and Christenings, 1538-1975

christening: 27 June 1847 St. Thomas The Apostle, Cornwall, England  
 residence: St. Thomas the Apostle, Cornwall, England

father: Henry Abbott  
 mother: Sarah Abbott





TALKS | IN LESS THAN 6 MINUTES

## Tim Berners-Lee: The year open data went worldwide

FILMED FEB 2010 • POSTED MAR 2010 • TED2010

**TIMBERNERS-LEE**

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📀 Get this talk on DVD



# Summary

- Microdata provides semantic meaning for your web data
- This makes your data more meaningful to crawlers, browsers and other web services
- schema.org appears to be the dominant standard for the major search engines



# Thank You!

Tony Hanson

Webmaster

