Lessons Learned in Implementing the Extended Date/Time Format in a Large Digital Library
512,694 records
(469,865 public)
[between 1846-1848]
[between 1846 and 1848]
November 18, 19, 20, 1971
[either 1581 or 1587]
[1889 and 1891]
early 1900s
c. [1900]-02-12 - [1900]-02-13
around 1920 (?)
1626 [i.e. 1676]
About EDTF
ISO 8601

YYYYMMDD   YYYY-MM-DD

Basic    Extended
ISO 8601

YYYYMMDD | YYYY-MM-DD
Basic     | Extended

Extended Date/Time Format
<table>
<thead>
<tr>
<th>ISO 8601</th>
<th>EDTF</th>
</tr>
</thead>
<tbody>
<tr>
<td>YY (century)</td>
<td>YYuu</td>
</tr>
</tbody>
</table>

YY (century)
<table>
<thead>
<tr>
<th>Level</th>
<th>Basic</th>
<th>Extension 1</th>
<th>Extension 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 0</td>
<td>Date</td>
<td>Date and Time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Date and Time</td>
<td>Interval</td>
<td></td>
</tr>
<tr>
<td>Level 1</td>
<td></td>
<td>Uncertain Approximate</td>
<td>Partial Uncertain/ Approximate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unspecified</td>
<td>Partial Unspecified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extended Interval (L1)</td>
<td>One of a Set</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Year, 4+ Digits (L1)</td>
<td>Multiple Dates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Season</td>
<td>Masked Precision</td>
</tr>
<tr>
<td>Level 2</td>
<td></td>
<td></td>
<td>Extended Precision (L2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Year, 4+ Digits (L2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Season - Qualified</td>
</tr>
</tbody>
</table>
Evaluation
February 2013:

379,392 public records
390,751 date values
55,212 unique dates
Valid EDTF: 379,682 (97.2%)

Not Valid: 11,069 (2.8%)
Level 0: 377,059 dates
Date: 1948-06
Level 1:
2,609 dates
THE
TEXAS
ALMANAC
FOR
1860,
WITH
STATISTICS,
HISTORICAL AND BIOGRAPHICAL SKETCHES, &C.,
RELATING TO TEXAS.

THE GALVESTON NEWS,
WEEKLY AND TRI-WEEKLY,
BY W. & D. RICHARDSON.

TERMS:
Weekly, $3 per annum, payable in advance.
Tri-Weekly, $5 per annum, payable quarterly.

Best JOB OFFICE in the State!
BOOK-BINDING IN ALL ITS BRANCHES.

Date: 1860~
Descrittione del Mappamondo

Date: 1621?~
THE INCLOSED VOUCHER MUST BE CORRECTED AS INDICATED HEREON AND BELOW BY X MARK.

1. Places marked X must be properly filled.
2. Pensioner’s/Signature P. O. address required.
3. Pensioner’s signatures must be written letter for letter as the name appears in the pension certificate. If certificate is wrong return it for correction.
4. Signatures by mark should appear thus—
   John X Doe,
   mark.
5. Signature to declaration, if by mark or written illegibly, must be attested by two witnesses who write.
6. Signatures to receipts must be attested by the officiating magistrate or other person who writes.
7. Street and number, P. O. box number, R. F. D. route, or “General Delivery” must appear in P. O. address in case of residence within delivery. “General Delivery” address will be accepted in such case only if no other address as above is available. Checks will not be mailed in care of another person.
8. Execute new voucher herewith.
   | Your executed voucher not received. | Your voucher executed before payment due is void.
9. Two deposing witnesses required. The officiating magistrate may not be one of such witnesses.
10. The city or town and State must appear in P. O. addresses of witnesses.
11. A married woman must sign her own Christian name, not that of her husband.
12. Two witnesses executing inclosed blank must be officers or employees of the institution in which pensioner is confined, or persons residing in the same neighborhood.
13. Magistrate’s | seal | signature | P. O. address | official character | required.
14. Magistrate must correct date in jurat and certify to correction.
15. Fourth-class postmasters only may officiate in the execution of vouchers. Deputy, acting, or assistant postmasters, or other postal employees, not qualified.

Date: 191u
Year Exceeding Four Digits (L1)

y170000002

y-170000002
Level 2:
14 dates
Date: 1902?-05-(06)?
My dear Chloe,

I write now merely to inform you that I have a package on the way to New Orleans, as you directed. I shall send it by the Express, that you may know to write to them to send them in a package of goods to come there with. I hope you will receive them safely. This is a private Bradley and will make you feel good to know. I have not heard from you recently, but you know that I am always watching for your letters. Did you know that Maud was an abbreviation of Matilda? I told Clara she had better just name it faithful. Kate says he will always do it named Maud for me, but I do not like the name, as I have no such name. Do not abuse it for a month or two, and I will write according to your motion. Write to me as often as you can. I am not likely to stay in town as early as expected. I am going to take a trip on the Ohio, and if you have a good time, this is a great wish. Much love for her and the children. God bless you.

Your mother.

Date: 185u-10
{1667, 1668, 1670..1672}

{1960, 1961-12}

Multiple Dates
196x

19xx

Masked Precision
2004-06-(01)~/2004-06-(20)~
2004-06-uu/2004-07-03

Extended Interval (L2)
Year Exceeding Four Digits – Exponential Form

\[ y17e7 \]

\[ y17101e4p3 \]
2001-21^southernHemisphere

Season - Qualified
Non-EDTF-Valid Dates
c., circa, ca., etc. 39.7%

square brackets 32.7%

space-hyphen-space 19.4%

? for digits 10.2%
Valid EDTF: 389,354 (99.6%)

Not Valid: 1,397 (0.4%)
Metadata Creators
How Should the Date be Filled in?

General Date Rules

- If no date can be found, leave the field blank
- For each date, be sure to choose the appropriate date type from the controlled vocabulary
- Always format dates appropriately:

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Form(s)</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Format</strong></td>
<td>YYYY-MM-DD</td>
<td>1985-03-27</td>
</tr>
<tr>
<td></td>
<td>YYYY</td>
<td>1865-05</td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-MM</td>
<td></td>
</tr>
<tr>
<td><strong>Date Ranges</strong></td>
<td>YYYY-MM-DD/</td>
<td>1941-12/1945-08</td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-DD/</td>
<td>1889-05-13/unknown</td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-DD/</td>
<td>unknown/1914-06-02</td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-DD/</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-DD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-MM-DD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-DD/</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-DD/</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-DD/</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-MM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-MM-MM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-MM-MM-MM</td>
<td></td>
</tr>
<tr>
<td><strong>General Ranges/Time Periods</strong></td>
<td>YYYY-MM-MM-MM-MM</td>
<td>[1864, 1865]</td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-MM-MM-MM</td>
<td>[1897, 1901]</td>
</tr>
<tr>
<td></td>
<td>YYYY-MM-MM-MM-MM</td>
<td>[1901-05, 1901-08]</td>
</tr>
</tbody>
</table>
Extended Date Time Format Levels 0, 1 and 2 Validation Service

To determine whether a date conforms to the Extended Date Time Format Level 0-2, enter it into the field below and click "Submit". A level 0 EDTF string can be comprised of 1 of 3 features (Date, Date Time, or Interval). A level 1 EDTF string consists of the same features, but may incorporate uncertainty, approximations, and unspecified dates. Level 1 may also feature years with more than 4 digits, and/or seasons. Additionally, level 2 includes partial uncertain/approximate and partial unspecified dates. Level 2 also features multiple dates as lists, masked precision, extended intervals, exponential and scientific notation for ‘big’ years. The result of this form will be either "Valid EDTF date" or "Invalid EDTF date".

Here are some examples using curl:

```bash
$ curl http://digital2.library.unt.edu/edtf/isValid.json?date=2012-01
{
  "isValidEDTF": true,
}

$ curl http://digital2.library.unt.edu/edtf/isValid.json?date=2012Jan
{
  "isValidEDTF": false,
}

$ curl "http://digital2.library.unt.edu/edtf/isValid.json?date=1234&callback=foo"
foo({
  "isValidEDTF": true,
})

$ curl http://digital2.library.unt.edu/edtf/isValid.json?date=1985-01-13&level=0
{
  "isValidEDTF": true,
}
```

Date: 

Submit
### Date

**Date that the resource was originally created, harvested from the web, or submitted to and accepted by a third party**

**date:**
- **Creation**
  - 1891-12-08

**date:**
- **Acceptance Date**
  - 1891-12-08

**date:**
- **Submission Date**
  - 1891-06-?

---

### Language

**The language of the resource's content**

**language:**
End Users
1937-08-23 >> August 23, 1937
1956-21 >> Spring 1956
Between August 3, 1989 and August 6, 1989
1905-uu-03 >> 3, 1905
?? 3, 1905
[month unknown] 3, 1905
1938-06? >> June 1938?
Possibly June 1938
June 1938 (uncertain)
<table>
<thead>
<tr>
<th>Description:</th>
<th>Envelope [or postcard] addressed to L. Huth &amp; Son in San Antonio. Pre-printed with a color image of the Texas flag and text advertising Clarke &amp; Courts, Stationers, Printers, Lithographers, and Blank Book Manufacturers. Postmarked from Galveston on August 1[3].</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator(s):</td>
<td>Unknown</td>
</tr>
</tbody>
</table>
| Location(s): | - United States - Texas - Galveston County - Galveston  
- United States - Texas - Medina County - Castroville |
| Creation Date: | 18uu-08-1u 📚 |
Local Decisions
<table>
<thead>
<tr>
<th>Level 0</th>
<th>Basic</th>
<th>Extension 1</th>
<th>Extension 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date</td>
<td>Uncertain Approximate Unspecified</td>
<td>Partial Uncertain/Approximate</td>
</tr>
<tr>
<td></td>
<td>Date and Time Interval</td>
<td>Extended Interval (L1) Year, 4+ Digits (L1) Season</td>
<td>Partial Unspecified</td>
</tr>
<tr>
<td>Level 1</td>
<td></td>
<td></td>
<td>One of a Set</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>Masked Precision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Extended Interval (L2) Year, 4+ Digits (L2) Season- Qualified</td>
</tr>
</tbody>
</table>
1865-05-uu >> 1865-05
Why EDTF?
Potential Challenges

* Some dates will still be difficult (e.g., “early 1900s”)

* Does not match ISO 8601 exactly and is not yet formally-accepted standard

* EDTF dates are not always understandable to users

* May conflict with external standards and local practice (e.g., use of square brackets in library cataloging)
Pros

* Standardized ways of representing many complex dates found in cultural heritage collections

* Some overlap with ISO 8601 and compatible with W3C Date and Time formats (existing dates may already be valid)

* Machine-readable

* Flexible implementation options

* Active community discussing usage

* Already supported by Library of Congress standards
Some References

Library of Congress Extended Date/Time Format (EDTF) 1.0:
http://www.loc.gov/standards/datetime/pre-submission.html

UNT Libraries Metadata Guidelines for Dates:
http://www.library.unt.edu/digital-projects-unit/date

UNT EDTF Validator: http://digital2.library.unt.edu/edtf/

Tarver, Hannah (2013). [Handout to Accompany Poster on Implementation of a New Date/Time Standard]: http://digital.library.unt.edu/ark:/67531/metadc159536/

Tarver, Hannah & Mark Phillips (2013). Lessons Learned in Implementing the Extended Date/Time Format in a Large Digital Library:
http://digital.library.unt.edu/ark:/67531/metadc174739/
Questions?