

Implementing eXtyles Arc

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Why eXtyles Arc?

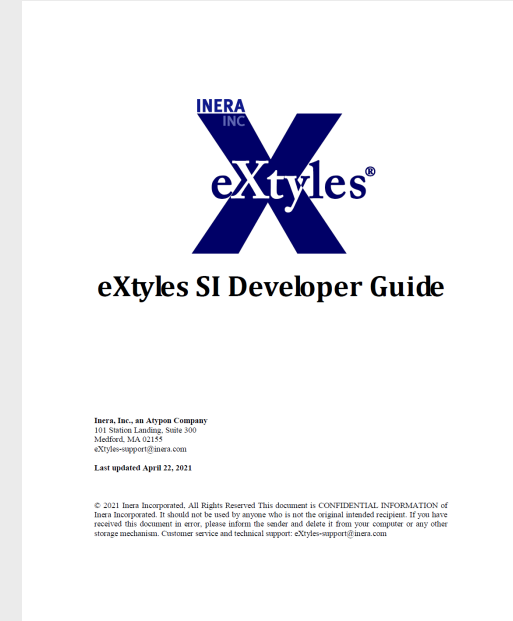
- ❖ FASS Inc. is an association management organization that provides accounting, IT, membership management, conference planning, and publication services to several clients, primarily in animal agriculture.
- ❖ FASS provides publications services for the *Journal of Dairy Science*, *JDS Communications*, *Applied Animal Science*, and *Electrical Insulation Magazine*.
- ❖ We use an eXtyles-Typefi workflow and the JATS DTD for journal production.
- ❖ We publish ~14,000 pages/year in four journals – approximately 45,000 manuscript pages.
- ❖ Running eXtyles manually before editing is a potential workflow bottleneck; eXtyles Arc seemed like a potential solution to eliminate the manual process and add automation.

eXtyles Arc: Unboxing



eXtyles SI

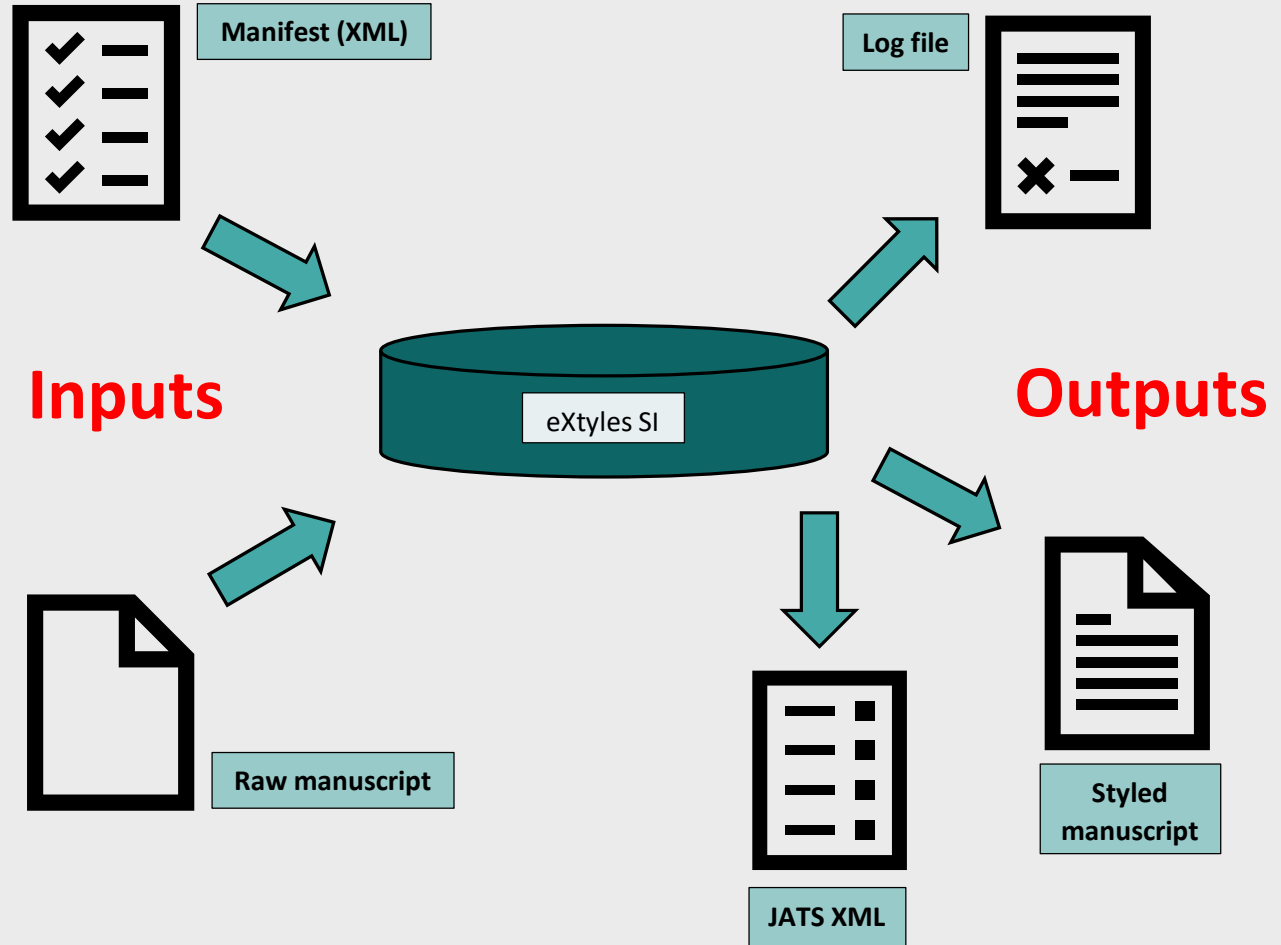
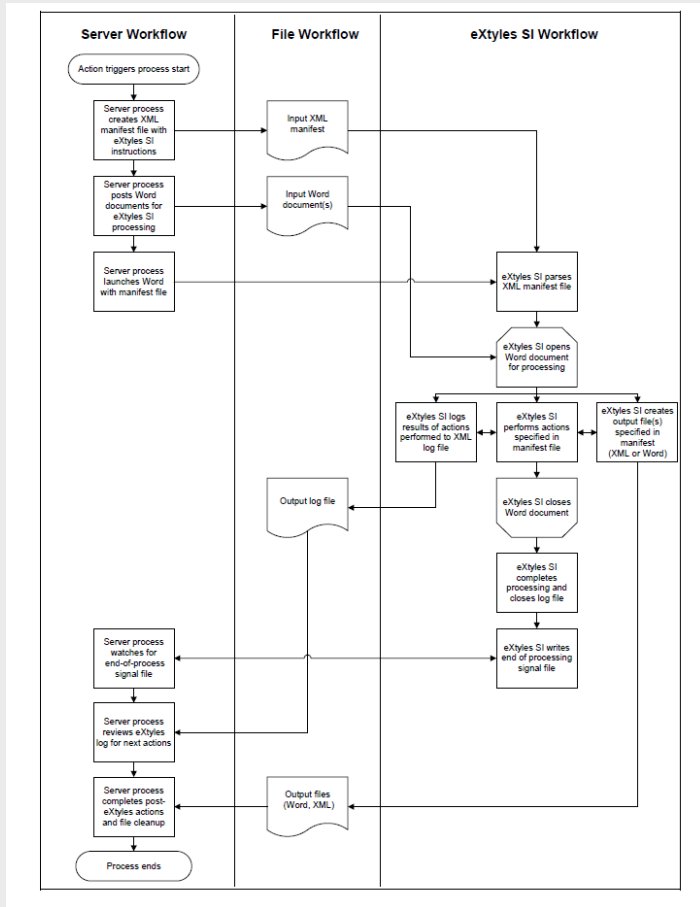
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eXtyles SI Developer Guide

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eXtyles Arc: Getting started



eXtyles Arc: Getting started

The **manifest** (XML) contains the set of commands for **eXtyles SI** to execute. The manifest writes messages to the **log file** in the LOG directory. These messages can be used to track progress through the manifest. When something goes wrong, the information in the log file can help you figure out what and where the problem is.

Two inputs: the manifest (instructions) and the raw manuscript file

Three outputs: the eXtyled manuscript, the associated JATS XML file, plus the log file

eXtyles Arc: Getting started

Manifest

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE eXtylesManifest SYSTEM "C:\Program Files (x86)\eXtyles\DTD\eXtylesSIManifest.dtd">
- <eXtylesManifest id="FASS-Arc">
  <LoadConfiguration ConfigFileName="FASSConfig.ice"/>
  <LogFileOpen LogFilePath="C:\Users\TestTypefi\Desktop\eXtylesSI\LOG\"/>
  - <SetConfigFlags Enabled="1">
    <ConfigFlag Value="NO" Name="LOAD BUILT IN STYLES"/>
    <ConfigFlag Value="ALWAYS" Name="SPLIT TABLE"/>
    <ConfigFlag Value="YES" Name="FORCE ACTIVATE"/>
    <ConfigFlag Value="NO" Name="EXTEND COMMENT SCOPES"/>
    <ConfigFlag Value="YES" Name="CONVERT ROMAN FOOT-END NOTES TO ARABIC"/>
    <ConfigFlag Value="YES" Name="CONVERT FIELDS TO TEXT"/>
    <ConfigFlag Value="ALL" Name="CONVERT SHAPES TO INLINE"/>
    <ConfigFlag Value="YES" Name="KEEP FONT SIZE"/>
    <ConfigFlag Value="YES" Name="KEEP PARA LINE SPACE"/>
    <ConfigFlag Value="YES" Name="REMOVE STYLE ALIASES ON ACTIVATION"/>
    <ConfigFlag Value="EXTYLES-ARCFULLTEXT-MARKER" Name="TRUNCATION MARKER TEXT"/>
  </SetConfigFlags>
  - <WordDocument Enabled="1" LogStartTimeAsDocVar="1" OpenAndRepair="0" WordFileName="*.doc?" WordFilePath="C:\Users\TestTypefi"
    <LogMessage MessageClass="800" MessageNumber="20004">Starting processing</LogMessage>
    <LogMessage>Start Remove Unused Styles 1</LogMessage>
    - <PostProcessCleanUp Enabled="1">
      <CleanUpAction Name="All" Param="0"/>
      <CleanUpAction Name="chkRemoveUnusedStyles" Param="Y"/>
    </PostProcessCleanUp>
    <LogMessage>Finish Remove Unused Styles 1</LogMessage>
    <CalculateTimeout Enabled="0" PerImageMegapixels="14.4" PerOMMLObject="3.152" PerMathTypeObject="0.5104" PerReference="4.2"
      TimeoutMultiplier="1.5" MinimumRunTime="69.53"/>
    <LogMessage>Start LoadStylesFromTemplate</LogMessage>
    <LoadStylesFromTemplate Enabled="1" TemplateName="ArcFullText.dot" TemplatePath=""/>
    <LogMessage>Finish LoadStylesFromTemplate</LogMessage>
    <LogMessage>Start pre-activation detabbling cleanup</LogMessage>
    - <CleanUp Enabled="1">
      <CleanUpAction Name="All" Param="0"/>
      <CleanUpAction Name="chkDetableSingleRows" Param="Y"/>
      <CleanUpAction Name="chkDetableReferences" Param="Y"/>
      <CleanUpAction Name="chkDetableEquations" Param="Y"/>
      <CleanUpAction Name="chkDetableFigures" Param="Y"/>
    </CleanUp>
    <LogMessage>Finish pre-activation detabbling cleanup</LogMessage>
  - <DocumentInformation Enabled="1">
```

eXtyles Arc: Getting started

```
<?xml version="1.0" encoding="UTF-8"?>
<eXtylesLog build="4859">
  <LogEvent number="5823" class="800" time="10:21:41 AM" date="9/10/2021">Opening Word file 'C:\Users\TestTypefi\Desktop\eXtylesSI\IETS 2022 Abstr
  <LogEvent number="20004" class="800" time="10:21:43 AM" date="9/10/2021">Starting processing</LogEvent>
  <LogEvent number="3601" class="800" time="10:21:44 AM" date="9/10/2021">Started Activation</LogEvent>
  <LogEvent number="3138" class="604" time="10:21:45 AM" date="9/10/2021">Started Activation: Converting ALL CAPS to true caps</LogEvent>
  <LogEvent number="3139" class="604" time="10:21:45 AM" date="9/10/2021">Finished Activation: Converting ALL CAPS to true caps</LogEvent>
  <LogEvent number="3138" class="604" time="10:21:47 AM" date="9/10/2021">Started Activation: Flattening lists/headings</LogEvent>
  <LogEvent number="3139" class="604" time="10:21:47 AM" date="9/10/2021">Finished Activation: Flattening lists/headings</LogEvent>
  <LogEvent number="3138" class="604" time="10:21:47 AM" date="9/10/2021">Started Activation: Preparing tables</LogEvent>
  <LogEvent number="3139" class="604" time="10:21:47 AM" date="9/10/2021">Finished Activation: Preparing tables</LogEvent>
  <LogEvent number="3138" class="604" time="10:21:47 AM" date="9/10/2021">Started Activation: Convert shapes to inline shapes</LogEvent>
  <LogEvent number="3139" class="604" time="10:21:47 AM" date="9/10/2021">Finished Activation: Convert shapes to inline shapes</LogEvent>
  <LogEvent number="3138" class="604" time="10:21:47 AM" date="9/10/2021">Started Activation: Flattening foot/endnotes</LogEvent>
  <LogEvent number="3139" class="604" time="10:21:48 AM" date="9/10/2021">Finished Activation: Flattening foot/endnotes</LogEvent>
  <LogEvent number="3138" class="604" time="10:21:48 AM" date="9/10/2021">Started Activation: Flattening fields</LogEvent>
  <LogEvent number="3139" class="604" time="10:21:48 AM" date="9/10/2021">Finished Activation: Flattening fields</LogEvent>
  <LogEvent number="3138" class="604" time="10:21:48 AM" date="9/10/2021">Started Activation: Do null exchange with Omnimark server</LogEvent>
  <LogEvent number="3139" class="604" time="10:21:53 AM" date="9/10/2021">Finished Activation: Do null exchange with Omnimark server</LogEvent>
  <LogEvent number="3602" class="800" time="10:21:53 AM" date="9/10/2021">Finished Activation</LogEvent>
  <LogEvent time="10:21:53 AM" date="9/10/2021">Finish activation</LogEvent>
  <LogEvent time="10:21:53 AM" date="9/10/2021">Start first-stage cleanup</LogEvent>
  <LogEvent number="3603" class="800" time="10:21:56 AM" date="9/10/2021">Started Cleanup</LogEvent>
  <LogEvent number="7423" class="800" time="10:21:57 AM" date="9/10/2021">Started Cleanup: flattening built-in character styles.</LogEvent>
  <LogEvent number="7424" class="800" time="10:22:00 AM" date="9/10/2021">Finished Cleanup: flattening built-in character styles.</LogEvent>
  <LogEvent number="7417" class="800" time="10:22:00 AM" date="9/10/2021">Started Cleanup: flattening user-defined character styles.</LogEvent>
  <LogEvent number="7418" class="800" time="10:22:03 AM" date="9/10/2021">Finished Cleanup: flattening user-defined character styles.</LogEvent>
  <LogEvent number="7421" class="800" time="10:22:03 AM" date="9/10/2021">Started Cleanup: auto-styling tables.</LogEvent>
  <LogEvent number="7422" class="800" time="10:22:08 AM" date="9/10/2021">Finished Cleanup: auto-styling tables.</LogEvent>
```

Log
file

eXtyles Arc: Workflow

- 1. Setup:** The manifest prepares to activate and normalize the Word file.
- 2. Activation:** The manifest activates the file and styles it using Arc-specific styles. It then runs an Arc-specific set of auto-redact rules, converts the Arc-specific styles to publisher-specific styles, and finally removes the Arc-specific styles.
- 3. eXtyles Processing:** The manifest initiates the usual post-activation eXtyles processes:
 - Cleanup
 - Publisher-specific Auto-Redact
 - Advanced Processes
- 4. Output:** The manifest finishes by exporting XML, saving and closing the now-styled Word file, and saving and closing the log file.

eXtyles Arc: Testing, Testing ...

1. First, we made sure that the manifest was executing the complete workflow from start to finish.
2. We identified typical issues in manuscript files that prevented Arc from correctly identifying and styling content.
3. We experimented with different file preparation steps to eliminate these common issues and improve Arc's ability to process files. Here are a couple of examples:

eXtyles Arc: Testing, Testing ...

- Arc expects to find a **labeled running head** but authors are inconsistent about labeling the head as such:

17 Chemokine receptor CXCR4 in bovine leukocytes and mammary glands

18

19

20 **Cellular detection of the chemokine receptor CXCR4 in bovine mammary glands and its**

21 **distribution and regulation on bovine leukocytes|**



17 **Running head: Chemokine receptor CXCR4 in bovine leukocytes and mammary glands**

18

19

20 **Cellular detection of the chemokine receptor CXCR4 in bovine mammary glands and its**

21 **distribution and regulation on bovine leukocytes**



eXtyles Arc: Testing, Testing ...

- Some manuscripts include optional front matter, such as an interpretive summary or highlights. Authors usually place this above the title. Arc identifies and styles this content more accurately if it is placed after the abstract and key words.

Interpretive summary: Effects of transport age on immunity and hematology of veal calves (by Marcato). In the Netherlands, calves purchased for veal production are usually transported at a minimum age of 14 d to a veal farm. This age coincides with a decreasing passive immunity and the absence of a mature adaptive immune system of the calf. As a consequence, health of calves may be compromised at the veal farm. This study investigated effects of a different transport ages (14 d vs. 28 d) on immunoglobulin titers and hematological parameters of veal calves. Results suggested that calves transported at 28 d had a more advanced adaptive immunity than calves transported at 14 d.

Running head: EFFECTS OF TRANSPORT AGE ON IMMUNITY OF VEAL CALVES

Calf and dam characteristics and calf transport age affect immunoglobulin titers and hematological parameters of veal calves

F. Marcato^{1, 2, *}, H. van den Brand¹, B. Kemp¹, B. Engel³, S.K. Schnabel³, C.A. Jansen⁴, V.P.M.G.

transported to the veal farm at 28 d of age showed a more advanced development of their adaptive immunity than calves transported at 14 d of age. Quality of colostrum might have long-term consequences for N-IgG titers and immunity in veal calves.

Key words: veal calf; transport age; immunoglobulin; hematology; robustness

Interpretive summary: Effects of transport age on immunity and hematology of veal calves (by Marcato). In the Netherlands, calves purchased for veal production are usually transported at a minimum age of 14 d to a veal farm. This age coincides with a decreasing passive immunity and the absence of a mature adaptive immune system of the calf. As a consequence, health of calves may be compromised at the veal farm. This study investigated effects of a different transport ages (14 d vs. 28 d) on immunoglobulin titers and hematological parameters of veal calves. Results suggested that calves transported at 28 d had a more advanced adaptive immunity than calves transported at 14 d.

INTRODUCTION



eXtyles Arc: Tweaks

1. Added a step pre-activation to remove graphics. This improved overall performance and reduced manual file prep before running Arc.
2. Added a Cleanup step that uses our default settings so that the results are the same whether we're using Arc or manually running Cleanup.
3. Modified the manifest to write a second log file after all files in a batch have been saved and closed. The appearance of this file in the LOG directory signals that it is safe to move files to our editorial/production file structure.

eXtyles Arc: Post-processing steps

1. Most information in the Document Information Dialog is automatically entered from the ScholarOne metadata file (journal, article type, manuscript number, DOI, etc.). However, some data must be entered manually: science section, volume/issue, publication year, and license type.
2. Equations must be converted (if needed) from Word Equations (OMML) to MathType after Arc processing.
3. We perform basic table cleanup/formatting before sending files to editors.
4. We run a Word macro that highlights italic operators (\times , $=$, $+$, $-$); these are difficult to see in Word but obvious in a composed article.

eXtyles Arc: Tips from FASS

- ❖ Every Arc style without a corresponding house style must be mapped to **Unmapped Content** so that it can be easily identified and handled.
- ❖ For example, authors might include a heading “Figure Captions” in the raw manuscript that should not appear in the edited manuscript. Arc should identify that as Unmapped Content so that it can be assessed by an editor and either correctly styled or deleted.
- ❖ Arc rarely “fails” to process. Three sources of failure:
 - Files in .doc format
 - Large files
 - Nested tables

eXtyles Arc: Tips from FASS

We found it helpful to modify our Word template to make easily confused styles more visually distinct. We eliminated (most) table styling issues by color coding table paragraph styles:

Table 2. Enrichment analysis for QTLs annotated within significant haplotypes after Bonferroni adjustment

QTL	Chr ¹	QTLs (no.)	FDR ²
Interval to first estrus after calving	25	37	1.28 ⁻¹¹
Calving ease	25	48	5.18 ⁻¹⁰
Age at puberty	14	7	0.0002
Calving ease (maternal)	8	4	0.0023
Conception rate	9	6	0.0026
Interval to first estrus after calving	14	4	0.0028
Stillbirth (maternal)	14	2	0.0090
Pregnancy rate	20	1	0.0157
Age at puberty	7	1	0.0173
Calving ease (maternal)	5	3	0.0257
Stillbirth	5	3	0.0324
Daughter pregnancy rate	9	2	0.0385
Daughter pregnancy rate	5	3	0.0432

¹Chr = chromosome.

²FDR = false discovery rate.

eXtypes Arc: Abstracts

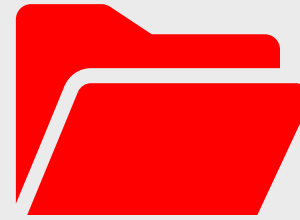
FASS manages several client society conferences each year, including their scientific program. Managing abstracts is a labor-intensive, time-sensitive task.

Meeting abstracts are highly structured content with a subset of typical journal manuscript styles. We have been using eXtypes for a number of years to clean up, style, and “lightly edit” (via auto-redact) abstracts.

We are now using Arc to automate the styling and auto-redact processes for abstracts, which is particularly helpful for a meeting with ~1200 abstracts in a Word file of 900 pages.

eXtyles Arc: Batch Processing*

Automated system will monitor the drop folders, watch for incoming jobs, run Arc when files arrive, and return processed files.



Journal drop folder



Abstracts drop folder

Acknowledgments

Ron Keller: Developing and testing
Kevin Wolter: Batch processing
Louise Adam: Talking about it

Questions (for Ron)?