



*Concurrent  
Technologies  
Corporation*

# **S1000D Transformation Toolkit**

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# Topics

- **Thoughts on Content Management**
- **The Bridge Project**
- **S1000D Transformation Toolkit**
  - **Multiple Platform Support**
  - **Extensibility**
  - **Transformation Process**
  - **Distribution Outputs**
- **Conclusion**

# Thoughts on Content Management

- **Elegant content management:**
  - Separates source formats from distribution formats.
    - Separation improves content management, metadata and linking of technical learning content.
  - Source formats represent communities of practice with proper meta data.
- **How to “transform” source into distribution?**
  - While recognizing that roughly two-thirds of the changes to DoD curriculum is technical....
  - While supporting data life cycle management...

# Content Transformation

- **Content Transformation is:**
  - Part of a larger content production strategy.
  - A means to unburden distribution formats with life cycle requirements.
  - A means to multi channel content.
  - Useful when error codes are clear and bugs can be identified.
  - Useful when output styles are made easy and flexible.
- **Content transformation is key to an overall data management strategy.**

# The Bridge Project

- **An OSD-funded project managed by the ADL Initiative.**
  - Improves lifecycle management of technical training content.
  - Uses the S1000D technical data specification to manage learning content.
- **The Bridge Project enables enterprise training content management:**
  - **CONOPS:** Sets parameters and operational scenarios for an S1000D development environment.
  - **Bridge API:** Connects learning content development tools to common source databases.
  - **AIM/SCO Workbench S1000D Support:** Authoring tools write directly to S1000D.
  - **S1000D Transformation Toolkit.**
  - **Product Data Identification Service:** Locates all S1000D based product support data linked to engineering change proposals.
- **Cost Benefits Analysis**
  - **10% reduction in total ownership cost due to quicker data identification.**

# S1000D Transformation Toolkit

- **Problem Statement Driver**
  - There is no interoperable publishing activity that supports the building of multiple delivery platforms from lifecycle-aware learning content formats.
- **Solution – S1000D Transformation Toolkit**
  - The Toolkit is an open source design that specifically targets developers of technical learning content who have the following requirements:
    - Separation of source data from delivery formats.
    - Manage lifecycle and configuration of technical training content.
    - Output source content to multiple outputs (e.g., SCORM and mobile devices).
    - Leverage and build upon open source technologies.

# S1000D Transformation Toolkit

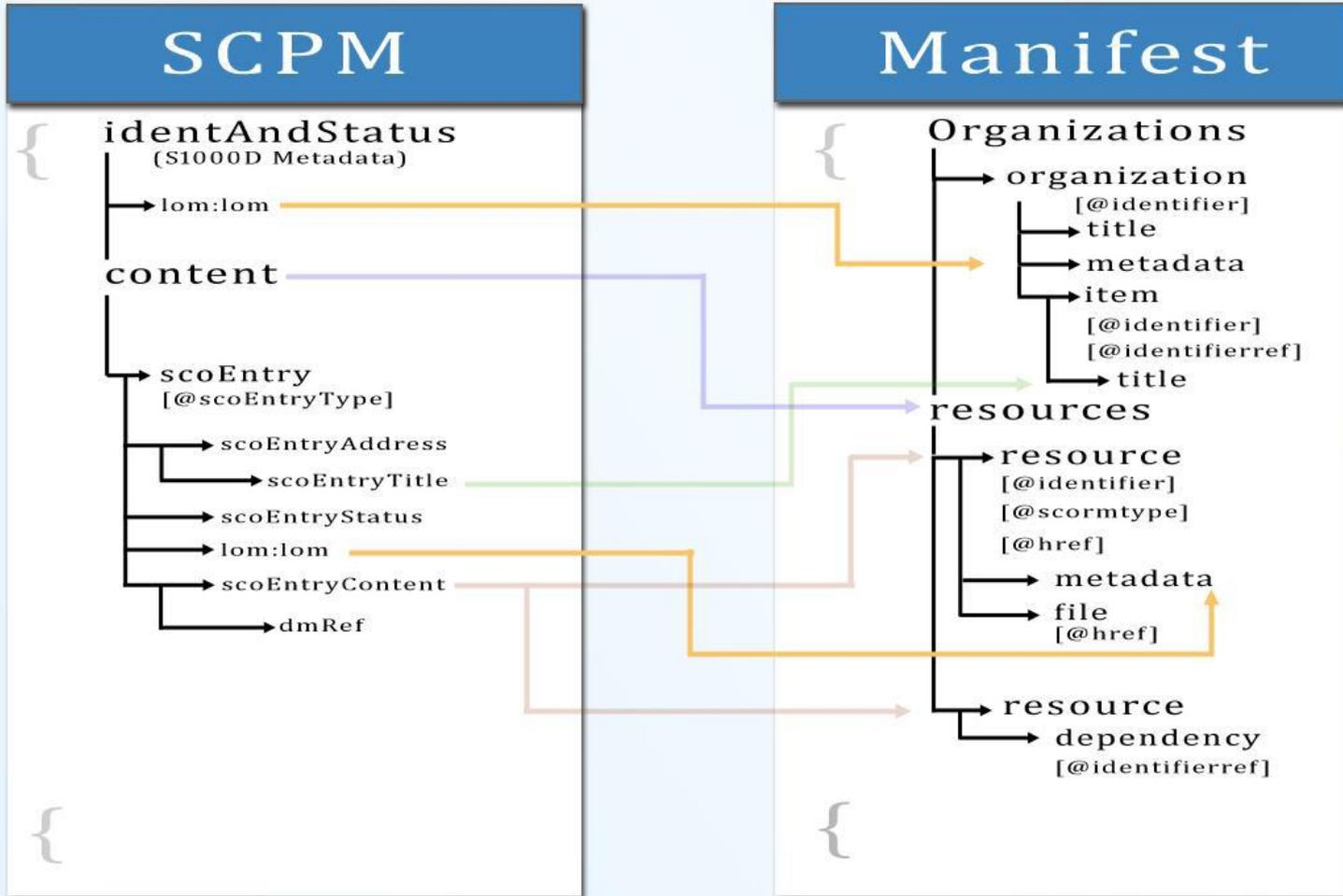
- **Toolkit benefits:**
  - **Lowers the barrier of publishing S1000D content.**
  - **Makes the use of S1000D for technical training content more substantial.**
  - **Enables multi-channel S1000D production process.**
  - **Fits in with content reuse strategies.**

# Multiple Platform Support

- **Development strategy**
  - Written as a Java-based library
- **Output formats**
  - SCORM – Flash or HTML
  - PDF
  - Mobile Web Application
- **Cross mobile device supported**
  - iPhone/iPad
  - Android
  - Blackberry
  - Windows Phone

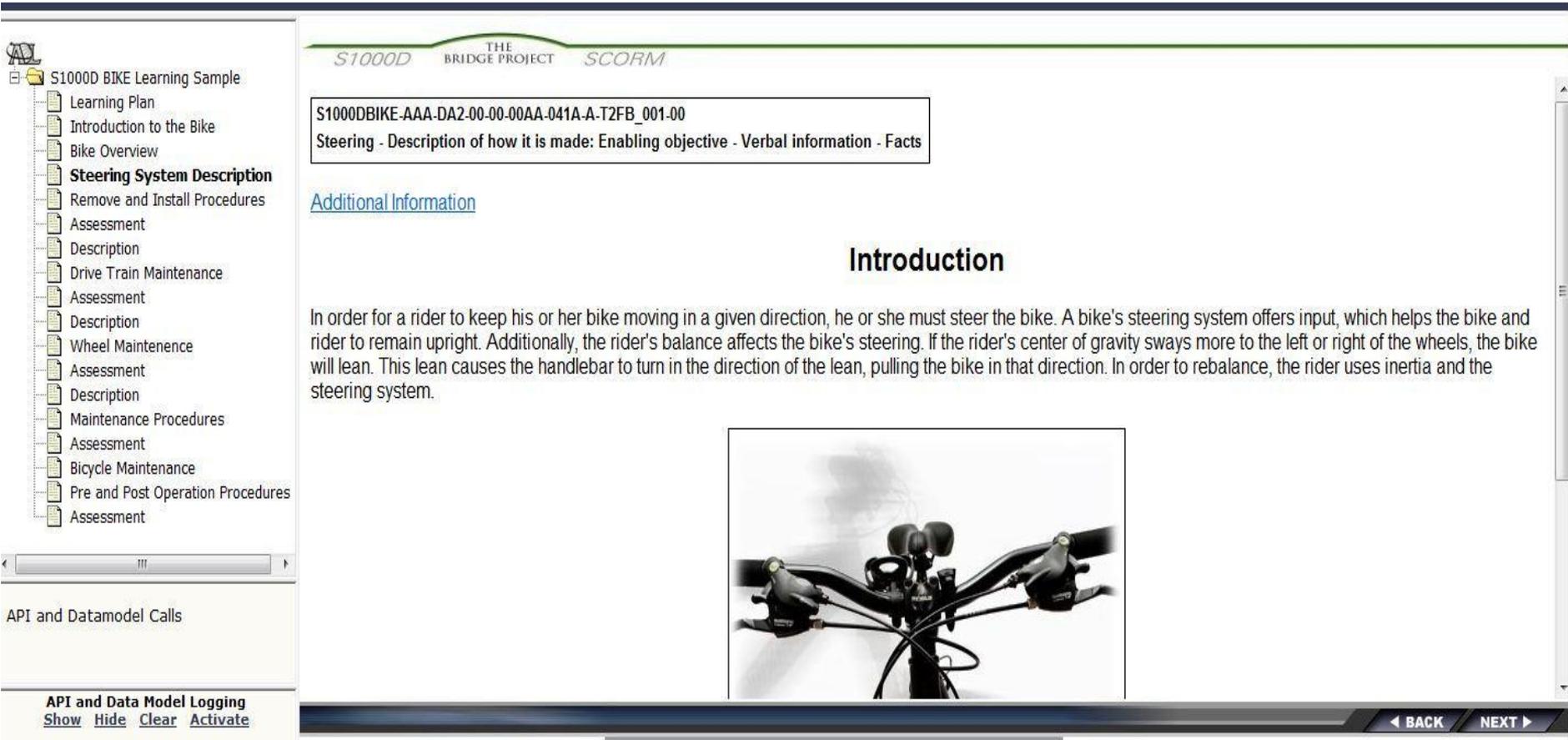


# Transformation Mapping



# Distribution Output Examples

## SCORM 2004 3<sup>rd</sup> Edition Content Package



The screenshot displays a SCORM 2004 3<sup>rd</sup> Edition Content Package interface. On the left is a navigation tree for 'S1000D BIKE Learning Sample', listing various topics such as 'Learning Plan', 'Introduction to the Bike', 'Steering System Description', and 'Maintenance Procedures'. The main content area features a header with 'S1000D THE BRIDGE PROJECT SCORM'. Below this is a box containing the identifier 'S1000DBIKE-AAA-DA2-00-00-00AA-041A-A-T2FB\_001-00' and the title 'Steering - Description of how it is made: Enabling objective - Verbal information - Facts'. A link for 'Additional Information' is present. The main section is titled 'Introduction' and contains a paragraph explaining the function of a bike's steering system. Below the text is a photograph of a bicycle's handlebars and front assembly. At the bottom of the interface, there are navigation buttons for 'BACK' and 'NEXT', and a footer with 'API and Data Model Logging' and control links 'Show Hide Clear Activate'.

S1000D THE BRIDGE PROJECT SCORM

S1000DBIKE-AAA-DA2-00-00-00AA-041A-A-T2FB\_001-00

Steering - Description of how it is made: Enabling objective - Verbal information - Facts

[Additional Information](#)

### Introduction

In order for a rider to keep his or her bike moving in a given direction, he or she must steer the bike. A bike's steering system offers input, which helps the bike and rider to remain upright. Additionally, the rider's balance affects the bike's steering. If the rider's center of gravity sways more to the left or right of the wheels, the bike will lean. This lean causes the handlebar to turn in the direction of the lean, pulling the bike in that direction. In order to rebalance, the rider uses inertia and the steering system.

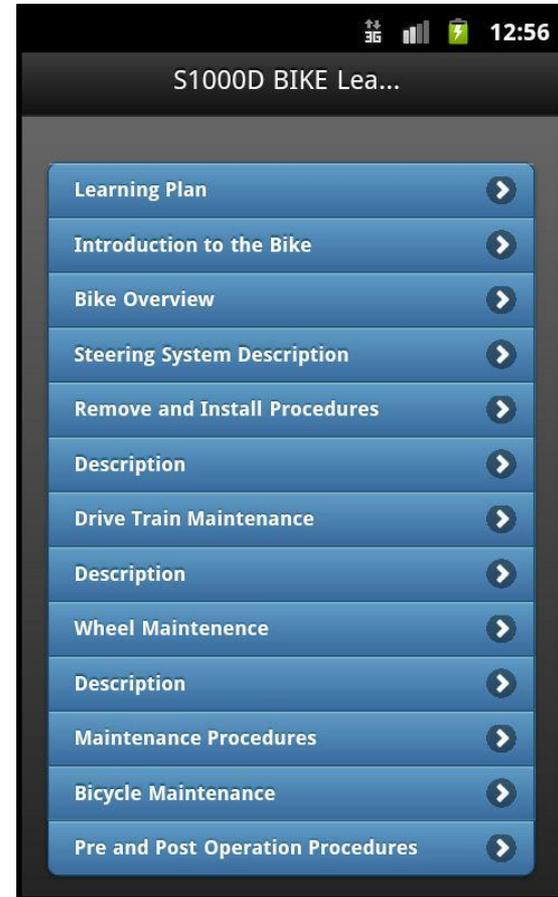


API and Data Model Logging  
[Show](#) [Hide](#) [Clear](#) [Activate](#)

◀ BACK NEXT ▶

# Distribution Output Example

## Mobile Web Application Output



Mobile S1000D Bike Course available at

<http://s1000d-scorm.adlnet.gov/JQueryMobileTest3/>

# Conclusion

- **S1000D is a key strategy to improve governance, standardization and management of learning data.**
- **The Toolkit is a flexible application that supports multiple format and platforms.**
- **The Toolkit discriminates between source and distribution formats.**
- **The Toolkit is an emerging technology that supports learning content as a business asset.**

# Additional Resources

Code and documentation available on SourceForge

<http://s1000d-scorm.sourceforge.net>

Mobile S1000D Bike Course available at

<http://s1000d-scorm.adlnet.gov/JQueryMobileTest3/>

**Thank you!**

## **Questions/Comments**

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