CGM OPEN ACTIVITY REPORT — 2002 FRANKFURT TECHNICAL WORKING GROUP

Revision: 1.0-draft

Date: June 26, 2002

Preface

This report describes activities of CGM Open Technical Committee meeting held on June 4-5, 2002 in Frankfurt, Germany.

Table of Contents

1   Meeting Details

1.1   Location and Dates

Frankfurt, Germany, June 4-5, 2002

1.2   Meeting

- CGM Open Technical Committee 4-5 June 2002.

1.3   CGM Open Attendees

- Dave Cruikshank – Boeing (Technical Committee Chair)
- Dieter Weidenbrück – ITEDO
- Lofton Henderson – (Program director)
- Ulrich Läsche - Ematek
- Don Larson – Larson Software Technology
- Rene Schmidt – Corel Corp
- Franck DuLuc – EADS Airbus SA
- Andrew Moorhouse – Mod UK
- Andreas Linn – ITEDO
- Ralf Berger - ITEDO
- Forrest Carpenter – System Development, Inc. (via telecon)
- Kevin O'Kane – Auto-trol (via telecon)
- Harry Whittaker – Navy (via telecon)
- Martin Jackson – Bombardier (via telecon)

2   Agenda

2.1   Technical Committee

The items on the agenda of the Technical Committee include:

- XML 2002 – Baltimore

- WebCGM DOM

- Interoperability workshop

- CGM Open web site and vendor product information

3   Output and Action Items

Item	Who	When	Status
Meeting Minutes	Cruikshank	6/21	Done
XML 2002 Actions			
Encourage submissions for graphics track at XML 2002	Henderson	6/15	Done

2002			
Coordinate tutorial generation for XML 2002	Henderson	10/1	Submission completed by Weidenbrück – 6/15 If accepted Henderson will coordinate
Propose a vendor presentation for XML 2002	Henderson	10/1	If similar to Orlando
WebCGM DOM Actions			
Review CSS for applicability to CGM DOM	Henderson/ Weidenbrück	8/31	In work
Write paper on Stylable CGM for XML 2002	Weidenbrück/ Henderson/ Cruikshank	10/15	Abstract submitted – 6/15
Review DOM Core for applicability to CGM DOM	Cruikshank	7/31	In work
Review DOM Event model for applicability to CGM DOM	Larson/ Läsche	7/31	In work
Interoperability Project Actions			
Develop process to track problem reports on interoperability	DuLuc/ Henderson	7/30	Done
CGM Open Web Site Actions			
Propose a project to redesign the CGM Open web site	??	??	Need a volunteer to lead this effort
Vendor Product Information Actions			
Develop process for validation of vendor capabilities	??	??	Henderson will l solicit volunteers
Develop matrix for each category of CGM product	??	??	Henderson will l solicit volunteers
Break down test suite into categories that correspond to product text areas	??	??	Henderson will l solicit volunteers

Previous Actions			
XML encoding model of CGM	Cruikshank	tabled	---
Identify resource with IDL expertise	All	??	---

4 Activity Reports

4.1 Technical

Dave Cruikshank led the technical discussions.

4.1.1 XML 2002 - Baltimore

4.1.1.1 WebCGM tutorial

A discussion took place on the direction the tutorial should take. It was agreed that the tutorial should address "hands on" problem solving using WebCGM. The tutorial should include real world examples of applications of WebCGM demonstrating interchange, graphics workflow, and interoperability. Experiences should be included whether they are good or bad. All participants expressed at least a mild or provisional interest in having a new tutorial ready for the conference. Dieter will coordinate the development of a new tutorial format.

4.1.1.2 WebCGM vendor presentation

At least four of the vendors expressed an interest in possibly participating in a panel on WebCGM during the late breaking news or vendor presentation time slots. Proposals for such a presentation are due on Oct 1.

4.1.1.3 Graphics track presentations

A poll among the participants indicated we would have some submissions for the graphics track at XML 2002. Areas that would be encouraged for presentation include business case support for CGM and case studies of applications and processes using CGM. Lofton Henderson will encourage abstract submissions.

4.1.2 WebCGM DOM

The committee held a working session on the development of the DOM.

4.1.2.1 Highlight functionality

It was decided that the method of highlighting graphical objects in support of DOM functionality should be viewer dependent.

4.1.2.2 Control of attributes

The control of attribute values is divided into two areas: those that apply to the scope of the picture and those that apply to the scope of the APS. Individual primitive elements within a picture or an APS cannot be addressed uniquely. Whenever an attribute is set, all the elements of the type (line, edge, text, or fill) that the attribute applies will be affected. The DOM needs to support the function of setting and unsetting values. Unsetting values is tricky because it requires knowledge of the initial graphical state of an element. That is to say, changing line color from black to red requires the application to "remember" that the original line color was black so that it can be restored. It addition to directly setting values of graphical attributes, two other methods of attribute control are required. They are intensity and scaling. Intensity may apply to color attributes or a raster image, while scaling can apply to text height or line and edge weight.

4.1.2.2.1 Control of color attributes

The following functions were identified to support control of color attributes:

- Picturescopelinecolor

- Picturescopeedgecolor

- Picturescopefillcolor

- Picturescopetextcolor

- Picturescopemarkercolor

- APSscopelinecolor

- APSscopeedgecolor

- APSscopefillcolor

- APSscopetextcolor

- APSscopemarkercolor

- Picturescoperasterintensity

- APSscoperasterintensity

Color attributes may be set absolutely by RGB values or by a relative intensity in the range of zero to one.

4.1.2.2.2   Control of line/edge weight

The following functions were identified to support control of line and edge weight attributes:

- Picturescopelineweight

- Picturescopeedgeweight

- APSscopelineweight

- APSscopeedgeweight

Line and edge weight may be set absolutely in mm or by a relative scale factor greater than zero.

4.1.2.2.3   Control of character height

The following functions were identified to support control of the character height attribute:

- Picturescopecharacterheight

- APSscopecharacterheight

Character height may be set absolutely in mm or by a relative scale factor greater than zero.

4.1.2.3   DOM discussion

The DOM specification needs an introduction that covers the requirements. In addition to the basic intelligent graphics requirements of navigation, data extraction, query, and simulation (manipulation), the DOM requirements include link management and management of things like screentips.

It became apparent that most of the discussion has focused on the styling of CGM primitives. This becomes more difficult because CGM inherently has presentation style included. This problem is analogous to the problem faced by the developers of CSS when they tried to apply it to HTML that had presentation attributes embedded. To move the WebCGM DOM development forward an approach was developed whereby the analysis of three major XML DOM modules will be done to determine applicability to WebCGM. The DOM Core, the CSS module (with emphasis on application to HTML 3 and 4), and the event module are being considered. Parallel efforts will take place to do this analysis. In putting the WebCGM DOM together, the overall architecture of the XML DOM will be followed.

4.1.3   Interoperability workshop

This workshop focused on non-V4 CGM elements that are supported as well as they could be among the vendors. Franck DuLuc gave a presentation that included a good description of the issues. Franck made a good comparison to the SGML/XML world. CGM developers must do some development support to implement a new profile. This is not true of a new DTD (profile) of SGML or XML because presentation information is not included in the DTD.

Input and problem files were collected from EADS, Boeing, the Navy, and Bombardier. Areas of concern were support for version 3 compression methods within the TILE element, raster patterns, custom line and edge type definitions, line and edge cap and join elements, line scaling, and the equivalence of high order curve elements. Concern was also expressed about the suite of applications available embedded in products that CGM Open has no influence over. A proposal was made to initiate a project to resolve interoperability issues among the member vendors. A process needs to be developed to register issues and track resolution. Lofton offered to forward information related to issue tracking used in other committees to Franck. Franck volunteered to put together this process.

4.1.4   CGM Open web site and vendor product information

A table of vendor product information was complied by Bruce Garner. The committee concluded that we should include a matrix of supported functionality for each application. Each vendor would fill out a matrix of capabilities. Each category of product (viewer, editor, generator) would need different capabilities demonstrated in the matrix. To validate the information, the test suite needs to be broken down into groups that test each area. No actions were assigned, but each of these activities needs to be addressed.

There was discussion that the CGM Open web site needs to be redesigned and updated.

4.1.5   Miscellaneous

Harry noted that money has been approved by congress for use in FY 2003 relating to conversion of legacy raster data to vector. Both the Navy and Marines will be pursuing opportunities.

5   Thanks to Host

CGM Open would like to express thanks to Dieter Weidenbrück and his colleagues at ITEDO, for both the organization of a very productive meeting, and for a very pleasant Tuesday evening social event.