CGM OPEN ACTIVITY REPORT — 2000
DENVER TECHNICAL COMMITTEE MEETING

Revision: 1.0-draft

Date: July 24, 2000

Preface

This report describes activities of CGM Open Technical Committee meeting held on June 29, 2000 in Denver.

Acknowledgements & Credits

Thanks to Auto-trol for supplying the facility and hosting this meeting

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1 Meeting Details

1.1 Location and Dates

Auto-trol, Denver Colorado, 29 June 2000

1.2 Meetings

- CGM Open Technical Committee 29 June 2000.

1.3 CGM Open Attendees

- Dave Cruikshank (Chief Technical Officer)
- Lofton Henderson
- Kevin O'Kane
- Harry Wittaker
- Ulrich Laesche
- Franck Duluc
- Bruce Garner
- Ty Bartosh
- Peter Zimmermann
- Jeremiah Woolsey (observing)

2 Agenda

2.1 Technical Committee

The items on the agenda of the Technical Committee include:

- Telecon to resolve browser pound sign (#) issue
- Resolution of defect editing to address pound sign (#) issue
- CGM Open notes
- WebCGM 2.0 requirements
- XML encoding of CGM project
- XML Companion file
- Project plan for CGM DOM
- WebCGM test suite and assessment

3 Output and Action Items

Item	Who	When	Status
Meeting Minutes	Cruikshank	7/31	Done
Reinitialize Technical committee in OASIS	Cruikshank	6/30	In work
Document final resolution of IE solution to #	Weidenbruck /Ruto		In work

	/Buto		
Distribute preliminary work on NN	Cruikshank	7/15	Done
Analyze NN 6.0 (beta) to determine if # is an issue	All developers	7/14	In work
Document text cases for Netscape	All	??	—
Work with OASIS to move CGM Open into Member Section status	Henderson	7/30	In work
Proposal for XML encoding model of CGM	Cruikshank	9/15	In work
XML companion file proposal	Cruikshank/ O'Kane	7/15	Done
Merge CGM Open web site with OASIS	??	??	In work
Forward CGM Defect wording on NUBS/NURBS	Cruikshank to Gebhardt	7./31	—
Generate abstracts for XML 2000	All	7/7	—
Review video storyline	All	7/28	—
Redistribute WebCGM 2.0 requirements	Cruikshank	7/31	—
CGM DOM paper for XML 2000	Henderson/ Weidenbruck	12/6	—

4 Activity Reports

4.1 Technical

Dave Cruikshank led the technical discussions.

4.1.1 Telecon to resolve browser pound sign (#) issue

A telecon took place to finish up resolution of the browser issues with fragment referencing. In addition to the above participants present in Denver, the following members participated in the telecon:

Dieter Weidenbruck
John Gebhardt
Dave Buto

4.1.1.1 Internet Explorer

After several telecons with Microsoft, it appears that CGM Open has a solution using browser helper applications that appear solve this issue when using IE. The helper app captures all events and passes CGM related events to the WebCGM viewer. The viewer then must store the full address (or just the fragment) in a "known stable place" before passing the base URL to IE for navigation. When control is passed to the WebCGM plugin, the address is reconstructed from the "stable place" and navigation is performed. Dieter has implemented this using the clipboard to temporarily store the fragment. This solution appears to not only solve the problem with the http protocol, but also with the file protocol.

Further testing to make sure the solutions handles all cases is required and will be performed by Dieter and Dave Buto. When this is complete a final report is required as a deliverable to close this activity.

A telecon will take place on July 5th between Dieter, Dave Buto, and Microsoft to discuss further technical issues, including the best approach to defining a "known stable place" to store the address received from the helper app. John will schedule the telecon and notify all interested parties.

There was a discussion of how the helper app might be distributed. It was agreed that there should only be one common app that is used by all the vendors. CGM Open should be responsible for configuration control of the app. Should each vendor distribute the app with the plugin and determine if it needs to be installed, or should CGM Open request that Microsoft distribute the app?

This activity was demonstrated the cooperative nature of the consortium has resulted in a solution of an issue that has been documented for some time. It is unlikely that, individually, any of the vendors would have come up with a solution in such a short time. The consortium needs to recognize the contributions of the participants in this activity and issue a success story to OASIS and possibly the W3C.

4.1.1.2 Netscape Navigator

In preliminary testing of NN 5, most plugins get loaded, but the fragment addressing does not work. It appears that in NN 6.0 (beta), the plugins do not even get loaded. This is a serious situation and needs to be addressed quickly to ensure that NN 6.0 supports our requirements. The first action that needs to occur is that a bug report needs to be entered on their web page. If we don't get a response from that, we need to open communication with a developer responsible for the product.

According to input from users, general implementation of WebCGM will not be successful without support for both IE and NN.

Each individual vendor will perform analysis on the behavior of NN and report back during a conference call on July 14th. Dave Cruikshank will distribute some preliminary work done at Boeing and will set up the conference call.

4.1.2 Resolution of defect editing to address pound sign (#) issue

Remove the comment from the WebCGM 1.0 defect editing concerning the alternate use of the question mark (?), contingent upon the success of implementations described above.

4.1.3 CGM Open notes

4.1.3.1 Board of Directors

The BOD met in Paris to streamline the CGM Open governing structure. It was decided that instead of a BOD, CGM Open would be run by a single elected chair and two advisors. This single chair is where the consortium will invest the power we currently give to the BOD.

4.1.3.2 OASIS relationship

Lofton is currently working with OASIS to change the status of CGM Open from Associate Member to Member Section.

4.1.3.3 CGM Open web site

Physically we will be merging the CGM Open web site with that of OASIS. CGM Open will still have a direct line to their area of the OASIS web site and will also be addressable from the OASIS home page. In this site we will begin to store a repository of recent presentations and papers on Web CGM and CGM Open activities. OASIS will maintain the site for WebCGM.

4.1.3.4 Video

The development of a CGM Open video is progressing slowly. A script has been developed and will be distributed to the membership for comment. The video is intended to be a vendor neutral tool for advancing interest in WebCGM. The goal is to have this video complete and ready to show by the Seibold Conference in September. Video production will occur in August.

4.1.3.5 XML 2000

The XML 2000 conference will take place in Philadelphia in December. Abstracts are due on July 7th. A straw poll of potential participants in a graphics track resulted in 3 positive, 2 probably, and 4 possible.

4.1.4 WebCGM 2.0 requirements

Need to make NUBS and NURBS permitted in the next version of WebCGM. WebCGM will lack support from CAD vendors if these elements are not permitted.

A potential WebCGM 2.0 behavior requirement dealing with the functionality of the "back button" on the browser. Several questions arose concerning how a WebCGM viewer should interact with a request to go back:

- When one has navigated to a viewcontext, how does one get back to the previous view or viewcontext?
- Is it possible for the viewer to communicate (push the browser "back" stack) with the browser so the browser back button can solve the problem?
- Does the browser helper app solution inhibit being able to implement a solution using the browser back button?
- Should the browser be expected to back up through a unknown mime type?
- Should navigating back within the WebCGM be a function that the viewer should implement?

On a related issue, the proposed enhancement 2.2 for WebCGM 2.0 may raise significant issues with browser/viewer integration related to things like back button navigation.

Dave Cruikshank will circulate the proposed enhancements from last August for review along with these comments. CGM Open is scheduled to come to closure on this issue during the next technical committee meeting in Paris.

4.1.5 XML encoding of CGM project

A method for encoding CGM in XML and avoiding the problems with DTD syntax not supporting conditional clauses was discussed. It appears that applying attributes that are carried on problem elements may solve the problem. For instance the Restricted Text Element may require an attribute of Restricted Text Type. All graphical primitives subject to color may have variations to indicate color mode and color model. Encoding CGM in XML using this philosophy would guarantee that valid a XML encoding of CGM could be generated from a valid binary or clear text CGM file. More investigation needs to be done to determine whether off the shelf XML parsers could be used to validate XML encoded CGM to the strict syntax of the CGM standard.

4.1.6 XML Companion file

A proposed XML companion file has been developed in which attributes that have behavior effect on the viewer are required in the CGM file, while attributes that may inhibit reuse of a CGM graphic are allowed in an external XML companion file. The following table captures the placement of data:

Attribute	Preferred Placement
Id	CGM and XML
Name	CGM
Region	CGM
Linkuri	XML
Viewcontext	CGM

Attribute	Preferred Placement
Screentip	XML
Content	XML
Layername	CGM
Layerdesc	XML

A draft XML DTD to support this model follows:

```
<?xml version="1.0"?>
<!DOCTYPE webcgmcompanion [
<!ELEMENT webcgmcompanion ( layer | grobject | para | subpara )+ >
<!ELEMENT layer           ( layerdesc? )                          >
<!ATTLIST layer
          id        CDATA     #REQUIRED                         >
<!ELEMENT grobject        ( screentip?, linkuri* )                >
<!ATTLIST layer
          id        CDATA     #REQUIRED                         >
<!ELEMENT para            ( screentip?, linkuri*, content? )      >
<!ATTLIST para
          id        CDATA     #REQUIRED                         >
<!ELEMENT subpara           ( screentip?, linkuri*, content? )    >
<!ATTLIST subpara
          id        CDATA     #REQUIRED                         >
                                                                  ] >
```

Notice that most of the APS attributes got translated into elements in the XML rendition. The reason for this is to avoid the problem of special characters showing up in attribute strings and to allow multiple occurrences of linkuri. Notice also that the XML DTD for the companion file represents a flat (non-hierarchical) view of the WebCGM content.

4.1.7 Project plan for CGM DOM

Previous efforts concerning the creation of a CGM DOM have focused on being very CGM specific. The approach Lofton and Dieter have been taking is to make a more generic graphic DOM that CGM can be mapped to. Because of time constraints they were not able to put this together in time for XML Europe 2000. They will continue to develop this by attempting to map the CGM tree structure into a subset of the SVG DOM. Doing this should create a fairly generic graphics DOM. The goal is to complete this work in time to report on it at XML 2000 in December.

4.1.8 WebCGM test suite and assessment

Rather than trying to provide WebCGM product certification, it seems to make more sense to offer assessment of a WebCGM product against a test suite. The development of this test suite should be undertaken by CGM Open.