TITLE: IndoorGML Standards Working Group Charter

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CATEGORY: Call for participation on IndoorGML SWG Charter

To: OGC members & interested parties

A new OGC Standards Working Group is being formed. The OGC members listed below have proposed the OGC IndoorGML. The SWG proposal provided in this document meets the requirements of the OGC TC Policies and Procedures.

The SWG name, statement of purpose, scope, list of deliverables, audience, and language specified in the proposal will constitute the SWG's official charter. Technical discussions may occur no sooner than the SWG's first meeting.

This SWG will operate under the OGC 2007 IPR Policy. The eligibility requirements for becoming a participant in the SWG at the first meeting (see details below) are that:

- You must be an employee of an OGC member organization or an individual member of OGC;
- The OGC member must have signed the OGC Membership agreement;
- You must notify the SWG chair of your intent to participate to the first meeting. Members may do so by logging onto the OGC Portal and navigating to the Observer page and clicking on the link for the SWG they wish to join and;
- You must attend meetings of the SWG. The first meeting of this SWG is at the time and date fixed below. Attendance may be by teleconference.

Of course, participants also may join the SWG at any time. The OGC and the SWG welcomes all interested parties.

Non-OGC members who wish to participate may contact us about joining the OGC. In addition, the public may access some of the resources maintained for each SWG: the SWG public description, the SWG Charter, Change Requests, and public comments, which will be linked from the SWG's page.

Please feel free to forward this announcement to any other appropriate lists. The OGC is an open standards organization; we encourage your feedback.

1. <Name of this new SWG>

OGC IndoorGML 1.0 Standard Working Group

2. Purpose of this Standards Working Group

The purpose of this IndoorGML Standard Working Group is to develop an application schema of OGC GML and progress the document to the state of an adopted OGC standard. The goal of this candidate standard is to establish a common schema framework for indoor navigation applications. This SWG will start from the discussion paper (OGC 10-191r1, Requirements and Space-Event Modeling for Indoor Navigation), which summarizes the requirements and basic idea of a standard for indoor navigation.

3. Business Value Proposition

This SWG aims to provide a common schema framework for interoperability between indoor navigation applications, which cover a wide spectrum of application areas such as indoor LBS, indoor web map services, indoor emergency control, guiding services for visually handicapped persons in indoor space, and indoor robotics. Several commercial services for indoor spatial information have been recently launched such as Google Maps and Bing Indoor Maps. In order to meet the market demands from these application areas, we need indoor navigation information as an essential component. There are also strong demands of indoor navigation information from other standardization organizations including ISO/TC204 and IEEE RAS to extend existing standards to cover indoor space as well as outdoor space in a seamless way.

However, developing indoor navigation information is difficult and expensive due to the complexity of indoor space. The IndoorGML candidate standard will provide a framework of interoperability between systems and services for sharing indoor navigation information.

4. Scope of Work

The scope of work for this SWG is to develop a candidate standard of a GML 3.2 application schema for indoor navigation and progress it to the state of an adopted standard by using OGC RFC process as follows;

- development a candidate of OGC standard for indoor navigation: this candidate standard, called tentatively *IndoorGML* will provide a GML application schema for exchanging information related to indoor navigation,
- gathering comments from SWG member on the draft of candidate standard and reflecting them to the candidate standard,
- submitting the candidate standard to OAB for review and subsequent release for the 30-day public comment,
- resolving the comments from OGC members, and
- submitting the final version of candidate standard to the OGC TC for voting.

The aim of IndoorGML is to represent and exchange the geoinformation that is required to build and operate indoor navigation systems. IndoorGML will provide the essential model and data for important applications like building evacuation, disaster management, personal indoor navigation, indoor robot navigation, indoor spatial awareness, indoor location based services, and the support for tracking of people and goods. IndoorGML provides a framework for the flexible integration of different localization

technologies and allows the ad-hoc selection of the appropriate navigation data according to the capabilities of the mobile device and the offered localization technologies of a building.

Indoor navigation comprises route planning, localization, and tracking of subjects (i.e. people) and objects (e.g. robots or other indoor vehicles). IndoorGML will support these activities in different modes of locomotion, i.e. walking, driving, and flying as well as navigation in virtual environments. Since there is no unique localization technology like GPS available indoors, many different types of indoor positioning techniques are used today, often in combination with each other. This makes it necessary to provide geospatial data about the different senders, receivers, and sensors and their respective signal ranges. Existing standards for the representation of 3D building models like IFC or CityGML do not address these aspects. From the perspective of IndoorGML they can be considered as important data sources for the interior topography of buildings (and other structures like tunnels). IndoorGML, which will be also an application schema of GML, will be thus a complementary standard to CityGML and IFC to support location based services for indoor space, particularly indoor navigation. This candidate standard will mainly consist of two components; first an indoor spatial data model given by a multi-layer space model to describe different contexts of indoor space, and the representation of indoor symbolic space and topological properties, building upon the former component.

The requirements and use-cases for this candidate standard are given in detail in the OGC discussion paper (OGC 10-191r1).

4.1 What is Out of Scope?

Only those change requests and comments on the candidate standard submitted through the formal process as identified in the OGC TC Policy and Procedures will be addressed.

4.2 Specific Contribution of Existing Work as a Starting Point

The work of this SWG will start from a discussion paper; OGC 10-191r1, Requirements and Space-Event Modeling for Indoor Navigation.

4.3 Determination of SWG Completion

The IndoorGML SWG will dissolve after the following three milestones have been achieved:

1. The SWG has completed evaluation and incorporation into the candidate standard of all comments received during the public comment period.
2. Approval by the SWG membership of a recommendation to submit the document to the TC for consideration as an OGC Adopted Standard.
3. The candidate standard has been approved by the OGC Technical and Planning Committees as an Adopted OGC standard.

5. Description of Deliverables

The following deliverables will result from the work of this SWG;

- A final version of IndoorGML standard documents for the submission to the TC, and
- Corresponding schemas associated with IndoorGML.

The tentative schedule of the activities for this SWG is;

1. SWG kickoff meeting: by Mar. 2012

2. IndoorGML v 0.1: by June 2012
3. SWG internal review of the document and preparation of an updated version v0.2 : by Aug. 2012
4. Revision for version v 0.3: by Sept. 2012
5. SWG voting for submission to 30 days public comment period: Oct. 2012
6. Public comment period: from Nov. 1 2012 to Dec. 1, 2012
7. Reflection of public comments and revision for version v 0.4: by Feb. 2013
8. SWG internal voting for formal submission to OGC TC: Mar. 2013
9. In case of approval for the formal submission to OGC TC, the final candidate standard will be sent to OGC TC for voting: by April 2013

6. IPR Policy for this SWG

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7. Anticipated Participants

Those involved in the design, development, implementation, or use of elements listed above in "Scope of the Work". This includes search service providers, prospective users of search services exposed as XML, information architects and bibliographic, metadata, and content provider.

8. Other Informative Remarks about this SWG

a. Similar or applicable standards work (OGC and elsewhere).

The following standards and projects may be relevant to the SWG's planned work, although none currently provide the functionality anticipated by this committee's deliverables:

- ISO/TC 204 WG 17: The WG 17 (Nomadic Devices of ITS Systems) of ISO/TC204 is planning to extend road navigation standards for covering not only outdoor space but also indoor space in a seamless way. It is expected that collaboration will be required between OGC and this working group and IndoorGML will play an important role.
- IEEE RAS (Robotics and Automation Society): The MDR SG of IEEE RAS is now discussing on the issue of using OGC specifications including IndoorGML for robotics and they will investigate whether these specifications would be directly usable without extension or not.
- OGC OpenLS Standards Suite
- OGC CityGML
- BuildingSmart IFC

The SWG intends to seek and if possible maintain liaison with each of the organizations maintaining the above works.

b. Details of the first meeting

The first meeting of the SWG will be held at OGC meeting in Austin on March 19-23, 2012. Call-in information will be provided to the SWG's e-mail list and on the portal calendar in advance of the meeting.

c. Projected on-going meeting schedule

The work of the SWG will be carried out primarily by email and conference calls, possibly every two-weeks, with face-to-face meetings perhaps at each of the OGC TC meetings.

d. Supporters of the Proposal

The following people support this proposal and are committed to the Charter and projected meeting schedule. These members are known as SWG Founding or Charter members. Once the SWG is officially activated, this group is immediately "opted-into" the SWG and has voting rights from the first day the SWG is officially formed.

Name	Organization
Thomas H. Kolbe	TU Berlin, Germany
Ki-Joune Li	Pusan National University, South Korea
Jiyeong Lee	University of Seoul, South Korea
Jae-Jun Yoo	ETRI, South Korea
Yaemi Teramoto	Hitachi, Japan (Voting Member)
Dongkwon Suh	Hyundai MNSoft, South Korea
Sisi Zlatanova	Delft University of Technology
Scott Simmons	CACI
Roland Wagner	Beuth Hochschule für Technik Berlin

e. Conveners

Name of individual(s) who started the SWG process. Could be the lead for an RFC submission, an OGC staff person, or an individual who believes it is time for a revision to an adopted standard.

Convener: Ki-Joune Li