



Machine-readable and interoperable
age classification labels in Europe
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Implementation Report
Pan European Game Information PEGI SA

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Introduction

This “Implementation Report” will explain how the implementation of the MIRACLE data model in the specific PEGI context and its database structures has proceeded. All experiences made during implementation will be analysed and evaluated.

First, the report will give a short overview of the different steps and the timeline of the Implementation Strategy and report in more detail on the first implementation stage. Then it will focus on the development of the MIRACLE API and how it can be queried. Finally, we will provide an overview of what is outstanding in terms of work and challenges in order to achieve a complete implementation of the MIRACLE format in PEGI’s classification practice.

1. PEGI’s implementation strategy

Our strategy for implementation started with a review of the current data export methodologies and consists of a gradual step-by-step process in four distinct different phases. In the first stage we extended the current XML feed into the MIRACLE format and notified the current users of the existing XML feed. This allowed us at the same time to inquire about their views on the introduction of this data format and its implementation into their technical systems.

In the second phase our technical subcontractor programmed a dedicated MIRACLE API Controller, accessible via a valid API-key. The existing feed users (phase 1) will be granted such an access immediately and will be asked to report on their experiences with the new API tool. Both phases form the core of the implementation process.

Only when the MIRACLE API is fully implemented in the PEGI database architecture and adapted to its needs in terms of data exchange practices the two further implementation stages can commence. These consist of an internal outreach to PEGI member companies that are not using any form of data export methodology (yet) and an external one to stakeholders for which such classification data can be of use, such as filtering and/or parental control software companies and online retailers.

2. Implementation phase 1

As explained above phase 1 covers the extension of the current XML feed into the MIRACLE format. The subcontractor did not flag any fundamental technical or other problems in that process. Consequently, several of the current feed users were contacted to inquire about their views.

The most substantial comments were formulated in the context of the Game Sales Data (GSD) project which is run by the Interactive Software Federation of Europe ([ISFE](#)), the trade federation representing the European video game industry. GSD is a European market

research project that produces point-of-sale market sales data from re- and e-tailers in 15 European countries. In order to facilitate data input processes by retailers the GSD administrator inquired whether it would be possible to import rating data from PEGI. These would help to make sure that the correct data records are created in the GSD database and that publishers can add the necessary data more easily.

On our request, the GSD administrator investigated whether such a data import feed would be possible in the MIRACLE format. The outcome of their examination is listed in the table below.

'OLD' DATA FEED	MIRACLE FEED
URN (ID @PEGI)	
Title	Scope title
	Scope url
Age Category (Age Rating)	Rating/Age (+ PEGI ICON URL)
Publisher	Customer-licence
Platform	
Genre	
Release Date	
Descriptor (Other Rating: <i>Violence</i>)	Content-description
Consumer advice (<i>The content of this game is suitable for all persons</i>)	Consumer advice
Question Answer (<i>Non realistic looking violence towards fantasy characters</i>)	Rating issue
Game Title in country:	Scope title + country code
	Country-code (<i>list of countries where rating applies</i>)
	Issuer + URL (always PEGI)
	Last change
	Brief outline

The GSD administrator concluded that some key fields that provide a big added value are missing in the MIRACLE feed. The fields Platform, Genre and Release Date can be very helpful to create data records in the GSD repository. In addition, the URN code is a unique identifier which is deemed very useful too as the PEGI database does not store any EAN codes.

European Article Numbering (EAN) codes are typically generated upon market release of the game product and one individual game title can have dozens of EAN codes (per language/country/platform/etc.), analogous to the number of “Stock Keeping Units (SKU)” in the inventory. As the PEGI rating data is generated before market release, these EAN codes cannot be included in the database. Availability of these codes would allow retailers to quickly link PEGI classification data to the correct game title by means of the right SKU number.

Most of the current feed users provided a similar assessment about the missing fields when they were queried about the MIRACLE data format. They also confirmed that EAN codes would greatly improve the usefulness of the XML feed. PEGI SA will therefore investigate whether a data export process to the GSD database can be complemented with data import of EAN codes once these are available.

Some of these users indicated that access to the rating data in advance of the release date of the product would be an important improvement as it would allow such users, usually (online) retailers, to make the necessary preparations in their store or on their website before the product is marketed. Today, such information exchanges are done on the basis of an individual agreement with the publisher of the game.

PEGI SA is however contractually obliged not to disclose any rating information before the release date as this information may still be subject to changes or can be commercially sensitive. Any changes to this policy would require an agreement to amend the confidentiality clauses in the legal agreements with the individual (1000+!) publishers. PEGI SA will nevertheless investigate which options, legal or other, are available to accommodate this request as much as possible.

3. Implementation phase 2: PEGI’s MIRACLE API

The MIRACLE specification was developed in a way that allows additional fields to be included in the format. We therefore asked the subcontractor that the XML feeds generated by the new API shall carry the data fields that were suggested for inclusion in phase 1. The API should be built in such a way that further or future additional data fields can be queried and included as well.

Consequently, the output of the new API was extended with additional values of the PEGI database. The custom fields that were implemented in addition to the original fields of the MIRACLE specification are:

- release date

- PEGI URN: unique resource number of the rating
- publisher
- platform
- genre

The PEGI MIRACLE API was built as a classic API for third party usage and installed on a staging environment. It can immediately be used with third party applications i.e. mobile apps, search engines, etc... Access to the API is only possible with a valid API-key for which a dedicated domain name was set up. The API has a backend to generate such dedicated API-keys.

The API was built in such a way that it always allows to search for a specific time range, title, age, platform and publisher. The search parameters can be combined as you like. An API call is established by the search parameters in the following order:

1. key
2. title
3. fromDate
4. toDate
5. platform
6. publisher
7. age

...and looks like this:

`http://api.pegi.eu/public/search/key{API-Key}/title{game-title}/fromDate{from-date}/toDate{to-date}/platform{platform-name}/publisher{publisher-name}/age{age-rating}`

Below are a few examples of API calls:

Search for specific time range (from 01.02.2015 to 07.02.2015):

<http://api.pegi.eu/public/search/key/YYSC2BAO0mnJkrGprKt7RLV3LniQvtWR/fromDate/2015-02-01/toDate/2015-02-07>

Search for age rating (age rating: 18 in time range 01.02.2015 to 07.02.2015)

<http://api.pegi.eu/public/search/key/YYSC2BAO0mnJkrGprKt7RLV3LniQvtWR/fromDate/2015-02-01/toDate/2015-02-07/age/18>

Search for platform (platform: XBOX One in time range 01.02.2015 to 07.02.2015)

<http://api.pegi.eu/public/search/key/YYSC2BAO0mnJkrGprKt7RLV3LniQvtWR/fromDate/2015-02-01/toDate/2015-02-07/platform/XBOX%20One>

Since PEGI's implementation strategy of the MIRACLE specification includes the provision of label feeds, the data provided by the API sometimes contains a lot of different data sets within one XML file. Here, the subcontractor made suggestions for MIRACLE v2.0 on how to

optimize the specification in a way that allows MIRACLE to also transport huge numbers of dataset within one MIRACLE data feed (see 1st Progress Report).

4. Upcoming implementation challenges

One of the main outcomes of the implementation work so far is the assessment that there is a clear need for additional metadata of the PEGI database to be added to the MIRACLE specification and included in the MIRACLE API. It is therefore of utmost importance to discuss in the upcoming project phases how custom fields within MIRACLE must carry additional metadata, and how we can prevent fragmentation regarding these additional fields when it comes to different classification schemes.

The new MIRACLE API has extended the ability to query the PEGI database from a limited number of 4 specific time-related query commands¹ to a full search of 5 different parameters that can be combined without limitation. We still need to establish whether these parameter searches are sufficient or whether there is a need for more query possibilities.

Such feedback will be requested in the third implementation phase, when the PEGI membership is notified about the existence of the new API and its functionalities. The designated coders of the publisher members will be asked whether xml feeds created by the API can replace the manual the extraction of their own company's rating data in addition to excel sheets.

In addition, we will also evaluate whether the MIRACLE data model may play a role in the development of IARC² as well. More specifically, we will investigate whether the API output in XML or JSON format can play a role in the provision of internal data reports. However, as this project follows a different timeline such an evaluation will only be executable at a later date.

Finally, we will need to assess whether the MIRACLE API and its functionalities will provide an added value to the external stakeholders for which PEGI classification data may be useful. In this context we learned already that complementing the PEGI database with EAN codes from the GSD database and allowing access to PEGI rating information before the release date would greatly enhance usage of the API by re- and e-tailers. We will however still need to evaluate whether these additions would be feasible from a legal and technological perspective.

¹ See page 9 of PEGI's Implementation Strategy Report

² International Age Rating Coalition: <http://www.globalratings.com>