

Mine Data Management Based on Mine Domains Standardization and Modeling According to GeoDMS Modern Achievements

Somayeh Veyseh

M.S. Degree in Applied Chemistry, the Azad University of Karaj

S_veyseh@yahoo.com

ABSTRACT

The significance of wide range of geo information and mine domains as well as its broad application range emphasizes on necessity of data organization and standardization for users. In order to manage, digitize, standardize, produce and extract geo data, the new project of GeoDMS mine domain development was implemented under the auspices of Geology Survey of Iran in 2006. GeoDMS (Geodata, Digitalization, Materialization and Standardization) consist of different domains such as exploration, exploitation, mine, mineral processing, abandoned mines, mineral world market, etc. In general, A comprehensive recognition of mine domains and are the main basis for GeoDMS system. The first step in this project is to specify and determine each mine domain through representing a description document and an explicit conceptual model in accordance with world standards in order to create a common language between geo and software experts using Enterprise Architect. Based on the outputs of GeoDMS recognition project in the format of recognition package, each web-based software domain was established to manage, store and revise data from conceptual models of each domain

Keywords: Mine Domains, Conceptual Model, UMI, GeoDMS

INTRODUCTION

In the recent age of information revolution, the management and organization of available data has been converted to a fully specialized concept known as communication and information technology (ICT). Regarding to high potential of mineral resources in Iran and increasingly growth of exploration, exploitation and mineral processing operations, a large volume of data was produced in recent years by mine organizations. During the recent years, different attempts were made to organize data and design geo database in various countries of the world such as Australia, Canada, Iran and America. The international project of One Geology was launched contributed to the "International Year of Planet Earth" with cooperation of over 71 Geological Surveys through the world. The project's aims are to expand the transfer of geo information, make the best geological map data accessible through the world in 1:1 million scales. In addition, some activities were conducted in the field of mine databases in Iran to make various mine and mining data available for users but there is no standard format was considered to manage, store and present data and no relationship between various geo domains and mine. Although the mine data are

strongly interrelated but essentially are independent and distinguishable. Data interference (mine data) and similar data repetition are problems faced by mine data management system. Thus, the production team of GeoDMS project was decided to analyze and produce some parts of system with data correlation as an independent package or at least autonomous through representation of module concept which can be also helpful for recognition of geo data and mine domains such as exploration, exploitation, mine, mineral processing, abandoned mine, mineral world market and other geo domains. GeoDMS is an inclusive reference of mine and current technology data mixing. The logical and applied relationship between mine domains in this system and its high flexibility and scalability meet the requirements on mineral management and planning in high levels as well as needs of foreign and domestic investors, experts, specialists, mine and drilling companies and mine and geo related organizations.

METHODS AND RESULTS

In order to attain the aims were implied in "GeoDMS", three projects has a parallel development under a compiled process, as follows: