



## Technology 97: Gravity Recommendation Web System

The Gravity Reco Web Service (GRWS) provides a service for web shops that can increase their inventory turnover. A recommendation service can suggest new products/items to online customers based on the shopping history of the actual user and other users with similar tastes. The GRWS is particularly useful for organizations which sell/lend taste-dependent products (movies, books, music, etc.). The algorithms used in the solution are world-leading methods for the given mathematical problem. The implementation is fast, robust and flexible that enables the user to manage millions of users and products, and provide real-time recommendation.

Currently the Gravity team is working with the The Netflix Prize. The aim of such a system is to predict what items a user might like based on previous ratings. Information on the prize and the current standings can be found at <http://www.netflixprize.com/>.

The software would be wrapped into a web service that works on the basis of the database of web shops. The GRWS assumes the database contains a set of users and a set of products, and user rating records that connects users and products by means of preference values. The GRWS is independent from the actual RDBMS (Relational Database Management System) because it can be equipped with arbitrary database connectors. Due to the design of GRWS it is easy to implement new database connectors, or alternatively communication interfaces for any data source via well-defined protocols.

### Cost

The company has a revenue stream and four employees. They expect costs will be \$1M-\$2M to launch the enterprise.

### Development Status

The product is on the market and has been purchased. The developers are planning better documentation as well as a better method for integrating to additional databases. They expect the task of moving to different markets will involve changes to the system, as the requirements of a movie rating system do not automatically translate to other markets.

### IP Status

The organization has not completed IP protection. Some components of the algorithm were published in proceedings of international conferences and journals.

1. G. Takács, I. Pilászy, B. Németh, and D. Tikk. [Major components of the Gravity Recommendation System](#). ACM SIGKDD Explorations Newsletter, **9**(2), pp. 80–83, 2007.
2. G. Takács, I. Pilászy, B. Németh, and D. Tikk. [On the Gravity Recommendation System](#). In *Proc. of KDD Cup Workshop at SIGKDD'07, 13<sup>th</sup> ACM Int. Conf. on Knowledge Discovery and Data Mining*, pp. 22–30, San Jose, CA, USA, August 12–15, 2007.
3. An interview with Gravity team leader Domonkos Tikk has been published in The New York Times in June 2007: <http://www.nytimes.com/2007/06/04/technology/04netflix.html>

### Partner Opportunities

The GWRS team is looking for financial support to complete the algorithm and the project and develop customer relationships.

### Contact

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