

Developments in Business Simulation and Experiential Learning, Volume 26, 1999

ALEXANDER ISLANDS: GSSM TINY BUSINESS SIMULATOR ON THE WWW

Hiroshi Fujimori *1, Yasushi Kuno *2, Hiroaki Shirai *3,
Hisatoshi Suzuki *2, Takao Terano *2,

*1 Reitaku University; *2 GSSM, University of Tsukuba, Tokyo;

*3 Fujitsu Information Network Systems Ltd.

ABSTRACT

This paper describes a tiny business simulator: Alexander Islands developed for Business Simulation course at GSSM, Tsukuba University. Alexander Islands is used (1) to understand principles of both business models and gaming simulators and (2) to help students to develop their own simulators.

INTRODUCTION

Graduate School of Systems Management (GSSM) of Tsukuba University is a school only for business people, where they learn and explore not only various topics including administrative, mathematical, and computer sciences but also interdisciplinary integrated courses, before completing the master thesis. One of the major courses is "Business Simulation."

Unlike conventional simulation courses, which aim at studying basic principles of simulated business processes, accounting, or data analysis techniques, the objective of our Business Game is to develop skills (1) to implement their own specific models of business firms, (2) to develop information systems for the firms, and (3) to understand business processes among companies.

To attain the objective, we are developing (1) Alexander Island: tiny business simulator on the www, and (2) its business model description language (BMDL) and business model development system (BMDS) to easily develop home-made models by the students themselves. In this demonstration, we show the basic principles of the game, how it works, and how it is implemented by BMDL/BMDS.

FEATURES OF ALEXANDER ISLANDS

Alexander Islands¹ models the business process of (1) purchasing consumer goods (e.g., personal computers) from a vendor, (2) selling them to two different markets, and (3) making marketing decisions among the players' dynamic environments.

The features of Alexander Islands are summarized as follows: 1) it is so simple that business people with various background can understand the principles of the games and business processes; 2) however, it is enough complex for students with real and practical business experience to play in marketing decision making and in analyzing the business processes; 3) it is designed to motivate the students to further exploring advanced courses on operations research, information systems, and decision support systems in GSSM; 4) a dozen of students can play the game at the same time using browsers on the WWW environments; 5) it takes shorter time (e.g., 20 minutes) to carry out simulations cycles because the students with their own business are very busy even in school hours; 6) it is implemented in C and CGI to run on popular workstations or PCs with browsers for the WWW, therefore portable and transferable in the various computing environments; and 7) the equipped model is both executable as a business game and readable as source codes of the business model for further extensions.

Figure 1 and 2 respectively show the business

¹ Alexander Islands contains two markets: Herbert and Simon islands. Of course, the name stands for Prof. H. A. Simon.

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model and system configuration of Alexander Islands. Multiple users and one controller play the marketing game using networked environments. Figures 3 and 4 illustrate sample windows of the game for users and a game manager. The equipped model is written in BMDL, and runs on BMDS, therefore, the developers or students of the course can easily modify the model.

under the contract number : 09558044.

CONCLUDING REMARKS

Alexander Islands has been used for three years in the introductory Business Simulation course. We believe the approach is also promising for more advanced system management science studies. We have described the ideas in more detail in the other paper at ABSEL'99.

The research is supported in part by the Grant-in-Aid for Scientific Research of the Ministry of

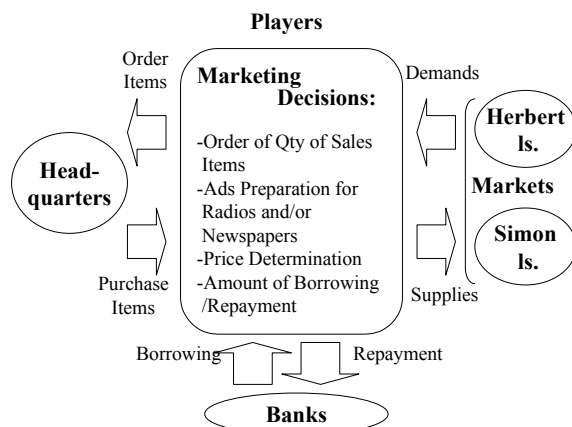


FIGURE 1: BUSINESS FRAMEWORK

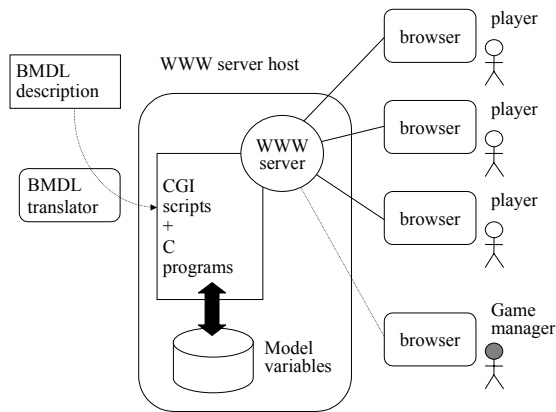


FIGURE 2: SYSTEM CONFIGURATION

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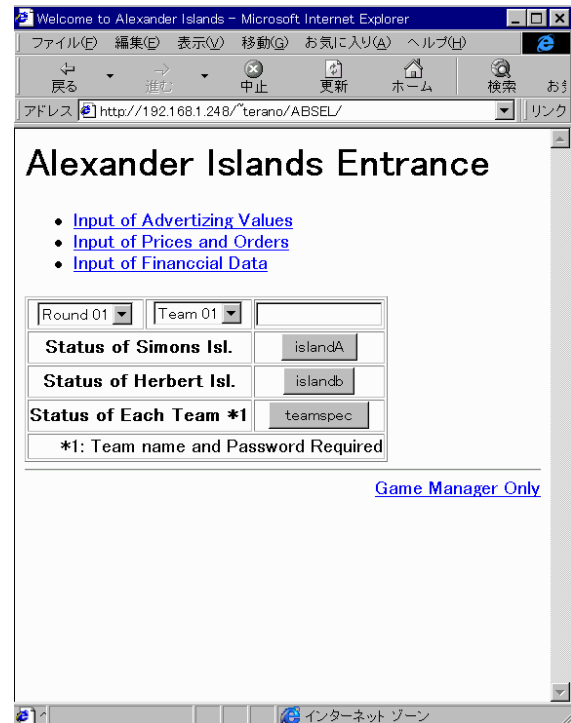


FIGURE 3: SAMPLE WINDOW OF SIMULATION ENTRY

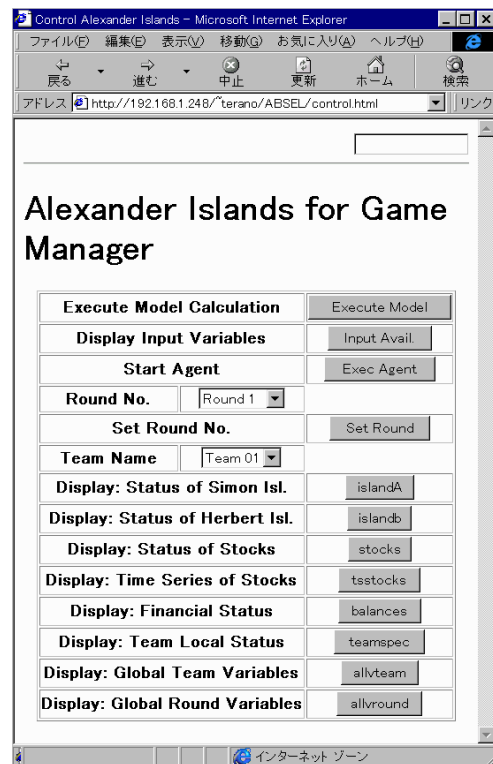


FIGURE 4: SAMPLE OF SIMULATION DISPLAY FOR A MANAGER