

Research Investigating Generation-Beyond-Next Computer Game Culture and Technology:

A Collaborative Research Partnership between the UCI Game Culture and Technology Laboratory and the Daegu Global R&D Collaboration Center

Progress Report

Walt Scacchi

Game Culture and Technology Laboratory

California Institute for Telecommunications and Information Technology

University of California, Irvine

Irvine, CA 92697

Wscacchi@uci.edu

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Introduction

The report documents progress and results obtained from our research study that is investigating generation-beyond-next computer game culture and technology during the period of 1 July 2007 through 31 December 2007. This study is in support of a collaborative research partnership between the UCI Game Culture and Technology Laboratory and the Daegu Global R&D Collaboration Center, in Daegu, Korea. The initial scope and research areas for study was agreed to by both partners in December 2006, and that served as the basis for effort initiated during this project reporting period.

The process of completing all negotiations related to this study were completed at the end of March 2007. Later during Spring 2007, there were additional changes in the research scope and activities that were to be part of the study. Specifically, the research study agreement as of the end of March 2007 included a set of activities and corresponding budget line items that were focused on the organization and presentation of a series of multiple research workshops to be held each year during the 2007-2009 period. Early project effort during this reporting period focused on organizing these workshops. Thus, some of the results for this reporting period were produced in anticipation of these workshops. These will be identified later. However, as a result of research project renegotiation during Spring 2007, the proposed workshops were dropped from the study, and two courses were substituted in their place, and the previous budget for the workshops was reallocated to support production and delivery of these courses. These courses will be offered during the 2007-2008 project year (during the period from July 2007 through June 2008).

The first course will focus on the Computer Game Industry in the United States, which was completed by the end of December 2007. Preparation of this first course was completed and a mutually agreed schedule of course meetings was presented and executed. The second course will focus on Research

Topics in Computer Game Culture and Technology and this course will start sometime in 2008, subject to the agreement of DIP regarding the overall schedule and start/completion dates yet to be determined. These courses will be taught over the Internet using both broadband audio-visual technologies (e.g., the *LifeSize* HD videoconferencing system at UCI Calit2) and also Web-based delivery of related course materials (e.g., course lecture notes). This allows access to the course lectures and lecture materials over the Internet to our project partners at the Daegu Global R&D Collaboration Center. With this project background in mind, we now turn to identify and describe the materials that are included in the remainder of this progress report for 1 July 2007 through 31 December 2007.

Project materials and results

There are research project materials and results in each of the following areas: (a) video lecture series on the computer game industry emphasizing efforts in the U.S.; (b) lecture presentation materials prepared and presented by Professor Robert Nideffer in conjunction with his visit to Daegu during October 2007 as part of his participation in the *First World Game Culture Conference* held in Daegu; (c) an overview of meetings and presentations held during the week of 26 November 2007 for the delegation of visitors from DIP during their visit to UCI and related destinations with leaders in computer game related technologies and new media applications; and (d) an overview of research project activities planned for 2008. Each of these is described in turn. Beyond this, other project related activities during this period included a multi-day visit by both Walt Scacchi and Robert Nideffer from the UCI GameLab to Daegu during October 2007. Numerous meetings were held during this time in Daegu with people from DIP, Daegu City government (including Mr. Kim, Director of Planning, and also Mr. An, Director of Culture), game companies associated with DIP, and also faculty and students from Keimyung University and POSTECH, as well as many delegates from government, industry, and

academia attending the First World Game Culture Conference in Daegu during this time. No attempt is made to document those meetings or their outcomes in this report, though many important meetings, agreements, and relationships were achieved.

Video lecture materials

During August through November 2007, Project Director, Dr. Walt Scacchi, organized, prepared, and presented a series of 20 lectures on the future of the computer game industry that emphasized activities, efforts, investments, and strategic direction in the U.S. Market. These lectures were presented to an audience of DIP affiliates, faculty, and students who attended courses broadcast live over a videoconferencing system from UCI to DIP in Daegu. All lecture materials were prepared in English and delivered in advance for translation into Korean. A condensed version of these lecture materials follows. These lecture notes contain many Web hyperlinks that associate external reference materials and related Web sites so as to further elaborate the details of topics covered in the lectures. Due to the extent and diversity of these materials that are accessible through a Web browser, they are not included here, nor are they made available for translation into Korean, which would be beyond the scope of our resources. Nonetheless, the lecture materials that follow do represent a complete set of lecture notes that correspond to the course topics that were identified, discussed, and agreed to during the first half of 2007 as conveyed by Ms. Jenny Yang from EDEX Inc. in Daegu, acting on behalf of DIP. These same topics were again reviewed and approved by others at DIP, including Dr. Hong-Hee Lee, Deputy Contents Manager at DIP, after 1 July 2007 and before the start of the lecture series in August 2007. More than 100 printed pages of lecture materials are included in this report and they can be accessed through a PDF-compatible Web browser viewing this report. However, all of these lecture materials (and associated reference materials included via embedded Web hyperlinks) can also be found on the Web via the hyperlink <http://www.ics.uci.edu/~wscacchi/GameIndustry/>

Nideffer Daegu lecture materials

As part of his visit to Daegu during October 2007, Professor Nideffer presented an invited lecture to the audience at the First World Game Culture Conference. His lecture provided an introduction and overview of research and education efforts underway at UCI and the UCI GameLab. The delegation of visitors from DIP who came to UCI in November 2007 got to see many of the efforts and results Nideffer described in his lecture first hand. However, many other people at DIP or its affiliates may not have had the opportunity to see his lecture materials, so they are included next. His lecture is fairly comprehensive and include approximately 80 pages of lecture notes, images, and related documentation sources, which are indicated by embedded Web hyperlinks. All dynamic media content, like remote Web sites, live game demonstrations, and embedded videos/movies are not included in this report, but they can be accessed through a PDF-compatible Web browser viewing this report.

Materials outlining visits by DIP delegation to UCI and related game culture and technology R&D centers

During the week of 26 November 2007, a delegation of 13 visitors from DIP came to UCI for a week of meetings and related activities with a number of people, R&D laboratories, and companies involved in computer game related research and development activities. However, the visit began with a “graduation” ceremony held at the UCI Calit2 for the participating students and game industry executives affiliated with DIP who completed the Fall 2007 video lecture series on the U.S. Computer Game Industry presented as part of this project (see Video Lecture materials section). All participants received a certificate of completion from the University of California Irvine, and this certificate was signed by the UCI Calit2 Director, Professor G.P. Li, and by the Project Leader, Dr. Walt Scacchi. After this ceremony, an extensive schedule of meetings, demonstrations, and follow-up discussions was organized and executed during the remainder of this week long visit.

Meetings were held with the following people and R&D centers: (a) Dan Legeskar, Chairman of the Board, EON Reality, Inc. in Irvine, CA; (b) Robert Nideffer, Walt Scacchi, and Alex Szeto, UCI GameLab, in Irvine, CA; (c) Joe Adams, President, Kellee Preston, Vice-President Operations, Janet Yamaguchi, Vice-President Education, at the Discovery Science Center, Santa Ana, CA; (d) Professor Bill Tomlinson and students, EcoRaft Project, UCI Interactive Animation Laboratory, Irvine, CA; (e) Professor Steve Jenks and Dr. Sung-Jin Kim, HiPERWall Project, UCI Visualization Laboratory, Irvine, CA; (f) Eleanore Stewart, Director, and David Familian, Associate Director, UCI Beall Center for Art + Technology, in Irvine, CA; (g) Professor John Crawford, Active Space Laboratory, Irvine, CA; and (h) Jeff Hwang, President, K2Network Inc., in Irvine, CA. Though each of these meetings and demonstrations extended up to many hours in some situations, all we seek to provide here is simple and brief documentation in the form of the lead page on the corresponding Web site for each of these eight centers engaged in research and development activities helping to shape the future of computer game culture and technology in the U.S. and beyond. However, in each meeting, members of the DIP delegation representing computer game companies had the opportunity to meet and discuss possible business relationships and opportunities according to their interests, and we believe there will be follow-up meetings and business partnerships in one or more cases. For example, we believe that our friends at EON Reality, Inc. are interested in pursuing a partnership to establish an “Interactive Development Center” in Daegu, and that discussions with people in industry and city government in Daegu are now underway, with promising results anticipated for possible announcement in early 2008. Thus, it should be noted that business relationships such as this may be the first sign of success for this research project between DIP, Daegu City, and the UCI GameLab, and therefore, DIP may be able to note this as an early result arising from our partnership.

Research project activities for 2008

Based on the results of the preceding activities and meetings (in Daegu and Irvine, as well as via video-conferences during July-December 2007), we believe the best course of action to pursue for 2008 includes a number of activities. The activities outlined here were first discussed and negotiated with Mr. Kim from Daegu City, as he was directly involved in the proposal and contract negotiations from the beginning, and he has also been a key supporter for encouraging an successful research and development collaboration between DIP, Daegu City, and the UCI GameLab. The activities follow next. However, we also discussed with Mr. Kim our need at the UCI GameLab for local research project staff (specifically, game research programmers and artists) who could work on the project with us in a most efficient, effective, and timely manner. This constitutes a change in the proposed project staffing, so that instead of hiring two research programmers from “Company A” we would hire local people already available to us. Part of our reason for proposing this change, was that as of this time, there is no Company A and thus there are no programmers, and this situation negatively affects our ability here at the UCI GameLab to move forward with the three research topics originally proposed. Also, if the programmers or anyone else to work on the project is a citizen of South Korea (or not a citizen/resident of the U.S.) then it is necessary to recognize that application for a U.S. Work visa requires 3-4 months minimum to process, and this time duration is not within our control at UCI. As such, Mr. Kim agreed with our recommendation to allow the research project to continue to move forward on the project research topics as proposed, but now using local game research programmer/artists.

The research activities we will pursue in 2008 include the following: (a) organize, prepare, and present a lecture series of up to 20 lectures on the future of computer game culture and technology; and (b)

engage in the ongoing development and enhancement of tools, techniques, and infrastructure that can further link the UCI GameLab to the Daegu Global R&D Collaboration Center, DIP, and others in Daegu (this is the first topic in our original research proposal). We believe this later activity should include extending and enhancing the *DinoQuest Online* (DQO) computer game environment that we have previously developed at the UCI GameLab to incorporate new tools and functional capabilities that will allow for: (i) DQO game play in English and Korean; (ii) Korean-English multi-player communication through localized game conversation languages; (iii) extension of DQO to provide core functional support for massively multi-player online games; (iv) provide new end-user oriented tools for DQO (or DQO-like online game environments) that support the concepts and techniques for *user created content* that allow users to modify existing or develop new game content; (v) addition of related computation services that support “social networking” and related communication capabilities for DQO end-users; and (vi) demonstrating how these functional capabilities can enable the creation of casual games or casual MMOG-style games, which were highlighted as an emerging trend in the U.S. Computer game industry over the next 2-5 years during the Fall 2007 video lecture series.

Next, it has come to our attention that our friends and colleagues at DIP also now want to propose another change to the original research proposal, by recommending that one full-time research associate from DIP be able to come to work and be paid with project funds at a full-time (100%) level at the UCI GameLab. A review of the project budget and contract indicates that at present, the project budget and contract call for such a person designated by DIP to join the project at a level that is only funded by a 50% level from the research project funds. Thus, in order to support this person at a 100% level with project funds, we may require a reallocation of budgeted funds to support the project. As this change may affect our research efforts going forward, we believe that this change should be discussed

and reviewed by project participants from the UCI GameLab, DIP, and Daegu City so that we can all come to a common understanding for how best to successfully accomplish the objectives of the proposed research effort and activities, as well as how to continue to grow and expand the research and development collaboration we are building between the UCI GameLab, DIP, and Daegu City.

As such, we recommend that we plan to engage in one or more video-conferences during early 2008 with our colleagues and friends at DIP and Daegu City to discuss and explain the proposed changes to the project, project staffing, and project budget, as well as the other activities identified above for 2008, and how we believe they will be of value to DIP, and its industrial and academic affiliates involved in computer game research and development, as well as others in Daegu City in the future.

Final Remarks

The remainder of this report is far more voluminous than this overview. This is as it should be in our view, as what follows are the first round of results from our research project covering just the period of 1 July 2007 through 31 December 2007. Whether the diversity and volumes of results that follows is indicative of what will be produced in the research period ahead is unclear. So please do not assume that what follows reflects what to expect in the near future. Instead, please view the remaining materials with an eye towards what research or directions might be investigated in the months or years ahead. We will of course have the opportunity to discuss and review these materials through video-conferences and other meetings during 2008.

As such, we now present the detailed Project materials and results of our research efforts during 1 July 2007 through 31 December 2007.