Evaluation of a Curriculum for Technical Artists

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Abstract

A Technical Artist requires a unique set of skills to act as a bridge between artists and programmers in digital entertainment development. Our newly developed Technical Artist in Games (TAG) program is regulated under the national Higher Education Regulation (HER) in Sweden. This paper analyses the fit between the program and requirements from both the HER and the computer games industry. The analysis is done by evaluating the course content of the TAG program in relation to the HER and thirty job advertisements. The aim of this evaluation is to investigate how well the program prepares students for their future roles in industry.

Categories and Subject Descriptors (according to ACM CCS): K.3.2 [Computers and Education]: Computer and Information Science Education—Computer science education/Curriculum

1. Introduction

A Technical Artist (TA) is a relatively new role requiring both artistic and technical skills to act as a bridge between artists and programmers. The Technical Artist in Games (TAG) program is a Bachelor of Science (BSc) degree in Digital Game Development that started in September 2010. This paper evaluates the skills obtained in relation to those required by the Higher Education Regulation (HER) [rö3] regarding a BSc degree. The skills provided by the degree are compared to those currently demanded in the computer games industry. The research questions asked are:

- How can the TAG skill-set be compared with the requirements from the HER and industry?
- Are necessary skills missing from the TAG program?
- How can courses on the program be structured to include missing skills?

This evaluation has several benefits. Teaching and learning on the TAG program is improved when students understand the program structure and how it relates to industry expectations. Reducing student stress, and increasing motivation leads to better preparation for appropriate roles. The university also benefits by having a successful student graduation rate that leads to jobs. Finally, the evaluation can help other educators to structure and teach a TA curriculum. These benefits were illustrated by a recent tutorial at the 2011 Game Developers Conference (GDC) [MGG*11]. This tutorial fo-

cused on how to be an effective TA, demonstrating the timely nature of relevant education.

2. The Technical Artist in Games Program

The TAG website and education plans were used to gather information about the program structure. The courses that are part of the TAG program can be seen in Figure 1. First year courses are in green and the second and third year are orange and purple. The TAG program is split into approximately 50% programming and 50% graphics courses. Also included in the graphics part is analog and digital sketching techniques. In addition to the national objectives, described further in Section 3, the following specific objectives are listed for the TAG program. The student must:

- Understand the problems of linking 3D modelling to implementation of 3D graphics programming
- Be able to implement tools and methods for linking 3D modeling and 3D graphics programming
- Demonstrate understanding of 3D modelling, 3D graphics, game programming, and development tools
- Translate a context into a usable game or simulation environment
- Independently seek knowledge and develop skills in the rapidly changing field of game development
- Understand and independently analyse and apply the scientific progress in the development of digital games in general, especially game programming and 3D modelling