Teaching Programmers/Designers Flash/ActionScript

Gregory P. Garvey
Department of Computer Science and Interactive Digital Design
Quinnipiac University
United States
greg.garvey@quinnipiac.edu

Abstract: This demonstration presents a constructivist approach to teaching web design skills, 2D animation, basic scripting and programming concepts using Macromedia Flash and ActionScript. The overall curriculum is discussed followed by an examination of two courses that focus on teaching Flash and ActionScript accompanied by demonstrations of tutorials and projects, which incorporate meaningful content provided by on campus institutions. The teaching approach is informed by theories of multiple intelligence and address different styles and rates of learning by featuring learner centered, hands-on tutorials, which emphasize learning by doing.

Background

In the fall 2001 Quinnipiac University introduced a new major in Interactive Digital Design to complement the major in Computer Science. Both programs are under one department in the College of Liberal Arts. The Computer Science Majors are provided with a foundation in Computer Science within the framework of a traditional Liberal Arts education that prepare graduates for success in a wide variety of Internet and computer related fields.

The Interactive Digital Design major provides students with in-depth hands-on experience in creating, designing and authoring original interactive media for CD-ROM, DVD, the World Wide Web, and desktop presentation. This major emphasizes artistic creativity, experimentation and technological competence grounded in a critical understanding of the arts, design and related areas of the humanities.

Approach

The program features a core set of requirements open to majors, minors and qualified non-majors. Because of this diverse clientele, the tutorials must address different styles and rates of learning. Teaching is informed by Howard Gardner (Gardner, 1985) theory of multiple intelligences and Robert Sternberg’s Triarchic Theory of Intelligence (Sternberg et al., 2000). Tutorial projects incorporate content based on university-affiliated institutions, which develop Sternberg’s triad of practical, creative and analytical skills. Demonstrations include sample projects created for the Albert Schweitzer Institute and the Service Learning Program at Quinnipiac, which is part of the national Campus Compact. Experience shows that the integration of this value rich content leads to a greater student engagement and commitment. Students enrolled in IDD 301 2D Animation thereby develop cognitive tools for working with image, text, motion, sound and interactivity guided by design principles. Project based learning is incremental trial and error i.e. learning by doing. IDD: 315 Scripting for Interactivity introduces advanced scripting including control structures, objects and classes, properties and methods, expressions and variables, conditionals, arrays, functions, handlers, smart movie clips, while using debugging and content management tools of FLASH.

Each new programming concept is always incorporated in a tutorial as part of a larger design problem. In turn the final goal is to instill an overall cyberliteracy such as advocated by Laura J. Gurak (Gurak, 2001). This instills recognition that: “on the internet, communication is a blend of oral, written, and visual information.” This cyberliteracy is matched an critical awareness that is fostered by working with real world content such as that provided by the Albert Schweitzer Institute as part of a true liberal arts education.
References

