

## Chapter 8

# Browser–Native Games That Use Real–World XML Data

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### ABSTRACT

*The rising tide of scientific data available on the web, has the potential to help us consider the complex problems that concern us today, and simulation games can help us visualize, model and plan for alternative futures. However, the modularisation of knowledge has limited communication across subject domains, and copyright legislation and business practices may need to change, if the many new visualisation tools needed are to be interoperable and share common interfaces. A game standard and specification for the web, together with easy-to-use authoring tools for creating browser-native games that use real-world XML data; could enhance communication, and engage the public in the understanding of science, and its progress.*

### INTRODUCTION

This chapter is the result of my experience since 1995 developing and programming browser-native online games and authoring tools in cooperation with people having a range of cognitive, mental health and physical disabilities; whilst teaching, contributing to the work of web standards bodies and filing bugs for browser developers. It is

backed up by over thirty years frustration playing the ancient oriental game of Go, and recently developing a browser-native client-server Go game application.

My intention is to describe how we might improve the public understanding of science by enhancing communication through simulation games that access real-world xml data; and an interest in the requirements for an easy-to-use tool for creating browser-native games is assumed. This necessarily means some consideration of many

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domains, some technical, others philosophical, political and sociological. I have tried to provide references that are accessible to the general and technical reader, and hope this is satisfactory.

Online simulation games have been around for many decades, perhaps as long as the Internet. Some use their own game application; others use a browser plug-in technology such as Flash or Java, however relatively few rely on the browser alone. Why is this? Do we need a web standard for games? What are the potential benefits? Are the academics and representatives of corporations that develop web specifications and standards working for the public good? Had children designed web specifications and standards, or even had they been designed for children's needs, how might the web be different?

Game applications provide a simulation different in kind to words that can help elucidate complex issues, by developing and building on our verbal and graphical vocabularies and improving communication. This action of naming and describing is the way we learn, enjoy and share experience, our measure of fun or ludic capacity. How can we capture and incorporate this metric into the development of future web standards?

## **What is a Game?**

Albarn & Smith (1997) suggest that a game is “a structure within which various skills are tested, relationships explored and initiative rewarded & it is a training ground for the encounters of real life.” (p. 14)

Our web games might simply help someone learn to use a mouse or scroll-bar, rehearse going out to a party, or supermarket, manage a city or state, fly a plane, terraform then learn about a natural calamity, play a musical instrument, develop numeracy or literacy, or play a board game whilst chatting and commenting. In most cases, the application may be expected to visualise large data sets from possibly disparate sources in

a meaningful way, to respond in real time, and quite probably with a range of sensory outputs.

Noughts and Crosses, Draughts and Chess are board games that computers can solve relatively well. The game of Go, also known as Baduk or Weiqui has been played in the far east for a few thousand years, and yet the very strongest computer programs can only play at novice level.

Yasutoshi Yasuda 9 Dan is a top-level professional Go player from Japan. He has extensive experience teaching children, their carers, and schoolteachers how to play Go. Yasuda says:

*Classroom teachers can grasp children's feelings and understand them well. To enjoy playing Go well with children, to be on the same level where we can share the joy itself is good enough; complicated explanations are unnecessary. Despite a good knowledge of Go, the game will not succeed without an understanding of how children feel. What is important is neither technical knowledge nor Go skills, but a capacity to understand children. (Yasuda, 2002, p. 5)*

And later he adds, “Creating a fun atmosphere is paramount” (p. 35).

It isn't sufficient for a computer program to 'win' a game. We need computer programs that help us to learn to play well. We need to move on from Nietzschean ideals of the superman, or chess genius Emanuel Lasker's supreme *maßeide*, a being that always plays the best move. To develop Turing's concept of the intelligent machine with an internal model of another, so that when a child asks why the sky is blue, the appropriate response is “because they ran out of green paint” rather than a detailed technical and scientific explanation. We need web applications that provide transparent and readily understood solutions, appropriate to our abilities.

All games have rules, such as to play alternately, and in many games these axiomatic or given rules can share aspects of meaning, for instance “check”, “atari”, “uno” and “raichi” are warnings that must

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