

Students of the Department of Computer Science publish books

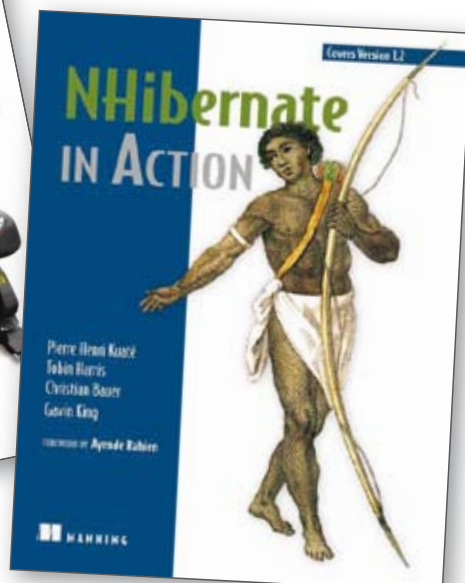
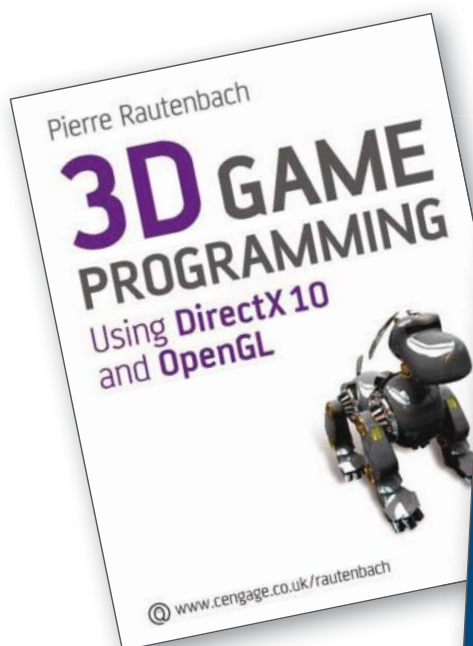
Two students of the Department of Computer Science have recently written and published their first books – an achievement that is normally only associated with people with extensive experience in their field.

Pierre Rautenbach is a qualified computer scientist (BSc Computer Science (Hons) cum laude), and is currently affiliated with the Department of Computer Science (as a postgraduate student), where he researches real-time shadow optimisations and algorithms. He recently completed his MSc by presenting an empirically derived system for the high-speed rendering of shadows.

His book, *3D Game Programming*, focuses on all the elements making up a 3D first-person shooter game engine using a bottom-up approach. Readers learn how to create their own next-generation 3D game engines with support for vertex and pixel shading GPU techniques (via Cg and HLSL), dynamic lighting and shadowing (via stencil shadow volumes), geometric meshes, audio, artificial intelligence, physics, environmental reflections, refraction and advanced lighting techniques such as high dynamic range lighting. Dealing with the cross-platform programming of 3D games for both Linux/MacOS X (via OpenGL/GLUT) and Windows (via DirectX 10 or OpenGL/GLUT) platforms, this book bridges an existing rift in the game development community.

Pierre Henri Kuate studied IT at the University of Pretoria. He specialises in software development on the .NET platform. Prior to coming to Pretoria, he completed a degree in Computer Science in his home country, Cameroon. Pierre Henri got involved with NHibernate while developing some commercial software and became an active contributor of this open-source project. A year later, the publisher, Manning, contacted him about writing a book on this tool and he accepted the invitation.

His book, *NHibernate in Action*, co-authored with Tobin Harris, Christian Bauer and Gavin King, deals with the problem of persistent objects in databases. Object/relational mapping (ORM) is the automated persistence of objects in an application to the tables in a relational database, using metadata that describes the mapping between the objects and the database. ORM, in essence, works by (reversibly) transforming data from one representation to another. NHibernate is an implementation of this approach for the Microsoft .NET framework. It is an open-source project based on the popular Java version called Hibernate. The goal of this book is to introduce this tool to .NET developers and provide them with detailed information on how to deal with various real-world scenarios. 🌐



References

1. Pierre Henri Kuate, Tobin Harris, Christian Bauer, Gavin King: *NHibernate in Action*. Manning Publications. ISBN: 1932394923, January 2009.
2. Pierre Rautenbach: *3D Game Programming using DirectX 10 and OpenGL*. Cengage Learning EMEA (formerly Thomson Learning). ISBN-10: 1844808777, ISBN-13: 978-1844808779, October 2008.