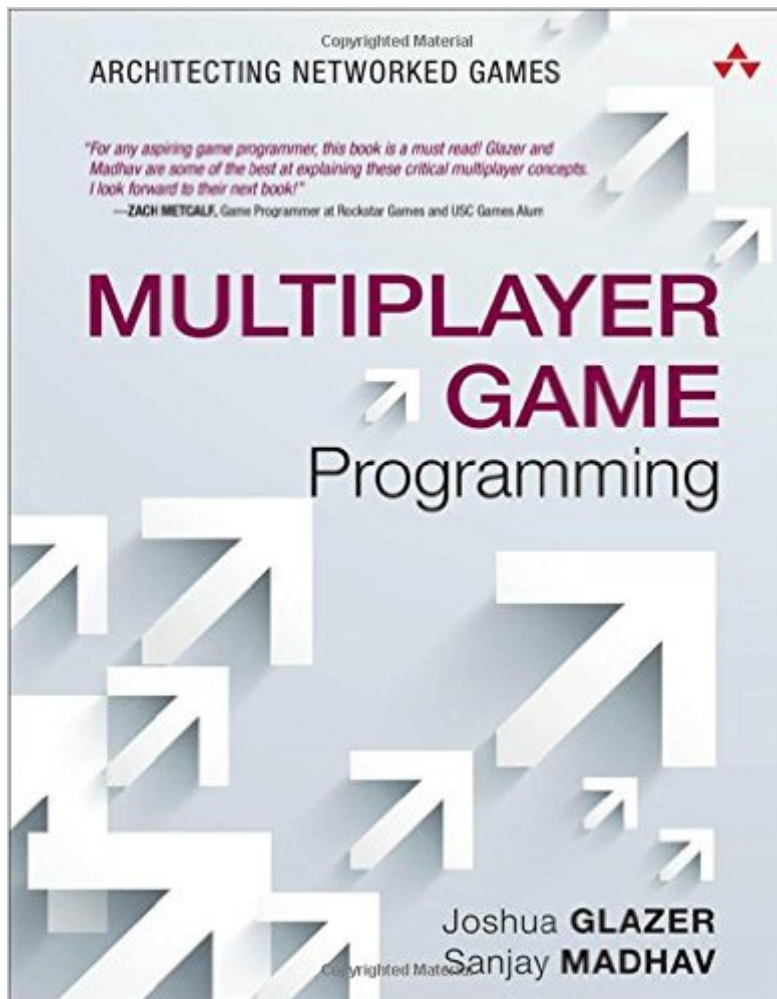# Multiplayer Game Programming: Architecting Networked Games (Game Design)

Synopsis

The Practical Guide to Building Reliable Networked Multiplayer Games Â Networked multiplayer games are a multibillion dollar business: some games now attract tens of millions of players. In this practical, code-rich guide, Joshua Glazer and Sanjay Madhav guide you through every aspect of engineering them. Drawing on their immense experience as both game developers and instructors, the authors lead you through building a robust multiplayer architecture, and creating every engine-level system. Youâ ™ll learn through in-depth working code examples for two complete games: an action game and a real time strategy (RTS) game. Â First, Madhav and Glazer review the essentials of networking and network programming from the standpoint of game developers. Next, they walk through managing game data transmission, updating game objects across the network, and organizing the devices that join your game. Youâ ™ll learn how to ensure reliable performance despite the Internetâ ™s inherent inconsistencies, and how to design game code for maximum security and scalability. The authors conclude by addressing two increasingly crucial issues: incorporating gamer services and hosting your games in the cloud. Â This guideâ ™s content has been extensively tested through the authorsâ ™ multiplayer game programming courses at USC. It is equally valuable both to students and to working game programmers moving into networked games. Â Coverage includes   How games have evolved to meet the challenges of networked environments   Using Internet communication protocols and standards in game development   Working with Berkeley Socket, the most widely used networking construct in multiplayer gaming   Formatting game data for efficient Internet transmission   Synchronizing states so all players share the same world   Organizing networking topologies for large-scale games   Overcoming latency and jitter problems that cause delays or lost data   Scaling games without compromising performance   Combating security vulnerabilities and software cheats   Leveraging the networking functionality of the popular Unreal 4 and Unity game engines   Integrating gamer services such as matchmaking, achievements, and leaderboards   Running game servers in the cloud   About the Website C++ source code for all examples is available at github.com/MultiplayerBook . Instructors will also find a full set of PowerPoint slides and a sample syllabus. Â Â

Book Information

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Customer Reviews

Crisp, full of useful of to-the-point advice. Great review for somebody who is already an engineer, wanting to understand how to go about building their own game while wasting as little time as possible. The code samples seem great too. Really happy with the book!Caveat emptor: this book is not meant for somebody who doesn't know programming. You're supposed to be already pretty good at it when you pick it up. I already knew about networking and was looking specifically for networking recipes for gaming - this is a very complex subject that is well covered here. This is not the book you want if you are either an artist or a very inexperienced developer. This is not an intro textbook but a reference for the experienced programmer.

This book shows how you can build a server architecture that blends seamlessly into your client code. I highly recommend it for anyone that wants to add some sort of real time multiplayer component to their game.

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