Online Game Systems

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Introduction

This course covers the concepts underlying networked games (NGs) and networked virtual environments (NVEs), from their definition, to distributed systems, to networking fundamentals, quality of experience and game design needs.

Reference Texts and Readings

- Anthony Steed and Manuel Fradinho Oliveira, Networked Graphics: Building Networked Games and Virtual Environments, Publ. by Morgan Kaufman

- Grenville Armitage, Mark Claypool, Philip Branch, Networking and Online Games - Understanding and Engineering Multiplayer Internet Games, Publ. by Wiley

- Sandeep Singhal and Michael Zyda, Networked Games: Design and Implementation, Publ. by Addison Wesley

- Readings from recent papers in the networked game area

Topics covered in the Course

- Introduction
  - What do we mean by online games/networked environments/networked graphics
  - Definition and Requirements of online games

- Networking Fundamentals: Architecture and Protocols

- Network Challenges: Latency and data loss

- Online Game Requirements: Consistency and Latency

- Latency Compensation and Game Playability

- Resource Management and Scalability