CSE 4/60373: Multimedia Systems

▸ Outline for today

- Wu-chang Feng, Wu-chi Feng, **"On the Geographic Distribution of On-line Game Servers and Players",** *in Proc. of NetGames 2003, May 2003*.

- Game server selection for multiple players, Gargolinski, S., St. Pierre, C., and Claypool, M. Netgames 2005

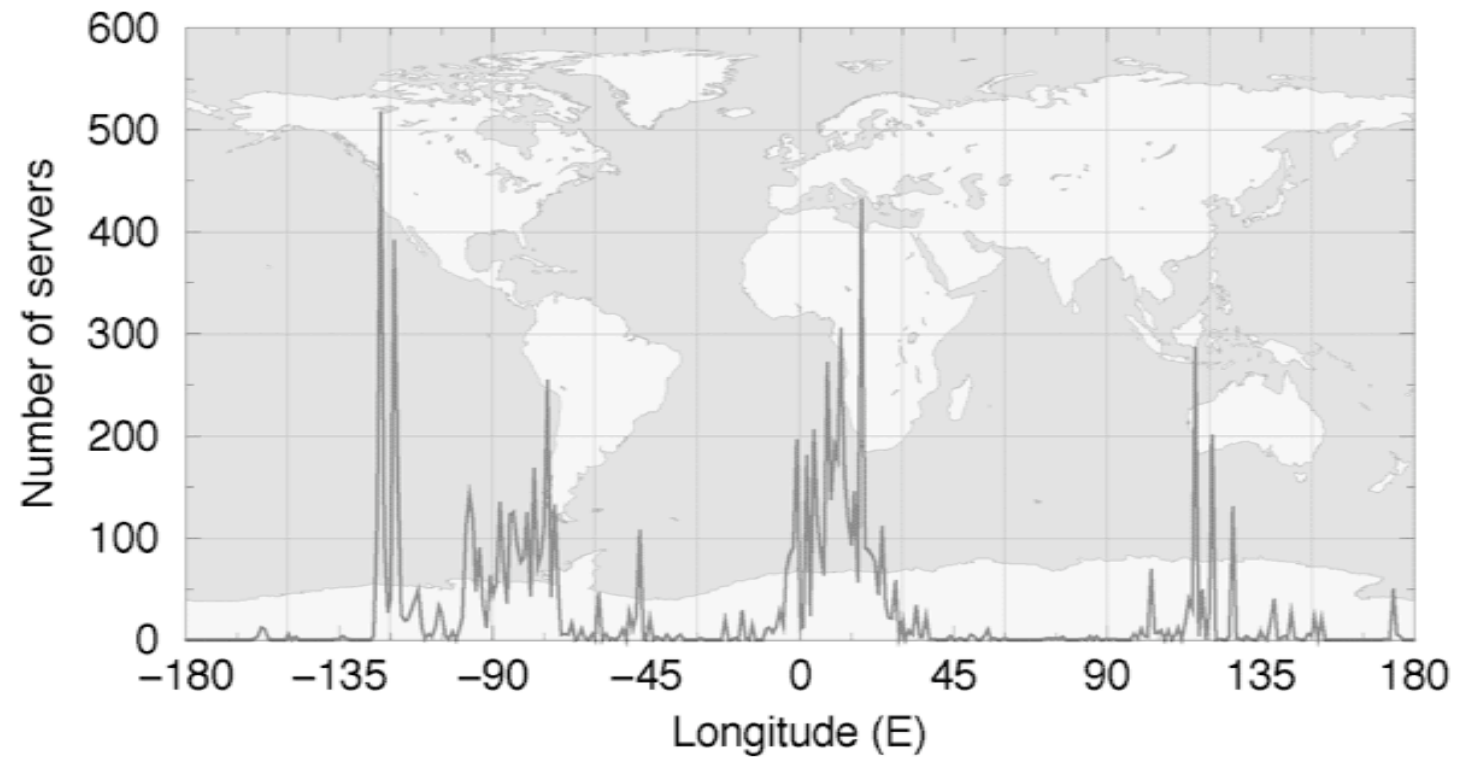# Longitude histogram of Counter-Strike servers

Figure 1: Longitude histogram of Counter-Strike servers

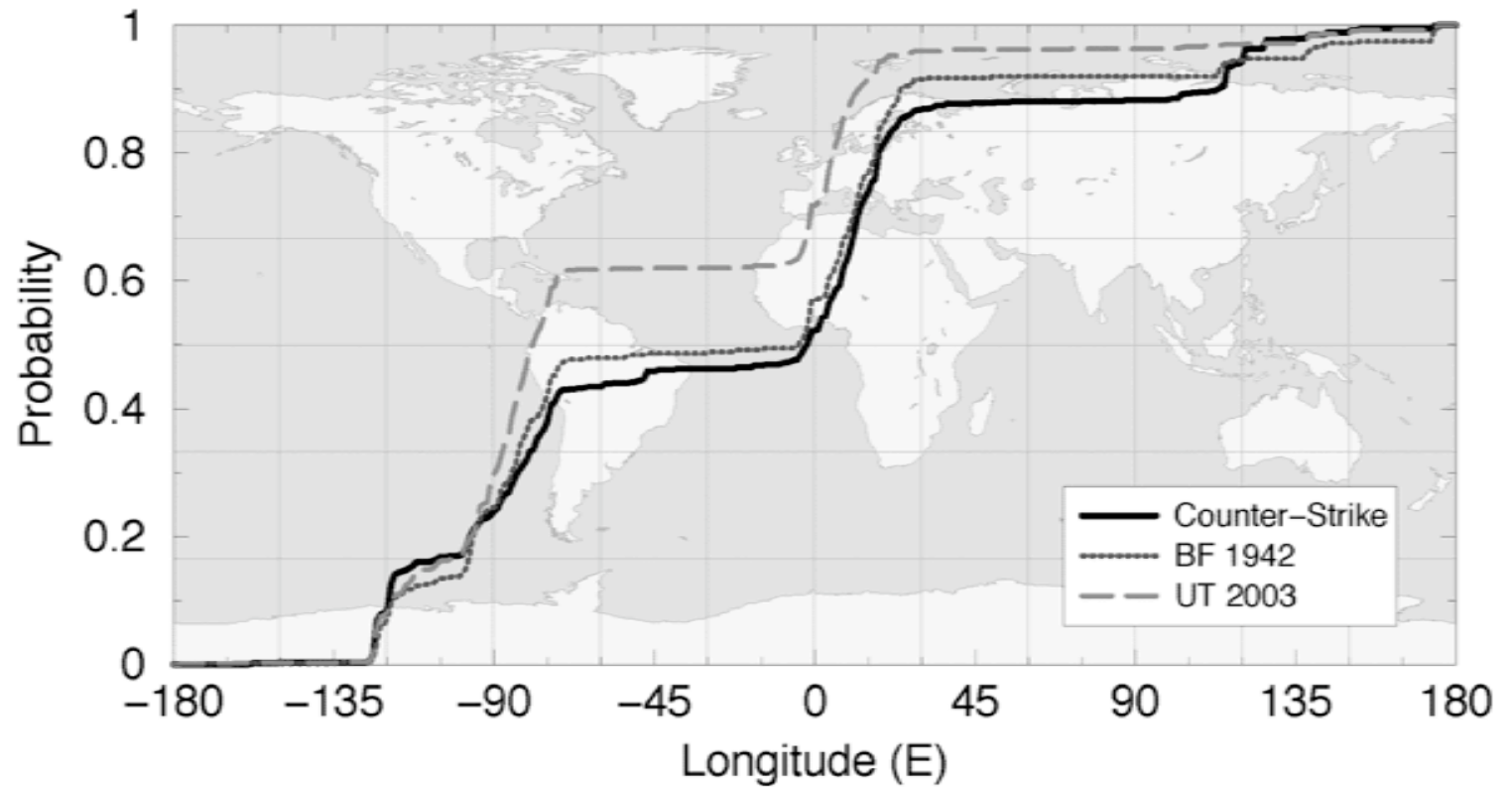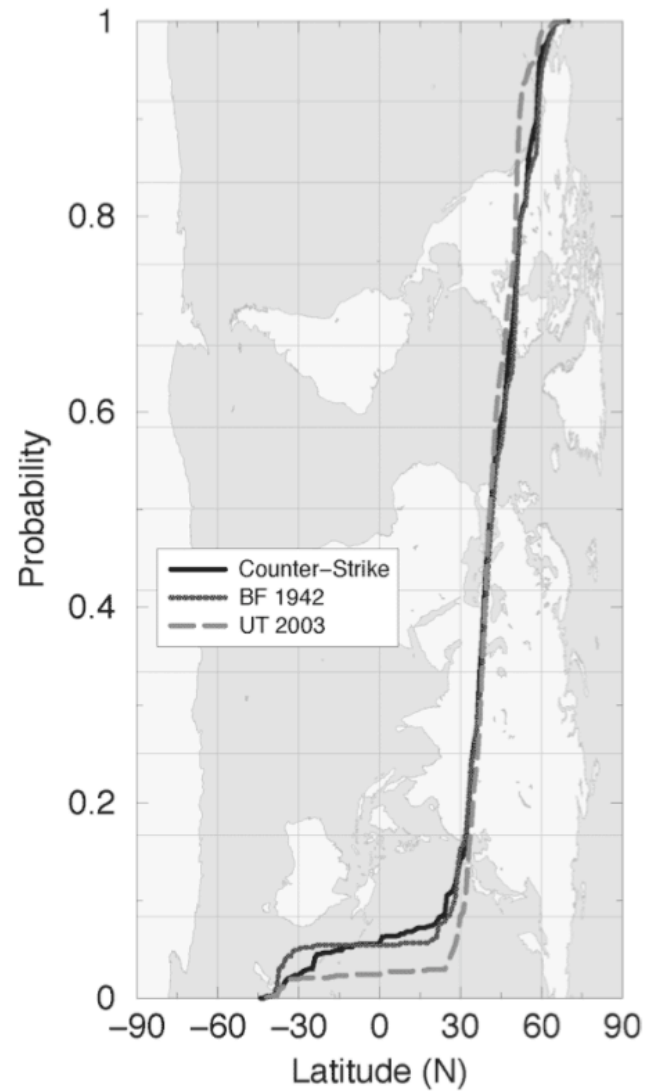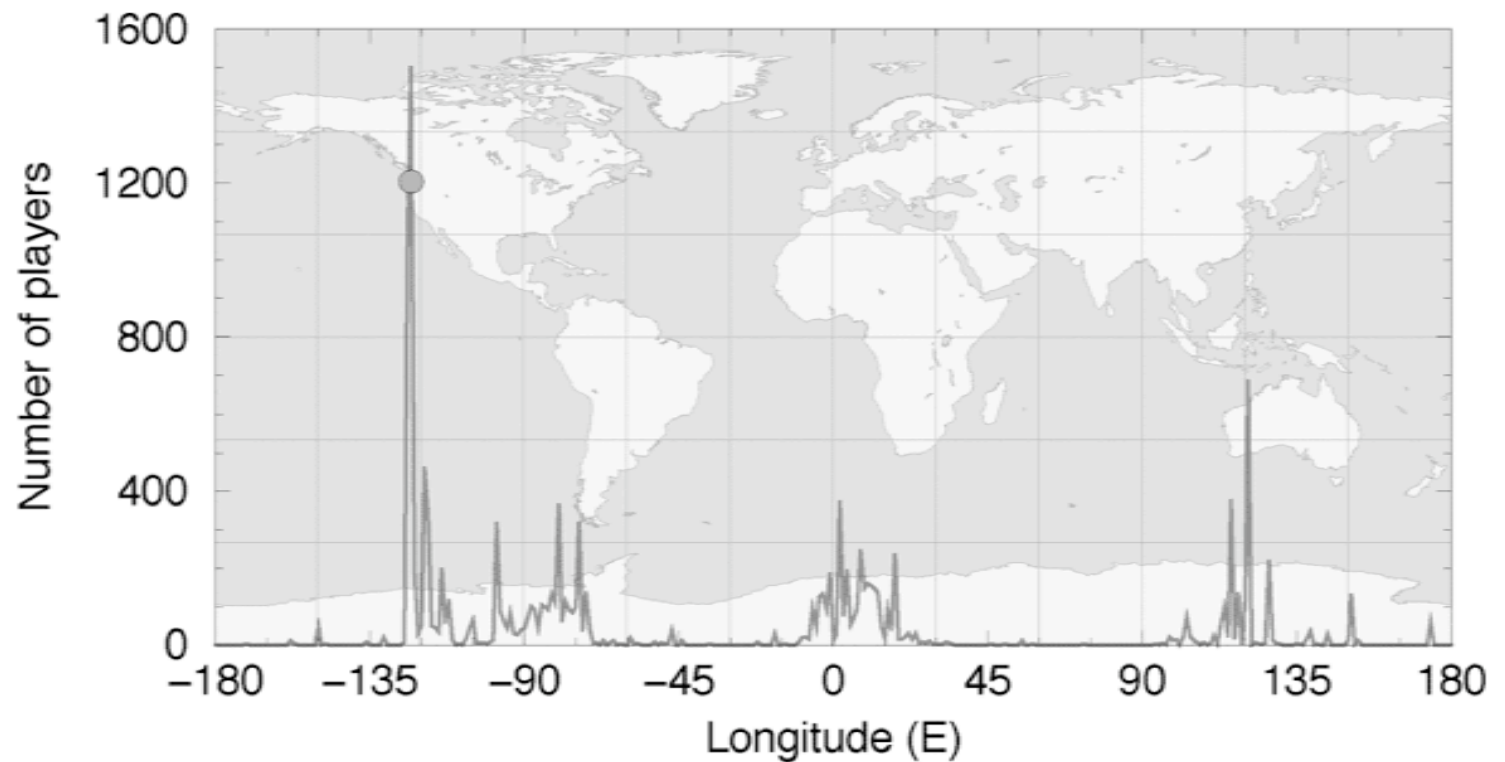# Longitude CDF of game servers

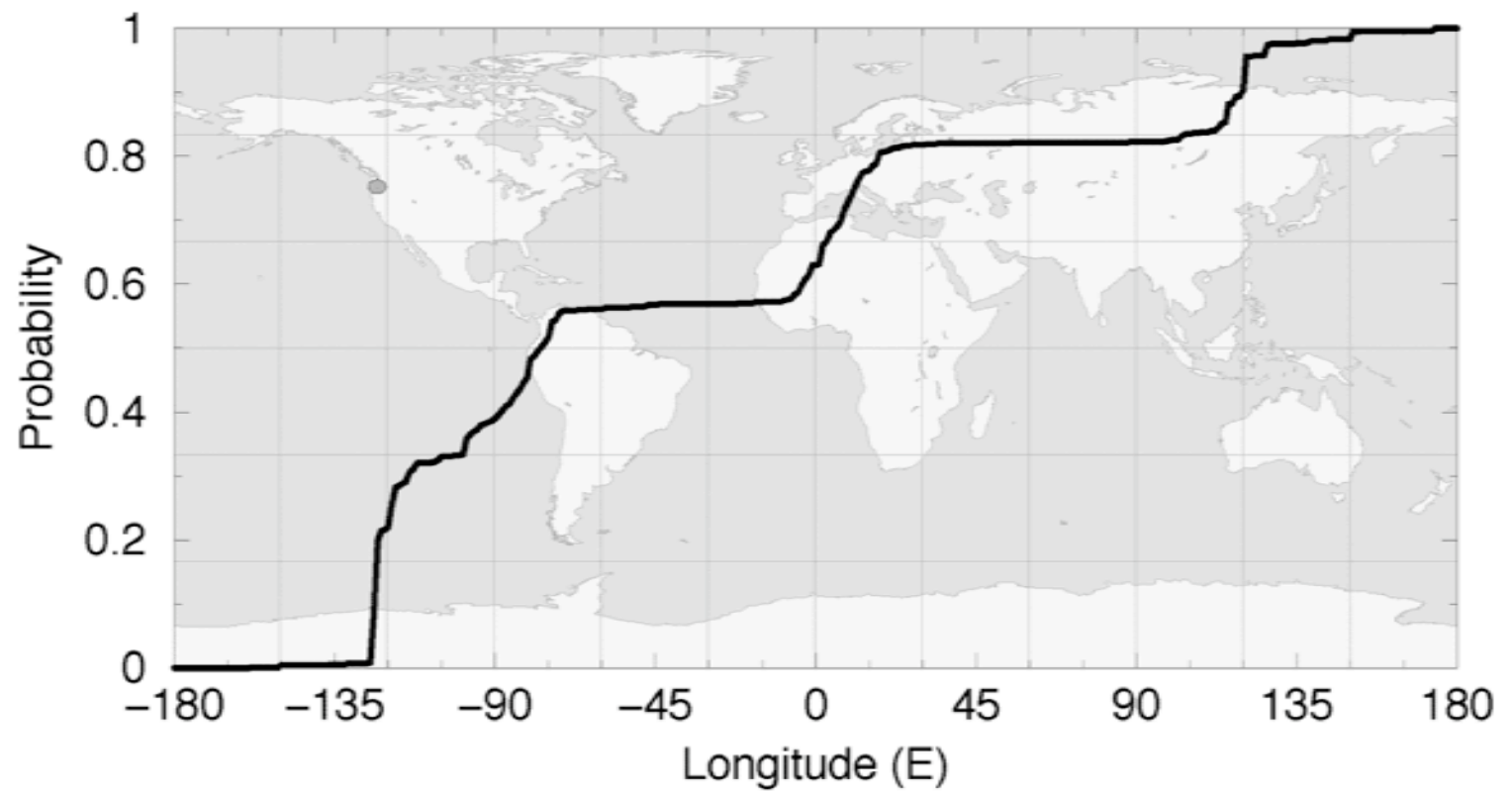Figure 2: Longitude CDF of game servers

Latitude CDF of game servers

Longitude histogram for players in mshmro trace

Longitude CDF for players in mshmro trace

mshmro player locations over time: PST

(a) midnight to 4am

(b) 4am to 8am

(c) 8am to noon

(d) noon to 4pm

(e) 4pm to 8pm

(f) 8pm to midnight

Reason for disparity

- ▸ Disparity between geographic location and network topology
- ▸ Application server delays dominate network delay
- ▸ Server selection mechanisms for popular games are broken
- ▸ The number of players on a server determines desirability over delay
- ▸ A shortage of servers overseas