

# Development of Games

## Lecture 19

### On-line and Mobile Games

# Kinds of on-line Games

- Oriented to single player
  - With client program
    - Practically same capabilities as in desktop games
    - May be not sufficient features in compare with desktop games
  - Without client program
    - Have to minimize traffic
    - Based on java
    - Based on Flash
- Oriented to multiple players
  - may be without Artificial Intelligence

# VRML and Multi-User worlds

- VRML Virtual Reality Modeling Language
  - basic programming model and static behaviors
  - Java/Javascript and interaction with VRML
  - Dynamic behaviors using Java/Javascript
- Distributed virtual worlds
  - Multi-User worlds
  - peer to peer computing

# Some terminology

- mobile game
  - application, at least part of which, executes on a mobile handset
- multi-player game
  - multiple humanoid sources of input to the game
  - humanoids **frequently update shared object(s)** to progress game state (interactive)

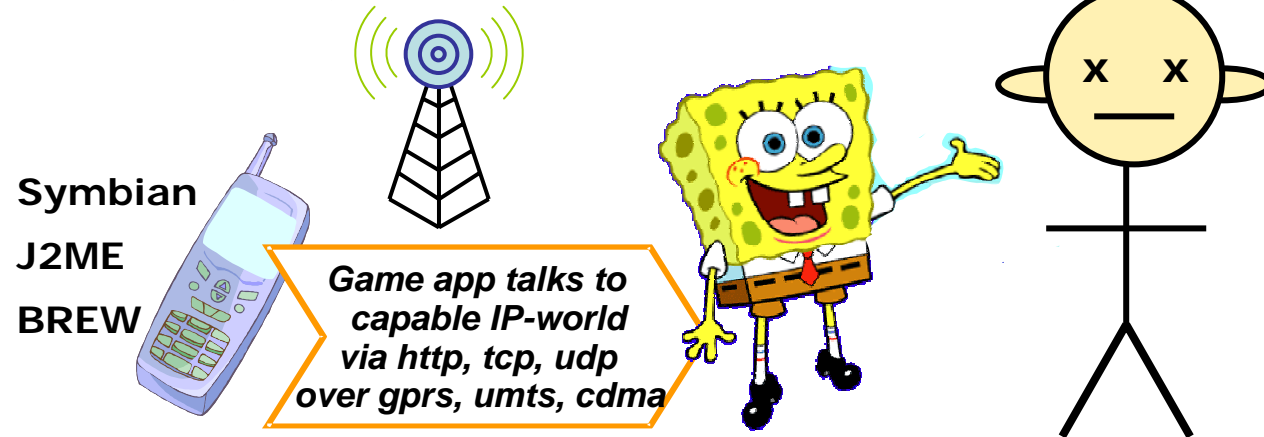
a mobile multi-player game is a distributed application

- no: high-score, lottery, bowling, golf

# Features of mobile Games

- Small screen
- Small memory
- Have to minimize traffic

# Limits imposed by mMPG run-time environment



	game device	air network	carrier-specific	the other player
<b>differences from single-player mobile games</b>	some additional concerns regarding threads and communication limits	<b>critical component of run-time environment. severe implications for distributed applications</b>	may unwittingly limit type of games that can be delivered	<b>severe implications for distributed applications...</b>