INTERACTIVE CELL-PHONE GAMES

CSE 237A Final Project Presentation

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Motivation

Cell phones are ubiquitous
Motivation

- Single player game play is boring, leading to desperation
- Even simple distributed games like the Google Image Labeler are fun!
Goals: Lightweight Entertainment

- Tic Tac Toe on Distributed Embedded Systems
- Minimal server dependency
  - Only used to get client references
    - CORBA, Web Services, HTML, FTP
  - Clients own game objects, communicate directly
- Widely supported development tools
  - Python -- (easy, extensible, Linux and Windows)
  - Fnorb -- (pure Python CORBA implementation)
  - QT/Embedded
Implementation: 2 Phases

- First Generation
  - Proof of Concept
  - Design Distributed Architecture
  - Text Based

- Second Generation
  - GUI Integration
  - Multi-Threaded Python Module
Where did the Time Go?

- Python
  - Is NOT cross compile friendly
  - Around 15-20 hours

- Fnorb
  - Very easy install, but very sensitive to network config
  - 1-2 hours

- QT/E (GUI)
  - Installation required 5 packages (10 tarballs)
  - 12-15 hours
Where did the Time go?

- **Networking**
  - Constant learning throughout project
  - Around 15-20 hours configuring/debugging

- **Application**
  - 1\(^{st}\) and 2\(^{nd}\) implementation
  - Around 30 hours

- **Foosball**
  - Around 4 hours
Results

- Completed
  - 40% application development, 60% config
  - Python, CORBA (fnorb) and QT/Embedded integrated and functioning

- Rudimentary Power Analysis
  - At 100 Mhz -- (ph1 at 5%, ph2 at 95%)

- Customer Satisfaction Survey
  - 5 people, 80% satisfaction rate
Future Work

- Touch Screen Support
- Sound
- WiFi

- User Friendliness
  - Preferences, preferred partners, pseudonym