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Topics: Multiple clients, servers with sensitive data

Approach: Investigate license management in detail

Today's New Ideas: datagrams, the ticket model, transactions

Outline

The Ideal World - Where systems never crash

1. What is a product license
   A means for controlling where/who/how many users

2. What is a license server
   A program that enforces product licensing in
   a multi-user setting.

3. The ticket model
   How the license server limits usage of an
   application

4. The Communication Model
   Simple transactions - a request and a response
   Datagrams - postcards from one socket to another

5. Flow of Control
   In the client
   In the Server

6. The code itself.

The Real World - where bad things can happen to good programs

Possible problems:
1. Clients can crash - natural disasters
2. Servers can crash - unnatural disasters.

Solutions:
1. Clients who crash leave tickets stuck - server
   can "expire" these tickets.
   - The ball_move() model for ticket expiration.

2. When the server crashes, the database is lost.
   - The clients can "check in" to be sure their tickets
     are still good.
   - Ticket validation as a means of recovery.