Online Railway Ticket Booking System

Description

The project aims to develop a ticket booking system that is user-friendly and multi-functional. The project provides following functionalities:
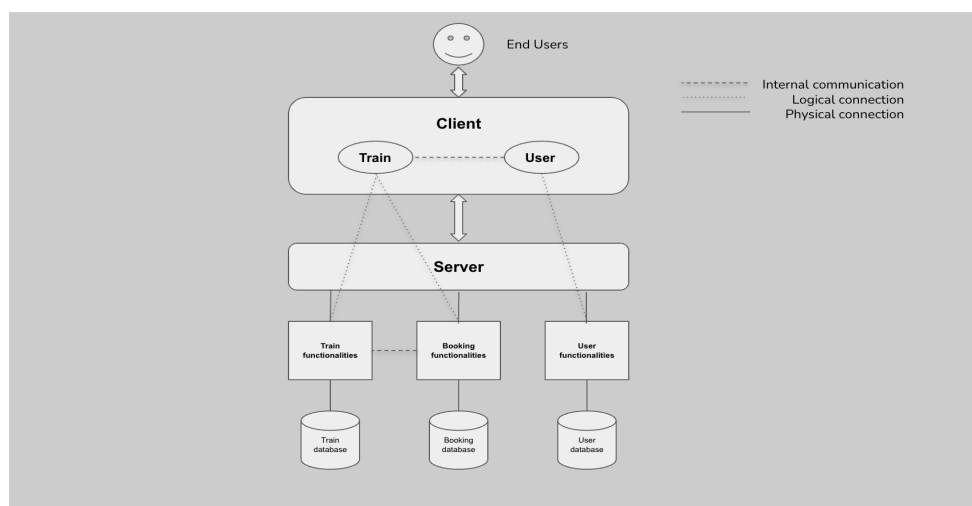
- All account transaction details and customer information are stored in files
- Login system
- Password-protected administrative access
- Three types of login: normal account, agent account(multiple simultaneous logins) , administrator
- Use of system call rather using the library functions wherever possible
- Two tier architecture: Server<->Client using socket programming

Design & Architecture

System is implemented using the following mechanisms:

- Process Management
- File Management
- File Locking
- Multithreading
- Inter Process Communication(IPC)

Architecture diagram for the system:

Pre-requisites

- C language

Quick Start

Clone this repository [**Ignore this step if you already have the repository on you local machine**]

$ *git clone https://github.com/Ashu-Soni/Railway-Ticket-Booking-System.git*

Either use existing build:

Run the server:

$ *./serv*

Run the client:

$ *./cli*

Create your own builds:

Generate the build for server

$ *gcc server/*.c -o <server_name>*

Generate the build for client

$ *gcc client/*.c -o <client_name>*

You can use these new builds by running ./<server_name> for server and ./<client_name> for client.

Sample user-id/password

- Normal User => guest/guest123
- Administrator => admin/admin

Note: you can always create new users by following the registration procedure.

User-wise system functionalities

Normal user/Agent user

- Book Ticket
- Preview Trains
- Update Booking
- Cancel Booking
- Preview Booking
- Logout

Administrator

- Add Train
- Preview Trains
- Modify Train
- Preview Users
- Modify User information
- Preview all bookings
- Logout

Troubleshooting

There is a possibility of vulnerability in the system because of the use of file systems for database management with locking mechanisms. In this type of cases, remove the database files `$ rm db/*` and try again by registering new users.