Perudo Game

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Operating Systems - iTIC
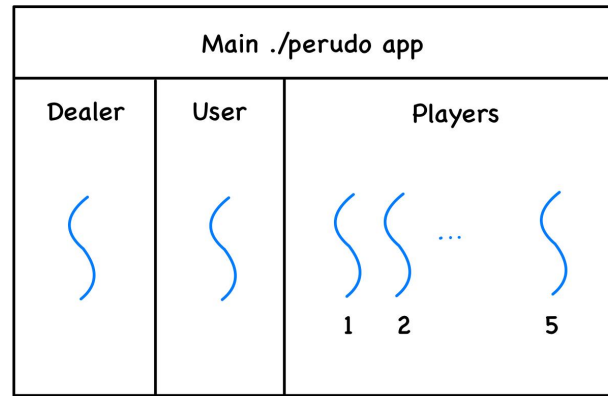
1 - Perudo architecture

❏ There will be 4 modules:

1) Dice module: Implements the operations with the dice

2) Dudo module: Implements all the statistics for calling or not DUDO

3) Bet module: Provides operations for the automated players to generate bets

4) Perudo main program

```
├── Makefile
├── bet.c
├── bet.h
├── dice.c
├── dice.h
├── dudo.c
├── dudo.h
└── perudo.c
```

1 - Perudo architecture

❏ We have 3 main threads creation. The dealer thread that will manage the players … The user thread for being able to play and the automated players threads (5 max).

❏ For this reason, the dealer will use mutex synchronization for managing the turns of each player. As it is explained on the code each player will have it's mutex.

Main ./perudo app		
Dealer	User	Players
∫	∫	∫ ∫ ... ∫
		1 2 5

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2 - Use

❏ The UI is very intuitive, for simplicity at user turn no checking is done, for this reason for for having a gameplay correct, correct input should be given.

```
➜ ./perudo
*******************
    PERUDO GAME
*******************

* Choose one option:
        [1] New Game
        [2] End Game
$ 1

* Choose a level:
        [1] Easy Mode
        [2] Hard Mode
$ 2

* How many players [2-6]: 3
> Starting new game...

*** Round (0) ***
> Starts (Player 0)
[ |32141|*****|*****| ]
> Enter 1 for Bet, 2 for Dudo or 3 for Ending Game): 1
> Enter your amount: 10
> Enter your value: 4
– Player 0: Announces 10 4

[ |32141|*****|*****| ]
– Player 1: Announces DUDO!
```

```
[ |32141|*****|*****| ]
– Player 1: Announces DUDO!

[ |32141|55341|P34PP| ]
> Bet: {10, 4} | Count: {3, 4}
– Player 1 was right!
```

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```
- Player 0 wasn't right!
- Player 1 won!

* Choose one option:
        [1] New Game
        [2] End Game
$ █
```

```
*** Round (0) ***
> Starts (Player 0)
[ |25413|*****|*****|*****| ]
> Enter 1 for Bet, 2 for Dudo or 3 for Ending Game): 3

> Game ended

* Choose one option:
        [1] New Game
        [2] End Game
$ █
```

3 - POSIX-compliant

❏   *Perudo Game* is meant to be *POSIX-compliant*, for this reason works also on *macOS* for example.

```
🔴 anassanhari 🔱 ~/Desktop/OS-Projects/Project-2/src
 → ./perudo
*******************
    PERUDO GAME
*******************

* Choose one option:
        [1] New Game
        [2] End Game
$ 1

* Choose a level:
        [1] Easy Mode
        [2] Hard Mode
$ 2

* How many players [2-6]: █
```

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