Write Network game application “Bulls and Cows”

1. Requirements for Server:
   1. The Server application shall process the following requests from user
      1. Registration
         1. Request Data
            1. ID value,
            2. Name
         2. Response Data
            1. OK or User already exists message
      2. Start
         1. Request Data
            1. User ID
         2. Response Data
            1. Game ID
         3. Exceptions:
            1. User in not finished game
      3. Move
         1. Request data
            1. Game ID
            2. Number of 4 unrepeated digits from 1 to 9
         2. Response data
            1. Result containing number of bulls and cows. Bull – right digit on the right place. Cow – right digit on the wrong place. Example. Per game random number – 4839 , request – 1238 , result – bull: 1, cow – 1. In the case wrong request number server does not notify about error, but result may be wrong. It is the user’s responsibility to send correct request. For example (4839), on request 3333333333333 server should send result bull 1, cows 3. On request 3abc – bulls:0, cows - 1
            2. History of all previous moves (user number, bulls and cows values)
         3. Exceptions
            1. Game is not active
      4. Request for receiving previous games data
         1. Request Data
            1. User ID
            2. From Date/Time (time with minutes precision)
            3. To Date/Time (time with minutes precision)
         2. Response Data
            1. User ID
            2. User name
            3. Games Data

Each game contains history of all moves (user number, bulls and cows values)

* + - 1. Exceptions
         1. User is not registered
         2. No Games in the specified period
  1. Game Over processing
     1. In the case of Move request contains number of 4 bulls the server should save the game data into file having the name of the format <id>\_<name>\_<year>\_<month-number>\_<day>\_<hours>\_<minutes>

1. Requirements for client application
   1. Client application shall allow the user perform following menu items
      1. Registration
         1. Entered data
            1. User ID
            2. User Name
         2. Displayed Data should contain one out of two messages
            1. Ok
            2. User with the given ID already exists
      2. Start New Game
         1. Entered data
            1. User ID
         2. Displayed Data should contain one out of two messages
            1. OK
            2. User with the given ID does not exist
      3. Enter number
         1. Entered data
            1. Number of 4 unrepeated digits from 1 to 9
         2. Displayed data should contain one out of three messages
            1. History of all moves containing number (bulls: x, cows: y)
            2. Game over message, containing number of all moves
            3. Game is not active
      4. Display history finished games
         1. Entered Data
            1. User ID
            2. Date / time from
            3. Date /time to
         2. Displayed data should contain one out of three messages
            1. History of all moves for each game matching the entered data (see requirement 1.1.4.2)
            2. User is not registered
            3. No games for specified period