You are now working on a game called Car Driving Online. It's a car driving simulation game, where player can freely drive his car around, collecting stuffs, making stunts, and joining online with other friends (using Photon Unity Networking - PUN)

Physics

* You are about to implement the buoyancy effect for a special car type, which can move freely above the water level. How can you solve that problem using PhysicsX?

Answer : (physics.gravity) on the car and then we create waves in the water using the formula (1,0,1) Mathf.Sin(). because it uses a rigid body

then the car will have a buoyancy effect...then we can use a meshfilter on the plane (water) to meshfilter following up and down waves.

Architecture Design questions

* You are about to implement the collection system, which handles 3 things : allows the designer to manually place tokens around the map, allows the player to collect those tokens by colliding with them, and allows the player to unlock new character skins / vehicle skins / etc when collecting enough tokens. How do you design that system, in such a way that least-dependant on other gameplay elements, because our current codebase is quite chaotic.

Answer : for point 1, which is manually placing tokens around the map, we can make each user a different location for the token. we can use a (random range) at several points but with the same amount of token value (not valid for playing together(mabar)) this will reduce collisions between users.

later we can add (fuel) to each user such as (need for speed no limit) limiting user activities to 8 activities per day. when doing 1 trip the (fuel) is reduced by 1 and before 1 hour the fuel will add (1) again, so that if at one time the user spends his fuel if he wants to play again he can buy it with money at the shop or wait / 1 hour to get 1 fuel

Networking

* The game uses PUN, each player updates his location to others. There is a reported exploit that allows cheaters to cheat by using Cheat Engine to speed up the game. How is that possible ? And what can you do to minimize impacts from that exploit?

Answer : maybe we give a condition if the time in the application is not the same as the time server because it was accelerated earlier ... then the game crashes ... or there is a cheating notification

* You are about to design the synchronization mechanism for the game. Each player controls a vehicle, which needs to sync properties below. How do you synchronize those properties?
* Position of the vehicle
* Rotation of the vehicle.
* Wiper State: 3 state - on , low, high
* Rear light State: 3 state: off , on , blink
* Sidelight State: 4 state: off, on , blink-slow, blink-fast
* Horn: player can press and release the horn button, to start and end the horn sound ( he sound continuously plays when player holds the button)

Answer : maybe we can use playerpref to set data such as the position of the rear light on off, on or blink, etc.

and we can get the data when the user log in or certain conditions where we can set it like the save button.