**Random number game – Technical Test**

The project is to build a random number game in your preferred type of application (web-app, windows form, or console app), where the user has to try and guess a number that your application has thought of, based on some simple options / rules outlined below.

We will record the session using a screen recording tool, just for general feedback and to see how you address issues.

You **can** use online resources and any other tools on the laptop (IDEs etc) to achieve the outcome.

Random Number Game Requirements

* A random number should be generated in the background using a specified range, the range should be displayed to the user.
* An input should be used to allow the user to make a guess, the user should be told if the guess is incorrect, higher, lower, or correct
* The number of guesses should be limited, and this limit should decrease as the user makes an incorrect guess, this should be displayed on the page to the user
* You should allow users to select different difficulties which will change the range that the random number can be in (eg. Easy = 1-10, Medium = 1-100, Hard = 1-1000) it should also change the number of guesses that are available for the user (eg Easy = 6 guesses available, Medium = 5 guesses available, Hard = 4 guesses available)

In this test we are looking for the use of OOP, there are opportunities to implement inheritance and abstraction which should be taken where possible, even if that means the code is overengineered.

It is also important to take note that we want to make this easily extendable, that means we might want to change the difficulties available, add new difficulties, change the ranges on the difficulties etc

We are also looking for the use of various front-end skills to increase the appeal of the web interface (if you choose that type of project)

We are looking to examples of defensive programming and proper handling of exceptions.