**Zoo Simulator**

**IDE:** Visual Studio 2017

**Implementation:** .Net Standard C#

**Method:** WinForm

Creating the ZooSimulator I chose to use Windows Forms (WinForm) simply because I wanted to use them in previous projects but never had the opportunity nor time. I was really curious of the capability and possibilities that one could achieve using WinForm and even though this project hasn’t even scraped the surface of what can be done.

In the project I have incorporated inheritance for the different types of animals that we are using. Since there are almost no differences it just made sense of using inheritance, while the Elephant had one difference which was not being pronounced dead until the next hour if being under 70% health, in that situation I have declared the **IsAlive** method as virtual so I can add some extra checks inside it on the elephant only.

There are also interfaces incorporated in the project in the animal base class to keep things more organized make things more accessible for developers in the future.

For feeding the animals when clicking the button I went ahead and used **async** instead of a timer as I needed 3 different values for each type. In my opinion it is easier to use **async** and **await** than a timer as I would’ve had to keep track of how many runs I did within the timer in order to get different values. It is also easier than storing each created value to an array/List and making just the newly created isn't part of the one that exists just to have 3 unique values. It is still possible to get the same value using **async** but the chances are very slim and we get better performance.