Assignment 2 – 100 points

Use what we've learned over the last few classes to write an iPhone app to convert a dog's age to the equivalent human age.

How to Convert Dog Years to Human Years (simplified version)

As a general guideline, the American Veterinary Medical Association breaks it down like this:

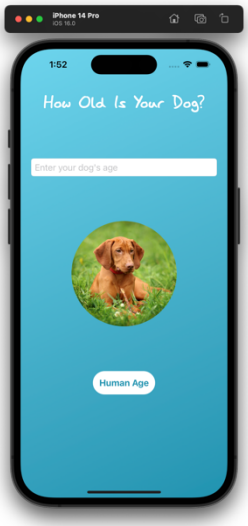
- 15 human years equals the first year of a medium-sized dog's life.
- Year two for a dog is equal to about nine years for a human.
- After that, each human year is approximately five years for a dog.

Recently, a study published in the journal *Cell Systems* came up with a new equation to figure out a dog's comparable human age:

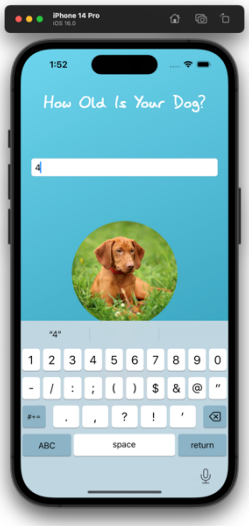
- A dog's age in human years is equal to 16 times the natural log of the dog's age, plus 31.

App Screenshots

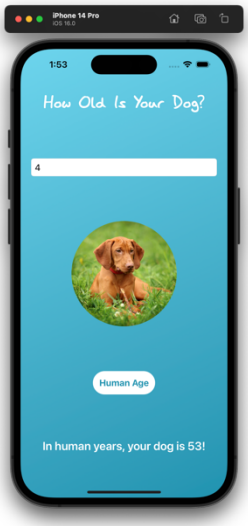
At app startup



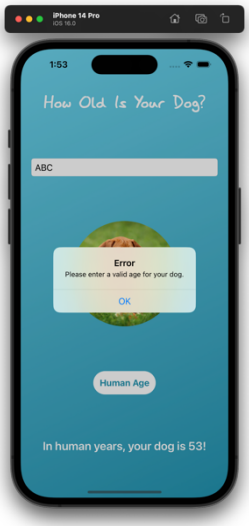
When the text field is selected



After pressing the "Human Age" button



If the text field is empty or contains a non-numeric value when the button is pressed



Requirements

- Set up the app icons. You can use the one provided with the assignment or try making your own.

- Download a custom font of your choice, add it to your app's bundle, and use it for the "How Old Is Your Dog?" title at the top of the screen. (The font that I used is called "LazyDog").

- Use a linear color gradient of your choice for the app's background. This can be done in several ways (`ZStack`, `background()` modifier, etc.) This web page shows a variety of nice-looking color gradients that can be used in an iOS program:

  https://uigradients.com

- Set the keyboard type for the text field to `.numbersAndPunctuation` and the text field style to `.roundedBorder`.

Notes

- You can calculate a natural logarithm in Swift by importing the Foundation framework and calling the function `log()` (which takes a `Double` argument):

```
import Foundation

...

print(log(Double(10)))
```

- Colors, fonts, image, button style, etc. do not need to match those shown in the screenshots as long as all of the elements are present.

- You can use either of the two methods described in the assignment sheet to calculate the dog's human age. The two methods will give different results. (The app pictured in the screenshots uses the natural log equation.)

Extra Credit (5 points)

- Write a View Model to encapsulate the logic of calculating the dog's age rather than putting all the code in the app's ContentView. See the Calculator (MVVM) example on Blackboard.