ET0529 Mobile Application Development - Sample Lab Test 2

Pet Adoption Center App

Duration: 90 mins

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Scenario

The aim is to create a Flutter app to allow users to enter pet information for an Animal Shelter via a pop-up dialog. The Home page will display all pets in a ListView. Unless otherwise stated, you can decide on the filenames, class names, and variable names.

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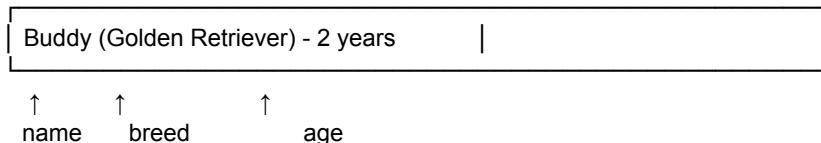
Q1. Create a new dart file to store a class called Pet

- Use art.dart as a reference
- It has 3 attributes (variables) for storing the pet's **name**, **breed**, and **age**. For simplicity, all these 3 variables are Strings.
- It has a constructor that takes in 3 strings to initialize the 3 String variables.
    - Examples of pet's name: "Buddy", "Whiskers"
    - Examples of breed: "Golden Retriever", "Persian Cat"
    - Examples of age: "2 years", "6 months"

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Q2. Create a new dart file to store a class called PetDataService

- Use artdataservice.dart as a reference
- It has a List<Pet> z to store the Pet objects created
- It has a getCount() function to return the number of Pet objects in z
- It has an addPet() function to take in 3 strings (the pet's name, breed, and age) and create a Pet object. The object is then stored in z.
- It has a getPetAt() function to take in an index and return the Pet object at that indexed location from z.

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Q3. Create a new dart file for the Home page

- Use artsummary.dart as the reference
- The AppBar shows the title **"Pet Adoption Center"**
- The Body of the Scaffold shows the following vertically:
    - A ListView displaying all Pet objects in z, with each item formatted as follows:

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┌─────────────────────────────────────────────┬──────────┐
│ Buddy (Golden Retriever) - 2 years           │          │
└─────────────────────────────────────────────┴──────────┘
    ↑        ↑             ↑
  name    breed          age
```

- A button to pop up a dialog box for New Pet (see Q4)

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Q4. Enter New Pet information via a pop-up dialog

- The dialog shows **"New Pet"** as the title
- The dialog has 3 TextFields to allow the user to enter the pet's **name**, **breed**, and **age**. No validation is needed for empty text fields, assuming the user always enters valid texts.
- The dialog has two action buttons, **Add** and **Cancel**.
  - clicking **Add** - call the respective function in PetDataService to create a Pet object using the data entered in the 3 text fields and store it in z. Then, return to the Home page.
  - clicking **Cancel** - do nothing and return to the Home page.

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Q5. Edit the main.dart to set the home page and necessary routings

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Q6. Create a new dart file for the Update Pet page

- Add code to the Home page. When the user tapped on a pet in the ListView, navigate to this new page to allow the user to update the **breed** and **age** for the tapped pet.
- The AppBar in this new page shows the title **"Update Pet"**
- The Body of the Scaffold shows the following vertically:
  - A text showing the pet's **name** (Non-editable)
  - Two TextFields to allow the user to enter the new **breed** and new **age**. No validation is needed for empty text fields, assuming the user always enters valid texts.
  - A button **"Update"** to update the respective Pet object in z using the data entered in the 2 TextFields. Then, return to the Home page.
- You may add additional variables/functions in PetDataService or use the existing ones for Q6.

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