PROFESSIONAL

VIRTUAL PET - 1

WhiteHat Jr
Live Online Coding for Kids

INSTRUCTIONS:

Goal of the Project:

In Class 35 you learned how to create a remote real-time database, how to read and write and connect to a remote real-time database.

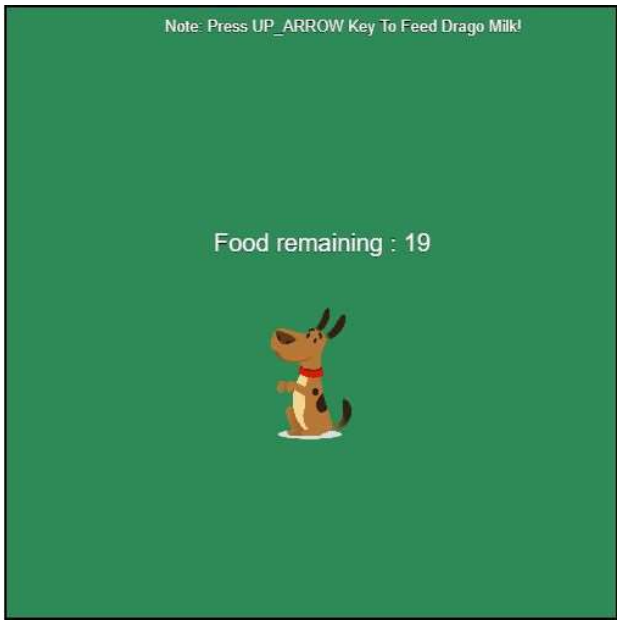
In this project you will have to apply what you have learnt in the class and create a virtual pet app.

Story:

Shreya really wants a pet. But nobody else in her family wants to bring a pet in the home. They believe Shreya is not old enough to take care of a pet.

Can you create a virtual pet for Shreya? Create a pet in such a way that Shreya should be able to take care of it and make sure it does not die.

Ready?



***This is just for your reference. We expect you to apply your own creativity to the project.**

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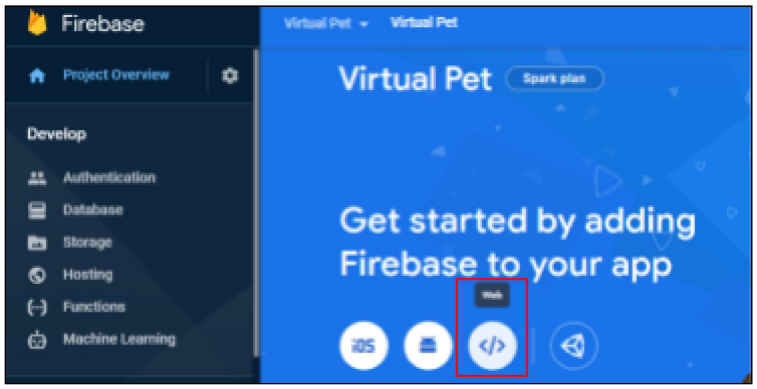
Getting Started:

1. Download a blank template here: Project Template.
2. **Unzip** this folder.
3. Rename the unzipped folder as **Project 34.**
4. **Import** this folder **into VS Code.**
5. Start editing your code in **sketch.js.**

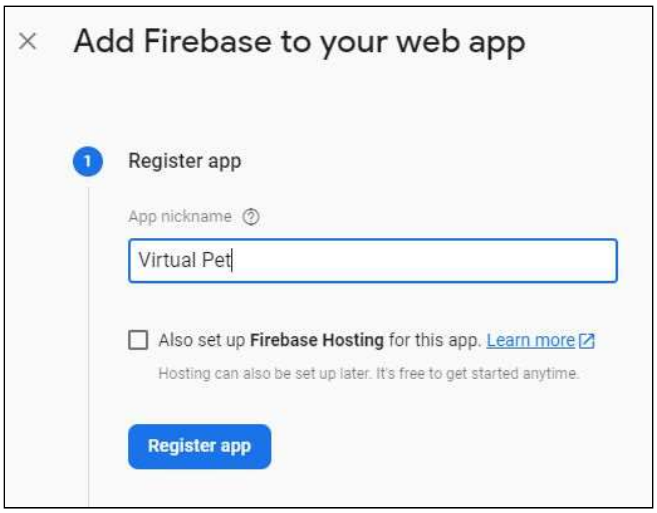
Specific Tasks to complete the Project:

1. Setup **Firebase** for the Project.
    - Go to your firebase console and click on **Create a Project.**
    - Enter the name of the Project as **Virtual Pet.**
    - Accept terms and click on Continue.
    - **Disable Google Analytics** option.
    - Click on Create Project.
    - In the left hand side panel click on **Database.**
    - Under **Realtime Database**, click on **Create Database.**
    - To create a database in test mode, click on **start in test mode** and click on **Enable.**
    - Create a node in the Database as **Food** and assign it a value (For example: 20).
        - This represents the amount of milk bottles available to the user to feed the pet.

- Click on **Project Overview** and select **Web** option.



- Register the app and don't check the firebase hosting option.



- Add **Firebase SDK.**
  - Copy the content by clicking on the icon to the bottom right and paste in the **index.html** file along with an **src library** for the firebase database in **VS.**

```
<!-- The core Firebase JS SDK is always required and must be listed
<script src="https://www.gstatic.com/firebasejs/7.15.5/firebase-app.

<!-- TODO: Add SDKs for Firebase products that you want to use
     https://firebase.google.com/docs/web/setup#available-libraries

<script>
  // Your web app's Firebase configuration
  var firebaseConfig = {
    apiKey: "AIzaSyDgXdTr-JrPWIUhr6ValVypHhRTsqekG8o",
    authDomain: "virtual-pet-3ff51.firebaseapp.com",
    databaseURL: "https://virtual-pet-3ff51.firebaseio.com",
    projectId: "virtual-pet-3ff51",
    storageBucket: "virtual-pet-3ff51.appspot.com",
    messagingSenderId: "1036403187273",
    appId: "1:1036403187273:web:74620089ca984f0d1ca998"
  };
  // Initialize Firebase
  firebase.initializeApp(firebaseConfig);
</script>
```

2. Download the images of the dog from here and here.

3. Create global variables **dog, happyDog, database, foodS, foodStock.** in sketch.js. (You can give variable names according to your own understanding.)

4. In the **preload function** load images of the dog.
5. In the **setup function**:
    - Create a canvas of size 500, 500.
    - Create a dog sprite and add the dog image to the dog sprite.
    - Assign firebase database to variable database.
    - Fetch the **foodStock** from the database you have created using the following syntax.

```
foodStock=database.ref('Food');
 foodStock.on("value",readStock);
```

6. In the **draw() function**:
    - Use **background()** and add color code: (46, 139, 87) in it.
    - Using **UP_ARROW** write the code to feed the dog.
        - This action will feed the dog one milk bottle.
        - Deduct the count of food left from the firebase.
    - After feeding the dog, change the image of the dog to a happy image of the dog.

```
if(keyWentDown(UP_ARROW)){
  writeStock(foodS);
  dog.addImage(dogHappy);
}
```

- After drawSprites() write the text to print foodStock from the database.
    - Use **textSize** to increase the size of the text, **fill()** to set text color and **stroke()** to outline the text.
      (You can add one more text in draw() to show as an instruction on Canvas).

7. Write a function to read and write foodStock from the database.

```
//Function to read values from DB
function readStock(data){
  foodS=data.val();
}

//Function to write values in DB
function writeStock(x){

  database.ref('/').update({
    Food:x
  })
}
```

8. Make sure the project works before you submit it.

*Refer to the images given above for reference.

Submitting the Project:

1. **Upload** your completed project to your own github account.
2. Enable **Github** pages for the repository.
3. Copy and paste the link to the github pages in the Student Dashboard against the correct class number.

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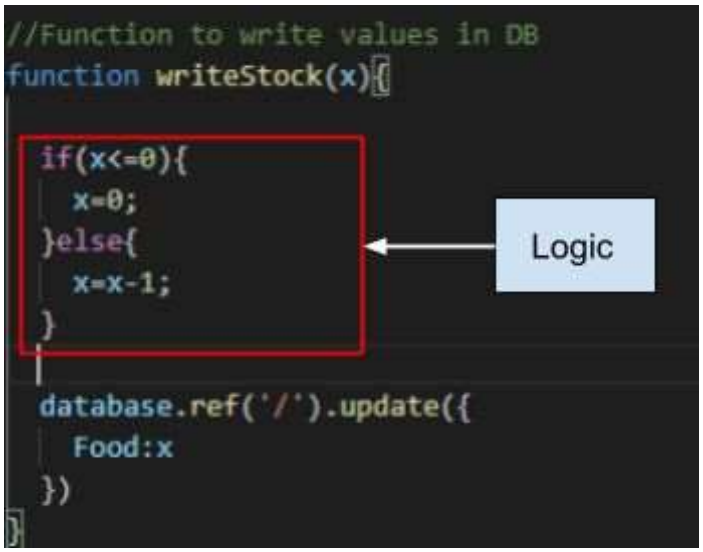
Hints:

1. Try to add a condition in **writeStock()** to decrease the value of **foodS** and once it becomes 0 **foodS** should be set as 0 always. FoodStock can never be negative.



2. You can add styles (like color, text size, position, etc.) as per your choice when creating the UI.

REMEMBER... Try your best, that's more important than being correct.
After submitting your project your teacher will send you feedback on your work.

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