PROFESSIONAL

AIR BALLOON RIDE

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.

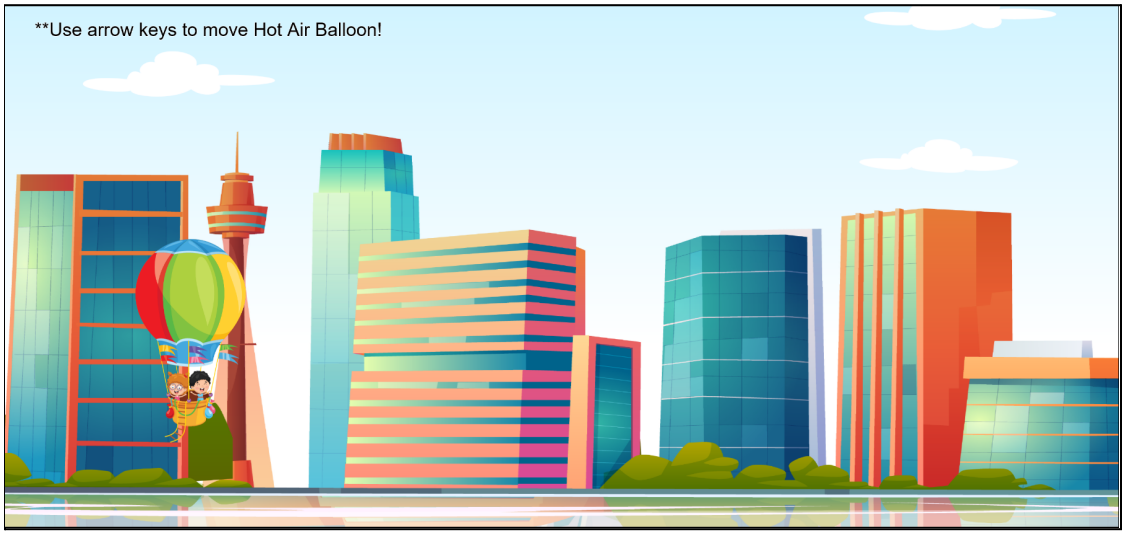
In this project you will have to apply what you have learnt in the class and set up a real-time database for your game. Also add a background image for the game and add an air balloon and add keyPress events.

Story:

Kanchan went to an event and there she saw a hot air balloon ride. But due to lack of timing, she missed the ride. After coming back home she planned to create her own virtual hot air balloon in which she can travel with her cousins. But she is not good at coding.

Can you help her in creating this?

See a video of this in action.



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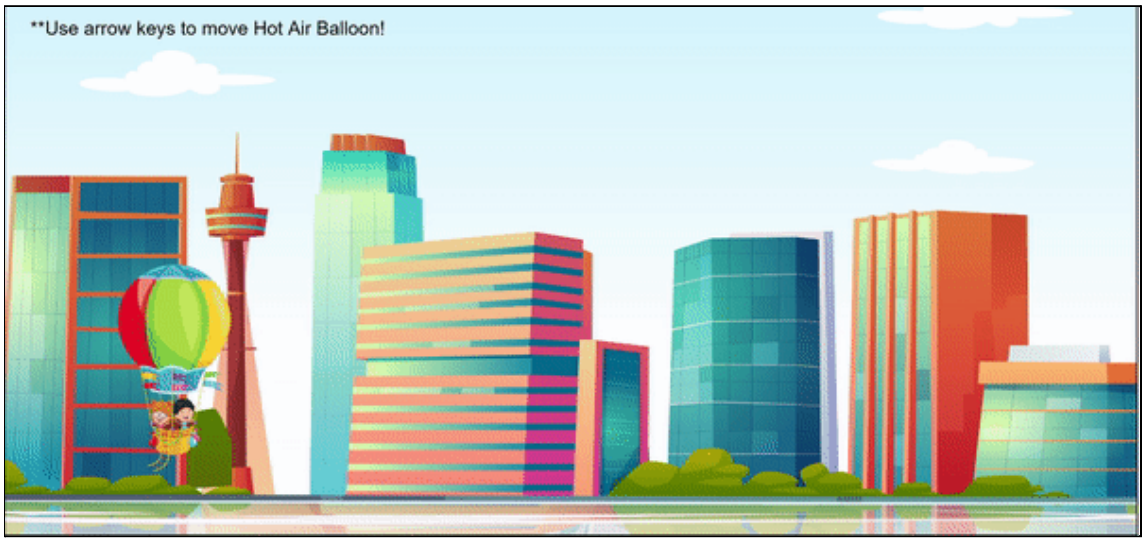


***This is just for your reference. We expect you to apply your own creativity to the project.**

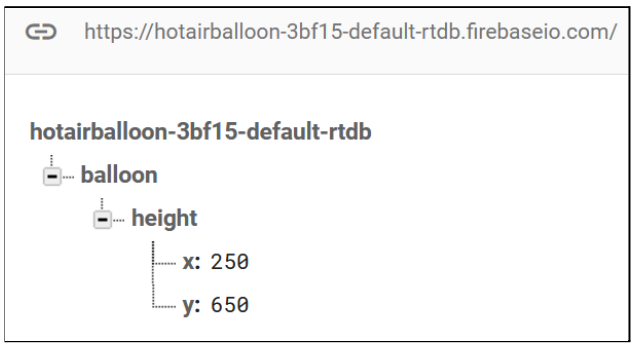
Getting Started:

1. Download a blank template here: Project Template.
2. **Unzip** this folder.
3. Rename the unzipped folder as **Project 35.**
4. **Import** this folder **into VS Code**.
5. Start editing your code in **sketch.js**.

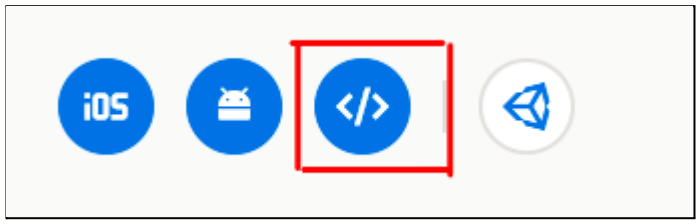
Specific Tasks to complete the Project:

1. We have already created an animated design of the project for you.
2. Setup **Firebase** for the Project.
    - Go to your firebase console and click on **Create a Project**.
    - Enter the name of the Project as **Hot Air Balloon**.
    - 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 a **Balloon** and inside it create another node **position** and add two **x and y** nodes and assign it a value (For example 250,650).

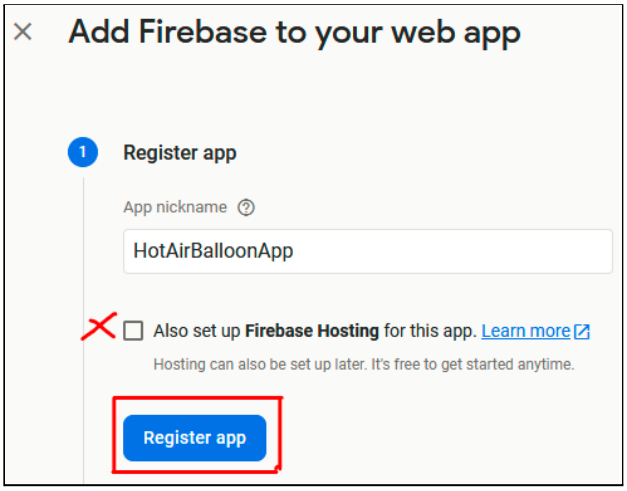
- This represents the x and y position of a hot air balloon.



- Click on **Project Overview** and select the **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/8.2.0/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: "AIzaSyBNete7_S-J1gy_e--bJo8dg2b6UUoVnaM",
    authDomain: "hotairballoon-3bf15.firebaseapp.com",
    databaseURL: "https://hotairballoon-3bf15-default-rtdb.firebase
    projectId: "hotairballoon-3bf15",
    storageBucket: "hotairballoon-3bf15.appspot.com",
    messagingSenderId: "626683535337",
    appId: "1:626683535337:web:a8da905294cda5d22cf578"
  };
  // Initialize Firebase
  firebase.initializeApp(firebaseConfig);
</script>
```

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

4. Fetch the **balloonPosition** from the database you have created using the following syntax.

```
var balloonPosition=database.ref('balloon/height');
balloonPosition.on("value",readPosition, showError);
```

5. Write a function to read the position from the database. See Hints
6. And also write **showError( )** to show an error if any occurred. See Hints
7. Create an **update( )** function outside draw( ).
8. When keyEvents are pressed, update the position of the balloon in the database. See Hints
9. Increase the size of the balloon when Up_Arrow is pressed.
10. Decrease the size of the balloon when Down_Arrow is pressed.
11. 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.

Hints for the project:

1. You can use the code block given below for reading and updating position in the database:

```
function updateHeight(x,y){
  database.ref('balloon/height').set({
    'x': height.x + x ,
    'y': height.y + y
  })
}

function readHeight(data){
  height = data.val();
  balloon.x = height.x;
  balloon.y = height.y;
}

function showError(){
  console.log("Error in writing to the database");
}
```

2. You can use the code given below to increase the size of the balloon when the UP_ARROW key is pressed:

```
if(keyDown(UP_ARROW)){
updateHeight(0,-10);
balloon.addAnimation("hotAirBalloon",balloonImage2);
balloon.scale=balloon.scale -0.01;
}
```

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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