

3D Interactive Earth

Interactive 3D Globe – Country Search & Visualisation

User Guide

1. Introduction

The **3D Interactive Earth** application is a web-based globe that enables users to explore the Earth in three dimensions. Users can rotate, zoom, hover over countries, search for specific ones, and view detailed information about them.

This guide provides instructions on how to use the application and its key features.

2. System Requirements

To use the application, you will need:

- A modern web browser (Google Chrome, Mozilla Firefox, Microsoft Edge)
 - an Internet connection (for retrieving country data)
 - a Mouse, trackpad, or touchscreen device No installation is necessary for end users.
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3. User Interface Overview The

application includes:

- **3D Earth Globe** – Main interactive display area
 - **Search Bar** – Allows users to search for countries
 - **Search Button** – Start the search process
 - **Information Panel** – Displays country information
 - **Close Button (X)** – Closes the information panel
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4. Basic Controls Mouse & Touch Controls

- **Rotate Globe:** Click and drag (desktop) or swipe (mobile)
- **Zoom:** Scroll the mouse wheel (desktop) or pinch (mobile)
- **Hover:** Move the cursor over a country to highlight it

- **Click Country:** Click on a country to view data



Keyboard Controls

- **Enter:** Execute a country search
- **Escape (ESC):** Close the information panel

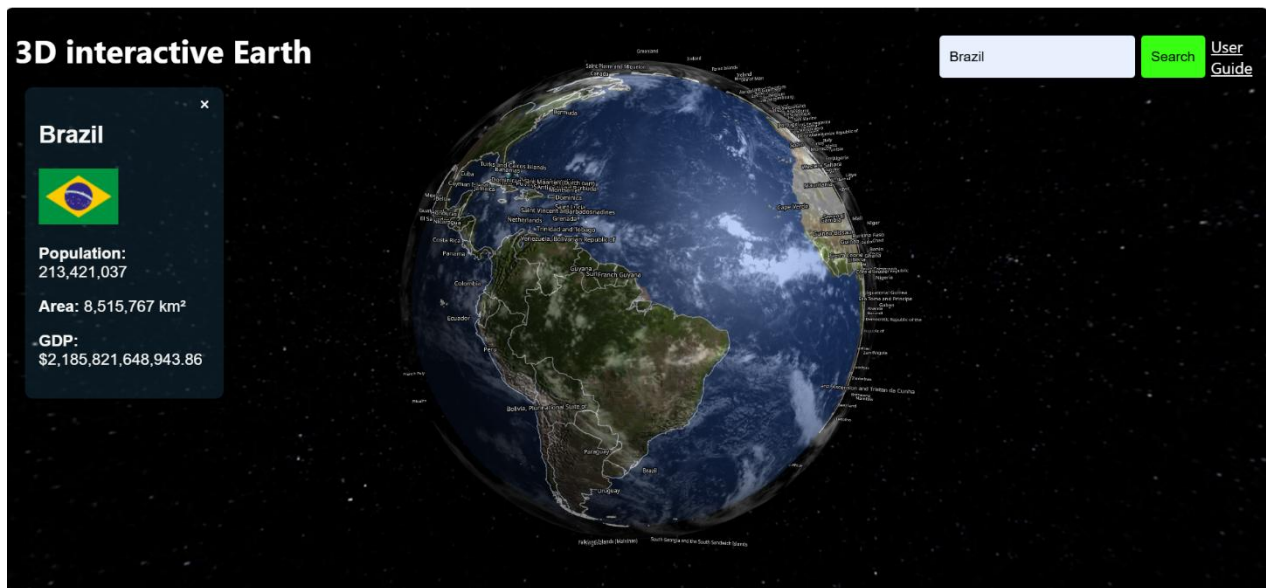
5. Searching for a Country

1. Click the **search field** at the top of the screen
2. Type a country name (for example, *Brazil*)
3. Press **Enter** or click the **Search** button

What Happens Next:

- The selected country is highlighted on the globe
- The information panel opens
- Country details are displayed

If the country is not found, a message will appear.



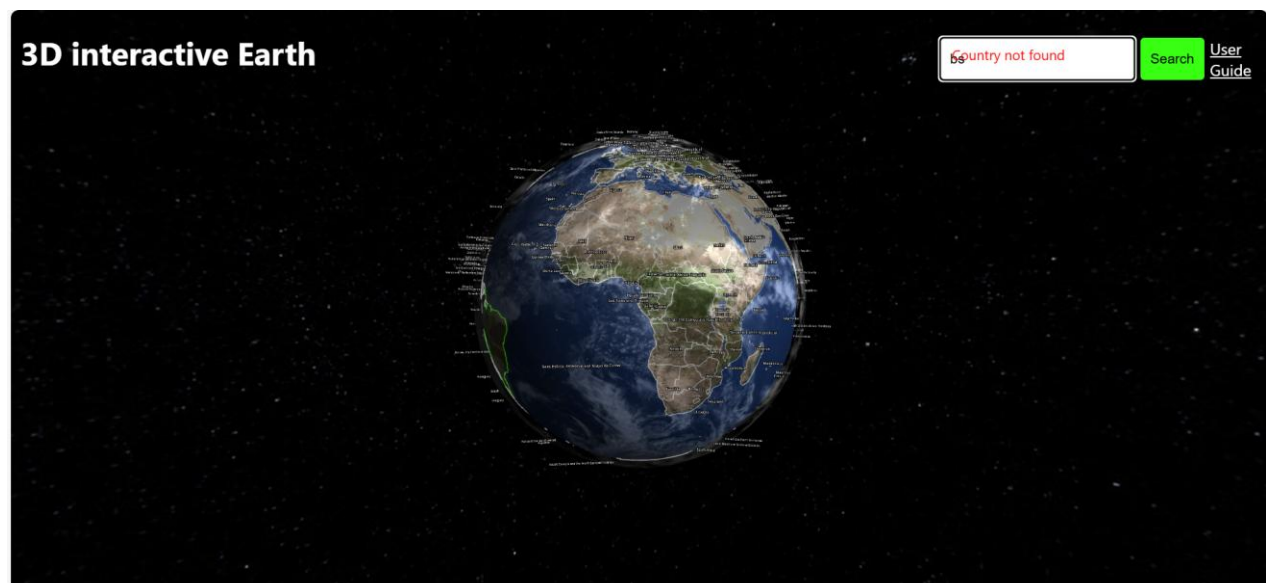
6. Country Information Panel

When a country is selected, the information panel displays:

- Country name
- National flag
- Population
- Area size
- GDP (Gross Domestic Product)

Closing the Panel • Click the **×** **Close button**

- Or press **ESC** on the keyboard



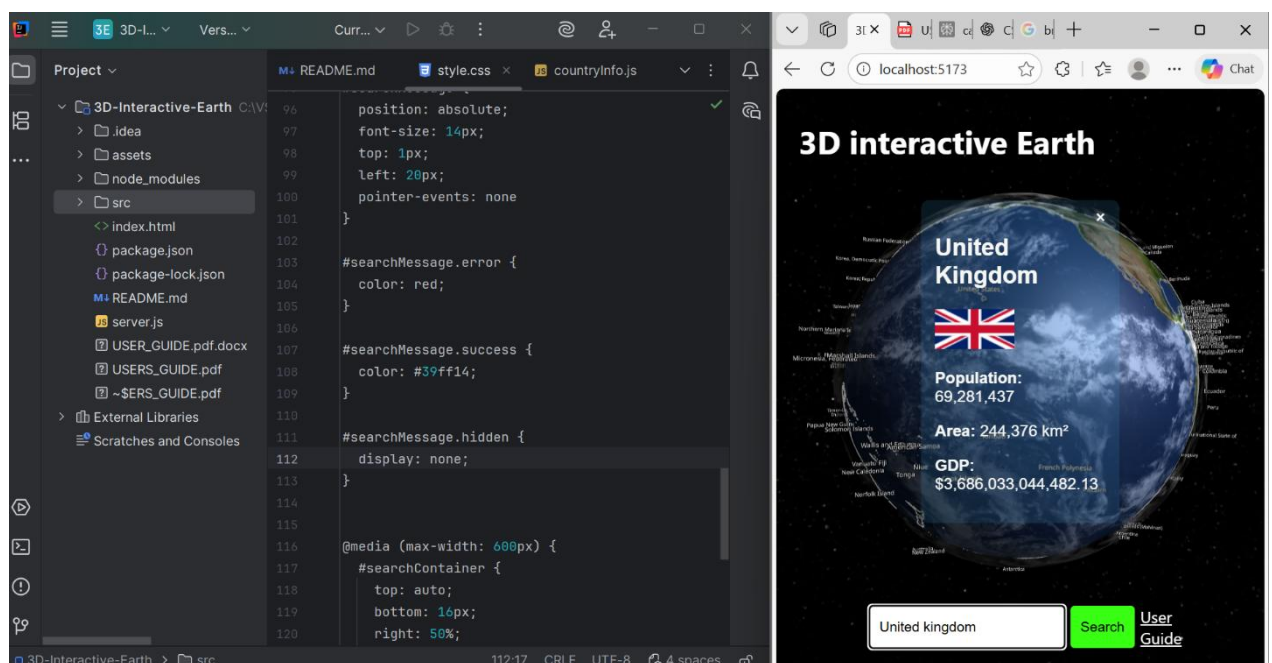
7. Responsive Design

The application adapts to various devices, including:

- Desktop computers
- Tablets
- Mobile phones

Responsive features include:

- Automatic canvas resizing
- Adaptive user-interface layout
- Touch-friendly interactions
- Optimised performance on smaller screens



8. Suggestions for Best Experience

- Using a larger screen is recommended for clearer country labels.
- Zoom in to click on small countries easily
- Ensure a stable internet connection for smooth data loading

9. Known Limitations

- Country centroids are calculated using basic averaging methods

- Very small countries may be difficult to select
 - Internet access is required to retrieve live country data
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10. Support

This application was developed as a part of a **university coursework project**.

For evaluation or demonstration purposes, please consult the README file for additional technical details.

11. Credits

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