






# World Geography Challenge – Project Overview

## Introduction

The **World Geography Challenge** is an open-source, multiple-choice quiz application that tests users' knowledge of world geography. Written in Python, it features a modular codebase, organized by difficulty levels and question files, enabling easy extension and contribution.

## Main Features

-  **Multiple-choice quizzes with progressive difficulty** (Easy, Normal, Hard)
-  **Score tracking & instant feedback** after every question
-  **Leaderboard and results display** at the end of each quiz
-  **Modular question structure** – each question in its own Python file
-  **Resource management** for robust handling of assets (works both as a script and as an executable)

## How to Start

1. **Install Python 3.x** if you haven't already.
2. *(Required)* Install PyQt5:
3. `pip install PyQt5`
4. *(Optional, for music support)*
5. `pip install python-vlc`
6. **Launch the application** by running:
7. `python geograph_with_buttons_3.py`
8. *OR*  
If the main entry point has changed, use `World_Geography_Challenge.py`:
9. `python World_Geography_Challenge.py`
10. The main window will open, allowing you to select quiz level and begin!





## Project Structure

- **World\_Geography\_Challenge.py**: Main application logic (UI, resource loading, quiz orchestration)
- **geograph\_with\_buttons\_3.py**: Main/alternative launcher and user interface
- **easy.py, normal.py, hard.py**: Code for the first question in each level
- **easy2.py – easy10.py, normal2.py – normal10.py, hard2.py – hard10.py**: Logic for subsequent questions
- **marks.py**: Handles final score, correct/incorrect answers, leaderboard
- **data.json**: (If present) Question/answer data
- **extra\_files/**: (May contain assets, icons, or extra resources)

## Program Flow

1. **Launch:** Start the main Python file – GUI appears.
2. **Select Level:** Choose ● Easy, ● Normal, or ● Hard.
3. **Quiz:** Each question opens in a new window with answer buttons. Score and answers are tracked automatically.
4. **Results:** After 10 questions, see your total score, answer breakdown, and possibly the leaderboard!

## Modularity and Contribution

-  **Each question = a separate file** for easy editing and extension.
- **+ Add a question:** Copy an existing file and edit.
-  **Add a level:** Follow the existing pattern and update the launcher.
-  **All code and UI in English** for clarity and accessibility.
-  **Contributions welcome!** Please follow the code style and documentation.

## Dependencies

- Python 3.x
- PyQt5 (pip install PyQt5)
- (Optional) python-vlc (pip install python-vlc)

## Cross-Platform & Packaging

- Loads resources using a `resource_path()` utility for compatibility on all OSes and when packaged as an executable (e.g., PyInstaller).

## Contact

For questions or contributions, open an issue on [GitHub](#) or contact the maintainer at:

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🌐 **Repository:** [World Geography Challenge on GitHub](#)