**Test Plan – COVID-19 Cases Tracker**

**1. Project Overview**

The COVID-19 Cases Tracker is a **Python-based desktop application** using **Tkinter** that scrapes real-time data from [worldometers.info](https://www.worldometers.info/coronavirus/). It allows users to enter a country name, fetch its COVID-19 data, display a notification, and save the data in multiple formats (CSV, JSON, HTML).

**2. Objectives**

* Validate GUI input and buttons
* Ensure accurate data scraping and parsing
* Verify file export formats and content
* Check system response to invalid inputs and connectivity issues

**3. Scope of Testing**

* **GUI validation** (input fields, buttons, notifications)
* **Functional testing** (data fetch, export)
* **Data validation** (scraped vs. source data)
* **Negative testing** (no input, wrong input, no internet)
* **Usability testing** (label clarity, button accessibility)

**4. Testing Types**

* **Manual Testing**
* **Functional Testing**
* **Smoke Testing**
* **Boundary & Negative Testing**
* **Compatibility Testing**

**5. Tools & Technologies**

* **Python** (Tkinter, Pandas, BeautifulSoup)
* **Manual Testing**
* **File system access** for export testing

**6. Test Environment**

* **Windows 10/11 with Python 3.x installed**
* **Stable internet connection** for scraping
* **Directory access** for saving files

**7. Roles & Responsibilities**

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| **Role** | **Responsibility** |
| **QA Engineer** | Write test cases, execute tests, report bugs |
| **Developer** | Fix bugs, maintain scraping logic, GUI |
| **Reviewer** | Review test documentation and suggest improvements |

**8. Test Deliverables**

* **Test Plan**
* **Test Cases** (with ID, steps, expected/actual results)
* **Bug Report** (with screenshots, severity/priority)
* **Test Summary Report** (test coverage, pass/fail rate)

**9. Risks & Mitigation**

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| **Risk** | **Mitigation** |
| Website structure changes | Add validation checks and log unexpected tags |
| Internet not available | Display friendly error message |
| File path issues | Use try/except during export |

**10. Exit Criteria**

* All major bugs resolved
* Minimum 90% test cases passed
* File formats exported and verified