Odisha RERA Project Documentation

1. Introduction

1.1 Purpose

This document provides comprehensive technical and user-facing documentation for the Odisha RERA Project Dashboard. The application is designed to scrape and display project registration data from the official Odisha RERA website in an interactive and user-friendly dashboard built using Streamlit. The system simplifies access to publicly available real estate regulatory data and presents it in an aesthetically enhanced format.

1.2 Scope

The dashboard utilizes Selenium to automate the extraction of structured data directly from the Odisha RERA web portal. It supports customization options such as the number of projects to scrape and display preferences (card or table view). Users can export the retrieved data in CSV format. The application is tailored for local execution and does not rely on external APIs.

1.3 Audience

This documentation is intended for:

- Developers working on web scraping or data visualization tools
- Data analysts and researchers exploring real estate data
- Government agencies and urban planners
- Stakeholders in real estate transparency initiatives
- Students and educators using real-world datasets

1.4 Glossary

- **RERA**: Real Estate Regulatory Authority
- **Selenium**: A browser automation framework used for web scraping
- **Streamlit**: A Python-based app framework for interactive dashboards
- **XPath**: A query language for selecting nodes from an XML or HTML document
- **Headless Browser**: A browser simulation without a graphical interface

2. User Manual

2.1 Getting Started

To run the application:

1. Install Python 3.8 or higher.
2. Clone the project repository.
3. Install the required dependencies.
4. Ensure ChromeDriver is installed and matches your Chrome browser version.
5. Start the app with the command:

```
Unset
streamlit run odisha_rera_dashboard.py
```

2.2 Installation Guide

Install required libraries:

```
Unset
pip install streamlit selenium pandas
```

Download ChromeDriver and place it in your PATH or provide its path explicitly in the code.

2.3 System Requirements

- Python 3.8+
- Google Chrome and compatible ChromeDriver
- Stable internet connection
- Minimum 4GB RAM

2.4 Features Overview

- Scrapes data dynamically from the Odisha RERA website
- User-configurable number of projects to fetch (1–30)
- Display options: hologram-style cards or styled data table
- CSV file download for offline use
- Visually enhanced dashboard using custom CSS

2.5 User Interface Overview

- **Header**: A futuristic glowing title powered by CSS animations
- **Sidebar**:
    - Slider to choose the number of projects
    - View mode selector (cards or table)
- **Main Section**:
    - Scrape button to initiate data collection
    - Data display section
    - CSV download button

2.6 Troubleshooting & FAQs

Issue	Cause	Resolution
Selenium Timeout	Website load delay	Increase wait time or retry
NoSuchElementException	HTML structure changed	Update XPath in the script
Chromedriver errors	Version mismatch	Use correct ChromeDriver version

| Blank screen | Script crash or failed scrape | Check logs and rerun |
| Download button not working | Empty dataset | Ensure data is fetched before downloading |

3. Technical Specifications

3.1 System Architecture

- **Frontend**: Streamlit app
- **Backend**: Python with Selenium
- **Browser Driver**: ChromeDriver for headless Chrome sessions
- **Data Handling**: Pandas for DataFrame operations
- **Export**: CSV encoding using `to_csv()`

3.2 Scraper Details

- URL: `https://rera.odisha.gov.in/projects/project-list`
- Data points extracted:
  - RERA Regd. No
  - Project Name
  - Promoter Name
  - Promoter Address
  - GST No.
- Uses Selenium with `WebDriverWait` and XPath expressions to locate elements
- Automatically navigates through tabs for promoter details

3.3 Data Schema

Field	Description
RERA Regd. No	Unique registration number of the project
Project Name	Name of the real estate project
Promoter Name	Name of the developer or proprietor
Promoter Address	Official or residence address of the promoter
GST No.	GST Identification Number of the promoter

3.4 Error Messages

Error Message	Description	Likely Cause	Recommended Fix
`NoSuchElementException`	Could not locate an HTML element	Incorrect XPath or changed website	Review and update XPath

TimeoutException	Element loading timed out	Slow network or dynamic content delay	Increase timeout duration
WebDriverException	ChromeDriver issues	Browser/driver mismatch	Reinstall correct driver version
PermissionError	CSV file access denied	File already open or write-protected	Close the file or change location

4. Release Notes

Version 1.0

- Initial release with scraping and UI functionality
- Supports dual data views and CSV download
- Custom holographic and table display

5. Sample Outputs

Card View

```Python
🚧 Project Name: ABC Enclave
RERA Regd. No: RP/OD/2024/00015
Promoter: ABC Developers Pvt. Ltd.
Address: 12/3, BBSR, Odisha
GST No.: 21ABCD1234E5Z6
```

Table View

RERA Regd. No	Project Name	Promoter Name	Promoter Address	GST No.
RP/OD/...	ABC Enclave	ABC Developers	12/3, BBSR	21...

6. References

- [Streamlit Documentation](#)
- [Selenium with Python](#)
- [Odisha RERA Website](#)
- ChromeDriver Setup:https://developer.chrome.com/docs/chromedriver/downloads