Object Tracking Application

This is a **Streamlit-based web application** for real-time object tracking in videos. The app uses **OpenCV** for video processing and object detection, allowing users to upload a video file and visualize tracked objects with bounding boxes.

Features

- **Upload Video Files**: Supports `.mp4`, `.avi`, and `.mov` formats.
- **Real-Time Object Tracking**: Detects and tracks moving objects in the video using OpenCV's background subtraction.
- **Customizable Parameters**:
  - Minimum contour area for object detection.
  - Frame rate adjustment for smoother playback.
- **Interactive GUI**: Built with Streamlit for a clean and user-friendly interface.

Installation

Follow these steps to set up and run the application:

1. **Clone the Repository**:

```
git clone https://github.com/your-username/object-tracking-app.git
cd object-tracking-app
```

2. **Install Dependencies**: Install the required Python packages using `pip`:

```
pip install -r requirements.txt
```

3. **Run the Application**: Start the Streamlit app:

```
streamlit run app.py
```

4. **Open in Browser**: The app will open in your default browser at `http://localhost:8501`.

File Structure

```
OBJECT_TRACKING/
|
```

```
├── app.py               # Main application code
├── requirements.txt     # List of dependencies
└── README.md            # Project documentation
```

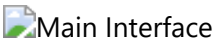
Requirements

- Python 3.7 or higher
- Streamlit
- OpenCV (opencv-python-headless)
- NumPy

Install all dependencies using the `requirements.txt` file.

Screenshots

Main Interface



Object Tracking in Action

Contributing

Contributions are welcome! If you'd like to improve this project, feel free to fork the repository and submit a pull request.

License

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Contact

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