Online Task & Productivity Tracker – Technical Documentation

# 1. Project Overview

The Online Task & Productivity Tracker is a web-based application built using the Flask framework. Its purpose is to help users manage their tasks, track productivity, and monitor progress through visual analytics. Users can register, log in, create tasks, categorize them, track time, export reports, and gain insights from charts.  
  
Objectives:  
- Improve productivity by monitoring tasks and time spent  
- Provide analytics for time and task management  
- Support exporting data for offline analysis

# 2. Architecture Diagram

[Frontend (HTML/CSS/JS)]  
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[Flask Backend (Python)]  
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[Flask-Routes & Views]  
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[SQLAlchemy Models] --> [SQLite]  
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[Analytics (Chart.js) | PDF/CSV Exports | User Sessions]

# 3. Folder and Module Structure

TaskMasterPro/  
├── static/  
│ ├── css/  
│ ├── js/  
├── templates/  
│ ├── base.html  
│ ├── login.html  
│ ├── register.html  
│ ├── dashboard.html  
│ ├── tasks.html  
│ ├── task\_form.html  
│ ├── categories.html  
│ ├── timer.html  
│ └── error\_500.html  
├── app.py   
├── models.py  
├── routes.py  
├── forms.py  
├── main.py  
├── requirements.txt

# 4. Setup and Deployment Instructions

Local Setup:

1. Clone the repository  
2. Navigate to project folder  
3. Create virtual environment  
4. Install dependencies  
5. Initialize DB  
6. Run Flask app

Deployment:

- Push to GitHub  
- Connect to Render/Heroku  
- Configure environment variables  
- Enable build & deploy  
- App will go live

# 5. Core Functionalities

- 👤 User Authentication  
- ✅ Task Management  
- 🗂️ Category Management  
- ⏱️ Time Tracking  
- 📊 Dashboard Analytics  
- 📁 Export Data  
- 💡 Responsive Design  
- 🔐 Session Management

# 6. Diagrams

Entity-Relationship Diagram (ERD):  
User --< Task >-- Category  
 \ \  
 \--< TimeEntry

Flow Diagram:  
Register/Login → Dashboard → [Tasks | Categories | Timer | Analytics] → Export/Reports

# 7. Known Issues or Areas of Improvement

- PDF export formatting can be improved  
- No role-based access system  
- No real-time reminders  
- Currently using SQLite, upgrade to PostgreSQL recommended  
- Lacks automated testing