LAMINA STUDIOS

Data Science Internship

Individual Weekly Task Documentation

Week #6

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Table Contents

I. My Summarized Log

Encompasses five weekdays from Monday to Friday with 8-hours spent per day

DAY 26
Week 6
Monday
08/18/2025
[08:00 AM - 05:00 PM]

- Attended kickoff sync for Week 6 TWX Insights & Trends Dashboard task.
- Reviewed database schema draft and finalized entity relationships (deliveries, drivers, tickets).
- Initialized Flask project and set up modular backend file structure (app.py, config.py, database.py).
- Connected MySQL database to Flask environment.
- Defined API contract for data endpoints (KPIs, delivery stats, driver metrics).

DAY 27
Week 6
Tuesday
08/19/2025
[08:00 AM - 05:00 PM]

- Implemented 3 core REST API routes in app.py:
  - /api/driver-kpis
  - /api/delivery-trends
  - /api/support-tickets
- Wrote SQL queries in database.py for analytics data retrieval.
- Added configurations to config.py for database access and route settings.
- Conducted local API testing using Postman to validate response structures.
- Debugged malformed queries and refined table joins for faster performance.

DAY 28
Week 6
Wednesday
08/20/2025
[08:00 AM - 05:00 PM]

- Continued building backend and completed all 6 required data endpoints.
- Set up PyTest framework and wrote unit tests for API coverage (achieved 95%).
- Started frontend dashboard using HTML/CSS layout and connected it to Chart.js.
- Implemented first interactive charts for:
  - Weekly Deliveries
  - Driver Ratings
- Synced with frontend lead to align component structure and data mapping.

DAY 29
Week 6
Thursday
08/21/2025
[08:00 AM - 05:00 PM]

- Finalized dashboard frontend with dynamic filtering (by date and driver).
- Enhanced visuals using Chart.js:
  - Real-time KPI panels
  - Line and bar charts for delivery performance
- Integrated frontend and backend through async JavaScript fetch calls.
- Resolved CORS and deployment issues during frontend-backend connection.
- Collaborated on preparing demo materials and slide content for presentation.

DAY 30
Week 6
Friday
08/22/2025
[08:00 AM - 05:00 PM]

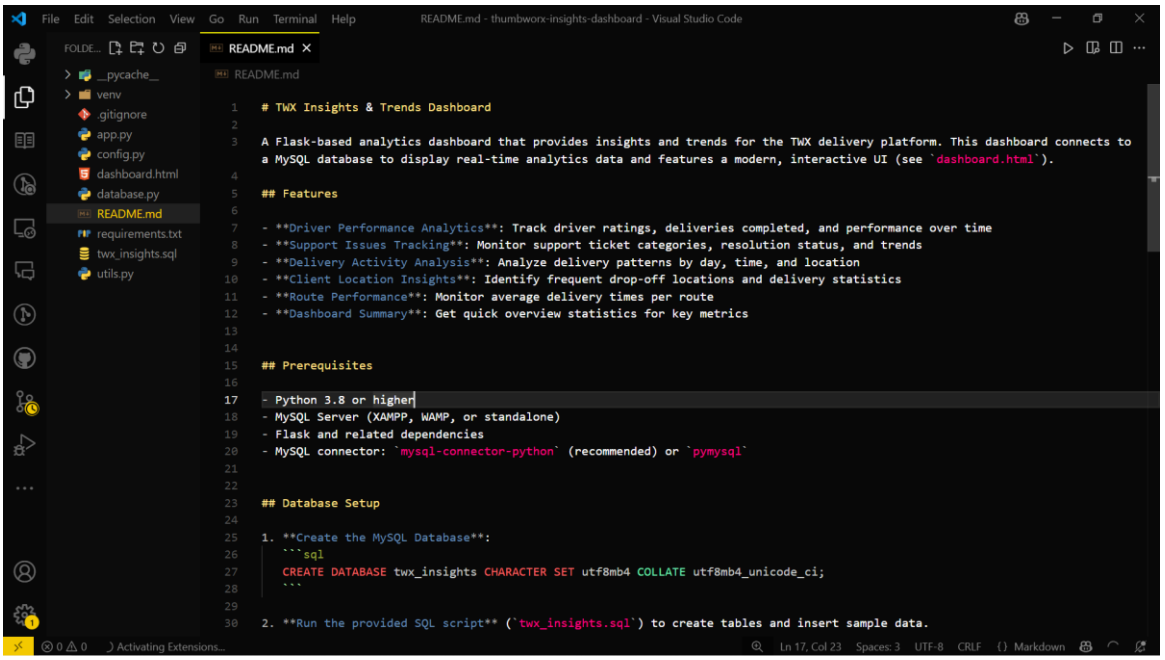
- Delivered live demo of TWX Insights & Trends Dashboard (Flask + Chart.js + MySQL).
- Walked through API structure, visuals, and insights during presentation.
- Documented technical implementation in user manual and API reference.
- Updated GitHub repository and finalized production deployment notes.
- Reflected on technical and soft skills gained during this cross-functional project.

II. Team Task Progress Report

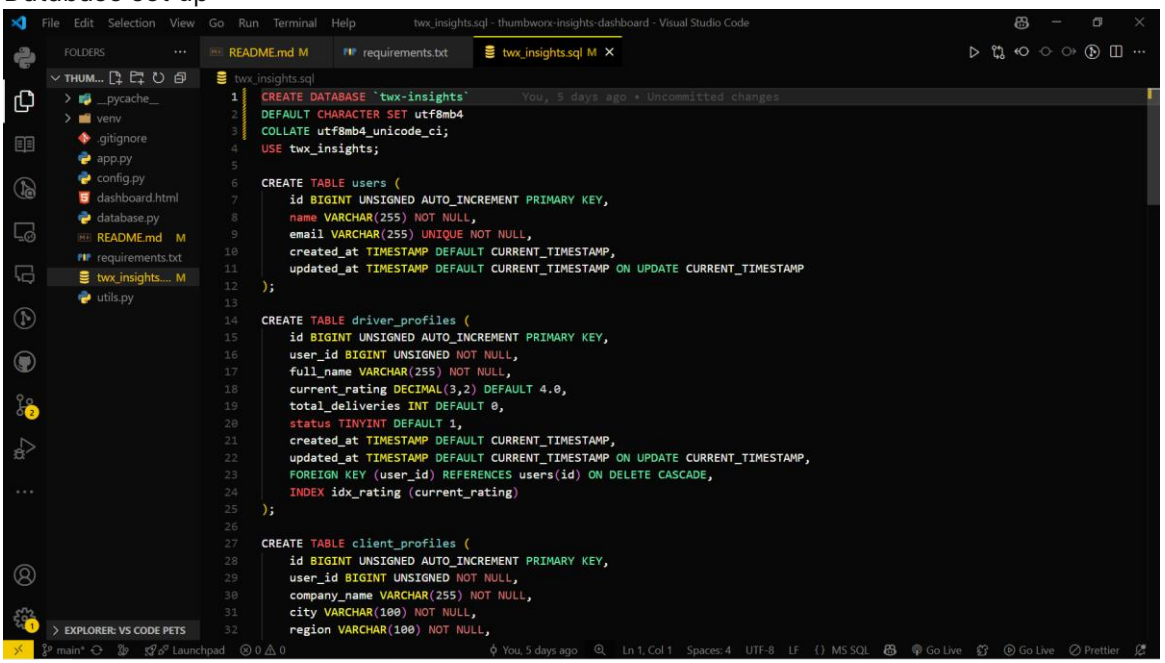
The task this week focuses on the finalization of Insights and Trends feature of Thumbworx and preparation for the final presentation scheduled on August 22.

Documentation:

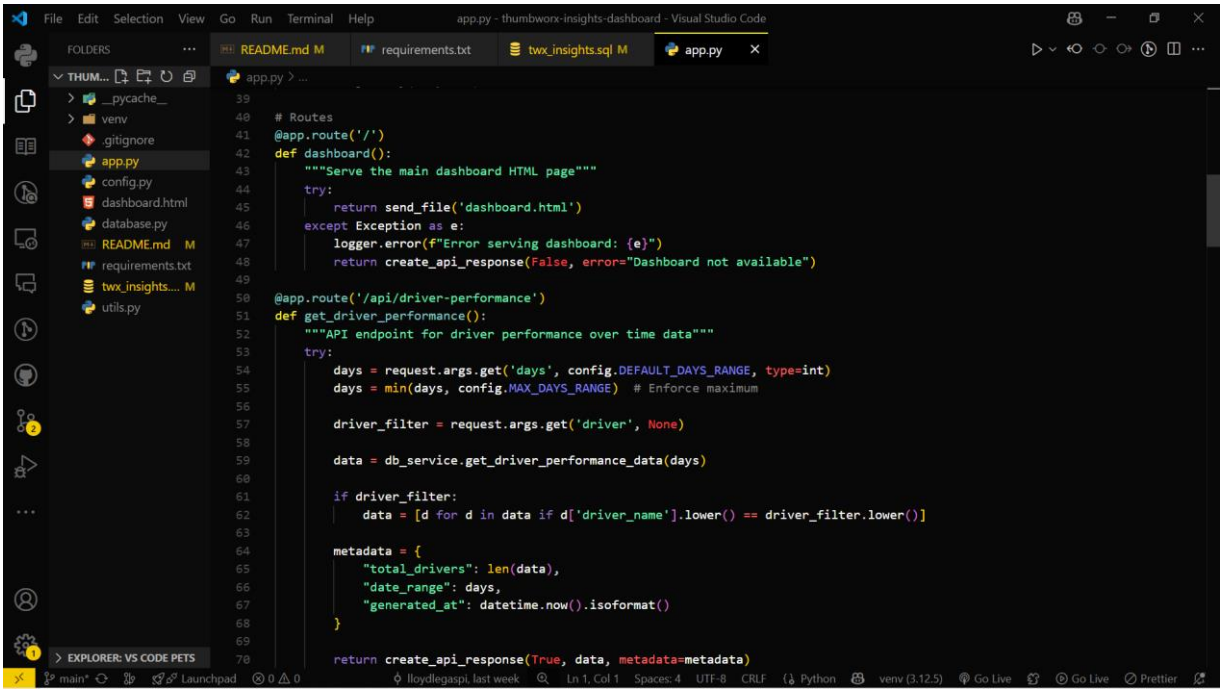
- README.md



- Database set up

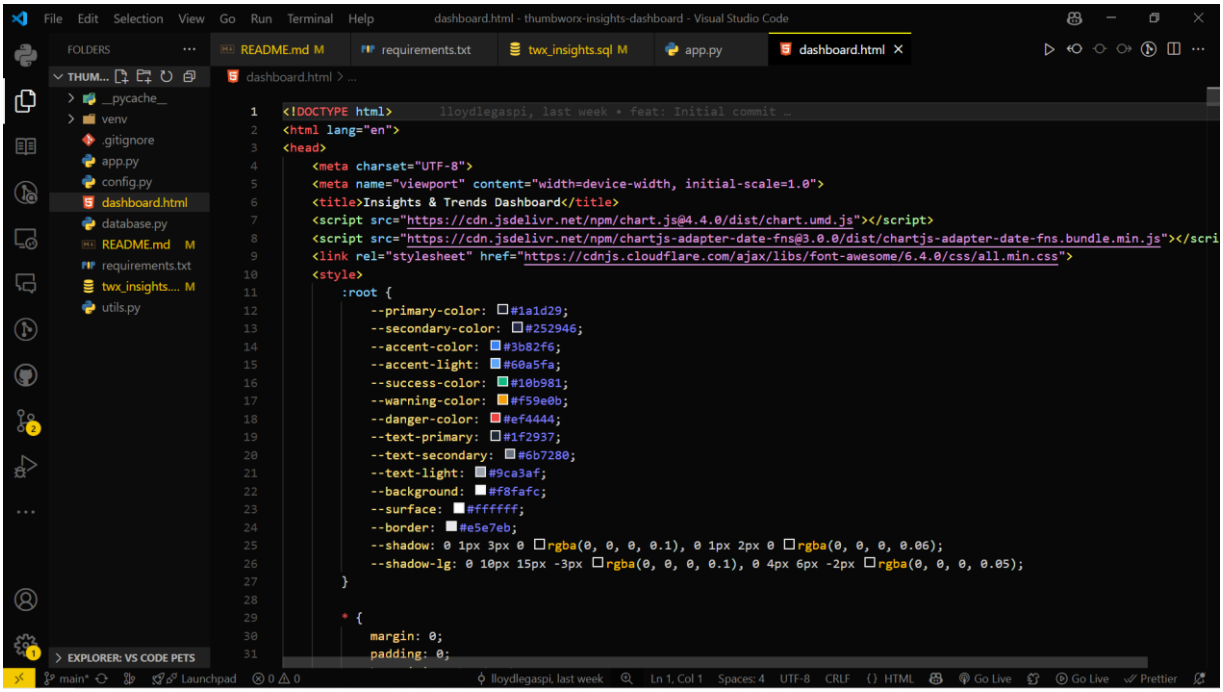


- APIs



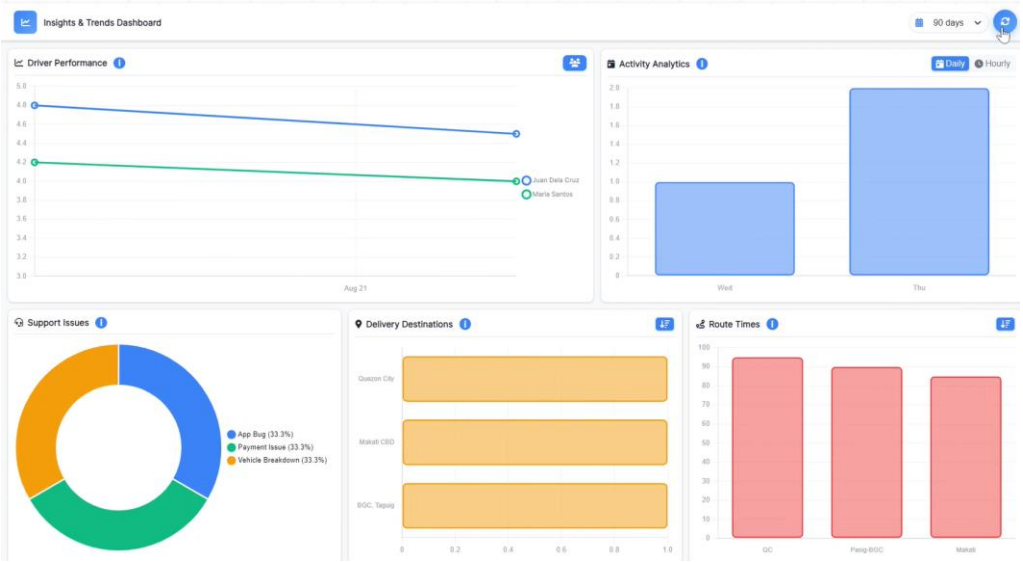
```python
# Routes
@app.route('/')
def dashboard():
    """Serve the main dashboard HTML page"""
    try:
        return send_file('dashboard.html')
    except Exception as e:
        logger.error(f"Error serving dashboard: {e}")
        return create_api_response(False, error="Dashboard not available")

@app.route('/api/driver-performance')
def get_driver_performance():
    """API endpoint for driver performance over time data"""
    try:
        days = request.args.get('days', config.DEFAULT_DAYS_RANGE, type=int)
        days = min(days, config.MAX_DAYS_RANGE)  # Enforce maximum

        driver_filter = request.args.get('driver', None)

        data = db_service.get_driver_performance_data(days)

        if driver_filter:
            data = [d for d in data if d['driver_name'].lower() == driver_filter.lower()]

        metadata = {
            "total_drivers": len(data),
            "date_range": days,
            "generated_at": datetime.now().isoformat()
        }

        return create_api_response(True, data, metadata=metadata)
```

- Dashboard HTML

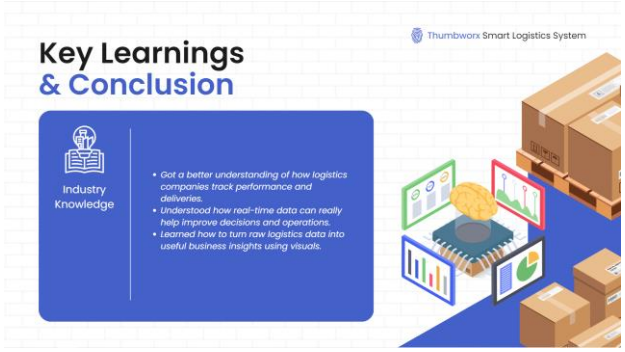


```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Insights & Trends Dashboard</title>
    <script src="https://cdn.jsdelivr.net/npm/chart.js@4.4.0/dist/chart.umd.js"></script>
    <script src="https://cdn.jsdelivr.net/npm/chartjs-adapter-date-fns@3.0.0/dist/chartjs-adapter-date-fns.bundle.min.js"></scri
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.0/css/all.min.css">
    <style>
        :root {
            --primary-color: #1a1d29;
            --secondary-color: #252946;
            --accent-color: #3b82f6;
            --accent-light: #60a5fa;
            --success-color: #10b981;
            --warning-color: #f59e0b;
            --danger-color: #ef4444;
            --text-primary: #1f2937;
            --text-secondary: #6b7280;
            --text-light: #9ca3af;
            --background: #f8fafc;
            --surface: #ffffff;
            --border: #e5e7eb;
            --shadow: 0 1px 3px 0 rgba(0, 0, 0, 0.1), 0 1px 2px 0 rgba(0, 0, 0, 0.06);
            --shadow-lg: 0 10px 15px -3px rgba(0, 0, 0, 0.1), 0 4px 6px -2px rgba(0, 0, 0, 0.05);
        }

        * {
            margin: 0;
            padding: 0;
```

- Working Feature



Presentation Materials



Presentation